

CONVENTIONAL SIGNS

STATE LINE	-----	TIMBER	-----
COUNTY LINE	-----	BRUSH	-----
TOWNSHIP OR RANGE LINE	-----	ORCHARD	-----
SECTION LINE	-----	ROCK LEDGE	-----
QUARTER LINE	-----	SAND	-----
SIXTEENTH LINE	-----	EDGE OF CUT	-----
RIGHT-OF-WAY LINE	-----	TOE OF EMBANKMENT	-----
PRESENT ROAD 3/4 LINE	-----	CATCH BASIN	-----
LIMITED ACCESS	-----	MANHOLE	-----
PROPERTY LINE (Except Land Lines)	-----	DROP INLET	-----
VACATED PLATTED PROPERTY	-----	FIRE HYDRANT	-----
CORPORATE OR CITY LIMITS	-----	ARC LAMP	-----
TRUNK HIGHWAY CENTER LINE	-----	OTHER LAMPS (Traffic Kind)	-----
RETAINING WALL	-----	RAILROAD CROSSING SIGN	-----
STEAM RAILROAD	-----	RAILROAD CROSSING BELL	-----
ELECTRIC RAILROAD	-----	ELECTRIC WARNING SIGN	-----
RAILROAD RIGHT-OF-WAY LINE	-----	CROSSING GATE	-----
CREEK	-----	CATTLE GUARD	-----
RAPIDS OR WATERFALL	-----	OVERHEAD (Highway Over)	-----
DRY RUN	-----	UNDERPASS (Highway Under)	-----
DRAINAGE DITCH	-----	ABUTMENT, WALL & PIER	-----
HIGH TENSION LINE	-----	BRIDGE	-----
POWER POLE LINE	-----	CULVERT	-----
TELEPHONE OR TELEGRAPH LINE	-----	BUILDING (One Story Frame)	-----
TELEPHONE CONDUIT	-----	C-CONCRETE S-STONE T-TILE B-BRICK ST-STUCCO	-----
GUARD RAIL	-----	HEDGE	-----
WIRE FENCE	-----	IRON PIPE	-----
RAILROAD SNOW FENCE	-----	STONE MONUMENT	-----
BOARD OR HIGHWAY SNOW FENCE	-----	WOOD STAKE OR HUB	-----
STONE WALL OR FENCE	-----	MEANDER CORNER	-----
GAS MAIN	-----		
WATER PIPE	-----		
SEWER PIPE	-----		
DRAIN TILE	-----		
GRAVEL PIT	-----		
SAND PIT	-----		
CLAY PIT	-----		
ROCK QUARRY	-----		
SPRINGS	-----		
MARSH	-----		

OFFICE OF COUNTY ENGINEER

RAMSEY COUNTY

CONSTRUCTION PLAN FOR GRADING, CONCRETE BASE & BITUMINOUS SURFACING

WHITE BEAR AVENUE S.A.P. 62-665-04

FROM 600' NO. OF S.W. COR. SECTION 14, T.29N., R.22W. TO 2800' NO. OF SAID CORNER

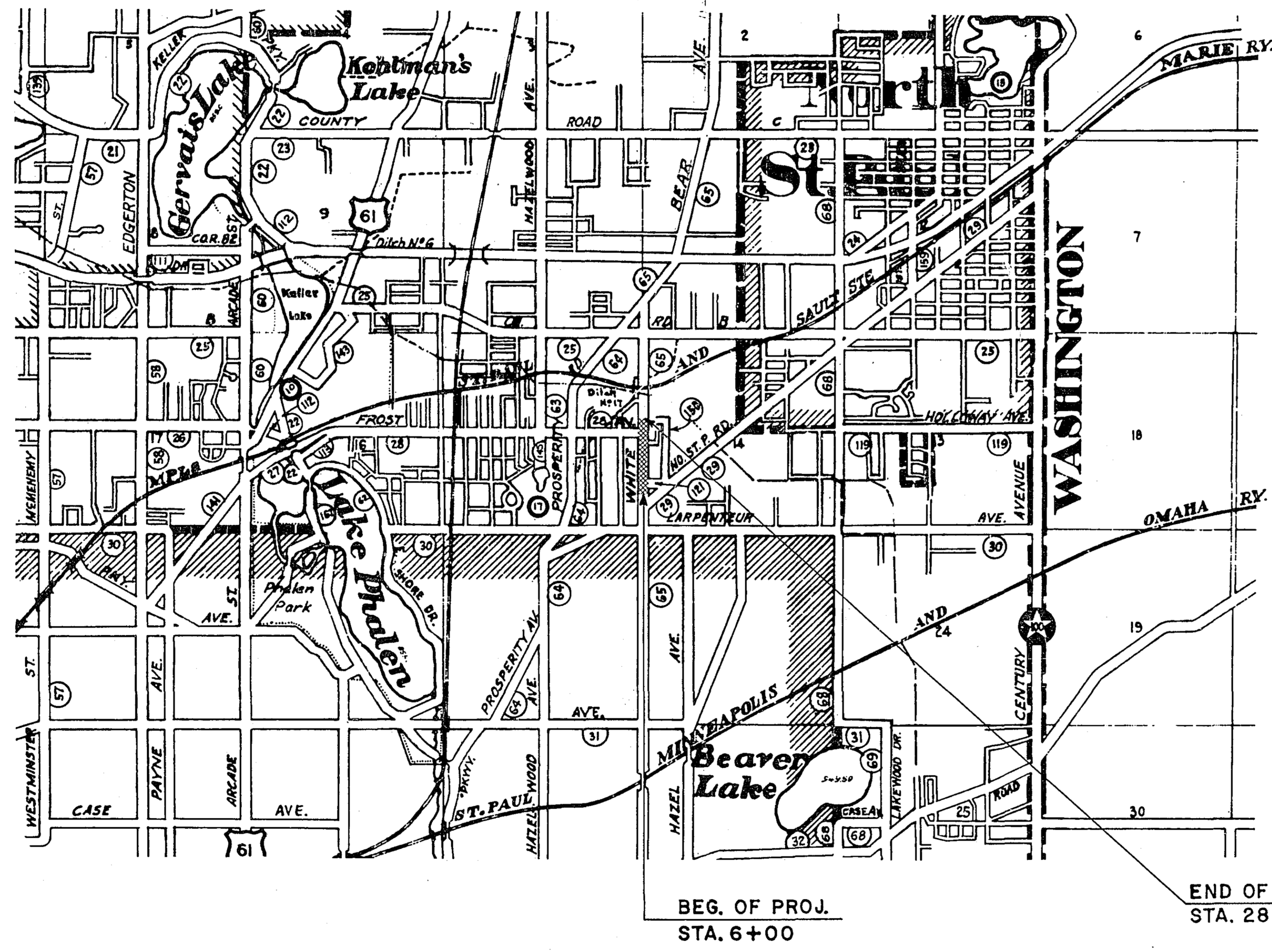
GROSS LENGTH	2,200 FEET	0.417 MILES
BRIDGES—LENGTH	FEET	MILES
EXCEPTIONS—LENGTH	FEET	MILES
NET LENGTH	2,200 FEET	0.417 MILES

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EST. QUANTITIES & TYPICAL SECTIONS
3	STONE MASONRY WALL, CONCRETE STEPS & INTERSECTION DETAILS.
4 & 5	PLAN & PROFILES
6 TO 13	CROSS-SECTIONS

SCALES

PLAN, 1 inch = 100 Feet	PROFILE, Horiz. 1 inch = 100 Feet. Vert. 1 inch = 10 Feet.
WORKING PLANS—	{ Horiz. 1 inch = 100 Feet
	{ Vert. 1 inch = 10 Feet
LAYOUT, 1 inch = 2640 Feet	{ Cross-Sections 1 inch = 10 Feet



NOTE: SECTION NUMBERS READ FROM THE SOUTH

PIT DATA

COUNTY	PIT NO.	Located in
		Dead Haul

SPECIFICATIONS

THE "SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED MAY 1, 1959 AND SUBMITTED FOR APPROVAL BY THE DIVISION ENGINEER OF THE BUREAU OF PUBLIC ROADS ON MARCH 26, 1959 SHALL GOVERN.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dennis P. Sullivan COUNTY ENGINEER REG. NO. 5031 DATE 7/10/61

RECOMMENDED FOR APPROVAL *Dennis P. Sullivan* COUNTY ENGINEER DATE 7/10/61
 APPROVED *H. F. Goodrich* CHAIRMAN OF RAMSEY COUNTY BOARD DATE 7/10/61

MINNESOTA STATE HIGHWAY DEPARTMENT
 RECOMMENDED FOR APPROVAL *Raydon Boeck* ASST. DISTRICT ENGINEER DATE 7-10-61
 RECOMMENDED FOR APPROVAL *D. B. McMillan* DATE 7/13/61
 APPROVED *W. Mason* ASST. STATE AID ENGINEER DATE 7-13-61

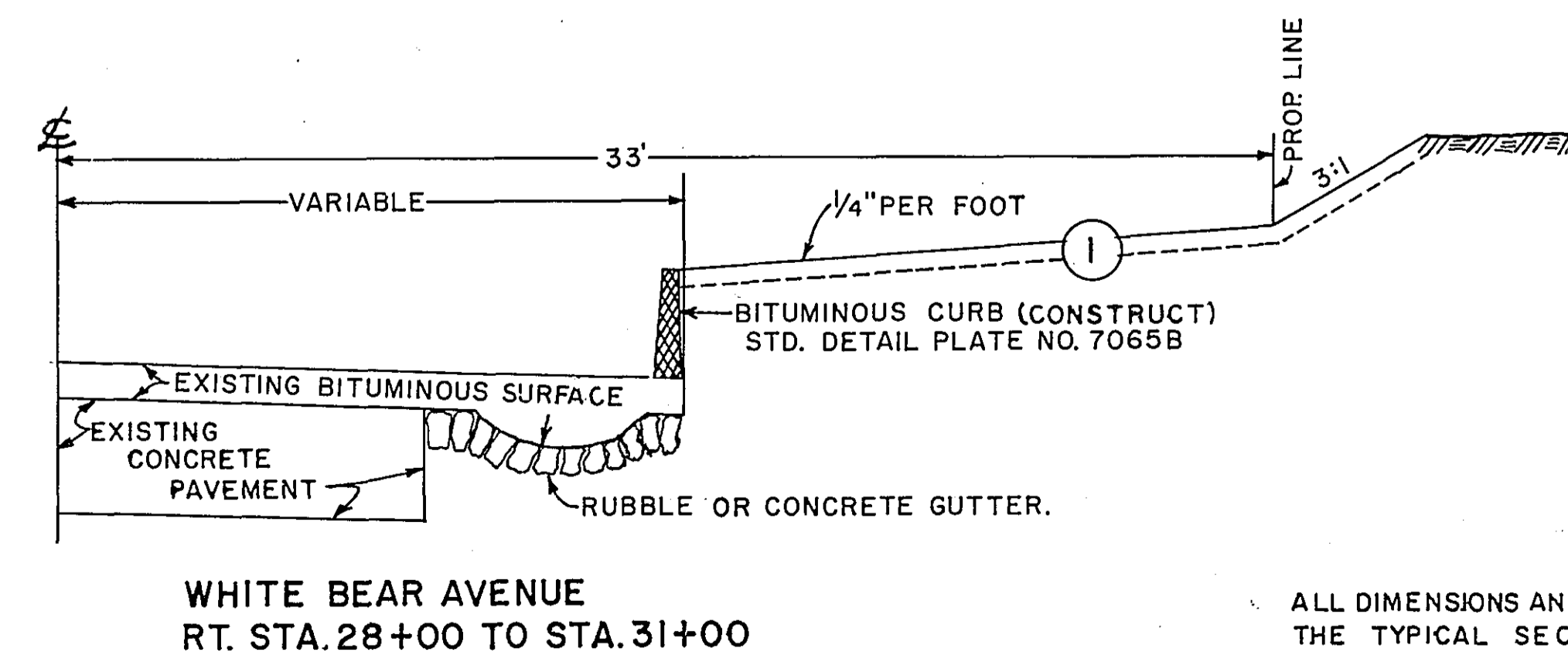
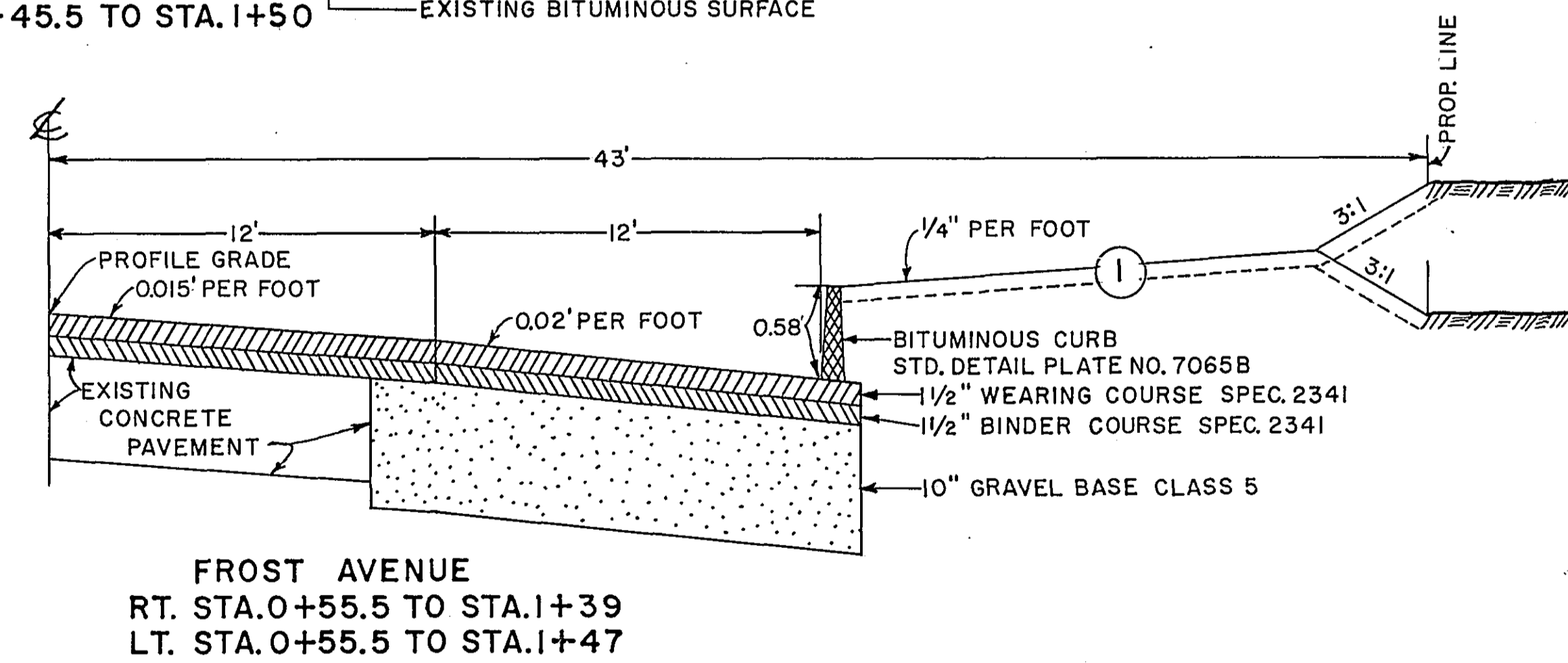
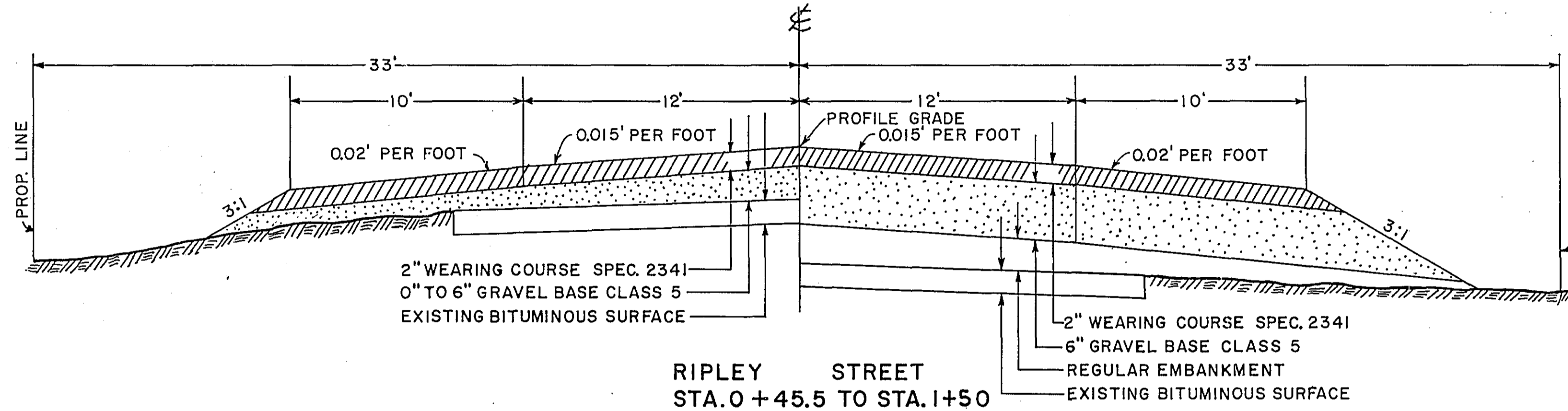
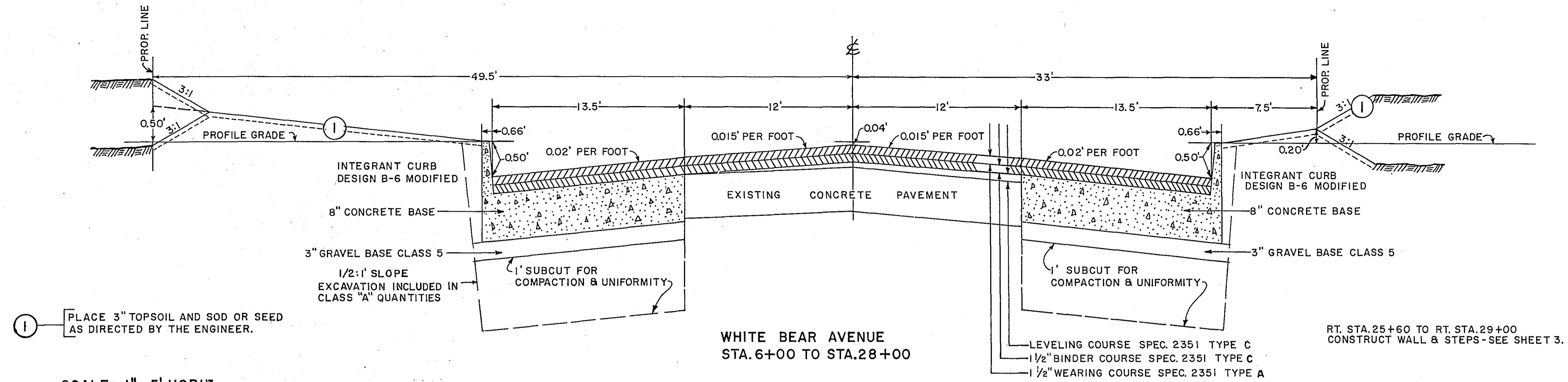
MICRO-FILMED

ESTIMATED QUANTITIES			
SPEC. NO.	DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES
2101.502	CLEARING	TREE	28
2101.507	GRUBBING	TREE	33
2104.502	REMOVE PAVEMENT	SQ. YD.	255
2104.506	REMOVE SIDEWALK	SQ. YD.	62
104.632	REMOVE CONCRETE WALL	LIN. FT.	688
2104.510	REMOVE FENCE	LIN. FT.	146
2104.518	REMOVE BITUMINOUS PAVEMENT SURFACING	SQ. YD.	6,093
2105.501	CLASS A EXCAVATION	CU. YD.	7,661
2421.505	CLASS U EXCAVATION	CU. YD.	136
2202.526	GRAVEL BASE IN PLACE CLASS 5	TON	1,679
2302.511	CONCRETE BASE (STANDARD STRENGTH)	SQ. YD.	6,929
2302.521	CONCRETE BASE (HIGH EARLY STRENGTH)	SQ. YD.	98
2302.541	INTEGRANT CURB, DESIGN B-6 (MODIFIED)	LIN. FT.	3,925
2341.501	BITUMINOUS MATERIAL FOR PRIME COAT	GALLON	120
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	8
2341.511	BITUMINOUS MIXTURE, BINDER COURSE	TON	37
2341.511	BITUMINOUS MIXTURE, WEARING COURSE	TON	93
2351.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1,300
2351.504	ASPHALTIC CEMENT	TON	133
2351.505	BITUMINOUS MATERIAL FOR SEAL COAT	GALLON	500
2351.511	ASPHALTIC CONCRETE, BINDER COURSE	TON	1,300
2351.511	ASPHALTIC CONCRETE, WEARING COURSE	TON	1,101
2351.531	AGGREGATE FOR FOG SEAL COAT	CU. YD. (V.M.)	25
2421.511	SAND-GRAVEL SUBFOUNDATION	CU. YD. (V.M.)	27
2421.517	STONE MASONRY (SQUARED STONE)	CU. YD.	51
2421.516	CONCRETE	CU. YD.	18
2421.521	REINFORCEMENT BARS	POUND	755
2432.511	METALLIC CONDUIT (3" DIAMETER)	LIN. FT.	91
2461.501	CONCRETE STEPS, GRADE A, MIX NO. 3A15	CU. YD.	63
2503.512-15	F. & I. R.C.P. SEWER - CLASS 2 - 15"	LIN. FT.	49
2503.512-18	F. & I. R.C.P. SEWER - CLASS 2 - 18"	LIN. FT.	26
2506.507	CONSTRUCT CATCH BASINS - TYPE G	LIN. FT.	9
2506.516	F. & I. CASTING ASSEMBLIES	ASSEMBLY	2
2506.522	ADJUST FRAME & RING CASTING	ASSEMBLY	8
2521.501	CONCRETE WALK 4" THICK	SQ. FT.	312
2531.502	CONCRETE CURB DESIGN B-6	LIN. FT.	377
2535.501	BITUMINOUS CURB	LIN. FT.	515
2576.501	SODDING	SQ. YD.	8,581

(1) INCLUDES 200 TONS FOR LEVELING COURSE

STANDARD DETAIL PLATES	
1075 F	PANELS ADJACENT TO PAVEMENT HEADERS
1141 A	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150 E	CONSTRUCTION OF HEADER JOINT
3000 B	REINFORCED CONCRETE PIPE
4006 C	MANHOLE OR CATCH BASIN
4126 B	CATCH BASIN FRAME CASTING
4149 B	GRATE CASTING FOR CATCH BASIN
4161 C	CURB BOX CASTING FOR CATCH BASIN
7001 A	INTEGRANT CURB DESIGN B (MODIFIED)
7020 C	CONCRETE CURB
7065 B	BITUMINOUS CURB
7200 B	CONCRETE WALK
8000 A & 8009	STANDARD BARRICADE
8003 TO 8008 A	ADVANCE WARNING SIGN
817	PRECAST CONCRETE HANDHOLE

TYPICAL SECTIONS

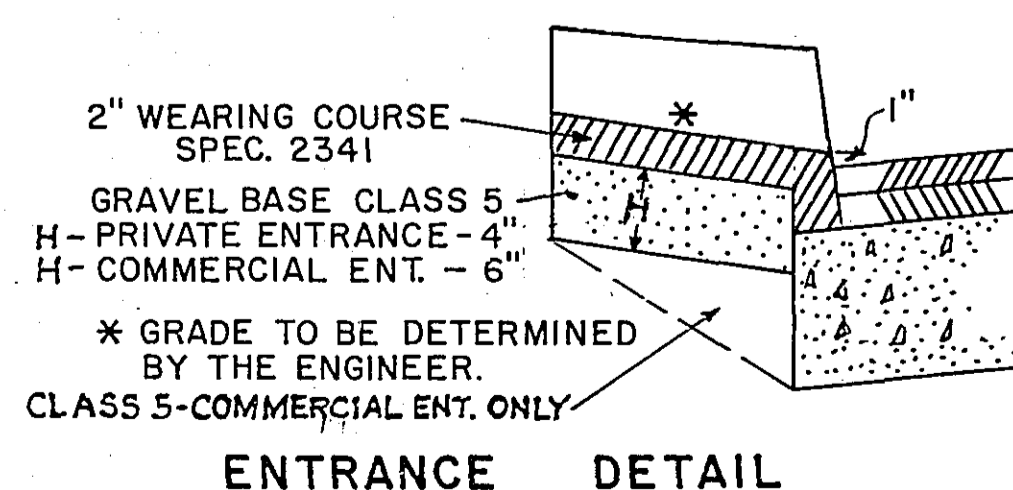
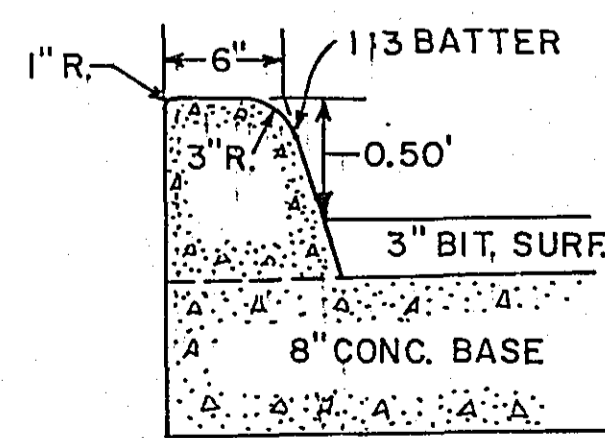


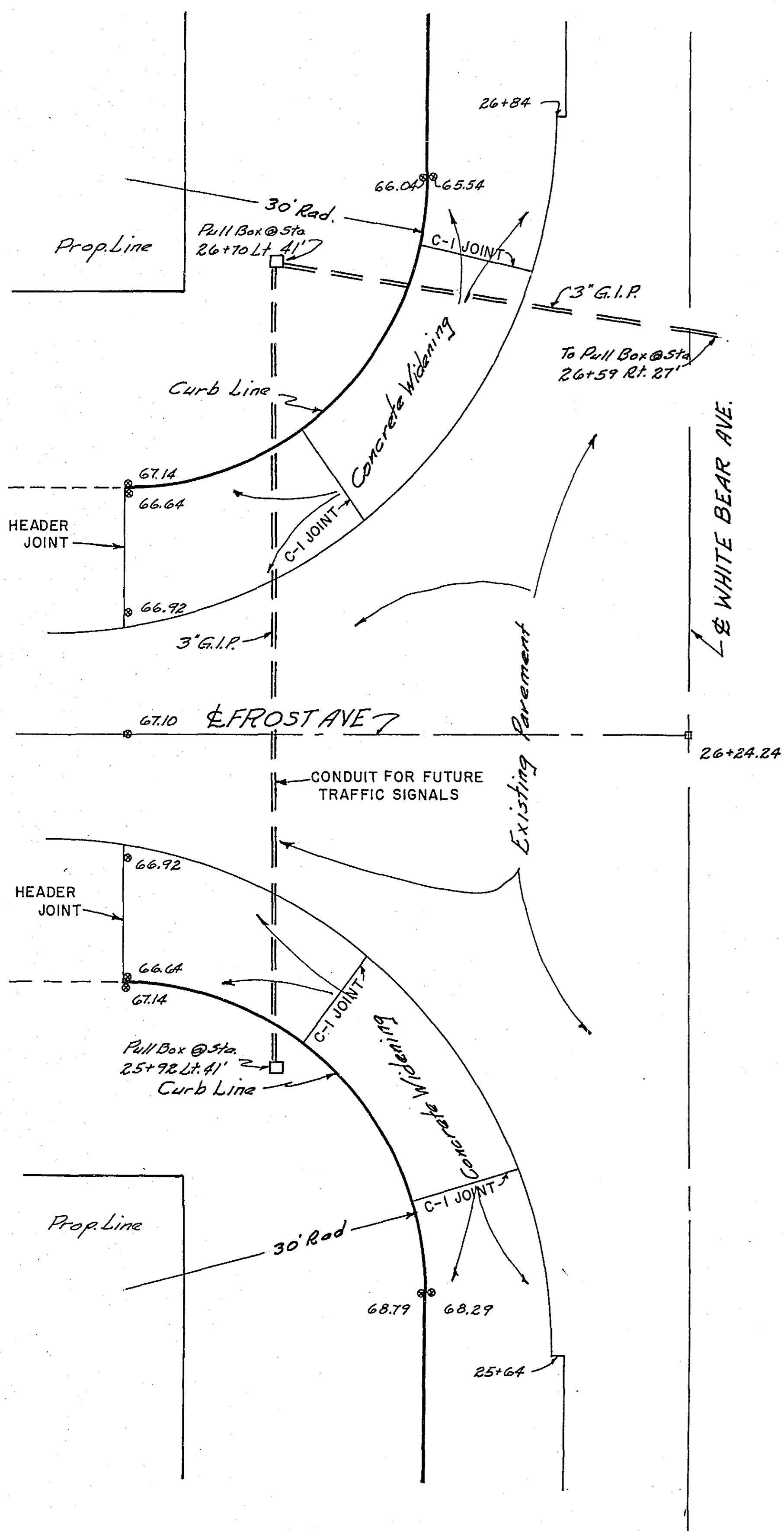
ALL DIMENSIONS AND SLOPES SHOWN ON THE TYPICAL SECTIONS ARE APPROXIMATE.

- CASTINGS REQUIRED
- 2 CATCH BASIN FRAME CASTING NO. 801
 - 2 GRATE CASTINGS NO. 810
 - 2 CURB BOX CASTINGS NO. 821 B

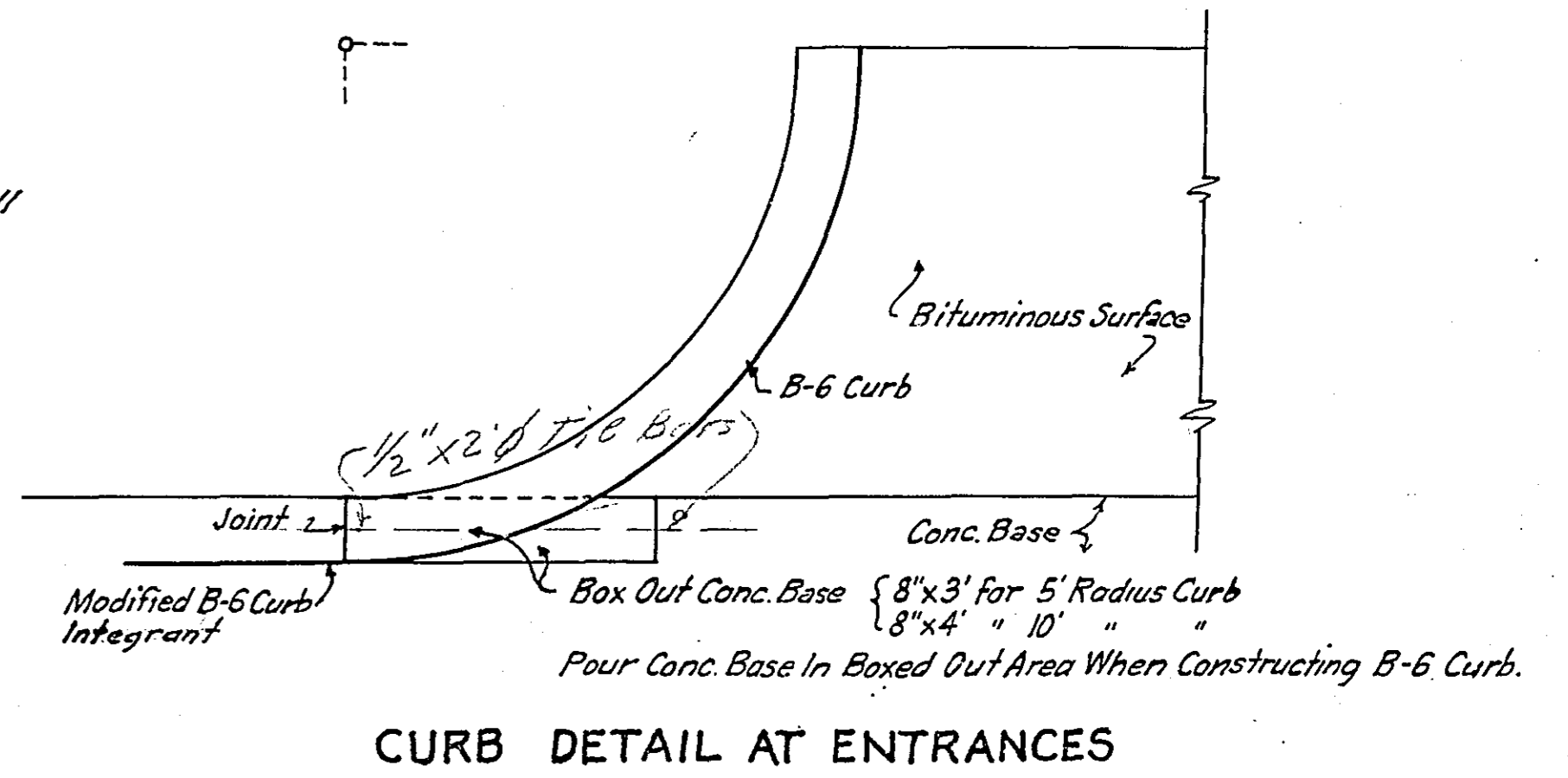
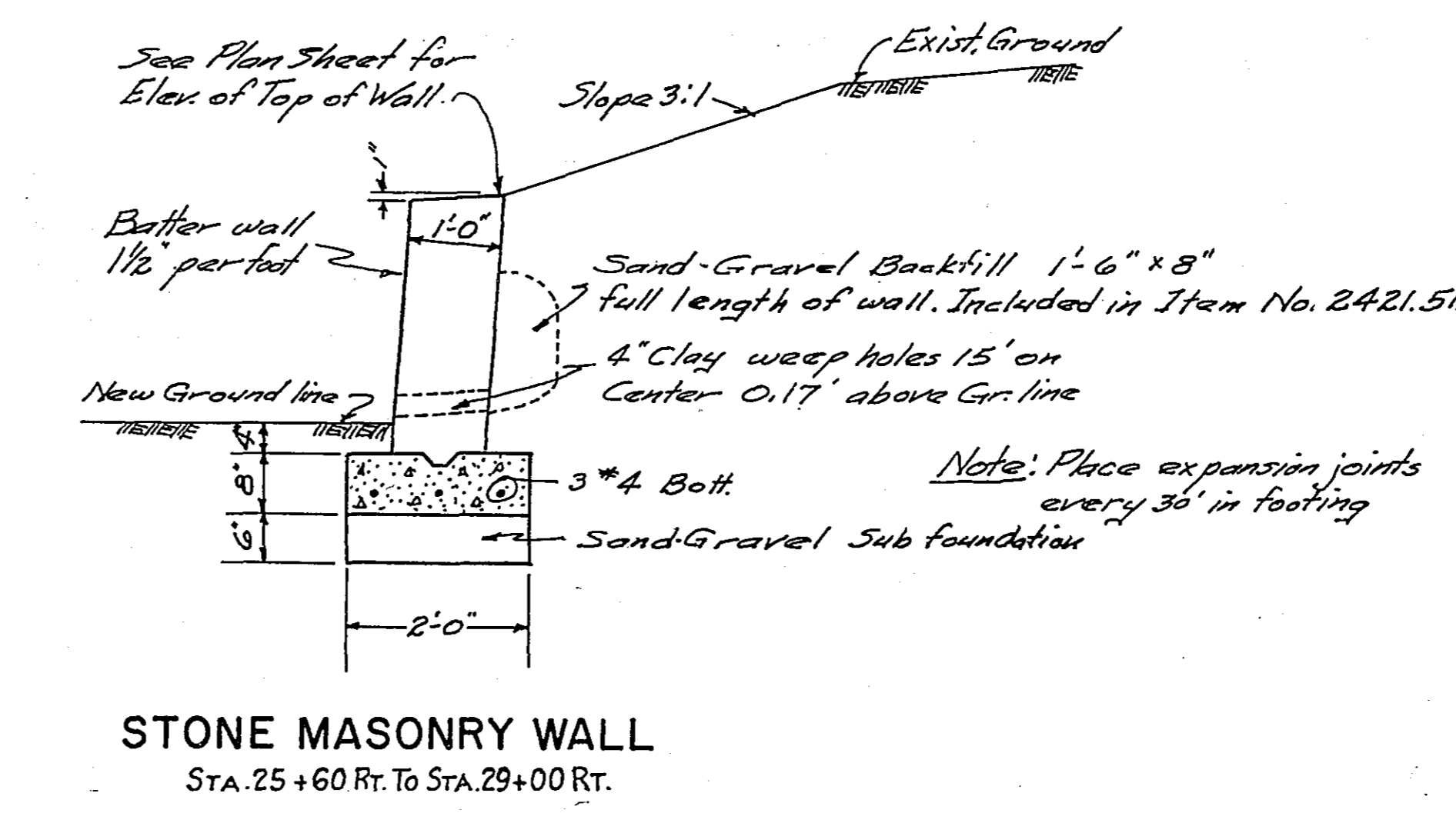
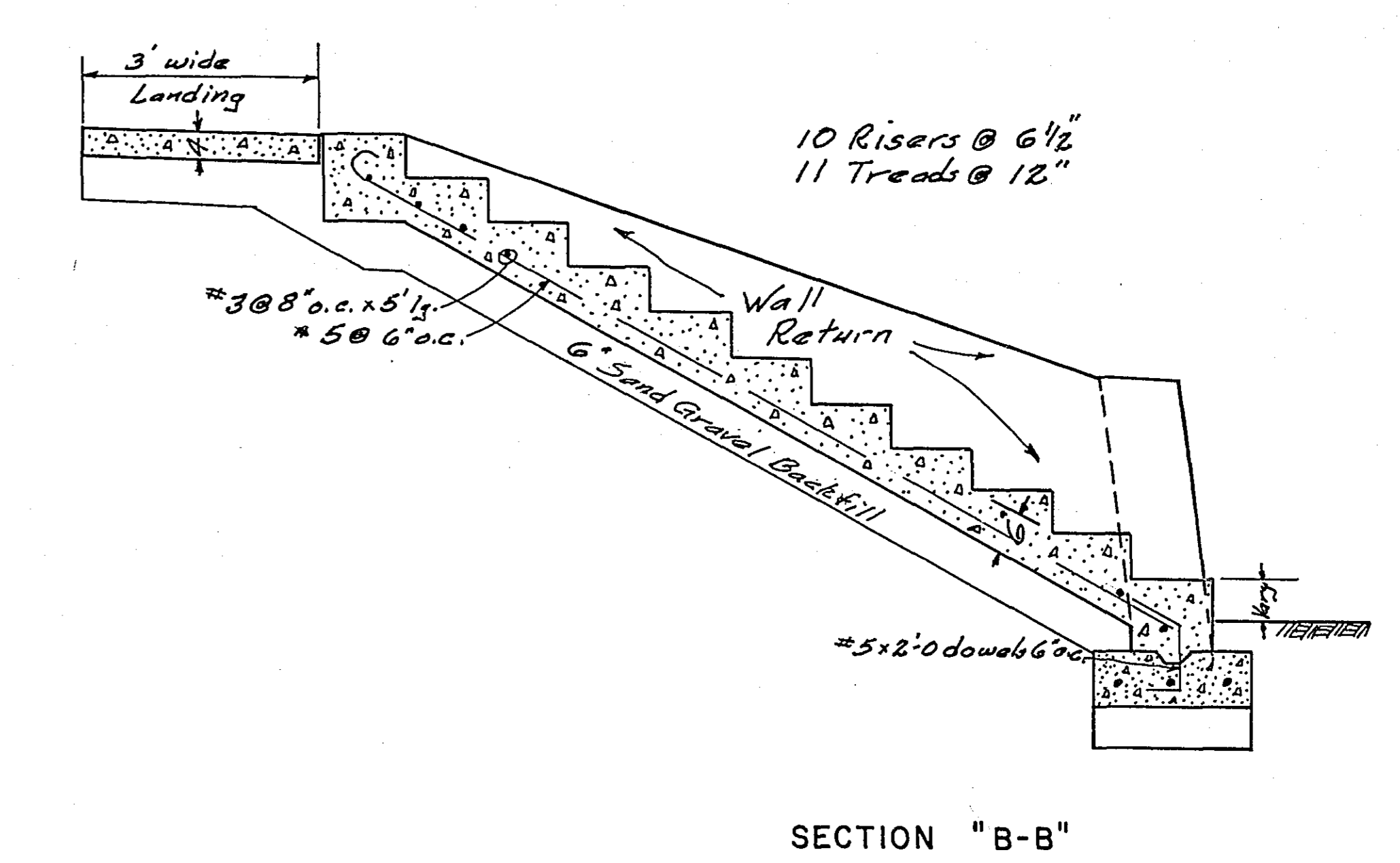
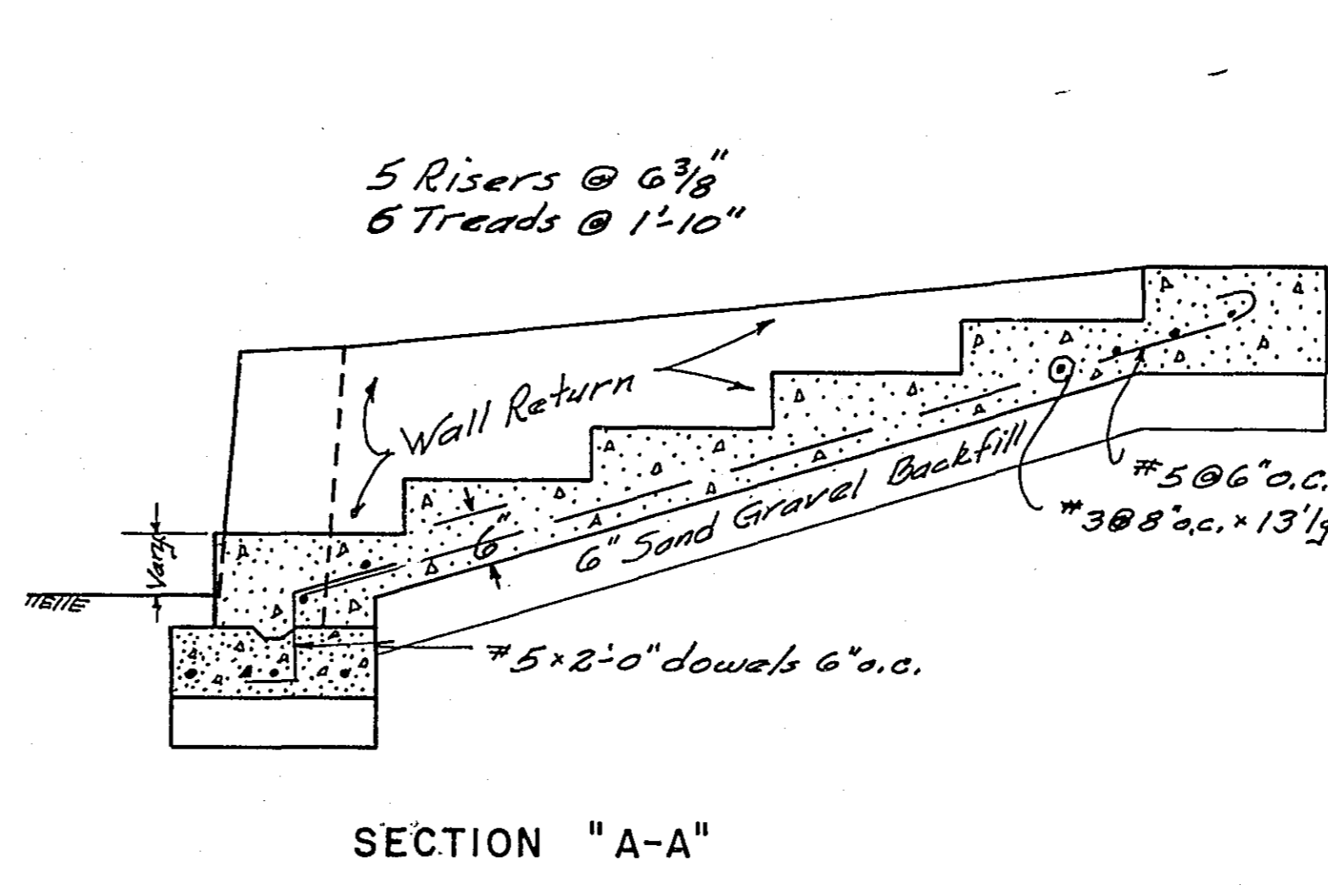
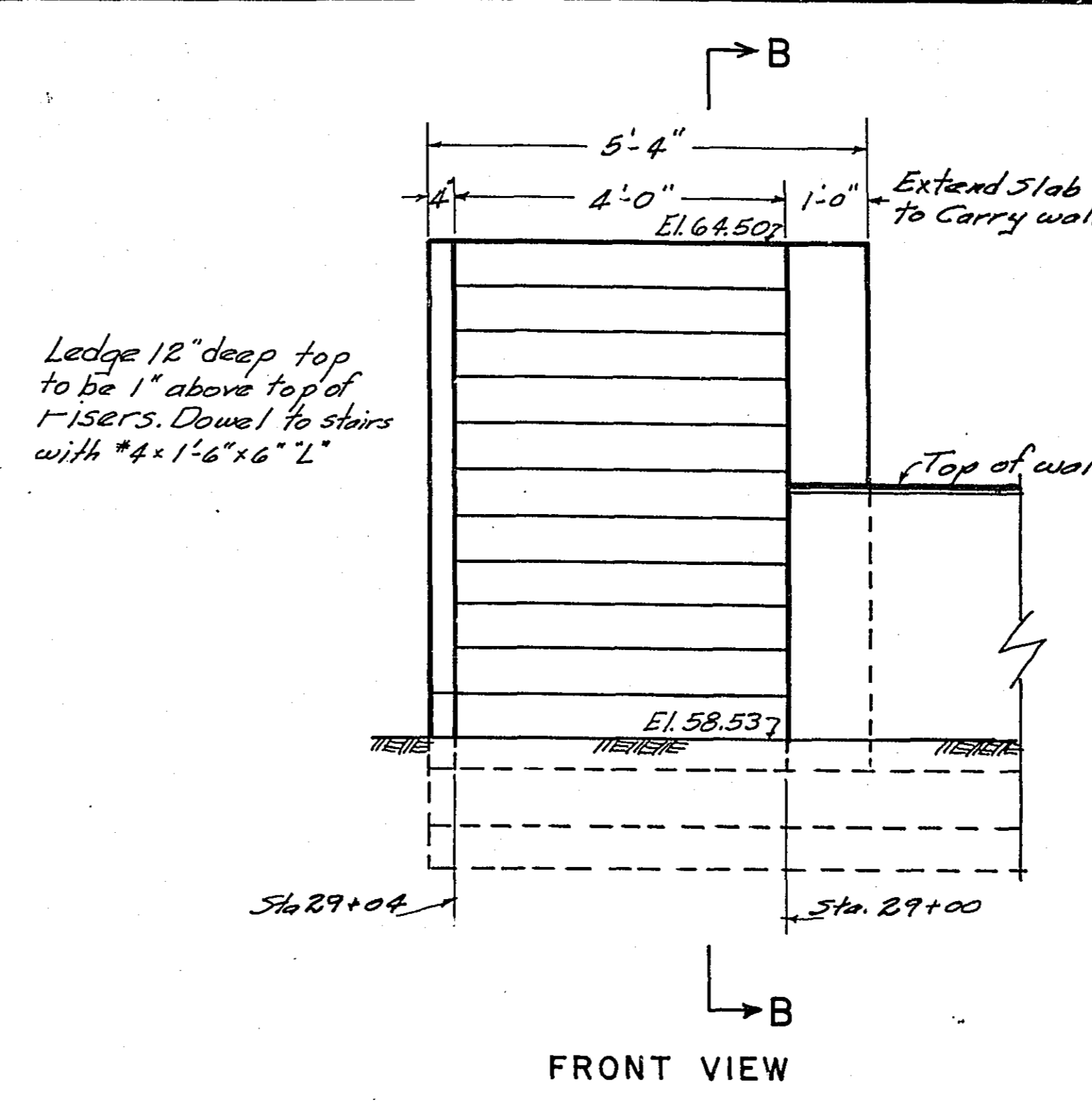
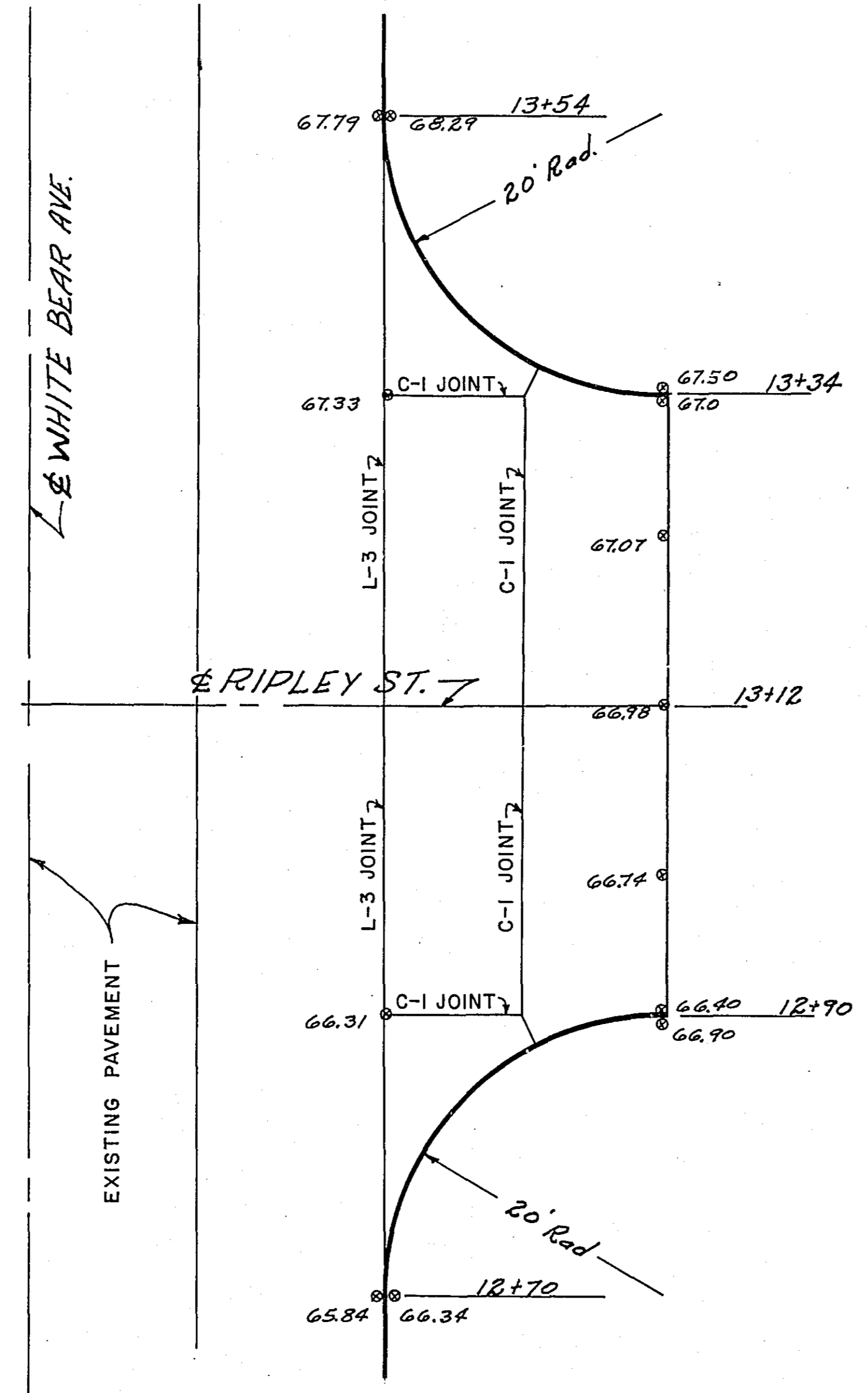
DESIGN B6 CURB

PRIVATE ENTRANCE RADIUS = 5'
COMMERCIAL ENTRANCE RADIUS = 10'
STREET INTERSECTION RADIUS = 20' OR 30'
APPROACHES TO BE SURFACED AS DIRECTED BY THE ENGINEER.





INTERSECTION DETAILS
SCALE: 1" = 10'



STA. 13+64 L₁ 24.5'
 F.R.I. C.B. TYPE B, 4.1 L.F.
 TOP GRATE EL. 963.02, OUTLET EL. 963.5

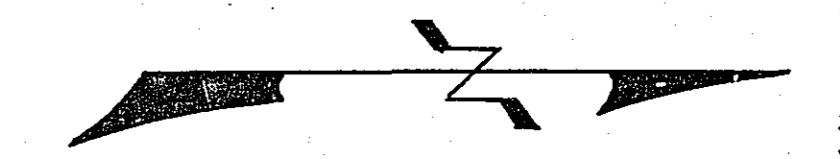
STA. 13+64 R₁ 24.5'
 F.R.I. C.B. TYPE B, 4.9 L.F.
 TOP GRATE EL. 962.72, OUTLET EL. 962.75

STA. 13+64 R₁ 24.5' to L₁ 24.5'
 F.R.I. 15" x 40" R.C.P. @ 1 1/2% Grade
 INV. R₁ 963.0, INV. L₁ 963.5

STA. 13+57 R₁ 49.5' @ Ditch, to STA. 13+64 R₁ 24.5' (C.B.)
 F.R.I. 18" x 26" R.C.P. @ 1 1/2% Grade
 INV. 962.5 @ Ditch, INV. 962.75 @ C.B.

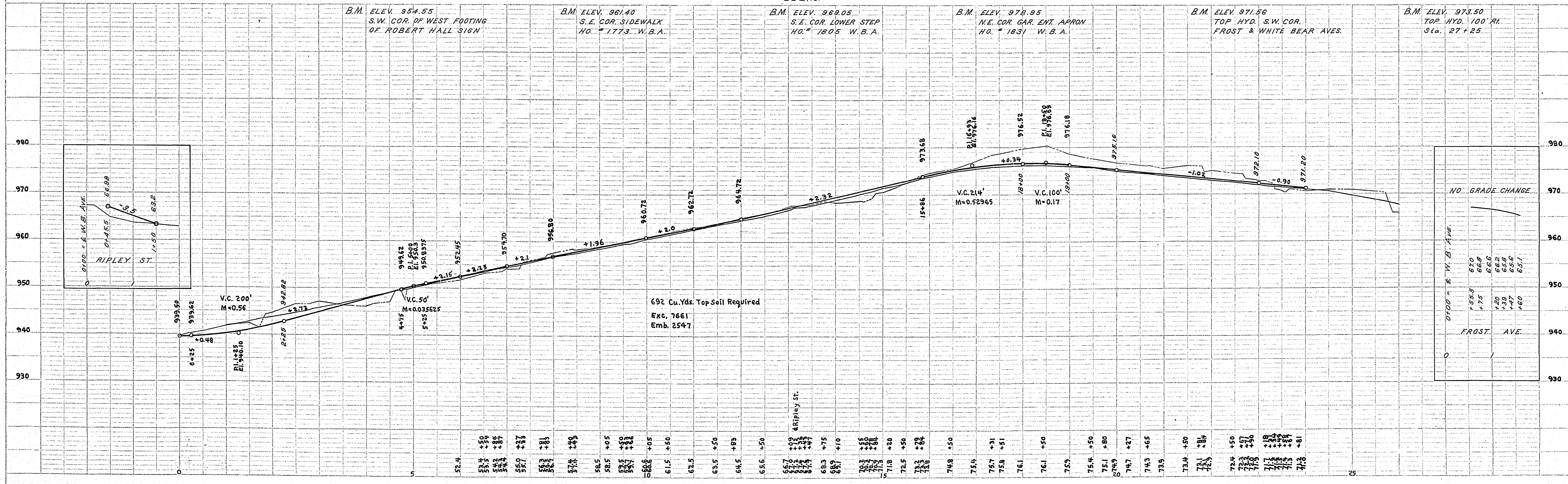
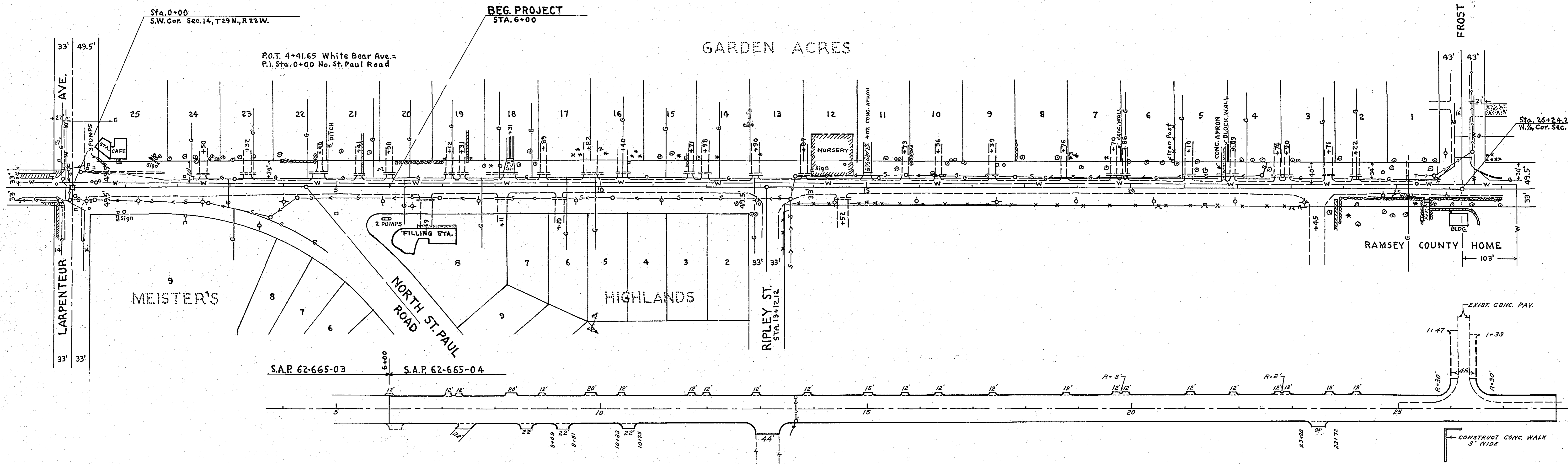
REMOVE SIDEWALK
 STA. 11+64 L₁ 29' to L₁ 39'
 STA. 23+64 R₁ 20' to R₁ 38'
 STA. 25+55 R₁ 25' to R₁ 44'
 STA. 25+61 P₁ 38' to
 STA. 26+23 R₁ 38'

REMOVE CONCRETE PAVEMENT - 255 S.Y.
 STA. 24+50 R₁ 10' to R₁ 15'
 STA. 27+72 R₁ 10' to R₁ 15'



PLAN
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 CHECKED BY: [blank]
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PROFILE
 DRAWN BY: [blank]
 CHECKED BY: [blank]
 DATE: [blank]



STATION-ELEVATION

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EXCAVATION | EMBANKMENT

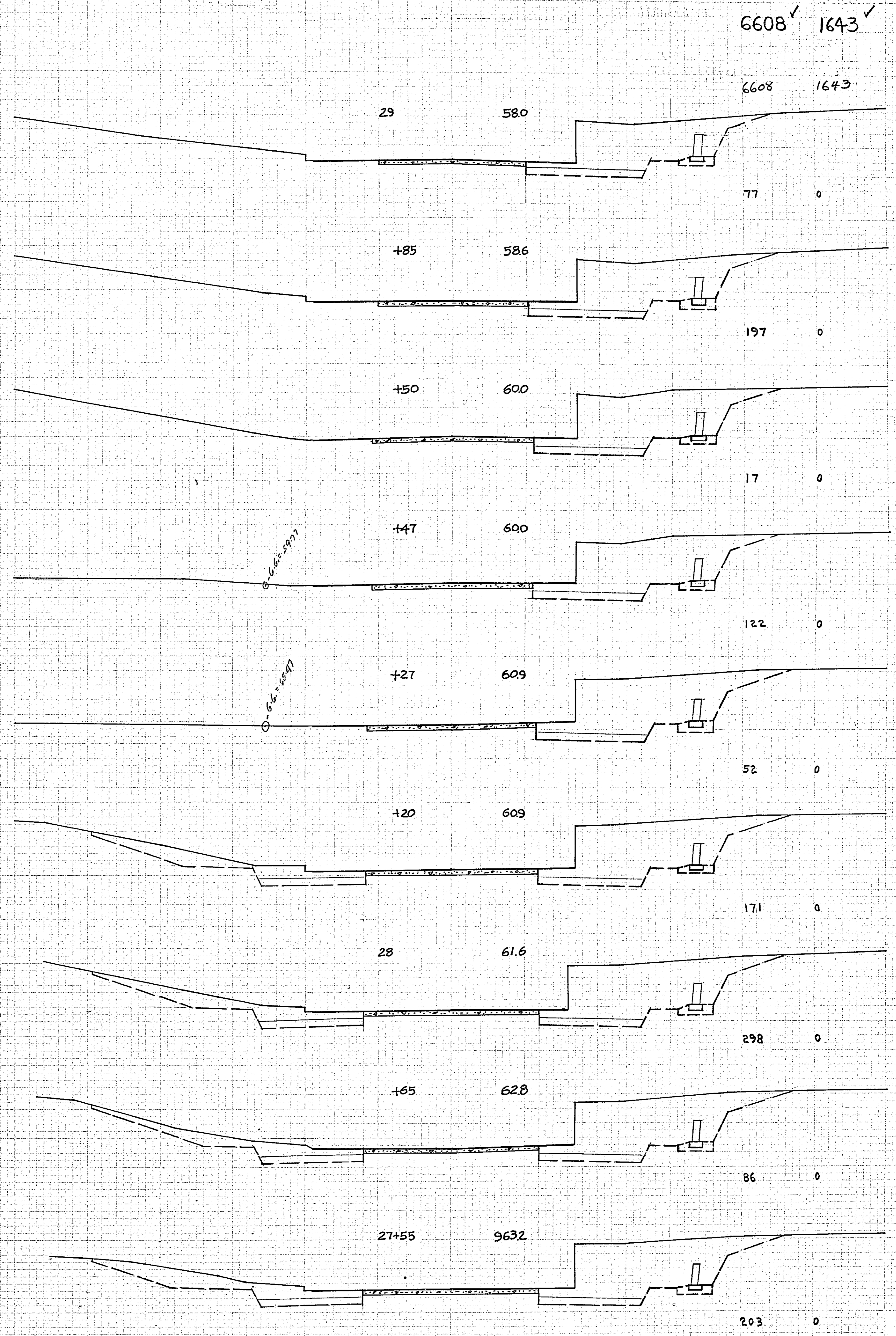
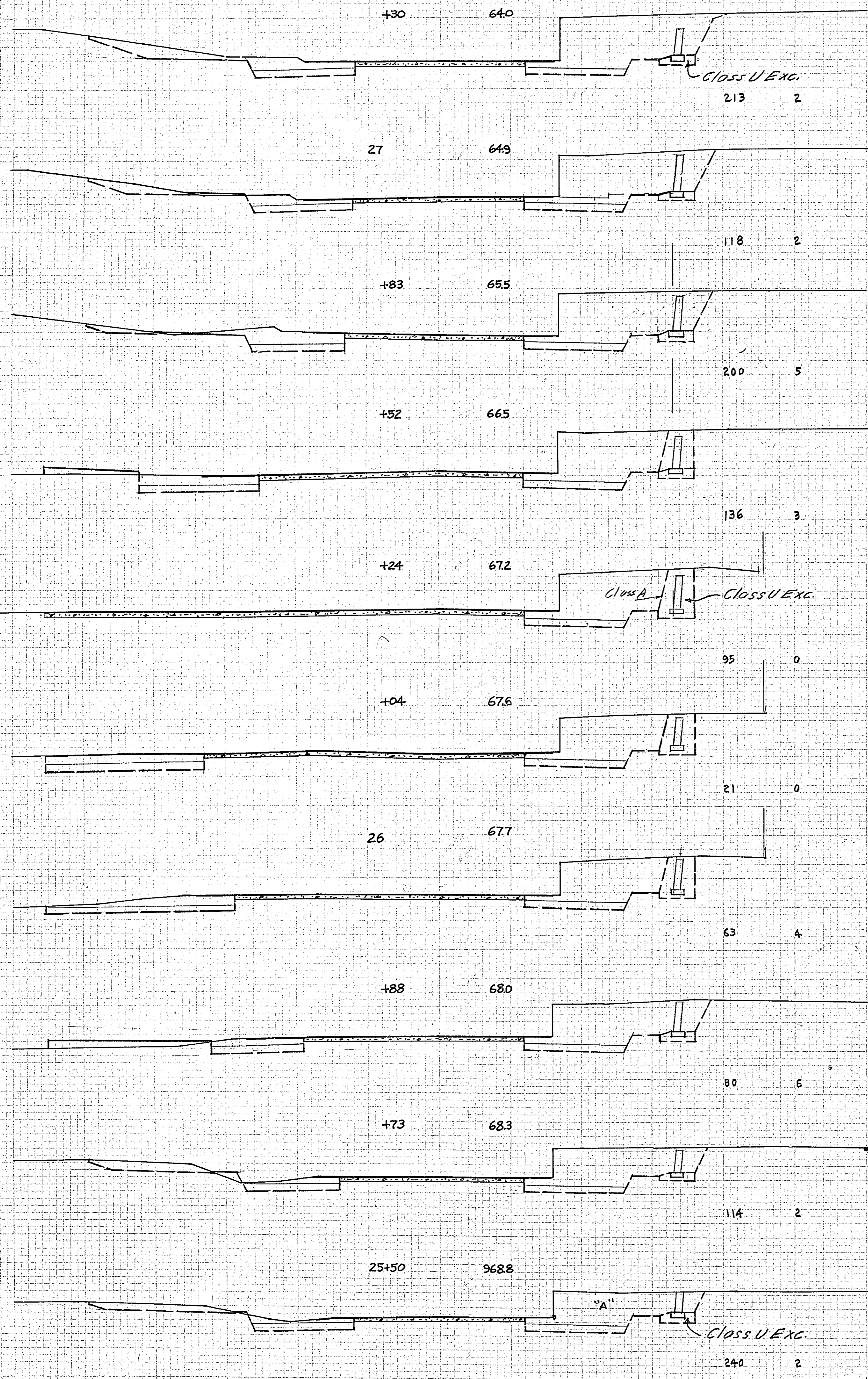
SUB-TOTALS - CU. YDS. CU. YDS. SUB-TOTALS

STATION-ELEVATION

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EXCAVATION | EMBANKMENT

SUB-TOTALS - CU. YDS. CU. YDS. SUB-TOTALS



CROSS SECTIONS

SCALE 1" = 10'

S.A.P. 62-665-04

Sheet No. 10 of 13 Sheets

6878

SCALE: HORIZONTAL 1" = 10' VERTICAL 1" = 10'

DATE: 11/11/54

PROJECT: S.W. 1/4 SEC. 27, T. 13N., R. 10E., S. 49E., CO. 10, MO.

SCALE: HORIZONTAL 1" = 10' VERTICAL 1" = 10'

DATE: 11/11/54

PROJECT: S.W. 1/4 SEC. 27, T. 13N., R. 10E., S. 49E., CO. 10, MO.

STATION-ELEVATION

EXCAVATION / EMBANKMENT

SUB-TOTALS CU. YDS. CU. YDS. SUB-TOTALS

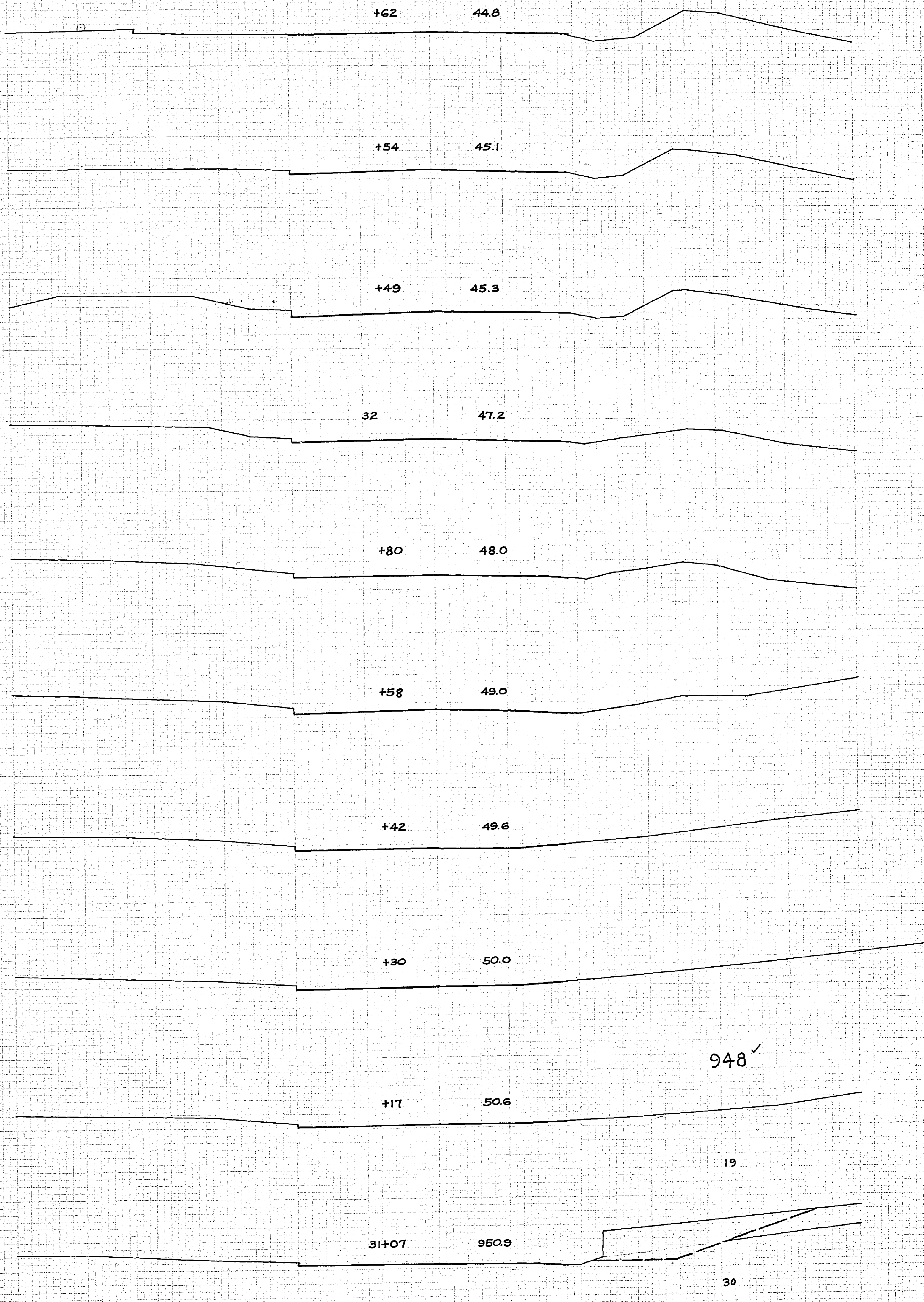
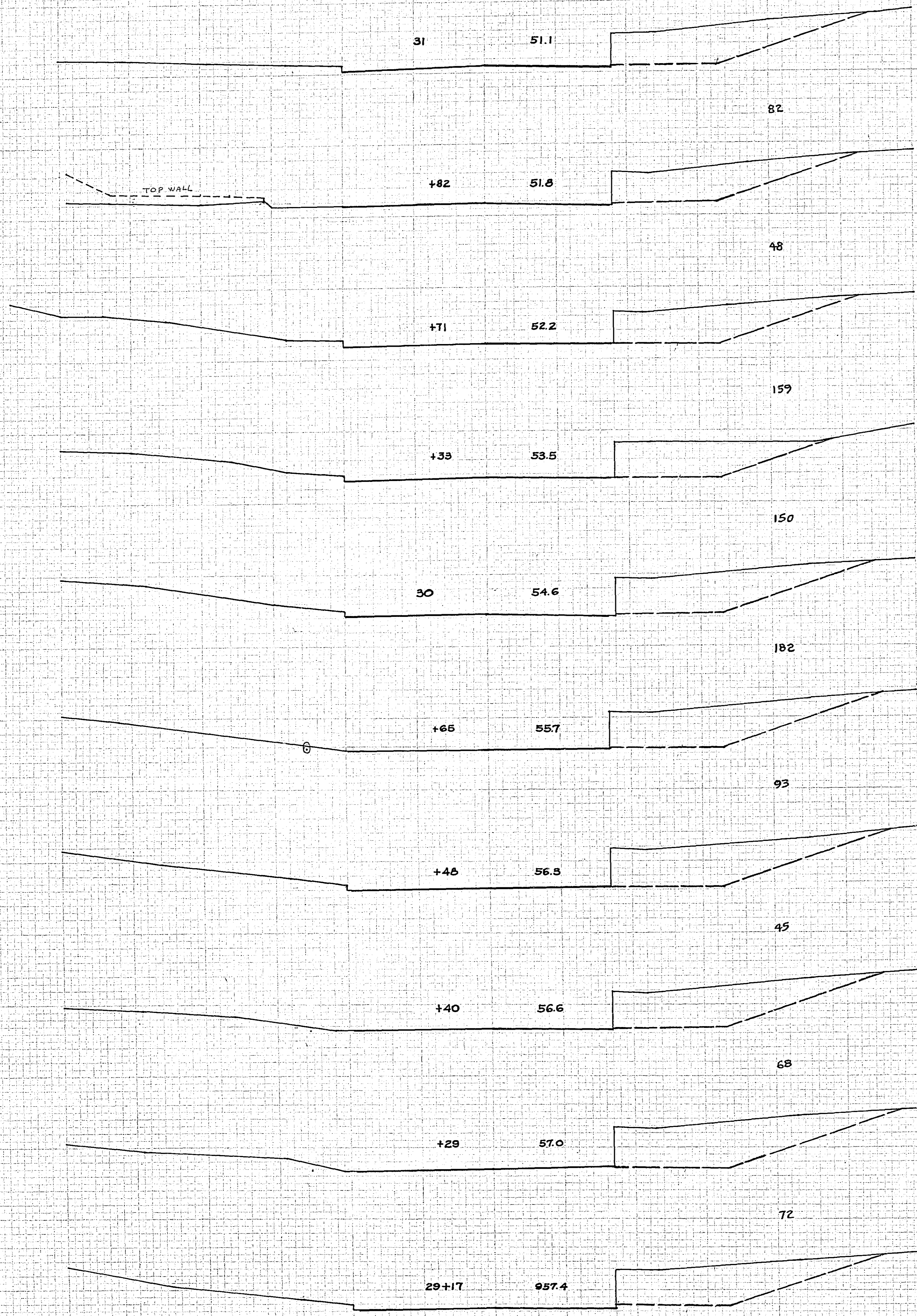
STATION-ELEVATION

EXCAVATION / EMBANKMENT

SUB-TOTALS CU. YDS. CU. YDS. SUB-TOTALS

DATE	
BY	
CHECKED	
APPROVED	

DATE	
BY	
CHECKED	
APPROVED	



948 ✓

CROSS SECTIONS SCALE 1" = 10'

STATION-ELEVATION

EXCAVATION | EMBANKMENT
SUB-TOTALS - CU. YDS. | CU. YDS. | SUB-TOTALS

STATION-ELEVATION

EXCAVATION | EMBANKMENT
SUB-TOTALS - CU. YDS. | CU. YDS. | SUB-TOTALS

633^v

+37 22.4

28

+23 22.6

38 23.5

62

+10 24.7

71

+30 26.4

152

37 27.5

141

+83 28.2

81

+68 28.9

58

+53 29.5

31

9

36+31 930.5

+66 21.5

+58 21.50

+55 21.57

38+47 921.9

DATE	1/15/50
BY	J.M.B.
CHECKED	J.M.B.
APPROVED	J.M.B.
SCALE	1"=10'

DATE	1/15/50
BY	J.M.B.
CHECKED	J.M.B.
APPROVED	J.M.B.
SCALE	1"=10'

CROSS SECTIONS

SCALE 1"=10'

6818

STATION-ELEVATION
13 667

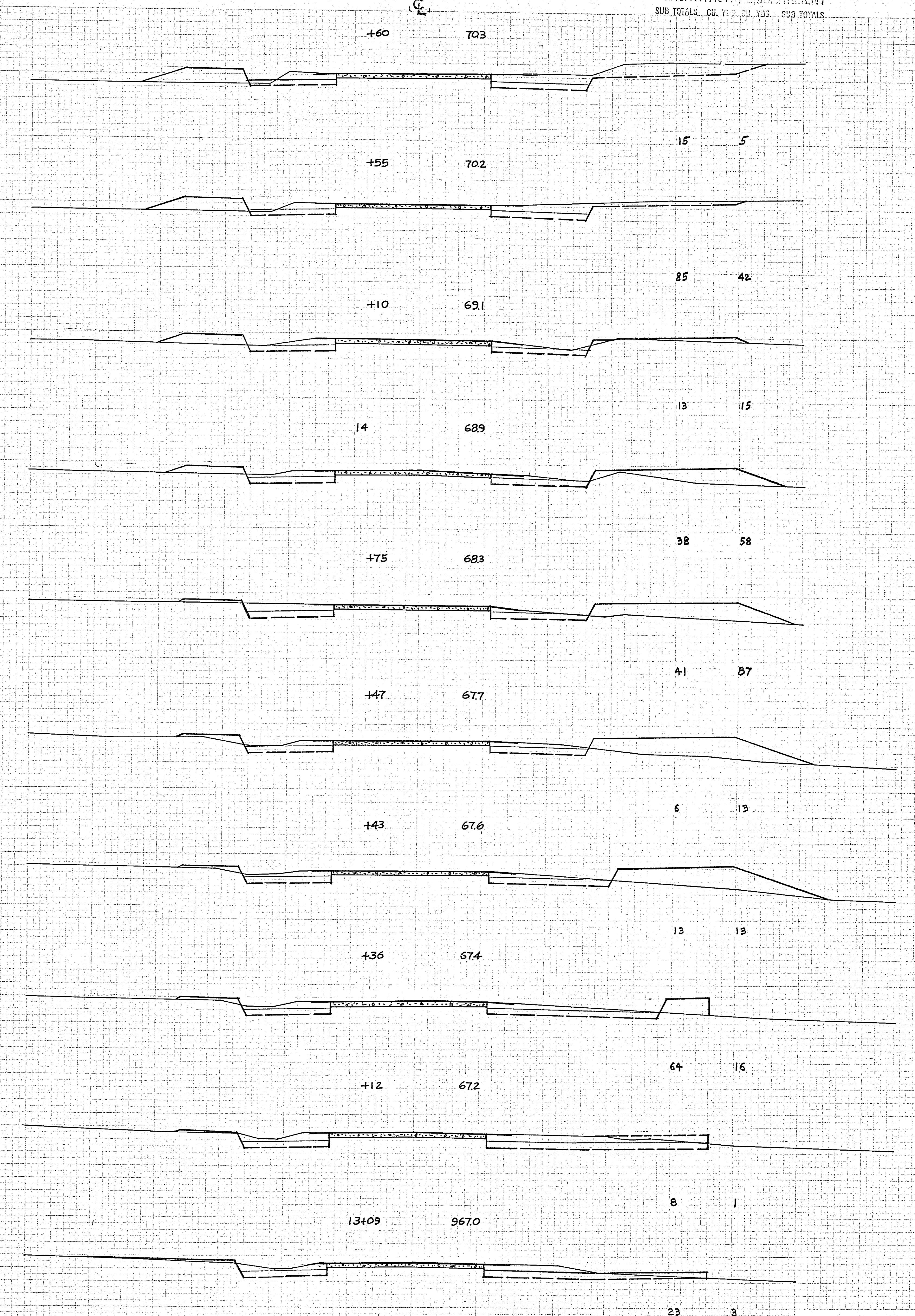
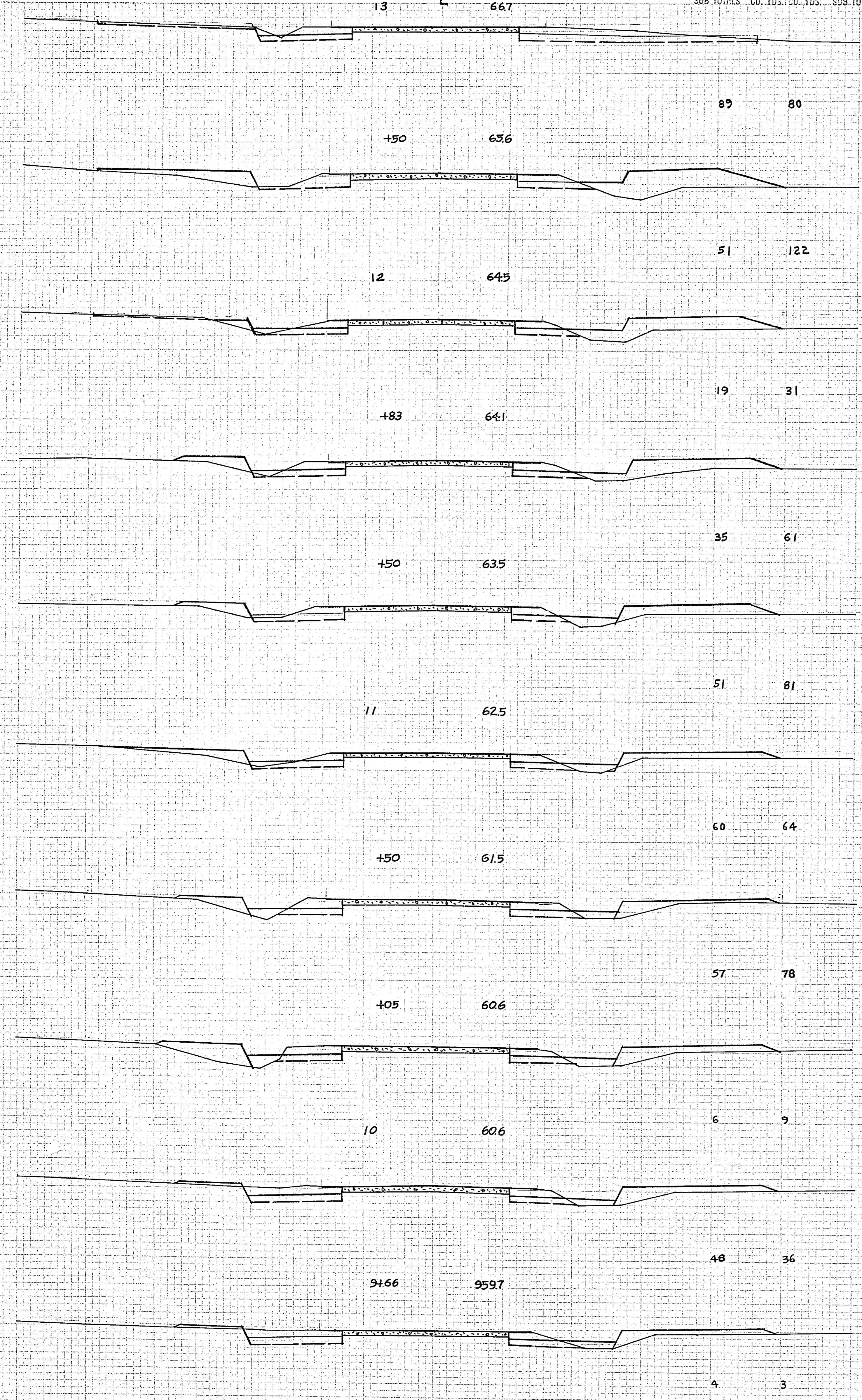
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STATION-ELEVATION
703

EXCAVATION / EMBANKMENT
SUB TOTALS CU. YDS. CU. YDS. SUB TOTALS

PROJECT NO. 62-665-04
SHEET NO. 7
DATE 10/1/68

PROJECT NO. 62-665-04
SHEET NO. 7
DATE 10/1/68



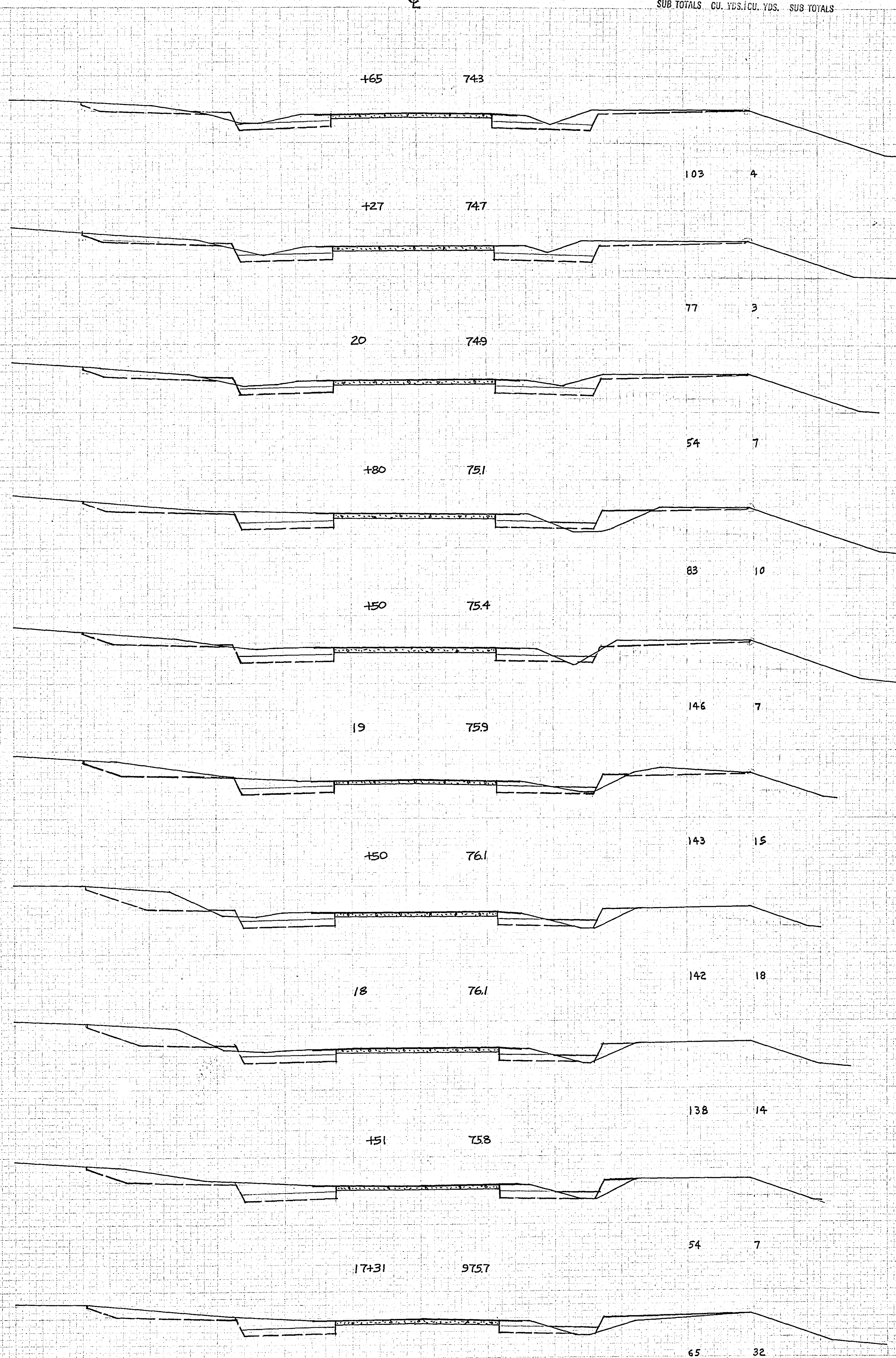
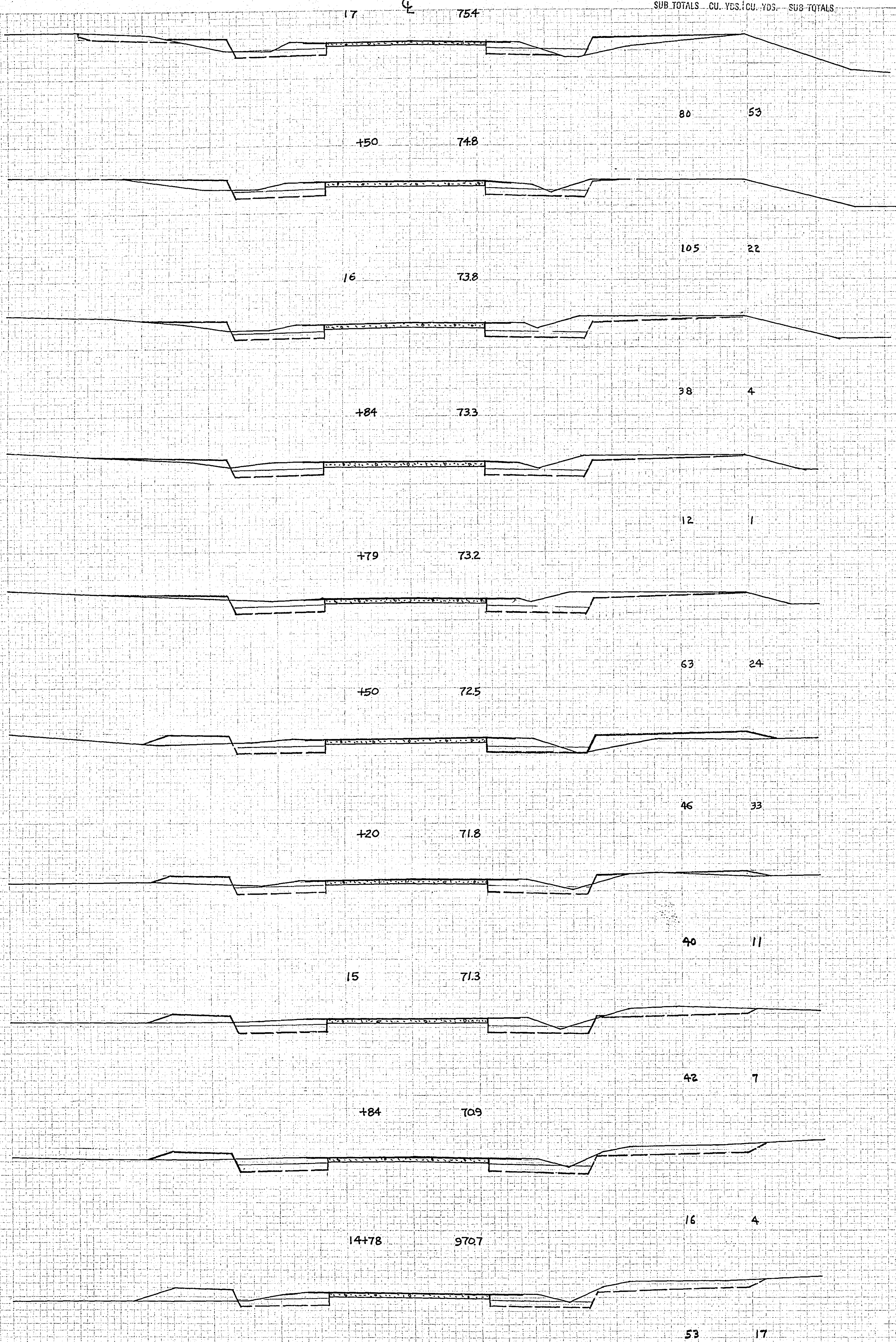
CROSS SECTIONS SCALE 1" = 10'

STATION-ELEVATION

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. CU. YDS. SUB TOTALS

STATION-ELEVATION

EXCAVATION | EMBANKMENT
SUB TOTALS CU. YDS. CU. YDS. SUB TOTALS



CROSS SECTIONS SCALE 1" = 10'

6818

DATE: 1/15/50
 DRAWN BY: J. W. BROWN
 CHECKED BY: J. W. BROWN
 PROJECT: 62-665-04

DATE: 1/15/50
 DRAWN BY: J. W. BROWN
 CHECKED BY: J. W. BROWN
 PROJECT: 62-665-04

STATION-ELEVATION

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EXCAVATION | EMBANKMENT

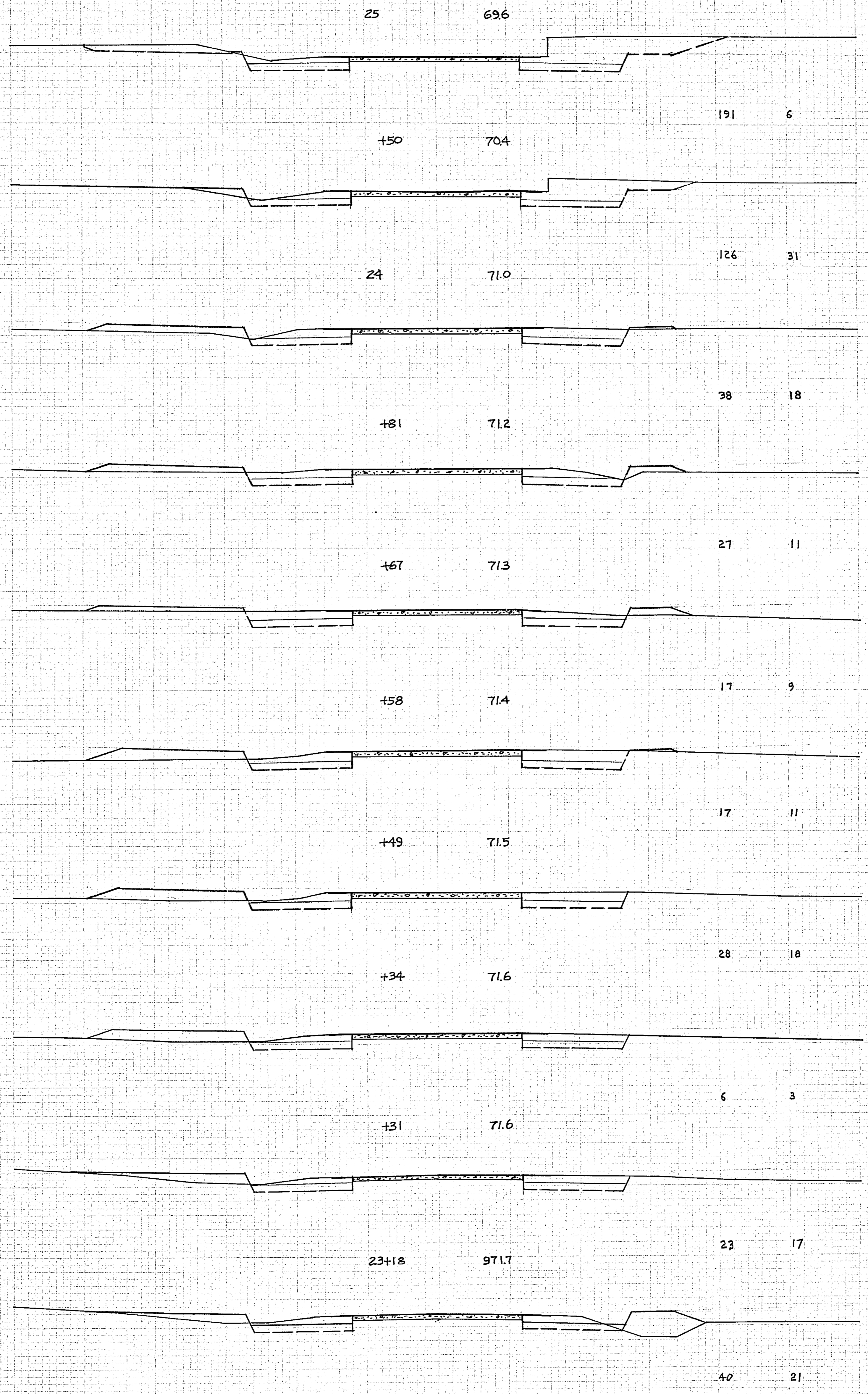
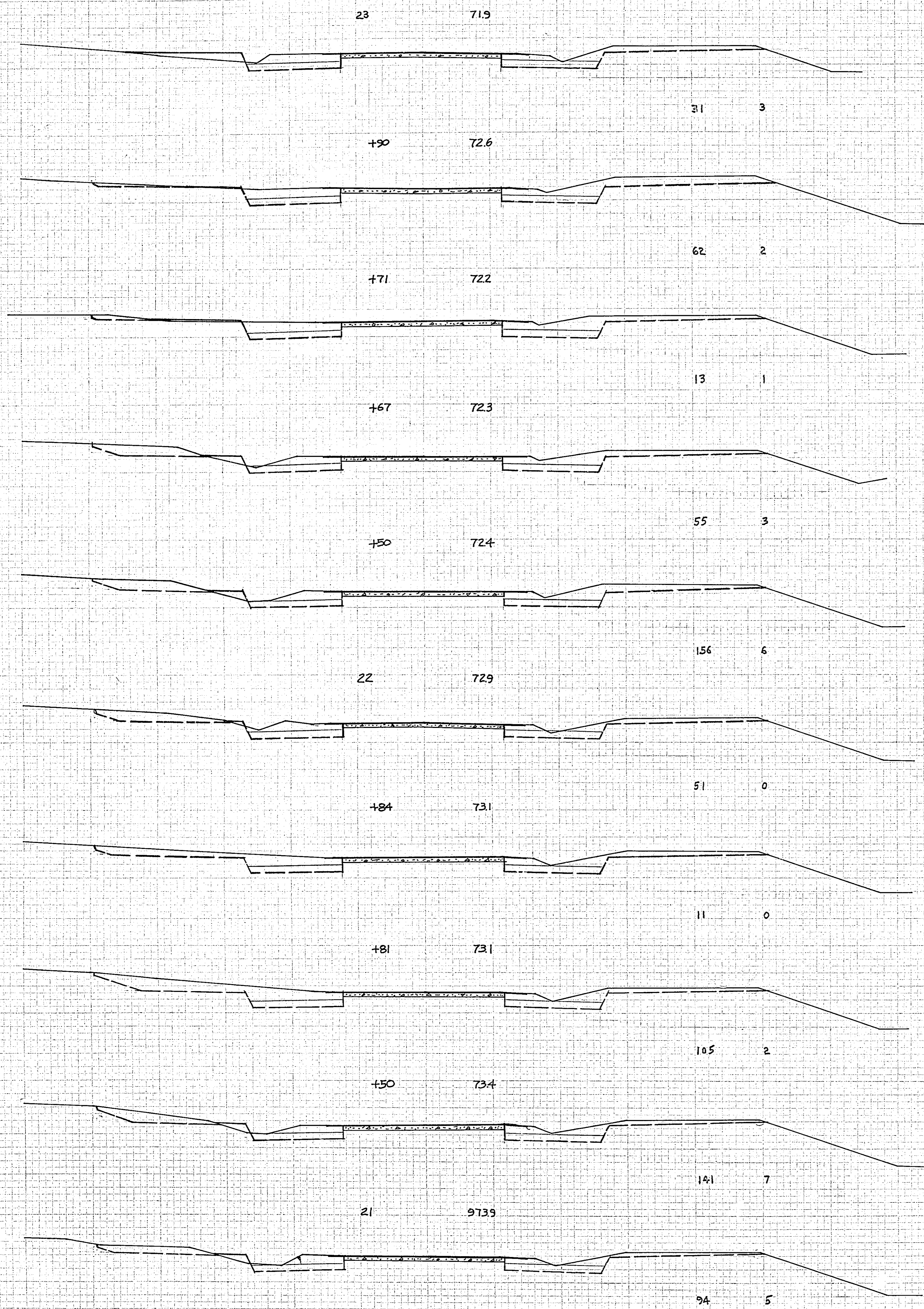
SUB TOTALS - CU. YDS. | CU. YDS. - SUB TOTALS

STATION-ELEVATION

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EXCAVATION | EMBANKMENT

SUB TOTALS - CU. YDS. | CU. YDS. - SUB TOTALS



JANUARY 1962
 V.S. VELEZ
 PROJECT ENGINEER
 CIVIL ENGINEER
 STATE OF CALIFORNIA
 LICENSE NO. 12345

JANUARY 1962
 V.S. VELEZ
 PROJECT ENGINEER
 CIVIL ENGINEER
 STATE OF CALIFORNIA
 LICENSE NO. 12345

CROSS SECTIONS SCALE 1" = 10'

6818

STATION-ELEVATION
C

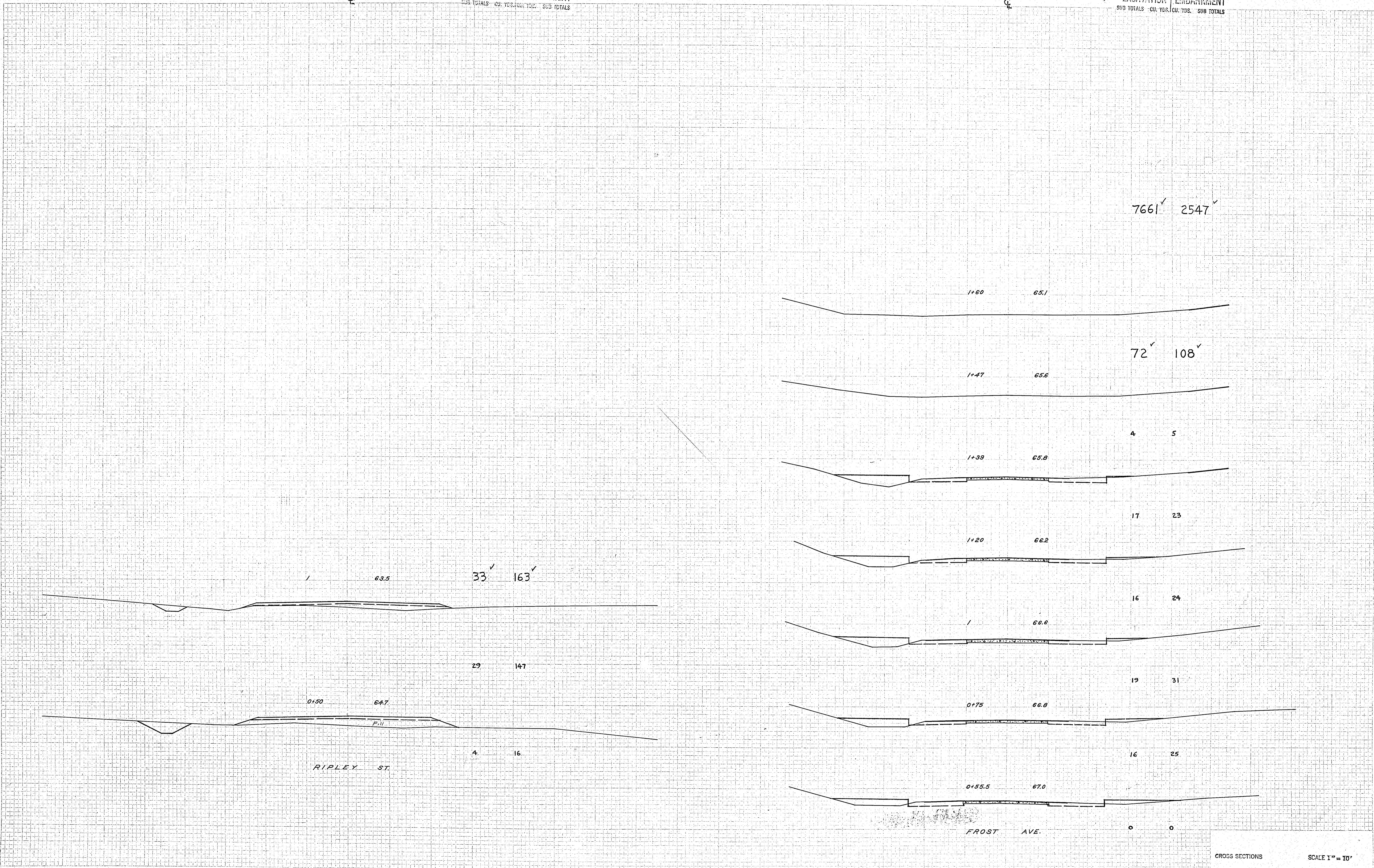
EXCAVATION / EMBANKMENT
SUB TOTALS - CU. YDS. / CU. YDS. SUB TOTALS

STATION-ELEVATION
C

EXCAVATION / EMBANKMENT
SUB TOTALS - CU. YDS. / CU. YDS. SUB TOTALS

DATE: _____
DRAWN BY: _____
CHECKED BY: _____
SCALE: _____

DATE: _____
DRAWN BY: _____
CHECKED BY: _____
SCALE: _____



CROSS SECTIONS SCALE 1" = 10'