| Sheet Number | Total Sheets |
|---|---|
| 1 | 48 |

STATE OF WISCONSIN

# DEPARTMENT OF TRANSPORTATION

# DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

# WEST COUNTY LINE-IRON RIVER ROAD

## USH 2

## BAYFIELD COUNTY

"AS BUILT"

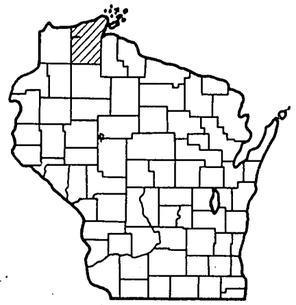
PROJECT IDENTIFICATION NUMBER

1184-1-71

Scales
- Plan 1 in.= 200 ft. (SEC. 1) 1 IN.= 20 FT. (SEC. 2)
- Profile Hor. 1 in.= 20 FT. Vert. 1 in.= 2 FT. (SEC 2)
- Cross Sections Hor. 1 in.= 5 FT. Vert. 1 in.= 2 FT. (SEC. 2)

### Index of Sheets


| | | |
|---|---|---|
| Sheet No. | 1 | Title |
| Sheet No. | 2—2.1 | Typical Cross Sections |
| Sheet No. | 3 | Estimate of Quantities |
| Sheet No. | 3A | Miscellaneous Quantities |
| Sheet No. | —— | Right of Way Plat |
| Sheet No. | 4—13 | Plan and Profile |
| Sheet No. | 14-14.11 | Standard Details |
| Sheet No. | —— | Structure Plans |
| Sheet No. | 15—48 | Cross Sections |

### Design Designation

(SECTION 1)

| | | |
|---|---|---|
| A.D.T. (1972) | = | 2650 |
| A.D.T. (1992) | = | 5000 |
| D.H.V. | = | 750 |
| D. | = | 60% |
| T. | = | 12.8% |
| V. | = | 50 M.P.H. |

(SECTION 2)

| | | |
|---|---|---|
| A.D.T. 1972 | = | 3550 |
| A.D.T. 1992 | = | 6600 |
| D.H.V. | = | 990 |
| D. | = | 60 % |
| T. | = | 12.8% |
| V. | = | 40 M.P.H. |

END SEC. 1, PROJECT 1184-1-71

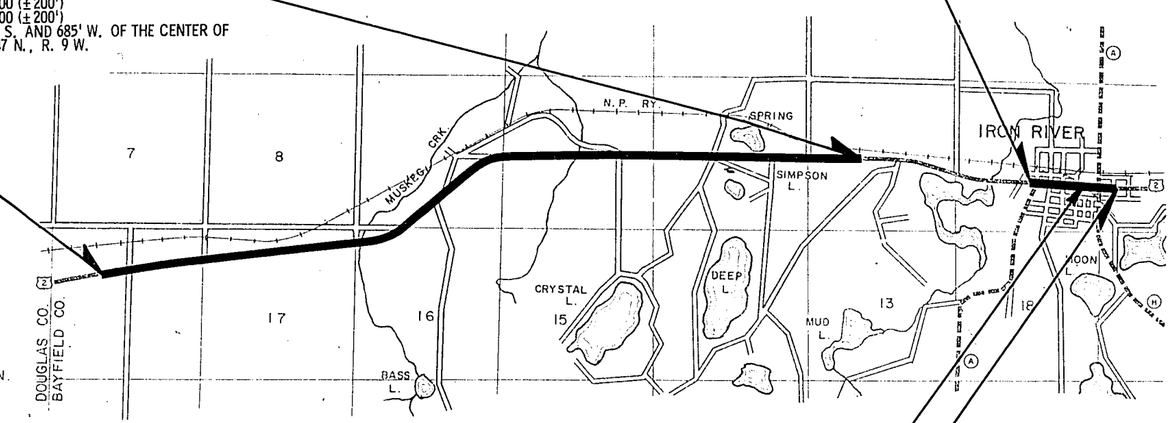
STA. 407A+92.6
N. 514,200 (±200')
E. 1,637,600 (±200')
APPROX. 35' S. AND 685' W. OF THE CENTER OF SEC. 12, T. 47 N., R. 9 W.

BEGIN SEC. 2, PROJECT 1184-1-71

STA. 185+65
N. 513,100 (+200')
E. 1,643,300 (+200')
APPROX. 30' E. AND 850' S. OF THE CENTER OF SEC. 7, T. 47 N., R. 8 W.

BEGIN SEC. 1, PROJECT 1184-1-71

STA. 126A+98.0
N. 510,400 (±200')
E. 1,611,700 (±200')
APPROX. 1540' S. AND 1805' E. OF THE N.W. COR. OF SEC. 18, T. 47 N., R. 9 W.




STA. 203+31.55 TO STA. 203+65.05
EXCEPTION TO NET CENTERLINE LENGTH

END SEC. 2, PROJECT 1184-1-71

STA. 216+40
N. 512,700' (+200')
E. 1,646,000' (+200')
APPROX. 480' E. AND 1500' N. OF THE S.W. COR. OF SEC. 8, T. 47 N., R. 8 W.

### Conventional Signs

State Line
County Line
Township or Range Line
Section Line
New Right of Way Line
Present Right of Way Line
Wire Fence — Woven / Barbed
Lot Line
Corporate or City Limits
Property Line — P.L.+32.6
Traveled Way or P.E.
Railroads
Base or Survey Line

Culverts in Place
Culverts Required
Drop Inlet
Power Pole
Telephone or Telegraph Pole
Right of Way Markers
Reference Stake for Hubs Only — +61.7 / 23.5
Marsh
Hedge
Trees
Ground Elevation — Datum Line 73.9
Grade Elevation — Datum Line 76.16

Layout

Scale 0 — 1 MILE

Total Net Length of Centerline = 5.804 Mi.

NOTE: ALL CO-ORDINATES SHOWN ON THE PLAN ARE REFERENCED TO THE WISCONSIN CO-ORDINATE SYSTEM, NORTH ZONE AND ARE SCALED FROM U.S.G.S. TOPOGRAPHY MAPS, BRULE AND IRON LAKE, WISCONSIN QUADRANGLE FOR IDENTIFICATION ONLY.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Surveyor R.W.A. District Checker W.T.R.
Designer J.W.M. C.O. Checker I.L.J.

Correct:

Date 9/20/71 T.R. Kinney
District Engineer

Recommended for Approval:

Date 10/7/71 J.C. Hormel
Chief Design Engineer

Approved:

Date 10/13/71 A.J. Burmeister
State Highway Engineer

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
REGION 4 WISCONSIN DIVISION

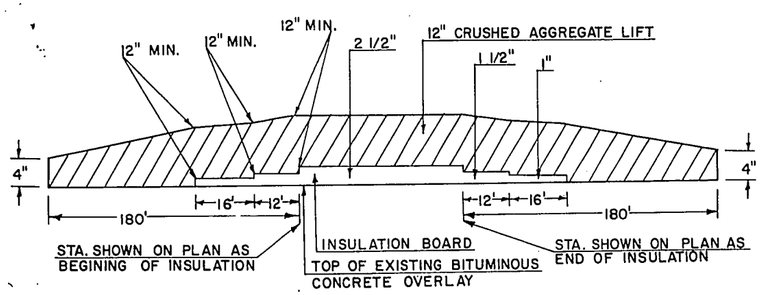
Approved:

Date _____ _____
Division Engineer

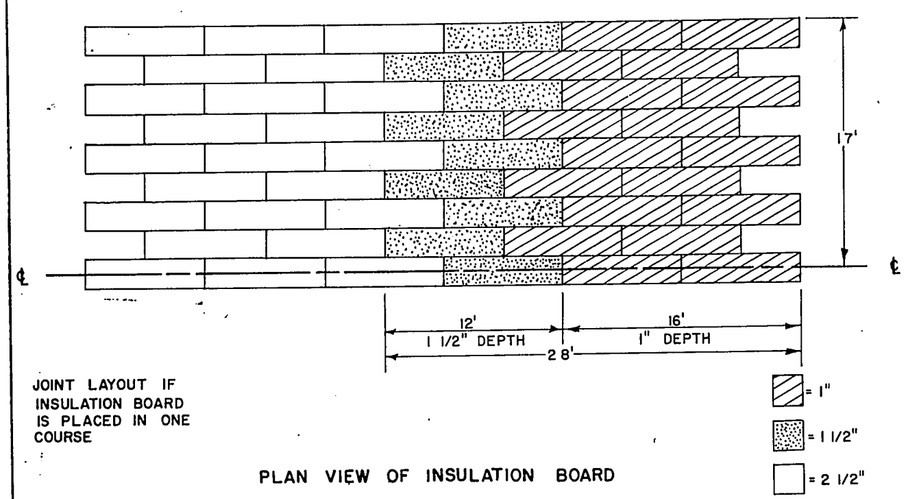
1184-1-71 1

| PROJECT I.D | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 2 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

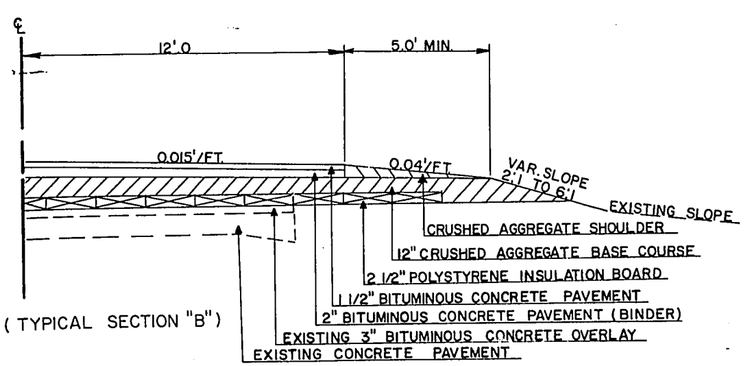
TYPICAL SECTIONS
FOR
USH 2 BAYFIELD CO.




PROFILE OF INSULATION BOARD PLACEMENT




PLAN VIEW OF INSULATION BOARD




( TYPICAL SECTION "B" )

STANDARD DETAIL DRAWINGS

| | |
|---|---|
| CONSTRUCTION BARRICADE | 15C1-1 |
| DESIGN & LAYOUT DETAILS FOR SD. RD. AT GRADE INTERSECTIONS | 9A1-1 |
| APRON ENDWALLS FOR CULVERT PIPE | 8F1-1 |
| MARKER POSTS | 15A1-1 |
| CATCH BASINS TYPE 3 | 8A3-1 |
| CATCH BASINS TYPE 5 | 8A4-1 |
| INLETS TYPE 1 | 8C1-1 |
| INLETS TYPE 3 | 8C2-1 |
| MANHOLES TYPE 1 | 8B1-1 |
| MANHOLES TYPE 3 | 8B3-1 |
| PAVEMENT DETAILS FOR RAILROAD APPROACH | 13B1-1 |
| CONCRETE CURB, GUTTER, COMBINATION CURB & GUTTER | 8D1-1 |

GENERAL NOTES

CONSTRUCTION DETAILS NOT SPECIFICALLY SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS. THE SPECIAL PROVISIONS AND THE STANDARD DETAIL DRAWINGS.

WHEN THE QUANTITY OF THE ITEM OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

BITUMINOUS BASE COURSE WIDENING WILL NOT BE CARRIED THROUGH THE GRAVEL LIFT SECTIONS.

ALL INTERSECTIONS TO BE TYPE "C" AS SHOWN ON STANDARD DETAIL DRAWING

ALL CULVERT PIPES SHALL BE CLASS III

MANHOLES TO BE ADJUSTED WILL BE ADJUSTED BY THE LOCAL SANITARY DISTRICT.

ALL UTILITIES WILL BE MOVED BY THEIR OWNERS WHERE REQUIRED.

UTILITY OWNERS ARE:
- DAHLBERG POWER & LIGHT COMPANY, INC. SOLON SPRINGS, WISCONSIN.
- CHEQUAMEGON TELEPHONE CO-OP, CABLE, WIS.
- BAYFIELD ELECTRIC CO-OP, IRON RIVER, WIS.
- LAKE SUPERIOR DISTRICT POWER CO., ASHLAND, WISCONSIN.

SALVAGED TOPSOIL OR TOPSOIL SHALL BE PLACED TO AN APPROXIMATE THICKNESS OF 4 INCHES AT THE TIME OF PLACEMENT.

THE EXACT LOCATION AND LIMITS FOR NEW DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL RADII SHOWN ARE TO THE FRONT FACE OF CURB.

SUITABLE MATERIAL REMOVED WHILE EXCAVATING FOR BITUMINOUS BASE COURSE WIDENING MAY BE WASTED ON SHOULDERS.

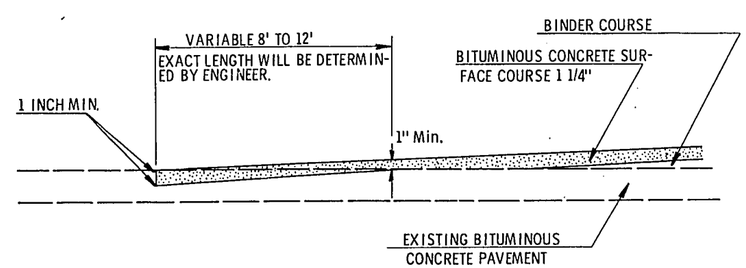
CONCRETE SIDEWALK REMOVED BY THE CONTRACTOR FOR CONVENIENCE IN PLACING CURB AND GUTTER AT INTERSECTIONS SHALL BE REPLACED AND THE COST OF THIS REPLACEMENT IS INCIDENTAL TO THE ITEM OF CURB AND GUTTER TYPE "D" 30 INCH.

SIDEWALK AND STEPS FOR SIDEWALKS WHERE REQUIRED WILL BE CONSTRUCTED BY THE TOWN OF IRON RIVER.

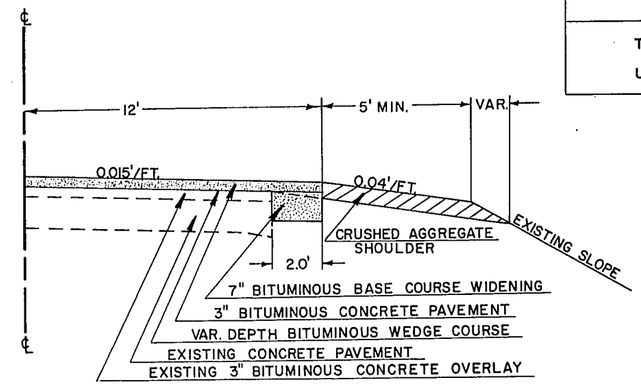
NOTE

THE THREE INCH BITUMINOUS CONCRETE PAVEMENT TO BE CONSTRUCTED WITH 1 1/4 INCH SURFACE COURSE AND 1 3/4 INCH BINDER COURSE.

THE 3 1/2 INCH BITUMINOUS CONCRETE PAVEMENT TO BE CONSTRUCTED WITH 1 1/2 INCH SURFACE COURSE AND TWO INCH BINDER COURSE.

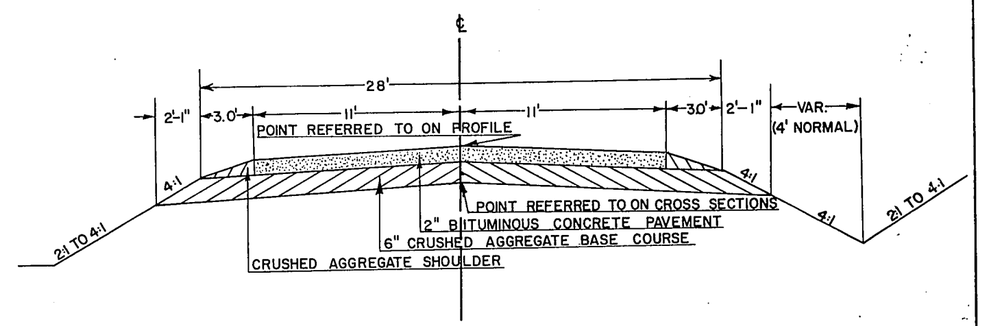



DETAIL OF BUTT JOINT
USE: @ STA. 126A+98.0
407A+92.6
216+40




TYPICAL HALF SECTION FOR RESURFACING

( TYPICAL SECTION "A" )

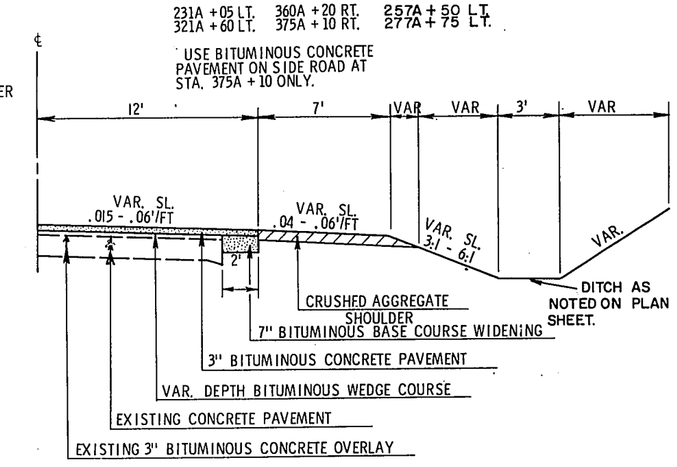



TYPICAL SECTION FOR SIDE ROADS

USE AT STATIONS

| | | |
|---|---|---|
| 231A +05 LT. | 360A +20 RT. | 257A + 50 LT. |
| 321A +60 LT. | 375A + 10 RT. | 277A + 75 LT. |

USE BITUMINOUS CONCRETE PAVEMENT ON SIDE ROAD AT STA. 375A + 10 ONLY.

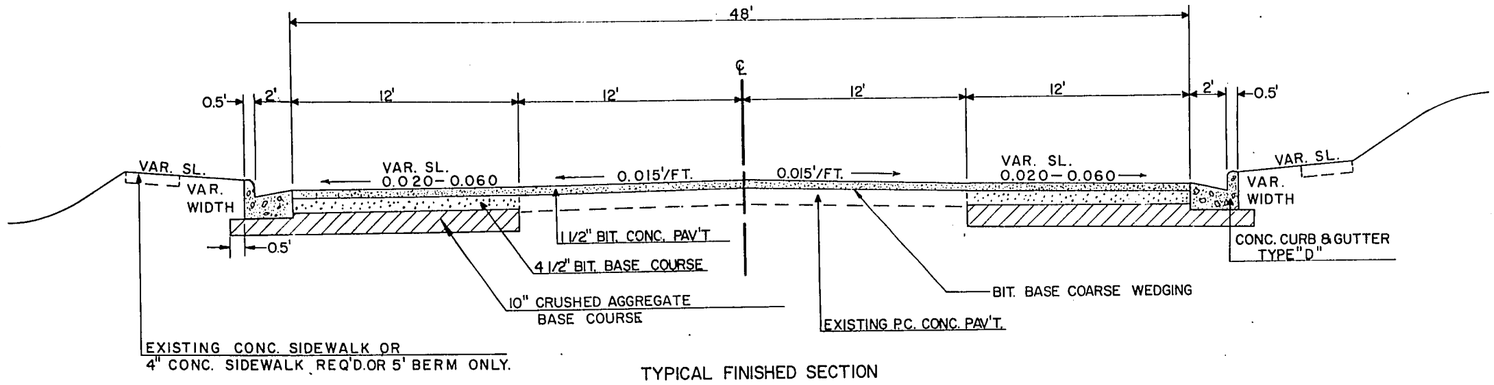



TYPICAL SECTION "C"

STA 280A +14 - 285A + 00 RT
STA 370A + 05 - 374A + 80 RT

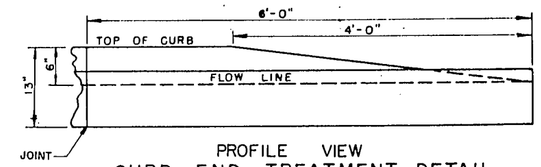
| PROJECT I D | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 2.1 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

TYPICAL SECTIONS
FOR
USH 2 BAYFIELD CO.



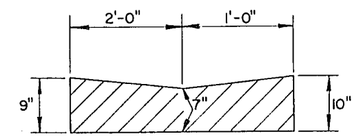

TYPICAL FINISHED SECTION

STA. 185+65 – 187+50

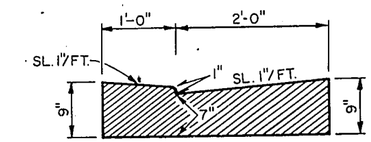



PROFILE VIEW
CURB END TREATMENT DETAIL

USE AT STA. 185+94.70 LT. & RT.
215+87.25 LT. & RT.

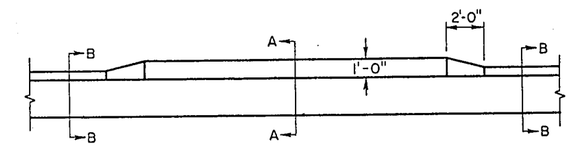



TRACK APPROACH LAYBACK DETAIL



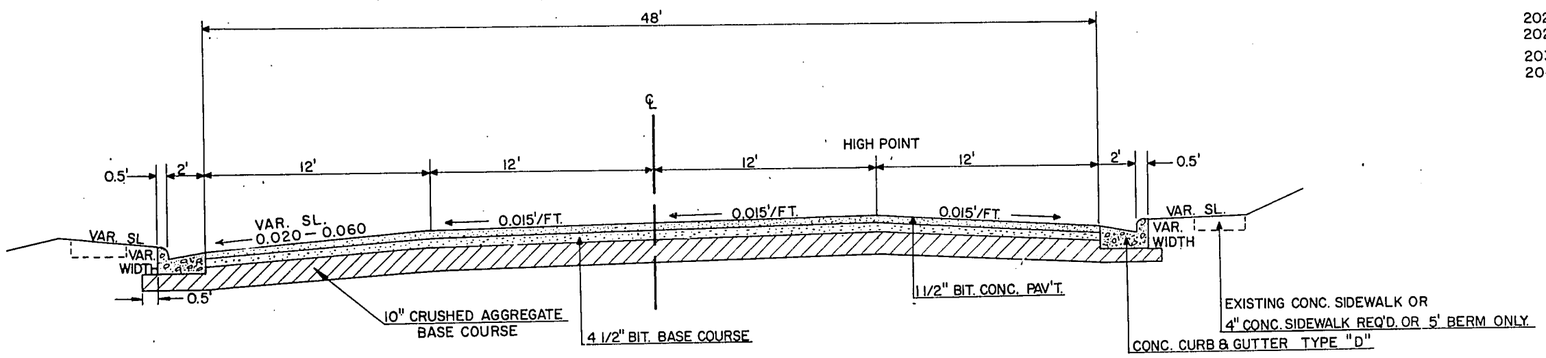

SECTION A-A

USE AT STA.
202+58 LT. TO 202+70 LT.
202+95 LT. TO 203+07 LT.
203+92 RT. TO 204+04 RT.
204+28 RT. TO 204+40 RT.




PLAN

CURB & GUTTER ENTRANCE DETAIL
SECTION B-B NORMAL CURB & GUTTER SECTION
PRIVATE ENTRANCES - 24' MAXIMUM
BUSINESS ENTRANCES - 40' MAXIMUM

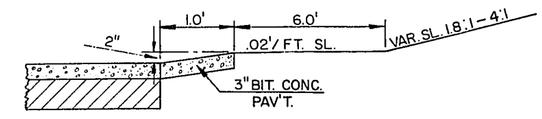



TYPICAL FINISHED SECTION

STA. 187+50 – 198+50

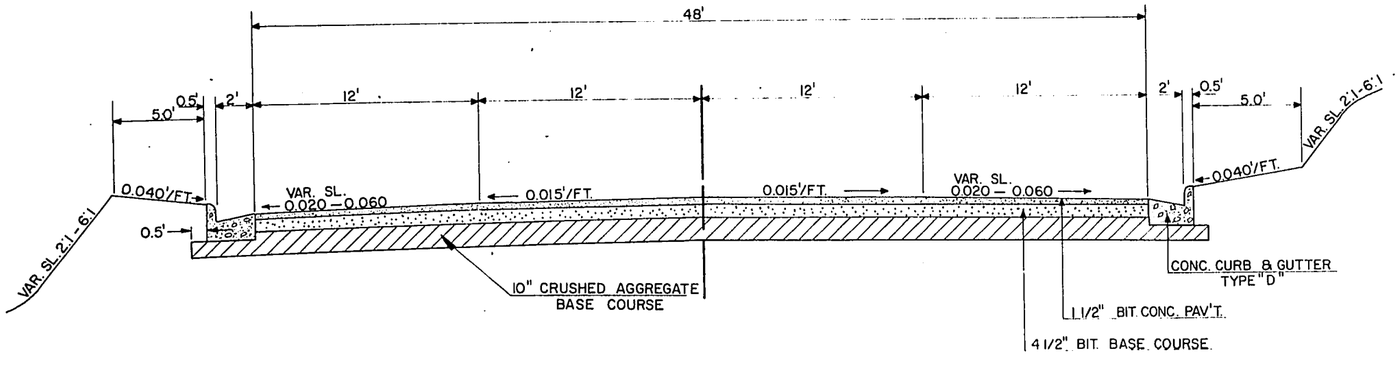
FROM STA. 211+75 TO 214+00 LT. DISTURBED AREA IN BACK OF NEW CURB SHALL BE SURFACED WITH 2 INCH DEPTH BITUMINOUS CONCRETE SURFACE COURSE.

FROM STA. 190+40 TO 191+70 RT. REMOVE 2' OF THE EXISTING SIDEWALK. SOD AREA BETWEEN CURB AND SIDEWALK.



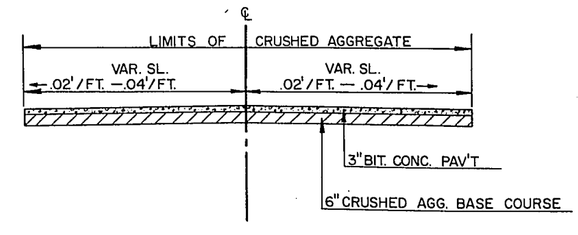

TYPICAL GUTTER & SWK. HALF SECTION

STA. 0+52 TO 2+50 LT. AND RT. (GEORGE ST. STA. 193+48.75 RT.)




TYPICAL FINISHED SECTION

STA. 198+50 – 215+01




TYPICAL FINISHED SECTION
SIDE STREETS

USE FROM END OF CURB RADIUS. TAPER WIDTH TO MEET EXISTING PAVEMENT.

# ESTIMATE OF QUANTITIES

THIS PROJECT IS TO BE EXECUTED UNDER THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE WISCONSIN DIVISION OF HIGHWAYS — EDITION OF 1969
AND SPECIAL PROVISIONS AS ATTACHED TO PROPOSALS

CONTRACT NO. 1

GRADE BASE & BITUMINOUS PAVEMENT

| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 3 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

| SEC NO | STATION TO STATION | NET LENGTH OF CENTER LINE | CLEARING | GRUBBING | REMOVING PAVEMENT | REMOVING CURB | REMOVING CONCRETE SIDEWALK | REMOVING SURFACE DRAINS | REMOVING CATCH BASINS | REMOVING INLETS | UNCLASSFIED EXCAVATION | PREPARATION OF FOUNDATION FOR BITUMINOUS PAVING | FINISHING ROADWAY | CRUSHED AGGREGATE BASE COURSE | BITUMINOUS BASE COURSE | BITUMINOUS MATERIAL FOR BASE COURSE | BASE PATCHING | BITUMINOUS CONCRETE PAVEMENT | BITUMINOUS MATERIAL FOR SURFACE COURSE | CULVERT PIPE CLASS III | | APRON ENDWALLS FOR CULVERT PIPE | | REINFORCED CONCRETE CULVERT PIPE CLASS III 24 INCH | REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE | | | CONCRETE CURB AND GUTTER 30-INCH TYPE D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | 18 INCH | 24 INCH | 18 INCH | 24 INCH | | 18 INCH | 24 INCH | 30 INCH | |
| | ITEM NO | | 20102 | 20105 | 20401 | 20403 | 20406 | 20409 | 20415 | 20416 | 20503 | 21101 | 21301 | 30404 | 30601 | 30602 | 30801 | 40701 | 40702 | 52003 | 52005 | 52061 | 52063 | 52205 | 52261 | 52263 | 52265 | 60133 |
| | UNIT | LIN. FT | IN. DIA. | IN. DIA. | SQ. YD. | L.F. | SQ. YD. | EACH | EACH | EACH | CU. YD. | L.S. | L.S. | TON | TON | TON | SQ. YD. | TON | TON | L.F. | L.F. | EACH | EACH | L.F. | EACH | EACH | EACH | L.F. |
| 1 | 126A+98 - 407A+92.6 | 27606.2 | | | | | | 2 | | | 660 | 1 | 0.1 | 21.270 | | | 20 | 16.494 | 989 | | 32 | | 2 | 64 | | 4 | 4 | |
| 2 | 185+65 - 216+40 | 3041.5 | 66 | 66 | 6430 | 342 | 309 | | 2 | 1 | 10708 | | 0.9 | 10.900 | 4500 | 225 | | 1.811 | 109 | 30 | | 1 | | 4 | 2 | 2 | | 5791 |
| | PROJECT TOTAL | 30647.7 | 66 | 66 | 6430 | 342 | 309 | 2 | 2 | 1 | 11368 | 1 | 1.0 | 32.170 | 4500 | 225 | 20 | 18.305 | 1098 | 30 | 32 | 1 | 2 | 68 | 2 | 6 | 4 | 5791 |

| SEC NO | REINFORCED CONCRETE PIPE CLASS III STORM SEWER | | | CATCH BASINS | | MANHOLES | | INLETS | | CATCH BASIN COVERS | | MANHOLE COVERS | INLET COVERS | | | MARKER POSTS | MAINTENANCE AND REPAIR OF HAUL ROADS | TOPSOIL | SALVAGED TOPSOIL | FERTILIZER | SEEDING | SODDING | FIELD OFFICE TYPE B | FIELD LABORATORY | POLYSTYRENE INSULATION BOARD | BITUMINOUS BASE COURSE WIDENING | BITUMINOUS MATERIAL FOR BASE COURSE WIDENING | REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE 12 INCH | OBLITERATING OLD ROAD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12-INCH | 15-INCH | 18-INCH | TYPE 3 | TYPE 5 | TYPE 1 | TYPE 3 | TYPE 1 | TYPE 3 | TYPE A | TYPE H | TYPE J | TYPE A | TYPE B | TYPE H | | | | | | | | | | | | | | |
| | 60825 | 60826 | 60827 | 61103 | 61105 | 61111 | 61113 | 61121 | 61123 | 61131 | 61137 | 61151 | 61161 | 61162 | 61167 | 61421 | 61801 | 62501 | 62505 | 62901 | 63001 | 63101 | 64202 | 64210 | 90001 | 90002 | 90003 | 90004 | 21401 |
| | L.F. | L.F. | L.F. | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | L.S. | SQ. YD. | SQ. YD. | CWT. | SQ. YD. | SQ. YD. | L.S. | L.S. | MBM | TON | TON | EACH | STA. |
| 1 | | | | | | | | | | | | | | | | 10 | 1 | 485 | 1945 | 1 | 3000 | | 1 | 1 | 66.5 | 4911 | 245 | | 15 |
| 2 | 734 | 2023 | 310 | 12 | 2 | 3 | 7 | 8 | 5 | 12 | 2 | 10 | 7 | 1 | 5 | | | 1160 | 4640 | 3 | 6600 | 2196 | | | | | | 2 | |
| | 734 | 2023 | 310 | 12 | 2 | 3 | 7 | 8 | 5 | 12 | 2 | 10 | 7 | 1 | 5 | 10 | 1 | 1645 | 6585 | 4 | 9600 | 2196 | 1 | 1 | 66.5 | 4911 | 245 | 2 | 15 |

| SEC NO |
|---|
| |

# DETAIL SUMMARY OF MISCELLANEOUS QUANTITIES

| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 3A | 48 |
| FEDERAL PROJECT DESIGNATION | | |

DETAIL SUMMARY SHEET
FOR
U.S.H. 2 — BAYFIELD CO.

## REMOVING CURB

| SEC. NO. | STATION | LOCATION | LIN. FT. |
|---|---|---|---|
| 2 | 189 + 65 | LT. | 19 |
| | 189 + 65 | RT. | 43 |
| | 190 + 22 | RT. | 23 |
| | 190 + 25 | LT. | 20 |
| | 190 + 23 to 190 + 50 | RT. | 27 |
| | 193 + 68 | RT. | 210 |
| | | PROJECT TOTAL | 342 |

## REMOVING CONCRETE SIDEWALK

| SEC. NO. | STATION TO STATION | LOCATION | SQ. YDS. |
|---|---|---|---|
| 2 | 189+55 - 189+65 | RT. | 10.7 |
| | 189+55 - 189+65 | LT. | 11.7 |
| | 190+24 -190+36 | RT. | 16.0 |
| | 190+25 - 190+35 | LT. | 10.1 |
| | 190+36 - 191+65 | RT. | 28.0 |
| | 191+83.5 - 193+23 | RT. | 77.7 |
| | 193+17 - 193+23 | RT. | 75.3 |
| | 193+68 - 193+81 | RT. | 8.9 |
| | 193+75 - 193+91 | | 68.4 |
| | 196+64 -196+69 | | 2.2 |
| | PROJECT TOTAL | | 309 |

## REMOVING CATCH BASINS

| SEC. NO. | STATION | LOCATION | EACH |
|---|---|---|---|
| 2 | 189+66.6 | 30.6 RT. | 1 |
| | 190+22.3 | 29.2 RT. | 1 |
| | | TOTAL | 2 |

## REMOVING INLETS

| SEC. NO. | STATION | LOCATION | EACH |
|---|---|---|---|
| 2 | 186+87 | 28' RT. | 1 |
| | | TOTAL | 1 |

## REMOVING PAVEMENT

| SEC. NO. | STATION TO STATION | SY. |
|---|---|---|
| 2 | 187+50 TO 188+34 | 224 |
| | 188+34 TO 203+40 | 3349 |
| | 203+56 TO 216+40 | 2857 |
| | PROJECT TOTAL | 6430 |

## REMOVING SURFACE DRAINS

| SEC. NO. | STATION | LOCATION LT. | LOCATION RT. | EACH |
|---|---|---|---|---|
| 1 | 214A+10 | X | X | 2 |
| | PROJECT TOTAL | | | 2 |

## CLEARING AND GRUBBING

| SEC. NO. | STATION | LOCATION | CLEARING I.D. | GRUBBING I.D. |
|---|---|---|---|---|
| 2 | 193+27 | 77' RT. | 14" | 14" |
| | 193+27 | 116' RT. | 10" | 10" |
| | 193+28 | 127' RT. | 18" | 18" |
| | 193+71 | 60' RT. | 16" | 16" |
| | 193+72 | 91' RT. | 8" | 8" |
| | | TOTAL | 66 | 66 |

## CULVERT PIPE

| SEC. NO | STATION | LOCATION | DIA. INCHES | TYPE | CLASS | LENGTH | AEW |
|---|---|---|---|---|---|---|---|
| 1 | 218A+03 | ¢ | 24 | R.C.C.P. | III | 64 | 2 |
| | 257A+50 | S.R. LT. | 24 | C.P. | III | 32 | 2 |
| 2 | 203+99 | EXT. LT. | 24 | R.C.C.P. | III | 4 | 2 |
| | 195+30 | 270' LT. | 18 | C.P. | III | 30 | 1 |

## REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE

| SEC. NO. | STATION | LOCATION | DIAMETER 12" | 18" | 24" | 30" |
|---|---|---|---|---|---|---|
| 1 | 151A+41.6 | LT.& RT. | | | 2 | |
| | 163A+75.6 | LT & RT. | | | | 2 |
| | 230A+64.4 | LT.& RT. | | | | 2 |
| | SEC.1 TOTAL | | | | 2 | 4 |
| 2 | 186+0 | RT. | | 1 | | |
| | 195+30 | 270' LT. | 1 | | | |
| | 200+50 | RT. | 1 | | | |
| | 204+50 | LT. | | 1 | | |
| | SEC. 2 TOTAL | | 2 | 2 | | |
| | PROJECT TOTAL | | 2 | 2 | 2 | 4 |

## POLYSTYRENE INSULLATION BOARD

| SEC. NO | STATION TO STATION | M.B.M. |
|---|---|---|
| 1 | 170A+00 - 172A+00 | 19.3 |
| | 214A+70 - 216A+70 | 19.3 |
| | 225A+00 - 228A+00 | 27.9 |
| | PROJECT TOTAL | 66.5 |

## BASE PATCHING

| SEC. NO. | LOCATION | SQ. YDS. |
|---|---|---|
| 1 | 218A+03 | 20 |
| | PROJECT TOTAL | 20 |

NOTE: IN AREAS OF PATCHING, A 6" CRUSHED AGGREGATE BASE COURSE WILL BE PLACED UNDER THE BASE PATCHING.

## MARKER POSTS

| SEC. NO. | STATION TO STATION | LOCATION LT. | LOCATION RT. | EACH |
|---|---|---|---|---|
| 1 | 279A + 64-280A + 64 | | X | 3 |
| | 370A + 00-373A + 00 | X | | 7 |
| | PROJECT TOTAL | | | 10 |

## UNCLASSIFIED EXCAVATION

| SEC. NO | STATION TO STATION | DESCRIPTION | LOCATION | CU. YD. |
|---|---|---|---|---|
| 1 | 231A+05 | CONST. S.R. APPROACH | LT. | 100 |
| | 257A+50 | RECONST. S.R. | LT. | 50 |
| | 277A+75 | RECONST. S.R. | LT. | 75 |
| | 280A+14 - 285A+00 | DITCH CLEANING | RT. | 340 |
| | 370A+05 - 374A+80 | DITCH CLEANING | RT. | 20 |
| | 375A+10 | RECONST. S.R. APPROACH | RT. | 75 |
| | SECTION 1 TOTAL | | | 660 |
| 2 | 185+65 - 216+40 | | | 10708 |
| | SECTION 2 TOTAL | | | 10708 |
| | PROJECT TOTAL | | | 11368 |

NOTE: 10,000 CU. YDS. UNCLASSIFIED EXCAVATION FROM SECTION 2 ARE TO BE WASTED: SEE SPECIAL PROVISIONS.

## INLETS

| SEC. NO. | LOCATION | TYPE 1 | TYPE 3 | COVER A | COVER H | COVER B |
|---|---|---|---|---|---|---|
| 2 | 186+18.2 - 46' RT. | | 1 | | 1 | |
| | 186+61.2 - 46' RT. | 1 | | | | 1 |
| | 186+90.7 - 25.5' RT. | 1 | | 1 | | |
| | 189+34.5 - 25.5' RT. | 1 | | 1 | | |
| | 189+37.5 - 25.5' LT. | 1 | | 1 | | |
| | 189+62 - 38' RT. | | 1 | | 1 | |
| | 190+21 - 46' RT. | | 1 | | 1 | |
| | 193+31.8 - 46' RT. | | 1 | | 1 | |
| | 193+65.8 - 46' RT. | | 1 | | 1 | |
| | 196+77 - 46' RT. | 1 | | | 1 | |
| | 197+12 - 46' RT. | 1 | | | 1 | |
| | 211+33 -46' LT. | 1 | | | 1 | |
| | 211+36 -46 RT. | 1 | | | 1 | |
| | PROJECT TOTAL | 8 | 5 | | 7 | 5 1 |

## CATCH BASINS

| SEC. NO. | LOCATION | TYPE 3 | TYPE 5 | COVER A | COVER H |
|---|---|---|---|---|---|
| 2 | 190+50 - 25.5' RT. | 1 | | 1 | |
| | 190+54.3 - 25.5' LT. | 1 | | 1 | |
| | 193+01.8 - 25.5' LT. | 1 | | 1 | |
| | 193+01.8 - 25.5' RT. | 1 | | 1 | |
| | 196+47.8 -25.5' RT. | 1 | | 1 | |
| | 196+47.8 -25.5' LT. | 1 | | 1 | |
| | 200+00 - 25.5' LT. | 1 | | 1 | |
| | 200+00 - 25.5' RT. | 1 | | 1 | |
| | 204+50 - 25.5' LT. | | 1 | | 1 |
| | 205+00 - 25.5' RT. | | 1 | | 1 |
| | 212+07 - 25.5' LT. | 1 | | 1 | |
| | 212+07 - 25.5' RT. | 1 | | 1 | |
| | 214+00 - 25.5' LT. | 1 | | 1 | |
| | 214+00 - 25.5' RT. | 1 | | 1 | |
| | PROJECT TOTAL | 12 | 2 | 12 | 2 |

## MANHOLES

| SEC. NO. | LOCATION | TYPE 1 | TYPE 3 | COVER J |
|---|---|---|---|---|
| 2 | 190+53 - 18' LT. | | 1 | 1 |
| | 193+01.8 - 18' LT. | | 1 | 1 |
| | 195+30 - 18' LT. | | 1 | 1 |
| | 196+47.8 - 18'LT. | | 1 | 1 |
| | 200+00 - 18' LT. | 1 | | 1 |
| | 204+50 - 18' LT. | | 1 | 1 |
| | 208+00 - 18' LT. | | 1 | 1 |
| | 212+07 - 18'LT. | | 1 | 1 |
| | 214+00 - 18' LT. | 1 | | 1 |
| | 2+70 - 4' LT. | 1 | | 1 |
| | PROJECT TOTAL | 3 | 7 | 10 |

## BITUMINOUS BASE COURSE

| SEC. NO. | STATION TO STATION | LOCATION | TONS |
|---|---|---|---|
| 2 | 182+95 - 185+98 | TAPER RT. & LT. | 90 |
| | 185+90 - 187+50 | WIDENING LT.&RT. | 106 |
| | 187+50 - 203+31.5 | ROADWAY | 2085 |
| | 203+65 - 216+40 | ROADWAY | 1683 |
| | 216+90 - 219+00 | TAPER LT.&RT. | 90 |
| | S.R.S. UNDIST. | | 446 |
| | PROJECT TOTAL | | 4500 |

## CRUSHED AGGREGATE BASE COURSE

| SEC. NO. | STATION TO STATION | LOCATION | TONS |
|---|---|---|---|
| 1 | 126A+98 - 407A+92.6 | SHLD. LT. & RT. | 16803 |
| | 170A+00 - 172A+00 | GRAVEL LIFT SECTION | 1320 |
| | 214+00 - 216A+70 | GRAVEL LIFT SECTION | 1320 |
| | 225A+00 - 228A+00 | GRAVEL LIFT SECTION | 1612 |
| | SIDE ROADS (UNDIST.) | | 215 |
| | SECTION 1 TOTAL | | 21270 |
| 2 | 185+95 - 187+50 | WIDENING LT.&RT. | 223 |
| | 187+50 - 203+31.5 | ROADWAY | 4950 |
| | 203+65 - 216+40 | ROADWAY | 3994 |
| | 215+93 - 217+43 | TAPER LT. | 65 |
| | 215+93 - 218+93 | TAPER RT. | 130 |
| | SIDE ROADS | (UNDIST.) | 1538 |
| | SECTION 2 TOTAL | | 10900 |
| | PROJECT TOTAL | | 32170 |

## REINFORCED CONCRETE PIPE. CLASS III. STORM SEWER

| SEC. NO. | STATION TO STATION | ¢ | LT. | RT. | 12" | 15" | 18" |
|---|---|---|---|---|---|---|---|
| 2 | 186+05 - 186+18.2 | | | X | | | 20' |
| | 186+18.2 - 186+61.2 | | | X | | 40' | |
| | 186+61.2 - 186+90.7 | | | X | 22' | | |
| | 189+37.5 - 189+34.5 | X | | | 49' | | |
| | 189+37.5 - 189+62 | | | X | 31' | | |
| | 189+62 - 190+21 | | | X | 56' | | |
| | 190+21 - 190+50 | | | X | 29' | | |
| | 190+50 - 190+53 | X | | | | 39' | |
| | 190+53 - 190+54.3 | | X | | 4' | | |
| | 190+53 - 193+15 | | X | | | 256' | |
| | 193+01.8 - 193+01.8 | X | | | | 39' | |
| | 193+01.8 - 193+01.8 | | X | | | 3' | |
| | 193+01.8 - 193+31.8 | | | X | | 32' | |
| | 193+31.8 - 193+65.8 | | | X | 31' | | |
| | 193+01.8 - 195+30 | | X | | | 222' | |
| | 195+30 - 2+70 | | X | | | | 259' |
| | 195+30 - 196+47.8 | | X | | | 111' | |
| | 196+47.8 - 200+00 | | X | | | 348' | |
| | 196+47.8 | X | | | 40' | | |
| | 196+47.8 | | X | | 4' | | |
| | 196+47.8 - 196+77 | | | X | 35' | | |
| | 196+77 - 197+12 | | | X | 34' | | |
| | 200+00 | X | | | 40' | | |
| | 200+00 | | X | | 5' | | |
| | 200+00 - 200+50 | | | X | 48' | | |
| | 204+20 - 204+49 | | X | | | | 31' |
| | 204+50 - 204+50 | | X | | 4' | | |
| | 204+50 - 205+00 | X | | | 60' | | |
| | 204+50 - 208+00 | | X | | | 344' | |
| | 208+00 - 212+07 | | X | | | 401' | |
| | 211+33 - 212+07 | | X | | 72' | | |
| | 211+36 - 212+07 | X | | X | 72' | | |
| | 212+07 - 212+07 | | X | | 40' | | |
| | 212+07 - 212+07 | X | | | 4' | | |
| | 212+07 - 214+00 | | X | | | 188' | |
| | 214+00 - 214+00 | X | | | 5' | | |
| | 214+00 - 214+00 | X | | | 41' | | |
| | 2+62 - 2+78 | | X | | 8' | | |
| | PROJECT TOTAL | | | | 734' | 2023' | 310' |

## BITUMINOUS CONCRETE PAVEMENT

| SEC. NO. | LOCATION | TONS |
|---|---|---|
| 1 | STA. 126A+98.0 — 407A+92.6 | 12238 |
| | WEDGING (UNDIST.) | 3816 |
| | SIDE ROADS (UNDIST.) | 440 |
| | SEC. 1 TOTAL | 16494 |
| 2 | 182+95 -185+98 TAPER LT&RT. | 30 |
| | 185+95 -203+31.5 RDWY | 764 |
| | 203+65 -216+40 RDWY | 561 |
| | 215+93 -218+93 TAPER LT&RT. | 30 |
| | SIDE ROADS (UNDIST.) | 426 |
| | SEC. 2 TOTAL | 1811 |
| | PROJECT TOTAL | 18305 |

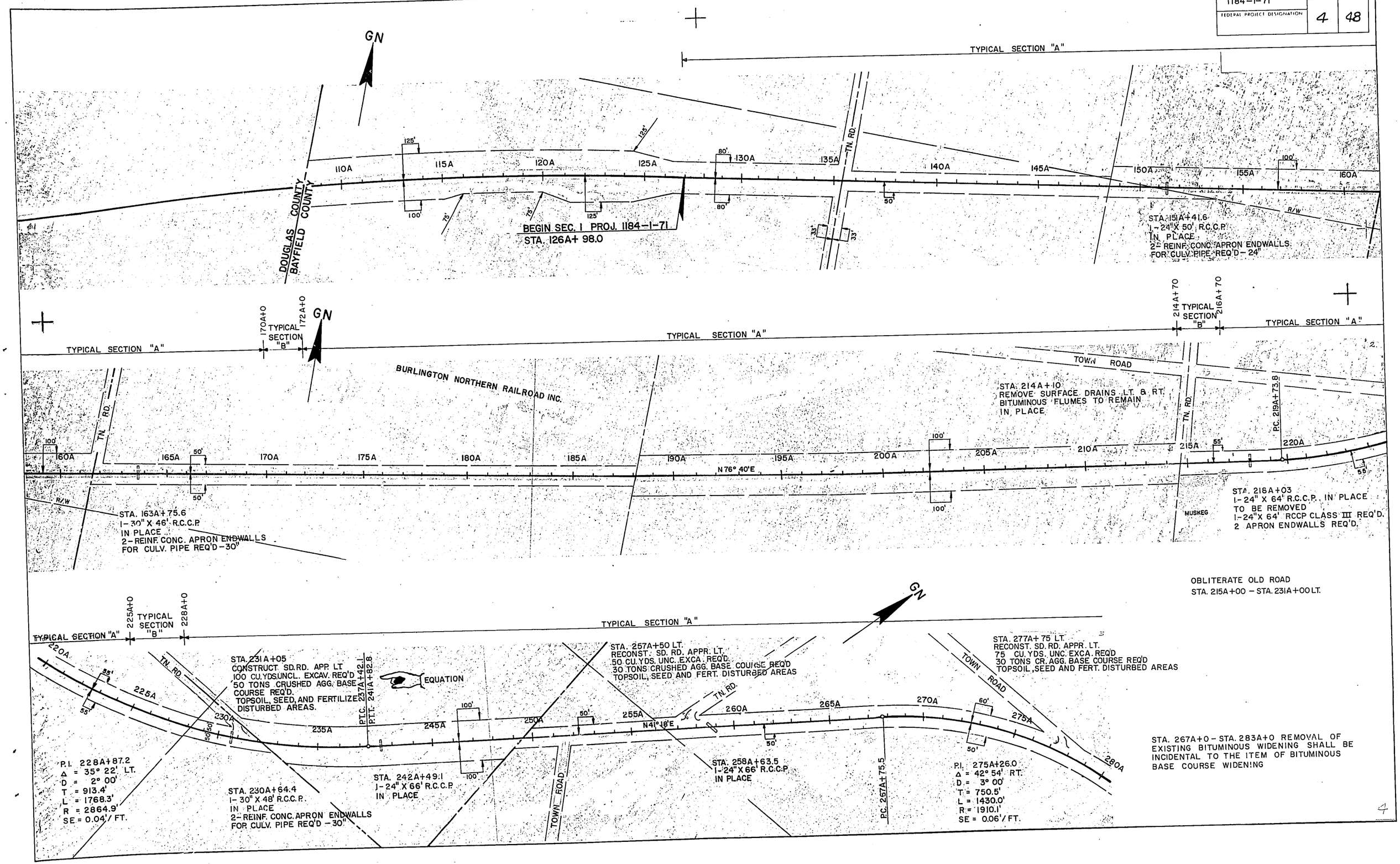
## CONCRETE CURB & GUTTER. 30-INCH. TYPE D

| SEC. NO. | STATION TO STATION | LT. | RT. | LIN. FT. |
|---|---|---|---|---|
| 2 | 185+96 - 186+20 | | X | 39.3 |
| | 185+96 - 186+20 | X | | 39.3 |
| | 186+62 - 189+65 | | X | 354.6 |
| | 186+64 - 189+67 | X | | 331.6 |
| | 190+23 - 193+29 | | X | 334.6 |
| | 190+26 - 193+31 | X | | 333.6 |
| | 193+66 - 196+73 | | X | 335.6 |
| | 193+68 - 196+73 | X | | 333.6 |
| | 197+12 - 202+77 | X | | 579.3 |
| | 197+12 - 204+04 | | X | 706.3 |
| | 202+99 - 211+33 | X | | 852.3 |
| | 204+22 - 211+36 | | X | 723.3 |
| | 211+77 - 215+27 | X | | 374.6 |
| | 211+80 - 215+26 | | X | 374.4 |
| | 215+63 - 215+88 | X | | 39.3 |
| | 215+63 - 215+88 | | X | 39.3 |
| | PROJECT TOTAL | | | 5791.0 |

## SODDING

| SEC. NO. | STA. TO STA. | DESCRIPTION | LT. | RT. | SQ. YD. |
|---|---|---|---|---|---|
| 2 | 185+95 - 186+20 | FLUME | X | | 22 |
| | 186+00 - 186+20 | SLOPES | X | X | 28 |
| | 186+80 - 189+58 | BACK OF CURB | X | | 127 |
| | 186+77 - 189+62 | BACK OF CURB | | X | 88 |
| | 190+40 - 193+18 | BETWEEN CURB & SIDEWALK | X | | 115 |
| | 190+40 - 193+21 | BETWEEN CURB & SIDEWALK | | X | 117 |
| | 192+50 - 195+10 | SLOPES | | X | 87 |
| | 193+80 - 196+62 | BETWEEN SIDEWALK & CURBS | X | | 152 |
| | UNDISTRIB. | | X | X | 1000 |
| | 0+50 - 1+50 | SLOPES (GEORGE ST.) | X | X | 460 |
| | | PROJECT TOTAL | | | 2196 |

| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 4 | 48 |
| FEDERAL PROJECT DESIGNATION | | |



| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
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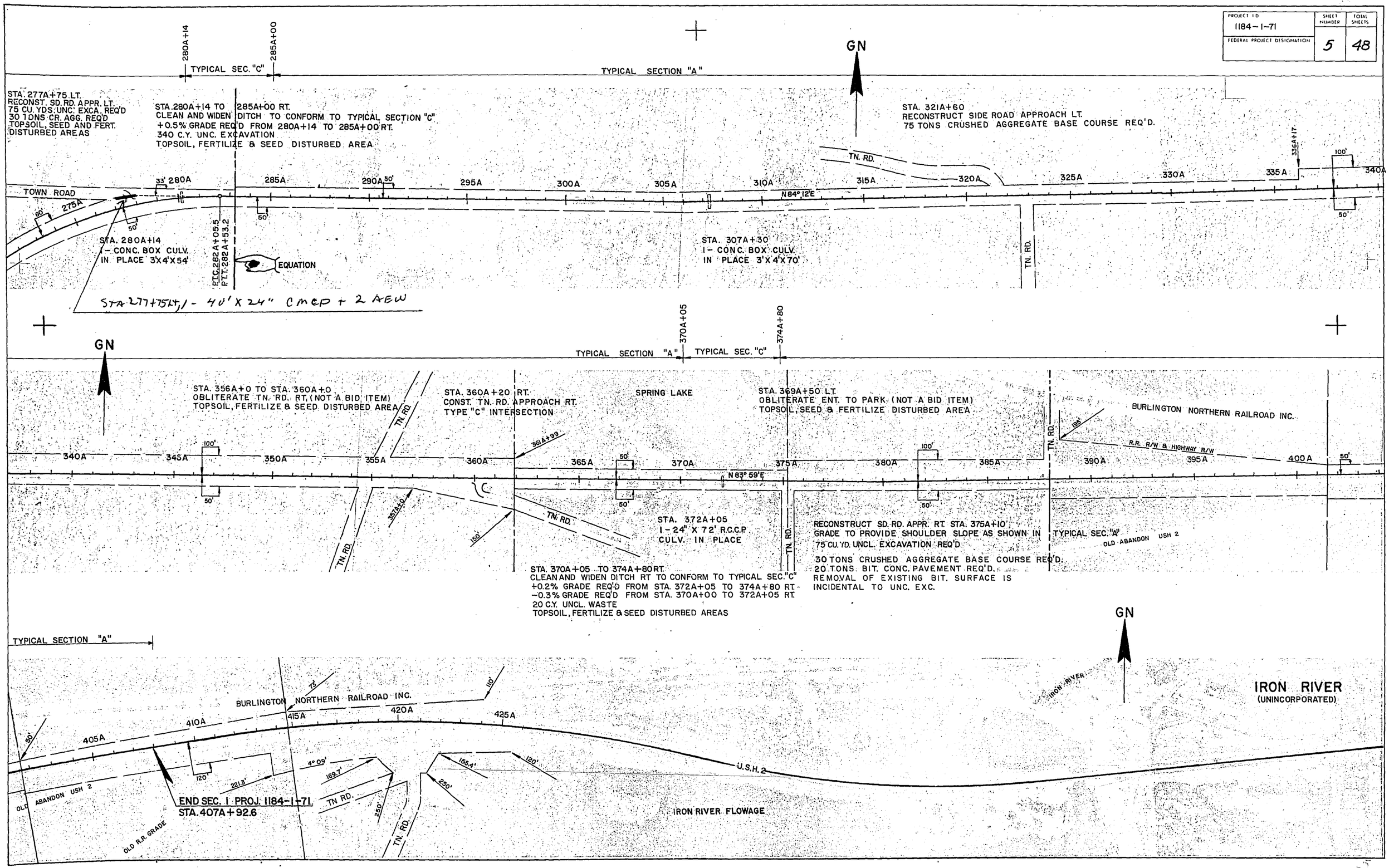
| FEDERAL PROJECT DESIGNATION | | |

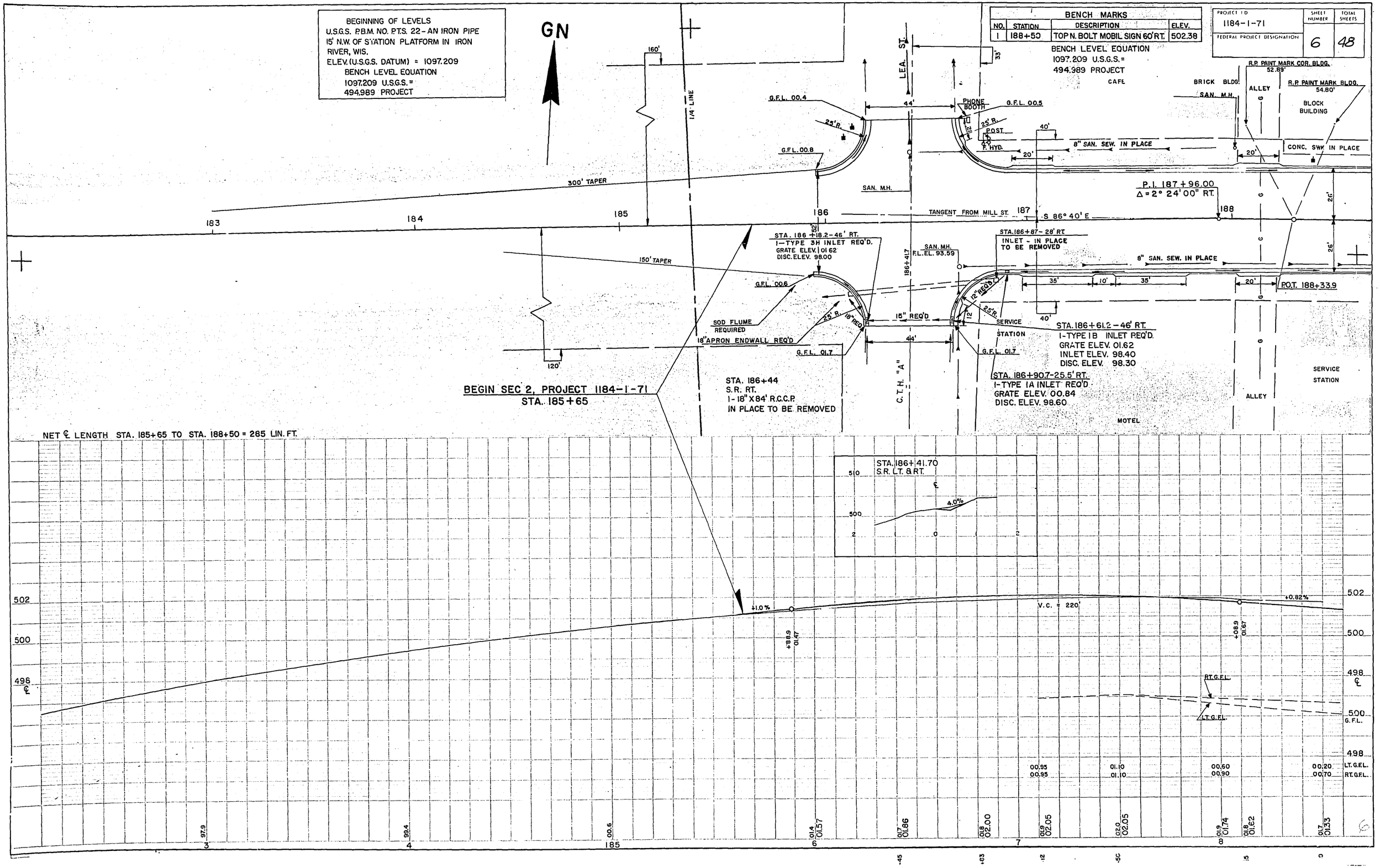


BEGINNING OF LEVELS
U.S.G.S. P.B.M. NO. P.T.S. 22 - AN IRON PIPE
15' N.W. OF STATION PLATFORM IN IRON
RIVER, WIS.
ELEV. (U.S.G.S. DATUM) = 1097.209
BENCH LEVEL EQUATION
1097.209 U.S.G.S. =
494.989 PROJECT

| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 1 | 188+50 | TOP N. BOLT MOBIL SIGN 60' RT. | 502.38 |

BENCH LEVEL EQUATION
1097.209 U.S.G.S. =
494.989 PROJECT

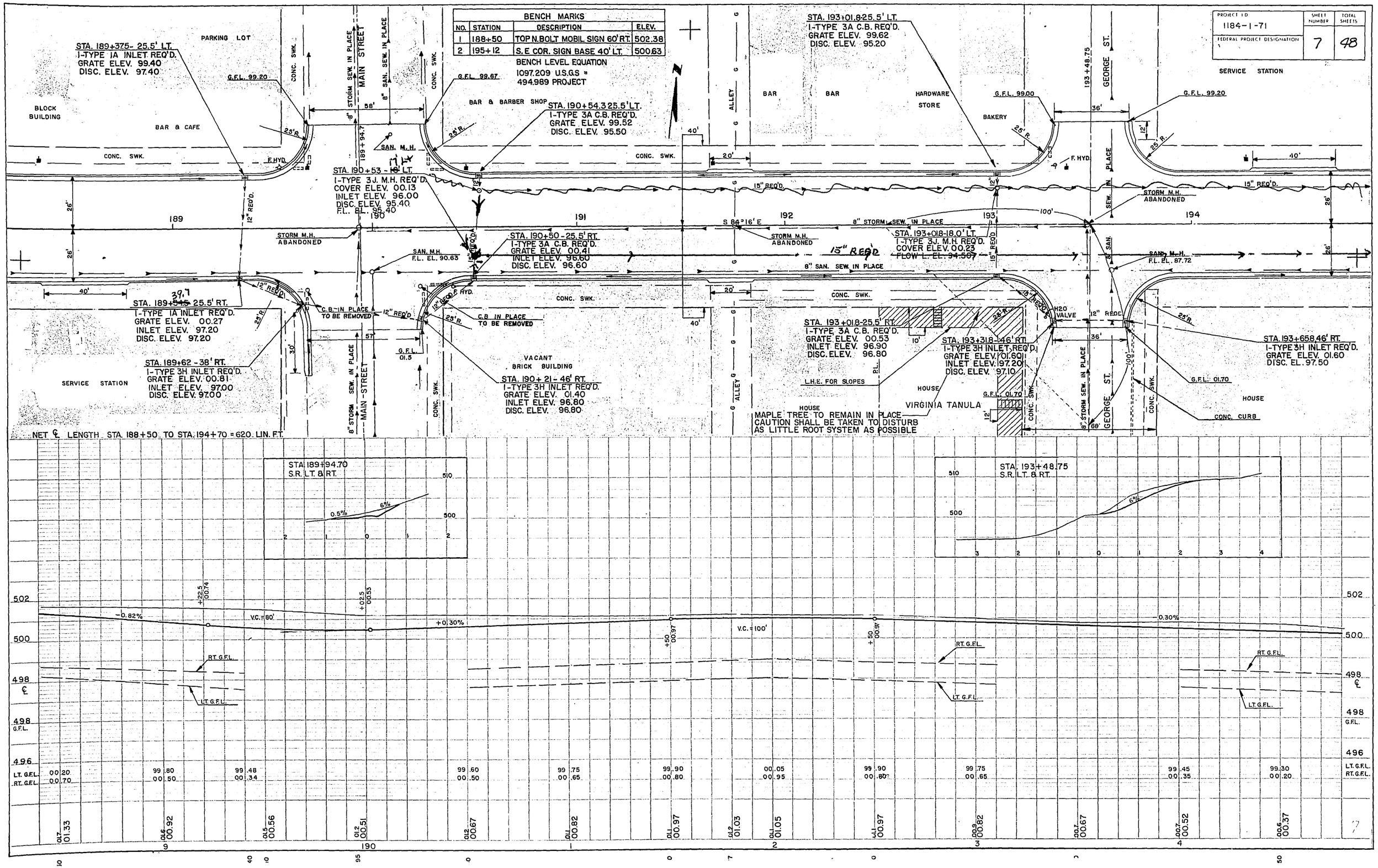
| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 6 | 48 |
| FEDERAL PROJECT DESIGNATION | | |



| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 7 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 1 | 188+50 | TOP N.BOLT MOBIL SIGN 60' RT. | 502.38 |
| 2 | 195+12 | S.E COR. SIGN BASE 40' LT. | 500.63 |

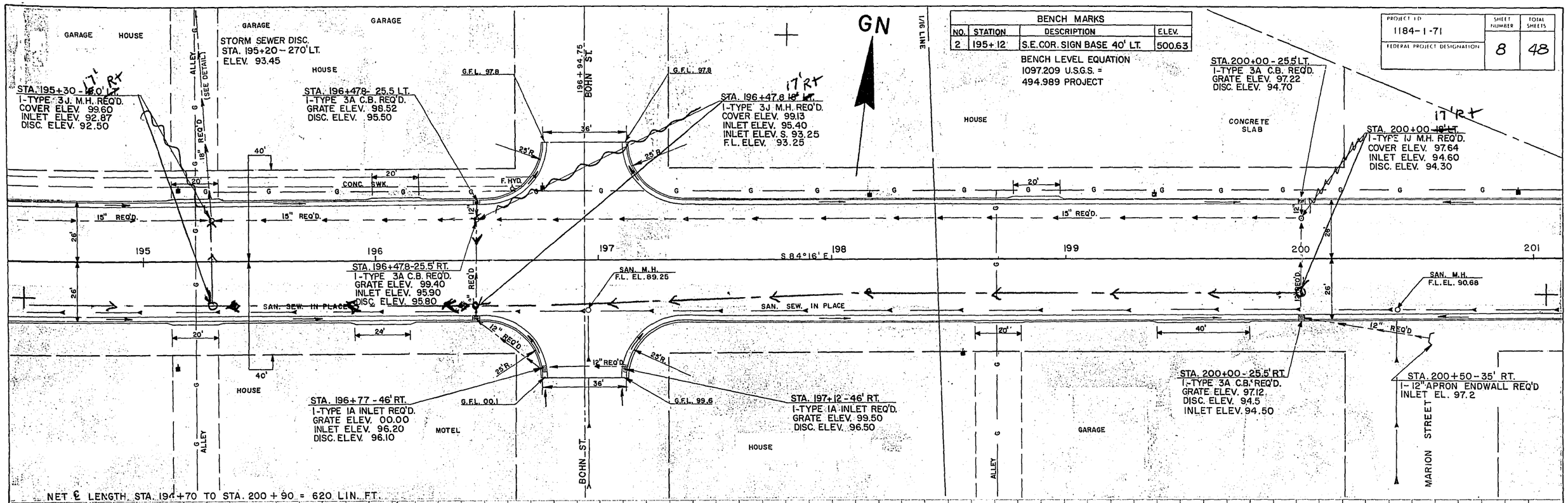
BENCH LEVEL EQUATION
1097.209 U.S.G.S = 494.989 PROJECT



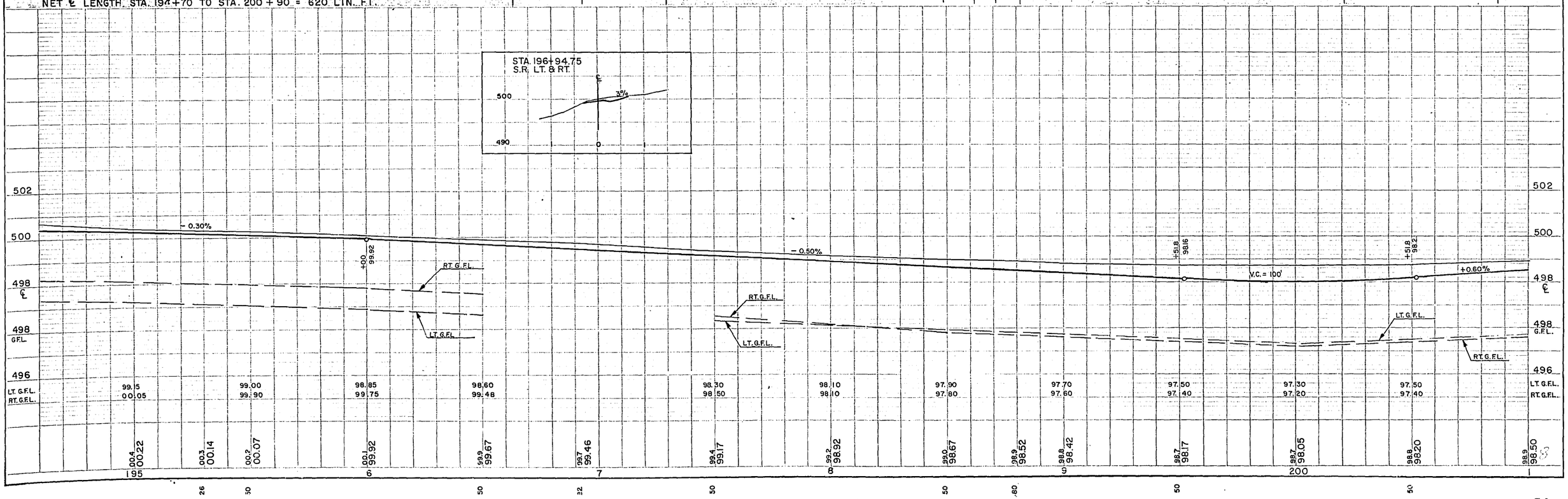
| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 8 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 2 | 195+12' | S.E.COR. SIGN BASE 40' LT. | 500.63 |

BENCH LEVEL EQUATION
1097.209 U.S.G.S. =
494.989 PROJECT



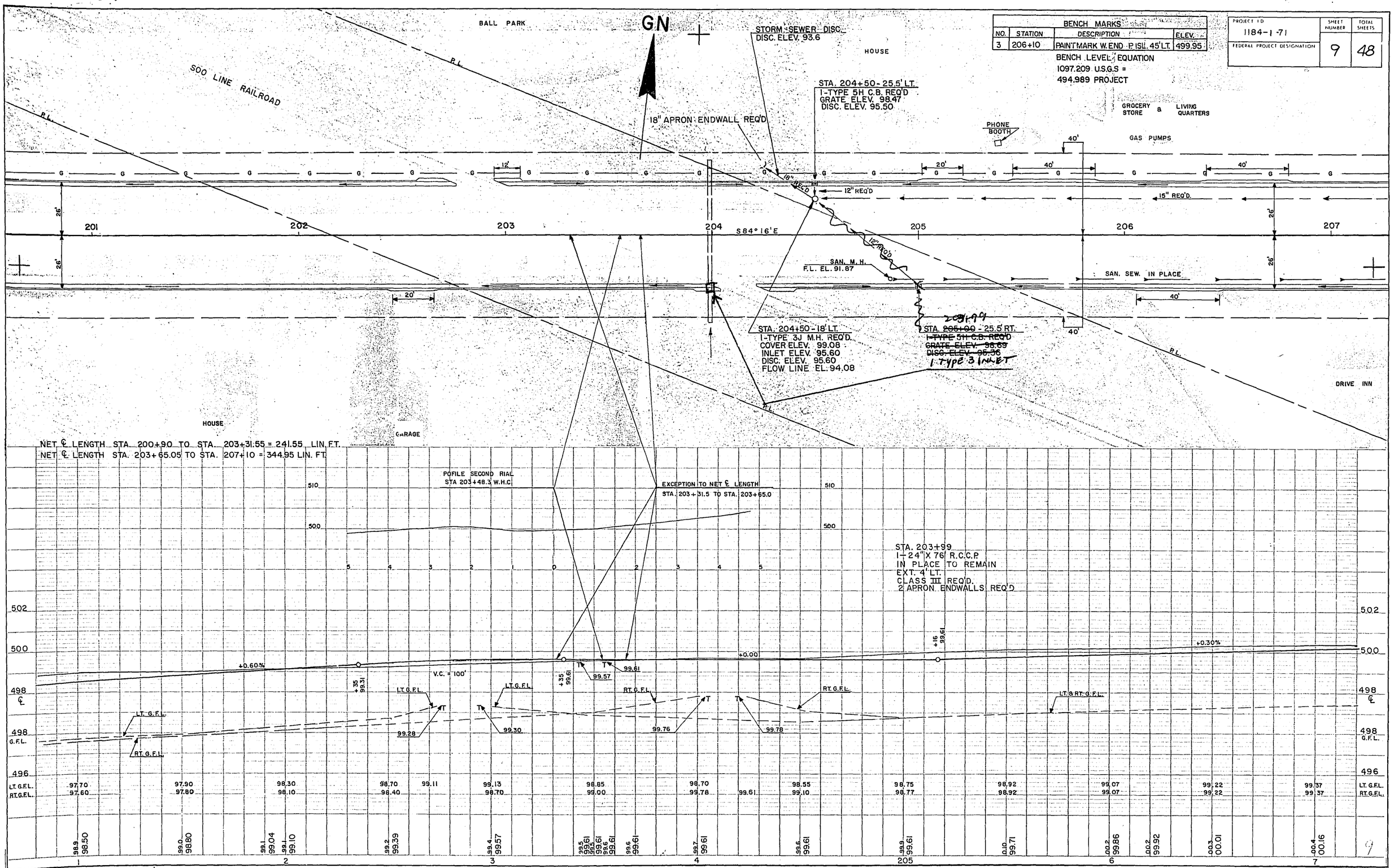

NET ℄ LENGTH STA. 194+70 TO STA. 200+90 = 620 LIN. FT.



| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 3 | 206+10 | PAINT MARK W. END P. ISL. 45' LT. | 499.95 |

BENCH LEVEL EQUATION
1097.209 U.S.G.S =
494.989 PROJECT

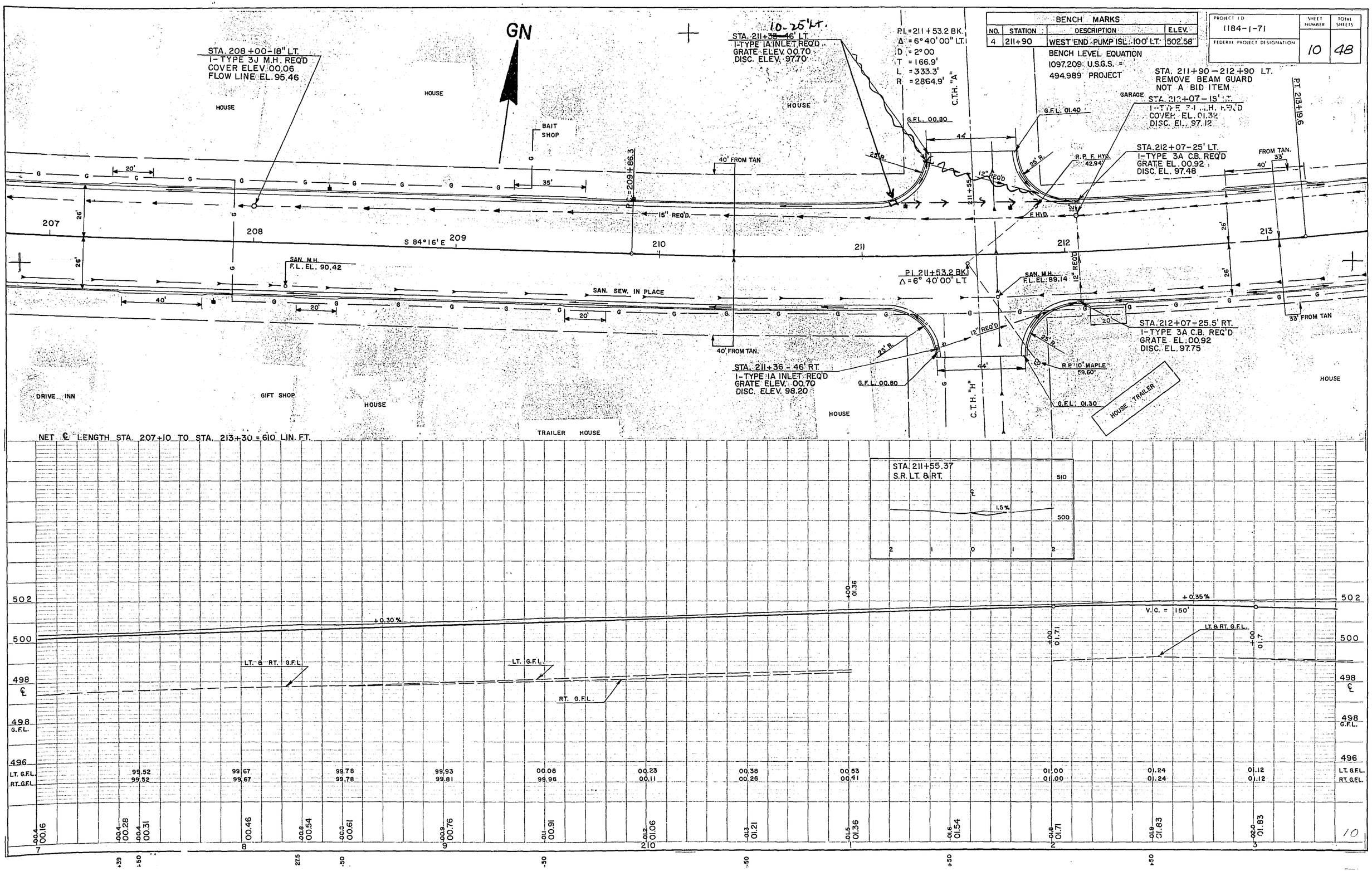
| PROJECT I D | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 9 | 48 |
| FEDERAL PROJECT DESIGNATION | | |



| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 4 | 211+90 | WEST END PUMP ISL. 100' LT. | 502.58 |

BENCH LEVEL EQUATION
1097.209 U.S.G.S. =
494.989 PROJECT

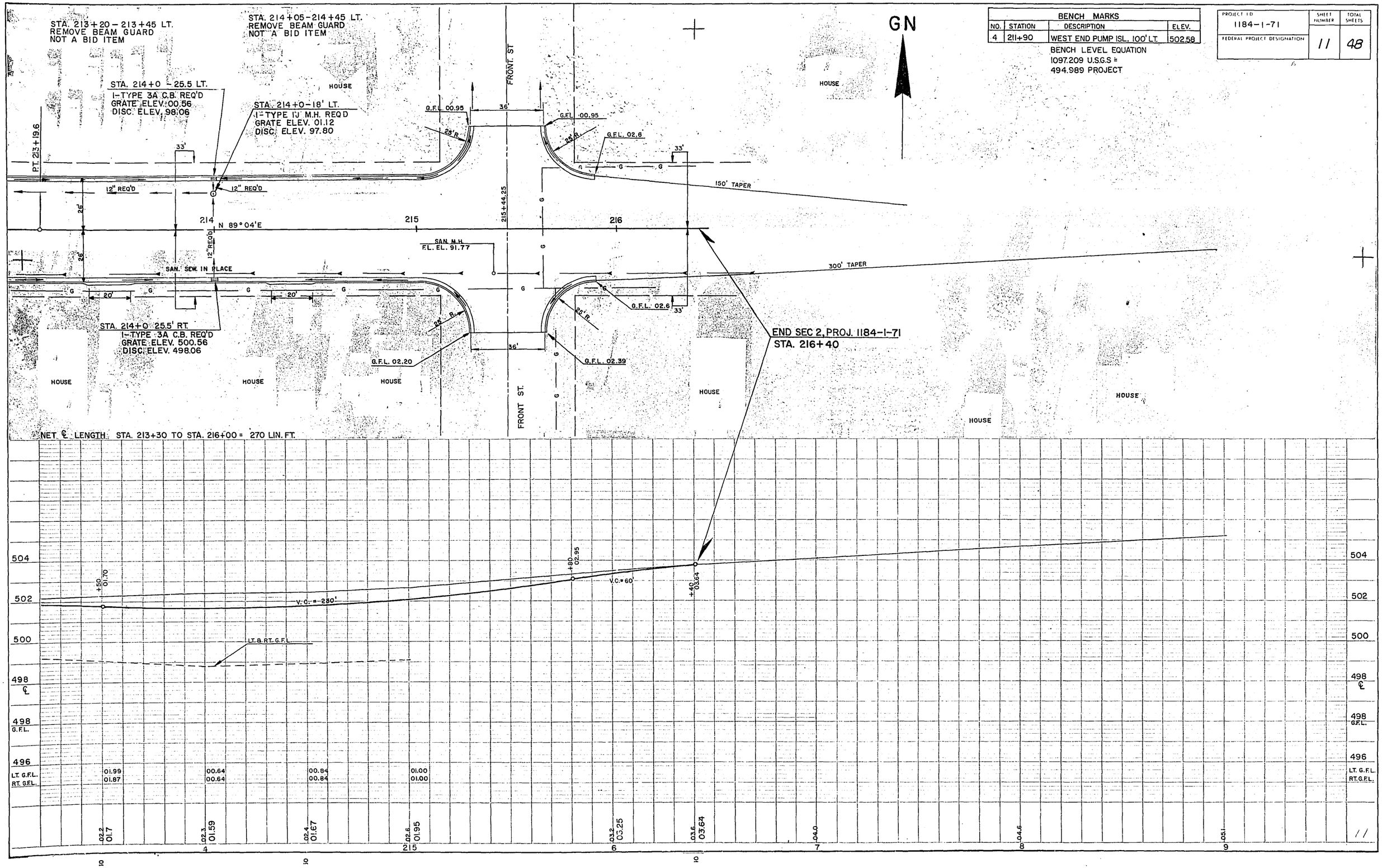
| PROJECT ID | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 10 | 48 |
| FEDERAL PROJECT DESIGNATION | | |



| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 4 | 211+90 | WEST END PUMP ISL. 100' LT. | 502.58 |

BENCH LEVEL EQUATION
1097.209 U.S.G.S = 494.989 PROJECT

| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 11 | 48 |
| FEDERAL PROJECT DESIGNATION | | |



| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 12 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

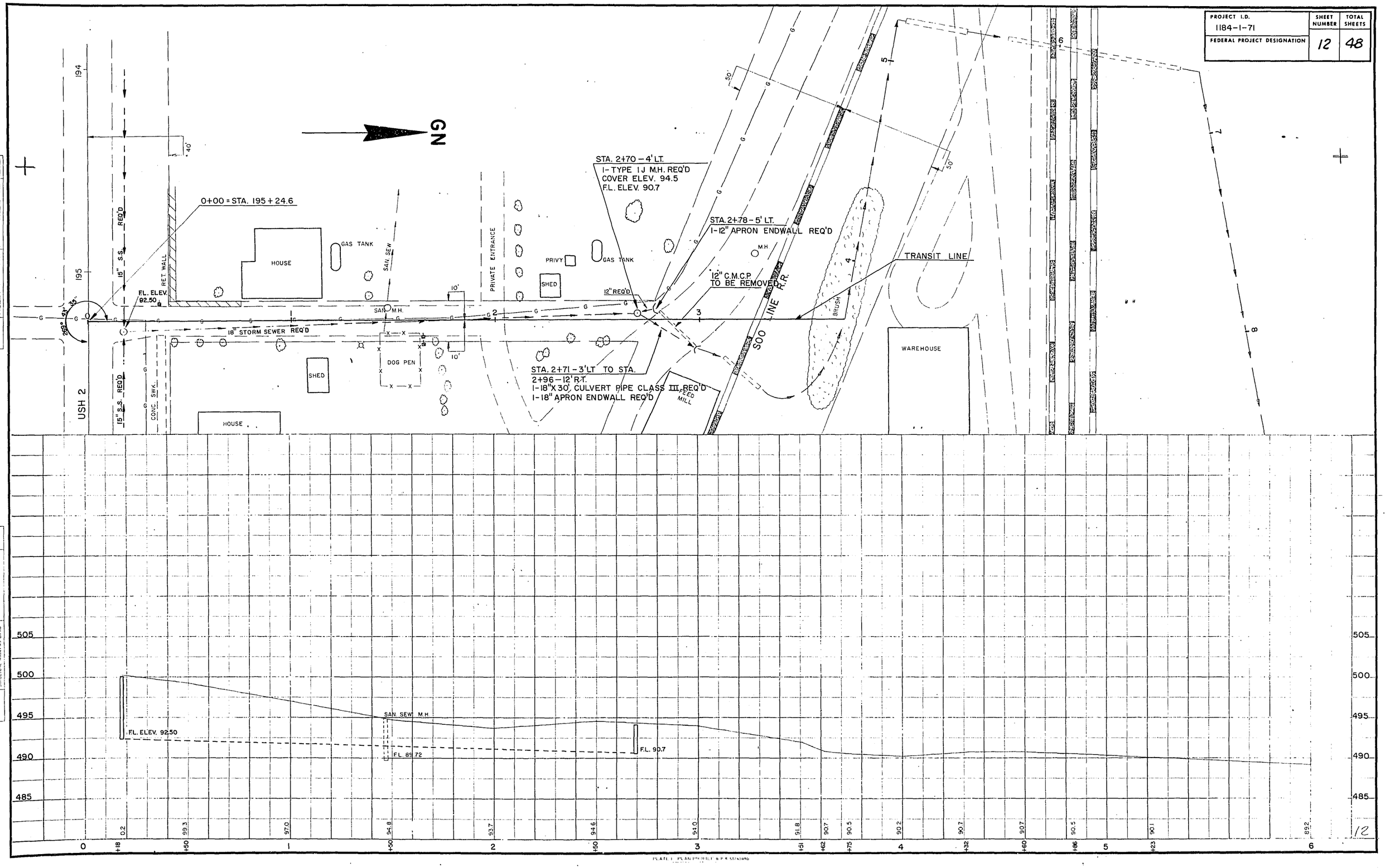
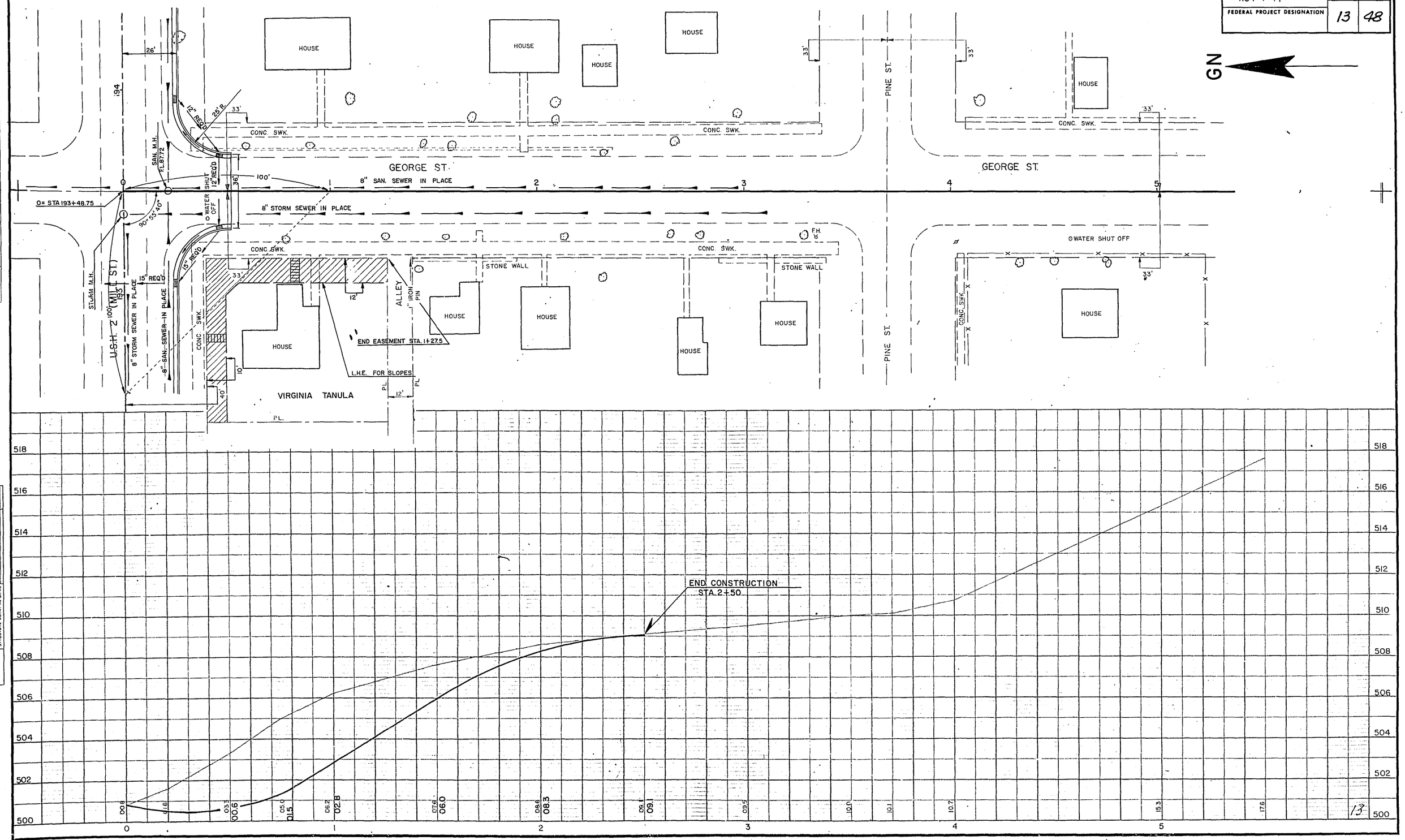



PLATE 1 PLAN PROFILE B.P.R. STANDARD

12

| PROJECT I.D. | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| 1184-1-71 | 13 | 48 |
| FEDERAL PROJECT DESIGNATION | | |

# TOWN OF IRON RIVER

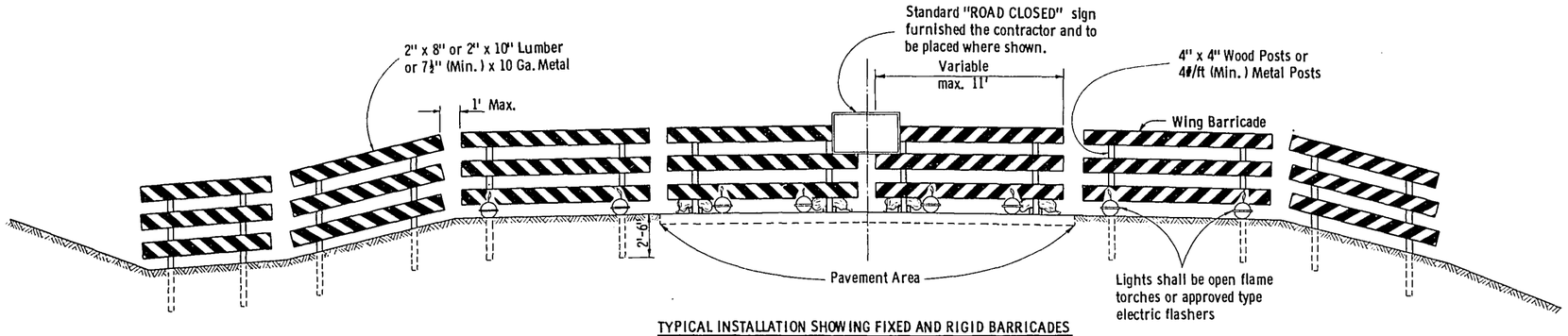



ALIGNMENT CHECKED
RT OF WAY CHECKED

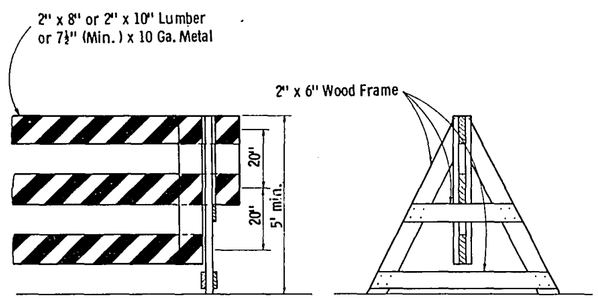
NOTE BOOK
NO. L.H.
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD

13

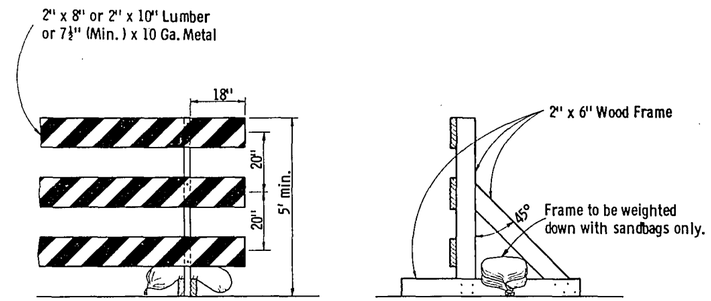
14-48




TYPICAL INSTALLATION SHOWING FIXED AND RIGID BARRICADES

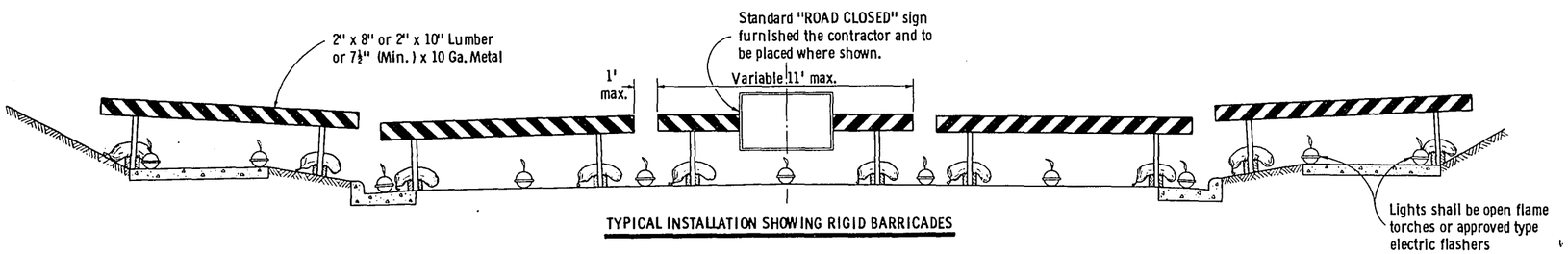



ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

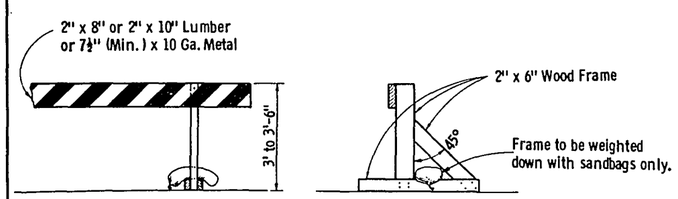



ALTERNATE TYPE INSTALLATION (RIGID)

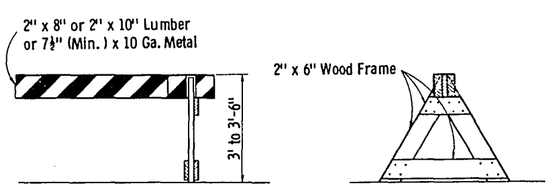
## CLASS I BARRICADES



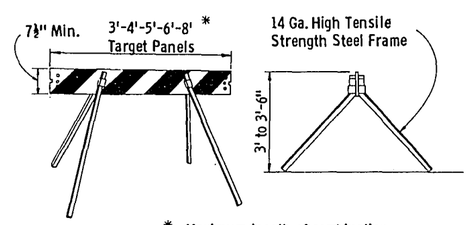

TYPICAL INSTALLATION SHOWING RIGID BARRICADES




ALTERNATE TYPE INSTALLATION (RIGID)




ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)




* Maximum length of combination panels 16'

ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

## CLASS II BARRICADES

## GENERAL NOTES

The contractor shall construct, place and maintain barricades as shown on the drawing and as required by the Standard Specifications or applicable Special Provisions.

CLASS 1 BARRICADE:

Class 1 Barricades shall be of variable length as indicated, and long barricades shall be assembled from these units. The Class 1 Barricade is the type normally required for major operations, where the barricade will remain in place for extended periods. Class 1 Barricades shall be used at points where the road is closed to traffic. Gates or movable sections of a barricade shall be provided when necessary, for access of equipment or other authorized vehicles.
Wing Barricades are Class 1 Barricades erected on the shoulder on one or both sides of the pavement to give Traffic the perceptive effect of a narrowing or restricted roadway. The ends closest to traffic of all three members of a wing barricade shall be in a vertical line. If used in a series, they should start at the outer edge of the shoulder and be brought progressively closer to the pavement. Wing Barricades may be used as a mounting for the advance warning or guide signs or for flashers. When used on two-way roadways, the back of the wing barricade shall be painted reflectorized white.

CLASS 11 BARRICADE:

Class 11 Barricades may be used only where the hazard to traffic is relatively small, and for the more or less continuous delimiting of a restricted roadway, or for temporary daytime use.

MATERIAL & FABRICATION:

Lumber shall be of a grade structurally sound and sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility.
Metal shall be sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility.
The fabrication of the barricade shall be in accord with good pertinent woodworking and metalworking practices.
All lumber or timber dimensions stated are nominal.

PAINTING:

All barricades shall be painted in alternate 4" or 6" black and white stripes at a 45° angle. The width of stripe shall be consistent for each complete barricade installation.
Black stripes shall be painted with weather resistant and durable black paint. White stripes shall be primed, followed by two coats of white reflectorized paint or reflective wide angle sheeting.

DIRECTION OF DIAGONAL STRIPES:

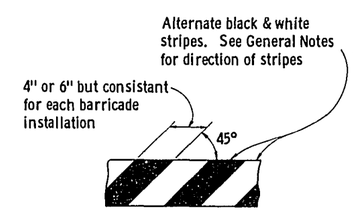
Where a barricade extends entirely across the roadway with no vehicle access provision, the stripes shall slope downward toward the highway centerline.
Where vehicle access is permitted, the stripes shall slope downward in the direction toward which vehicles must turn in detouring.
Where both right and left turns are provided for, the stripes shall slope downward in both directions from the center.
The stripes on wing barricades shall point downward toward the roadway.

LIGHTING:

Lighting devices for barricades shall conform to the requirements of the Standard Specifications.

MEASUREMENT & PAYMENT:

All barricades, unless otherwise provided for in the plans and/or special provisions shall be furnished, placed, and maintained as noted above, and no additional compensation will be allowed but shall be construed to be included in the price bid for other items.




TYPICAL DIAGONAL STRIPES

Applies to all Classes & Types of Barricades

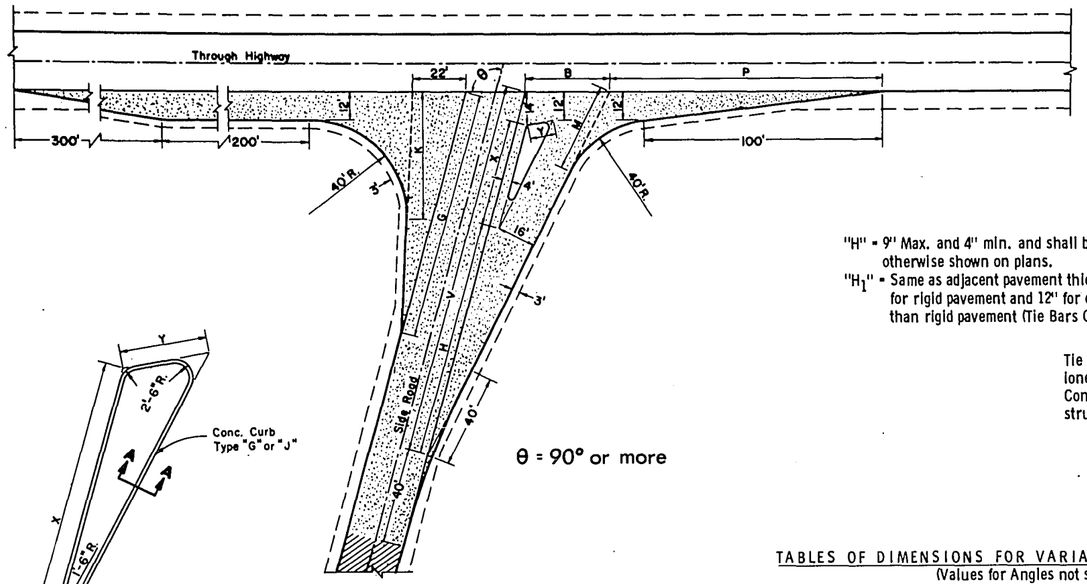
**CONSTRUCTION BARRICADE**

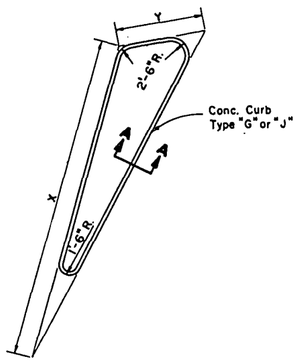
*State Highway Commission of Wisconsin*

RECOMMENDED FOR APPROVAL:
1/11/67 DATE — E. J. Ryckbost CHIEF DESIGN ENGINEER
APPROVED:
1/13/67 DATE — W. J. Burmeister STATE HIGHWAY ENGINEER

S.D.D. 15C1-1

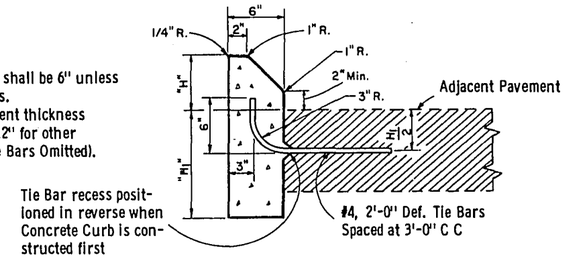
14,1-48



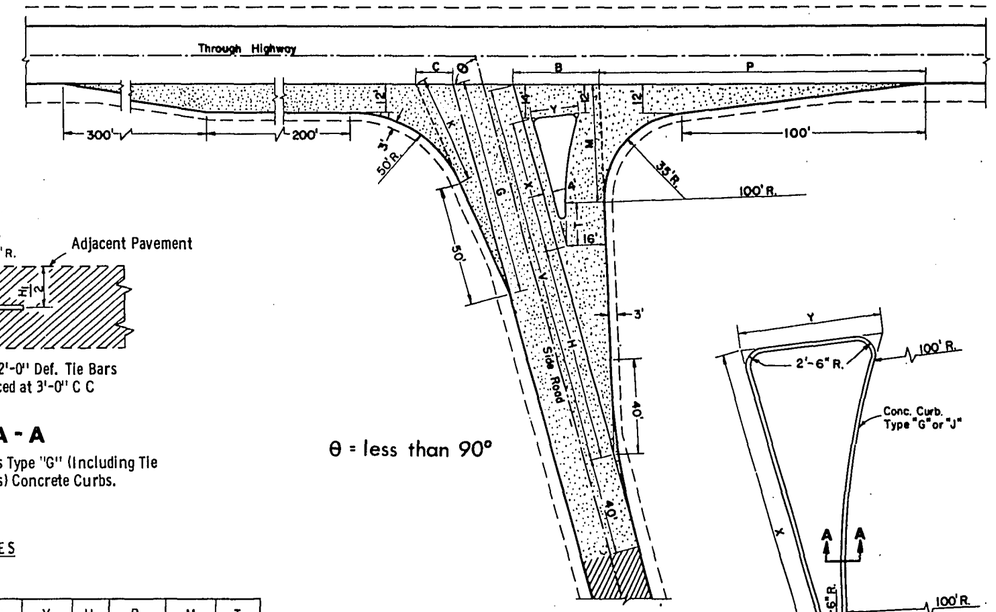

"H" = 9" Max. and 4" min. and shall be 6" unless otherwise shown on plans.

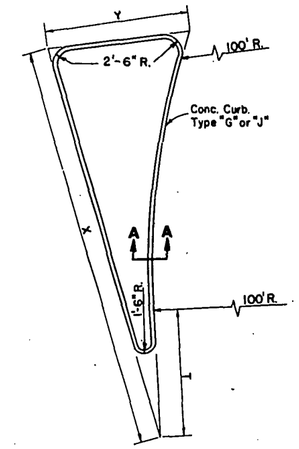
"$H_1$" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted).




SECTION **A - A**

Note: To be measured and paid for as Type "G" (Including Tie Bars) or Type "J" (Excluding Tie Bars) Concrete Curbs.




TABLES OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES

(Values for Angles not shown shall be interpolated)

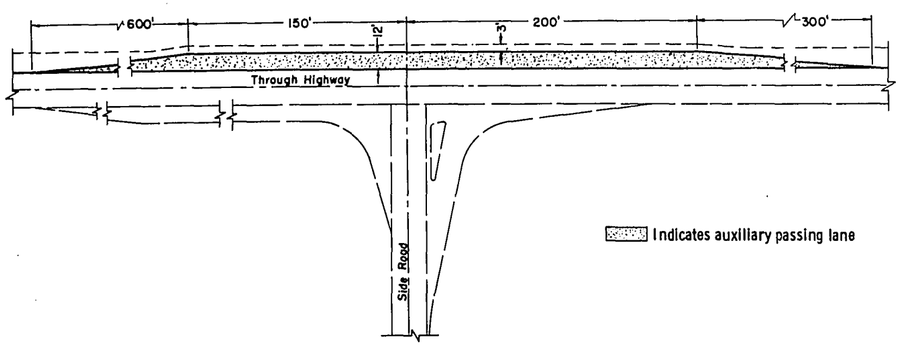
| θ | G | K | B | V | H | X | Y | P | M |
|---|---|---|---|---|---|---|---|---|---|
| 90 | 90 | 43.8 | 33.9 | 156.0 | 94 | 48.0 | 11.0 | 125.0 | 44.2 |
| 95 | 94 | 46.7 | 34.0 | 156.7 | 96 | 47.0 | 11.0 | 121.3 | 41.9 |
| 100 | 98 | 50.0 | 34.4 | 157.4 | 98 | 45.9 | 11.0 | 117.7 | 39.7 |
| 105 | 102 | 53.8 | 35.2 | 158.3 | 100 | 44.9 | 11.2 | 114.2 | 37.8 |
| 110 | 106 | 58.2 | 36.4 | 159.2 | 102 | 43.7 | 11.4 | 110.6 | 36.2 |
| 115 | 110 | 63.4 | 38.4 | 161.8 | 104 | 42.6 | 11.7 | 107.1 | 34.8 |
| *120 | 114 | 69.4 | 40.1 | 161.2 | 106 | 41.4 | 12.2 | 103.4 | 33.7 |

*Maximum angle of intersection

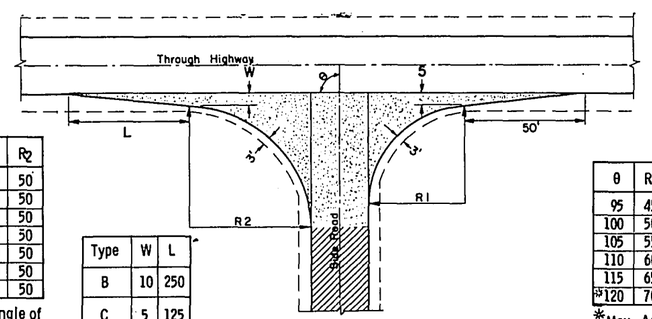
| θ | C | G | K | B | V | X | Y | H | P | M | T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *60 | 19.7 | 76.3 | 38.6 | 41.5 | 169.9 | 67.4 | 29.3 | 84 | 144.5 | 58.8 | 21.6 |
| 65 | 17.8 | 82.6 | 40.6 | 39.4 | 166.9 | 63.6 | 25.0 | 86 | 141.2 | 54.9 | 20.7 |
| 70 | 15.8 | 87.2 | 43.1 | 37.4 | 164.1 | 59.7 | 21.9 | 88 | 136.8 | 51.4 | 19.2 |
| 75 | 15.7 | 90.9 | 45.6 | 35.7 | 161.4 | 55.9 | 19.3 | 90 | 132.7 | 48.2 | 17.4 |
| 80 | 15.9 | 94.9 | 48.3 | 34.4 | 158.9 | 51.9 | 17.0 | 92 | 128.8 | 45.3 | 14.9 |
| 85 | 16.2 | 99.3 | 51.4 | 33.4 | 156.4 | 48.0 | 15.0 | 94 | 125.2 | 42.7 | 10.4 |

*Desirable Minimum angle of intersection

## TYPE "A" SIDE ROAD INTERSECTION DETAILS




## PASSING LANE DETAIL




| θ | $R_1$ | $R_2$ |
|---|---|---|
| *60 | 40 | 50 |
| 65 | 40 | 50 |
| 70 | 40 | 50 |
| 75 | 40 | 50 |
| 80 | 40 | 50 |
| 85 | 40 | 50 |
| 90 | 40 | 50 |

*Min. Angle of Intersection

| Type | W | L |
|---|---|---|
| B | 10 | 250 |
| C | 5 | 125 |

| θ | $R_1$ | $R_2$ |
|---|---|---|
| 95 | 45 | 49 |
| 100 | 50 | 48 |
| 105 | 55 | 47 |
| 110 | 60 | 46 |
| 115 | 65 | 45 |
| *120 | 70 | 44 |

*Max. Angle of Intersection

## TYPE "B" & "C" SIDE ROAD INTERSECTION DETAILS

## GENERAL NOTES

Designs may be used interchangeably in combination or separately for any one complete intersection depending upon intersection angle and surfacing of each approach roadway.

Details on this drawing are for minimum design only, and not applicable to special conditions, as shown elsewhere on the plans.

SIDE ROAD SURFACING NOTE

If the side road is not presently paved, pavement shall be placed to the limits shown. In the case where the construction limits are beyond the paving limits, gravel or crushed stone surfacing shall be placed between the paving limits and construction limits.

If the side road is presently paved, new pavement shall be placed to the limits of design as shown and beyond, if necessary, to meet existing pavement.

If side road is the construction project, the intersection surfacing shall be the same as for the project.

New Pavement

Existing Surface

**LAYOUT DETAILS FOR AT-GRADE SIDE ROAD INTERSECTIONS**

*State Highway Commission of Wisconsin*

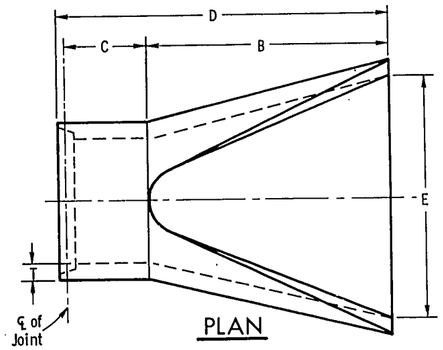
RECOMMENDED FOR APPROVAL: 8/9/67 DATE — CHIEF DESIGN ENGINEER

APPROVED: 8/9/67 DATE — STATE HIGHWAY ENGINEER

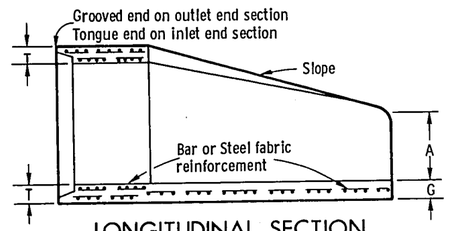
S.D.D. 9A1-1

S.D.D. 9A1-1

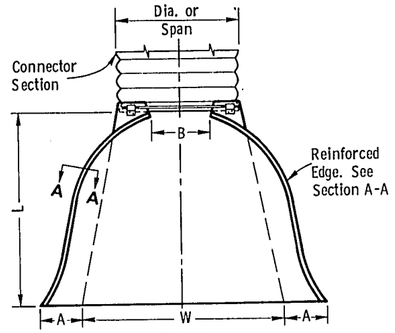
14.2-48




PLAN




LONGITUDINAL SECTION

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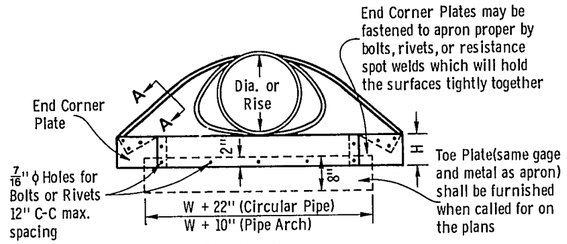
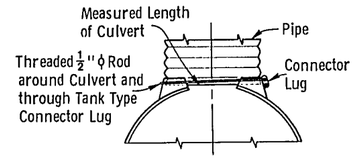
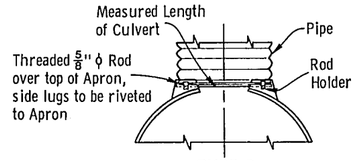



END VIEW



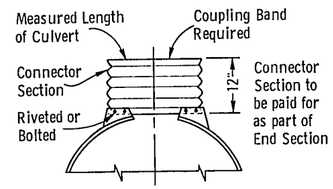

TYPE 1

For 12" thru 24" only (Circular Pipe)



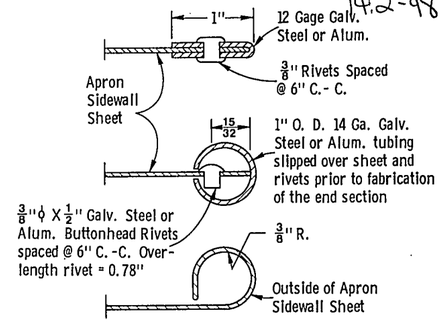

TYPE 2

For 30" and 36" only (Circular Pipe)
For 18" X 11" thru 58" X 36" only (Pipe Arch)

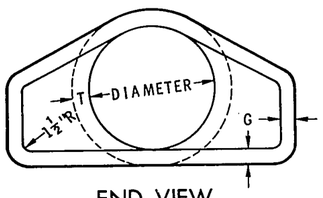



TYPE 3

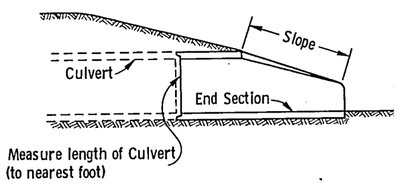
For 42" thru 84" only (Circular Pipe)
For 65" X 40" & 72" X 44" (Pipe Arch)



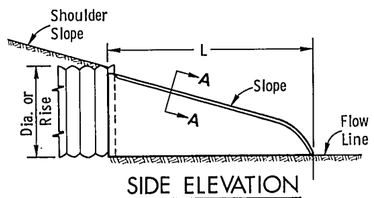

SECTION A-A



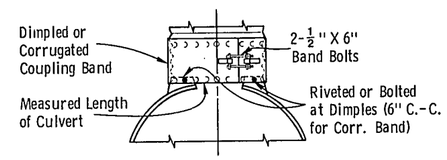

END VIEW




SLOPE DETAIL




SIDE ELEVATION




TYPE 5

Alternate for
All sizes Corrugated Circular Pipe and Pipe Arch

NOTE: Dimpled Band fits over Outside of Endwall, and Corr. Band fits Inside Endwall. Dimpled Band may be used with Helically Corrugated Pipe

CONNECTION DETAILS

## GENERAL NOTES

Details of construction, materials, and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations of the dimensions and designs shown hereon will be permitted providing equivalent capacity and structural integrity are attained, and prior approval of the Engineer is obtained.

Concrete culvert endwalls may not be used with metal or aluminum culvert pipe, nor may metal or aluminum culvert endwalls be used with concrete culvert pipe.

When two or more pipes or pipe arches with apron endwalls are to be laid adjacent to each other, they shall be separated by the following amount:

Pipes: Total width of apron endwall less the diameter of pipe plus 6 inches.
Pipe Arches: Total width of apron endwall less the span dimension of the pipe arch plus 6 inches.

| DIA. | APPROX. WEIGHT/ SECTION | APPROX. SLOPE | T | A | B | C | D | E | G |
|---|---|---|---|---|---|---|---|---|---|
| 12" | 530 | 3 to 1 | 2" | 4" | 24" | 48 7/8 | 72 7/8" | 24" | 2" |
| 15" | 740 | 3 to 1 | 2 1/4" | 6" | 27" | 46" | 73" | 30" | 2 1/4" |
| 18" | 990 | 3 to 1 | 2 1/2" | 9" | 27" | 46" | 73" | 36" | 2 1/2" |
| 21" | 1,280 | 3 to 1 | 2 3/4" | 9" | 36" | 37 1/2" | 73 1/2" | 42" | 2 3/4" |
| 24" | 1,520 | 3 to 1 | 3" | 9 1/2" | 43 1/2" | 30" | 73 1/2" | 48" | 3" |
| 27" | 1,930 | 3 to 1 | 3 1/4" | 10 1/2" | 49 1/2" | 24" | 73 1/2" | 54" | 3 1/4" |
| 30" | 2,190 | 3 to 1 | 3 1/2" | 12" | 54" | 19 3/4" | 73 3/4" | 60" | 3 1/2" |
| 36" | 4,100 | 3 to 1 | 4" | 15" | 63" | 34 3/4" | 97 3/4" | 72" | 4" |
| 42" | 5,380 | 3 to 1 | 4 1/2" | 21" | 63" | 35" | 98" | 78" | 4 1/2" |
| 48" | 6,550 | 3 to 1 | 5" | 24" | 72" | 26" | 98" | 84" | 5" |
| 54" | 8,040 | 2 2/5 to 1 | 5 1/2" | 27" | 65" | ** 33 1/4" - * 35" | ** 98 1/4" - * 100" | 90" | 5" |
| 60" | 8,730 | 2 to 1 | 6" | ** 30" - * 35" | 60" | 39" | 99" | 96" | 5" |
| 66" | 10,630 | 2 to 1 | 6 1/2" | ** 24" - * 30" | ** 72" - * 78" | 21" - 27" | 99" | 102" | 5 1/2" |
| 72" | 12,520 | 2 to 1 | 7" | ** 24" - * 36" | 78" | 21" | 99" | 108" | 6" |
| 78" | 14,430 | 2 to 1 | 7 1/2" | ** 24" - * 36" | 78" | 21" | 99" | 114" | 6 1/2" |
| 84" | 18,160 | 1 1/2 to 1 | 8" | 36" | 90 1/2" | 21" | 111 1/2" | 120" | 6 1/2" |

** Minimum
* Maximum

REINFORCED CONCRETE APRON ENDWALLS

| D PIPE DIAM. | MIN. METAL GAGE | MIN. ALUM. GAGE | DIMENSIONS A ± 1" | B MAX. | H ± 1" | L ± 1 1/2" | W ± 2" | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 12" | 16 | 16 | 6" | 6" | 6" | 21" | 24" | 2 1/2 to 1 |
| 15" | 16 | 16 | 7" | 8" | 6" | 26" | 30" | " |
| 18" | 16 | 16 | 8" | 10" | 6" | 31" | 36" | " |
| 21" | 16 | 16 | 9" | 12" | 6" | 36" | 42" | " |
| 24" | 16 | 14 | 10" | 13" | 6" | 41" | 48" | " |
| 30" | 14 | 14 | 12" | 16" | 8" | 51" | 60" | " |
| 36" | 14 | 12 | 14" | 19" | 9" | 60" | 72" | " |
| 42" | 12 | 12 | 16" | 22" | 11" | 69" | 84" | " |
| 48" | 12 | 12 | 18" | 27" | 12" | 78" | 90" | 2 1/4 to 1 |
| 54" | 12 | 12 | 18" | 30" | 12" | 84" | 102" | 2 to 1 |
| 60" | 10 | 8 | 18" | 33" | 12" | 87" | 114" | 1 3/4 to 1 |
| 66" | 10 | 8 | 18" | 36" | 12" | 87" | 120" | 1 1/2 to 1 |
| 72" | 10 | 8 | 18" | 39" | 12" | 87" | 126" | 1 1/3 to 1 |
| 78" | 8 | NA | 18" | 42" | 12" | 87" | 132" | 1 1/4 to 1 |
| 84" | 8 | NA | 18" | 45" | 12" | 87" | 138" | 1 1/8 to 1 |

NOTE: All splices to be lap riveted or bolted

METAL OR ALUMINUM APRON ENDWALLS FOR CIRCULAR PIPES

| PIPE — ARCH DIMENSIONS SPAN | RISE | GAGE MIN. | DIMENSIONS A ± 1" | B MAX. | H ± 1" | L ± 1 1/2" | W ± 2" | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 18" | 11" | 16 | 7" | 9" | 6" | 19" | 30" | 2 1/2 to 1 |
| 22" | 13" | 16 | 7" | 10" | 6" | 23" | 36" | " |
| 25" | 16" | 16 | 8" | 12" | 6" | 28" | 42" | " |
| 29" | 18" | 16 | 9" | 14" | 6" | 32" | 48" | " |
| 36" | 22" | 14 | 10" | 16" | 6" | 39" | 60" | " |
| 43" | 27" | 14 | 12" | 18" | 8" | 46" | 75" | " |
| 50" | 31" | 12 | 13" | 21" | 9" | 53" | 85" | " |
| 58" | 36" | 12 | 18" | 26" | 12" | 63" | 90" | " |
| 65" | 40" | 12 | 18" | 30" | 12" | 70" | 102" | 2 1/4 to 1 |
| 72" | 44" | 12 | 18" | 33" | 12" | 77" | 114" | " |

NOTE: All splices to be lap riveted or bolted

METAL APRON ENDWALLS FOR PIPE ARCHES

### CIRCULAR PIPE

For Circumferentially Corrugated Pipe use Endwall Connection Details 1, 2, 3, or 5 as applicable.

For Helically Corrugated Pipe use Endwall Connection Details 1, 2 or 5.

For Helically Corrugated Pipes with two Circumferential Corrugations at each end use Endwall Connection Details 1, 2, or 3

### PIPE ARCH

Use Endwall Connection Details 2, 3, or 5 as applicable.

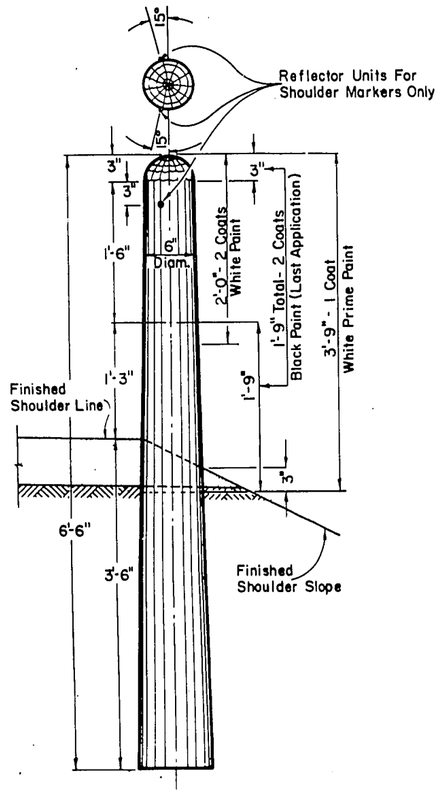
**APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

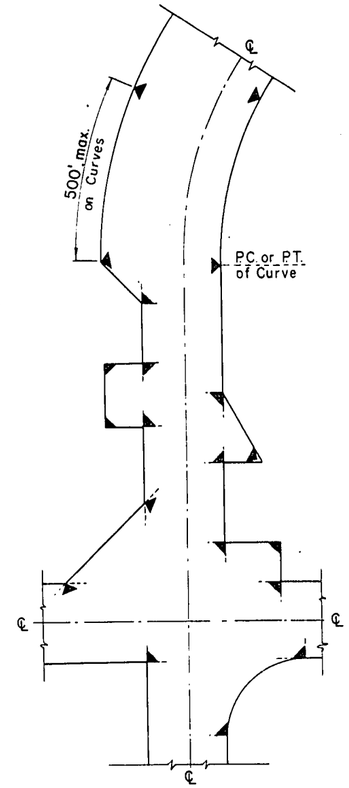
RECOMMENDED FOR APPROVAL: 5/13/71 DATE — ACTING CHIEF DESIGN ENGINEER
APPROVED: 5/13/71 DATE — STATE HIGHWAY ENGINEER

S.D.D. 8F1-1

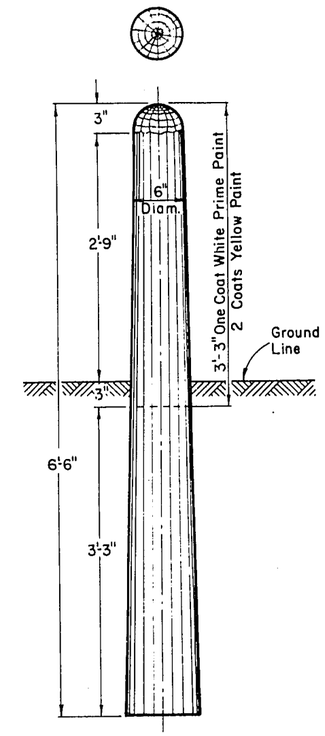
S.D.D. 8F1-1




MARKER POST FOR ROAD SHOULDERS

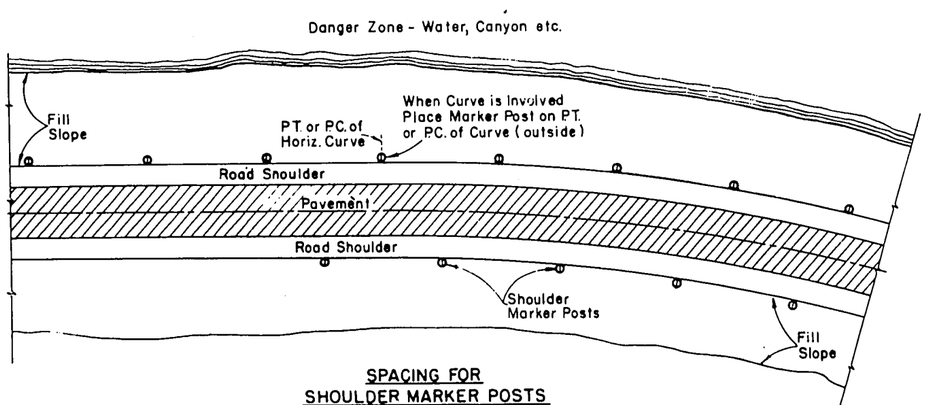



LOCATION DIAGRAM SHOWING TYPICAL LOCATIONS OF MARKER POSTS FOR RIGHT OF WAY




MARKER POST FOR RIGHT OF WAY

## MARKER POST FOR RIGHT OF WAY




SPACING FOR SHOULDER MARKER POSTS

50' C:C for 100' to 500' Danger Zones
100 C:C for Over 500' Danger Zones

LOCATION DIAGRAM SHOWING RELATIVE LOCATIONS OF SHOULDER MARKER POSTS

## MARKER POSTS FOR ROAD SHOULDERS

GENERAL NOTES

Details of construction not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

MARKER POSTS FOR RIGHT OF WAY

Right of Way Marker Posts shall be erected in advance of grading operations. Posts shall be placed at the outer limits of the highway Right of Way, but entirely within the Right of Way, and shall be so placed that the outer edge of the posts shall be tangent to the Right of Way line or lines extended. The exact location of all Right of Way posts will be staked in the field by the Engineer.

REFLECTOR UNITS

Reflector Units shall be installed in road shoulder marker posts only. Reflector Units shall have plastic crystal lens 7/8" in diameter. Unit assembly shall be a minimum of 7/8" in length. Reflector Units shall be furnished with flared expanding metal clips for wood mounting. Units shall be mounted in tightest fit possible and securely stayed in posts.

MARKER POSTS & MARKER POSTS FOR RIGHT OF WAY

*State Highway Commission of Wisconsin*

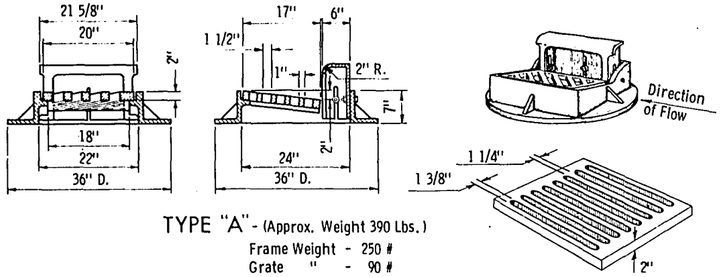
RECOMMENDED FOR APPROVAL
7/6/66 — DATE — E. J. Bykit — CHIEF DESIGN ENGINEER

APPROVED
7/8/66 — DATE — Y. L. Barnstable — STATE HIGHWAY ENGINEER



S.D.D. 15A1-1

14.4-48




TYPE "A" - (Approx. Weight 390 Lbs.)

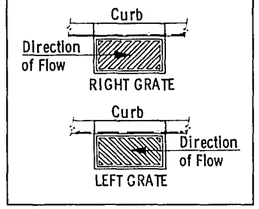
Frame Weight - 250 #
Grate " - 90 #
Box " - 50#

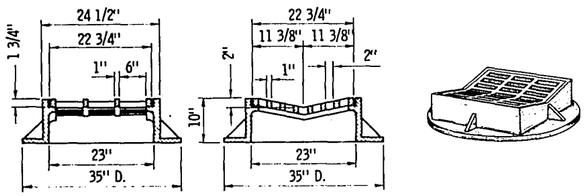
Alternate Type Grate
(Longitudinal Slots)
Approx. Weight - 100 #

SPECIAL NOTE

Diagonal Slots shall be oriented to the direction of flow as shown hereon. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below)

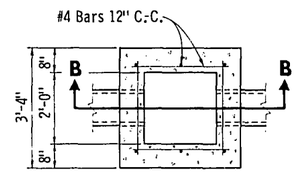
Longitudinal slot type grates may be used ONLY where bicycles are prohibited.



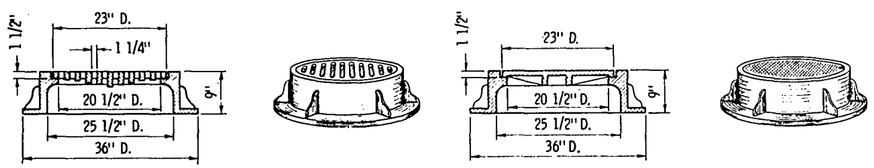




TYPE "B" - (Approx. Weight 414 Lbs.)

Frame Weight - 275 #
Grate " - 139 #



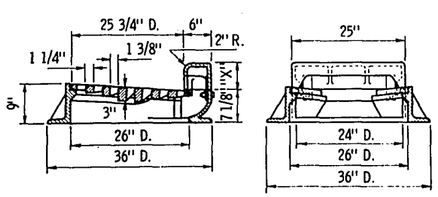

SECTION A-A
REINFORCED CONCRETE

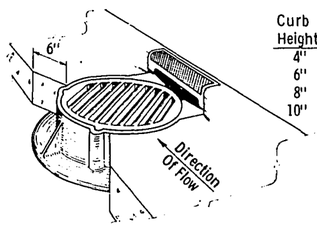



TYPE "C" - (Approx. Weight 370 Lbs.)

Frame Weight Type "C" & Type "D" - 255 #
Slotted Grate Weight - 115 #
Solid Cover Weight - 150 #
(Note: Frame for Type "C" same as for Type "D")

TYPE "D" - (Approx. Weight 405 Lbs.)
(Note: Frame for Type "D" same as for Type "C")



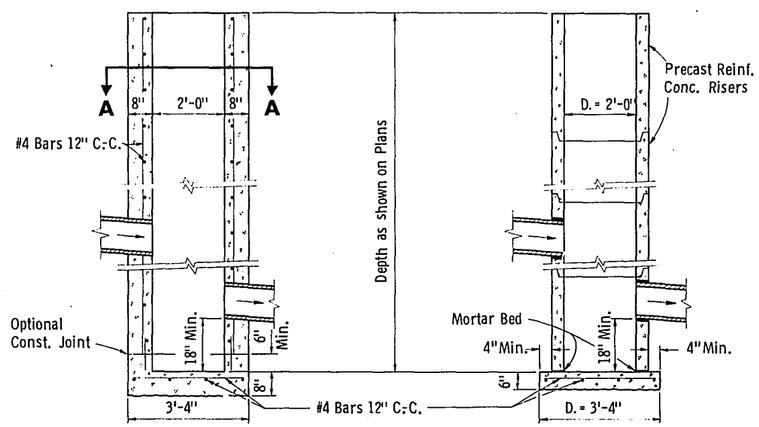




| Curb Height | (X) | Weight |
|---|---|---|
| 4" | 4 1/4" | 60 # |
| 6" | 6 1/4" | 70 # |
| 8" | 8 1/4" | 90 # |
| 10" | 10 1/4" | 100 # |

TYPE "G" - (Approx. Weight 425 - 465 Lbs.)

Frame Weight - 235 #
Grate " - 130 #
Box - See Table

## CATCH BASIN COVERS




SECTION B-B
REINFORCED CONCRETE

PRECAST REINFORCED CONCRETE

## CATCH BASIN TYPE 3

## GENERAL NOTES

1. Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

2. Detailed drawings for proposed alternate designs for Catch Basins or Catch Basin Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

3. All Catch Basins are designated on the Plans as "Catch Basins, 3-C", 3-G, etc. This designation is interpreted to mean that the number, or first digit designates the masonry portion of the structure, and the following letter designates the type of cover or iron casting to be used therewith to comprise the complete unit "Catch Basin" in place.

4. All bar steel reinforcement shall be embedded 2 inches clear

5. Precast Reinforced Bases may be used in lieu of cast-in-place bases. When Precast Bases are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.

6. All Precast Reinforced Concrete Risers, Grade Rings, and Flat Slab Tops shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to the Flat Slab Top requirements of AASHO Designation M 199.

7. Adjustment of the cover to grade may be accomplished by the use of mortar and brick, or by a Precast Reinforced Concrete Grade Ring. Maximum adjustment shall be 8 inches.

8. Precast Reinforced Concrete Risers may be placed with tongue or "D" joint ends either up or down.

9. Steps shall be installed in all Catch Basins over 5 feet in depth. Steps shall be installed 5 inches clear from wall at the center of the step. Steps shall conform to the requirements of the Standard Specifications for Gray Iron Castings, ASTM Designation A48. Steps shall have a minimum width of 9 inches out to out of casting.

10. All Catch Basin and Inlet frames and grates which are placed in vehicular traffic areas shall be "Non-Rocking" type, so as to prevent all cover noise under traffic.

11. Curb Box height to be adjustable 4 - 9 inches unless otherwise noted. Curb box height to be adjusted after curb form is in place.

**CATCH BASINS TYPE 3 & CATCH BASIN COVERS**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

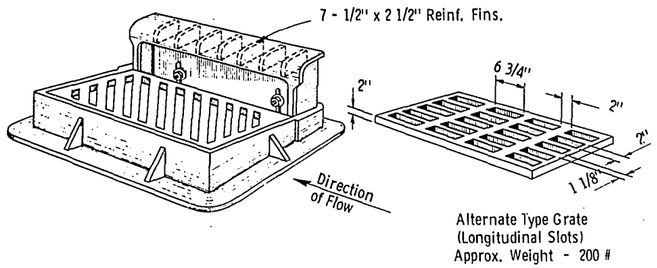
RECOMMENDED FOR APPROVAL:
4/25/69 DATE — E. J. Ruckit CHIEF DESIGN ENGINEER

APPROVED:
4/25/69 DATE — A. Bruemmer STATE HIGHWAY ENGINEER

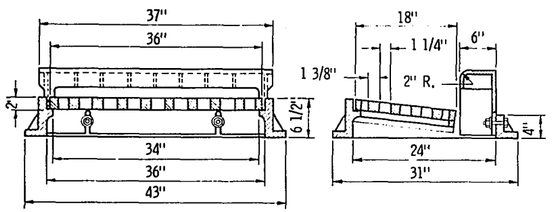


S.D.D. 8A3-1

14.5-48




Alternate Type Grate
(Longitudinal Slots)
Approx. Weight - 200 #



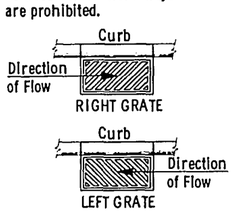

TYPE "H" - (Approx. Weight 530 Lbs.)

Frame Weight - 220 #
Grate " - 200 #
Box " - 110 #

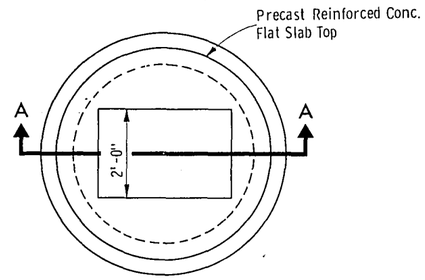
SPECIAL NOTE

Diagonal Slots shall be oriented to the direction of flow as shown hereon. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below)

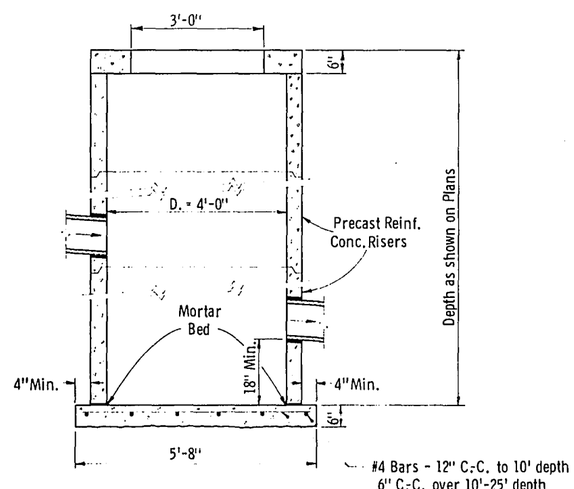
Longitudinal slot type grates may be used ONLY where bicycles are prohibited.



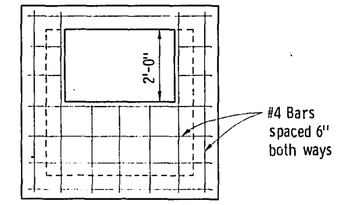

## CATCH BASIN COVER



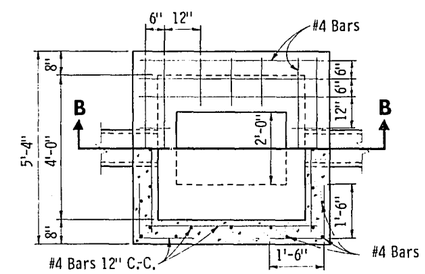

PLAN VIEW



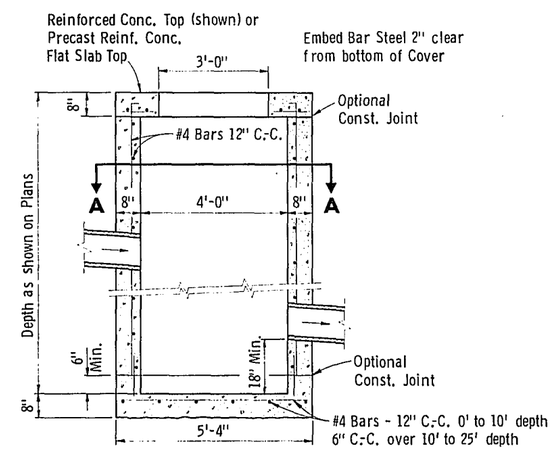

SECTION A-A
PRECAST REINFORCED CONCRETE




TOP VIEW SHOWING
ALTERNATE OPENING




HALF SECTION A-A




SECTION B-B
REINFORCED CONCRETE

## GENERAL NOTES

1. Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

2. Detailed drawings for proposed alternate designs for Catch Basins or Catch Basin Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

3. All Catch Basins are designated on the Plans as "Catch Basins, 5-H" etc. This designation is interpreted to mean that the number, or first digit designates the masonry portion of the structure, and the following letter designates the type of cover or iron casting to be used therewith to comprise the complete unit "Catch Basin" in place.

4. All bar steel reinforcement shall be embedded 2 inches clear.

5. Precast Reinforced Bases may be used in lieu of cast-in-place bases. When Precast Bases are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.

6. All Precast Reinforced Concrete Risers, Grade Rings, and Flat Slab Tops shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to the Flat Slab Top requirements of AASHO Designation M 199.

7. Steps shall be installed in all Catch Basins over 5 feet in depth. Steps shall be installed 5 inches clear from wall at the center of the step. Steps shall conform to the requirements of the Standard Specifications for Gray Iron Castings, ASTM Designation A48. Steps shall have a minimum width of 9 inches out to out of casting.

8. Curb box height to be adjustable 4-9 inches unless otherwise noted. Curb box height to be adjusted after curb form is in place.

**CATCH BASINS TYPE 5 & CATCH BASIN COVER**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

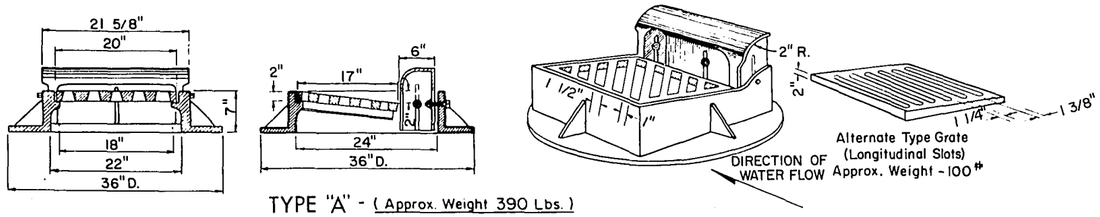
RECOMMENDED FOR APPROVAL:
4/25/69 DATE — E. J. Ryskeit CHIEF DESIGN ENGINEER
APPROVED:
4/25/69 DATE — H. L. Summerlin STATE HIGHWAY ENGINEER

## CATCH BASINS TYPE 5



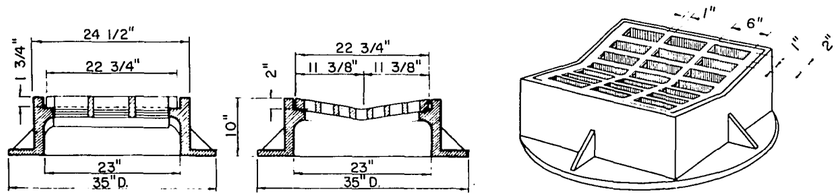
S.D.D. 8A4-1

14.6-48



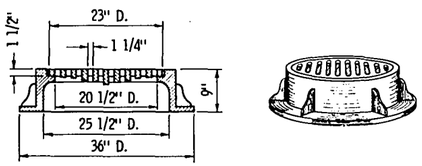

TYPE "A" - (Approx. Weight 390 Lbs.)

Frame Weight - 250 #
Grate " - 90 #
Box " - 50 #



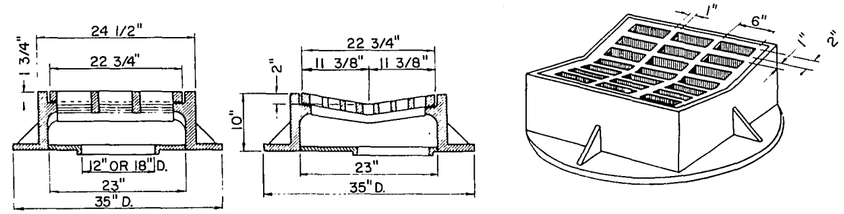

TYPE "B" - (Approx. Weight 414 Lbs.)

Frame Weight - 275 #
Grate " - 139 #



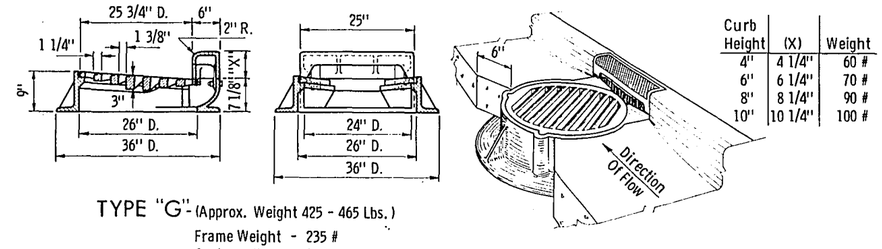

TYPE "C" - (Approx. Weight 370 Lbs.)

Frame Weight Type "C" & Type "D" - 255 #
Slotted Grate Weight - 115 #
Solid Cover Weight - 150 #
(Note: Frame for Type "C" same as for Type "D")




TYPE "S" - (Approx. Weight 450 Lbs.)

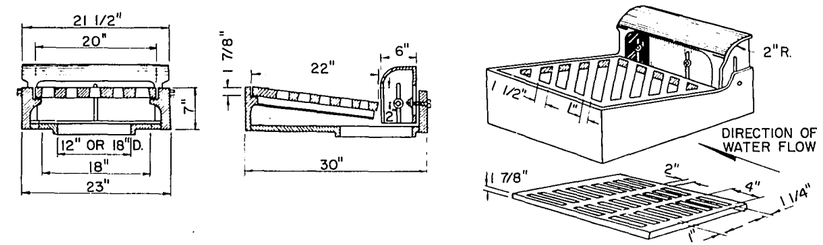
## INLET COVERS




| Curb Height | (X) | Weight |
|---|---|---|
| 4" | 4 1/4" | 60 # |
| 6" | 6 1/4" | 70 # |
| 8" | 8 1/4" | 90 # |
| 10" | 10 1/4" | 100 # |

TYPE "G" - (Approx. Weight 425 - 465 Lbs.)

Frame Weight - 235 #
Grate " - 130 #
Box - See Table

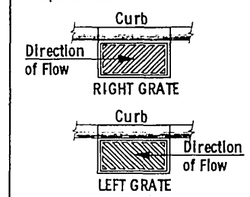



TYPE "R" - (Approx. Weight 450 Lbs.)

**SPECIAL NOTE**

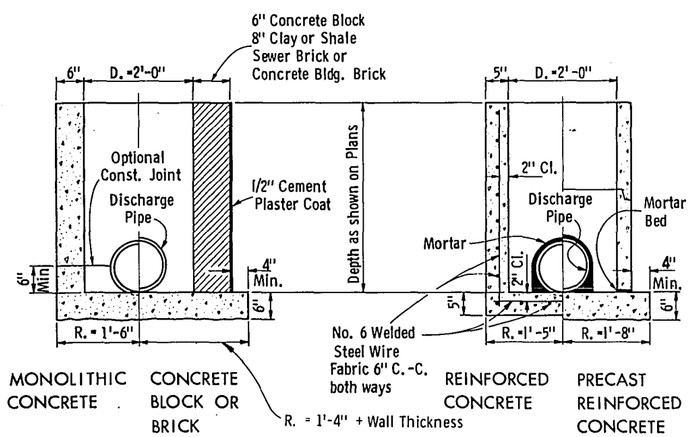
Diagonal Slots shall be oriented to the direction of flow as shown hereon. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below)

Longitudinal slot type grates may be used ONLY where bicycles are prohibited.

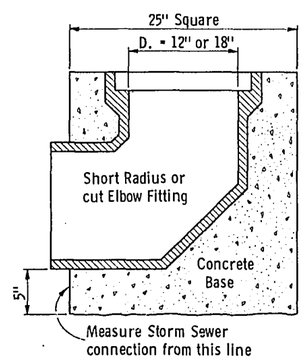



## GENERAL NOTES

1. Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.
2. Detailed drawings for proposed alternate designs for Inlets shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivaleht capacity and strength.
3. All Inlets are designated on the Plans as "Inlets, 1-A", 2-R, etc. This designation is interpreted to mean that the number, or first digit, designates the masonry portion of the structure, and the following letter, designates the type of cover or iron casting to be used therewith to comprise the complete unit "Inlet" in place.
4. All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.
5. Precast Reinforced Bases may be used in lieu of cast-in-place bases. When Precast Bases are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.
6. All Precast Reinforced Concrete Risers, Grade Rings, and Flat Slab Tops shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to the Flat Slab Top requirements of AASHO Designation M 199.
7. Adjustment of the cover to grade may be accomplished by the use of mortar and brick. Maximum adjustment shall be 8 inches.
8. Precast Reinforced Concrete Risers may be placed with tongue or "D" joint ends either up or down.
9. Strike all joints for brick or block construction.




## INLET TYPE 1




## INLET TYPE 2

**INLETS TYPE 1 & 2**
**AND INLET COVERS**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

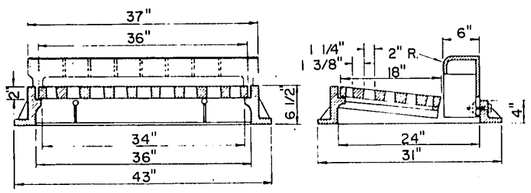
RECOMMENDED FOR APPROVAL:
5/7/69 — DATE — E. J. Bykit — CHIEF DESIGN ENGINEER

APPROVED:
5/12/69 — DATE — K. J. Sommitter — STATE HIGHWAY ENGINEER

S.D.D. 8C1-1

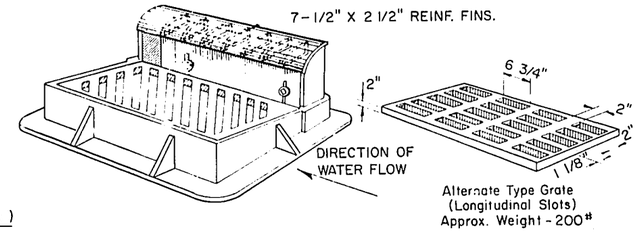
S.D.D. 8C1-1

14.7-48




TYPE "H" - ( Approx. Weight 530 Lbs )

Frame Weight - 220#
Grate " - 200#
Box " - 110#

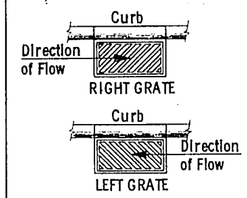



## INLET COVER

**SPECIAL NOTE**

Diagonal Slots shall be oriented to the direction of flow as shown hereon. Hence RIGHT and LEFT Grates shall be furnished depending on direction of flow. (See Sketch Below)

Longitudinal slot type grates may be used ONLY where bicycles are prohibited.




## GENERAL NOTES

1. Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

2. Detailed drawings for proposed alternate designs for Inlets shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

3. All Inlets are designated on the Plans as "Inlets, 3-H", etc. This designation is interpreted to mean that the number, or first digit, designates the masonry portion of the structure, and the following letter, designates the type of cover or iron casting to be used therewith to comprise the complete unit "Inlet" in place.

4. All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

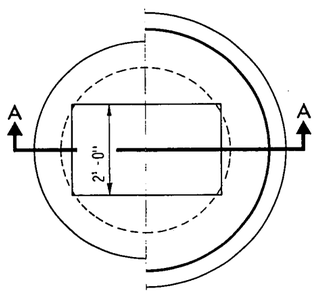
5. Precast Reinforced Bases may be used in lieu of cast-in-place bases. When Precast Bases are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.

6. All Precast Reinforced Concrete Risers, Grade Rings, and Flat Slab Tops shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to the Flat Slab Top requirements of AASHO Designation M 199.

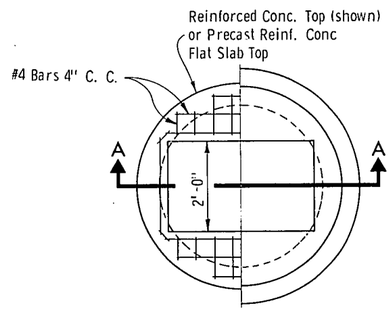
7. Adjustment of the cover to grade may be accomplished by the use of mortar and brick. Maximum adjustment shall be 8 inches.

8. Precast Reinforced Concrete Risers may be placed with tongue or "D" joint ends either up or down.

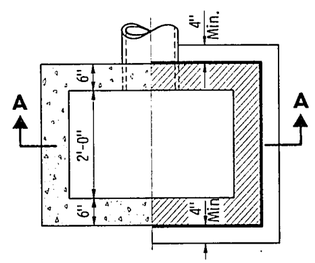
9. Strike all joints for brick or block construction.



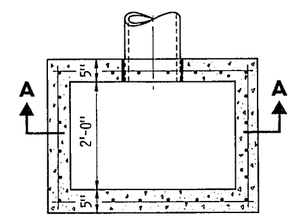

PLAN VIEW



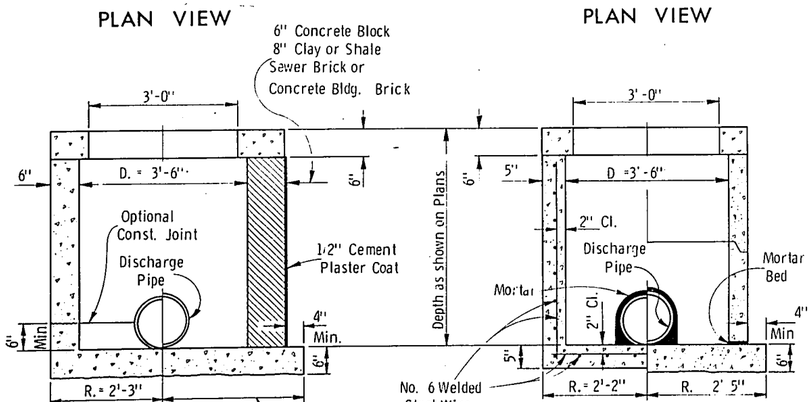

PLAN VIEW




PLAN VIEW

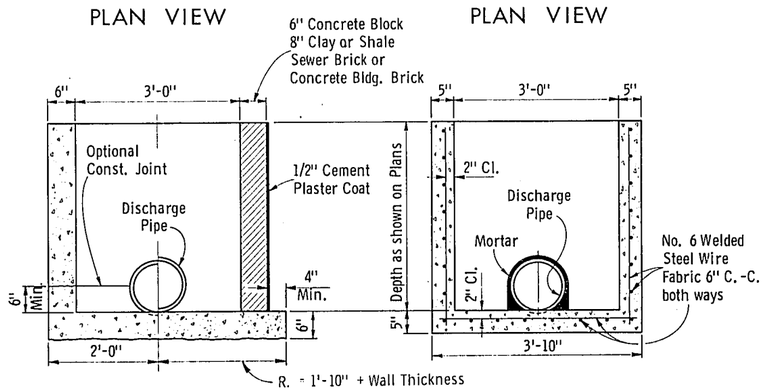



PLAN VIEW




SECTION A-A
MONOLITHIC CONCRETE — CONCRETE BLOCK OR BRICK

SECTION A-A
REINFORCED CONCRETE — PRECAST REINFORCED CONCRETE




SECTION A-A
MONOLITHIC CONCRETE — CONCRETE BLOCK OR BRICK

SECTION A-A
REINFORCED CONCRETE

## INLETS TYPE 3

**INLETS TYPE 3 AND INLET COVER**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

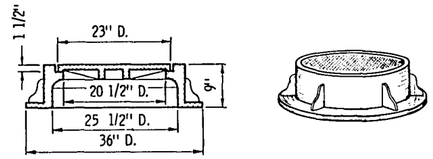
RECOMMENDED FOR APPROVAL:
4/25/69 — DATE — E. J. Bystedt — CHIEF DESIGN ENGINEER

APPROVED:
4/25/69 — DATE — N. J. Dumnicka — STATE HIGHWAY ENGINEER

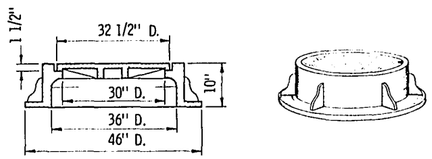
S.D.D. 8C2-1

S.D.D. 8C2-1

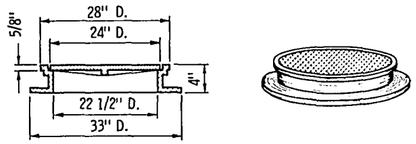
14.8-48



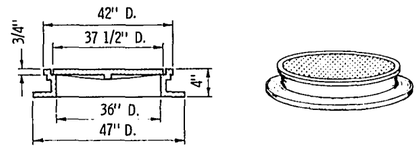

TYPE "J"- (Approximate Weight 400 Lbs.)




TYPE "K"- (Approximate Weight 750 Lbs.)



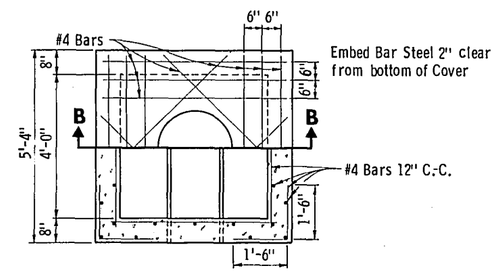

TYPE "L"- (Approximate Weight 210 Lbs.)



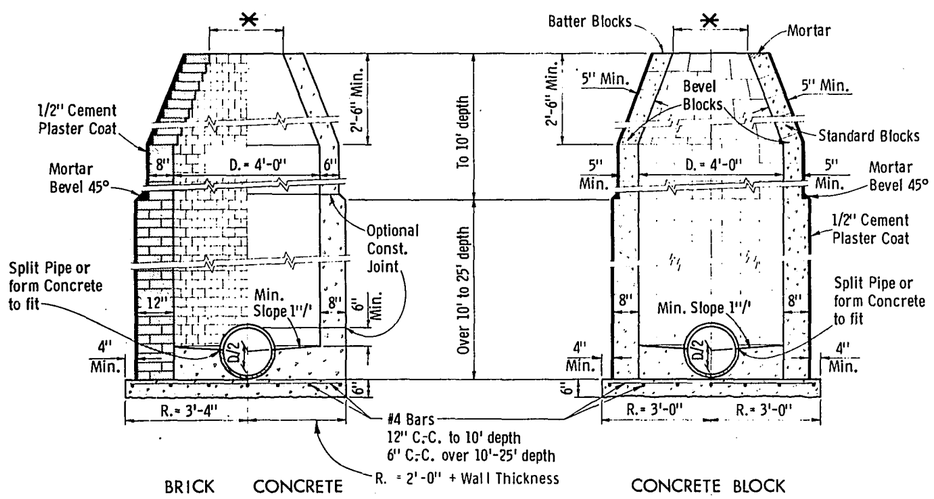

TYPE "M"- (Approximate Weight 475 Lbs.)

## MANHOLE COVERS

HALF PLAN VIEW

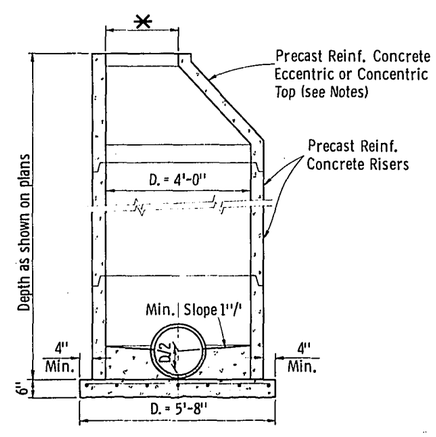



HALF SECTION A-A



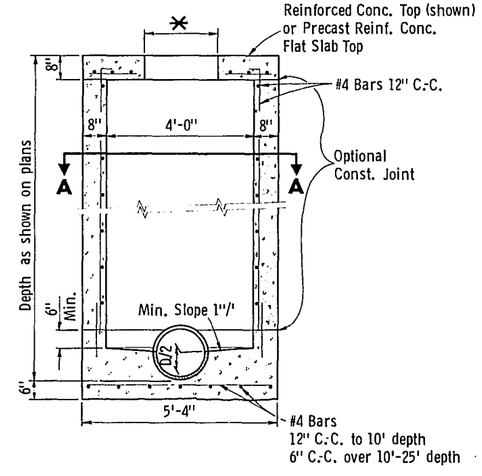

BRICK CONCRETE

CONCRETE BLOCK




PRECAST REINFORCED CONCRETE

HALF SECTION A-A




SECTION B-B
REINFORCED CONCRETE

## MANHOLES TYPE 1

## GENERAL NOTES

1. Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

2. Detailed drawings for proposed alternate designs for Manholes and Manhole Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

3. All Manholes are designated on the Plans As "Manholes, 1-J", 1-L, etc. This designation is interpreted to mean that the number, or first digit, designates the masonry portion of the structure, and the following letter, designates the type of cover or iron casting to be used therewith to comprise the complete unit "Manhole" in place.

4. All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

5. Precast Reinforced Bases may be used in lieu of cast-in-place bases. When Precast Bases are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.

6. All Precast Reinforced Concrete Risers, Grade Rings, and Flat Slab Tops shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to the Flat Slab Top requirements of AASHO Designation M 199.

7. Adjustment of the cover to grade may be accomplished by the use of mortar and brick or by a Precast Reinforced Concrete Grade Ring. Maximum adjustment shall be 8 inches.

8. Alternate Precast Reinforced Concrete Cone Tops (Eccentric or Concentric) may be used on brick, concrete, or concrete block Manholes. Attachment of the Precast Reinforced Concrete Cone Top shall be made on a bed of mortar.

9. Eccentric Cone Tops may be used on all Manholes, and Concentric Cone Tops shall be used only on Manholes 5 feet or less in depth, unless otherwise directed by the Engineer.

10. Precast Reinforced Concrete Risers may be placed with tongue or "D" joint ends either up or down.

11. Steps shall be installed in all Manholes over 5 feet in depth. Steps shall be installed 5 inches clear from the wall at the center of the step. Steps used in the work shall conform to the requirements of the Standard Specifications for Gray Iron Castings, ASTM Designation A48. Steps shall have a minimum width of 9 inches out to out of casting.

12. All Manhole Covers which are placed in vehicular traffic areas shall be "Non-Rocking" type so as to prevent all cover noise under traffic.

13. Strike all joints for brick or block construction.

* Use 2'-0" diameter opening with Type "J" and "L" Manhole Covers, or 3'-0" diameter opening with Type "K" and "M" Manhole Covers.

**MANHOLES TYPE 1 & MANHOLE COVERS**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

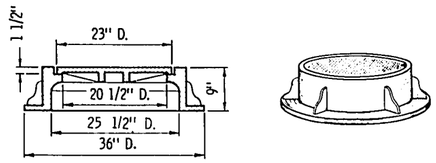
RECOMMENDED FOR APPROVAL:
4/25/69 — DATE — E. J. Bartelt — CHIEF DESIGN ENGINEER

APPROVED:
4/25/69 — DATE — A. J. Lemmerhirt — STATE HIGHWAY ENGINEER

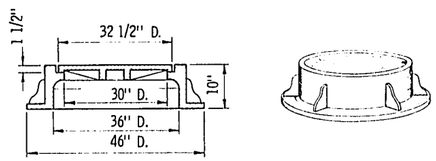
S.D.D. 8B1-1

S.D.D. 8B1-1

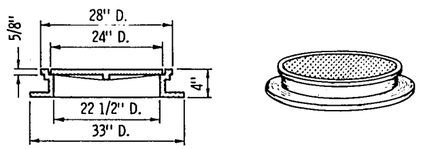
149-48



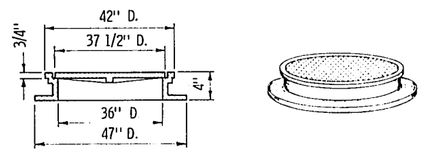

TYPE "J"- (Approximate Weight 400 Lbs.)




TYPE "K"- (Approximate Weight 750 Lbs.)

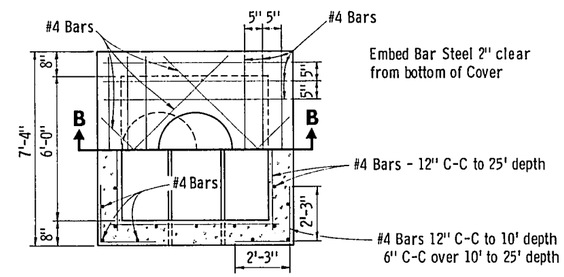


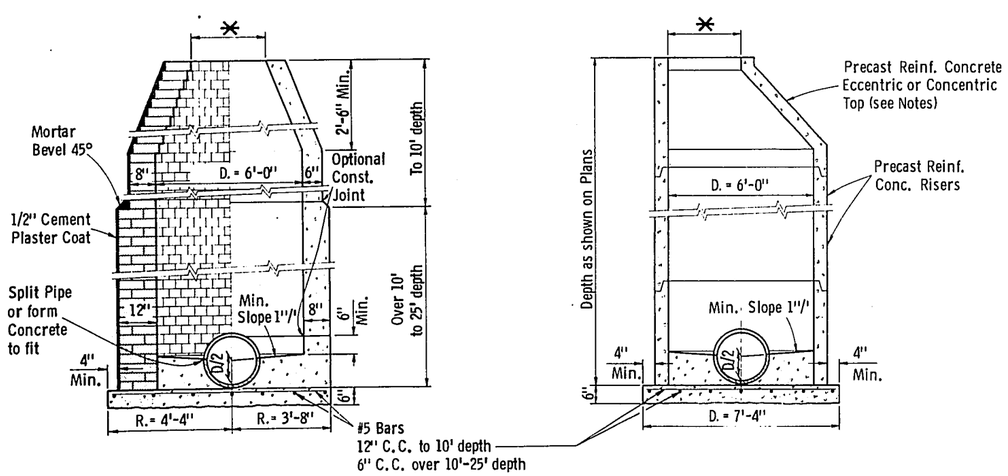

TYPE "L"- (Approximate Weight 210 Lbs.)




TYPE "M"- (Approximate Weight 475 Lbs.)

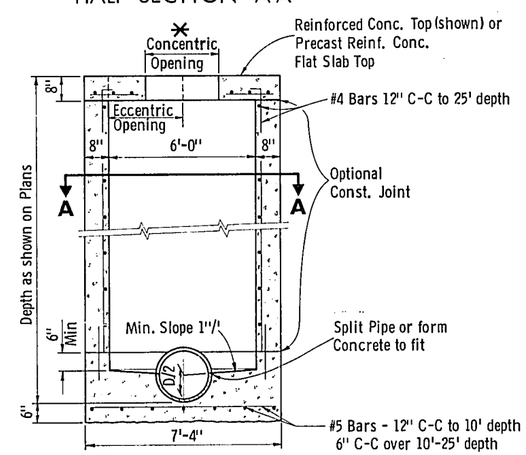
## MANHOLE COVERS




BRICK CONCRETE

PRECAST REINFORCED CONCRETE




SECTION B-B
REINFORCED CONCRETE

## MANHOLES TYPE 3

## GENERAL NOTES

1. Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

2. Detailed drawings for proposed alternate designs for Manholes and Manhole Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

3. All Manholes are designated on the Plans As "Manholes 3-J", 3-L, etc. This designation is interpreted to mean that the number, or first digit, designates the masonry portion of the structure, and the following letter, designates the type of cover or iron casting to be used therewith to comprise the complete unit "Manhole" in place.

4. All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

5. Precast Reinforced Bases may be used in lieu of cast-in-place bases. When Precast Bases are used, they shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding material shall be compacted and provide uniform support for the entire area of the base.

6. All Precast Reinforced Concrete Risers, Grade Rings, and Flat Slab Tops shall conform to AASHO Designation M 199. Precast Reinforced Concrete Bases shall conform to the Flat Slab Top requirements of AASHO Designation M 199.

7. Adjustment of the cover to grade may be accomplished by the use of mortar and brick or by a Precast Reinforced Concrete Grade Ring. Maximum adjustment shall be 8 inches.

8. Alternate Precast Reinforced Concrete Cone Tops (Eccentric or Concentric) may be used on brick, concrete, or concrete block Manholes. Attachment of the Precast Reinforced Concrete Cone Top shall be made on a bed of mortar.

9. Eccentric Cone Tops may be used on all Manholes, and Concentric Cone Tops shall be used only on Manholes 5 feet or less in depth, unless otherwise directed by the Engineer.

10. Precast Reinforced Concrete Risers may be placed with tongue or "D" joint ends either up or down.

11. Steps shall be installed in all Manholes over 5 feet in depth. Steps shall be installed 5 inches clear from the wall at the center of the step. Steps used in the work shall conform to the requirements of the Standard Specifications for Gray Iron Castings, ASTM Designation A48. Steps shall have a minimum width of 9 inches out to out of casting.

12. All Manhole Covers which are placed in vehicular traffic areas shall be "Non-Rocking" type so as to prevent all cover noise under traffic.

13. Strike all joints for brick or block construction.

* Use 2'-0" diameter opening with Type "J" and "L" Manhole Covers, or 3'-0" diameter opening with Type "K" and "M" Manhole Covers.

**MANHOLES TYPE 3**
**& MANHOLE COVERS**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

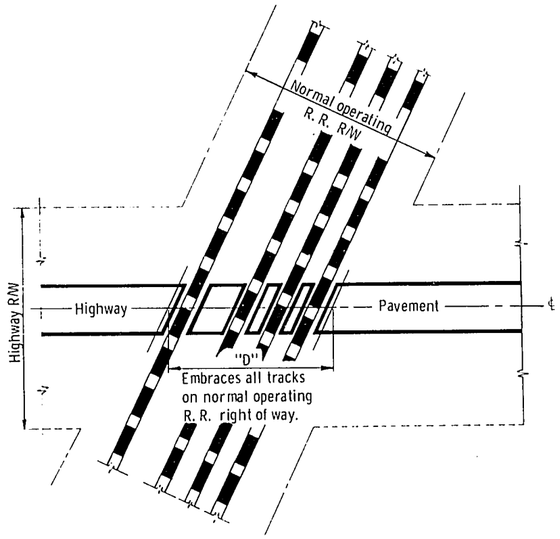
RECOMMENDED FOR APPROVAL:
4/25/69 — DATE
E. J. Bykit — CHIEF DESIGN ENGINEER

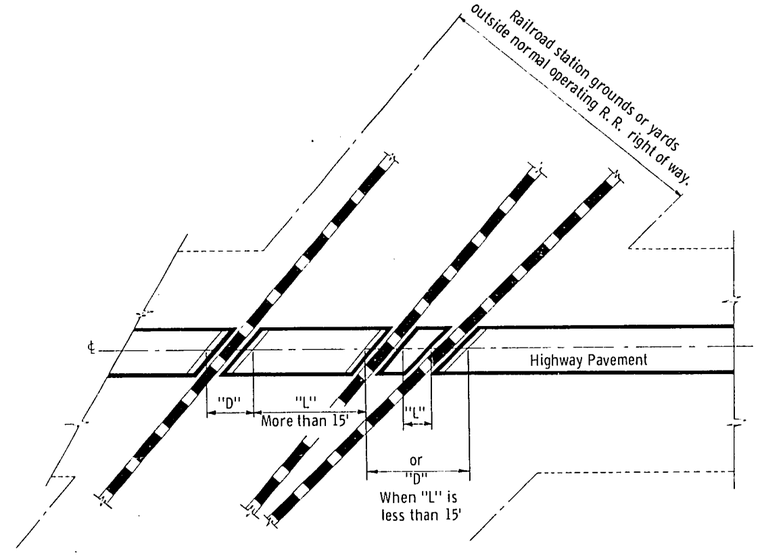
APPROVED:
4/25/69 — DATE
A. J. Summerfelt — STATE HIGHWAY ENGINEER



S.D.D. 8B3-1

14.10-48



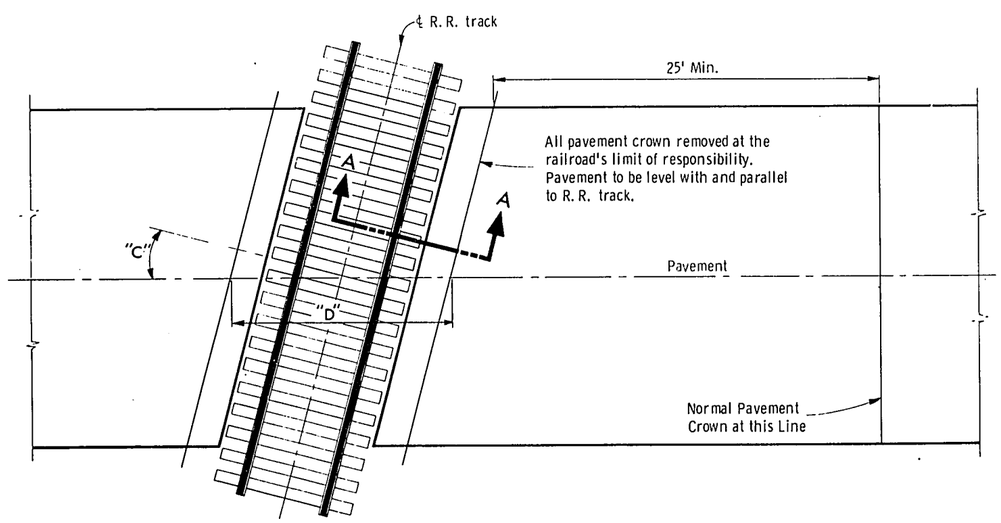




## TYPICAL TYPES OF RAILROAD GRADE CROSSINGS SHOWING THE RAILROAD'S LIMIT OF RESPONSIBILITY AND MEASUREMENT DETAILS

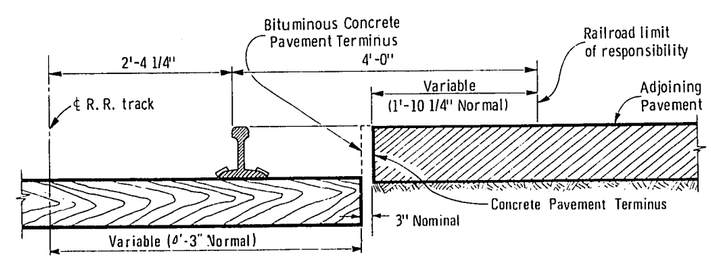
## GENERAL NOTES

Details of construction, materials, and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

"D" = Exception to net length of ℄. Paving or surfacing and shoulder material within limits designated by "D" to be at expense of railroad company. Trackage to industrial sites to be treated same as for trackage to R. R. station grounds or yards outside of normal operating R/W.




NOTE: $D = \frac{12.71}{\text{Cos. "C"}}$




SECTION "A-A"

## RAILROAD APPROACH CONSTRUCTION DETAILS

**PAVEMENT DETAILS FOR RAILROAD APPROACH**

*State of Wisconsin*
*Department of Transportation*
*Division of Highways*

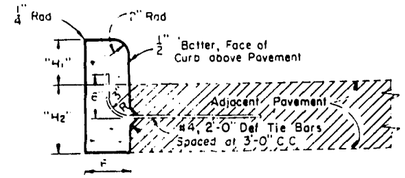
RECOMMENDED FOR APPROVAL:
3/3/69 DATE — CHIEF DESIGN ENGINEER
APPROVED 3/27/69 DATE — STATE HIGHWAY ENGINEER

S.D.D. 13B1-1

S.D.D. 13B1-1

6

14.11-48

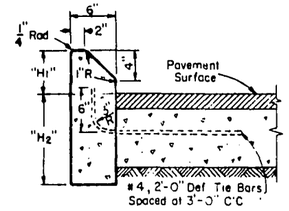



Tie Bar recess positioned in reverse when Concrete Curb is constructed first

"H1" = 9" max. and 3 1/2" min. and shall be 6" unless otherwise shown on the plans
"H2" = Same as adjacent pavement thickness for rigid pavement
"H2" = 12" For other than rigid pavement (Tie Bars Omitted)

TYPE "A" (Including Tie Bars) TYPE "D" (Excluding Tie Bars)

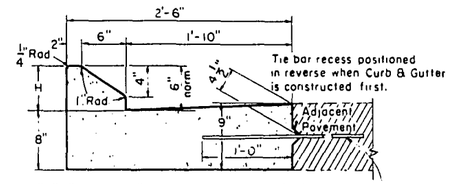
## CONCRETE CURB




"H1" = 9" Max and 4" min and shall be 6" unless otherwise shown on plans.
"H2" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted)

TYPE "G" (Including Tie Bars) TYPE "J" (Excluding Tie Bars)

## CONCRETE CURB
(Mountable Type)




"H" = 9" max. and 4" min & shall be 6" unless otherwise shown on the plans.

#4, 2'-0" Def Tie Bars or alternate Bolt Type instal. may be used, spaced at 3'-0" C.C

TYPE "G" (Including Tie Bars) TYPE "J" (Excluding Tie Bars)

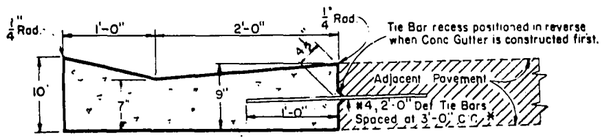
## CONCRETE CURB AND GUTTER
(Mountable Type)

## GENERAL NOTES

Details of construction and materials not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

JOINTS -

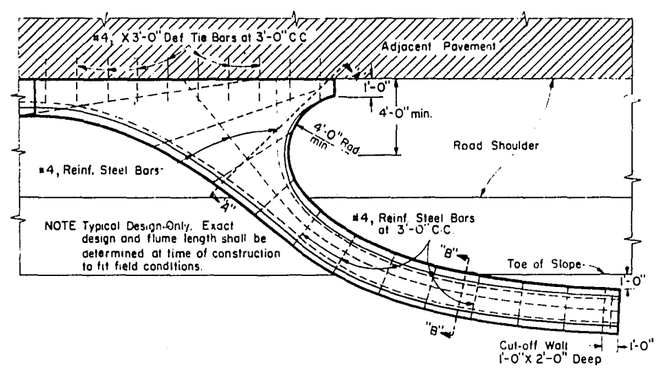
Joints shall not be sealed in concrete curb, concrete gutter, concrete curb and gutter, or concrete surface drains.

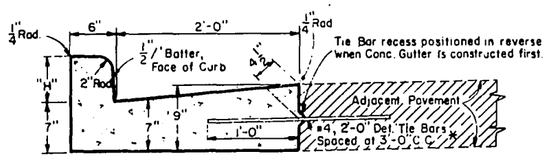



* Alternate Tie Bars or Bolt Type installations may be used as shown for Longitudinal Joints.

TYPE "A" (Including Tie Bars) TYPE "D" (Excluding Tie Bars)

## CONCRETE GUTTER



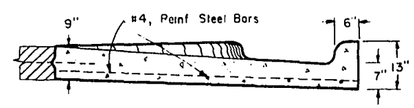




"H" = 9" Max., 3 1/2" Min. and shall be 6" unless otherwise shown on the plans.

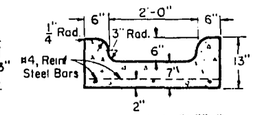
* Alternate Tie Bars or Bolt Type installations may be used as shown for Longitudinal Joints

TYPE "A" (Including Tie Bars) TYPE "D" (Excluding Tie Bars)

## CONCRETE CURB AND GUTTER
(Barrier Type)




SECTION "A"-"A"




SECTION "B"-"B"

## CONCRETE INLET OR DISCHARGE FOR CURB AND GUTTER SURFACE DRAIN

## CONCRETE CURB, CONCRETE GUTTER CONCRETE CURB AND GUTTER AND CONCRETE SURFACE DRAINS

*STATE HIGHWAY COMMISSION OF WISCONSIN*

RECOMMENDED FOR APPROVAL

DATE 2-5-63 — J. S. Polf, ENGINEER OF DESIGN

APPROVED:

DATE 2/6/63 — E. C. Rettiger, STATE HIGHWAY ENGINEER

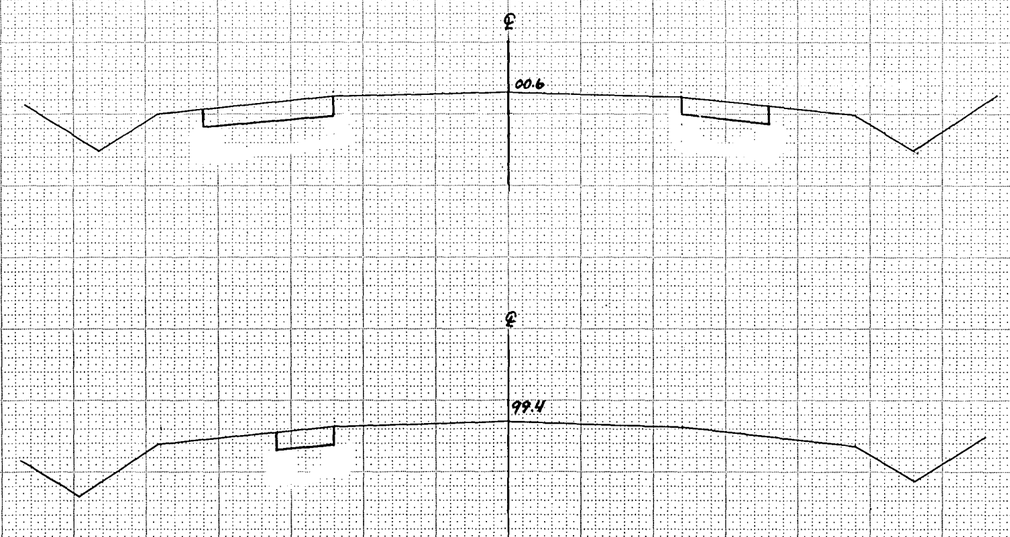
S.D.D. 8D1-1

S.D.D. 8D1-1

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 15 | 48 |

| SURVEY | | |
|---|---|---|
| NOTE BOOK | PLOTTED | |
| | TEMPLATE | |
| | AREA | |
| NO. | MEAS CHECKED | |

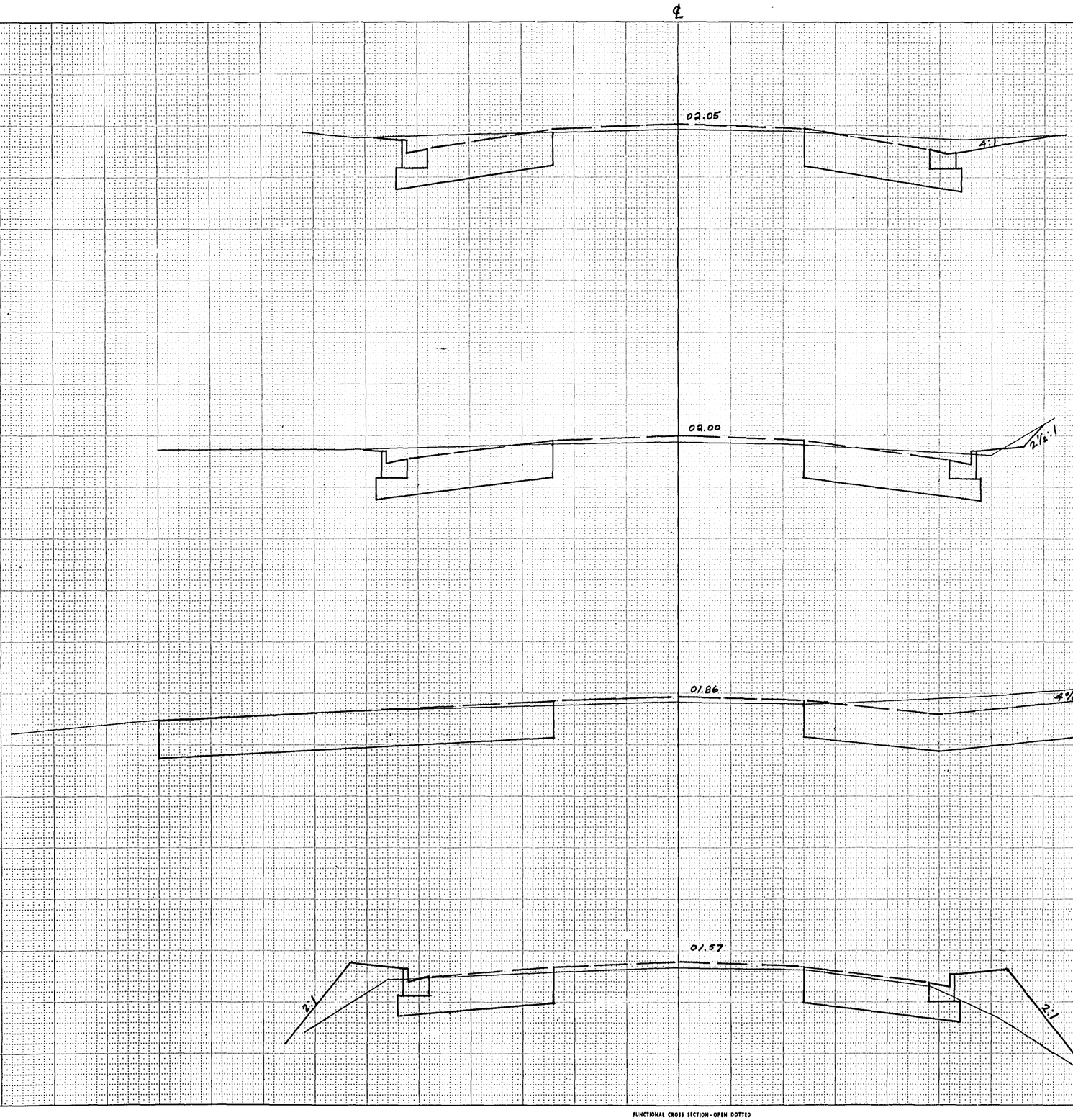
| SURVEY | | |
|---|---|---|
| NOTE BOOK | PLOTTED | 8-71 |
| | TEMPLATE | 8-71 |
| | AREA | 8-71 |
| NO. 2 | MEAS CHECKED | 8-71 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | | YARDAGE FILL |
|---|---|---|---|---|---|---|---|
| 185+00 | 500.0 | | | | | | |
| 182 +95 | | | | | | | |
| 184+00 | 498.0 | | 4 | | | | 0 |
| 184 | | | 14 | | | | 0 |
| 185 | | | 32 | | | | 0 |
| 186 | | | | | | | |
| SHEET TOTAL | | | 50 | | | | 0 |

2'
5'

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNNER COMPANY, INC.




| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 16 | 48 |

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 187+12 500.0 | | | | | | |
| 186+83 500.0 | | | | | | |
| 186+45 500.0 | | | | | | |
| 186 | | 109 | | | | 22 |
| 186 +45 | | 100 | | | | 0 |
| 186 +83 | | 50 | | | | 0 |
| 187 +12 | | | | | | |
| 186+0 500.0 | | | | | | |
| SHEET TOTAL | | 259 | | | | 22 |

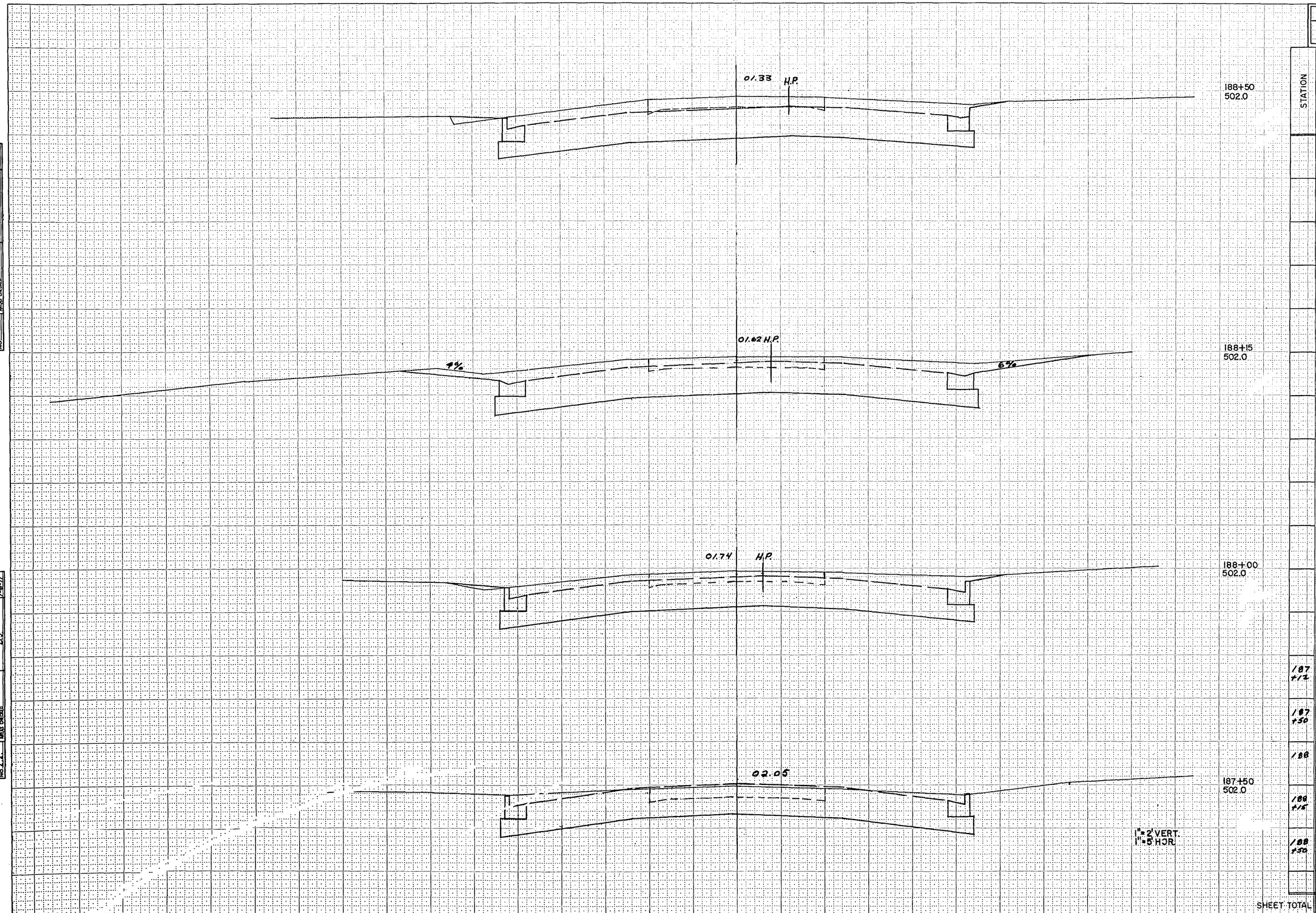
SCALE
1"=2' VERT.
1"=5' HORZ.

NO. ___ MEAS. CHECKED ___

NO. 1 MEAS. CHECKED K.G.H. 1-4-71

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 17 | 48 |



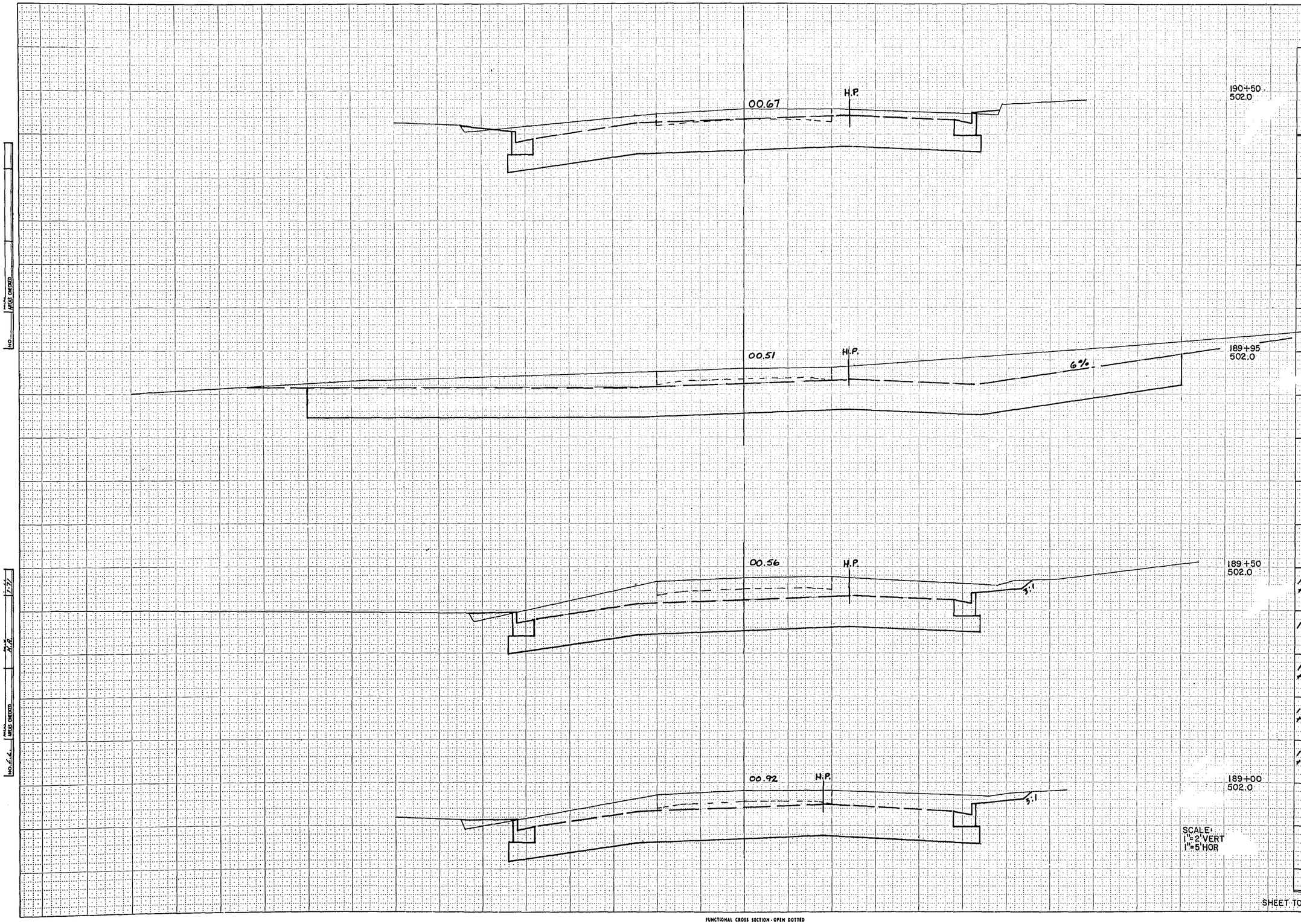

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 187 +12 | | | | | | |
| | 78 | | | | | 0 |
| 187 +50 | | | | | | |
| | 135 | | | | | 0 |
| 188 | | | | | | |
| | 48 | | | | | 0 |
| 188 +15 | | | | | | |
| | 113 | | | | | 0 |
| 188 +50 | | | | | | |
| SHEET TOTAL | | 374 | | | | 0 |

| SURVEY | |
|---|---|
| NOTE BOOK | PLOTTED |
| | TEMPLATE |
| | AREAS |
| NO. | AREAS CHECKED |

| | |
|---|---|
| D.M. | 11-70 |
| G.L. | 11-70 |
| G.L. | 1-4-70 |
| D.J. | 1-6-71 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 18 | 48 |

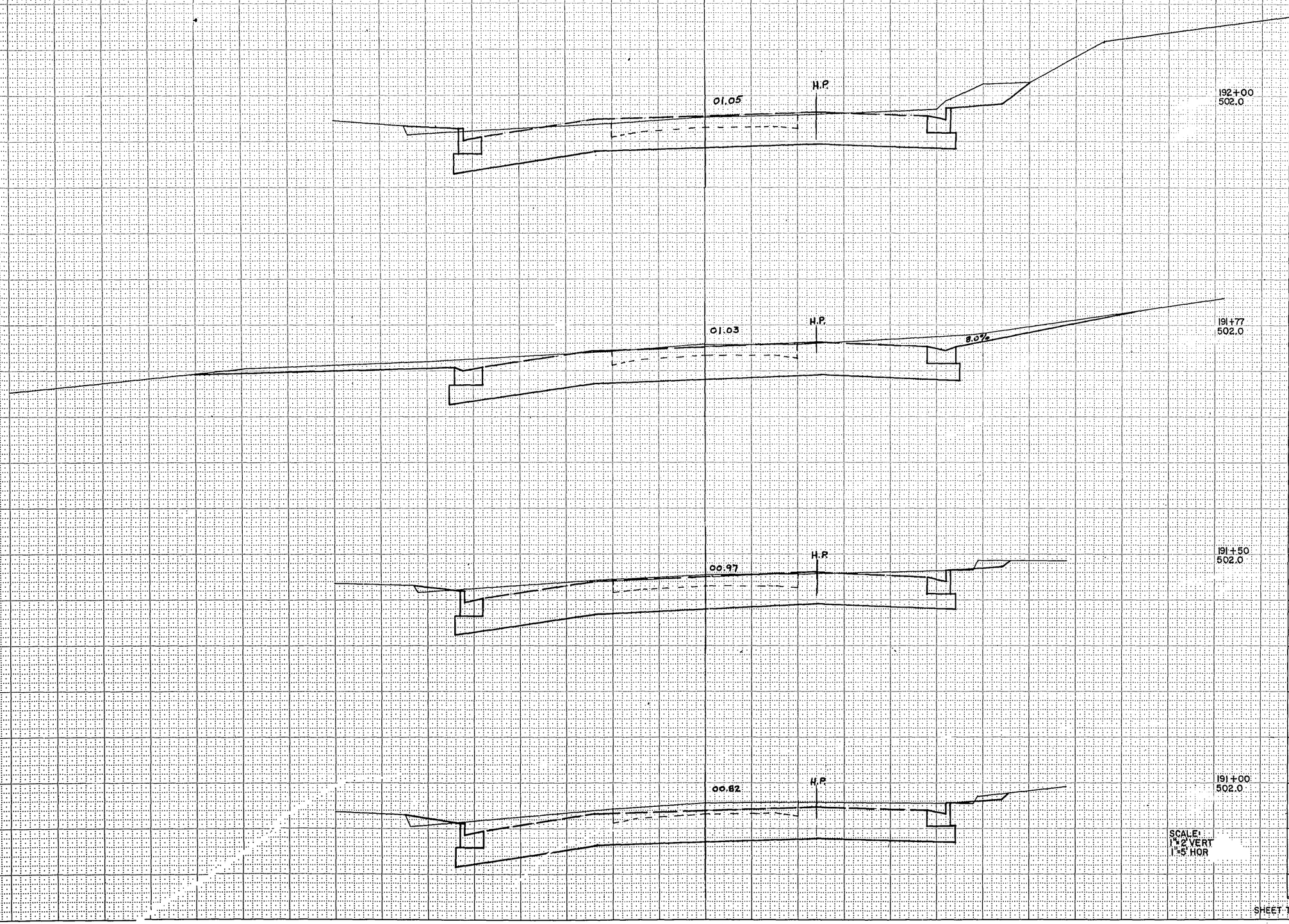



| STATION | DISTANCE | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|
| 188+50 | | | |
| | 170 | | 2 |
| 189 | | | |
| | 191 | | 4 |
| 189+50 | | | |
| | 220 | | 1 |
| 189+95 | | | |
| | 243 | | 1 |
| 170+50 | | | |
| SHEET TOTAL | | 824 | 8 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

NO. 6-6 | MADE CHECKED | 11-8 | 1-71

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 19 | 48 |



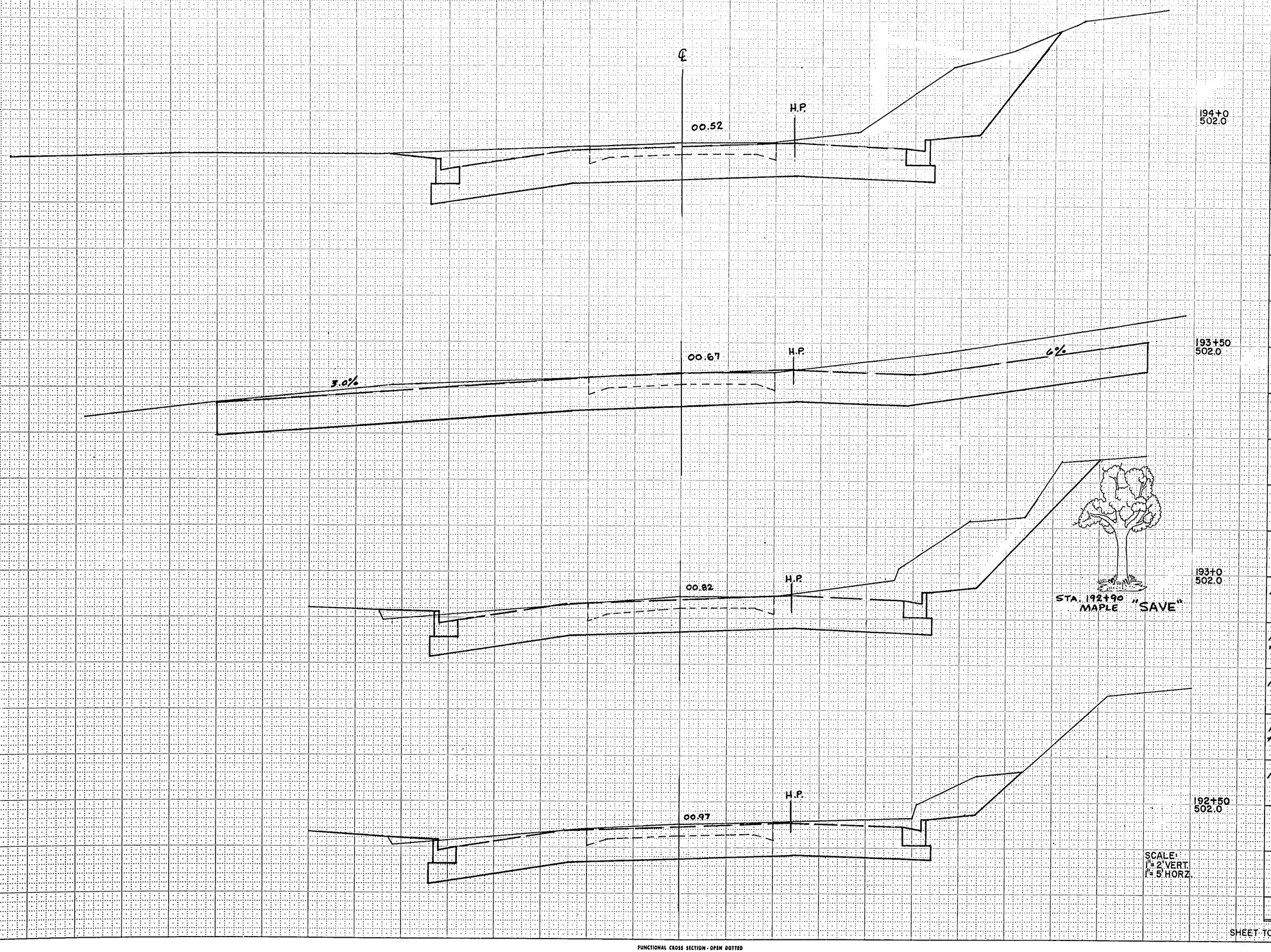

| STATION | DISTANCE | YARDAGE EXCAVATION U.C. | | | | | FILL |
|---|---|---|---|---|---|---|---|
| 190 +50 | | | | | | | |
| | | 148 | | | | | 2 |
| 191 | | | | | | | |
| | | 139 | | | | | 2 |
| 191 +50 | | | | | | | |
| | | 76 | | | | | 0 |
| 191 +77 | | | | | | | |
| | | 63 | | | | | 1 |
| 192 | | | | | | | |
| SHEET TOTAL | | 426 | | | | | 5 |

| SURVEY | |
|---|---|
| NOTE BOOK | PLOTTED |
| | TEMPLATE |
| | AREAS |
| NO. | AREAS CHECKED |

| SURVEY | | |
|---|---|---|
| NOTE BOOK | PLOTTED | 10-70 |
| | TEMPLATE | 11-70 |
| | AREAS | 2-71 |
| NO. 446 | AREAS CHECKED | 3-71 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 20 | 48 |



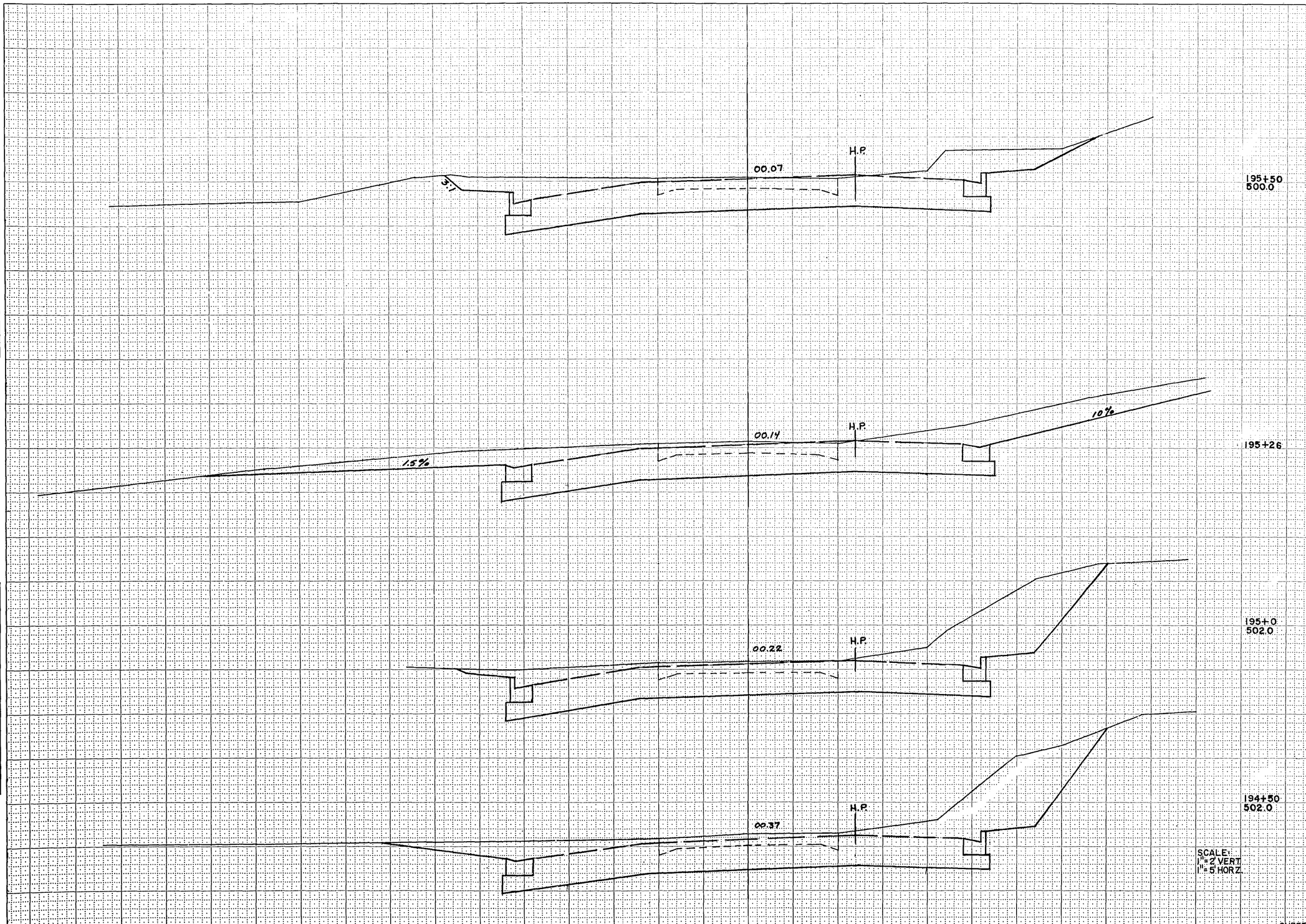

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 192 | | | | | | |
| | 130 | | | | | 4 |
| 192+50 | | | | | | |
| | 157 | | | | | 4 |
| 193 | | | | | | |
| | 200 | | | | | 2 |
| 193+50 | | | | | | |
| | 230 | | | | | 6 |
| 194 | | | | | | |
| SHEET TOTAL | | 717 | | | | 10 |

AREAS CHECKED NO

AREAS CHECKED NO. 5-6-6 7-1-71

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 21 | 48 |



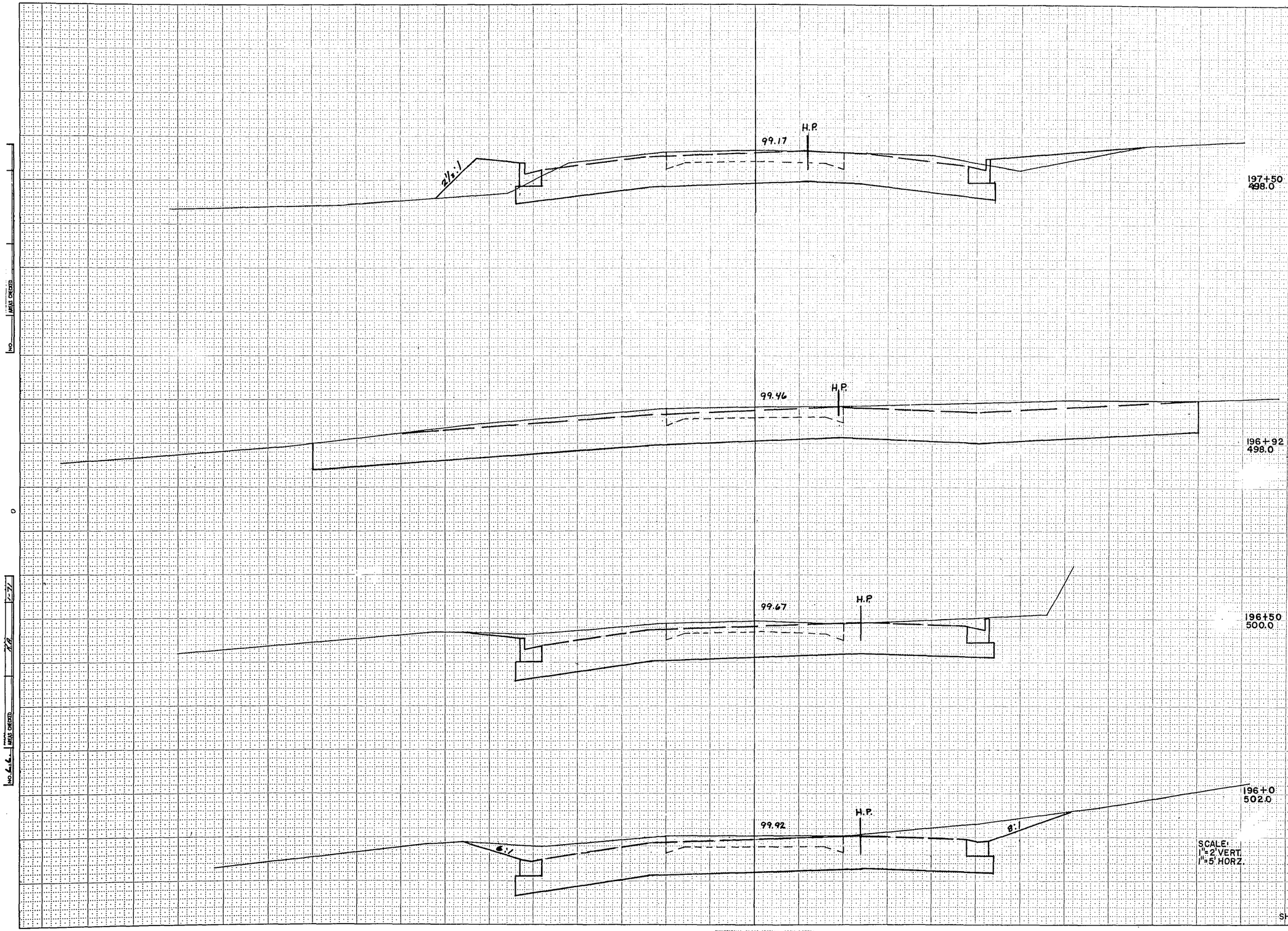

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 194 | | | | | | |
| | 230 | | | | | 0 |
| 194 +50 | | | | | | |
| | 217 | | | | | 0 |
| 195 | | | | | | |
| | 113 | | | | | 0 |
| 195 +26 | | | | | | |
| | 93 | | | | | 0 |
| 195 +50 | | | | | | |
| SHEET TOTAL | | 653 | | | | 0 |

| SURVEY | |
|---|---|
| PLOTTED | E.A.Z. 11-70 |
| TEMPLATE | E.A. 11-70 |
| AREAS | E.A. 1-71 |
| AREAS CHECKED | E.A. 1-71 |
| NOTE BOOK NO. | |

| SURVEY | |
|---|---|
| PLOTTED | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NOTE BOOK NO. | |

FUNCTIONAL CROSS SECTION · OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 22 | 48 |



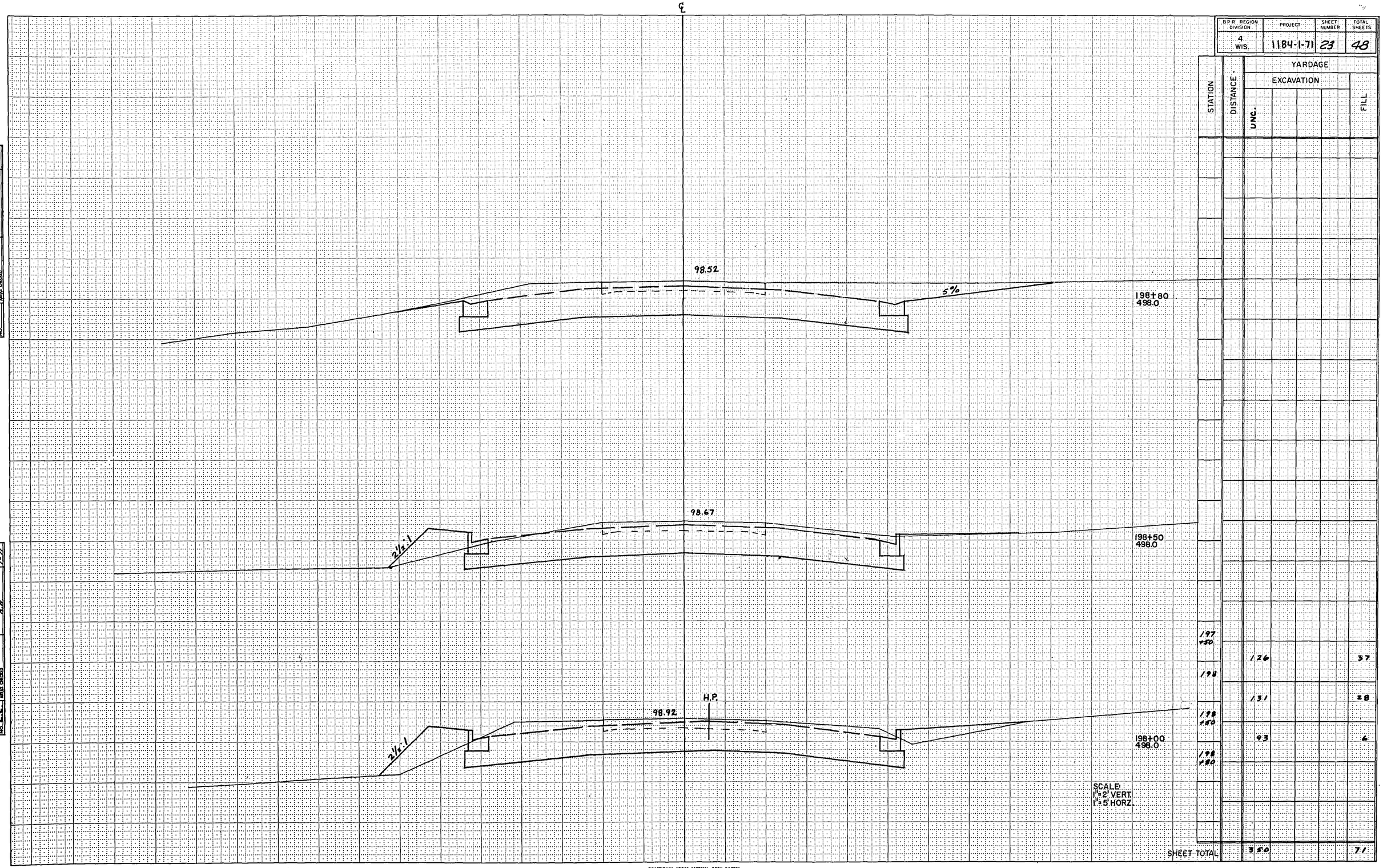

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 195 +50 | | | | | | |
| | | 163 | | | | 0 |
| 196 | | | | | | |
| | | 144 | | | | 0 |
| 196 +50 | | | | | | |
| | | 137 | | | | 0 |
| 196 +92 | | | | | | |
| | | 181 | | | | 20 |
| 197 +50 | | | | | | |
| SHEET TOTAL | | 625 | | | | 20 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

NO. _____ MEAS. CHECKED

NO. 6.6.6. MEAS. CHECKED 7-18 1-71

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 23 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 197 +50 | | | | | | |
| | | 126 | | | | 37 |
| 198 | | | | | | |
| | | 131 | | | | 28 |
| 198 +50 | | | | | | |
| | | 93 | | | | 6 |
| 198 +80 | | | | | | |
| SHEET TOTAL | | 350 | | | | 71 |

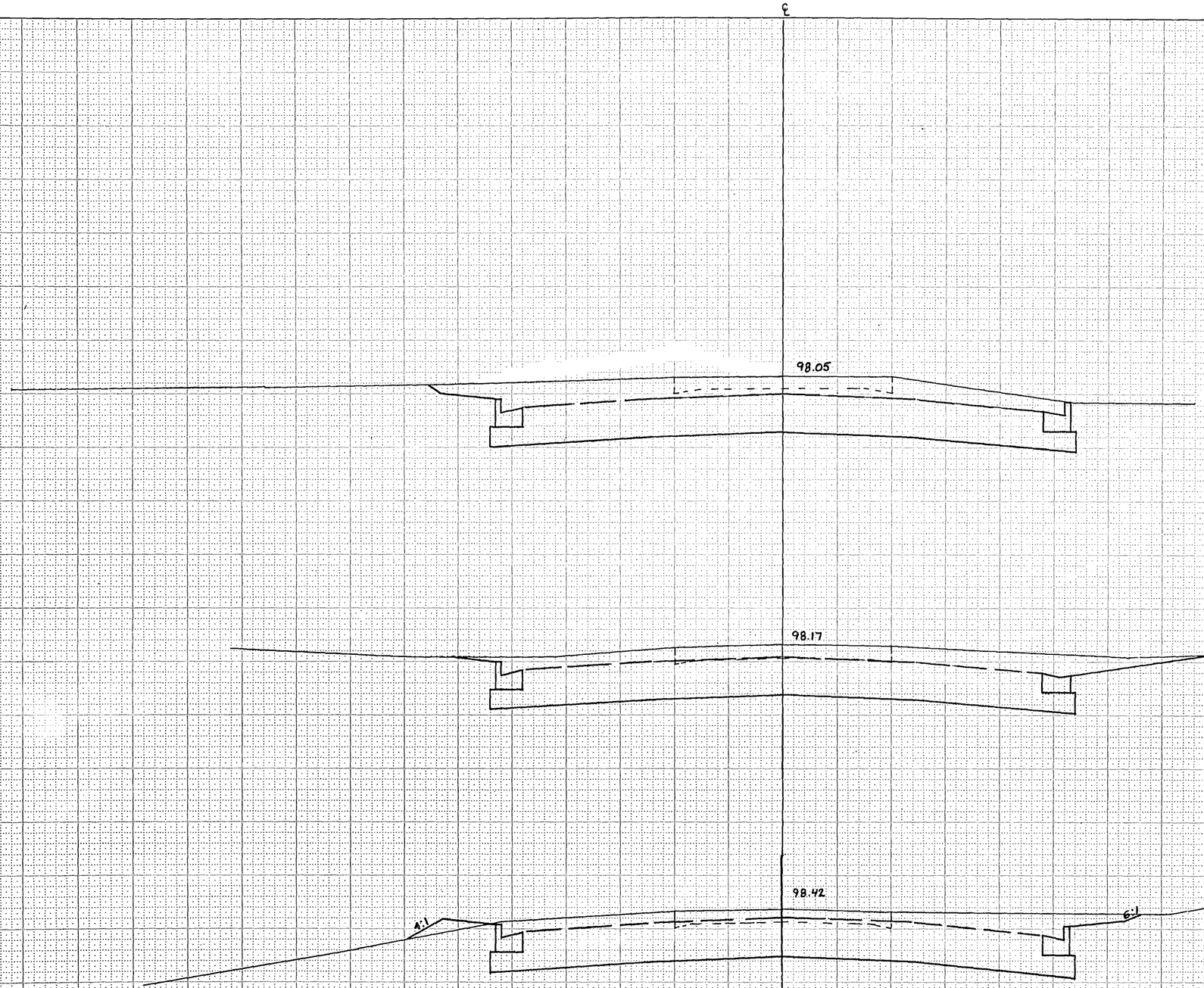
| SURVEY | |
|---|---|
| NOTE BOOK | |
| NO. | |
| PLOTTED | |
| TEMPLATE | |
| AREA | |
| AREA CHECKED | |

| SURVEY | |
|---|---|
| NOTE BOOK | |
| NO. | |
| PLOTTED | C.L.T. 11-70 |
| TEMPLATE | G.L. 11-70 |
| AREA | D.T. 1-71 |
| AREA CHECKED | A.B. 1-71 |

| SURVEY | |
|---|---|
| NOTE BOOK | |
| NO. | |
| PLOTTED | |
| TEMPLATE | |
| AREA | |
| AREA CHECKED | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES GRUNING COMPANY INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 24 | 48 |




SCALE:
1"=2' VERT.
1"=5' HORZ.

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 198 +80 | | | | | | |
| | | 69 | | | | 1 |
| 199 | | | | | | |
| | | 167 | | | | 2 |
| 199 +50 | | | | | | |
| | | 183 | | | | 0 |
| 200 | | | | | | |
| SHEET TOTAL | | 419 | | | | 3 |

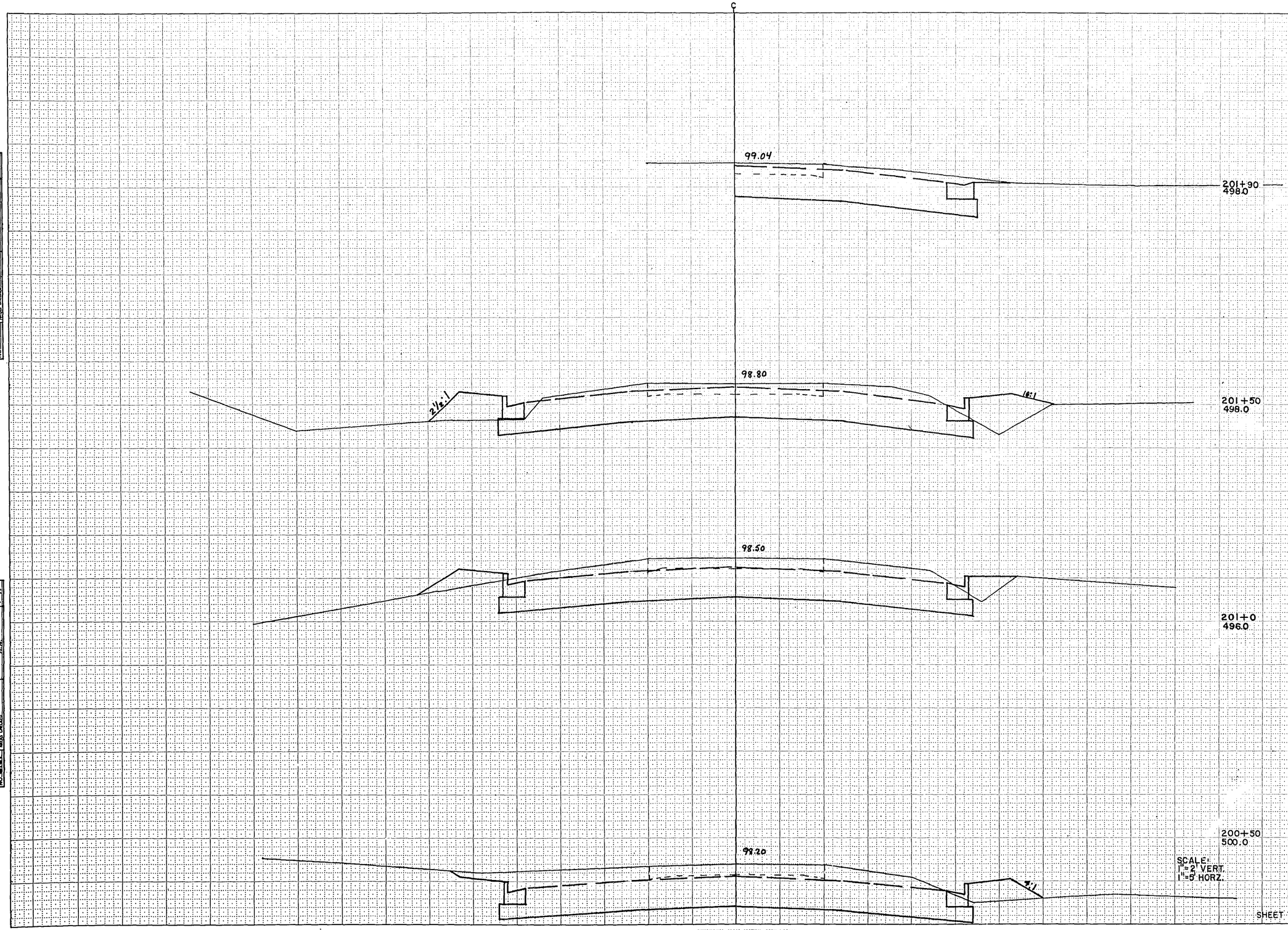
NO. | REVISIONS | MADE BY | CHECKED | DATE

NO. 5-6-6 | REVISIONS | MADE BY | CHECKED | DATE

R.T. | K.B. | 1-7-71 | 1-7-71

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 25 | 48 |



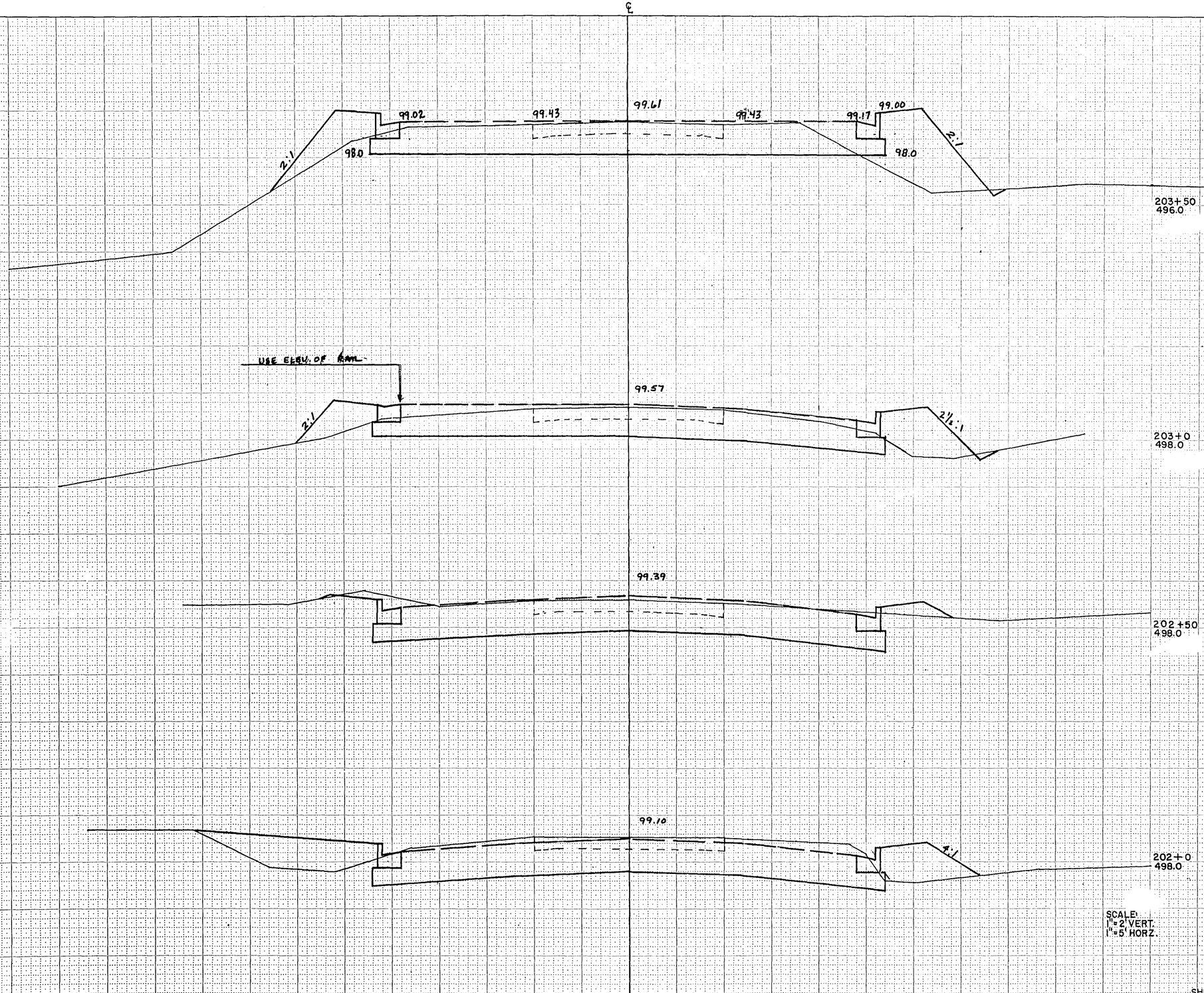

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 200 | | 183 | | | | 6 |
| 200 +50 | | 165 | | | | 15 |
| 201 | | 143 | | | | 23 |
| 201 +50 | | 80 | | | | 15 |
| 201 +90 | | | | | | |
| SHEET TOTAL | | 571 | | | | 64 |

| SURVEY | |
|---|---|
| NOTE BOOK | |
| NO. | |
| PLOTTED | C.A.T. 11-70 |
| TEMPLATE | 11-70 |
| AREAS | 11-70 |
| AREAS CHECKED | 11-70 |

| SURVEY | |
|---|---|
| NOTE BOOK | |
| NO. | |
| PLOTTED | C.A.T. 11-70 |
| TEMPLATE | 11-70 |
| AREAS | 11-70 |
| AREAS CHECKED | 11-70 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNIK'S COMPANY, INC.

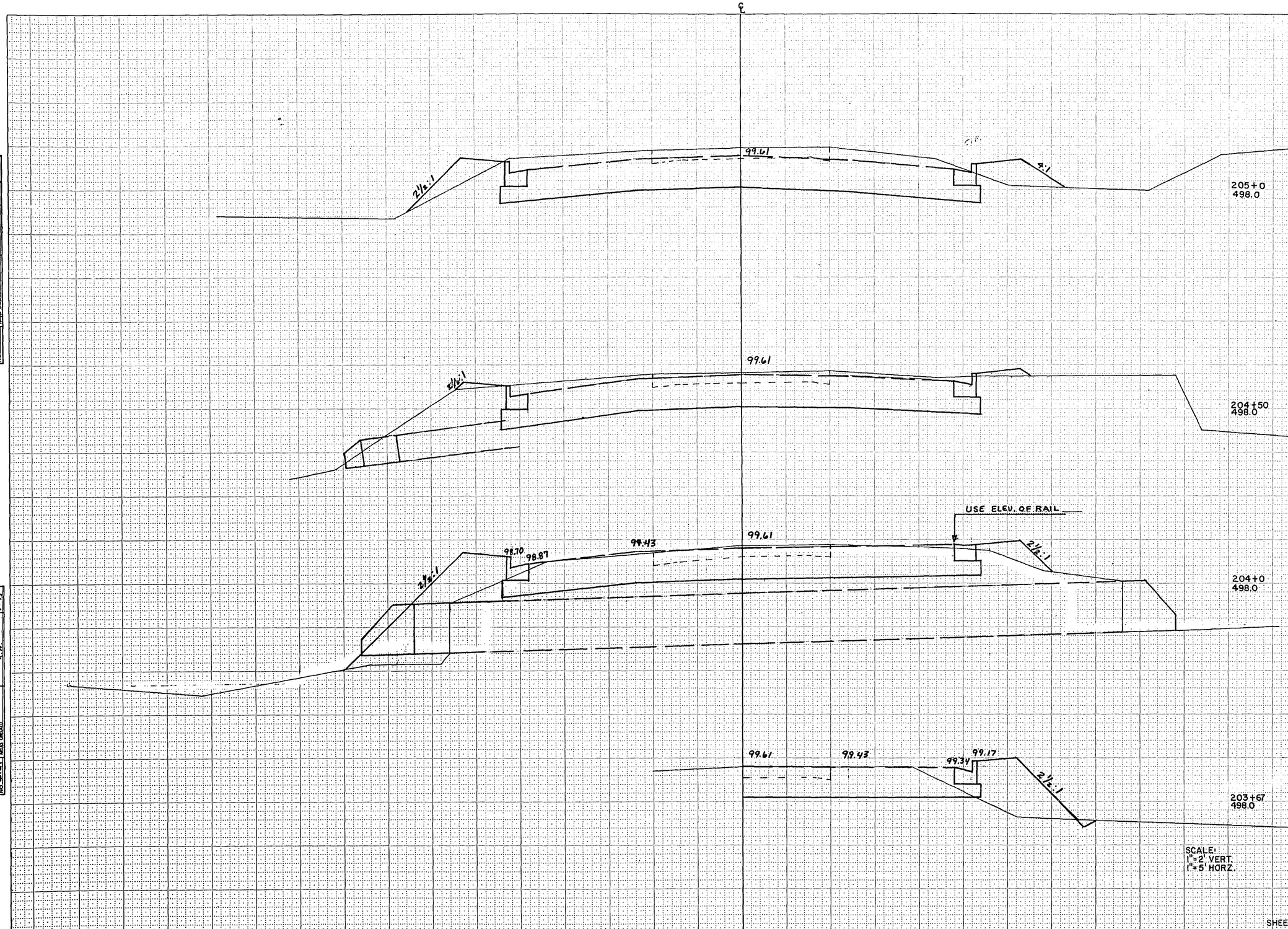
| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 26 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 201 +90 | | | | | | |
| | | 20 | | | | 4 |
| 202 | | | | | | |
| | | 122 | | | | 26 |
| 202 +50 | | | | | | |
| | | 106 | | | | 30 |
| 203 | | | | | | |
| | | 104 | | | | 59 |
| 203 +50 | | | | | | |
| SHEET TOTAL | | 352 | | | | 119 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 27 | 48 |



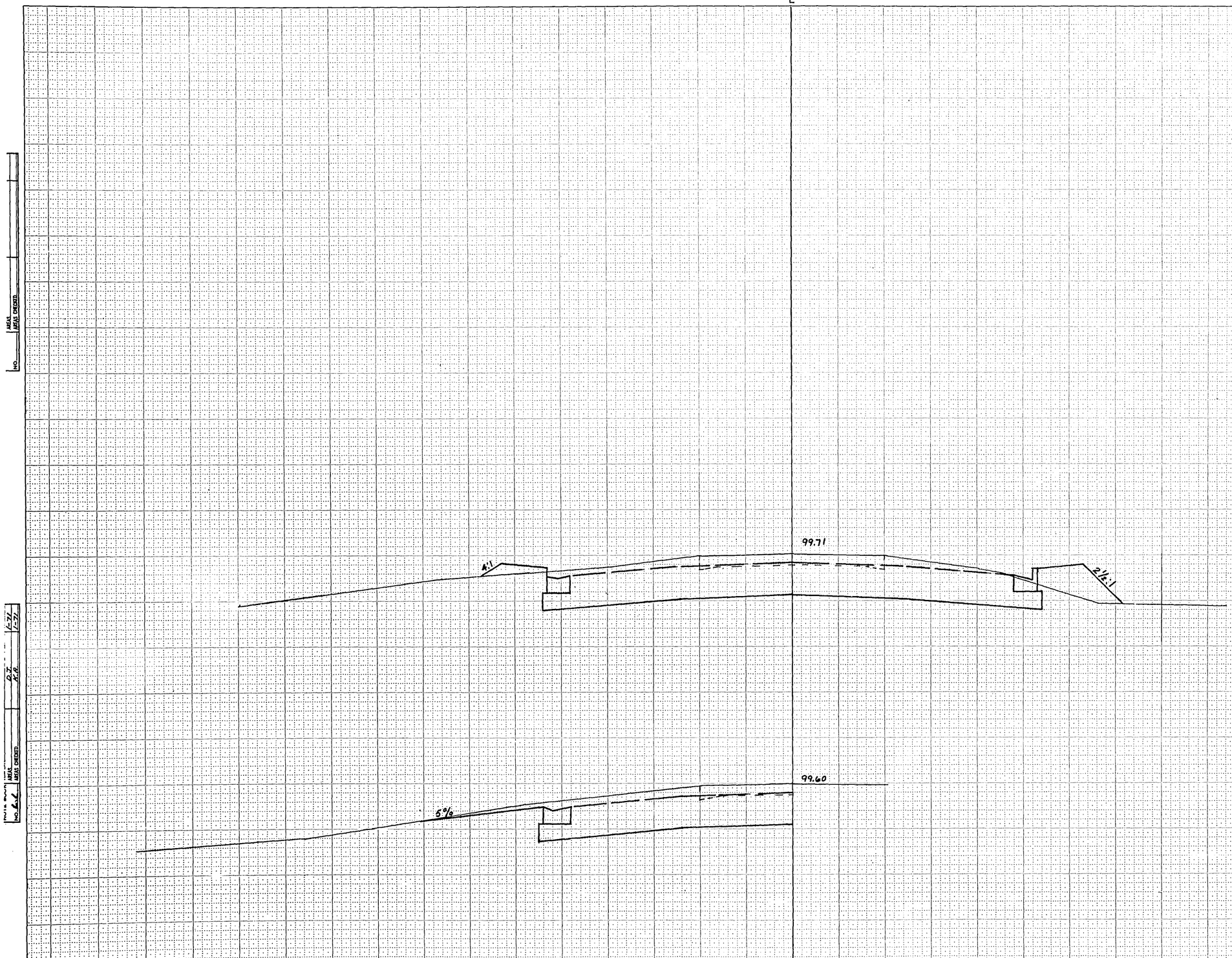

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 203+50 | | | | | | |
| | 28 | | | | | 17 |
| 203+67 | | | | | | |
| | 54 | | | | | 39 |
| 204 | | | | | | |
| | 120 | | | | | 43 |
| 204+50 | | | | | | |
| | 144 | | | | | 17 |
| 205 | | | | | | |
| SHEET TOTAL | | 346 | | | | 116 |

| SURVEY | | |
|---|---|---|
| NOTE BOOK | SCRIBED | |
| | PLOTTED | |
| | TEMPLATE | |
| | AREA | |
| NO. | AREA CHECKED | |

| SURVEY | | |
|---|---|---|
| NOTE BOOK | PLOTTED | C.L.T. 11-70 |
| | TEMPLATE | G.L. 11-70 |
| | AREA | D.S. 1-71 |
| NO. E.L. | AREA CHECKED | K.R. 1-71 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNI & COMPANY, INC.

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 28 | 48 |

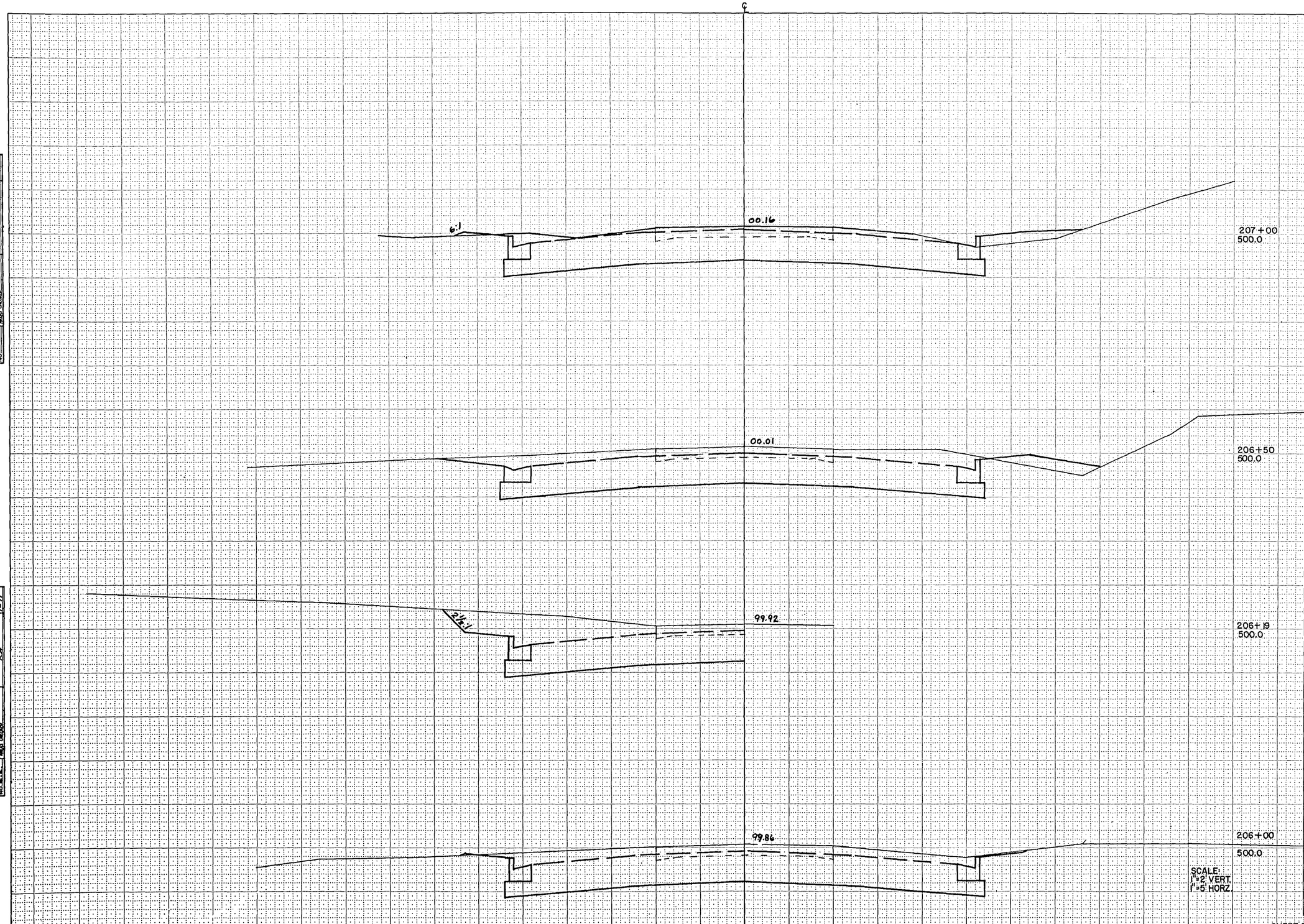



| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 205 | | | | | | |
| 205+13 | | 30 | | | | 4 |
| 205+50 | | 80 | | | | 7 |
| SHEET TOTAL | | 110 | | | | 11 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| | | | |
|---|---|---|---|
| NO. 6.6 | AREAS MEAS. AREAS CHECKED | D.T. K.R. | 1-71 1-71 |
| NO. | AREAS MEAS. AREAS CHECKED | | |

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 29 | 48 |



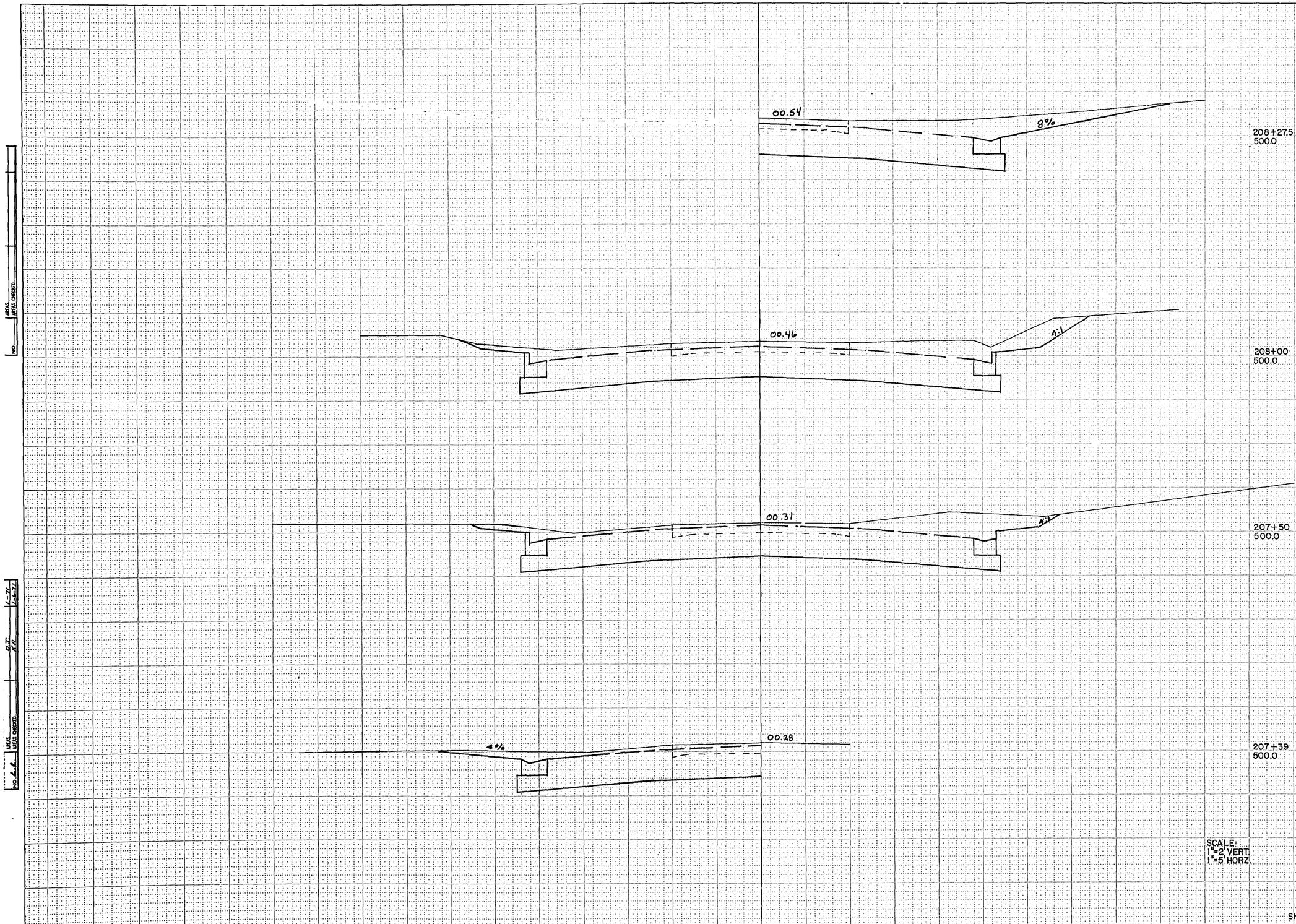

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 205 +50 | | | | | | |
| | | 146 | | | | 11 |
| 206 | | | | | | |
| | | 48 | | | | 0 |
| 206 +19 | | | | | | |
| | | 80 | | | | 2 |
| 206 +50 | | | | | | |
| | | 144 | | | | 9 |
| 207 | | | | | | |
| SHEET TOTAL | | 418 | | | | 22 |

| SURVEY | |
|---|---|
| PLOTTED | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NOTE BOOK | |
| NO. | |

| SURVEY | |
|---|---|
| PLOTTED | C.L.T. 11-30 |
| TEMPLATE | G.L. 12-20 |
| AREAS | R.D. 1-71 |
| AREAS CHECKED | R.D. 1-71 |
| NOTE BOOK | |
| NO. 2.2 | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 30 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 207 | | | | | | |
| | | 81 | | | | 4 |
| 207+39 | | | | | | |
| | | 26 | | | | 0 |
| 207+50 | | | | | | |
| | | 165 | | | | 0 |
| 208 | | | | | | |
| | | 74 | | | | 0 |
| 208+27.5 | | | | | | |
| SHEET TOTAL | | 346 | | | | 4 |

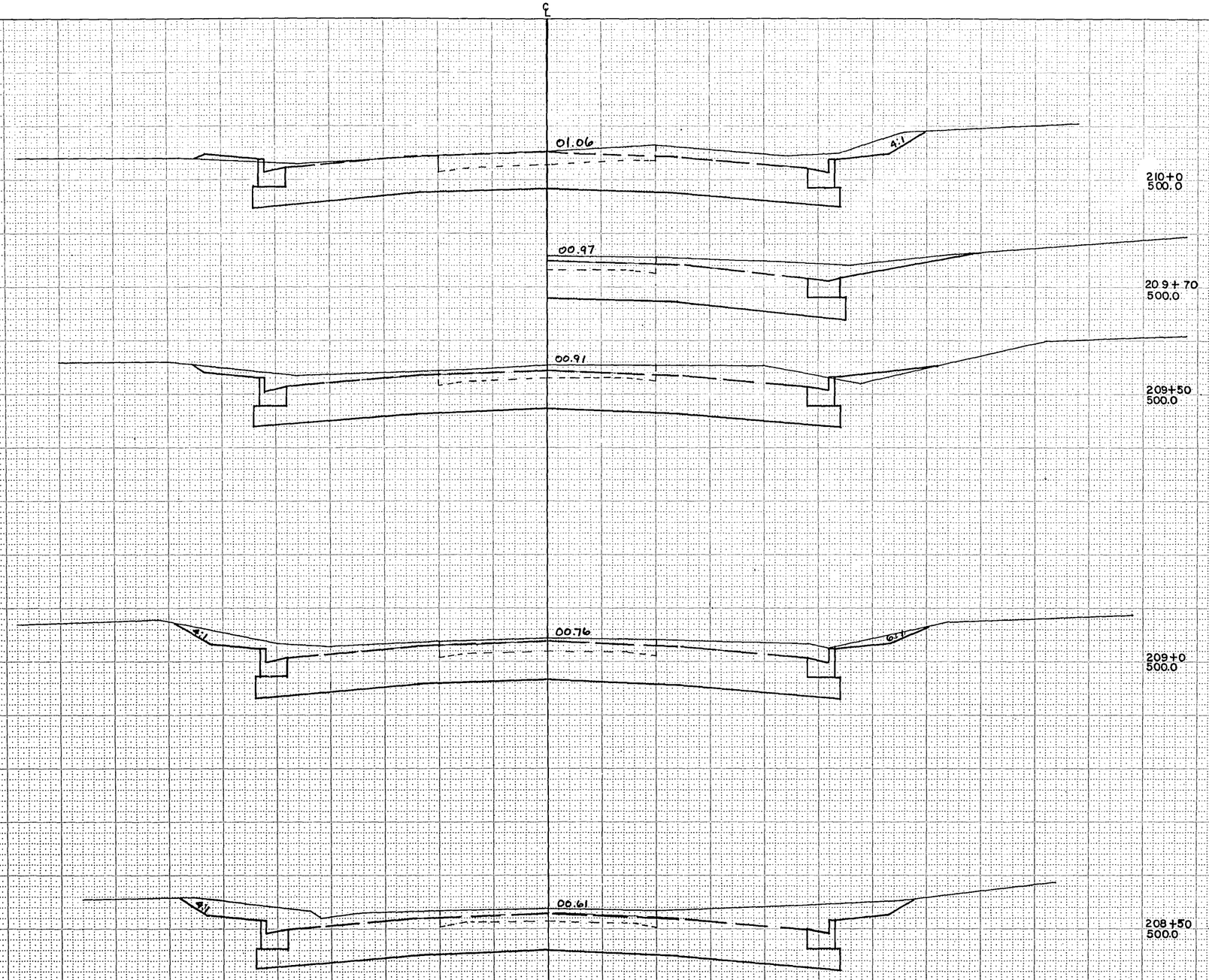
FUNCTIONAL CROSS SECTION - OPEN DOTTED

NO. | DATE | AREAS CHECKED

NO. | DATE | AREAS CHECKED

1-71 | 2-6-72

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 31 | 48 |




SCALE:
1"=2' VERT.
1"=5' HORZ.

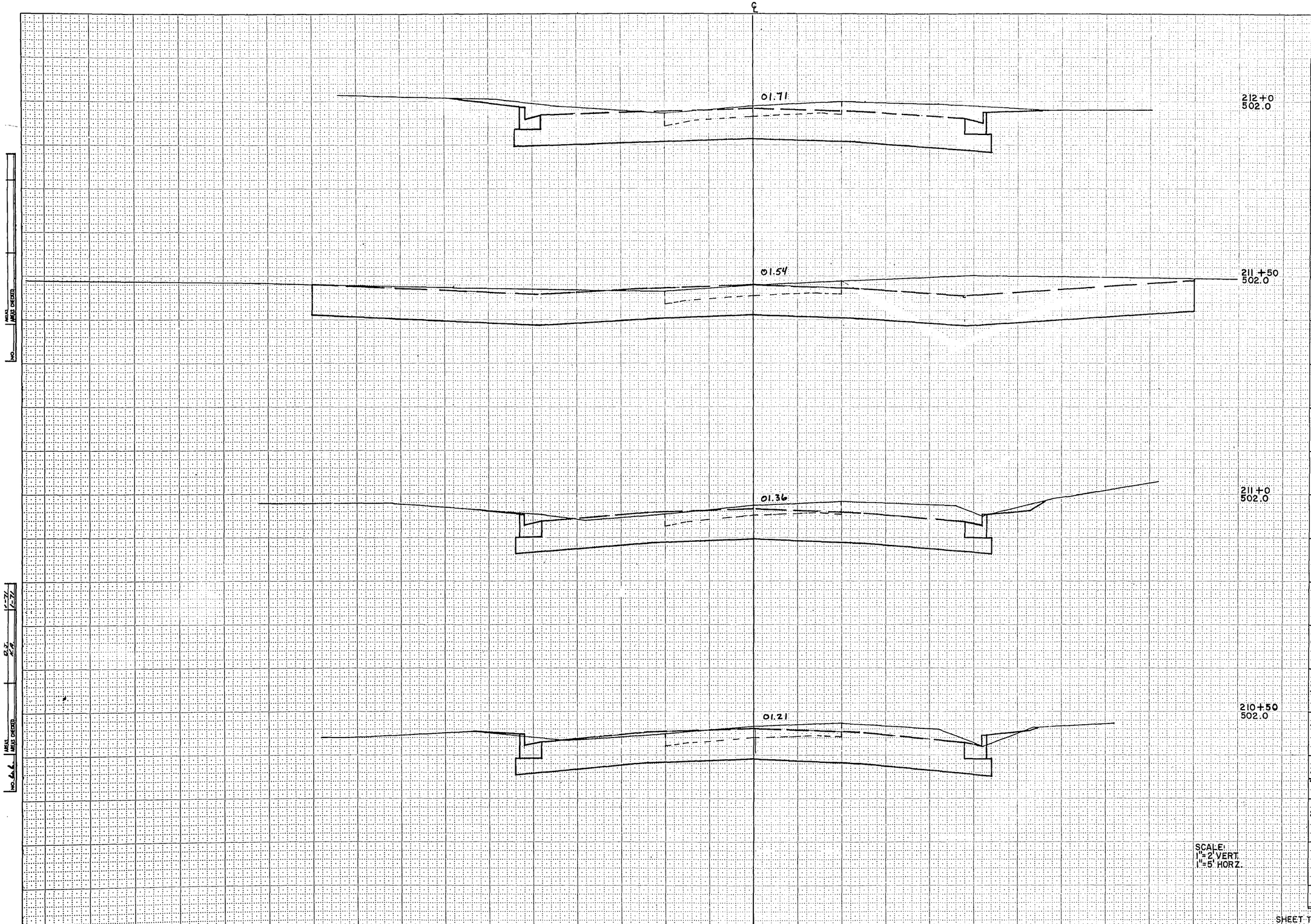
| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 208 +27.5 | | | | | | |
| | | 61 | | | | 0 |
| 208 +50 | | | | | | |
| | | 159 | | | | 0 |
| 209 | | | | | | |
| | | 148 | | | | 2 |
| 209 +50 | | | | | | |
| | | 46 | | | | 1 |
| 209 +70 | | | | | | |
| | | 65 | | | | 1 |
| 210 | | | | | | |
| SHEET TOTAL | | 479 | | | | 4 |

| SURVEY | |
|---|---|
| NORTH FLU. | |
| PLOTTED | |
| TEMPLATE | |
| NOTE BOOK | |
| AREAS | |
| NO. | AREAS CHECKED |

| SURVEY | | DATE |
|---|---|---|
| NORTH FLU. | | |
| PLOTTED | C.L.T. | 12-70 |
| TEMPLATE | S.L. | 12-70 |
| NOTE BOOK | | |
| AREAS | R.J. | 1-71 |
| NO. | | |
| AREAS CHECKED | E.R. | 1-71 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

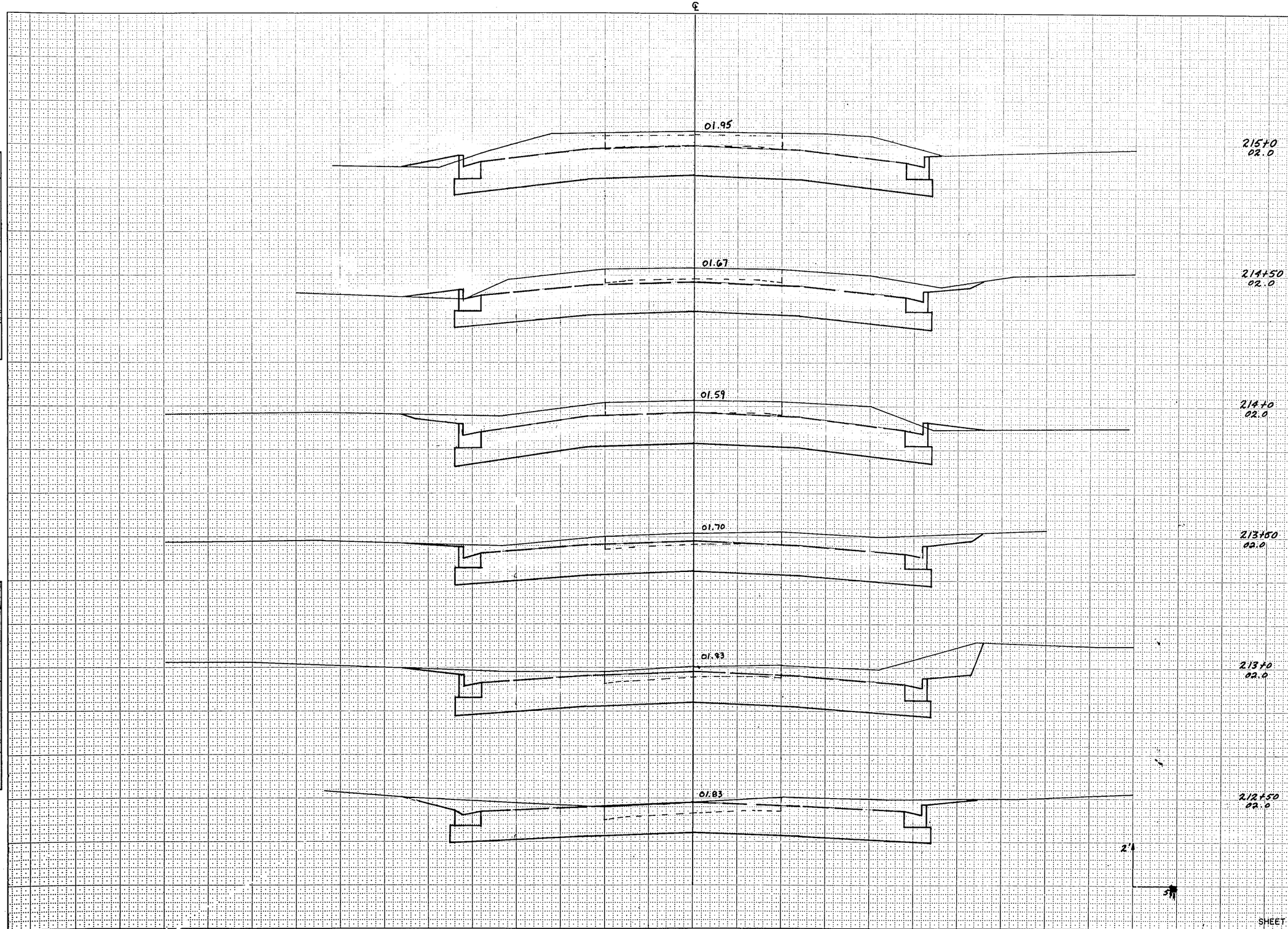
| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 32 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 210 | | | | | | |
| | | 131 | | | | 2 |
| 210+50 | | | | | | |
| | | 135 | | | | 1 |
| 211 | | | | | | |
| | | 185 | | | | 0 |
| 211+50 | | | | | | |
| | | 187 | | | | 0 |
| 212 | | | | | | |
| SHEET TOTAL | | 638 | | | | 3 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 33 | 48 |



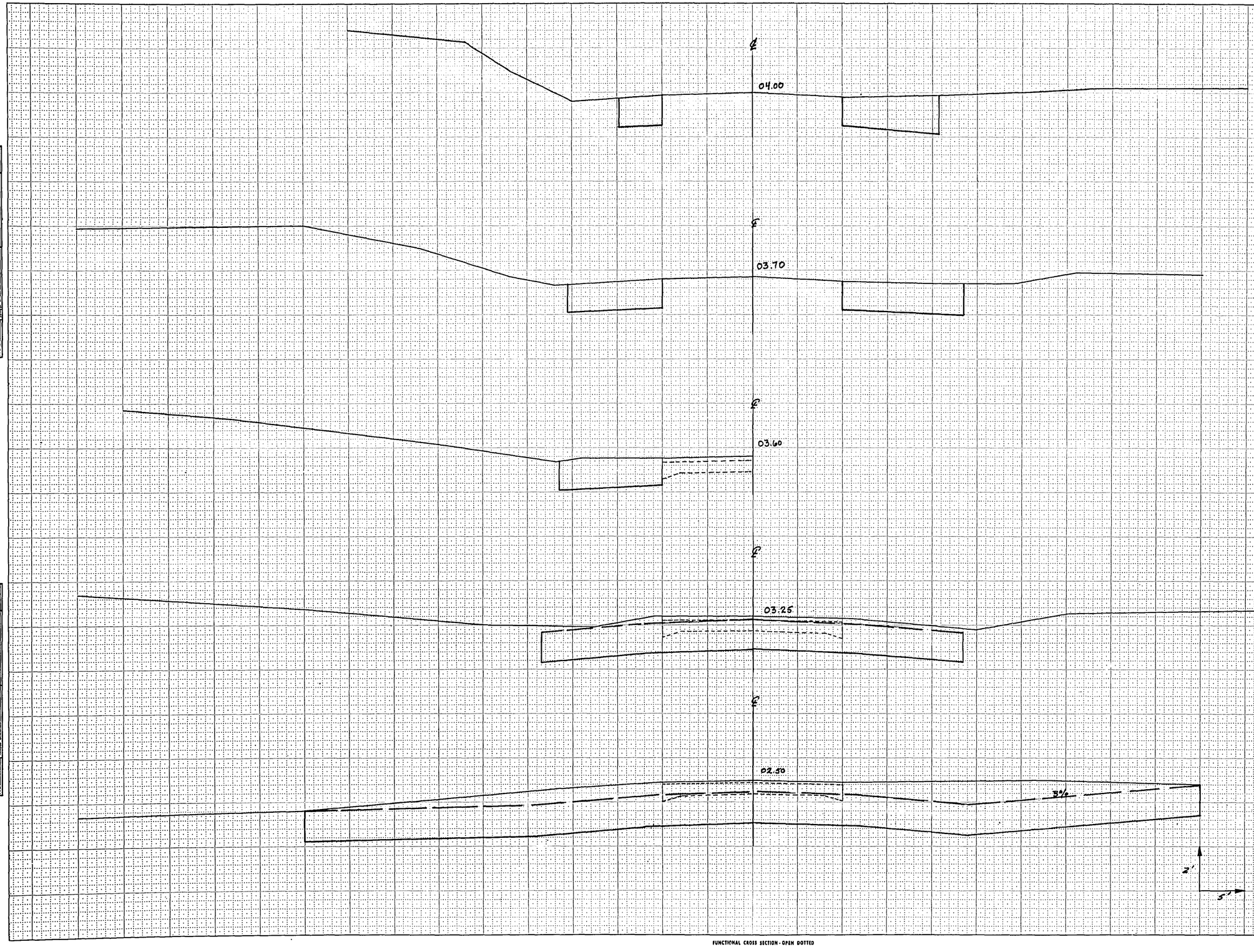

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | FILL |
|---|---|---|---|
| 212 | | | |
| 212 +50 | 146 | | 0 |
| 213 | 159 | | 0 |
| 213 +50 | 167 | | 0 |
| 214 | 170 | | 1 |
| 214 +50 | 180 | | 2 |
| 215 | 181 | | 4 |
| SHEET TOTAL | 1003 | | 7 |

| SURVEY | |
|---|---|
| PLOTTED | |
| TEMPLATE | |
| AREAS | |
| NOTE BOOK | |
| AREAS CHECKED | |
| NO. | |

| | | |
|---|---|---|
| PLOTTED | 6-21 | |
| TEMPLATE | 6-21 | |
| AREAS | 6-21 | |
| NOTE BOOK | 6-21 | |
| AREAS CHECKED | 6-21 | |
| NO. 6.6. | | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 34 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|
| 217+0 504 | | | | | |
| 216+50 504 | | | | | |
| 216+38 504 | | | | | |
| 215 | | | | | |
| 216+70 503 | | | 204 | | 2 |
| 215 +50 | | | | | |
| | | | 167 | | 0 |
| 216 | | | | | |
| | | | 41 | | 0 |
| 216 | | | | | |
| +38 | | | 9 | | 0 |
| 216 +50 | | | | | |
| 215+00 502 | | | 48 | | 0 |
| 217 | | | | | |
| SHEET TOTAL | | | 469 | | 2 |

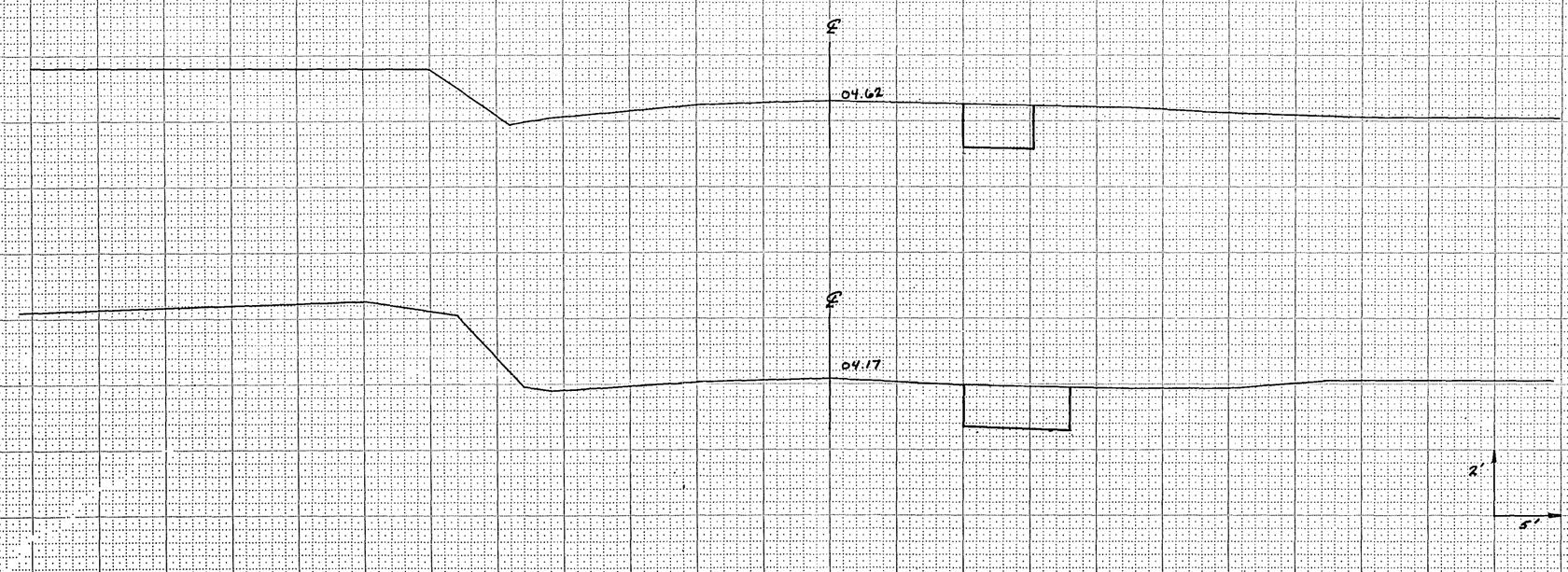
NOTE BOOK NO. L.L. | TEMPLATE AREAS AREAS CHECKED | SLOPE 2:1 2:1 | 1:1 1:1

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 35 | 48 |

| SURVEY | | |
|---|---|---|
| NOTE BOOK | SURVEYED | |
| | PLOTTED | |
| | TEMPLATE | |
| | AREAS | |
| NO. | MEAS CHECKED | |

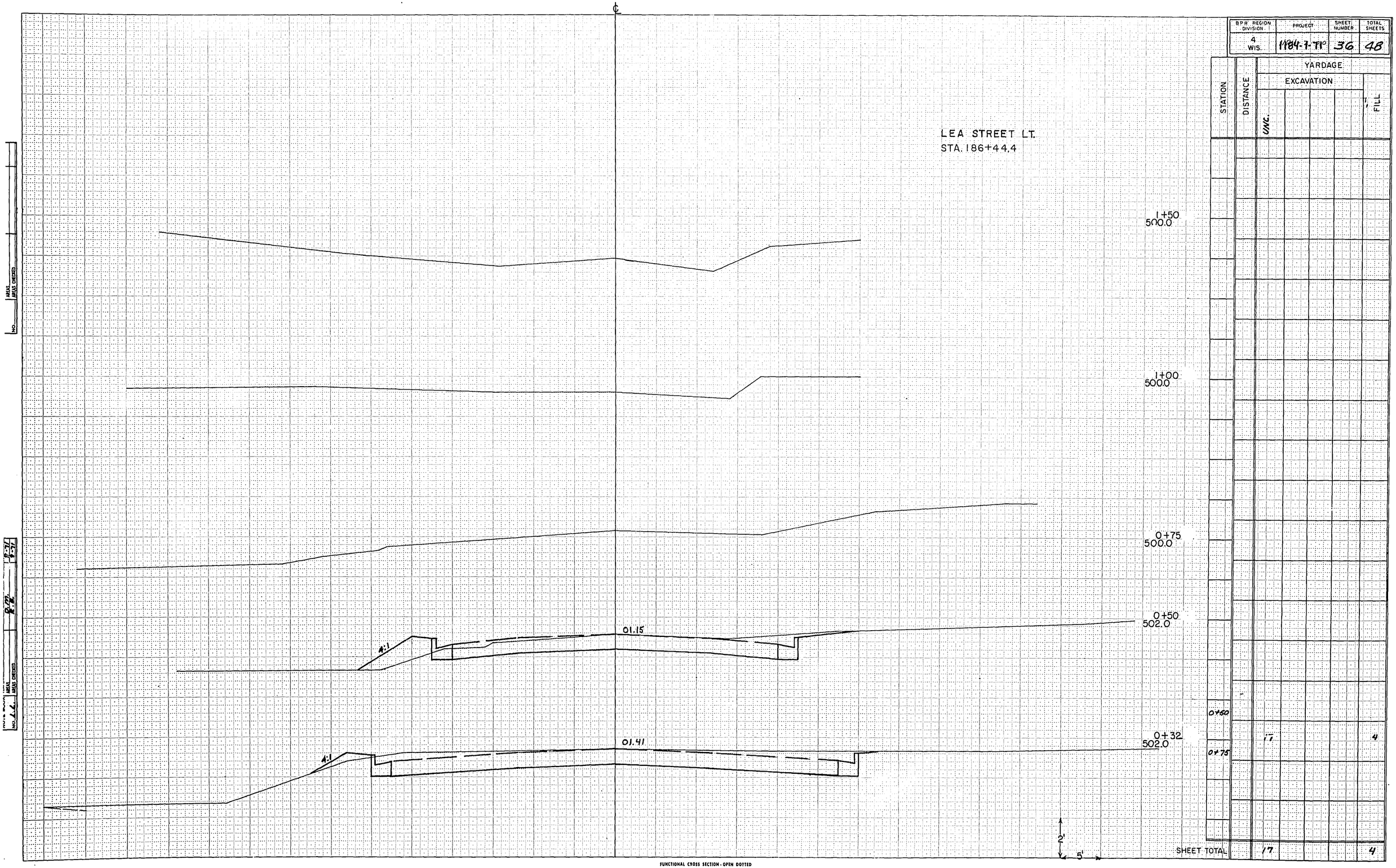
| SURVEY | | |
|---|---|---|
| NOTE BOOK | SURVEYED | E.P. 1-77 |
| | PLOTTED | F.J.R. 1-77 |
| | TEMPLATE | C.L.K. 1-77 |
| | AREAS | A.P. 1-77 |
| NO. 66 | MEAS CHECKED | A.K. 1-77 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 217 | | | | | | |
| | 30 | | | | | 0 |
| 217 +50 | | | | | | |
| | 17 | | | | | 0 |
| 218 | | | | | | |
| | 13 | | | | | 0 |
| 218 +77 | | | | | | |
| SHEET TOTAL | | 60 | | | | 0 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71° | 36 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | | FILL |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
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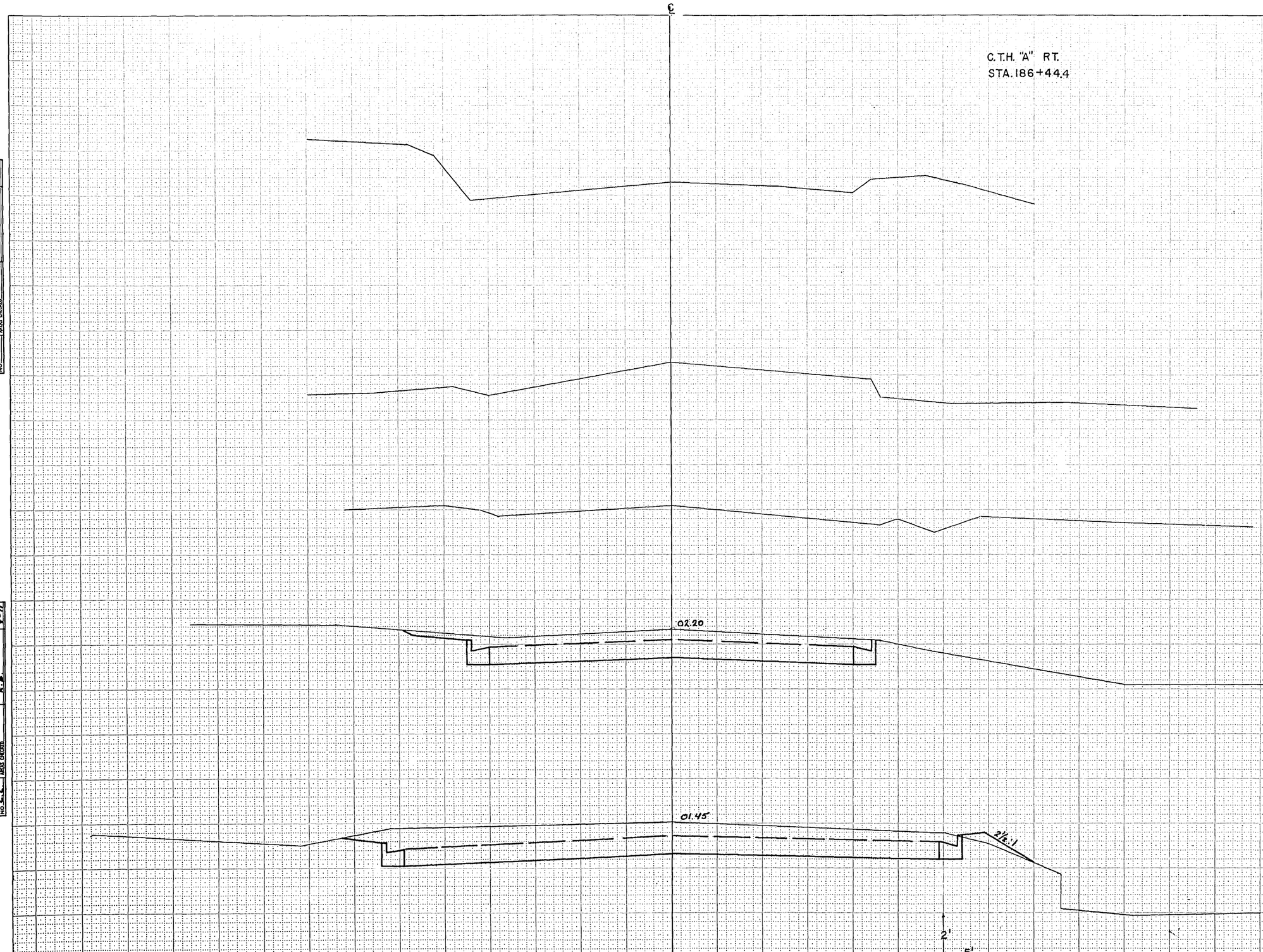
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 0+50 | | | | | | | |
| 0+75 | | 17 | | | | | 4 |
| SHEET TOTAL | | 17 | | | | | 4 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 37 | 48 |



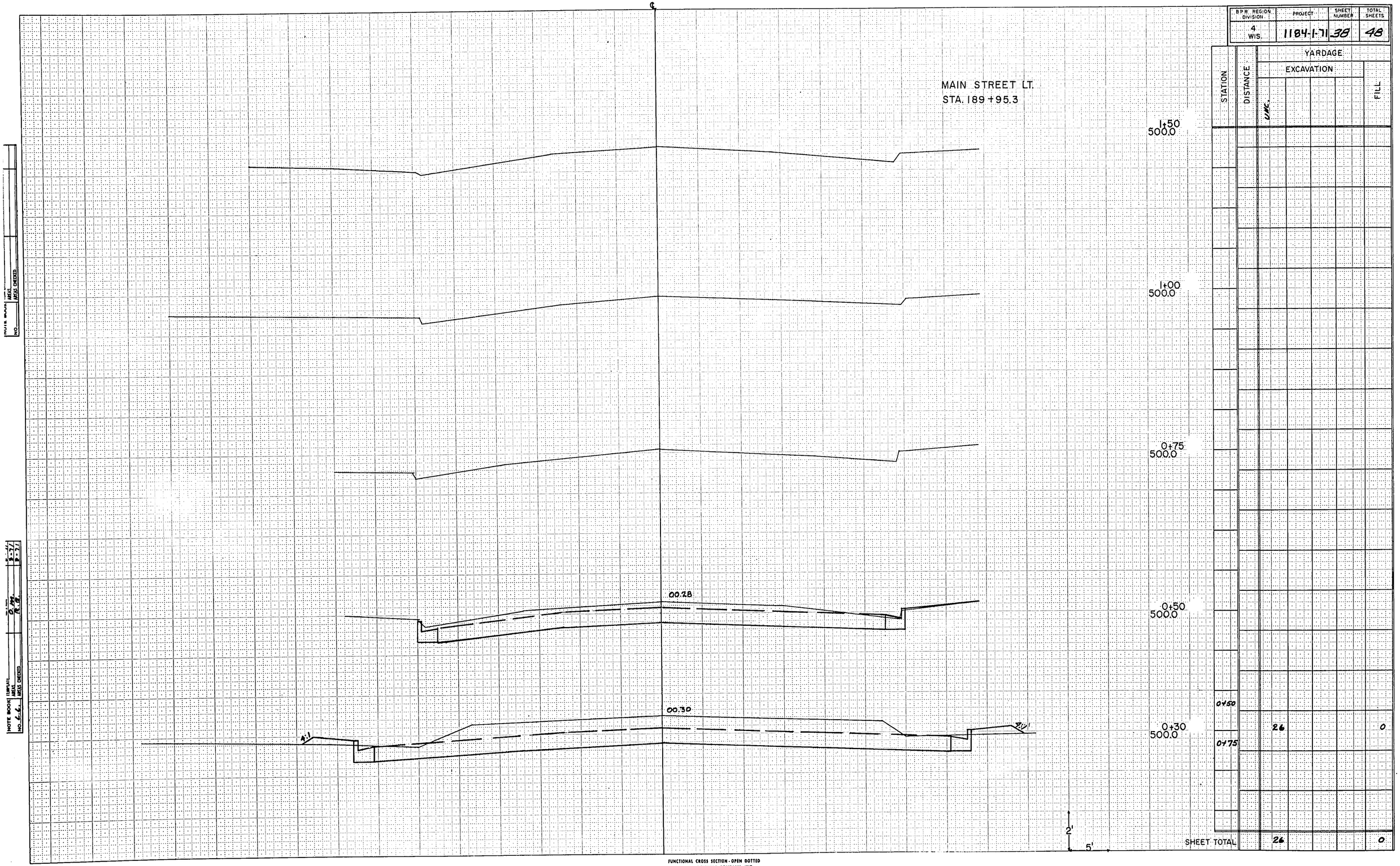

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 0+50 | | | | | | |
| 0+75 | | 28 | | | | 0 |
| SHEET TOTAL | | 28 | | | | 0 |

| SURVEY | |
|---|---|
| SURVEYED | |
| PLOTTED | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NOTE BOOK | |
| NO. | |

| SURVEY | |
|---|---|
| SURVEYED | 12-28 |
| PLOTTED | 8-2-71 |
| TEMPLATE | 8-2-71 |
| AREAS | 8-2-71 |
| AREAS CHECKED | 8-2-71 |
| NOTE BOOK | |
| NO. 2 | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNNER COMPANY, INC.

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 38 | 48 |

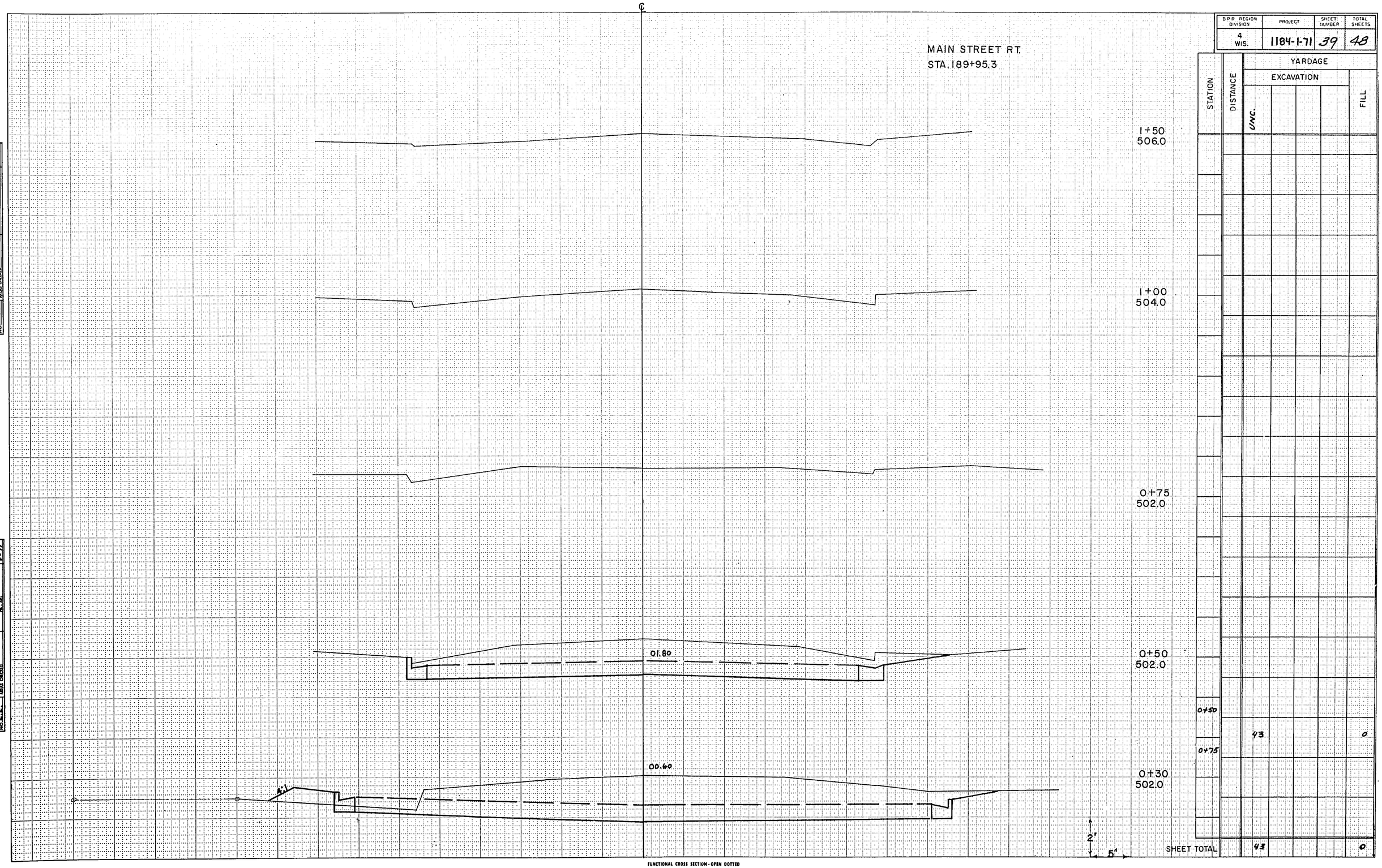



| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|
| 0+50 | | | | | | |
| 0+75 | | 26 | | | | 0 |
| SHEET TOTAL | | 26 | | | | 0 |

NOTE BOOK NO. 6-6 | TEMPLATE | AREAS | AREAS CHECKED | 2-3-71 | 2-3-71

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 39 | 48 |



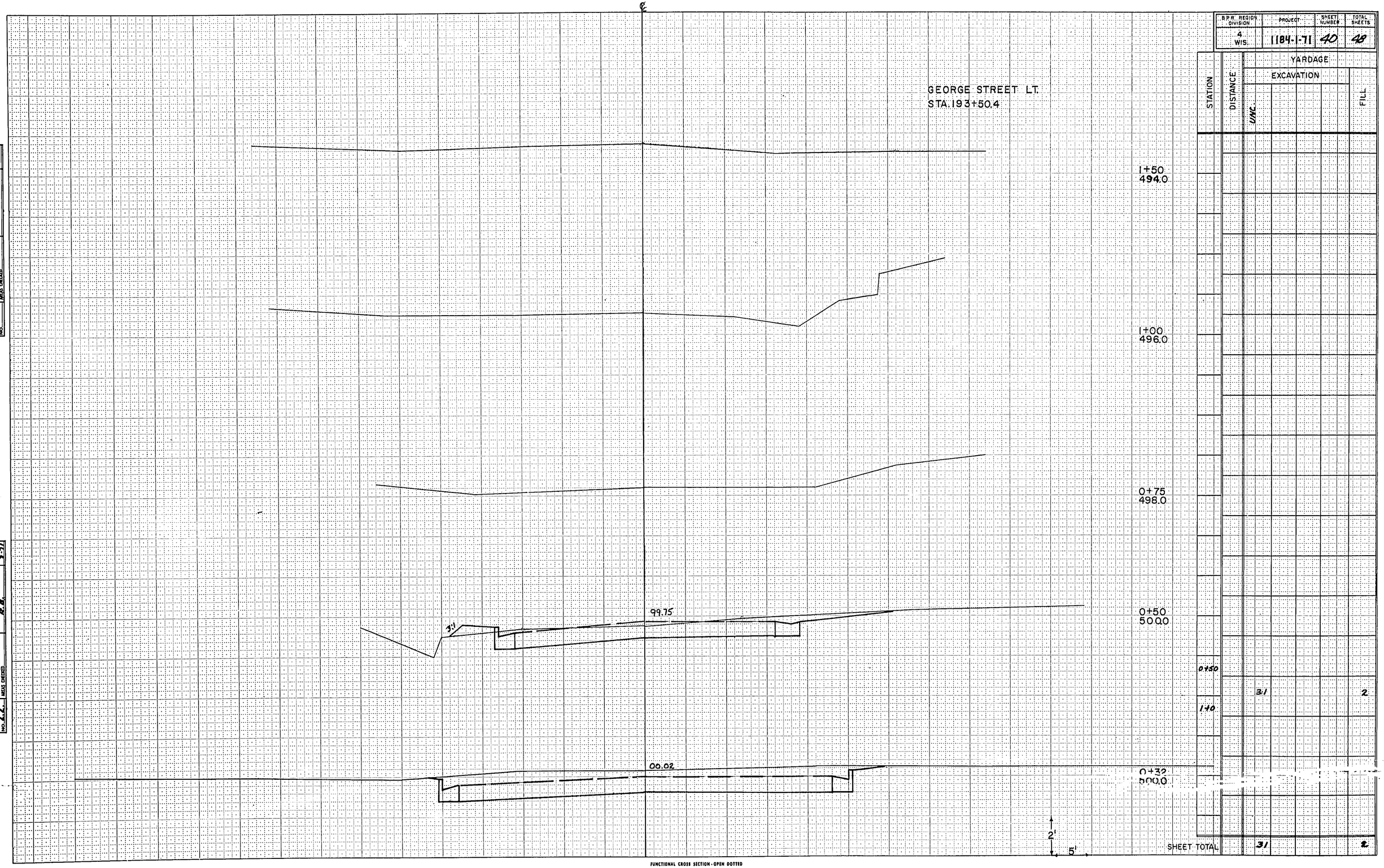

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| | | | | | | |
| 0+50 | | | | | | |
| 0+75 | | 43 | | | | 0 |
| SHEET TOTAL | | 43 | | | | 0 |

| SURVEY | |
|---|---|
| NOTE BOOK | PLOTTED 4-27-71 |
| NO. | TEMPLATE 4-27-71 |
| | MEAS. 4-27-71 |
| | MEAS CHECKED 4-27-71 |

| SURVEY | |
|---|---|
| NOTE BOOK | PLOTTED 4-27-71 |
| NO. L.L. | TEMPLATE 4-27-71 |
| | MEAS. 4-27-71 |
| | MEAS CHECKED 4-27-71 |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 40 | 48 |



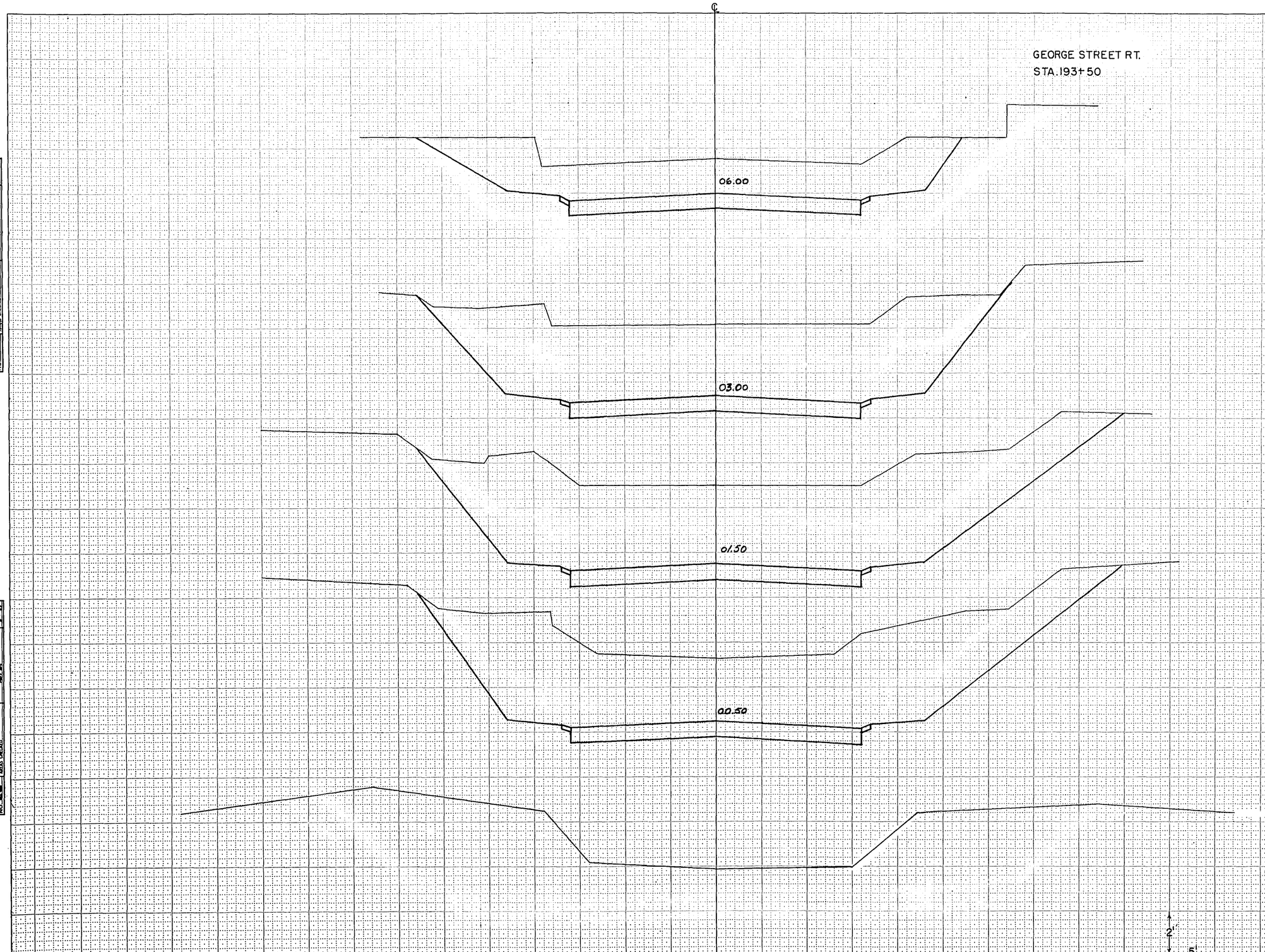

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE EXCAVATION | YARDAGE FILL |
|---|---|---|---|---|---|---|---|
| 0+50 | | | | | | | |
| 1+40 | | 31 | | | | | 2 |
| SHEET TOTAL | | 31 | | | | | 2 |

| NOTE BOOK NO. | TEMPLATE MEAS. | MEAS. CHECKED |
|---|---|---|
| | C.A. | 9-57 |
| | O.P. | 9-57 |
| | R.A. | 9-57 |

| NOTE BOOK NO. | TEMPLATE MEAS. | MEAS. CHECKED |
|---|---|---|
| | | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 41 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 0+50 | | | | | | |
| | | 239 | | | | 0 |
| 0+75 | | | | | | |
| | | 222 | | | | 0 |
| 1+0 | | | | | | |
| | | 311 | | | | 0 |
| 1+50 | | | | | | |
| SHEET TOTAL | | 772 | | | | 0 |

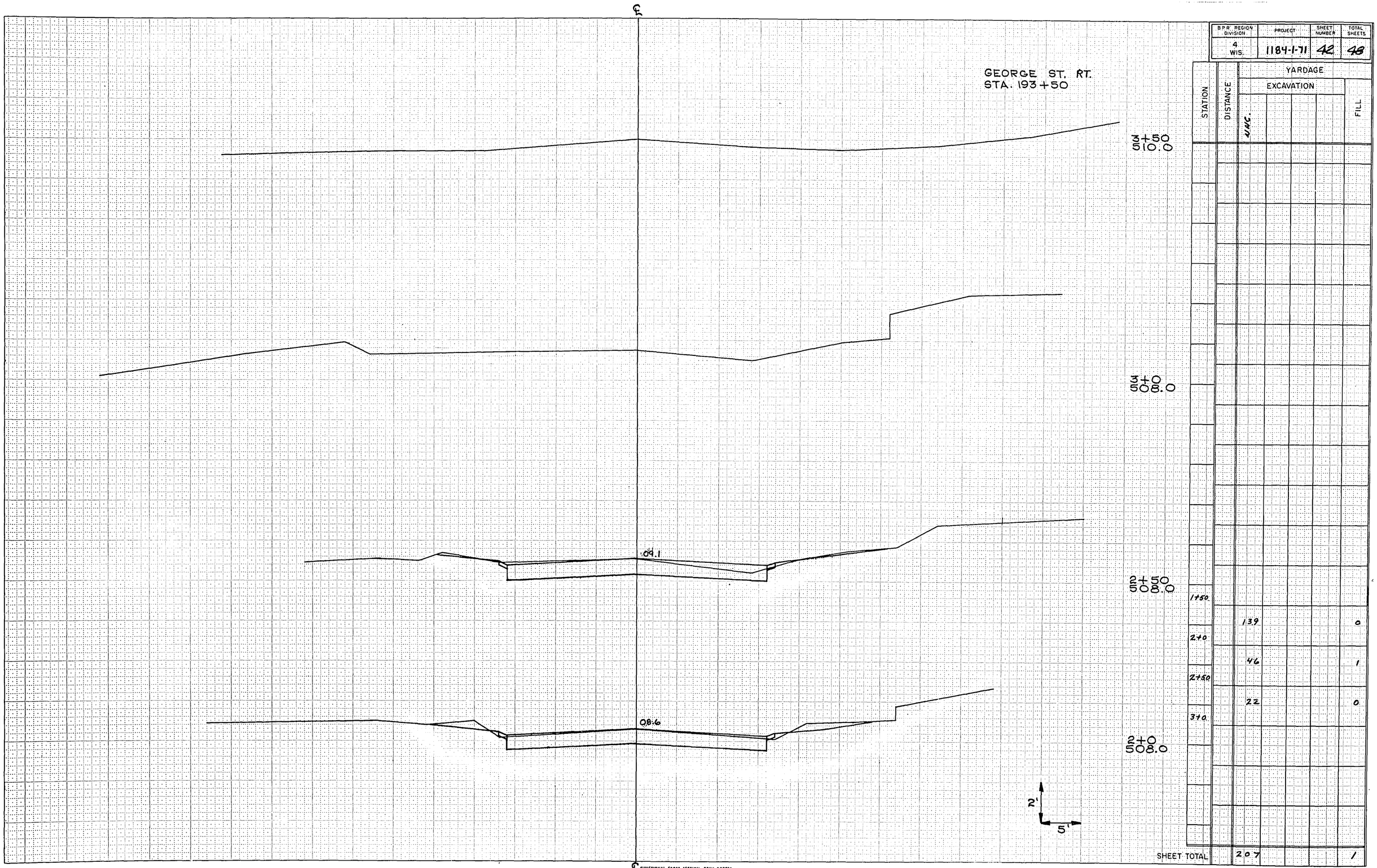
| SURVEY | |
|---|---|
| SURVEYED | |
| PLOTTED | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NOTE BOOK | |
| NO. | |

| SURVEY | | DATE |
|---|---|---|
| SURVEYED | J.F.R. | 9-57 |
| PLOTTED | C.B. | 1-57 |
| TEMPLATE | | 1-57 |
| AREAS | R.F. | 1-57 |
| AREAS CHECKED | R.K. | 1-57 |
| NOTE BOOK | | |
| NO. 46 | | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED

CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 42 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION | | | | YARDAGE FILL |
|---|---|---|---|---|---|---|
| | | 4 HC. | | | | |
| 2+50 508.0 | | | | | | |
| | 1750 | | | | | |
| | | 139 | | | | 0 |
| | 270 | | | | | |
| | | 46 | | | | 1 |
| | 2750 | | | | | |
| | | 22 | | | | 0 |
| | 370 | | | | | |
| 2+0 508.0 | | | | | | |
| SHEET TOTAL | | 207 | | | | 1 |

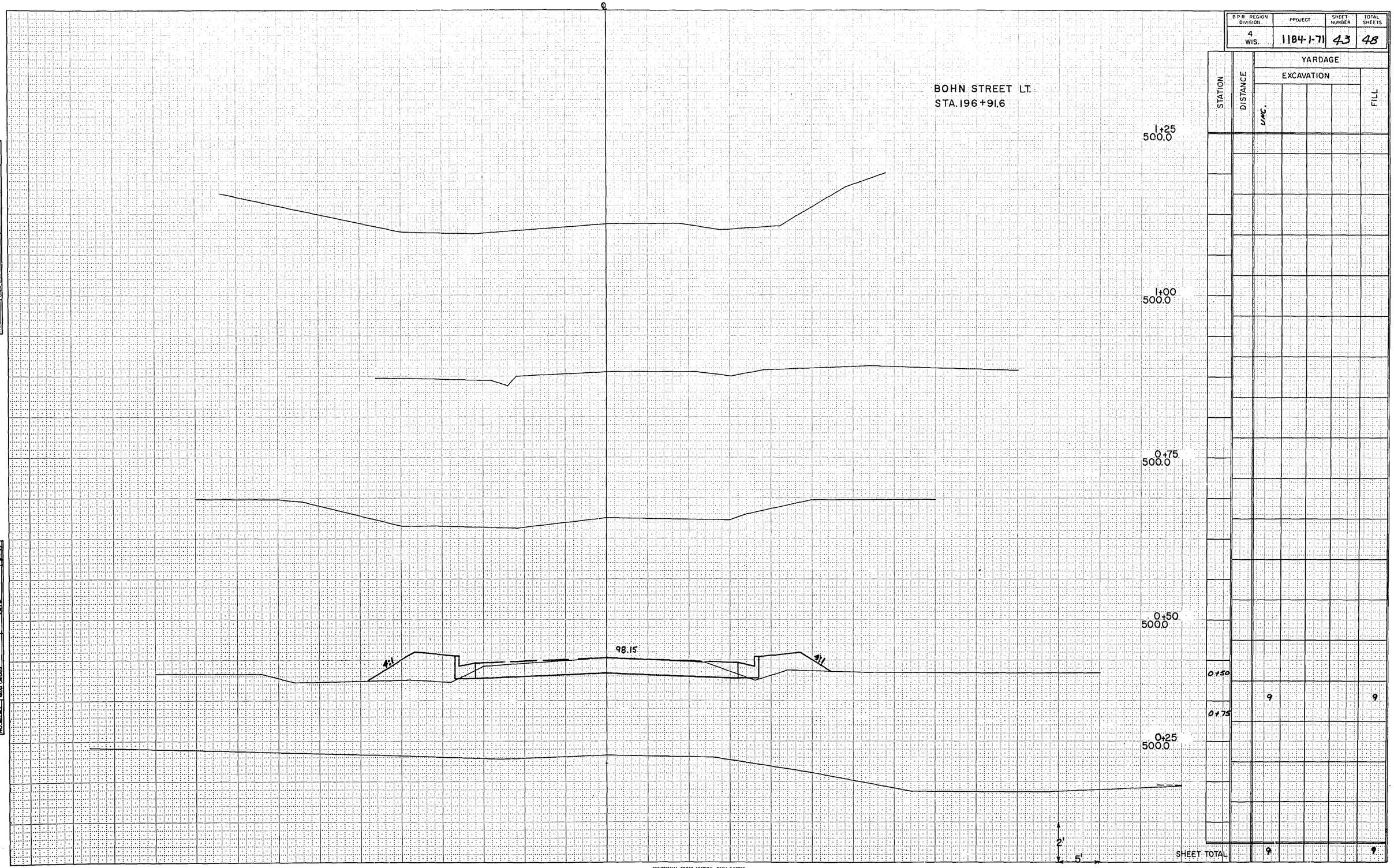
NOTE BOOK NO. 6-6 | LEVEL NOTES 2-17-71 | MEAS. CHECKED R.B. 2-17-71

NOTE BOOK NO. | LEVEL NOTES | MEAS. CHECKED

℄ FUNCTIONAL CROSS SECTION - OPEN DOTTED

CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 43 | 48 |



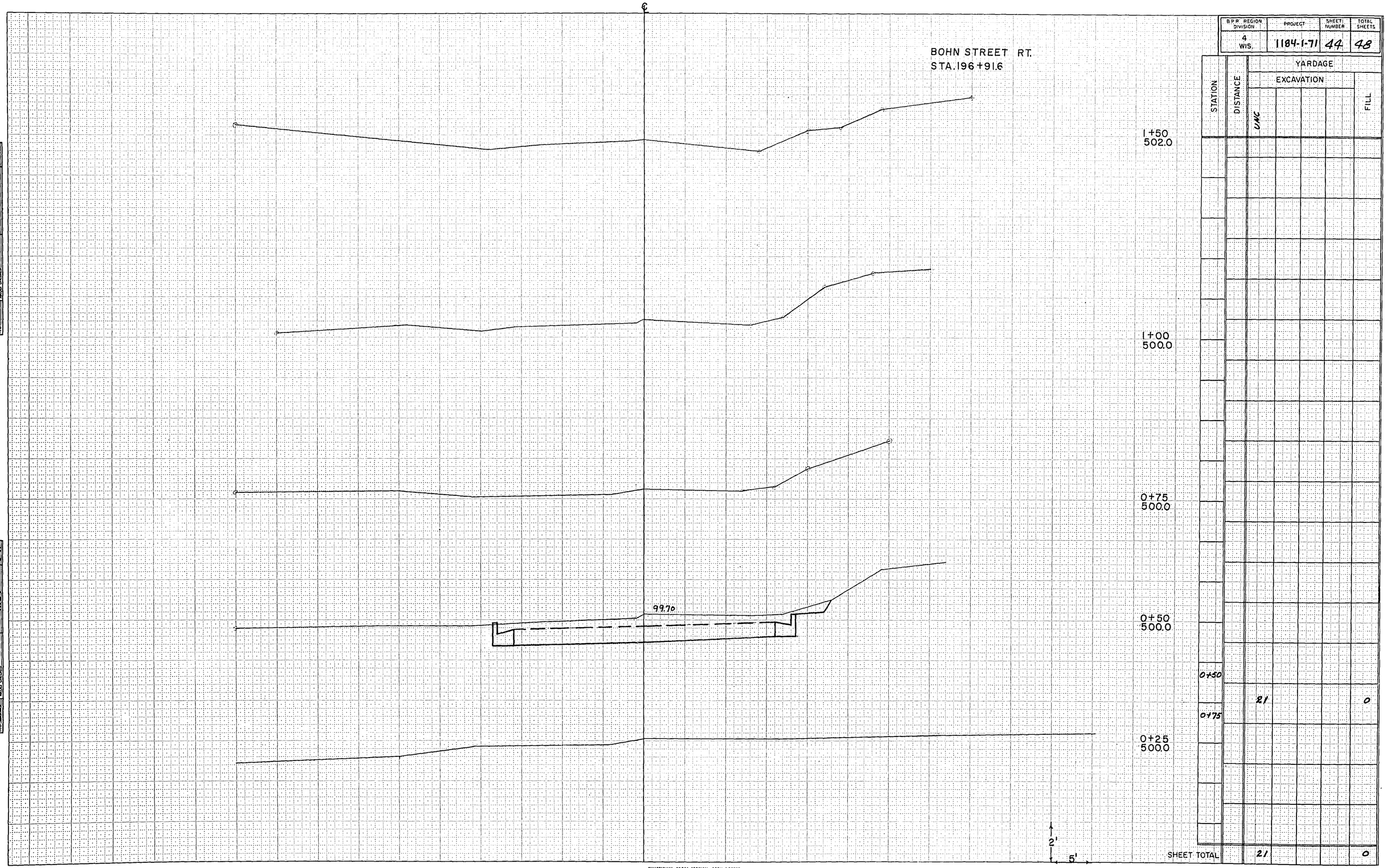

| STATION | DISTANCE | YARDAGE | | | | |
|---|---|---|---|---|---|---|
| | | EXCAVATION | | | | FILL |
| | | UNC. | | | | |
| 0+50 | | | | | | |
| 0+75 | | | | | | |
| SHEET TOTAL | | 9 | | | | 9 |

| SURVEY | |
|---|---|
| PLOTTED | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NOTE BOOK | |
| NO. | |

| SURVEY | |
|---|---|
| PLOTTED | 9-71 |
| TEMPLATE | 9-71 |
| AREAS | 9-71 |
| AREAS CHECKED | 9-71 |
| NOTE BOOK | |
| NO. L.L. | |

FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 44 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC | | | | | YARDAGE FILL |
|---|---|---|---|---|---|---|---|
| 0+50 | | | | | | | |
| 0+75 | | 21 | | | | | 0 |
| SHEET TOTAL | | 21 | | | | | 0 |

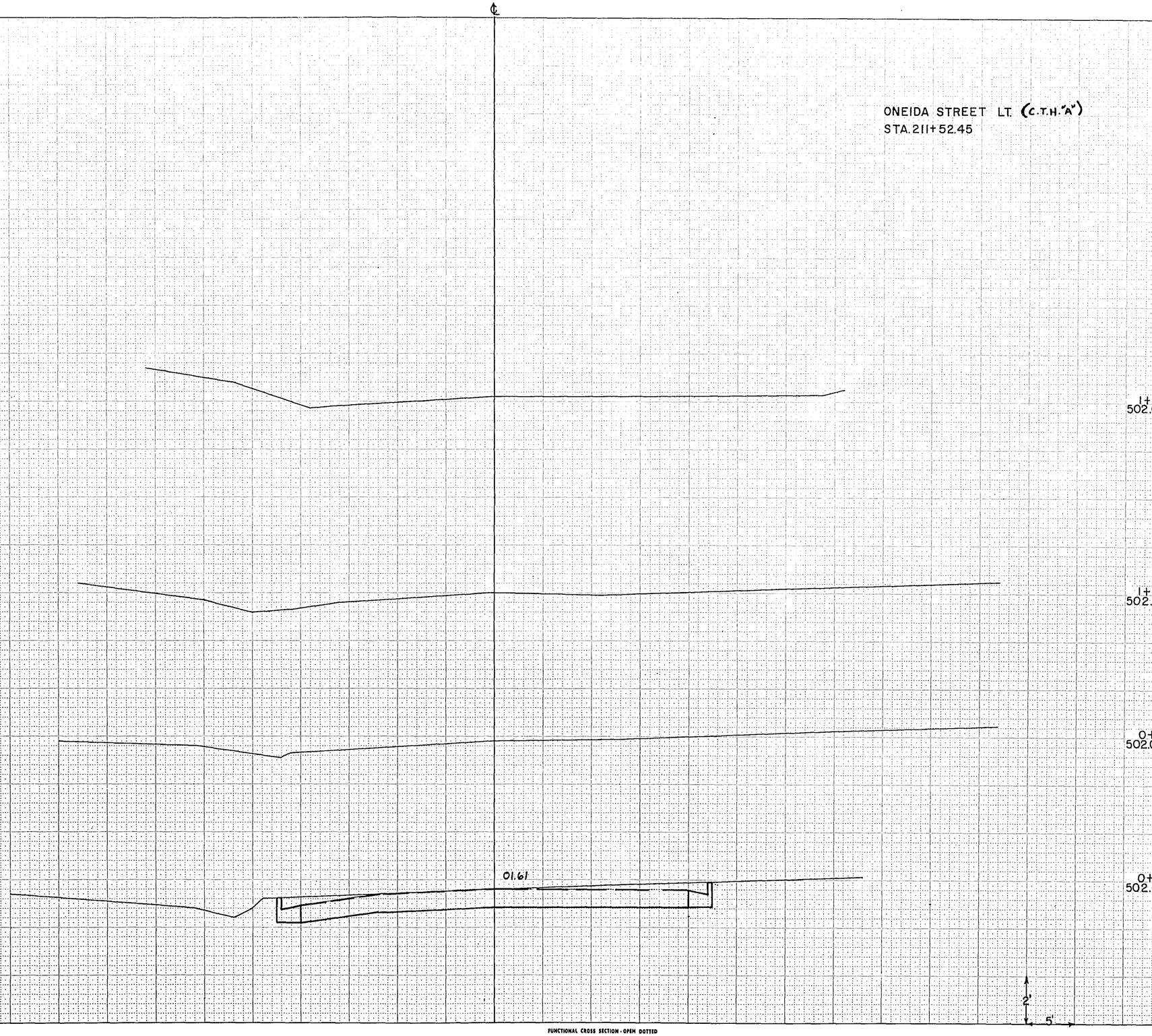
FUNCTIONAL CROSS SECTION - OPEN DOTTED

| DATE | BY | |
|---|---|---|
| 1-71 | R.B. | 2-MP |
| 1-71 | | |

DATE BOOK NO. 77 | MEAS. | MEAS CHECKED

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 45 | 48 |

ONEIDA STREET LT. (C.T.H. "A")
STA. 211+52.45



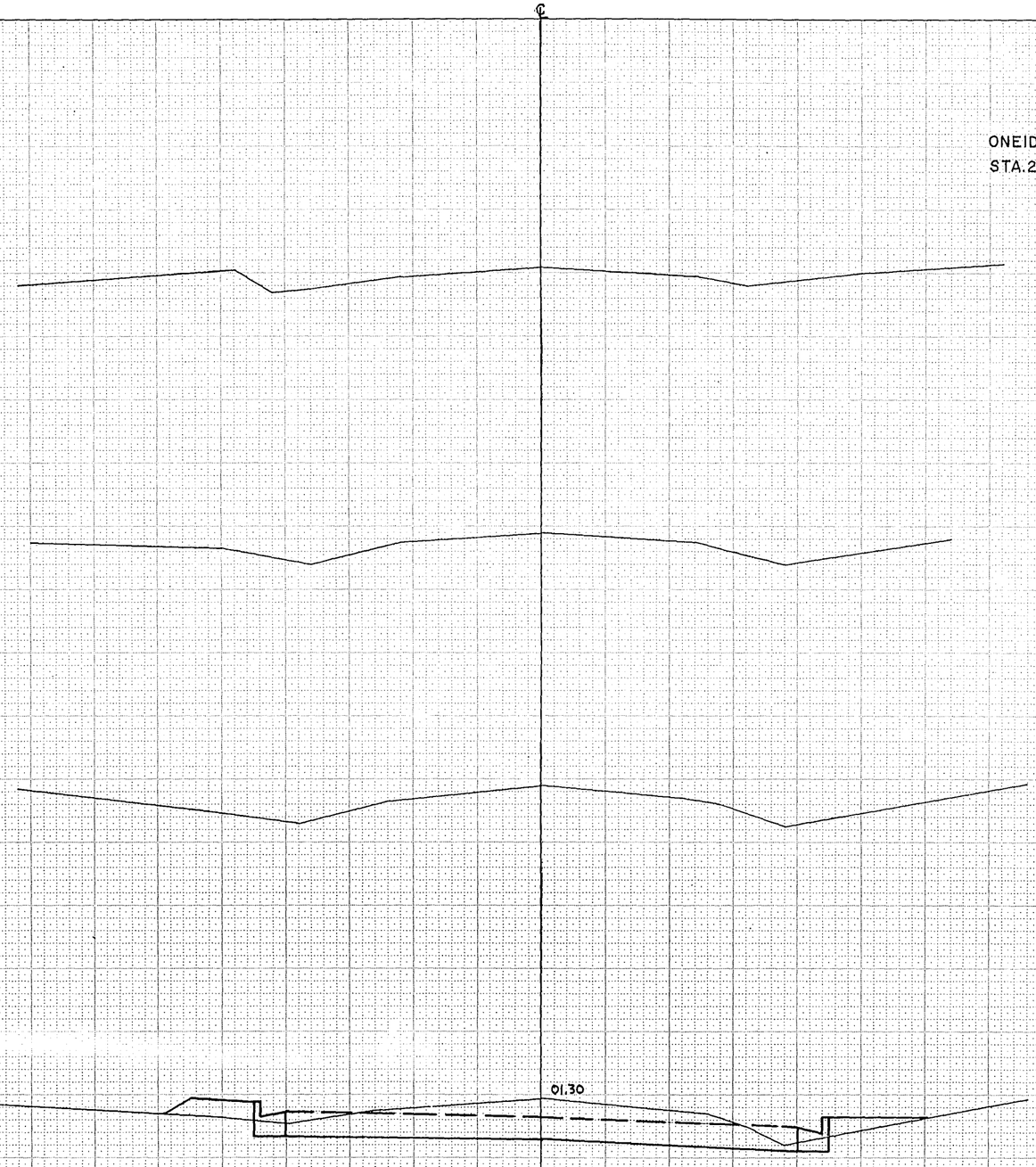

| STATION | DISTANCE | YARDAGE EXCAVATION UNC | | | | FILL |
|---|---|---|---|---|---|---|
| 0+50 | | | | | | |
| 0+75 | | 20 | | | | 0 |
| SHEET TOTAL | | 20 | | | | 0 |

| JUSTIFIED | PLOTTED | 4-4-6 |
|---|---|---|
| | TRACED | E.V. |
| NOTE BOOK | MEAS. | E.V. |
| NO. 4.6. | MEAS. CHECKED | E.V. |

| JUSTIFIED | PLOTTED | |
|---|---|---|
| | TRACED | |
| NOTE BOOK | MEAS. | |
| NO. | MEAS. CHECKED | |

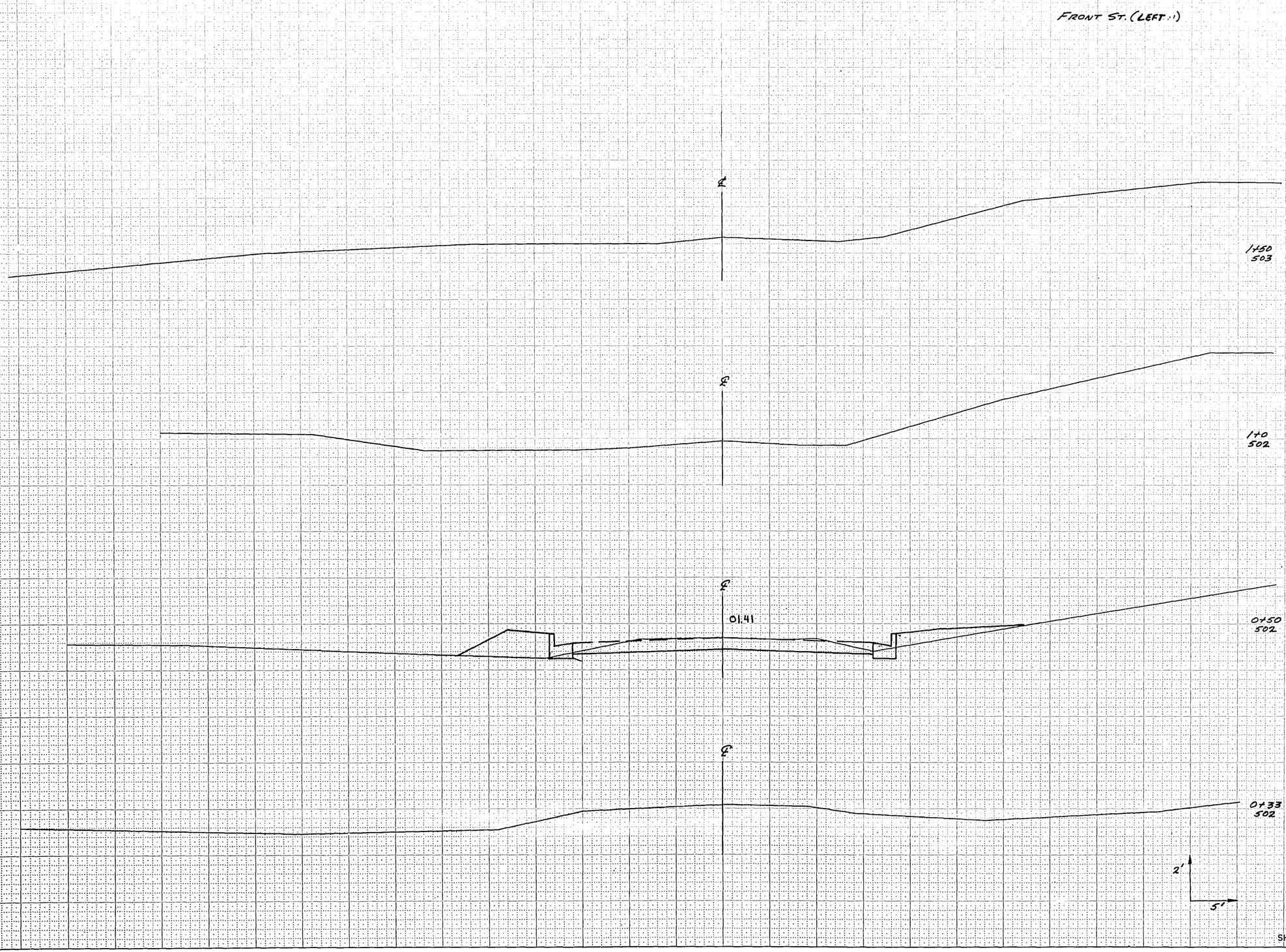
FUNCTIONAL CROSS SECTION - OPEN DOTTED
CHARLES BRUNING COMPANY, INC.

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 46 | 48 |



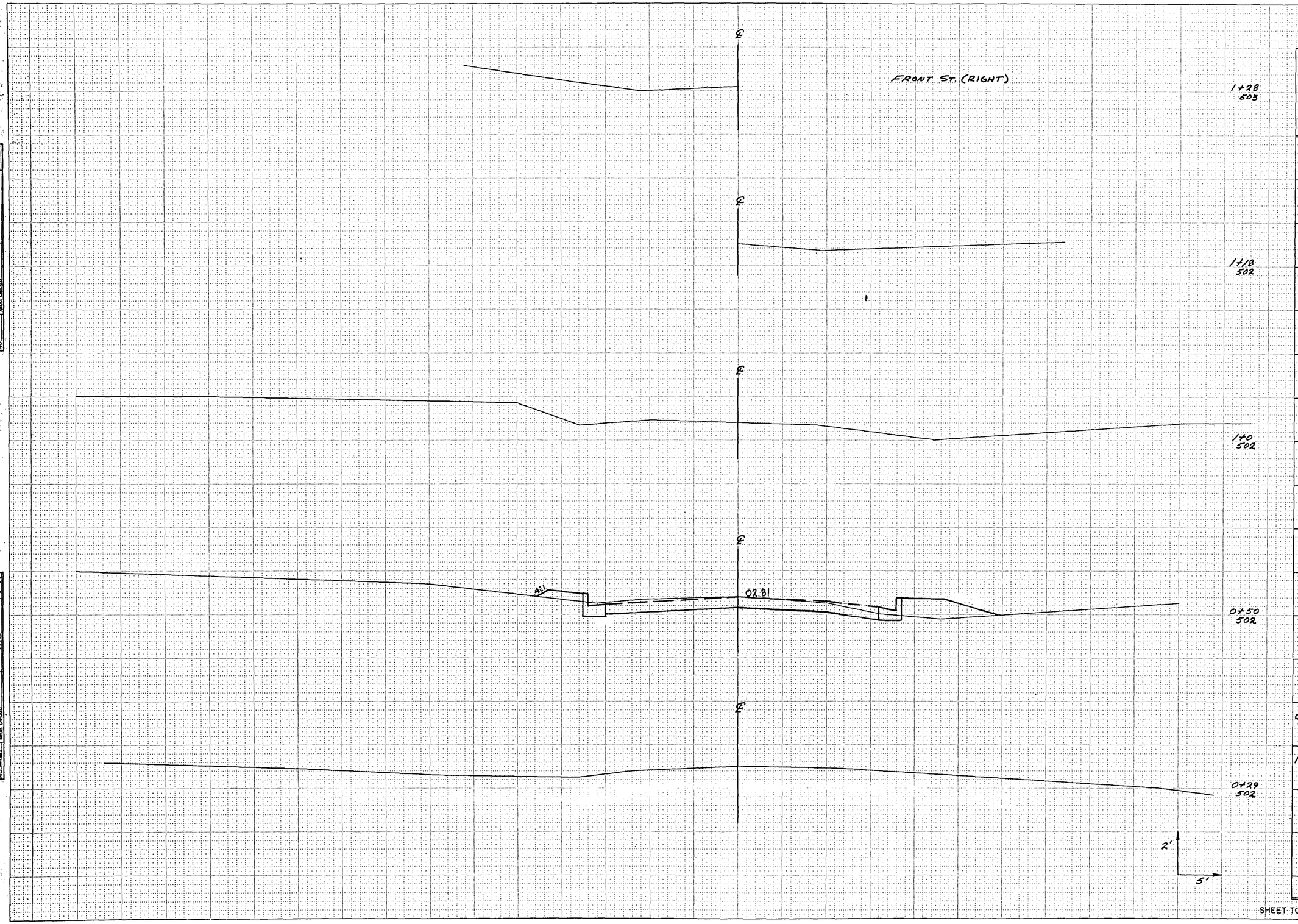

| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

| BPR REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 47 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION | | | | FILL |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

| B.P.R. REGION DIVISION | PROJECT | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|---|
| 4 WIS. | 1184-1-71 | 48 | 48 |




| STATION | DISTANCE | YARDAGE EXCAVATION UNC. | | | | FILL |
|---|---|---|---|---|---|---|
| 0+50 | | | | | | |
| 1+0 | | 12 | | | | 10 |
| SHEET TOTAL | | 12 | | | | 10 |

NOTE BOOK NO. 44 | TIME/DATE 5-12 | ITEM 0.22 | MEAS CHECKED A.B.

NOTE BOOK NO. | TIME/DATE 5-21 | ITEM 5-21 | MEAS CHECKED

FUNCTIONAL CROSS SECTION - OPEN DOTTED

CHARLES BRUNING COMPANY, INC.