

STATE OF VERMONT
AGENCY OF TRANSPORTATION

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5/1/2004

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: March 2000

DRAINAGE AREA : 3.8 sq. mi.

CHARACTER OF TERRAIN : Hilly with a mixture of open and forested cover.

STREAM CHARACTERISTICS : Small, perennial but flashy, probably incised, and not braided

NATURE OF STREAMBED : Ledge and cobbles upstream, cobbles and gravel downstream

PEAK FLOW DATA

Q 2.33 = 230 cfs

Q 50 = 915 cfs

Q 10 = 520 cfs

Q 100 = 1100 cfs

Q 25 = 730 cfs

Q 500 = 1700 cfs

DATE OF FLOOD RECORD : November 1927 (Based on 1978 Flood Insurance Study)

ESTIMATED DISCHARGE: Unknown

WATER SURFACE ELEV.: Unknown

NATURAL STREAM VELOCITY: @ Q50 = 8.9 fps downstream

ICE CONDITIONS : Moderate

DEBRIS: Moderate

DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes

IS ORDINARY RISE RAPID? Yes

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No

IF YES, DESCRIBE:

WATERSHED STORAGE: 1% HEADWATERS: UNIFORM: X IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Concrete slab bridge

YEAR BUILT: 1900

CLEAR SPAN(NORMAL TO STREAM): 12.0 ft.

VERTICAL CLEARANCE ABOVE STREAMBED: 7.0 ft. average at inlet

WATERWAY OF FULL OPENING: 85 sq. ft. at inlet, 105 sq. ft. at outlet

DISPOSITION OF STRUCTURE: Remove and replace with a new structure

TYPE OF MATERIAL UNDER SUBSTRUCTURE: At least partly on ledge.

WATER SURFACE ELEVATIONS AT:

Q2.33 = 869.9

VELOCITY = 9.0 fps

Q10 = 874.7

" 11.2 fps

Q25 = 876.3

" 12.5 fps

Q50 = 877.3

" 12.8 fps **

Q100 = 878.0

" 12.0 fps **

LONG TERM STREAMBED CHANGES: None noted at this time. However, a reference was found indicating there has been 3 ft. of channel degradation in the last 100 years.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes

FREQUENCY: Q25 +/-

RELIEF ELEVATION: 876.3

DISCHARGE OVER ROAD @Q100: 220 cfs

UPSTREAM STRUCTURE

TOWN: Williamstown

DISTANCE: 600 ft.

HIGHWAY #: T.H. 6

STRUCTURE #: 21

CLEAR SPAN: 15 ft.

CLEAR HEIGHT: 7 ft.

YEAR BUILT: Unknown

FULL WATERWAY: 105 sq. ft.

STRUCTURE TYPE: Single span steel beam bridge

DOWNSTREAM STRUCTURE

TOWN: Williamstown

DISTANCE: 400 ft.

HIGHWAY #: VT 14

STRUCTURE #: 59

CLEAR SPAN: 16 ft.

CLEAR HEIGHT: 7 ft.

YEAR BUILT: 1958

FULL WATERWAY: 110 sq. ft.

STRUCTURE TYPE: Concrete slab bridge

LOAD FACTOR- LOAD RATING (TONS)

LOADING LEVELS

H

HS

3S2

6 AXLE

3A. STR.

4A. STR.

SA. SEMI

INVENTORY

33

50

POSTED

46

70

91

54

56

91

OPERATING

84

109

102

64

67

COMMENTS:

TRAFFIC DATA

YEAR

ADT

DHV

% D

% T

ADTT

2004

3000

420

51

7

210

2024

4000

550

-

-

-

20 year ESAL for flexible pavement from 2004 to 2024 : 1,265,000

40 year ESAL for flexible pavement from 2004 to 2044 : 3,044,000

Design Speed : 25 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Concrete slab bridge

CLEAR SPAN(NORMAL TO STREAM): 16.0 ft.

VERTICAL CLEARANCE ABOVE STREAMBED: 8.0 ft. average

WATERWAY OF FULL OPENING: 137 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 = 871.8

VELOCITY = 8.3 fps

Q10 = 873.6

" 10.7 fps

Q25 = 875.1

" 11.9 fps

Q50 = 876.2

" 12.8 fps

Q100 = 877.3

" 13.5 fps **

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes

FREQUENCY: Q55

RELIEF ELEVATION: 876.3

DISCHARGE OVER ROAD @Q100: 25 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 877.6 (876.5 minimum), at inlet

VERTICAL CLEARANCE: @ Q50 = 1.4 ft., average, 0.3 ft. minimum, at inlet

SCOUR: Estimated to be 6.0 ft. at Q100, or to ledge.

Scour will be less with the proposed bridge than with the existing bridge.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II, as needed

PERMIT INFORMATION

AVERAGE DAILY FLOW: 8 cfs

DEPTH OR ELEVATION: 0.5 ft.

ORDINARY LOW WATER: 4 cfs

ORDINARY HIGH WATER: 100 cfs

1.5 ft.

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A

CLEAR SPAN (NORMAL TO STREAM): N/A

VERTICAL CLEARANCE ABOVE STREAMBED: N/A

WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

* This stream does not have an official name, it was referred to as Brook 2 in the 1978 F.I.S.

** Velocities listed are an average for the total flow (flow through the bridge and over the road), at the outlet. The Q100 velocity is higher for the proposed bridge than the existing bridge, because there is less roadway overflow with the proposed bridge.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO HS 25

2. DESIGN SPAN 34.5 Feet centerline to centerline of bearing

3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A

ON LEDGE 10 KSF

4. ALLOWABLE LOAD FOR PILING N/A

TYPE N/A

ESTIMATED LENGTH N/A

5. STRUCTURAL STEEL AASHTO GRADE N/A

6. REINFORCING STEEL GRADE 60

7. CONCRETE CLASS A f'c : 4000 psi

CONCRETE CLASS B f'c : 3500 psi

8. SOIL UNIT WEIGHT 140 pcf

9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? yes

IF YES, ON EXISTING STRUCTURE? no

OR ON TEMPORARY BRIDGE? no

ONE OR TWO-WAY TRAVEL? two-way detour

2. TRAFFIC CONTROL SIGNALS REQUIRED? no

3. ARE SIDEWALKS REQUIRED? no

IF SO, ON WHAT SIDE? N/A

PROJECT NAME: Williamstown

PROJECT NUMBER: BRS 0204 (4)

FILE NAME: \structures\se111\excel.dgn

PLOT DATE: 4/2/2008

PROJECT MANAGER: Evans-Mongeon

DRAWN BY: U. STANLEY

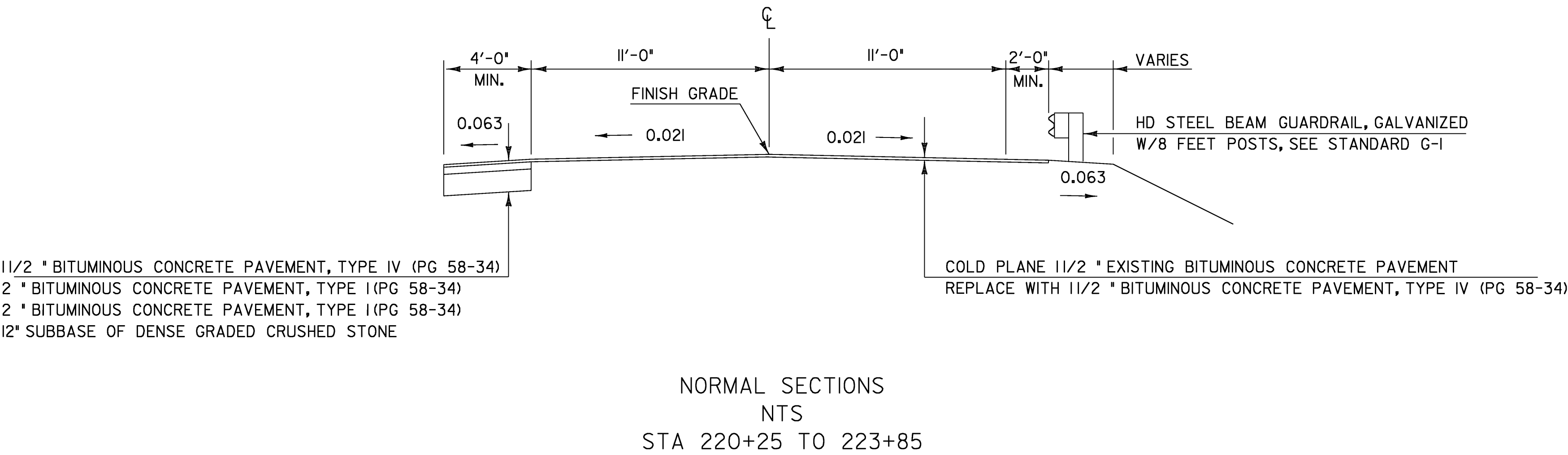
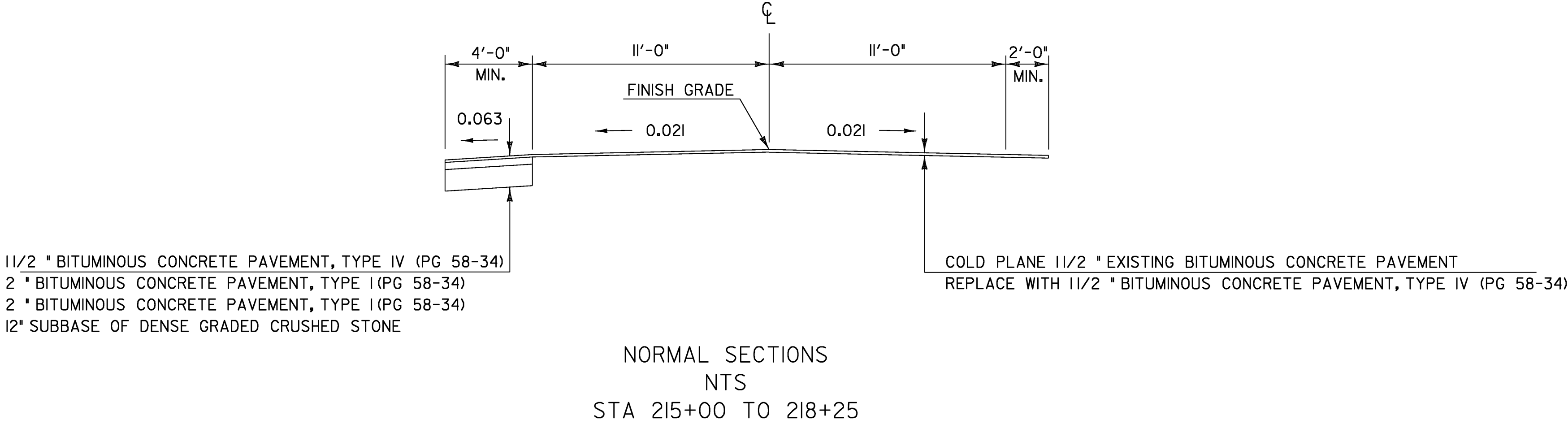
DESIGNED BY: U. STANLEY

CHECKED BY: M. EVANS-MONG

PRELIMINARY INFORMATION SHEET

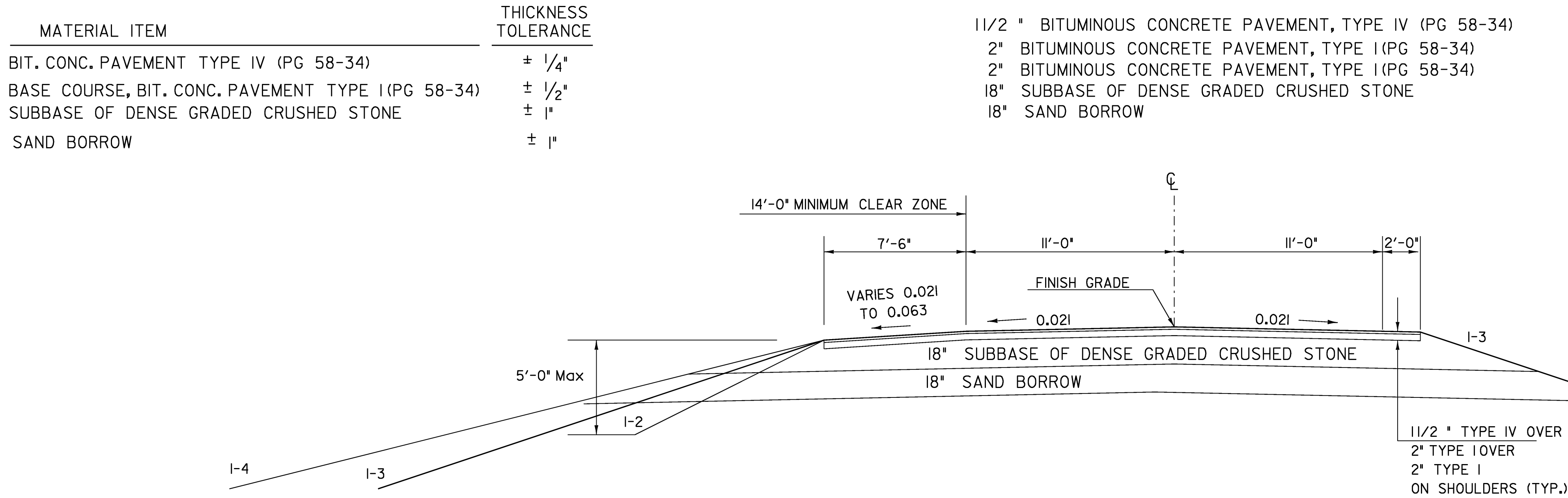
SHEET 2 OF 108

MATERIAL ITEM	THICKNESS TOLERANCE
BIT. CONC. PAVEMENT TYPE IV (PG 58-34)	± 1/4"
BASE COURSE, BIT. CONC. PAVEMENT TYPE I (PG 58-34)	± 1/2"
SUBBASE OF DENSE GRADED CRUSHED STONE	± 1"

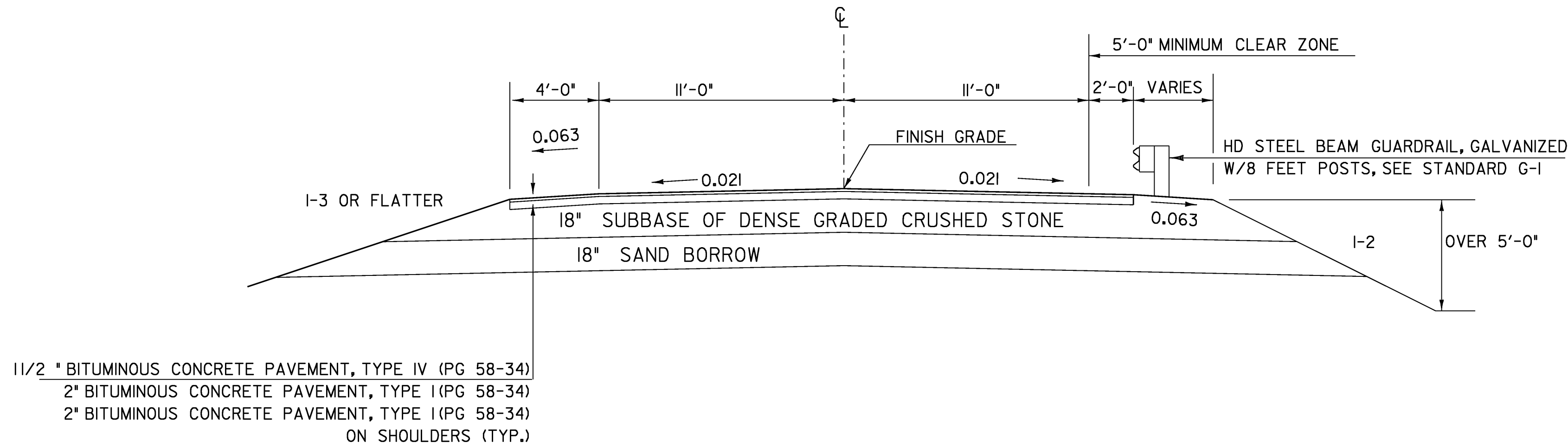


ROADWAY TYPICAL SECTIONS SHEET 1

PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204 (4)	
FILE NAME: /structures/se11typ.dgn	PLOT DATE: 07-APR-2008
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: STANLEY
DESIGNED BY: EVANS-MONGEON	CHECKED BY: STANLEY
s83e11typ2.i	SHEET 3 OF 108



TYPICAL SECTION
NTS
STA. 218+25 TO 218+60



TYPICAL SECTION
NTS
STA. 219+60 TO 220+25

SEEDING FORMULA
URBAN AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
42.5	34.0	CREEPING RED FESCUE	98	85
10.0	8.0	PERENNIAL RYE GRASS	95	90
42.5	34.0	KENTUCKY BLUE GRASS	85	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.00	80.0			

GENERAL NOTES

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

SEED: TO BE APPLIED PER SEEDING FORMULA OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

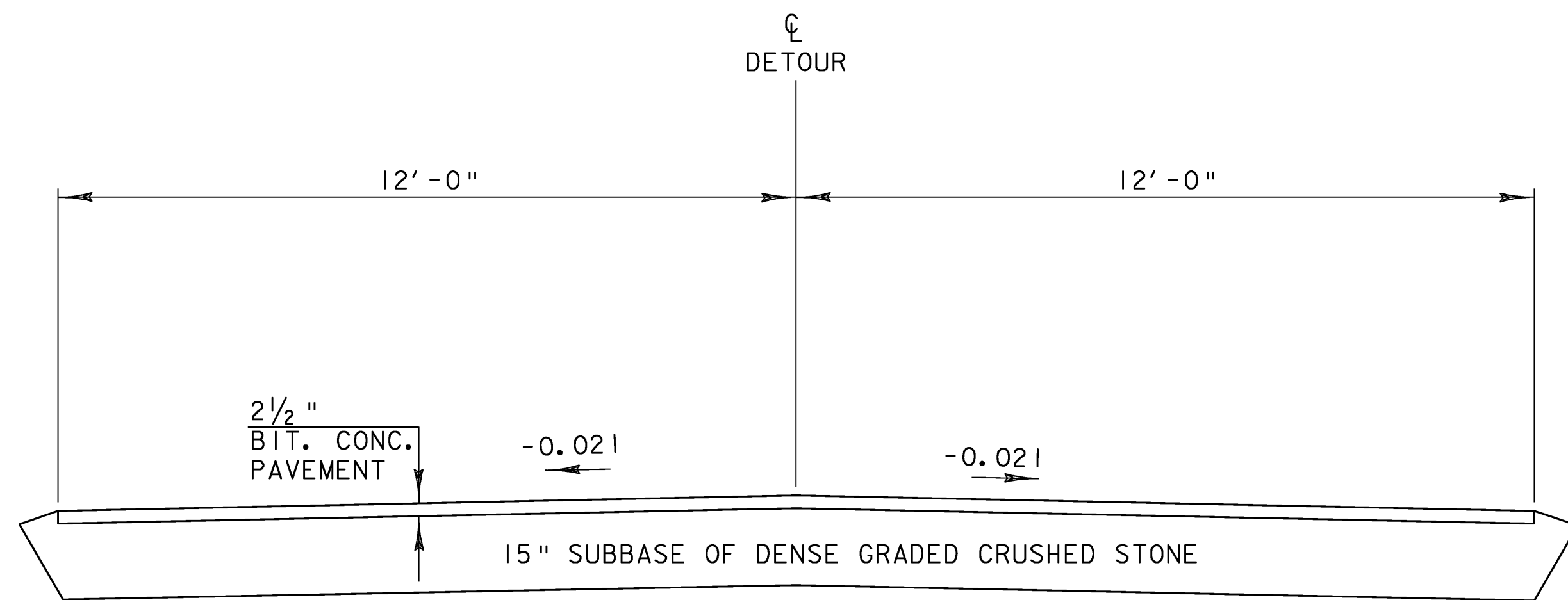
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. TOPSOIL THICKNESS IS 6".

SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B - 5.

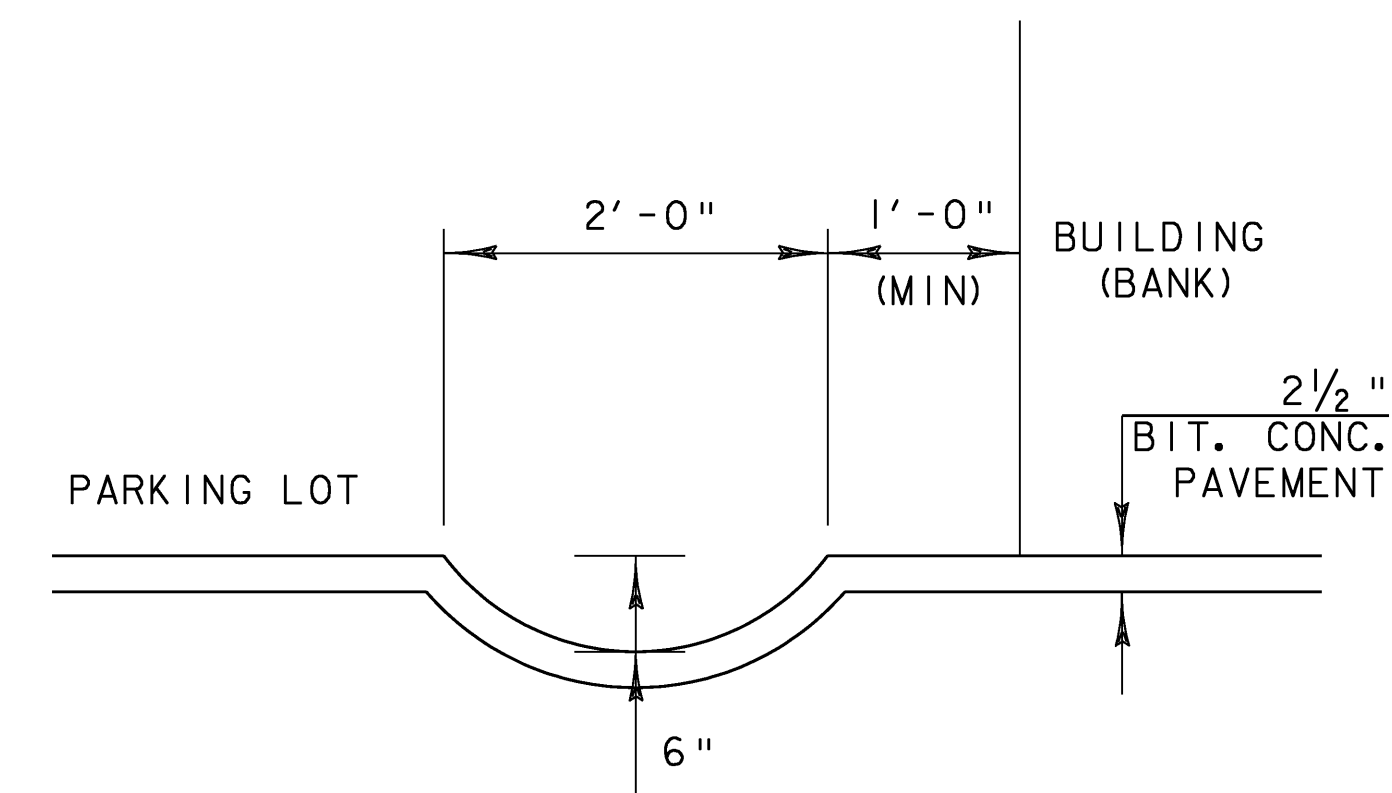
ROADWAY TYPICAL SECTION SHEET 2

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204 (4)
FILE NAME: /structures/se11typ.dgn	PLOT DATE: 07-APR-2008
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: STANLEY
DESIGNED BY: EVANS-MONGEON	CHECKED BY: STANLEY
s83e11typ3.1	SHEET 4 OF 108



DETOUR TYPICAL

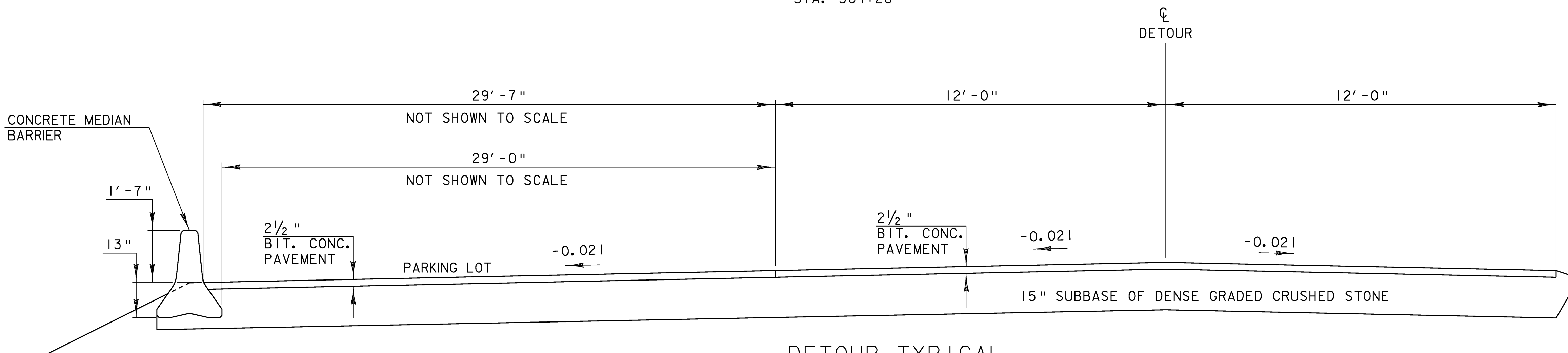
STA. 300+00 TO
STA. 304+26



PAVED DRAINAGE DITCH

STA. 305+23 LT 19.5' TO
STA. 305+23 LT 38.5'

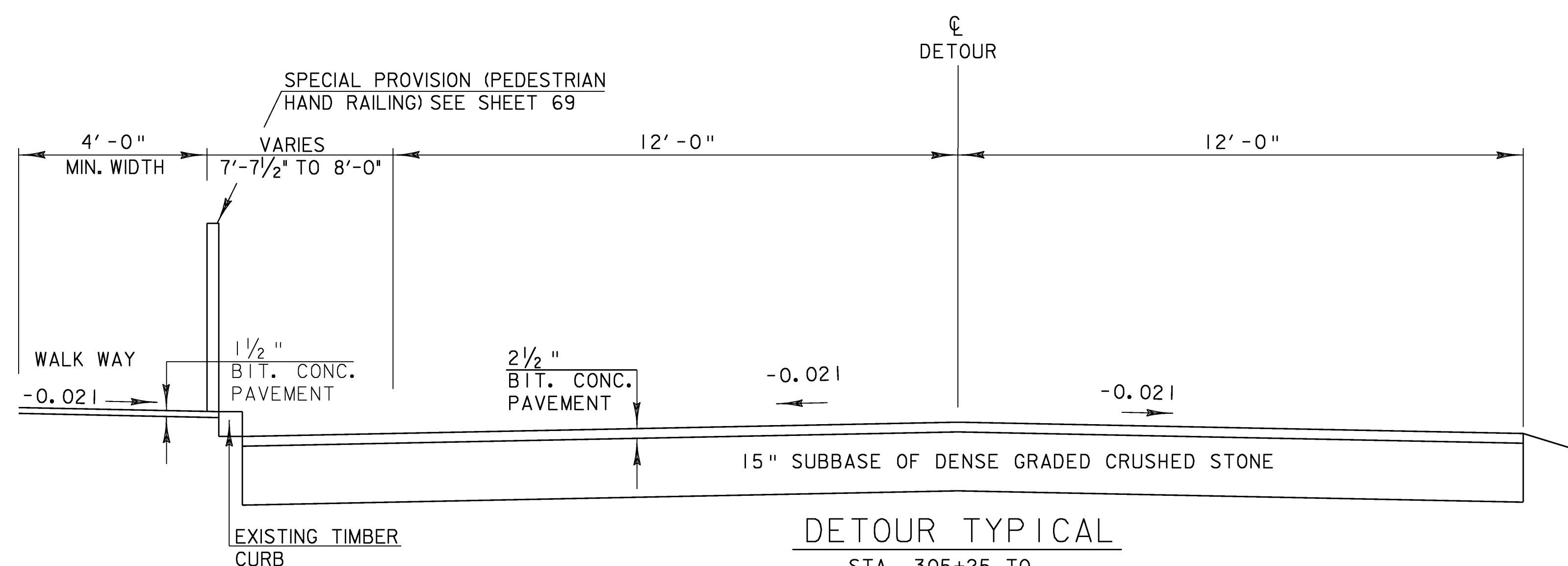
SCALE 1" = 1'-0"
1 9 6 3 0 1 2



DETOUR TYPICAL

STA. 304+26 TO
STA. 305+25

SCALE 1/2" = 1'-0"
1 0 1 2



DETOUR TYPICAL

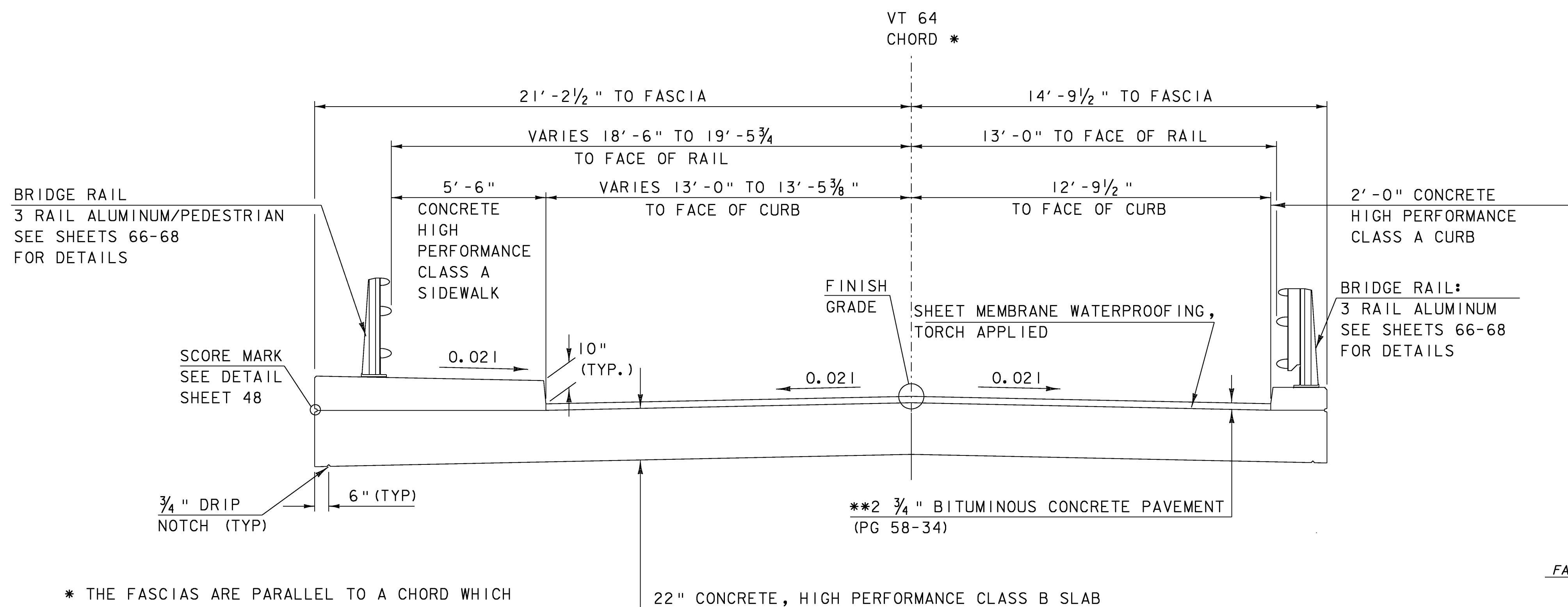
STA. 305+25 TO
STA. 305+67

SCALE 1/2" = 1'-0"
1 0 1 2

DETOUR TYPICAL SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: /structures/selltyp
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
sellde1typ.i
PLOT DATE: 07-APR-2008
DRAWN BY: L. DUQUETTE
CHECKED BY: EVANS-MONGEON
SHEET 5 OF 108

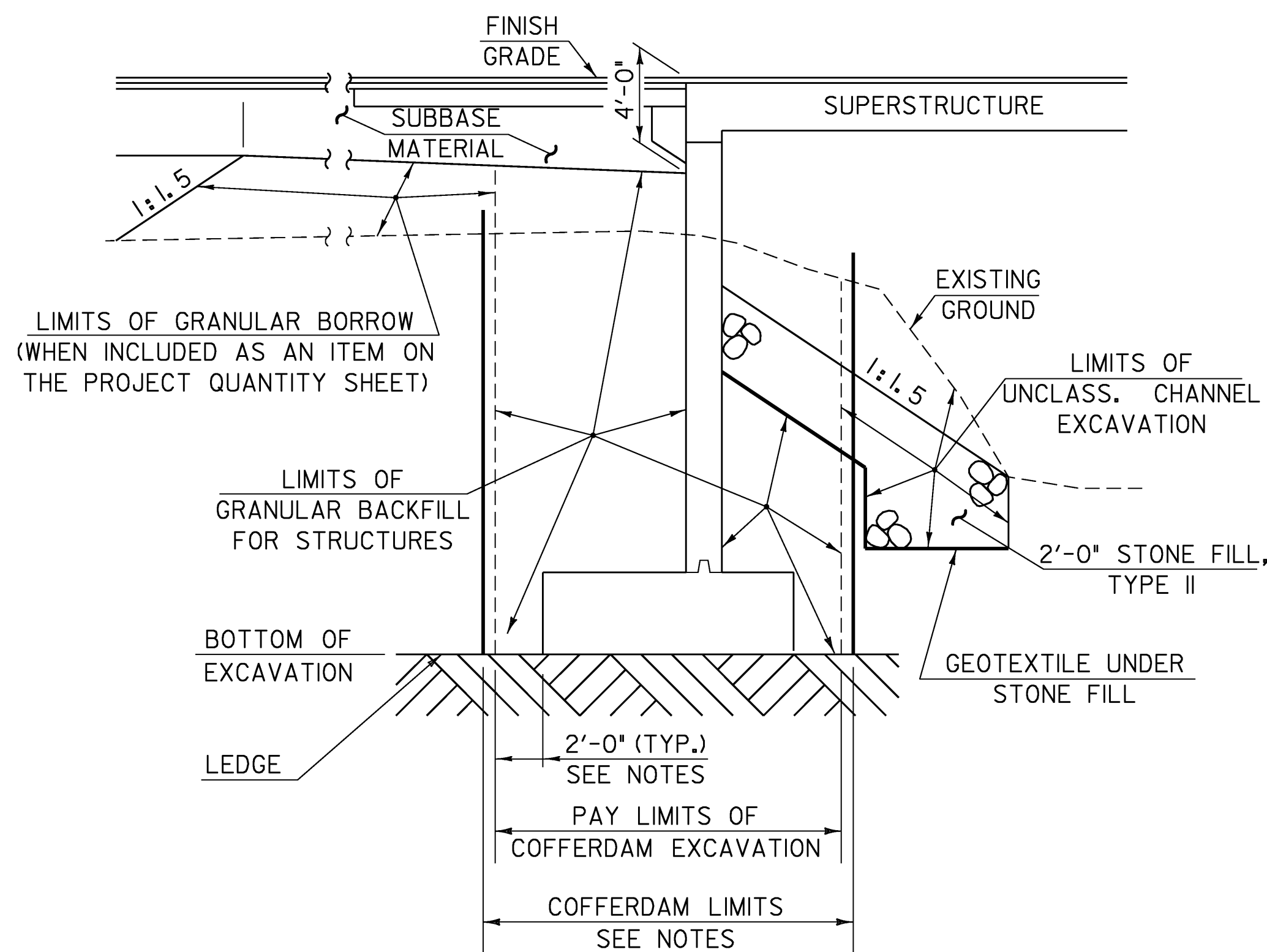


* THE FASCIAS ARE PARALLEL TO A CHORD WHICH EXTENDS FROM BEGIN BRIDGE TO END BRIDGE. THE FACE OF SIDEWALK AND FACE OF BRIDGE RAILING, ALUMINUM/PEDESTRIAN ARE PARALLEL TO THE ϕ OF VT 64.

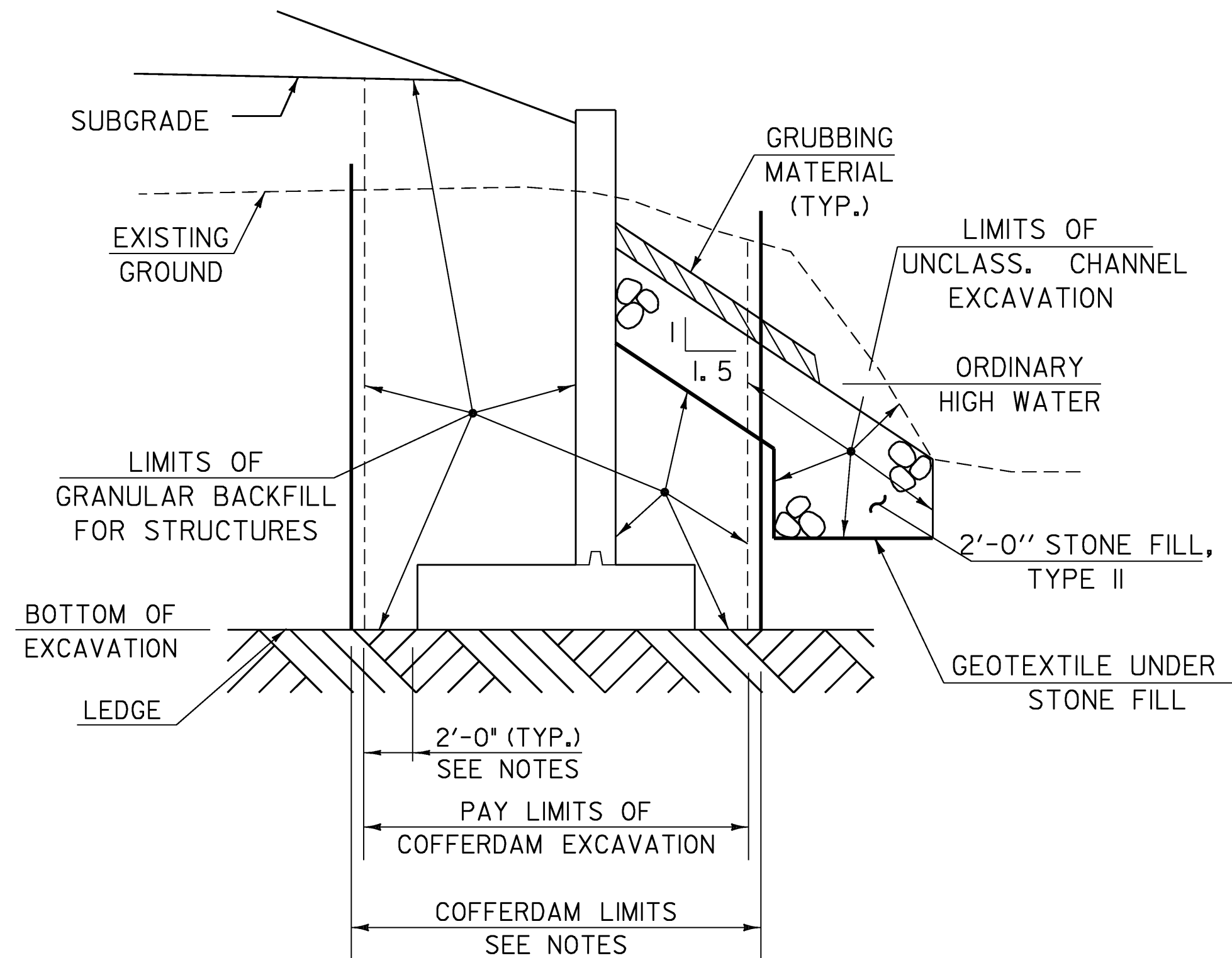
**1 1/2" BIT. CONCRETE PAVEMENT TYPE IV (PG 58-34) OVER
1 1/4" BIT. CONCRETE PAVEMENT TYPE IV (PG 58-34)

BRIDGE TYPICAL SECTION

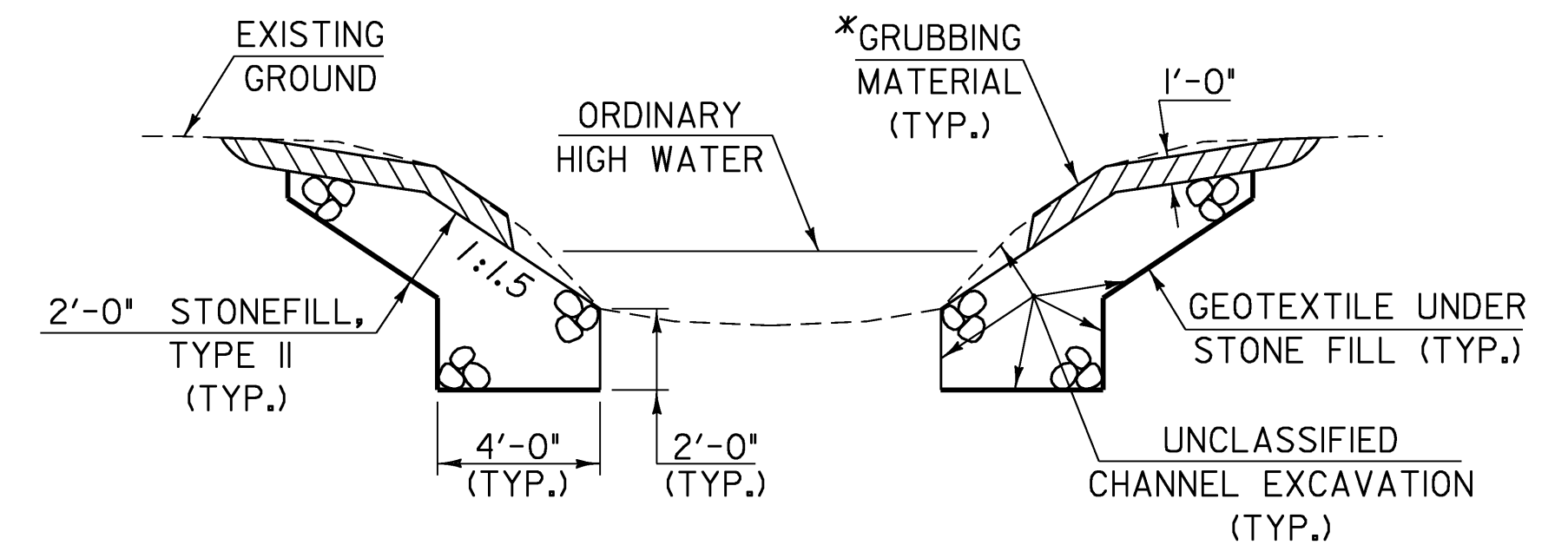
SCALE 3/8" = 1'-0"
1 0 1 2 3 4



TYPICAL ABUTMENT SECTION
(NOT TO SCALE)

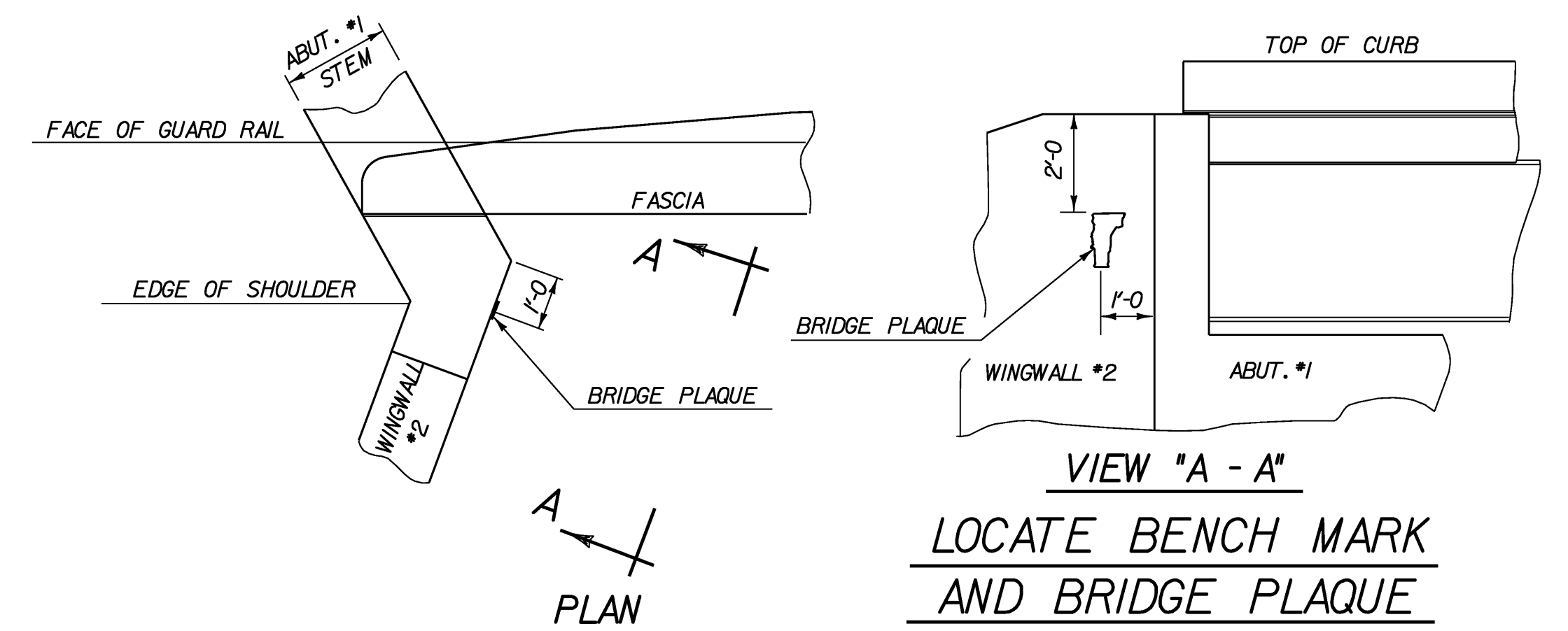


TYPICAL WINGWALL SECTION
(NOT TO SCALE)



TYPICAL CHANNEL SECTION (NOT TO SCALE)

*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



LOCATE BENCH MARK AND BRIDGE PLAQUE

THE BENCH MARK AND BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

NOTES

- COFFERDAM SIZE TO BE DETERMINED BY THE CONTRACTOR.
- THE PAY LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING, AND FROM THE BOTTOM OF THE EXCAVATION UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
- IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.

BRIDGE TYPICAL SECTIONS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	structures\se11typ.dgn
PROJECT LEADER:	M.EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	s83ellbtyp.l
PLOT DATE:	07-APR-2008
DRAWN BY:	U. STANLEY
CHECKED BY:	EVANS-MONGEON
SHEET	6 OF 108

STATE OF VERMONT AGENCY OF TRANSPORTATION												QUANTITY SHEET 1											
SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS						DETAILED SUMMARY OF QUANTITIES			
						ROADWAY	TRAINING	EROSION CONTROL	UTILITIES-NON PARTICIPATING	BRIDGE	FULL C. E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS			
						1						1	1	LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10							
						1						1	1	EACH	DEMOLITION AND DISPOSAL OF BUILDING	202.10		810	CY	FILL AVAILABLE			
						810						810	1192.8	CY	COMMON EXCAVATION	203.15		51	CY	COMMON EXCAVATION			
																		19	CY	UNCLASSIFIED CHANNEL EXCAVATION 170 X 0.3			
										170		170	165	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		495	CY	TRENCH EXCAVATION OF EARTH 70 X 0.3			
						220						220	291.4	CY	SAND BORROW	203.31		1375	CY	COFFERDAM EXCAVATION, EARTH 1650 X 0.3			
						70						70	74.5	CY	TRENCH EXCAVATION OF EARTH	204.20		5	CY	SUBTOTAL			
						5						5	0	CY	TRENCH EXCAVATION OF ROCK	204.21		1380	CY	ROUNDING			
						1						1	5.4	CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		5	CY	TOTAL			
						FINAL=0.65			FINAL=1157.14455			1220	1157.1	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30							
										1650		1650	2058.6	CY	COFFERDAM EXCAVATION, EARTH	208.30							
										300		300	239.18	CY	COFFERDAM EXCAVATION, ROCK	208.35							
										1		1	1	LS	COFFERDAM (@ STA. 218+97)	208.40							
										1		1	1	LS	COFFERDAM (@ STA. 219+34)	208.40							
						1670						1670	1407.3	SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10							
						520						520	750.2	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35							
						4						4	9.923	CWT	EMULSIFIED ASPHALT	404.65							
						FINAL=473.44369			FINAL=45.2544			410	518.69	TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25							
										17		17	15.46	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33							
										765		765	707.81	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34							
										60240		60240	54,684	LB	REINFORCING STEEL	507.15							
										455		455	178	LF	DRILLING AND GROUTING DOWELS	507.16							
										23720		23720	24,951	LB	EPOXY COATED REINFORCING STEEL	507.17							
										40		40	51.28	GAL	WATER REPELLENT, SILANE	514.10							
										107		107	112.25	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20							
						100						100	102.7	LF	JOINT SEALER, HOT POURED	524.11							
										39		39	38.7	LF	BRIDGE RAILING, 3 RAIL ALUMINUM	525.22							
										41		41	40.3	LF	BRIDGE RAILING, ALUMINUM/PEDESTRIAN	525.23							
										60		60	55	SY	REMOVAL OF BRIDGE PAVEMENT	529.10							
										1		1	1	EACH	REMOVAL OF STRUCTURE (475 SF- EST.)	529.15							
										50		50	321.11	CY	CONCRETE, CLASS C	541.30							
															BEGIN OPTION AA								
						150						150	—	LF	18" CSP .064 (2-2/3 X 1/2)	601.0015							
						150						150	—	LF	18" CAAP .075 (2-2/3 X 1/2)	601.0216							
						150						150	150	LF	18" CPEP	601.0915							
															END OPTION AA								
						1						1	1	EACH	PRECAST REINFORCED CONCRETE PIPE DI WITH CAST IRON GRATE	604.25							
									3			3	3	EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42							
								10				10	17	HR	BULLDOZER RENTAL, TYPE I	608.10							
								10				10	14.6	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25							
								45				45	0.3	MGAL	DUST CONTROL WITH WATER	609.10							
																		PROJECT NAME: WILLIAMSTOWN					
																		PROJECT NUMBER: BRS 0204(4)					
																		FILE NAME: structures/se111excel.dgn					
																		PLOT DATE: 04/07/2008					
																		PROJECT MANAGER: M. EVANS-MONGEON					
																		DRAWN BY: U. STANLEY					
																		DESIGNED BY: U. STANLEY					
																		CHECKED BY: M. EVANS-MONGEON					
																		QUANTITY SHEET #1					
																		SHEET 7 OF 108					

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES											TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	UTILITIES-NON PARTICIPATIN G	BRIDGE	FULL C. E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1				1	0.14	TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
									150		150	224.4	CY	STONE FILL, TYPE II	613.11				
					100						100	86.9	LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28				
					1						1	1	EACH	RELOCATE MAIL BOX, SINGLE SUPPORT	617.10				
					30						30	43.04	SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
					3						3	3	EACH	STEEL MARKER POSTS	619.16				
					2						2	0	EACH	REMOVING AND RESETTNG PROPERTYMARKERS	619.20				
					14						14	12	LF	REMOVING AND RESETTNG FENCE	620.50				
					82.5						82.5	91.5	LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
					362.5						362.5	379.5	LF	HD STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS	621.215				
					122						122	121.2	LF	CONCRETE MEDIAN BARRIER	621.45				
					3						3	3	EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
					100						100	100	LF	ALUMINUM APPROACH RAILING	621.74				
					50						50	92	LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					360						360	394	LF	TEMPORARY TRAFFIC BARRIER	621.90				
					4						4	0	LF	SLEEVES FOR UTILITIES (1 X 18")	625.10				
								1			1	1	EACH	ADJUST ELEVATION OF VALVE BOX	629.20				
					50						50	0	HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					400						400	1187	HR	FLAGGERS	630.15				
										1	1	1	LS	FIELD OFFICE-ENGINEERS	631.10				
										1	1	1	LS	TESTING EQUIPMENT - CONCRETE	631.16				
										1	1	0	LS	TESTING EQUIPMENT - BITUMINOUS	631.17				
										1	1	0.998	LU	FIELD OFFICE - TELEPHONE (N.A.B.))	631.25				
						250					250	520	HR	EMPLOYEE TRAINEESHIP	634.10				
					1						1	1	LS	MOBILIZATION / DEMOBILIZATION	635.11				
					1						1	1	LS	TRAFFIC CONTROL	641.10				
					2						2	2	EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
											0	1848	LF	4" WHITE LINE	646.20				
					1770						1770	0	LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402				
											0	1780	LF	4" YELLOW LINE	646.21				
					1770						1770	0	LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412				
											0	12.5	LF	24" STOP BAR	646.26				
					12						12	0	LF	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	646.482				
											0	0	EA	LETTER OR SYMBOL	646.30				
					4						4	0	EACH	DURABLE LETTER OR SYMBOL, THERMOPLASTIC	646.492				
					87						87	117	EACH	LINE STRIPNG TARGETS	646.76				
							495				495	353.8	SY	GEOTEXTILE UNDER STONE FILL	649.31				
							310				310	213	SY	GEOTEXTILE FOR SILT FENCE	649.51				
							20				20	30	LB	SEED	651.15				
							10				10	0	LB	SEED-WINTER RYE	651.17				
							80				80	115	LB	FERTILIZER	651.18				
							0.5				0.5	0.186	TON	AGRICULTURAL LIMESTONE	651.20				
							0.5				0.5	1.096	TON	HAYMULCH	651.25				
							120				120	77.13	CY	TOPSOIL	651.35				
																	PROJECT NAME: WILLIAMSTOWN		
																	PROJECT NUMBER: BRS 0204(4)		
																	FILE NAME: structures/se111excel.dgn		
																	PLOT DATE: 04/07/2008		
																	PROJECT MANAGER: M. EVANS-MONGEON		
																	DRAWN BY: U. STANLEY		
																	DESIGNED BY: U. STANLEY		
																	CHECKED BY: M. EVANS-MONGEON		
																	QUANTITY SHEET #2		
																	SHEET 8 OF 108		

QUANTITY SHEET 4

[illegible]

RIGHT - OF - WAY DETAIL SHEET

[illegible]

PLAN LEGEND			
	EXISTING RIGHT-OF-WAY		TOE OF SLOPE
	TAKING WITH ACCESS		TOP OF CUT
	TAKING WITHOUT ACCESS		SLOPE RIGHT
	CLEAR ZONE		CONSTRUCTION RIGHT
	PROPERTY LINE		PROJECT DEMARCATION FENCE

APPROVED: ROGER P. DUMAS DATE 06-30-2006
CHIEF, PLANS & TITLES

PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BR5 0204(4)	
FILE NAME: 83E111DET.XLS	PLOT DATE: Date
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: MR
DESIGNED BY: LANCEY	CHECKED BY: FM
R.O.W. SHEET 16 of 20	SHEET 11 OF 108

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

[illegible]

TABLE OF REVISIONS

[illegible]

PLAN LEGEND

	EXISTING RIGHT-OF-WAY		TOE OF SLOPE
	TAKING WITH ACCESS		TOP OF CUT
	TAKING WITHOUT ACCESS		SLOPE RIGHT
	CLEAR ZONE		CONSTRUCTION RIGHT
	PROPERTY LINE		PROJECT DEMARCATION FENCE

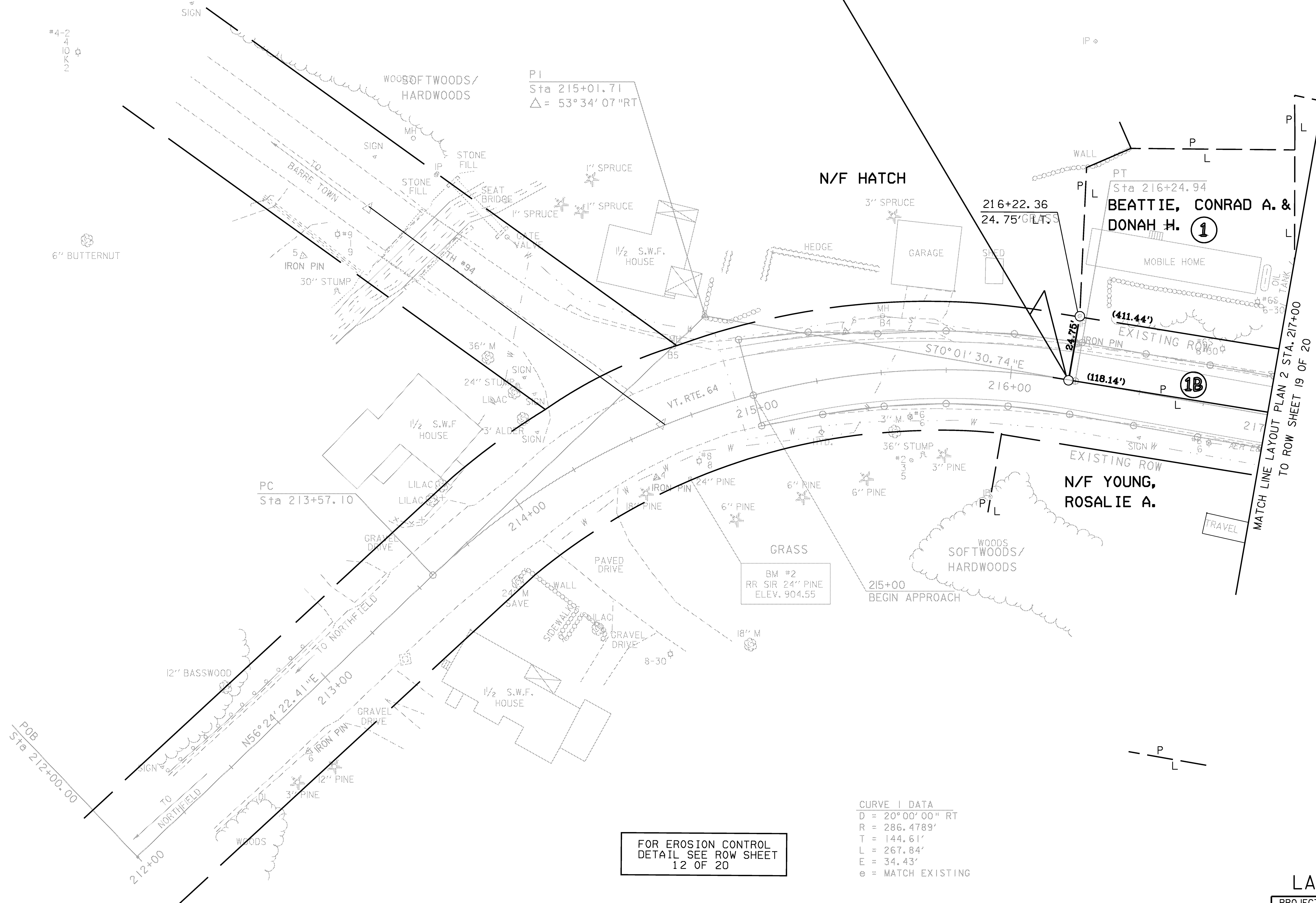
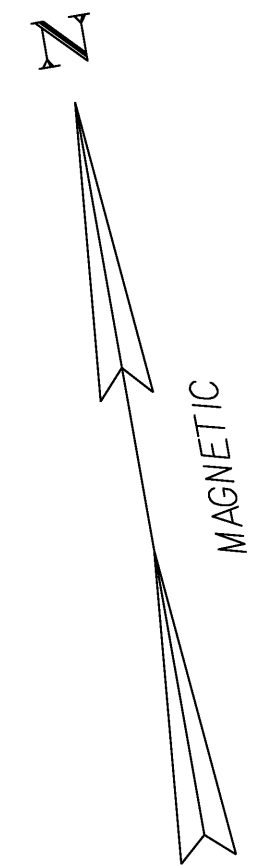
EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 06-30-2006
CHIEF, PLANS & TITLES

PLOT DATE 03/05/08

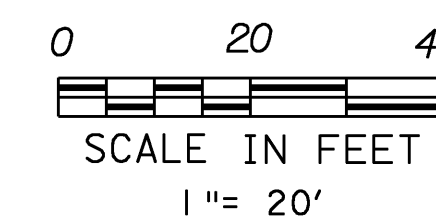
PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204(4)	
FILE NAME: 83E111DET.XLS	PLOT DATE: 12/9/98
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: MR
DESIGNED BY: LACKEY	CHECKED BY: FM
R.O.W. Sheet 17 of 20	SHEET 12 OF 108

BEGIN ROW PROJECT
BRS 0204(4) Sta. 216+22.36 CL



FOR EROSION CONTROL
DETAIL SEE ROW SHEET
12 OF 20

CURVE DATA
D = 20°00'00" RT
R = 286.4789'
T = 144.61'
L = 267.84'
E = 34.43'
e = MATCH EXISTING

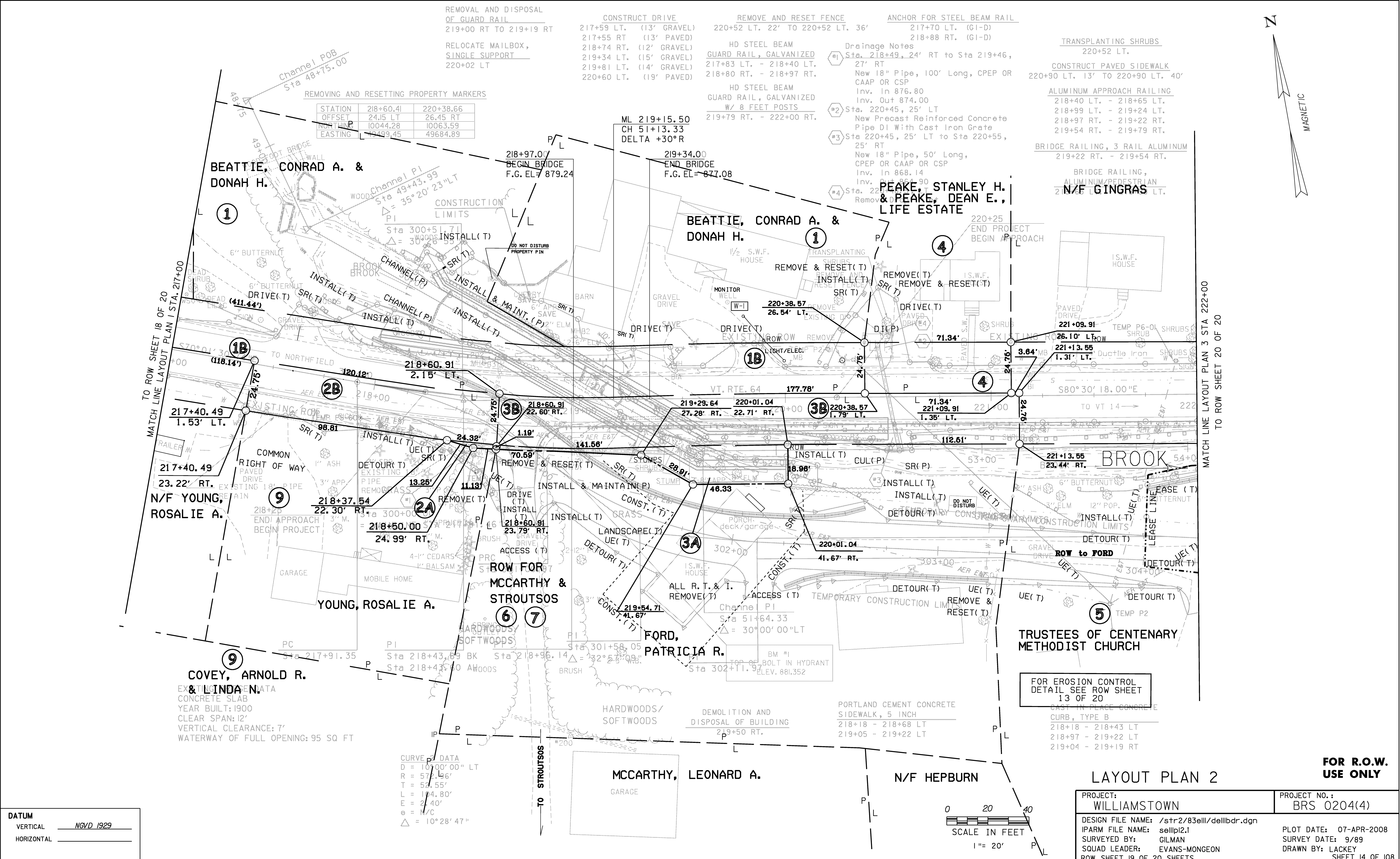


LAYOUT PLAN I

FOR R.O.W.
USE ONLY

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: /str2/83elll/dellbdr.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: dellpl1.i	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: LACKEY
SQUAD LEADER: EVANS-MONGEON	SHEET 13 OF 108
ROW SHEET 18 OF 20 SHEETS	

DATUM
VERTICAL NGVD 1929
HORIZONTAL



REMOVAL AND DISPOSAL
OF GUARD RAIL
219+00 RT TO 219+19 RT

RELOCATE MAILBOX,
SINGLE SUPPORT
220+02 LT

CONSTRUCT DRIVE
217+59 LT. (13' GRAVEL)
217+55 RT (13' PAVED)
218+74 RT. (12' GRAVEL)
219+34 LT. (15' GRAVEL)
219+81 LT. (14' GRAVEL)
220+60 LT. (19' PAVED)

REMOVE AND RESET FENCE
220+52 LT. 22' TO 220+52 LT. 36'

HD STEEL BEAM
GUARD RAIL, GALVANIZED
217+83 LT. - 218+40 LT.
218+80 RT. - 218+97 RT.

HD STEEL BEAM
GUARD RAIL, GALVANIZED
W/ 8 FEET POSTS
219+79 RT. - 222+00 RT.

ANCHOR FOR STEEL BEAM RAIL
217+70 LT. (G1-D)
218+88 RT. (G1-D)

Drainage Notes
#1 Sta. 218+49, 24' RT to Sta 219+46,
27' RT
New 18" Pipe, 100' Long, CPEP OR
CAAP OR CSP
Inv. in 876.80
Inv. Out 874.00
#2 Sta. 220+45, 25' LT
New Precast Reinforced Concrete
Pipe DI With Cast Iron Grate
Sta 220+45, 25' LT to Sta 220+55,
25' RT
New 18" Pipe, 50' Long,
CPEP OR CAAP OR CSP
Inv. in 868.14
Inv. Out 869.90
#3 Sta. 221+13, 55' LT
Remove

TRANSPLANTING SHRUBS
220+52 LT.

CONSTRUCT PAVED SIDEWALK
220+90 LT. 13' TO 220+90 LT. 40'

ALUMINUM APPROACH RAILING
218+40 LT. - 218+65 LT.
218+99 LT. - 219+24 LT.
218+97 RT. - 219+22 RT.
219+54 RT. - 219+79 RT.

BRIDGE RAILING, 3 RAIL ALUMINUM
219+22 RT. - 219+54 RT.

BRIDGE RAILING,
ALUMINUM/PEDESTRIAN
219+22 RT. - 219+54 RT.

STATION	218+60.41	220+38.66
OFFSET	24.15 LT	26.45 RT
NORTHING	10044.28	10063.59
EASTING	49499.45	49684.89

REMOVING AND RESETTING PROPERTY MARKERS

ML 219+15.50
CH 51+13.33
DELTA +30°R

218+97.07
BEGIN BRIDGE
F.G. EL. = 879.24

219+34.00
END BRIDGE
F.G. EL. = 877.08

BEATTIE, CONRAD A. &
DONAH H.

PEAKE, STANLEY H. &
PEAKE, DEAN E.,
LIFE ESTATE

N/E GINGRAS

TO ROW SHEET 18 OF 20
MATCH LINE LAYOUT PLAN STA. 217+00

TO ROW SHEET 20 OF 20
MATCH LINE LAYOUT PLAN 3 STA 222+00

N/F YOUNG,
ROSALIE A.

YOUNG, ROSALIE A.

ROW FOR
MCCARTHY &
STROUTSOS

FORD,
PATRICIA R.

TRUSTEES OF CENTENARY
METHODIST CHURCH

COVEY, ARNOLD R.
& LINDA N.

MCCARTHY, LEONARD A.

N/F HEPBURN

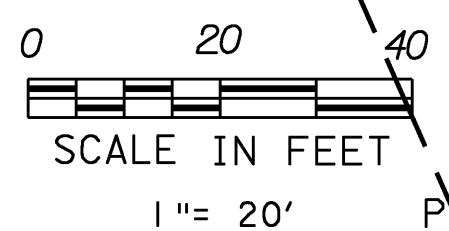
LAYOUT PLAN 2

FOR R.O.W.
USE ONLY

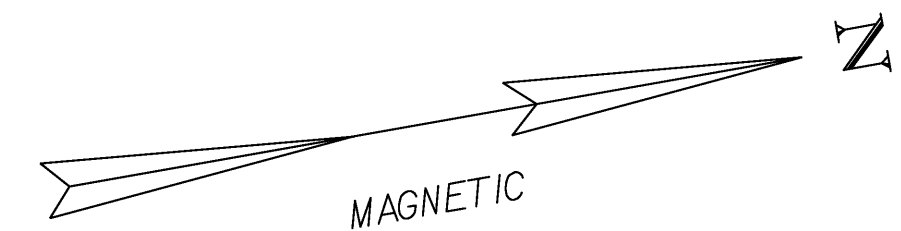
PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: /str2/83elll/dellbdr.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellpl2.1	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: LACKEY
SQUAD LEADER: EVANS-MONGEON	SHEET 14 OF 108
ROW SHEET 19 OF 20 SHEETS	

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	

CURVE DATA
D = 107'00'00" LT
R = 572.46'
T = 52.55'
L = 124.80'
E = 2.40'
e = N/C
Δ = 10°28'47"



TO ROW SHEET 19 OF 20
MATCH LINE LAYOUT PLAN 2 STA 222+00

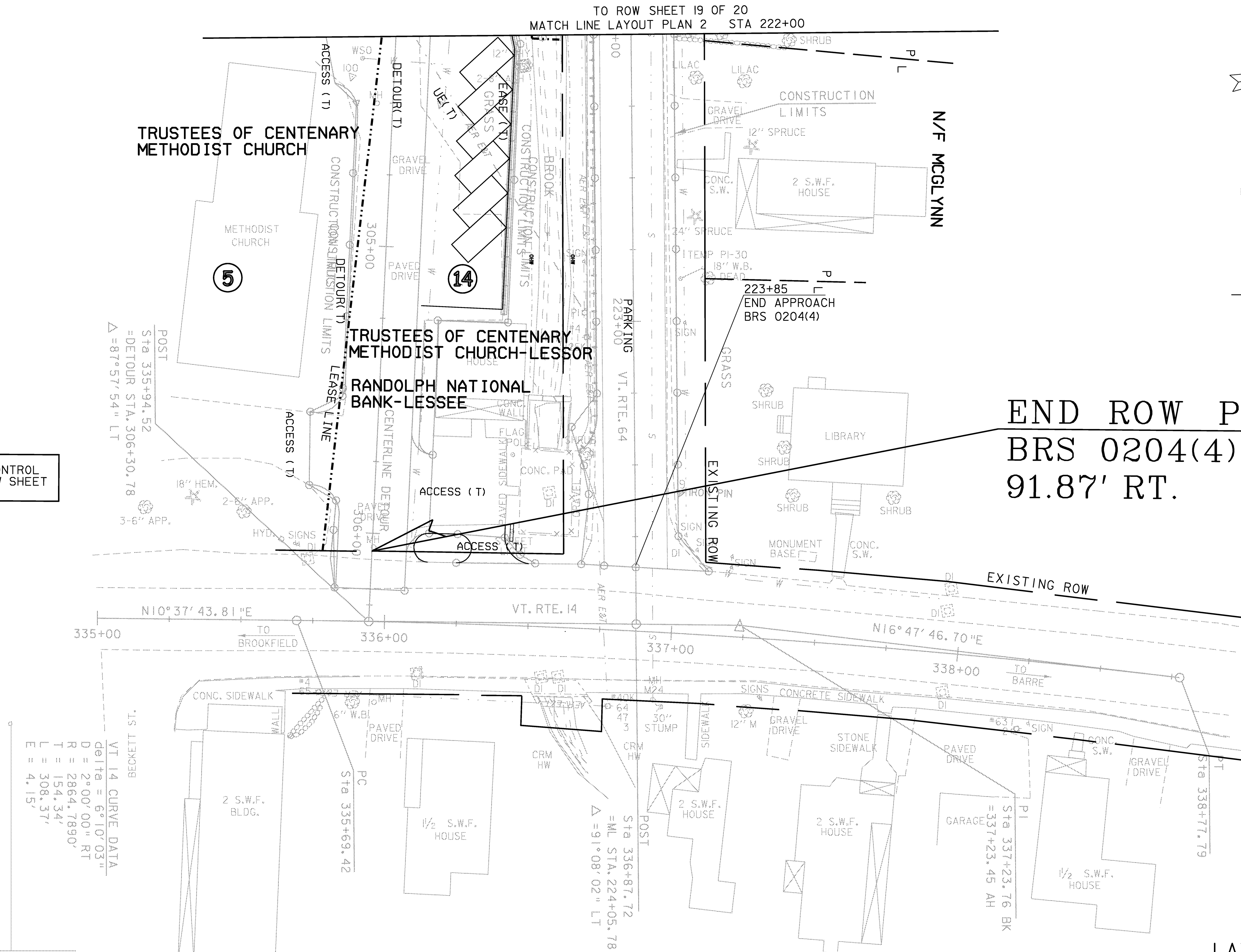


HD STEEL BEAM GUARD RAIL,
GALVANIZED
W/ 8 FEET POSTS
222+00 RT. - 223+45.5 RT.

ANCHOR FOR STEEL BEAM RAIL
223+45.5 RT. (CI-D)

END ROW PROJECT
BRS 0204(4) Sta.223+79.23
91.87' RT.

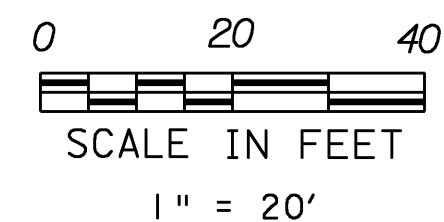
FOR EROSION CONTROL
DETAIL SEE ROW SHEET
14 OF 20



BM S-15
DISK ON GRANITE STEP
ELEV. 872.22

LAYOUT PLAN 3

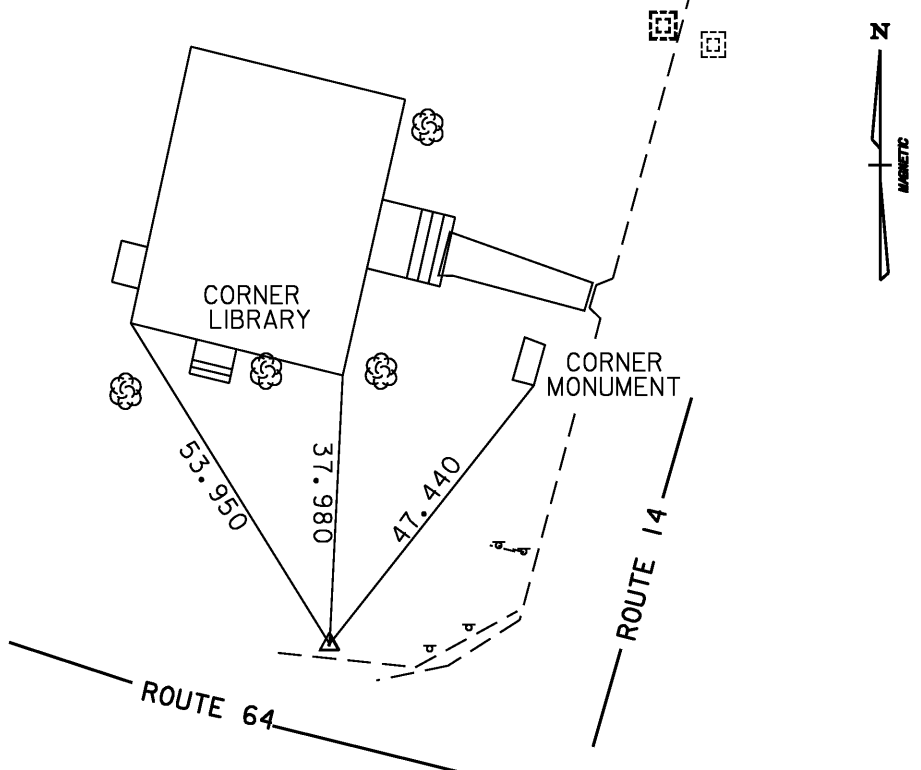
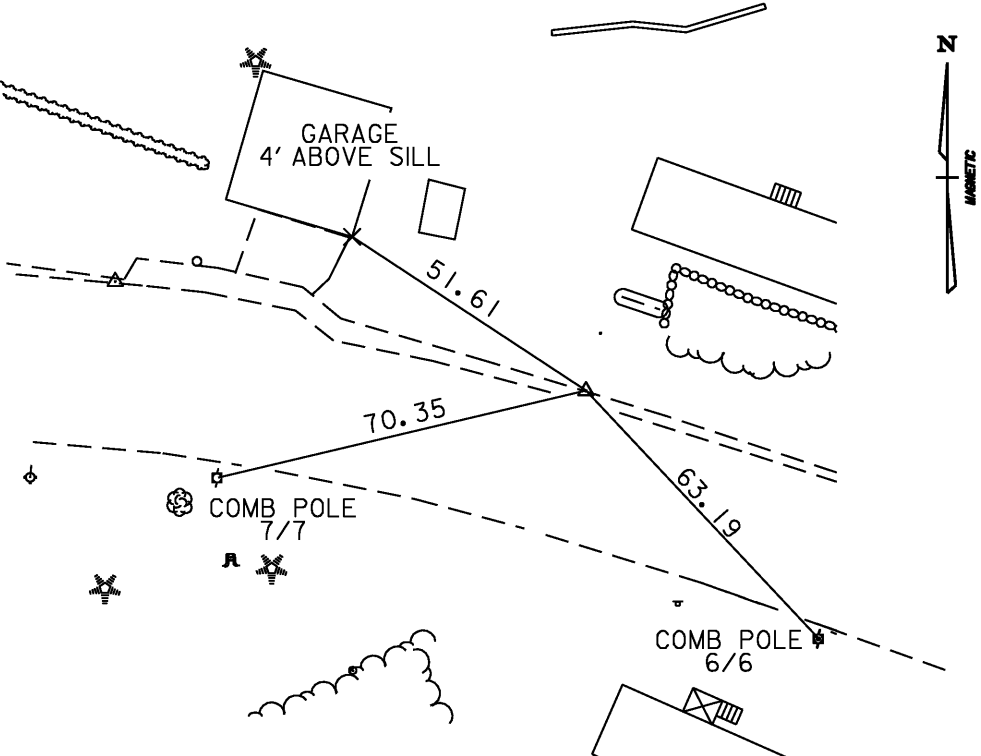
FOR R.O.W.
USE ONLY



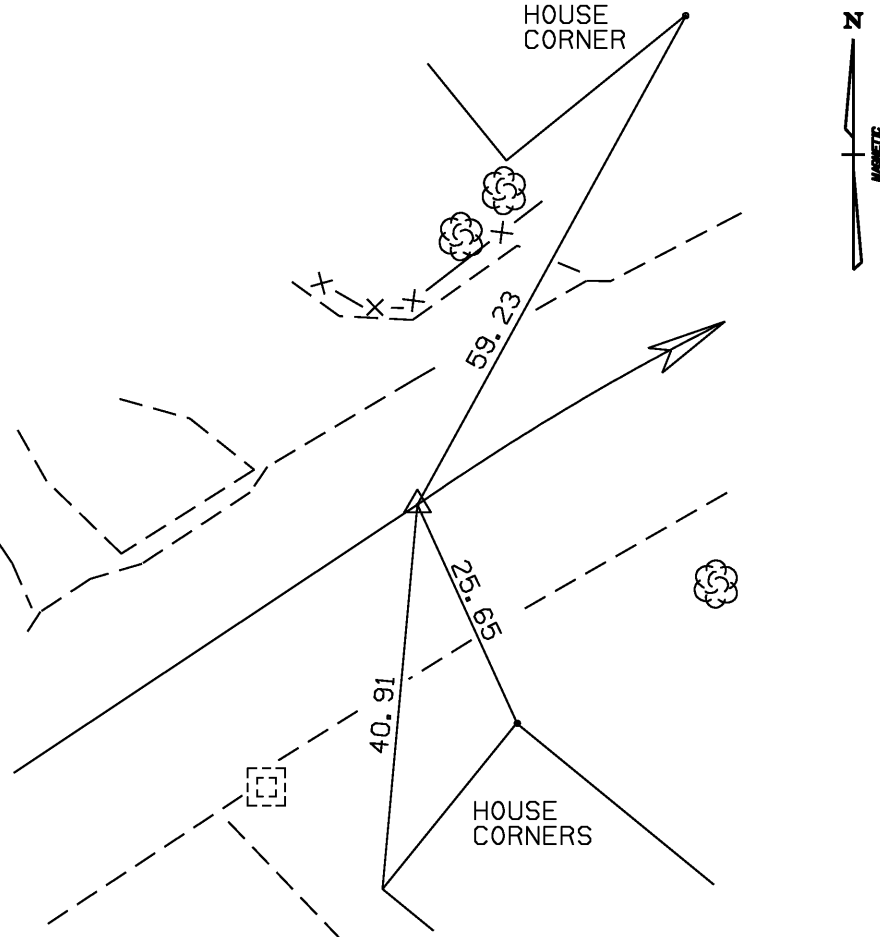
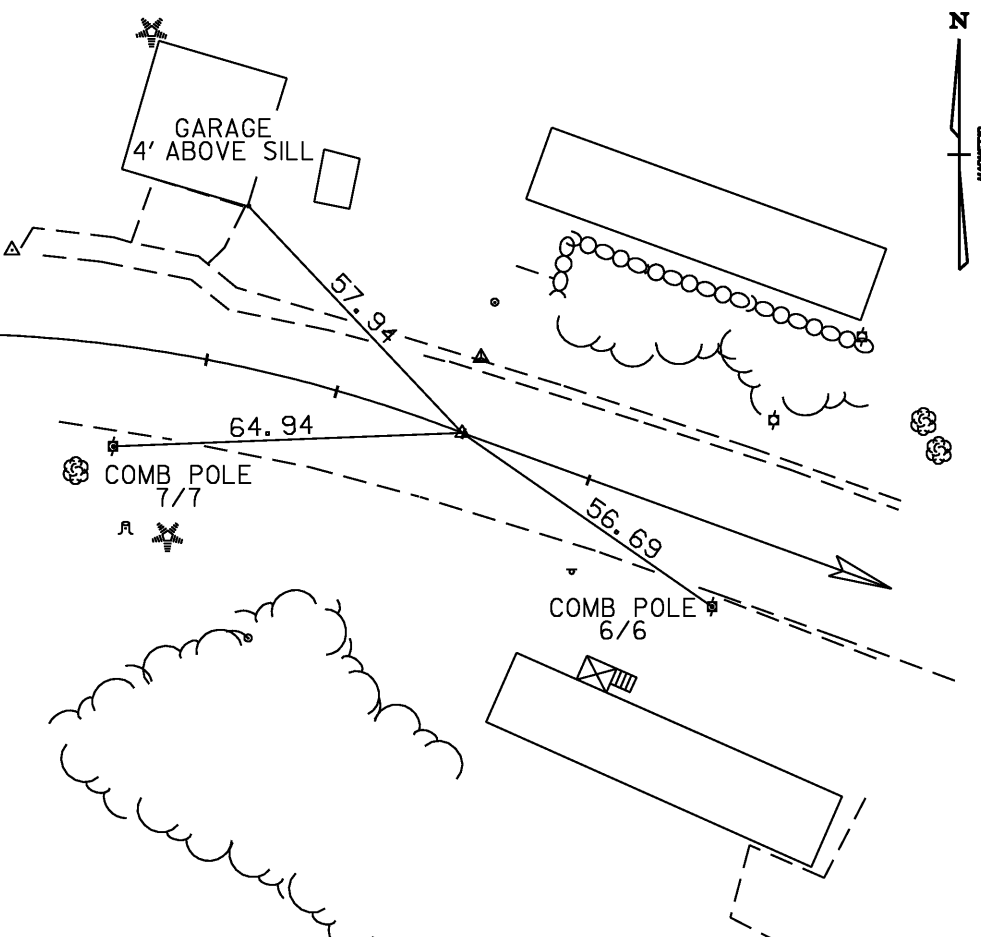
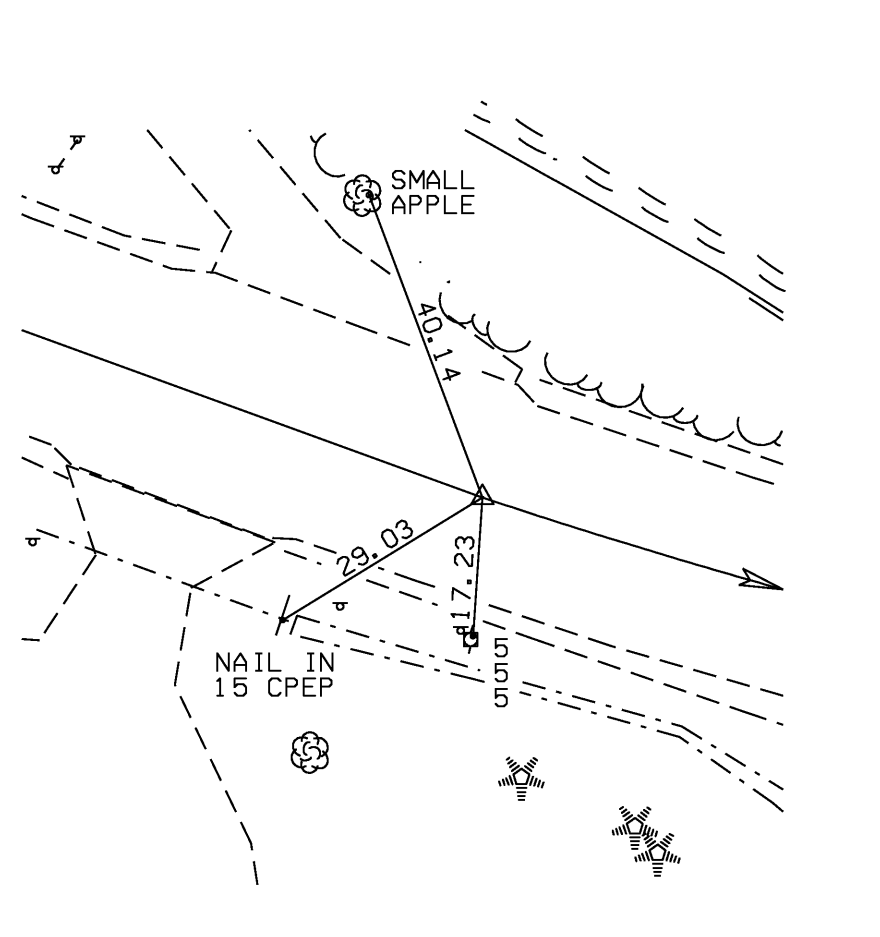
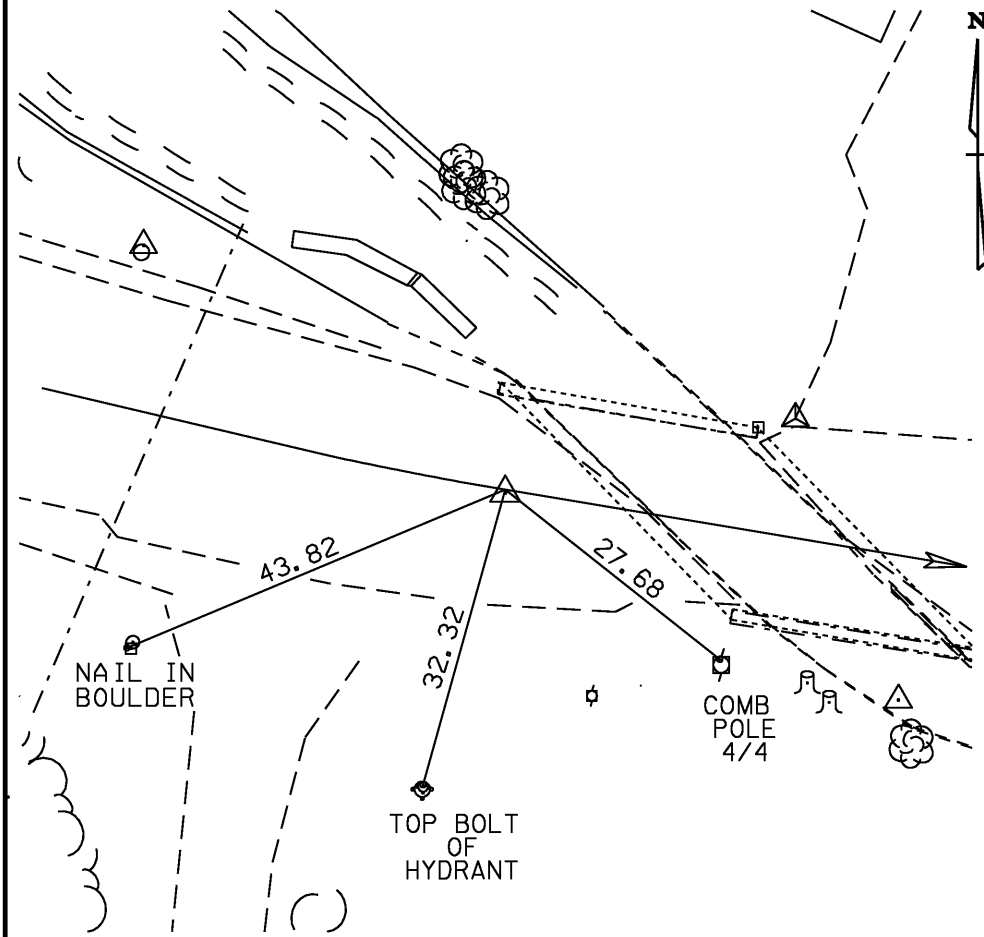
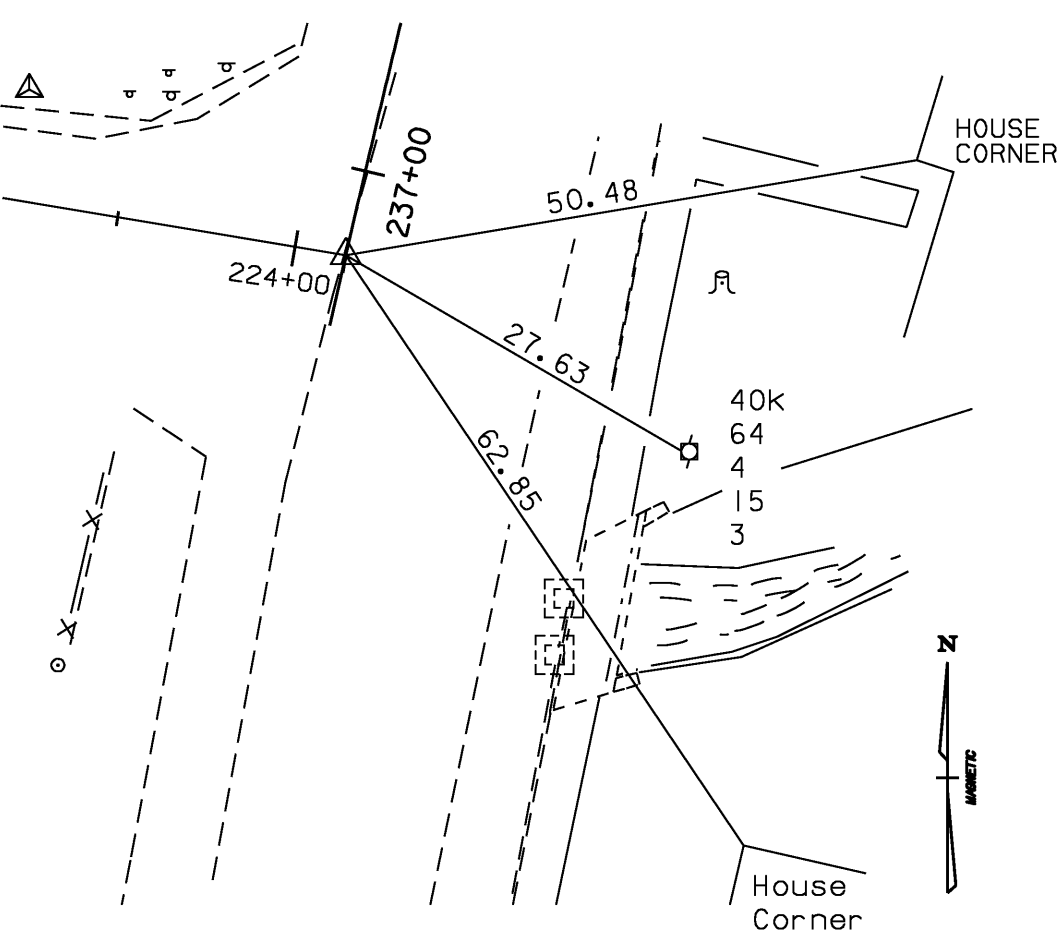
PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: str2/83ell/dellbdr.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: dellpl3.1	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: LACKEY
SQUAD LEADER: EVANS-MONGEON	SHEET 15 OF 108
ROW SHEET 20 OF 20 SHEETS	

DATUM
VERTICAL NGVD 1929
HORIZONTAL

TRAVERSE TIES

TRAV. 1	TRAV. 2	TRAV. 3	TRAV. 4	TRAV. 5	TRAV. 6
N= 10000.0000	N= 10044.4635	N= 10158.4277	N= 10135.8907	N= 10243.4898	N= 10055.4995
E= 50000.0000	E= 49561.8718	E= 49285.8653	E= 49117.2523	E= 48998.1938	E= 48967.1954
ELEVATION= 856.77	ELEVATION= 877.52	ELEVATION= 894.969	ELEVATION= 904.047	ELEVATION= 910.310	ELEVATION= 919.929
	Point was DESTROYED		Point was DESTROYED	Point was DESTROYED	Point was DESTROYED

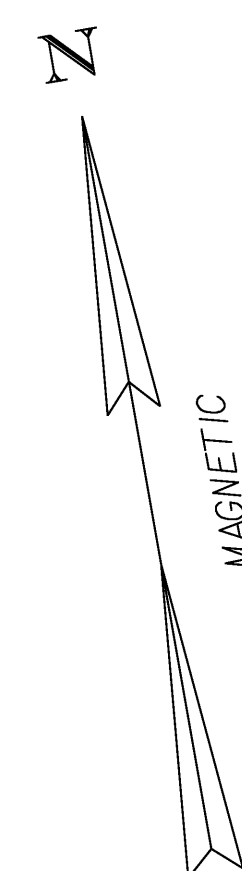
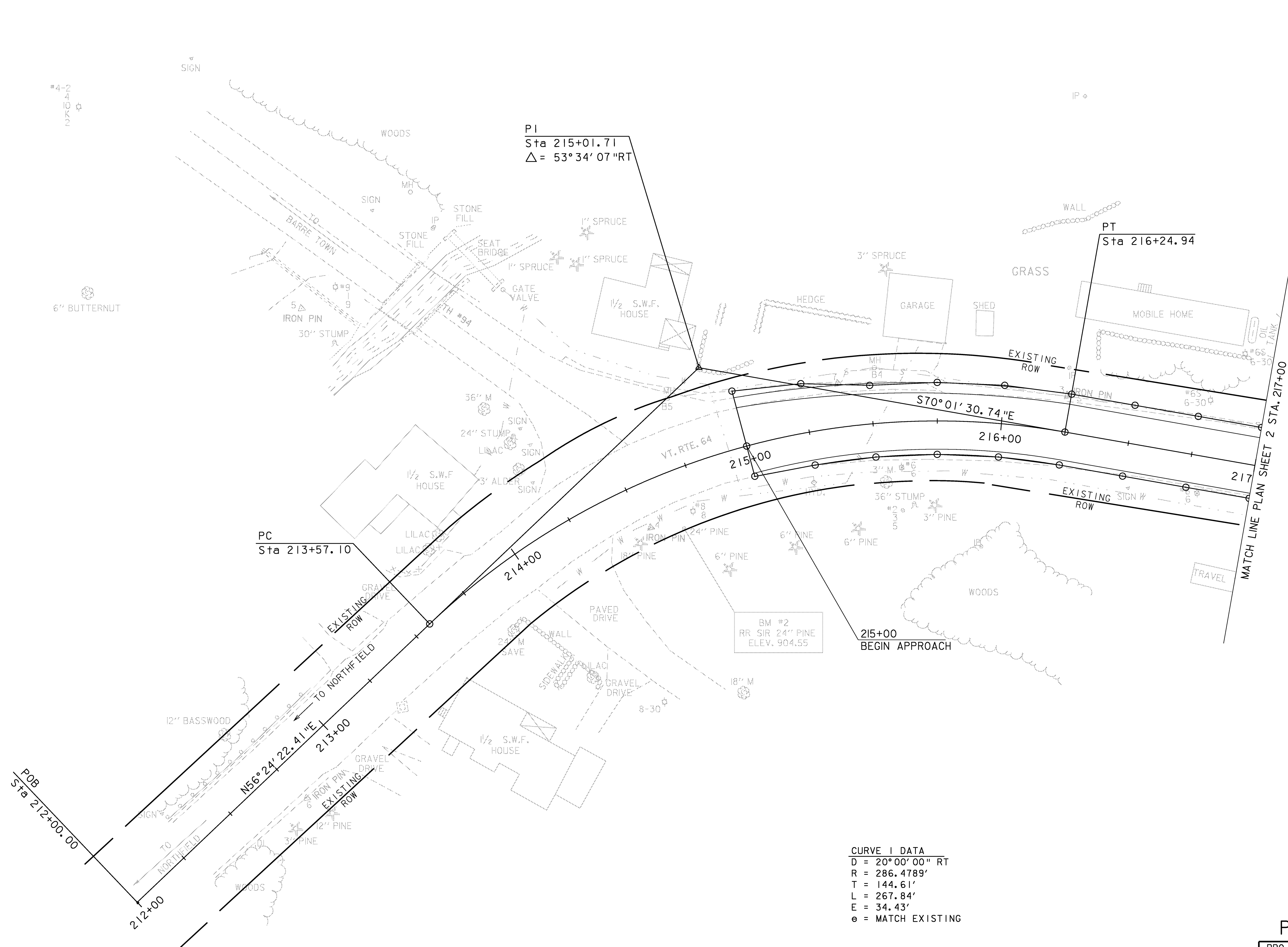
ALIGNMENT TIES

POB 212+00.00	P.C. 213+57.10	P.T. 216+24.94	P.C. 217+91.35	PT 218+96.14	POT 224+07.94
N= 10026.94	N= 10113.86	N= 10144.47	N= 10087.63	N= 10061.0118	N= 9976.5848
E= 48895.12	E= 49025.98	E= 49282.35	E= 49438.75	E= 49539.9581	E= 50044.7446
POINT WAS NOT TIED					

TIE SHEET

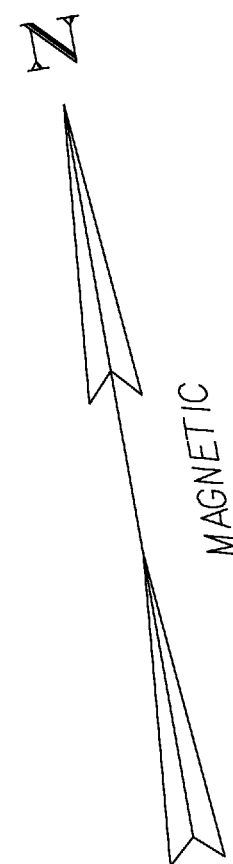
PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204(4)	
FILE NAME: 83ell/survey/x83ell+t1.dgn	PLOT DATE: 07-APR-2008
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: R. Bullock
DESIGNED BY: EVANS-MONGEON	CHECKED BY: U. STANLEY
	SHEET 16 OF 108

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED



PLAN SHEET I

PROJECT: WILLIAMSTOWN		PROJECT NO.: BRS 0204(4)	
DESIGN FILE NAME:	projects\83ell\structures\sellbdr.dgn	PLOT DATE:	07-APR-2008
IPARM FILE NAME:	s83ellpli	SURVEY DATE:	9/89
SURVEYED BY:	GILMAN	DRAWN BY:	STANLEY
SQUAD LEADER:	EVANS-MONGEON	SHEET:	17 OF 108
s83ellpli.l			



REMOVAL AND DISPOSAL
OF GUARD RAIL
219+00 RT TO 219+19 RT

RELOCATE MAILBOX,
SINGLE SUPPORT
220+02 LT

CONSTRUCT DRIVE
217+59 LT. (13' GRAVEL)
217+55 RT (13' PAVED)
218+74 RT. (12' GRAVEL) PAVED
219+34 LT. (15' GRAVEL)
219+81 LT. (14' GRAVEL)
220+60 LT. (19' PAVED)

REMOVE AND RESET FENCE
220+52 LT. 22' TO 220+52 LT. 36'
218+88 RT. (G1-D)

ANCHOR FOR STEEL BEAM RAIL
75' 217+70 LT. (G1-D)
218+88 RT. (G1-D)

Drainage Notes
#1 Sta. 218+49.24' RT to Sta 219+46, 27' RT
New 18" Pipe, 100' Long, CPEP OR CAAP OR CSP WITH 1-45° ELBOW
Inv. In 876.80
Inv. Out 874.00
#2 Sta. 220+45, 25' LT 23'
New Precast Reinforced Concrete Pipe DI With Cast Iron Grate
#3 Sta 220+45, 25' LT to Sta 220+55, 24' 25' RT
New 18" Pipe, 50' Long, CPEP OR CAAP OR CSP
Inv. In 868.14 867.93
Inv. Out 864.90 866.00
#4 Sta. 220+48.5, LT
Remove Drop Inlet

TRANSPLANTING SHRUBS
220+52 LT.

CONSTRUCT PAVED SIDEWALK
220+90 LT. 13' TO 220+90 LT. 40'

ALUMINUM APPROACH RAILING
218+40 LT. - 218+65 LT.
218+99 LT. - 219+24 LT.
218+97 RT. - 219+22 RT.
219+54 RT. - 219+79 RT.

BRIDGE RAILING, 3 RAIL ALUMINUM
219+22 RT. - 219+54 RT.

BRIDGE RAILING,
ALUMINUM/PEDESTRIAN
218+65 LT. - 218+99 LT.

STATION	218+60.41	220+38.66
OFFSET	24.15 LT	26.45 RT
NORTHING	10044.28	10063.59
EASTING	49499.45	49684.89

ML 219+15.50
CH 51+13.33
DELTA +30°R

219+34.00
END BRIDGE
F.G. EL= 877.08

218+97.00
BEGIN BRIDGE
F.G. EL= 879.24

Channel P1
Sta 49+43.99
Δ= 35°20' 23"LT

CONSTRUCTION LIMITS

220+25
END PROJECT
BEGIN APPROACH

MATCH LINE PLAN SHEET 1 STA. 217+00

MATCH LINE PLAN SHEET 3 STA 222+00

EXISTING BRIDGE DATA
CONCRETE SLAB
YEAR BUILT: 1900
CLEAR SPAN: 12'
VERTICAL CLEARANCE: 7'
WATERWAY OF FULL OPENING: 95 SQ FT

CURVE 2 DATA
D = 10°00' 00" LT
R = 572.96'
T = 52.55'
L = 104.80'
E = 2.40'
e = N/C
Δ = 10°28' 47"

DEMOLITION AND
DISPOSAL OF BUILDING
219+50 RT.

PORTLAND CEMENT CONCRETE
SIDEWALK, 5 INCH
218+11 - 218+68 LT 218+70
219+05 - 219+22 LT
222+45 LT

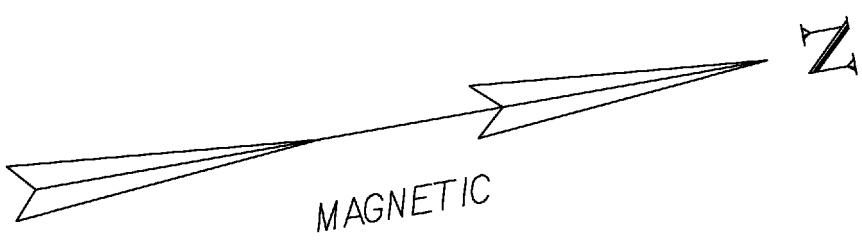
CAST-IN-PLACE CONCRETE
CURB, TYPE B
218+14 - 218+18 - 218+43 LT 218+73.5
219+10 - 219+19 - 219+22 LT
219+04 - 219+19 RT

PLAN SHEET 2

DATUM
VERTICAL NGVD 1929
HORIZONTAL ASSUMED

0 20 40
SCALE IN FEET
1"= 20'

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: projects/83ell/structures/sellbdr.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellpl2.1	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 18 OF 108



HD STEEL BEAM GUARD RAIL,
GALVANIZED
W/ 8 FEET POSTS
222+00 RT. - 223+45.5 RT.
48

ANCHOR FOR STEEL BEAM RAIL
223+45.5 RT. (GI-D)

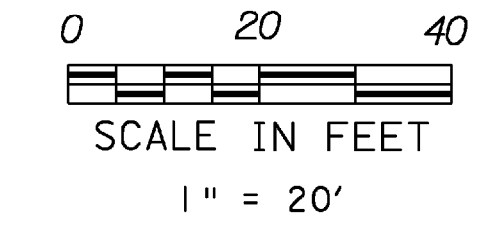
BM S-15
DISK ON GRANITE STEP
ELEV. 872.22

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED

VT 14 CURVE DATA
delta = 6°10'03"
D = 2°00'00" RT
R = 2864.7890'
T = 154.34'
L = 308.37'
E = 4.15'

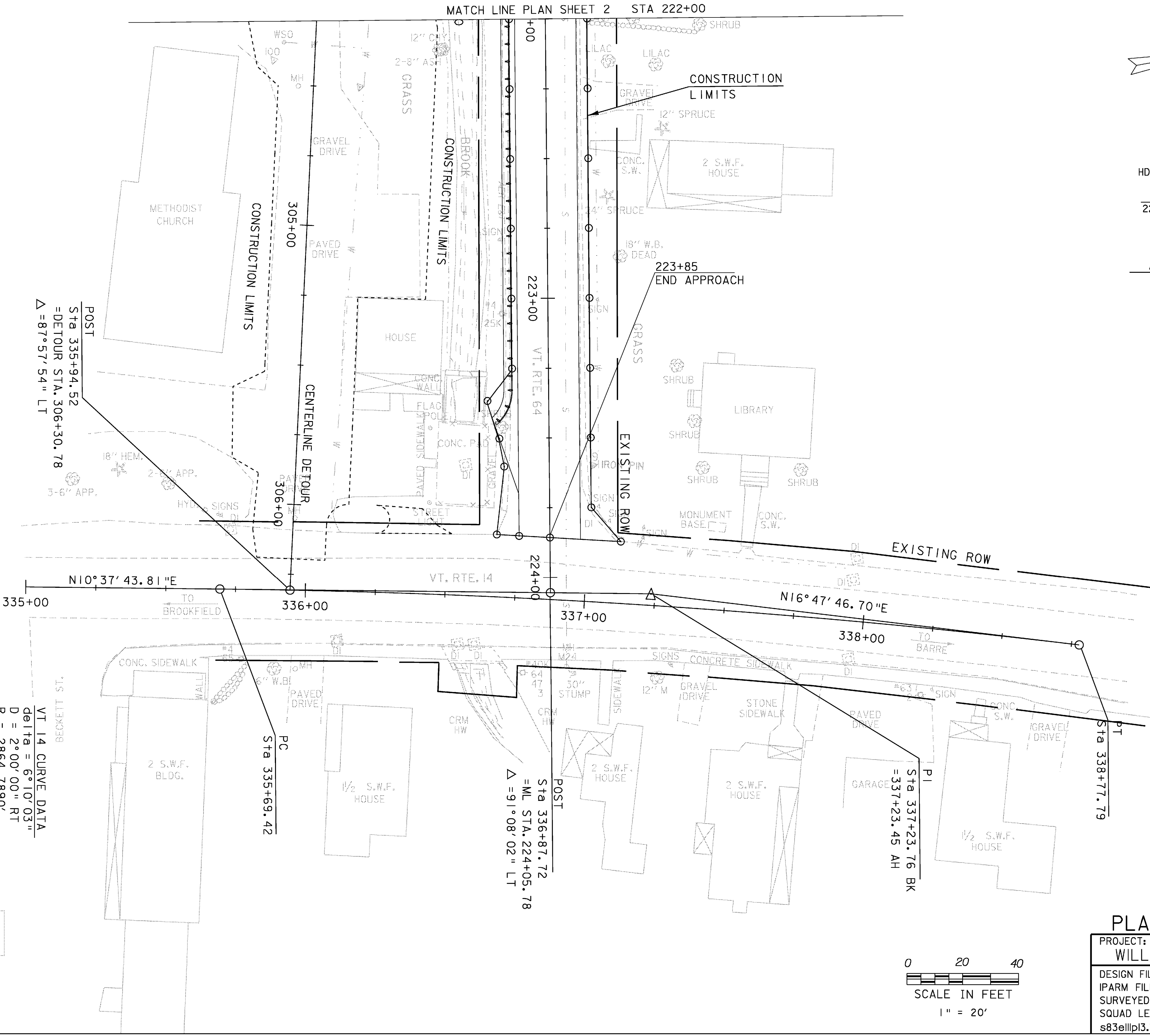
PC
Sta 335+69.42

POST
Sta 336+87.72
=ML STA. 224+05.78
Δ = 91°08'02" LT

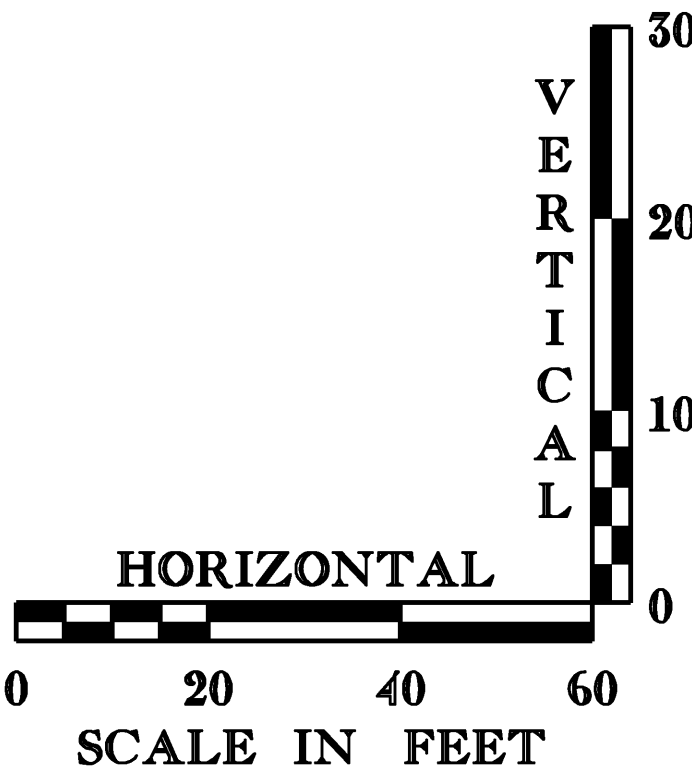
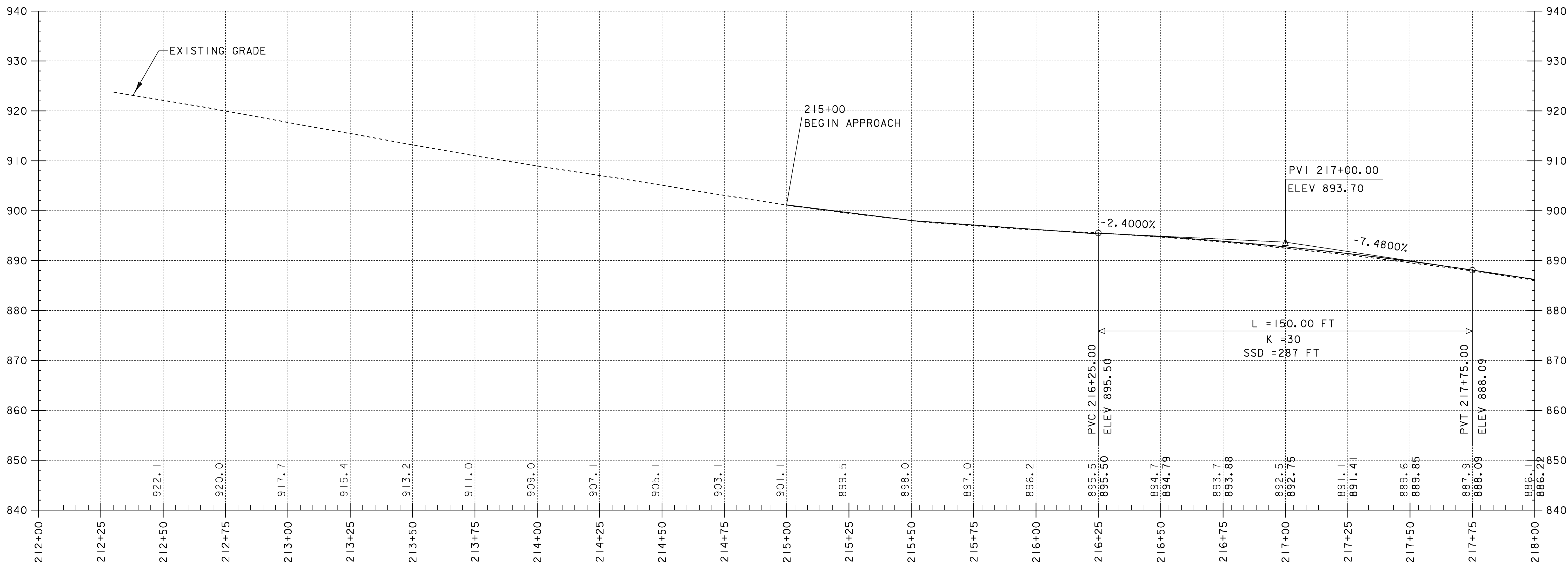


PLAN SHEET 3

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: projects/83ell/structures/sellbdr.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: s83ellpi3	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 19 OF 108
s83ellpi3.i	



Profile 1

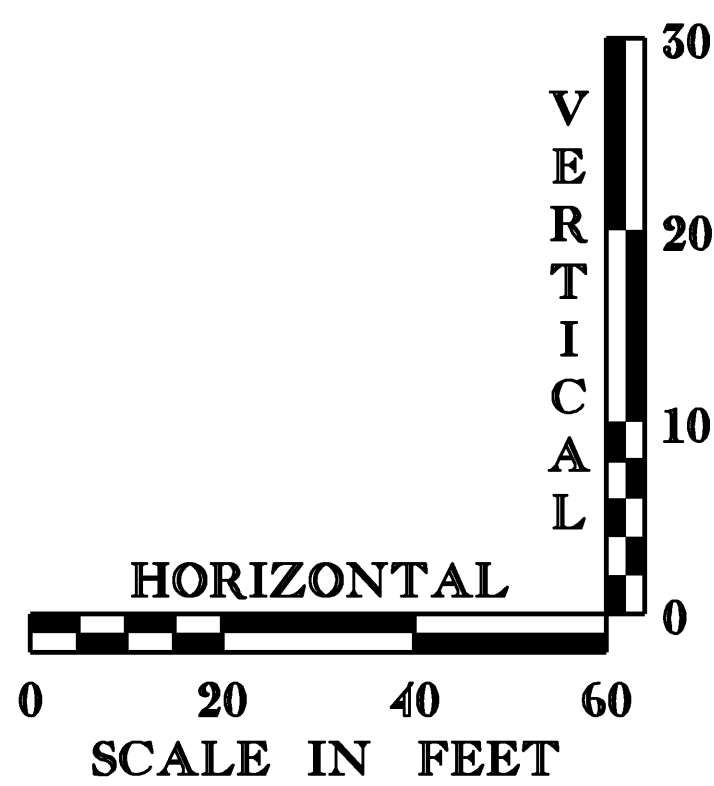
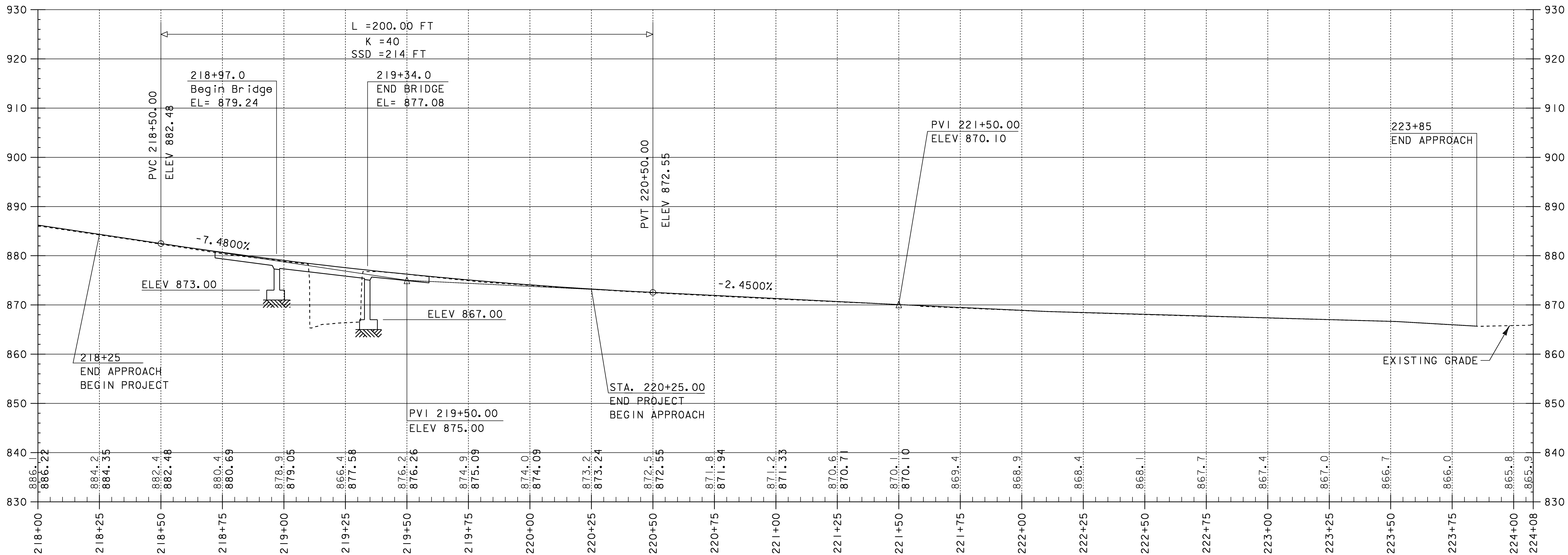


THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROFILE SHEET 1

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell/structures/sellxs.dgn
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	STANLEY
83ellpfl	
PLOT DATE:	07-APR-2008
DRAWN BY:	STANLEY
CHECKED BY:	EVANS-MONGEON
SHEET	20 OF 108

Profile 2



THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PROFILE SHEET 2

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	s83ell/structures/sellxs.dgn
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	STANLEY
PLOT DATE:	07-APR-2008
DRAWN BY:	STANLEY
CHECKED BY:	EVANS-MONGEON
SHEET	21 OF 108

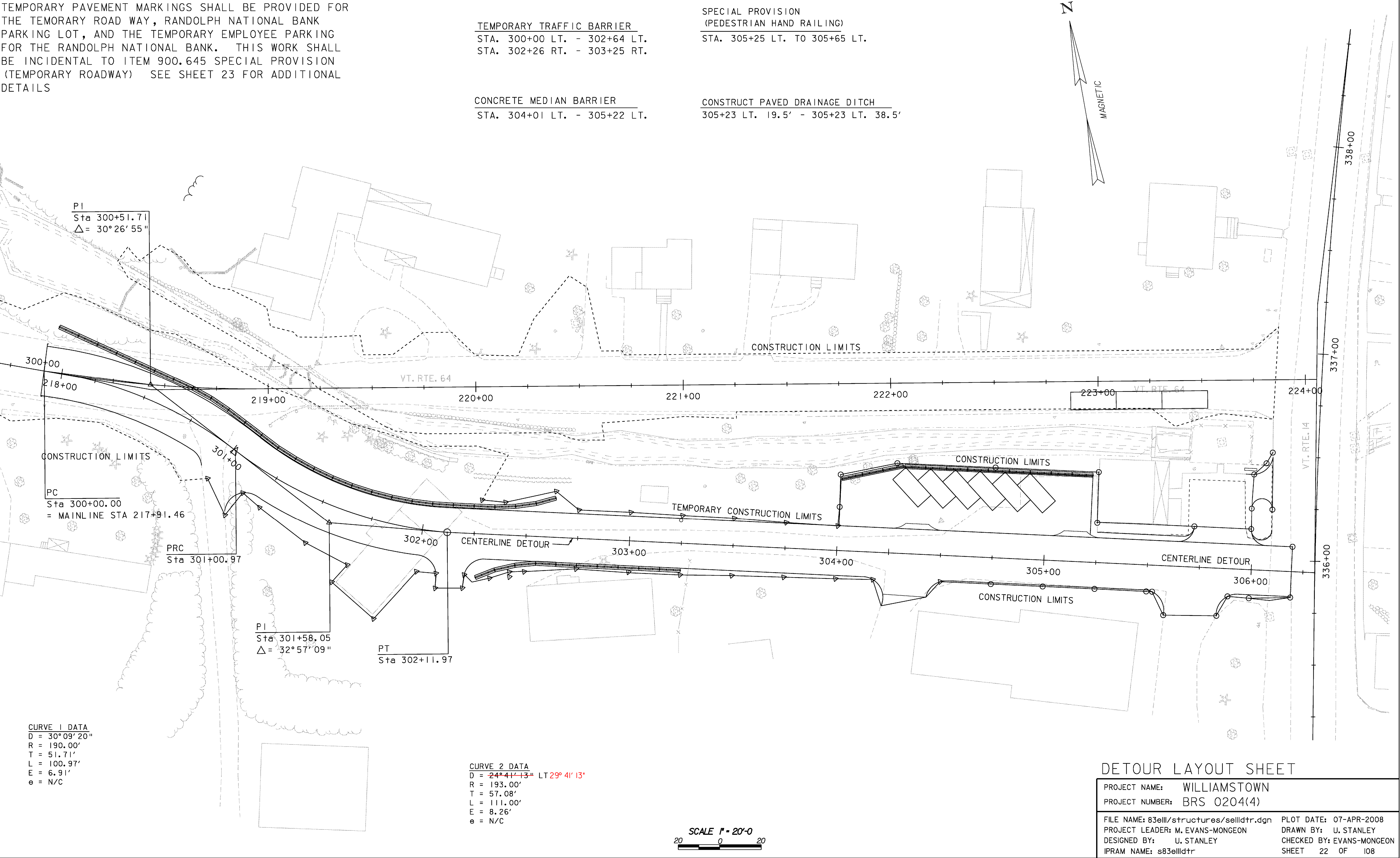
TEMPORARY PAVEMENT MARKINGS SHALL BE PROVIDED FOR THE TEMORARY ROAD WAY, RANDOLPH NATIONAL BANK PARKING LOT, AND THE TEMPORARY EMPLOYEE PARKING FOR THE RANDOLPH NATIONAL BANK. THIS WORK SHALL BE INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (TEMPORARY ROADWAY) SEE SHEET 23 FOR ADDITIONAL DETAILS

TEMPORARY TRAFFIC BARRIER
STA. 300+00 LT. - 302+64 LT.
STA. 302+26 RT. - 303+25 RT.

SPECIAL PROVISION
(PEDESTRIAN HAND RAILING)
STA. 305+25 LT. TO 305+65 LT.

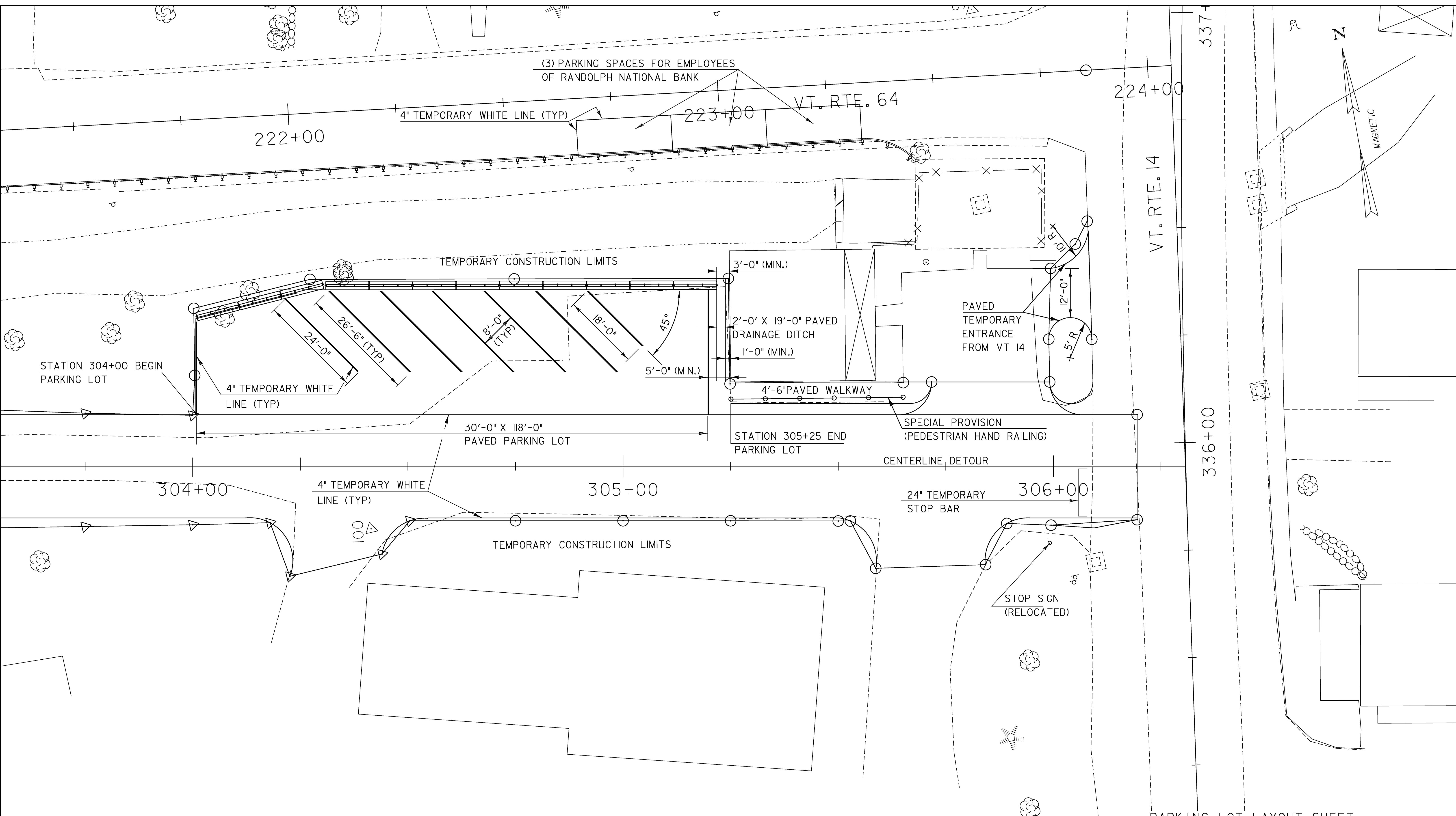
CONCRETE MEDIAN BARRIER
STA. 304+01 LT. - 305+22 LT.

CONSTRUCT PAVED DRAINAGE DITCH
305+23 LT. 19.5' - 305+23 LT. 38.5'



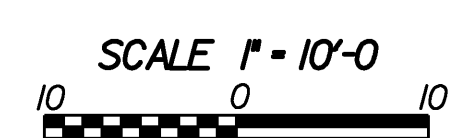
DETOUR LAYOUT SHEET

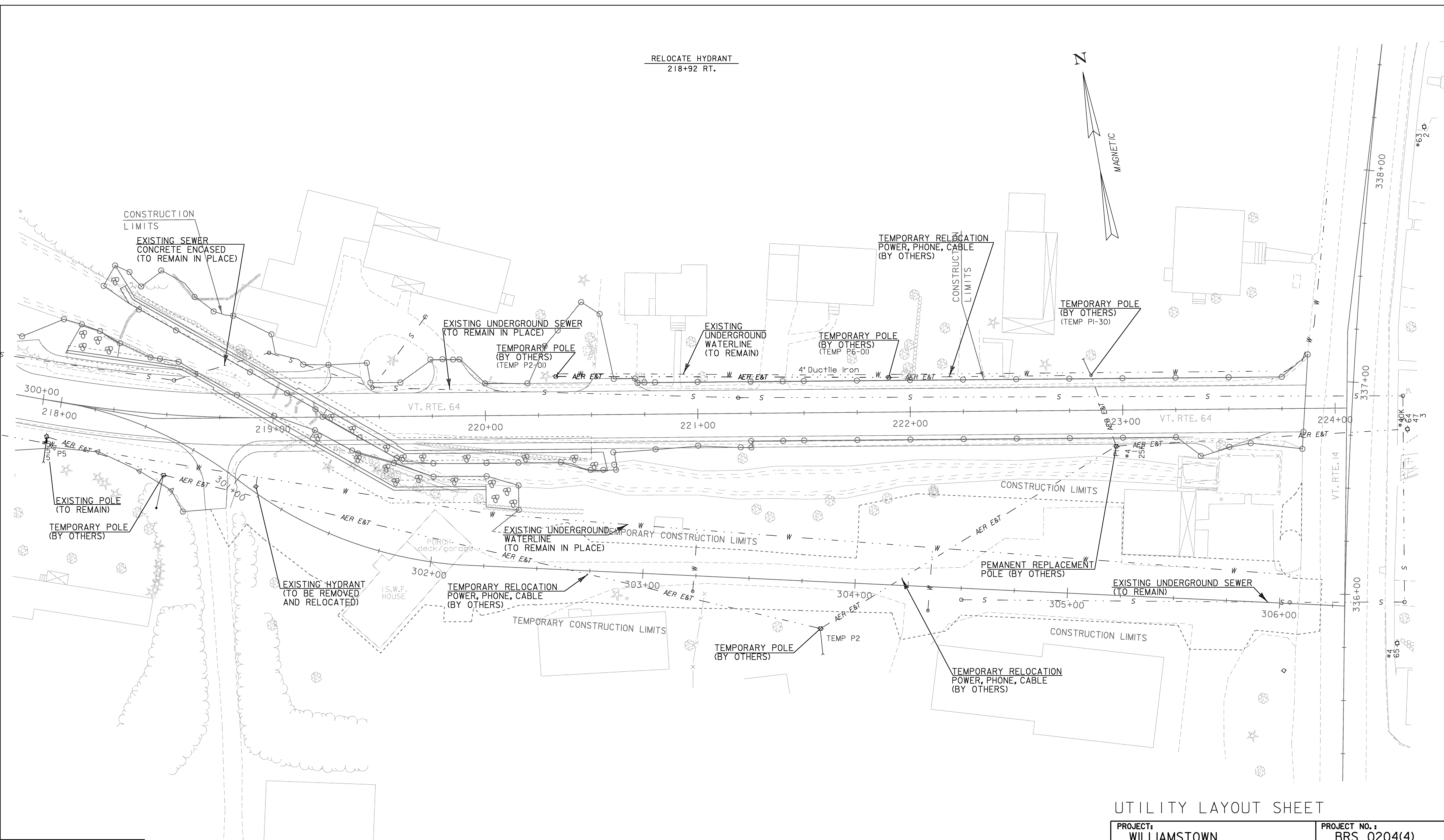
PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	U. STANLEY
FILE NAME:	83ell/structures/sellldr.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	22 OF 108
DESIGNED BY:	U. STANLEY		
IPRAM NAME:	s83ellldr		



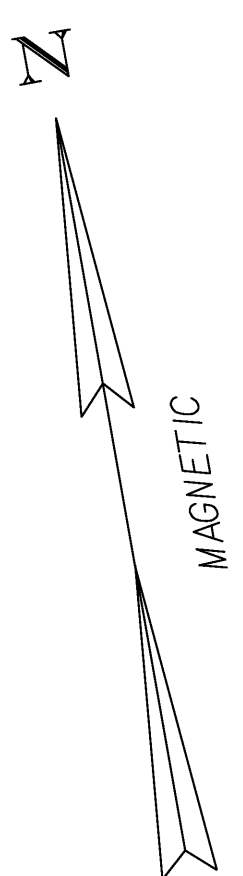
PARKING LOT LAYOUT SHEET

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204 (4)	DRAWN BY:	EVANS-MONGEON
FILE NAME:	sellbanksite.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	M.EVANS-MONGEON	SHEET	23 OF 108
DESIGNED BY:	U. STANLEY		
SITE LAYOUT FOR PARKING LOT			





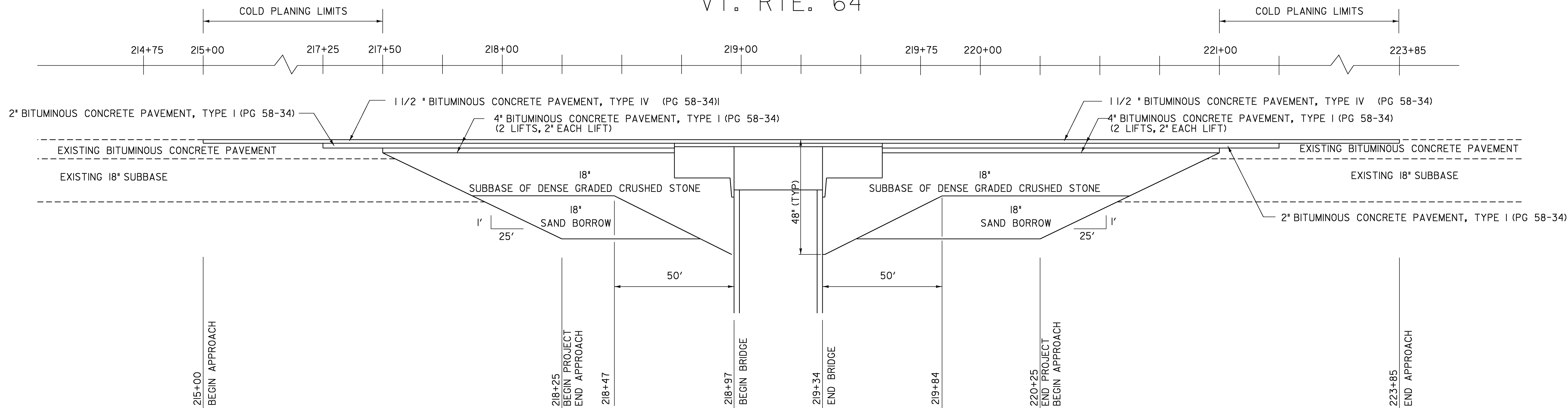
RELOCATE HYDRANT
218+92 RT.



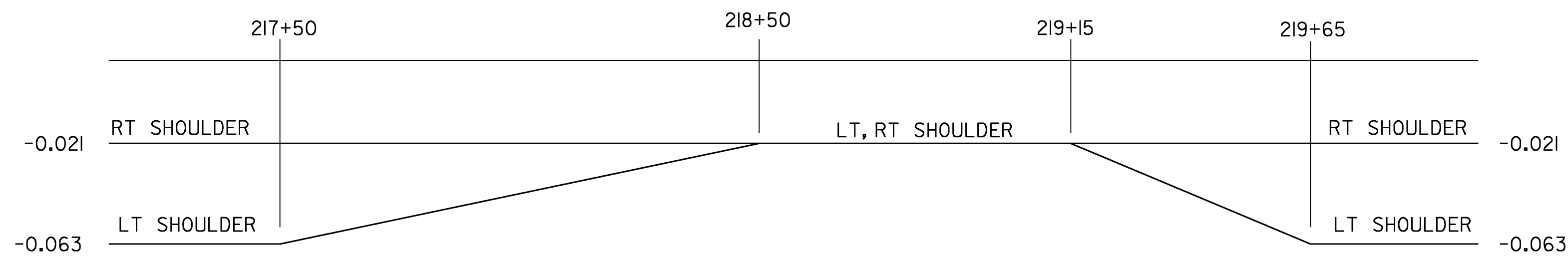
UTILITY LAYOUT SHEET

DATUM VERTICAL NGVD 1929 HORIZONTAL ASSUMED	PROJECT: WILLIAMSTOWN		PROJECT NO.: BRS 0204(4)	
	DESIGN FILE NAME: /projects/83ell/sellldtr.dgn		PLOT DATE: 07-APR-2008	
	IPARM FILE NAME: s83ellldtr1		SURVEY DATE: 9/89	
	SURVEYED BY: GILMAN		DRAWN BY: U. STANLEY	
	SQUAD LEADER: M. EVANS-MONGEON		SHEET: 24 OF 108	

VT. RTE. 64



MATERIAL TRANSITION DIAGRAM
NTS



SHOULDER TRANSITION
NTS

MATERIAL TRANSITION DETAILS

PROJECT NAME: WILLIAMSTOWN	
PROJECT NO.: BRS 0204(4)	
DESIGN FILE NAME: str2/83elll/sellxs.dgn	PLOT DATE: 07-APR-2008
SQUAD LEADER: EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: EVANS-MONGEON
IPARM FILE NAME:	SHEET: 25 OF 108

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A BRIDGE OVER AN UNNAMED BROOK. THE PROJECT IS ON VT ROUTE 64, A PAVED, STATE NUMBERED ROUTE, IN THE TOWN OF WILLIAMSTOWN. A NEW, TWO-LANE, CAST-IN-PLACE, CONCRETE SLAB, BRIDGE WILL BECONSTRUCTED ON THE EXSISTING ALIGNEMENT. TRAFFIC WILL BE MAINTAINED ON A TEMPORARY DETOUR DURING CONSTRUCTION. FOLLOWING COMPLETION OF THE NEW BRIDGE, THE TEMPORARY DETOUR WILL BE PARTIALLY REMOVED. TOTAL ROADWAY APPROACH WORK, INCLUDING BOTH APPROACHES, IS APPROXIMATELY 685 FEET.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.96 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, MODERATE TO STEEPLY SLOPING, MIXED SOFTWOOD AND HARDWOOD FOREST WITH WELL DEFINED DRAINAGE WAYS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG ROADWAY DITCHES, AND THAT WHICH FOLLOWS ROUTE 64 ALONG THE 14% GRADE AT THE BEGINNING OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE NOT LINED WITH STONE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

UNNAMED BROOK IS LOCATED IN THE PROJECT AREA. THERE ARE NO OTHER WATER BODIES OR WETLANDS WITHIN THE PROJECT AREA. THE UNNAMED BROOK IS CLASSIFIED AS HILLY WITH A MIXTURE OF OPEN AND FORESTED COVER CONTAINING A STREAMBED OF MOSTLY LEDGE WITH COBBLE UPSTREAM, COBBLES AND GRAVEL DOWNSTREAM. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS 3.8 SQ. MI. DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS AND APPLICABLE ROADWAY APPROACHES AS WELL AS THE REMOVAL OF THE EXISTING CROSSING. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE II.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS HILLY AND WOODED WITH ROUTE 64 FOLLOWING PARALLEL TO UNNAMED BROOK WHICH IS CONTAINED BY STEEP STREAM BANKS ALONG EACH SIDE. DEVELOPMENT ALONG ROUTE 64 CONSISTS OF PERMANENT RESIDENCES, TWO OF WHICH EXIST NEAR THE PROJECT LIMITS. OVERHEAD UTILITY SERVICE FOLLOWS ALONG ROUTE 64 WITH THE NEED FOR TEMPORARY RELOCATION DURING CONSTRUCTION.

1.2.4 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG ROUTE 64 THE TWO RESIDENCES NEAR THE BRIDGE SITE HAVE SMALL AREAS OF LAWN AND LANDSCAPE PLANTINGS. NO FIELDS OR OTHER AGRICULTURAL CROPS EXIST NEAR THE PROJECT. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE ALONG A NEW ALIGNMENT. SOME TREES WILL BE REMOVED.

FOLLOWING CONSTRUCTION OF THE NEW BRIDGE, THE STREAM BANKS WILL BE STABILIZED WITH STONE FILL TYPE II AND VEGETATION REESTABLISHED WITH STANDARD SEED & MULCH PRACTICES.

1.2.5 SOILS

THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT ORANGE COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS MEC (MERRIMAC FINE SANDY LOAM). THIS SOIL TYPE IS DESCRIBED AS "...LEVEL TO STEEP, DEEP, SOMEWHAT EXCESSIVELY DRAINED SOILS ON TERRACES. IN REPRESENTATIVE PROFILE IN A HAYFIELD...THEY HAVE SURFACE LAYER OF VERY DARK GRAYISH BROWN FINE SANDY LOAM 6 INCHES THICK. THE UPPER 10 INCHES OF SUBSOIL IS BROWN TO DARK BROWN GRADING TO YELLOWISH BROWN FINE SANDY LOAM. THE LOWER 7 INCHES IS BROWN SANDY LOAM. THE UNDERLYING MATERIAL TO A DEPTH OF 60 INCHES IS OLIVE GRAY GRAVELLY SAND...PERMEABILITY IS RAPID...THE HAZARD OF EROSION IS MODERATE. RUNOFF IS MEDIUM.

THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.17. GENERALLY, K-VALUES INDICATE THE FOLLOWING: 0.0 - 0.23 = LOW ERODIBILITY; 0.24 - 0.36 = MODERATE ERODIBILITY; 0.37 AND HIGHER = HIGHER ERODIBILITY.

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: NO
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: UNNAMED BROOK
WETLANDS: NO

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION PREVENTION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES
PROJECT DEMARCATION FENCE IS NOT BEING USED BECAUSE OF THE RESIDENTIAL NATURE OF THE PROJECT SITE.

1.4.2 LIMIT DISTURBANCE AREA
SMALL CONSTRUCTION SITE

1.4.3 STABILIZE CONSTRUCTION EXIT
STABILIZED CONSTRUCTION ENTRANCES WILL BE USED AS NECESSARY AND WILL BE PAID FOR UNDER ITEM 653.35 VEHICLE TRACKING PAD, SEE DETAIL ON EROSION & SEDIMENTATION CONTROL DETAIL SHEET 2.

1.4.4 INSTALL SILT FENCE
SILT FENCE WILL BE INSTALLED PRIOR TO ANY UPSLOPE WORK AS SHOWN IN THE PLANS OR AS NECESSARY. IT WILL BE PAID FOR UNDER ITEM 649.51 GEOTEXTILE FOR SILT FENCE. SEE DETAIL ON EROSION & SEDIMENT CONTROL DETAIL SHEET 1.

1.4.5 DIVERT UPLAND RUNOFF
MINIMAL AMOUNT OF OFF-SITE RUNOFF ANTICIAPATED.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
THE INSTALLATION OF CHECK DAMS WILL BE COVERED BY PAY ITEM 653.25 TEMPOARY STONE CHECK DAM, TYPE 1. CHECK DAMS SHALL BE INSTALLED AS SHOWN ON EPSC PLANS OR AS NEEDED. SEE DETAIL ON EROSION & SEDIMENT CONTROL DETAIL SHEET 2.

1.4.7 CONSTRUCT PERMANENT CONTROLS
STONE FILL, TYPE II SHALL BE USED FOR CHANNEL PROTECTION.
SEED, PAY ITEM 651.15, HAY MULCH, PAY ITEM 651.25, AND TEMPORARY EROSION MATTING, ITEM 653.20, SHALL BE USED TO STABLIZE SOIL AS INDICATED ON THE EPSC PLANS.
DRAINAGE INLETS AND PIPING SHALL BE USED TO CONTROL STORMWATER RUN-OFF.
WINGWALLS ARE UTILIZED TO STABILIZE AND RETAIN SOIL.

1.4.8 STABILIZE EXPOSED SOILS
SEED, PAY ITEM 651.15 AND HAY MULCH, PAY ITEM 651.25, SHALL BE INSTALLED TO STABLIZE SOIL AS INDICATED ON THE EPSC PLANS.
TEMPORARY EROSION MATTING, PAY ITEM 653.20 SHALL BE INSTALLED TO STABLIZE SOIL AS INDICATED ON THE EPSC PLANS, SEE DETAILS ON EROSION PREVENTION & SEDIMENT CONTROL DETAIL SHEET 1.

1.4.9 STABILIZE SOIL AT FINAL GRADE
SEED AND MULCH, EROSION MATTING , PAY ITEM 653.20 SHALL BE INSTALLED TO STABLIZE SOIL AS INDICATED ON THE EPSC PLANS, SEE DETAILS EROSION PREVENTION & SEDIMENT CONTROL DETAIL SHEET 1.

1.4.10DE-WATERING ACTIVITIES
SEDIMENT BASINS FOR ABUTMENT WORK SHALL BE USED AS NECESSARY AND SHALL BE PLACED AS DETERMINED BY THE CONTRACTOR AND APPROVED BY THE RESIDENT ENGINEER.

1.4.11 INSPECT YOUR SITE
INSPECT SITE BASED ON PERMIT AUTHORIZATION REQUIREMENTS

1.5 TEMPORARY EROSION PREVENTION MEASURES TO BE UTILIZED INCLUDE:

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL ALSO BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK. INSTALLATION SHALL BE PERFORMED PER INCLUDED DETAIL SHEET.

MEASURES SUCH AS SILT FENCE SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT BUILD-UP SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

1.6 PERMANENT EROSION CONTROL

SEVERAL PERMANENT EROSION CONTROL MEASURES WILL BE UTILIZED

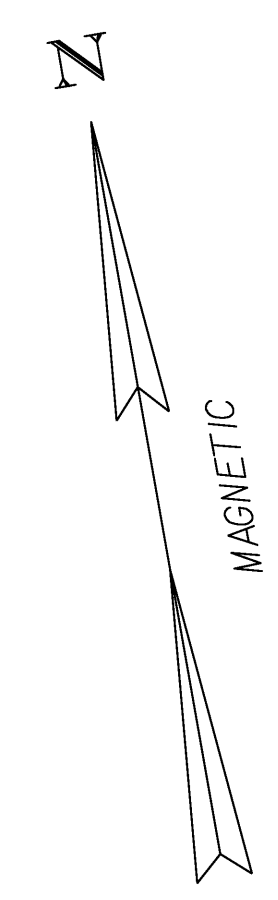
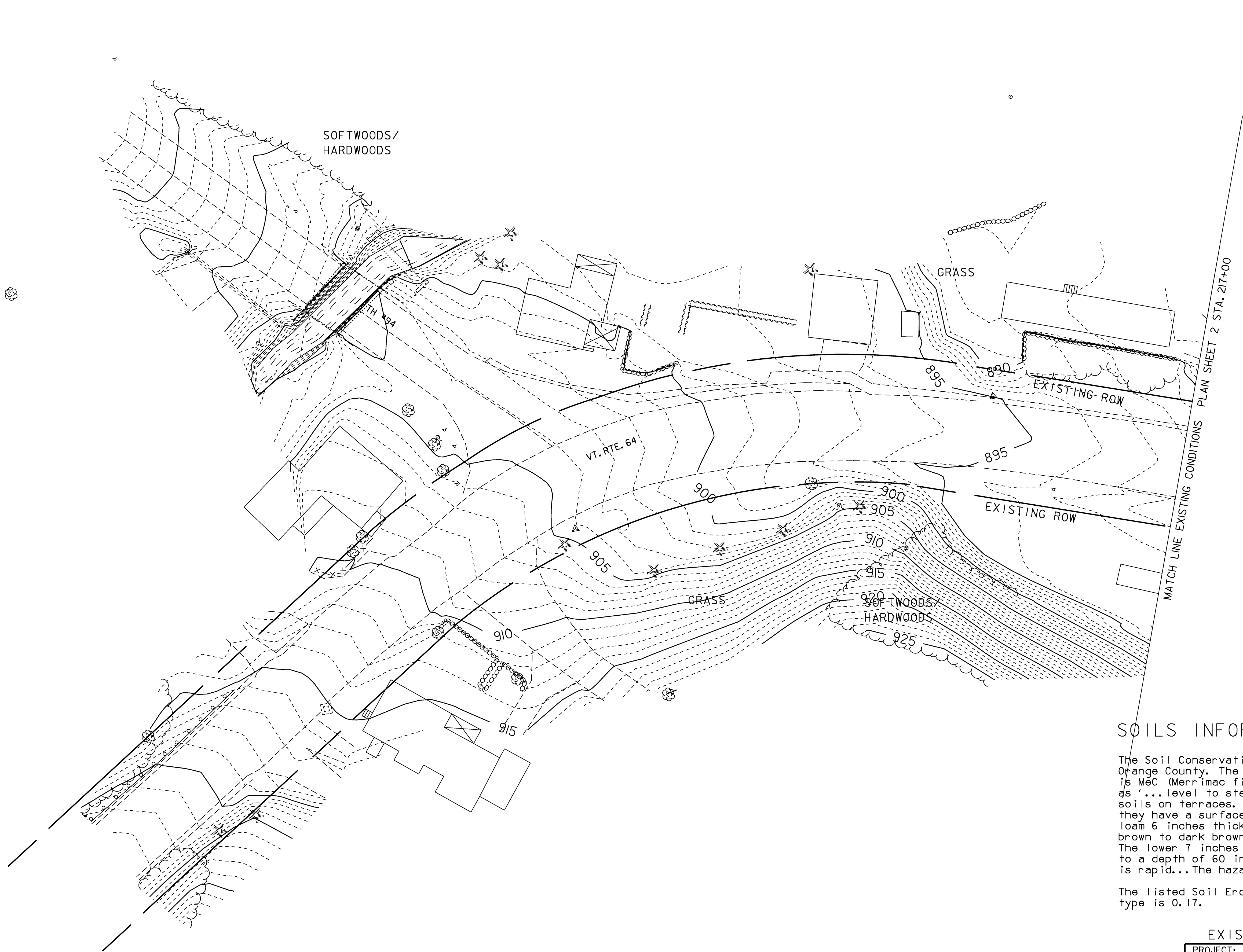
STREAM BANKS WILL BE ARMORED WITH STONE FILL TYPE II AS SPECIFIED BY VTRANS ON THE PROJECT PLANS. THE STONE FILL WILL STABILIZE THE EXISTING BANK IN ORDER TO PROTECT FROM EROSION DURING STORM AND HIGH WATER EVENTS.

ALL DISTURBED AREAS WILL BE SEEDED AND MULCHED. AREAS WITH SLOPES STEEPER THAN 1:3 SHALL UTILIZE BIODEGRADABLE EROSION CONTROL MATTING.

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

EROSION CONTROL NARRATIVE

PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204 (4)	
FILE NAME: S83EIIIIERONARR.DGN	PLOT DATE: 07-APR-2008
PROJECT LEADER: M.EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: E-MONGEON	CHECKED BY: E-MONGEON
	SHEET 26 OF 108

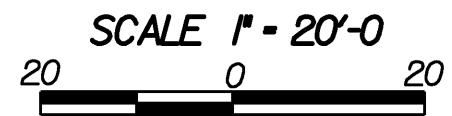


SOILS INFORMATION:

The Soil Conservation Service has mapped the soils throughout Orange County. The soil type identified for this project site is MeC (Merrimac fine sandy loam). This soil type is described as "...level to steep, deep, somewhat excessively drained soils on terraces. In representative profile in a hayfield... they have a surface layer of very dark grayish brown fine sandy loam 6 inches thick. The upper 10 inches of the subsoil is brown to dark brown grading to yellowish brown fine sandy loam. The lower 7 inches is brown sandy loam. The underlying material to a depth of 60 inches is olive gray gravelly sand...Permeability is rapid...The hazard of erosion is moderate. Runoff is medium.

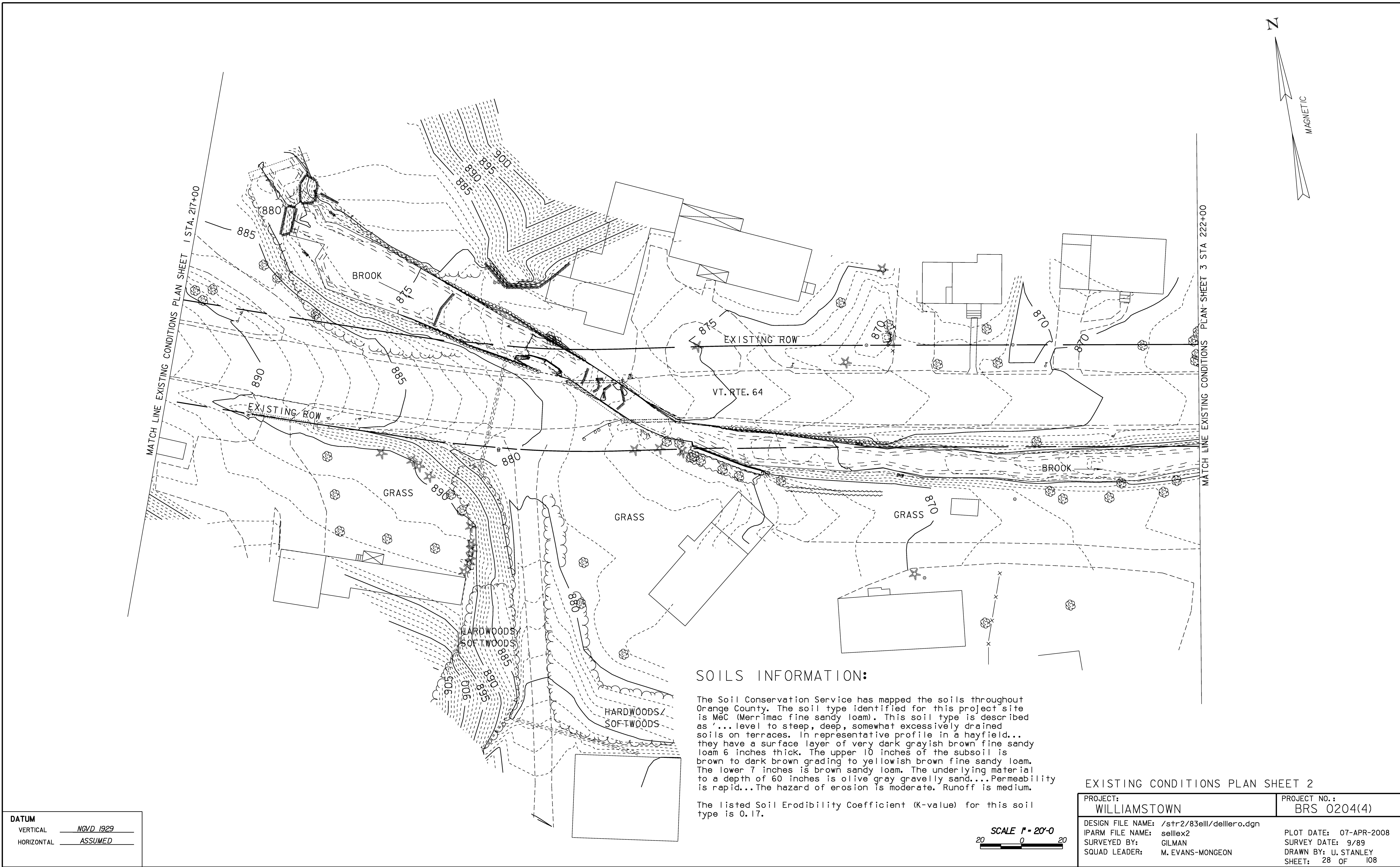
The listed Soil Erodibility Coefficient (K-value) for this soil type is 0.17.

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED



EXISTING CONDITIONS PLAN SHEET 1

PROJECT: WILLIAMSTOWN		PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME:	/str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME:	dell0xl	SURVEY DATE: 9/89
SURVEYED BY:	GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER:	M. EVANS-MONGEON	SHEET: 27 OF 108

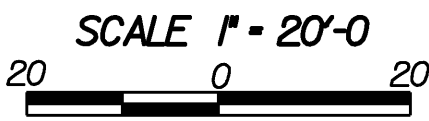


DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED

SOILS INFORMATION:

The Soil Conservation Service has mapped the soils throughout Orange County. The soil type identified for this project site is MeC (Merrimac fine sandy loam). This soil type is described as "...level to steep, deep, somewhat excessively drained soils on terraces. In representative profile in a hayfield... they have a surface layer of very dark grayish brown fine sandy loam 6 inches thick. The upper 10 inches of the subsoil is brown to dark brown grading to yellowish brown fine sandy loam. The lower 7 inches is brown sandy loam. The underlying material to a depth of 60 inches is olive gray gravelly sand....Permeability is rapid...The hazard of erosion is moderate. Runoff is medium.

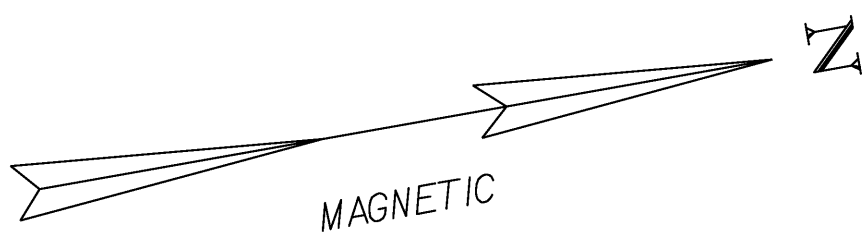
The listed Soil Erodibility Coefficient (K-value) for this soil type is 0.17.



EXISTING CONDITIONS PLAN SHEET 2

PROJECT: WILLIAMSTOWN		PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME:	/str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME:	selllex2	SURVEY DATE: 9/89
SURVEYED BY:	GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER:	M. EVANS-MONGEON	SHEET: 28 OF 108

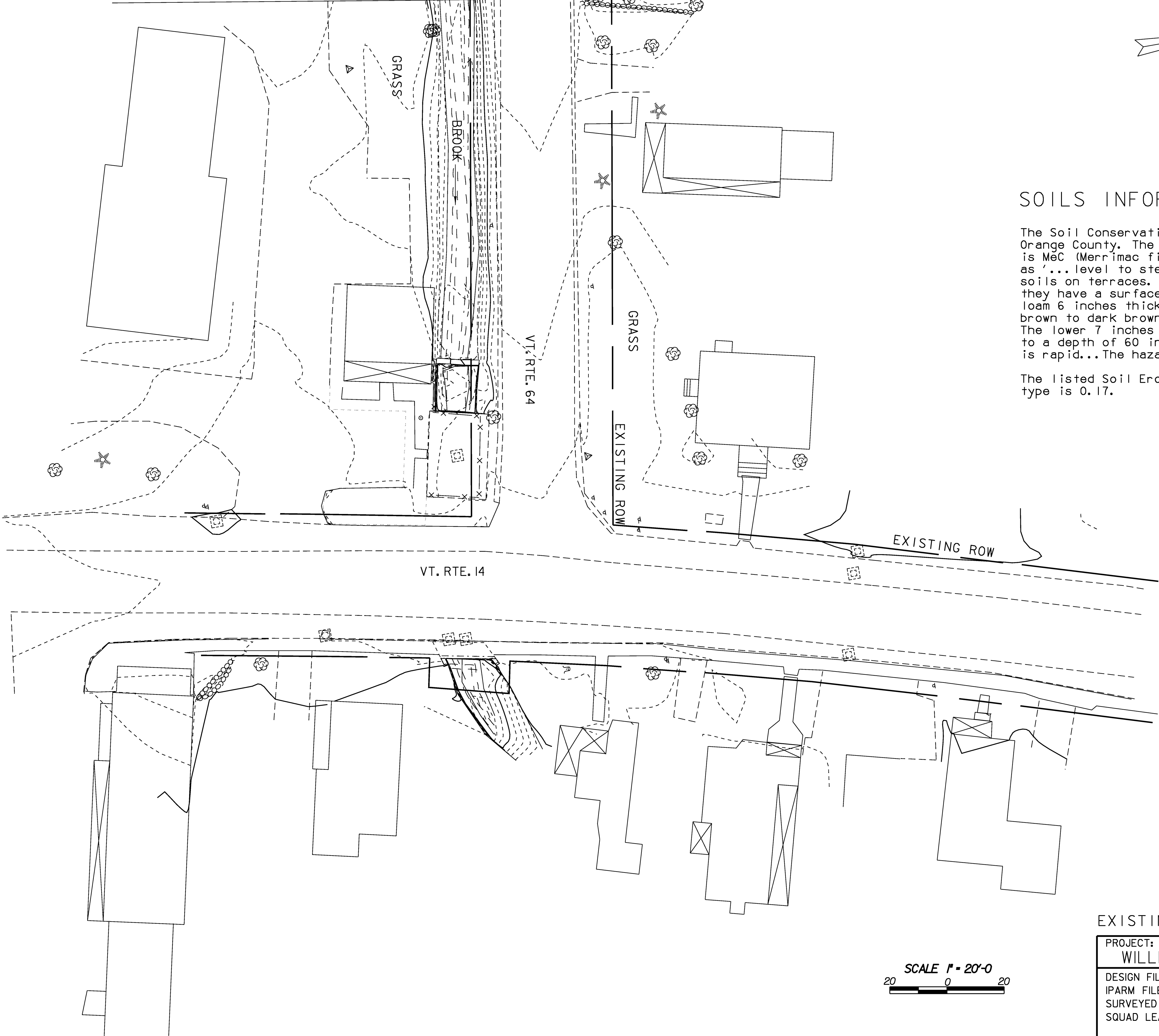
MATCH LINE EXISTING CONDITIONS PLAN SHEET 2 STA 222+00



SOILS INFORMATION:

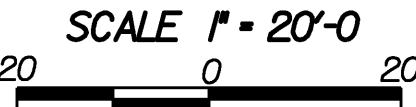
The Soil Conservation Service has mapped the soils throughout Orange County. The soil type identified for this project site is MeC (Merrimac fine sandy loam). This soil type is described as '...level to steep, deep, somewhat excessively drained soils on terraces. In representative profile in a hayfield... they have a surface layer of very dark grayish brown fine sandy loam 6 inches thick. The upper 10 inches of the subsoil is brown to dark brown grading to yellowish brown fine sandy loam. The lower 7 inches is brown sandy loam. The underlying material to a depth of 60 inches is olive gray gravelly sand....Permeability is rapid...The hazard of erosion is moderate. Runoff is medium.

The listed Soil Erodibility Coefficient (K-value) for this soil type is 0.17.

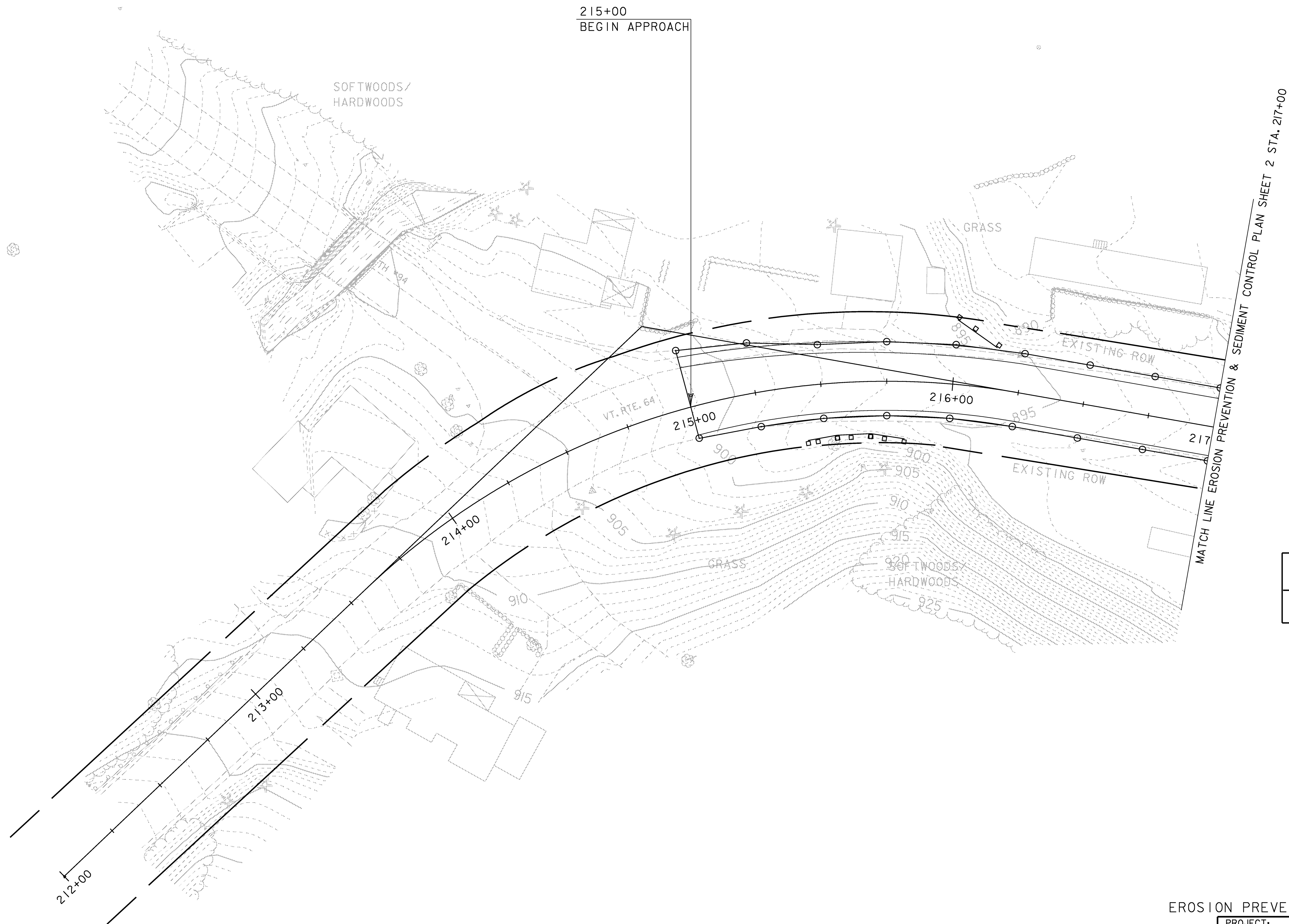
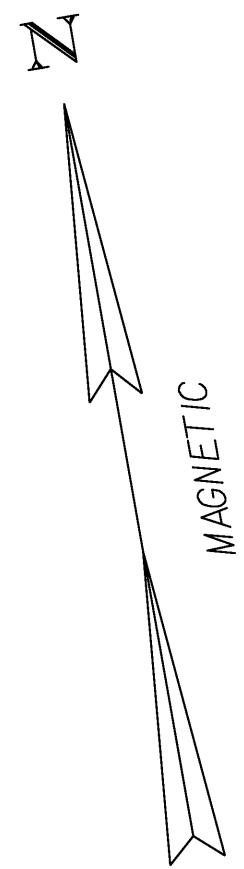


EXISTING CONDITIONS PLAN SHEET 3

PROJECT: WILLIAMSTOWN		PROJECT NO.: BRS 0204(4)	
DESIGN FILE NAME: str2/83ell/dellero.dgn		PLOT DATE: 07-APR-2008	
IPARM FILE NAME: selllex3		SURVEY DATE: 9/89	
SURVEYED BY: GILMAN		DRAWN BY: U. STANLEY	
SQUAD LEADER: M. EVANS-MONGEON		SHEET: 29 OF 108	



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED



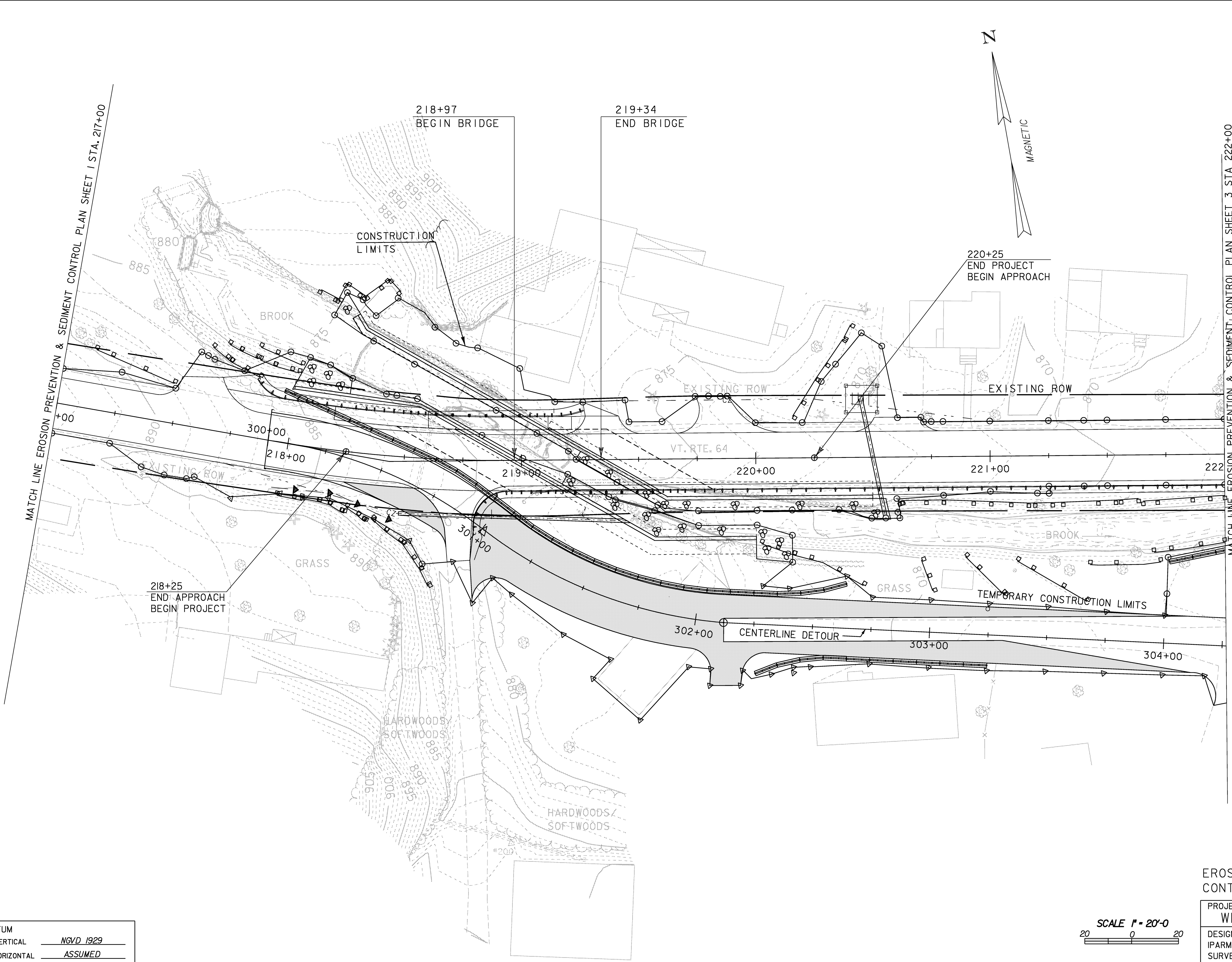
LEGEND	
	GEOTEXTILE FOR SILT FENCE

SCALE 1" = 20'-0"

EROSION PREVENTION & SEDIMENT CONTROL PLAN SHEET 1

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: /str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellero.l	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 30 OF 108

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED



NOTES

1. AN ALTERNATE TEMPORARY EROSION CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE RESIDENT ENGINEER.
2. THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006.
3. USE THE EROSION CONTROL PLAN SHEET IN CONJUNCTION WITH THE ESDC DETAIL SHEETS.
4. THE CONTRACTOR WILL PROPOSE LOCATIONS FOR SEDIMENTATION OF WATER PUMPED FROM THE COFFERDAMS. SPECIAL CONSIDERATION MUST BE GIVEN TO THE FIRST PUMP-DOWN OF THE COFFERDAMS. THIS WILL CONTAIN THE GREATEST VOLUME OF WATER WITH A HIGH SEDIMENT LOAD. THE CONTRACTOR MAY PROVIDE ADDITIONAL SEDIMENT TRAPS WITHIN THE CONSTRUCTION LIMITS IF REQUIRED OR CONTROL THE RATE OF DRAW-DOWN. ALL SEDIMENT TRAP LOCATIONS MUST BE APPROVED BY THE RESIDENT ENGINEER.
5. AFTER COMPLETION OF THE SUBSTRUCTURE, THE SEDIMENT IN THE TRAP SHALL BE REMOVED AND THE GROUND RESTORED TO ITS ORIGINAL SLOPES OR GRADED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

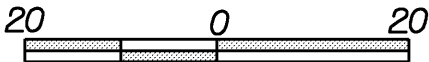
LEGEND

- GEOTEXTILE FOR SILT FENCE
- STONE FILL, TYPE II
- TEMPORARY STONE CHECK DAMS TYPE I
- INLET PROTECTION TYPE I
- REMOVE PAVEMENT, SEED AND MULCH
SEE SHEET 48 FOR NOTES

EROSION PREVENTION & SEDIMENT
CONTROL PLAN SHEET 2

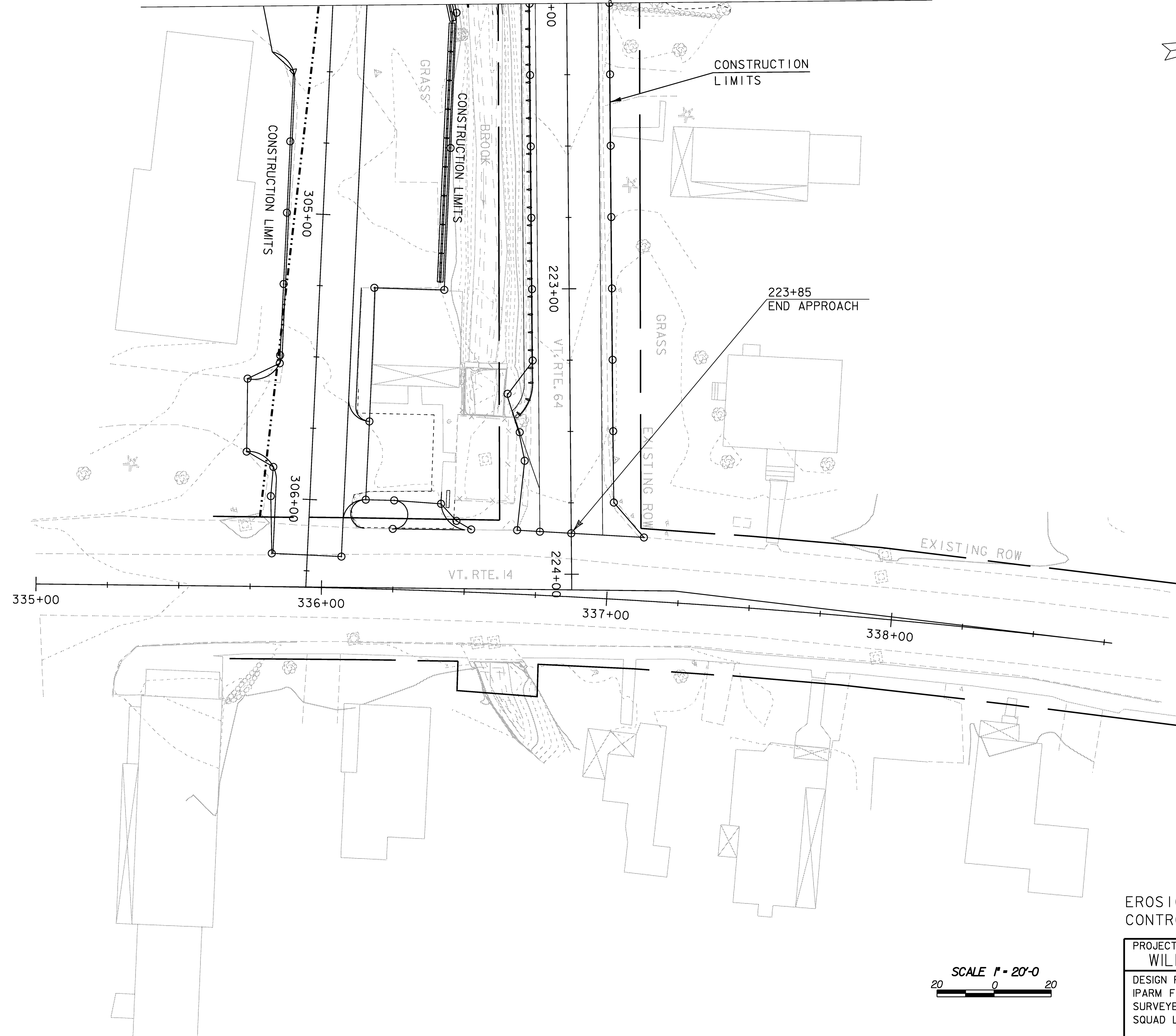
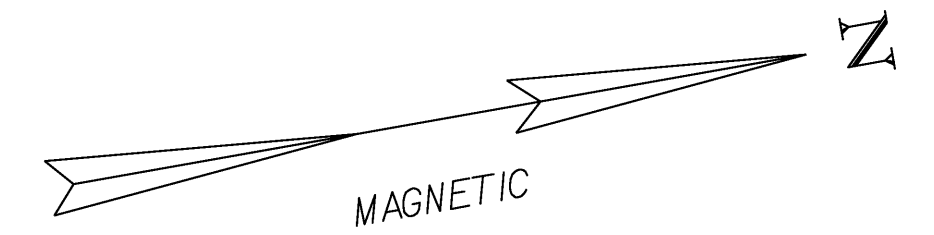
PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: /str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellero2	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 31 OF 108

SCALE 1" = 20'-0"



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED

MATCH LINE EROSION PREVENTION & SEDIMENT CONTROL PLAN SHEET 2 STA 222+00



VT. RTE. 14

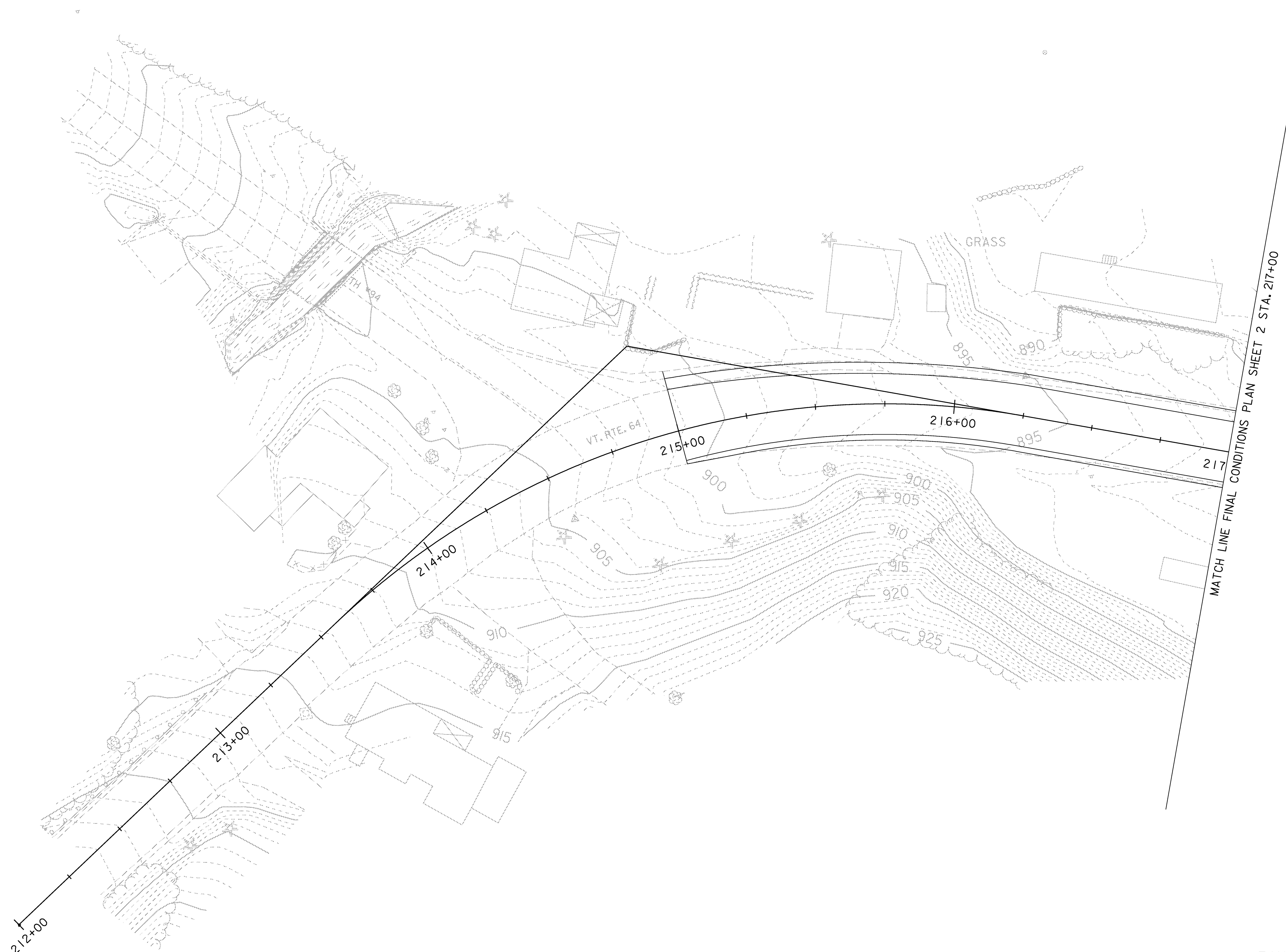
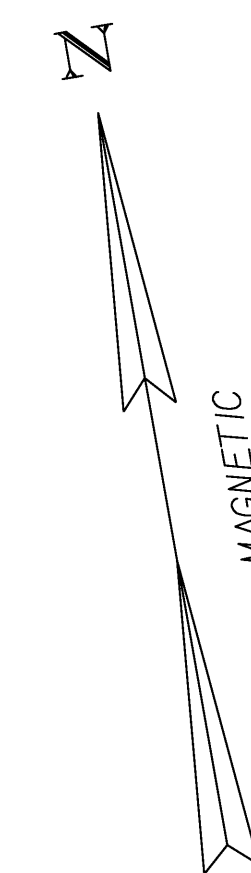
EXISTING ROW

SCALE 1" = 20'-0"

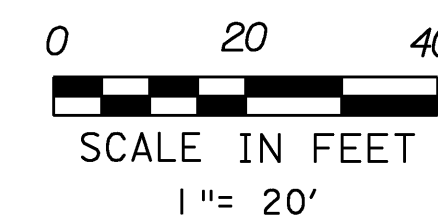
EROSION PREVENTION & SEDIMENT
CONTROL PLAN SHEET 3

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellero3	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 32 OF 108

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED



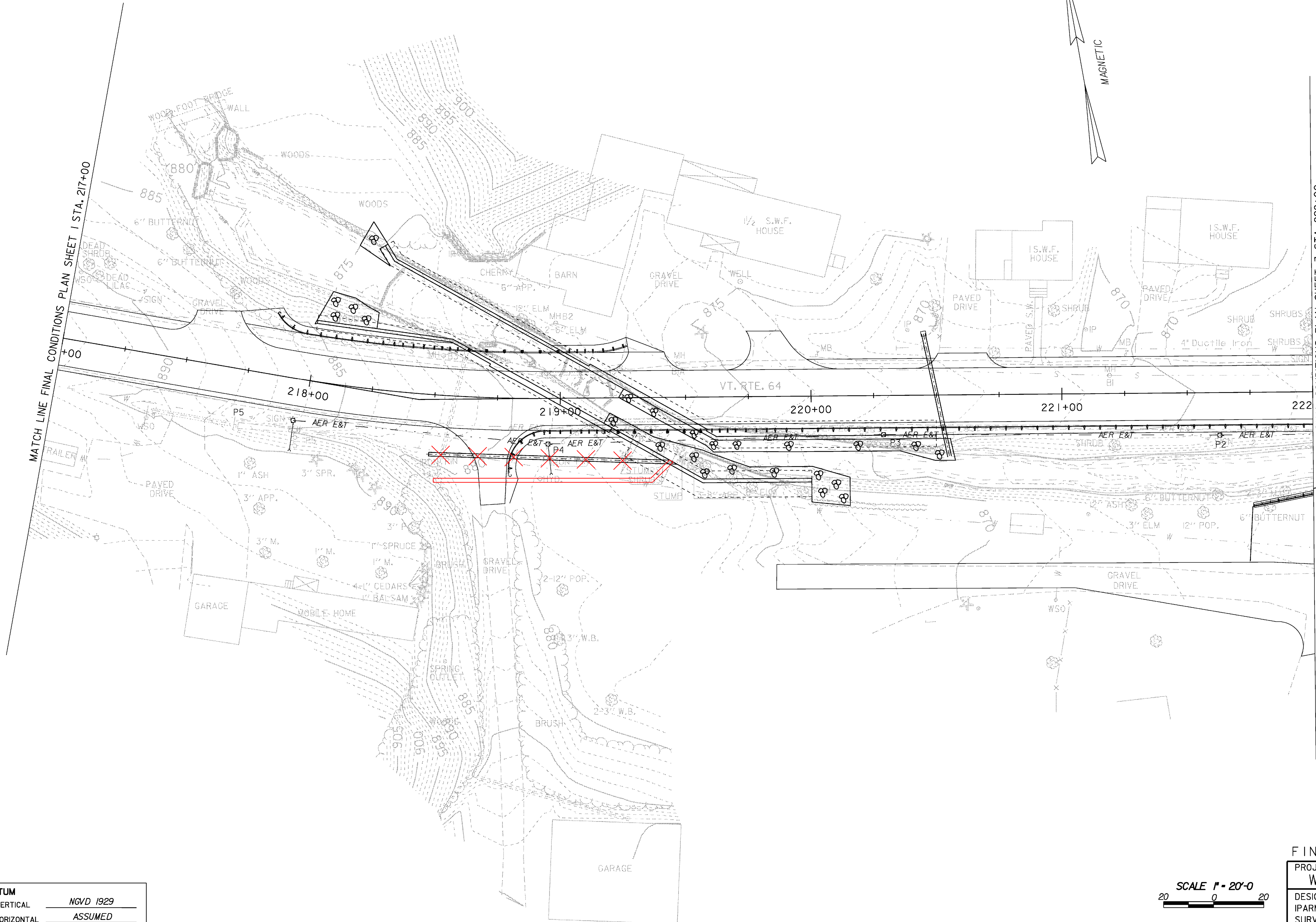
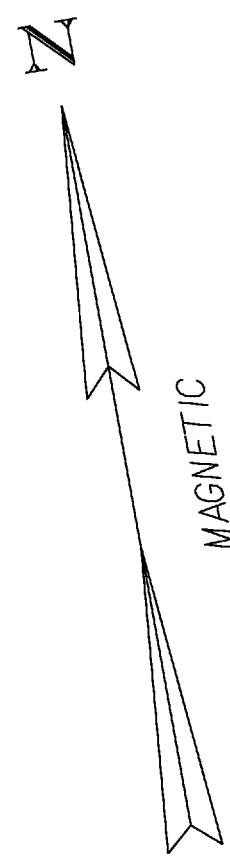
REFER TO CROSS SECTIONS FOR FINAL GRADING INFORMATION

FINAL CONDITIONS PLAN SHEET 1

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: /str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellfnll.i	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 33 OF 108

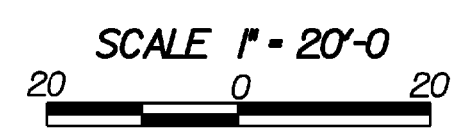
MATCH LINE FINAL CONDITIONS PLAN SHEET 1 STA. 217+00

MATCH LINE FINAL CONDITIONS PLAN SHEET 3 STA. 222+00



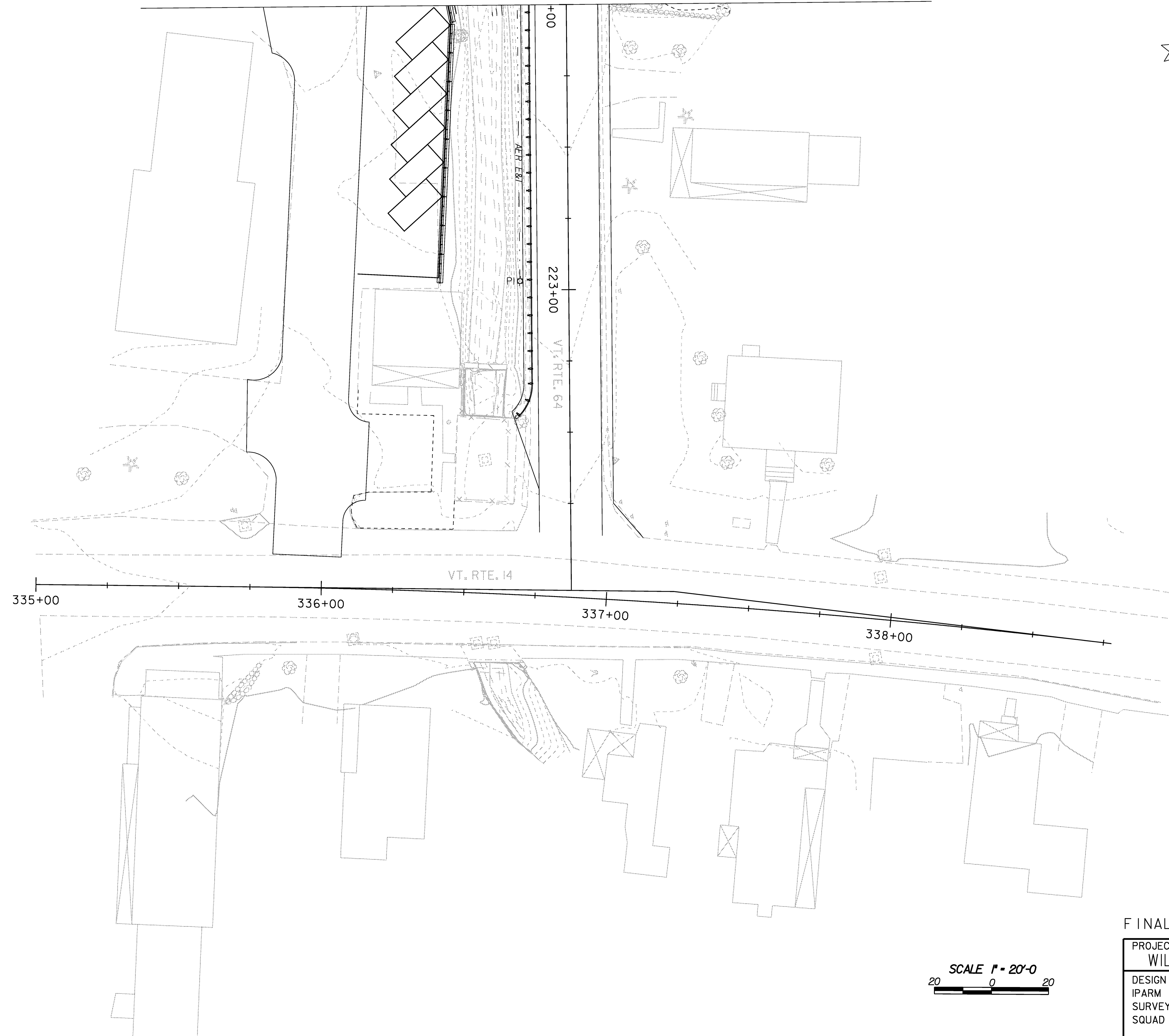
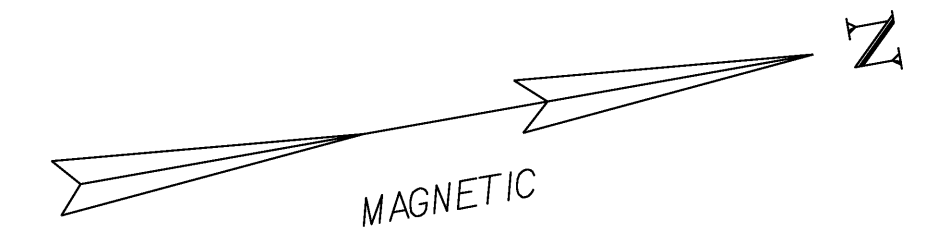
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	ASSUMED

REFER TO CROSS SECTIONS FOR FINAL GRADING INFORMATION



FINAL CONDITIONS PLAN SHEET 2		
PROJECT:	WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME:	/str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME:	sellfnl2	SURVEY DATE: 9/89
SURVEYED BY:	GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER:	M. EVANS-MONGEON	SHEET: 34 OF 108

MATCH LINE FINAL CONDITIONS PLAN SHEET 2 STA 222+00



FINAL CONDITIONS PLAN SHEET 3

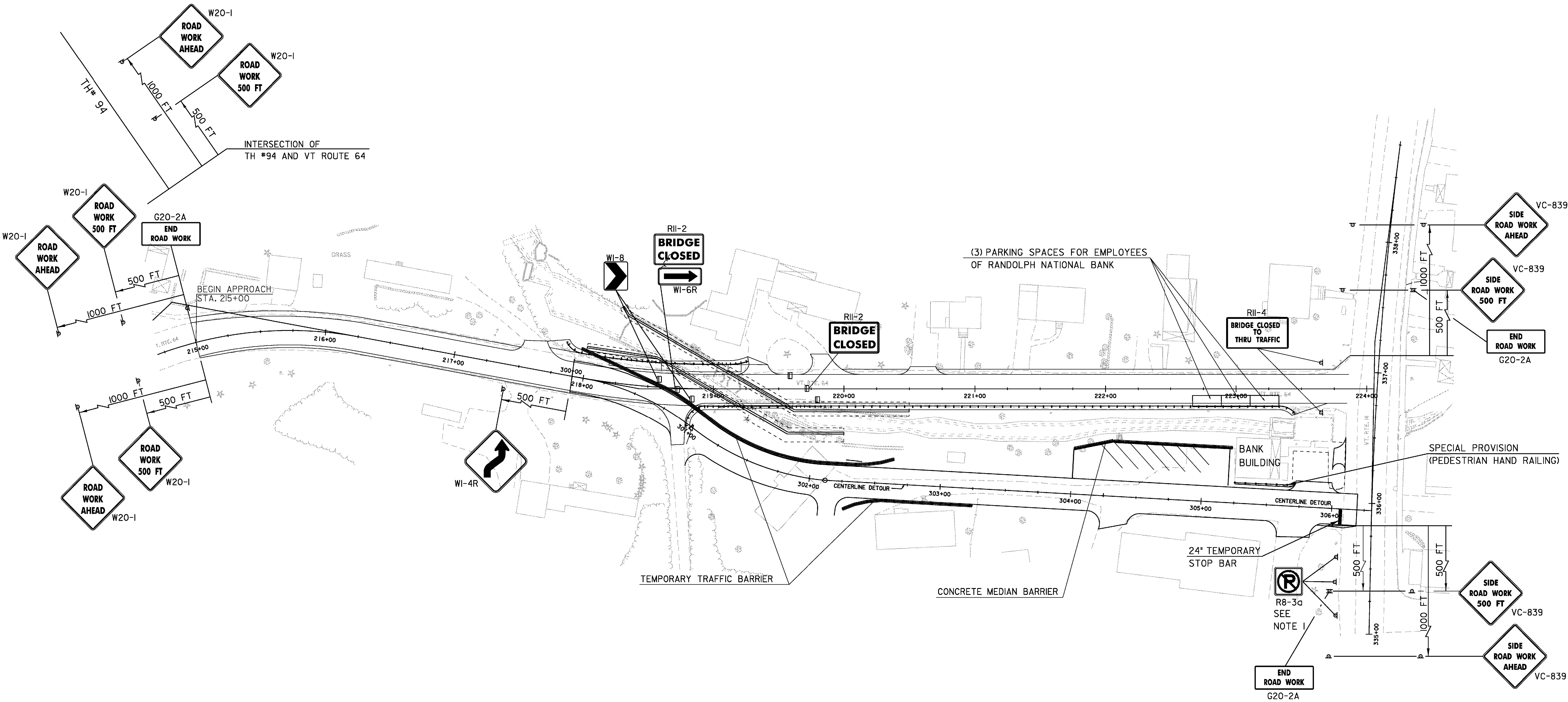
SCALE 1" = 20'-0"
20 0 20

DATUM
VERTICAL NGVD 1929
HORIZONTAL ASSUMED

PROJECT: WILLIAMSTOWN	PROJECT NO.: BRS 0204(4)
DESIGN FILE NAME: str2/83ell/dellero.dgn	PLOT DATE: 07-APR-2008
IPARM FILE NAME: sellfnl3	SURVEY DATE: 9/89
SURVEYED BY: GILMAN	DRAWN BY: U. STANLEY
SQUAD LEADER: M. EVANS-MONGEON	SHEET: 35 OF 108

TRAFFIC CONTROL NOTES

- 1. THE NO PARKING SIGNS, R8-3a, ARE TEMPORARY AND SHALL BE REMOVED AT THE END OF CONSTRUCTION.
- 2. PORTABLE CHANGABLE MESSAGE BOARDS SHALL BE PLACED ON I89 AT THE FOLLOWING LOCATIONS:
SB I89 @ MM ~~47.2~~ AT EXISTING TRUCK WARNING SIGN ~~48.80~~
NB I89 @ MM ~~42.2~~ AT EXISTING TRUCK WARNING SIGN ~~39.45~~
- 3. TEMPORARY 4" WHITE LINES SHALL BE USED TO MARK THE RANDOLF NATIONAL BANK EMPLOYEE PARKING LOCATED ON VT ROUTE 64. THESE MARKING SHALL BE REMOVED PRIOR TO TRAFFIC RETURNING TO VT ROUTE 64, AFTER THE TEMPORARY ROADWAY IS NO LONGER IN USE.



TRAFFIC CONTROL SHEET

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	U. STANLEY
FILE NAME:	83ell\structures\elll\ts.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	38 OF 108
DESIGNED BY:	U. STANLEY		

DRAWING NOT TO SCALE

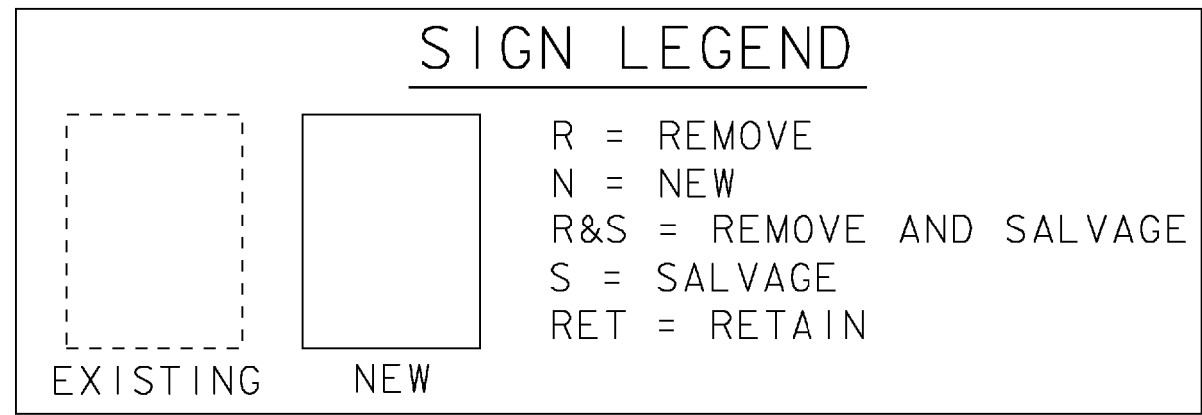
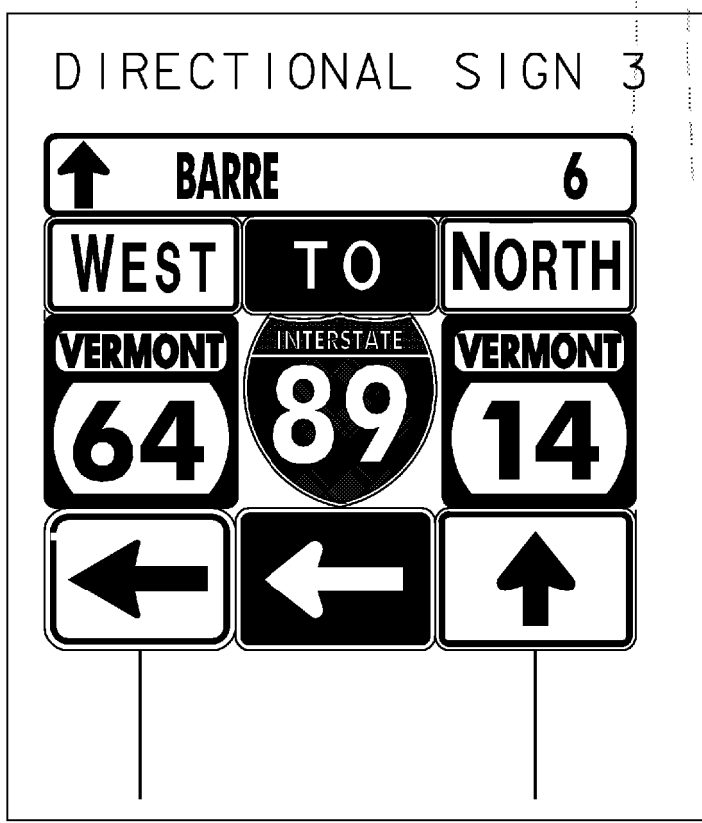
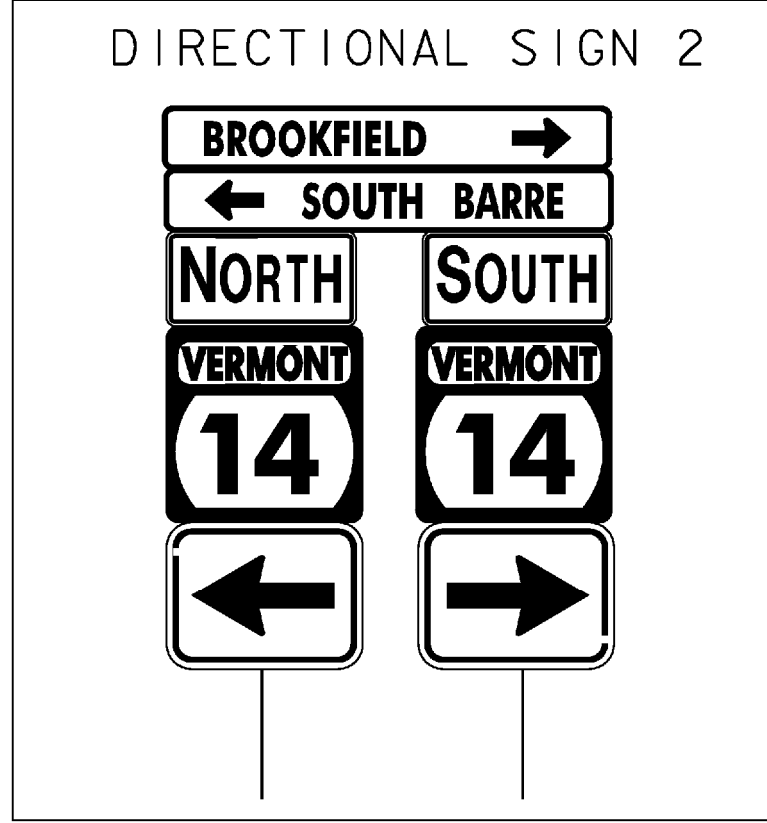
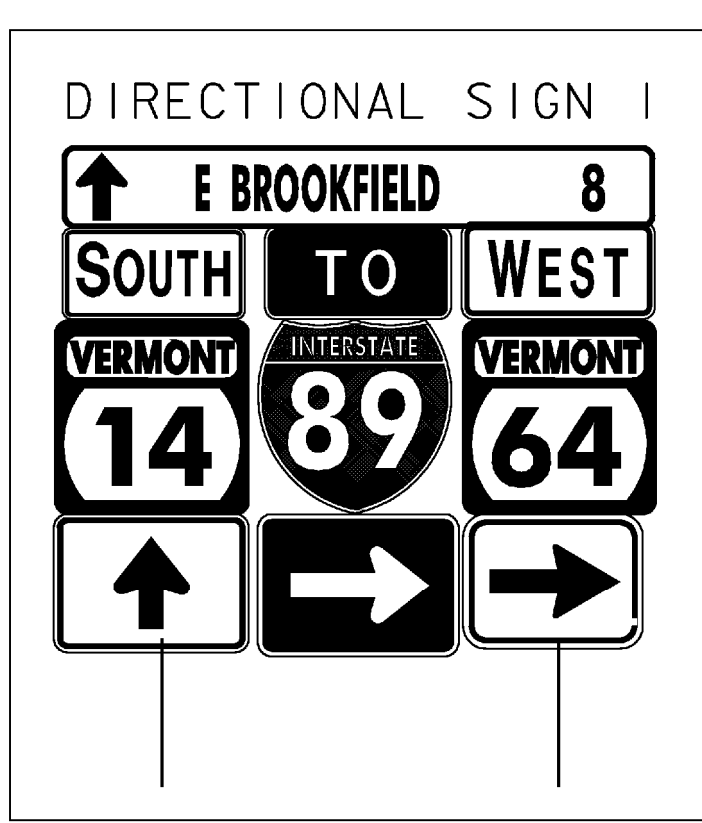
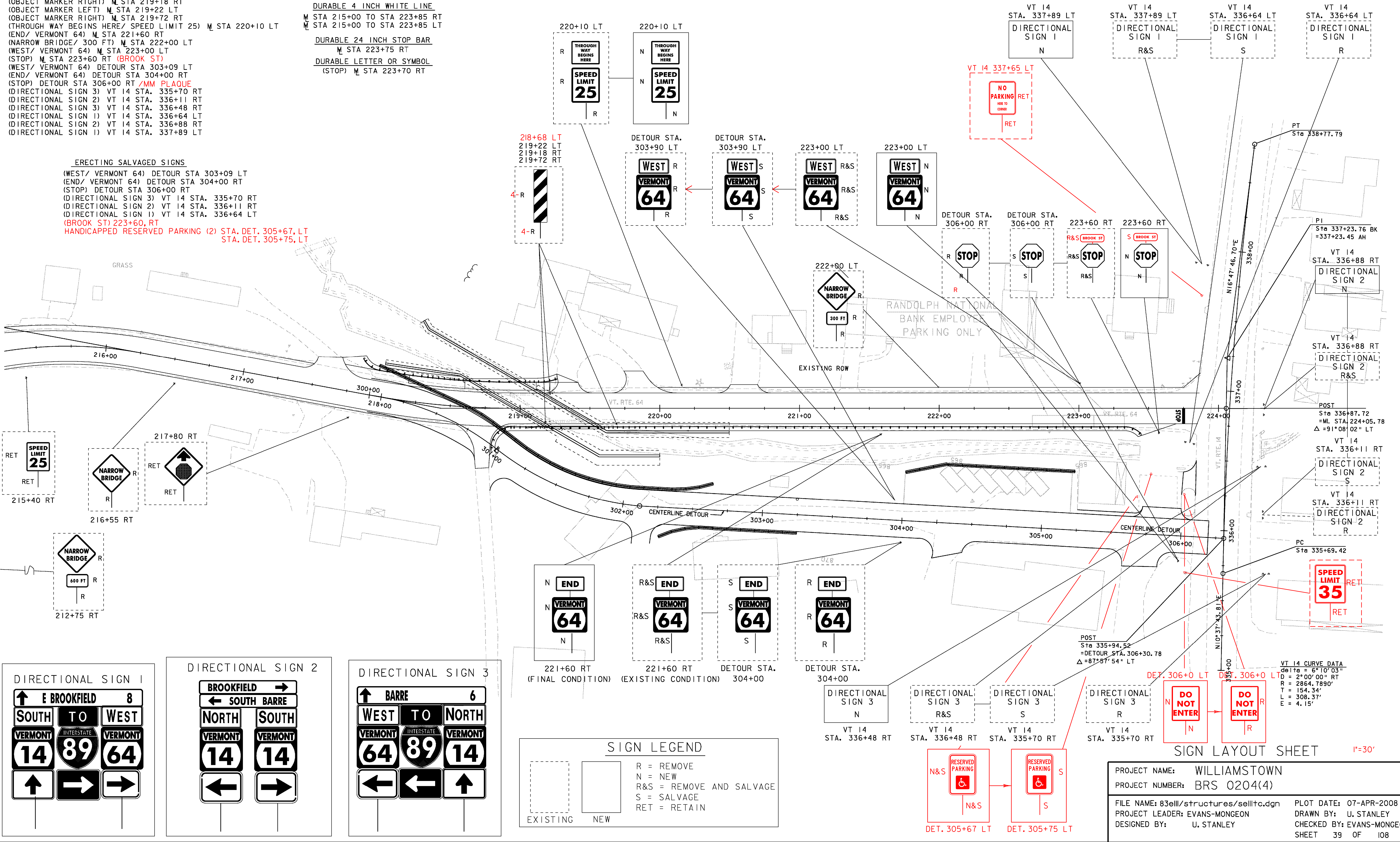
LEGEND
TYPE III BARRICADE

REMOVING SIGNS
(NARROW BRIDGE/ 600 FT) M STA 212+75 RT
(NARROW BRIDGE) M STA 216+55 RT
(OBJECT MARKER RIGHT) M STA 219+18 RT
(OBJECT MARKER LEFT) M STA 219+22 LT
(OBJECT MARKER RIGHT) M STA 219+72 RT
(THROUGH WAY BEGINS HERE/ SPEED LIMIT 25) M STA 220+10 LT
(END/ VERMONT 64) M STA 221+60 RT
(NARROW BRIDGE/ 300 FT) M STA 222+00 LT
(WEST/ VERMONT 64) M STA 223+00 LT
(STOP) M STA 223+60 RT (BROOK ST)
(WEST/ VERMONT 64) DETOUR STA 303+09 LT
(END/ VERMONT 64) DETOUR STA 304+00 RT
(STOP) DETOUR STA 306+00 RT /MM PLAQUE
(DIRECTIONAL SIGN 3) VT 14 STA. 335+70 RT
(DIRECTIONAL SIGN 2) VT 14 STA. 336+11 RT
(DIRECTIONAL SIGN 3) VT 14 STA. 336+48 RT
(DIRECTIONAL SIGN 1) VT 14 STA. 336+64 LT
(DIRECTIONAL SIGN 2) VT 14 STA. 336+88 RT
(DIRECTIONAL SIGN 1) VT 14 STA. 337+89 LT

DURABLE 4 INCH YELLOW LINE (DOUBLE)
M STA 215+00 TO STA 223+85
DURABLE 4 INCH WHITE LINE
M STA 215+00 TO STA 223+85 RT
M STA 215+00 TO STA 223+85 LT
DURABLE 24 INCH STOP BAR
M STA 223+75 RT
DURABLE LETTER OR SYMBOL
(STOP) M STA 223+70 RT

ERECTING SALVAGED SIGNS

(WEST/ VERMONT 64) DETOUR STA 303+09 LT
(END/ VERMONT 64) DETOUR STA 304+00 RT
(STOP) DETOUR STA 306+00 RT
(DIRECTIONAL SIGN 3) VT 14 STA. 335+70 RT
(DIRECTIONAL SIGN 2) VT 14 STA. 336+11 RT
(DIRECTIONAL SIGN 1) VT 14 STA. 336+64 LT
(BROOK ST) 223+60, RT
HANDICAPPED RESERVED PARKING (2) STA. DET. 305+67, LT
STA. DET. 305+75, LT



PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell/structures/selltc.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY

PLOT DATE: 07-APR-2008
DRAWN BY: U. STANLEY
CHECKED BY: EVANS-MONGEON
SHEET 39 OF 108

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & SALVAGED SIGNS				EXIST POST RE TAIN	NO. OF POST S	NEW SIGN POSTS																		REMARKS	SIGN DETAIL							
										FLANGED CHANNEL			SQUARE STEEL (In)					TUBULAR ALUMINUM Ø (In)			TUBULAR STEEL Ø (In)				W-SHAPE STEEL				DETAIL ON SHEET NUMBER	STD. SHEET NUMBER						
		EA	WIDTH (In)	HEIGHT (In)	“A”	“B”	SALV SIGN			SALV TIS	lb/ft			1.75	2.0	2.5	ANCHOR R	SLUVE	3.0	4.0	4.0 MOD	FOUND- ATION	3.0	3.5	4.0	5.0	FTG. SIZE				WEIGHT	POST SIZE				
											1.12	2.0	3.0	1.88	2.16	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6	24"						30"			
											1.2	2.0	3.0	1.88	2.16	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6	24"						30"			
OPTION ITEMS																																				
220+45 LT		I	24	30	5.0					I			17.			17.																		R2-1 REMOVE SIGN INSTALL NEW SIGN		E-142
		I	24	24	4.0																													VR-041 REMOVE SIGN INSTALL NEW SIGN		E-141
221+60 RT		I	24	12	2.0					I			16.	16.																				M4-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-140
		I	24	24	4.0																													MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
223+00 LT		I	24	12	2.0					I			16.	16.																				M3-4 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
		I	24	24	4.0																													MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
223+60 RT		I	30	30	6.25					I			15.	15.																				RI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-143
VT 14 STA. 336+48 RT		I	72	12	6.0					2					38.	X																		DI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-123
		I	24	12	2.0																													M3-4 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
		I	24	12	2.0																													M4-5 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-135
		I	24	12	2.0																													M3-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
		I	24	24	4.0																													MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
		I	24	24	4.0																													MI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-135
		I	24	24	4.0																													MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
		I	21	15	2.19																													M6-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
		I	21	15	2.19																													M6-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-135
		I	21	15	2.19																													M6-3 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE ROADWAY, TRAFFIC & SAFETY DIVISION'S *SIGN POST DESIGN GUIDELINE."					57.82							FT	FT	FT	64.	47.	55.	EA 2	EA	LB	LB	LB		LB	LB	LB	LB						2 EA	PROJECT NAME: WILLIAMSTOWN PROJECT NUMBER: BRS 0204 (4)		
					SUB TOTALS(1)	SF 57.82	SF	EA.	SF			FT 64.	FT 102.					LB		EA.	LB				EA.	EA.	LB	FILE NAME: 83ell/structures/s83elllto.dgn PROJECT LEADER: M. EVANS-MONGEON DESIGNED BY: M. EVANS-MONGEON TRAFFIC SIGN SUMMARY SHEET I		PLOT DATE: 07-APR-2008 DRAWN BY: M. EVANS-MONG CHECKED BY: U. STANLEY SHEET 40 OF 108						

STATE OF VERMONT AGENCY OF TRANSPORTATION				TRAFFIC SIGN SUMMARY SHEET																																
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST RE TAIN S AL V A G E	NO. OF P O S T S	NEW SIGN POSTS																REMARKS	SIGN DETAIL								
					"A"	"B"	SALV SIGN	SALV TIS			FLANGED CHANNEL			SQUARE STEEL (In)				TUBULAR ALUMINUM Ø (In)			TUBULAR STEEL Ø (In)				W-SHAPE STEEL				DETAIL ON SHEET NUMBER	STD. SHEET NUMBER						
		lb/ft	1.75	2.0							2.5	ANCHOR	SLEEVE	3.0	4.0	4.0 MOD	FOUND- ATION	3.0	3.5	4.0	5.0	FTG. SIZE		WEIGHT	POST SIZE											
																						1.2	2.0			3.0		1.88			2.16	3.35	1.3	1.7	1.7	7.6
OPTION ITEMS																																				
VT 14 STA. 336+88 RT		I	72	12	6.0						2					38.	X														X	DI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-123		
		I	72	12	6.0																											DI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-123		
		I	24	12	2.0																											M3-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B		
		I	24	12	2.0																											M3-3 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B		
		2	24	24	8.0																											MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B		
		I	21	15	2.19																											M6-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B		
		I	21	15	2.19																											M6-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B		
VT 14 STA 337+89 LT		I	72	12	6.0						2					36.	X														X	DI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-123		
		I	24	12	2.0																												M3-3 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B	
		I	24	12	2.0																												M4-5 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-135	
		I	24	12	2.0																												M3-4 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B	
		I	24	24	4.0																												MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B	
		I	24	24	4.0																												MI-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-135	
		I	24	24	4.0																												MI-6 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B	
		I	21	15	2.19																												M6-3 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B	
		I	21	15	2.19																												M6-IIR SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-135	
		I	21	15	2.19																												M6-1 SALVAGE AND RELOCATE SIGN FOR DETOUR NEW SIGN, AND REMOVE OLD SIGN		E-136B	
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE ROADWAY, TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."					58.95							FT	FT	FT	FT	FT	FT	74.	EA	EA	LB	LB	LB		LB	LB	LB	LB					4. EA	PROJECT NAME: WILLIAMSTOWN PROJECT NUMBER: BRS 0204 (4)		
					SF	SF	EA.	SF				FT				FT					LB							EA.	LB		EA.	EA.	LB		4.	FILE NAME: 83ell/structures/selltc.dgn PROJECT LEADER: M. EVANS-MONGEON DESIGNED BY: M. EVANS-MONGEON TRAFFIC SIGN SUMMARY SHEET 2
					SUBTOTALS(2) SUBTOTALS(1) ROUNDING TOTALS	58.95 57.82 3.23 120.00						0. 64. 64.				74. 102. 176.	4. 2. 6.																	2.	PLOT DATE: 07-APR-2008 DRAWN BY: M. EVANS-MONG CHECKED BY: U. STANLEY SHEET 41 OF 108	

SOIL CLASSIFICATION

AASHTO	
A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

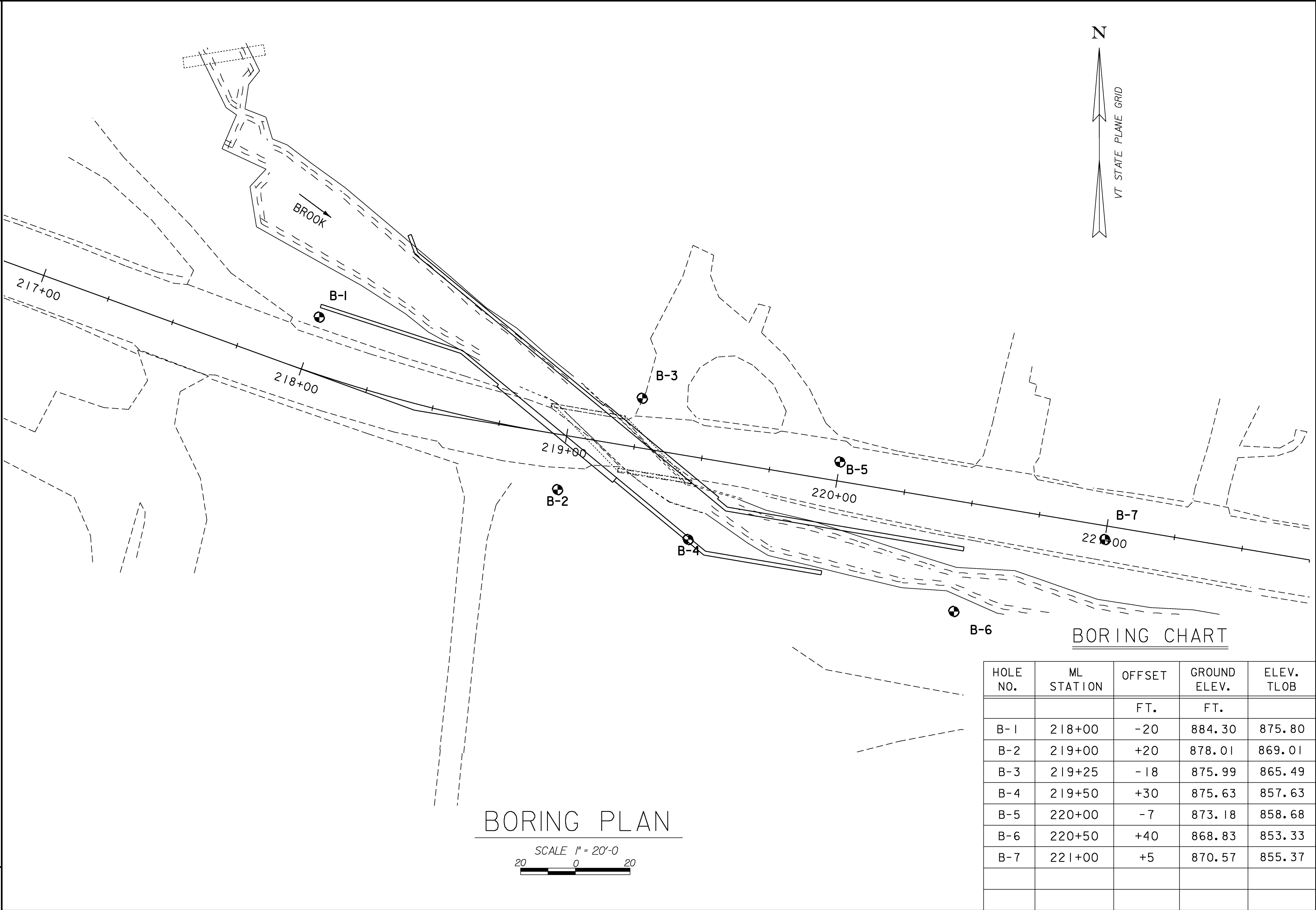
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O. D. Sampler 1 3/8" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 3/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
SI	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



BORING CHART

HOLE NO.	ML STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
		FT.	FT.	
B-1	218+00	-20	884.30	875.80
B-2	219+00	+20	878.01	869.01
B-3	219+25	-18	875.99	865.49
B-4	219+50	+30	875.63	857.63
B-5	220+00	-7	873.18	858.68
B-6	220+50	+40	868.83	853.33
B-7	221+00	+5	870.57	855.37

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).

SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).

SILT - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material).

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

GENERAL NOTES

1. The subsurface explorations shown herein were made between 07-26-2000 and 08-03-2000 by the Agency.

2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.

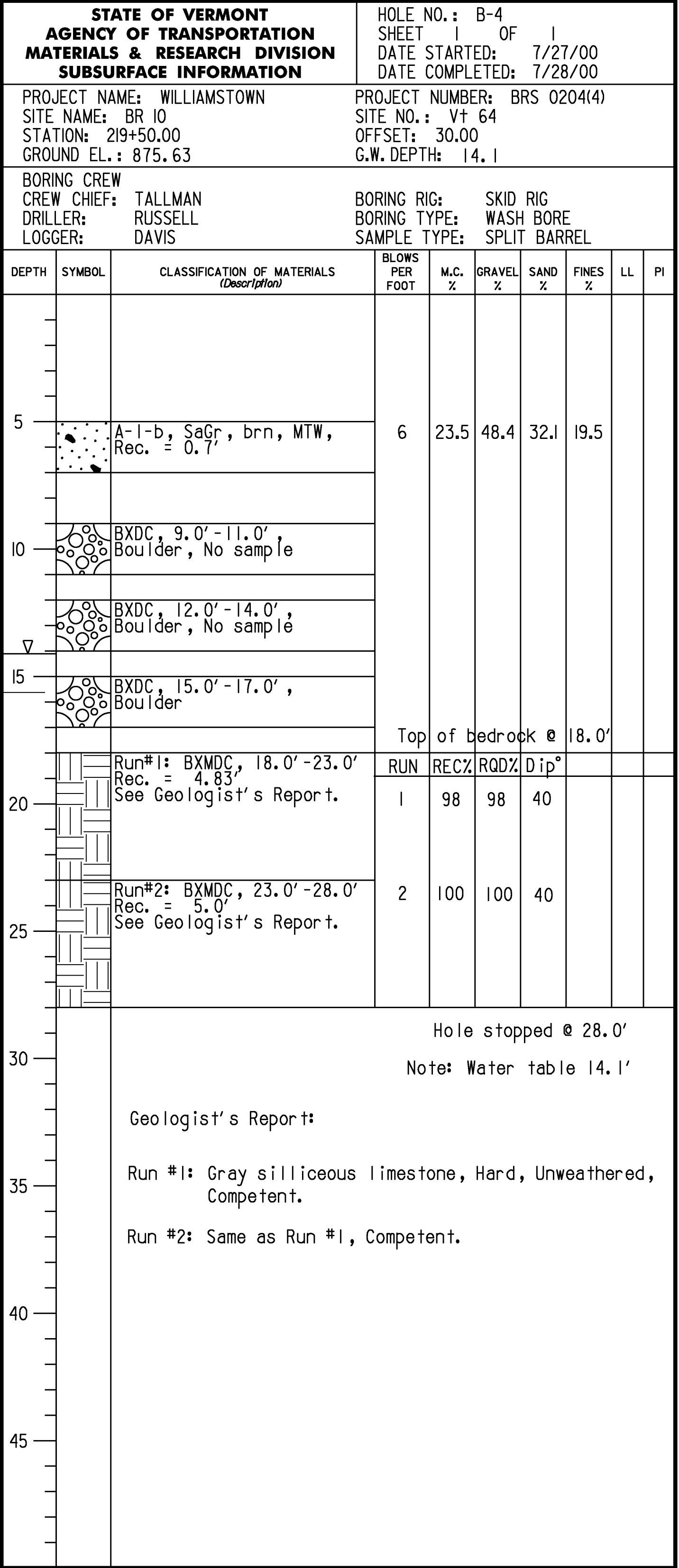
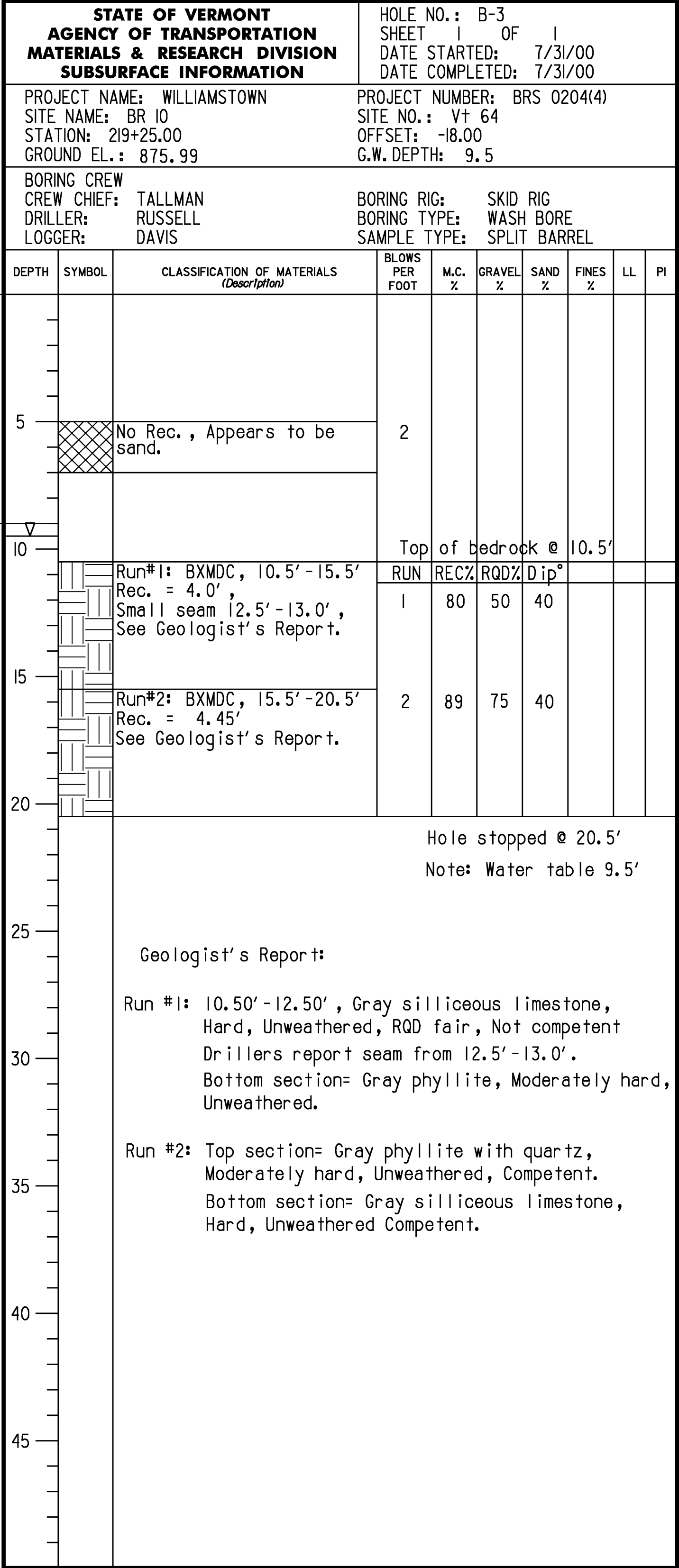
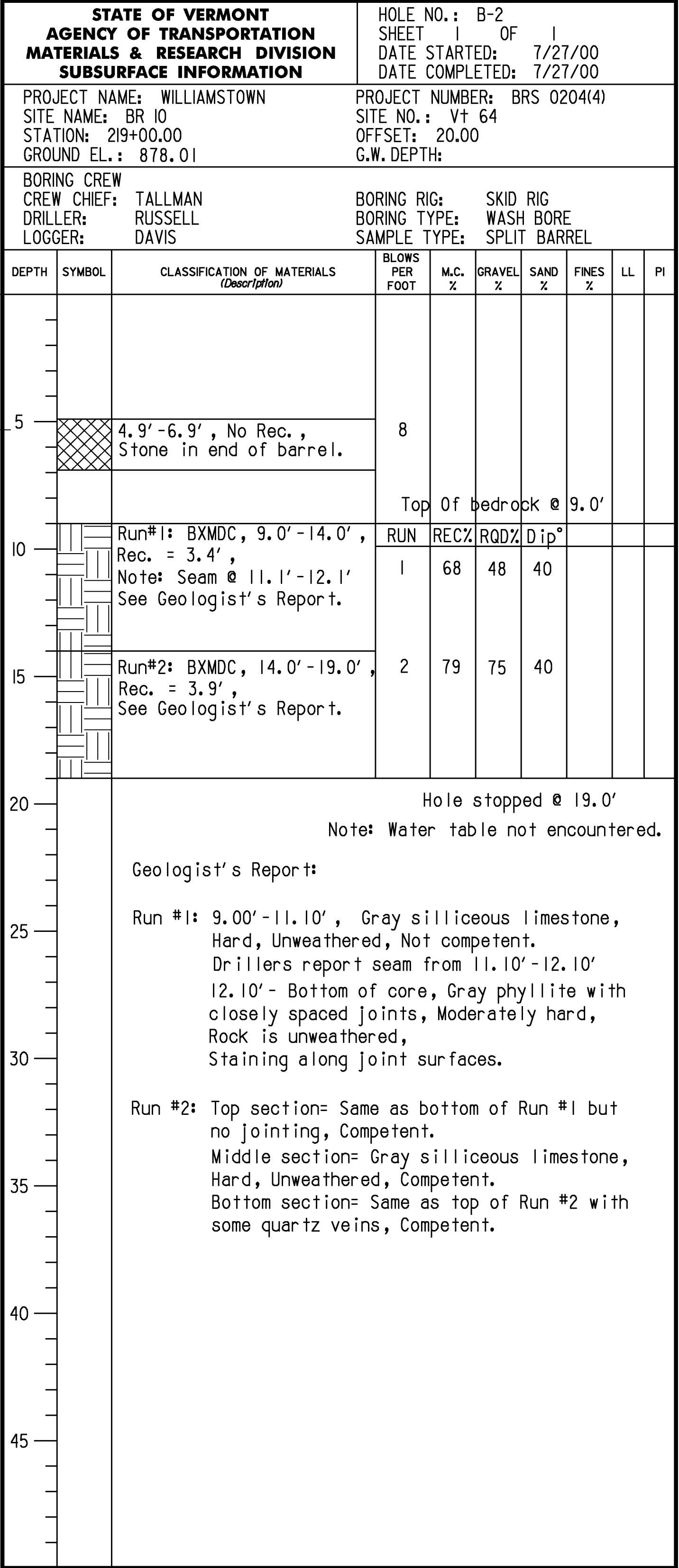
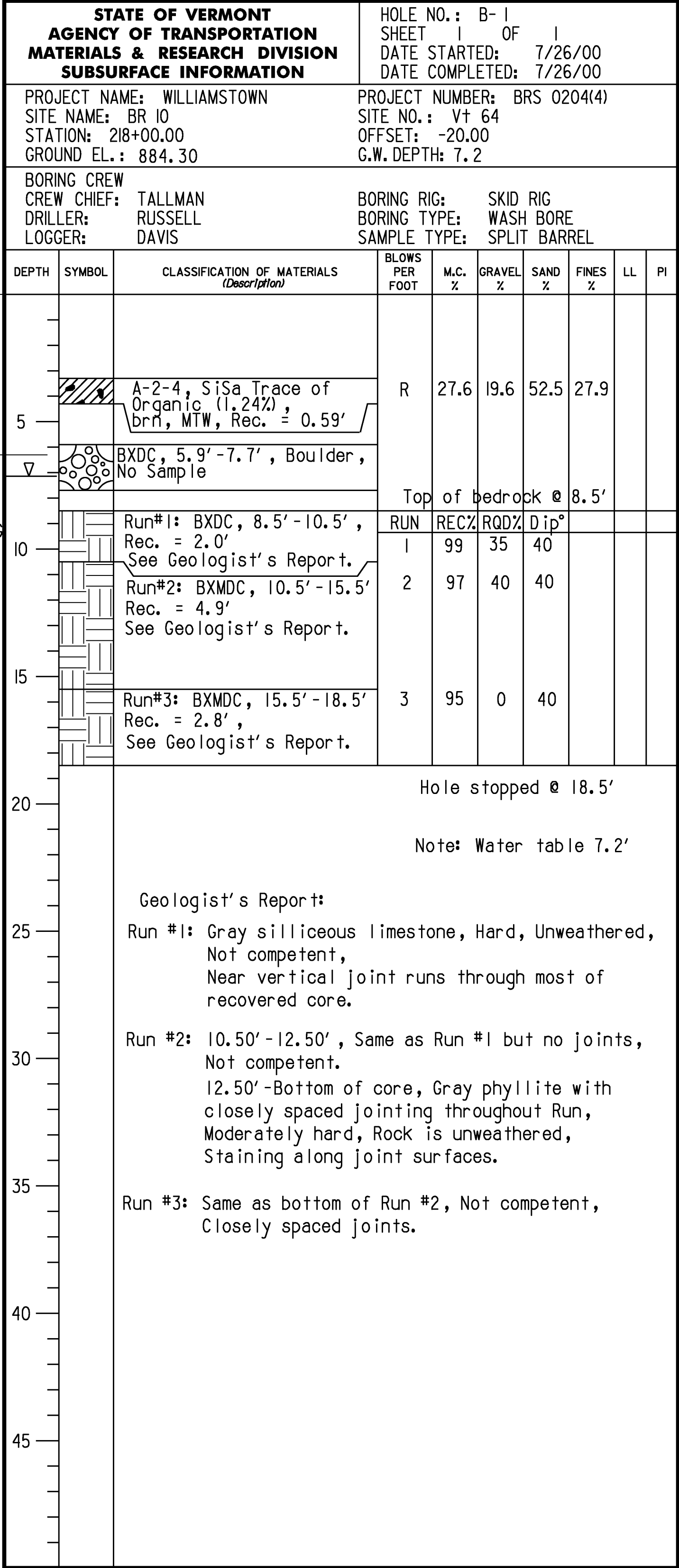
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.

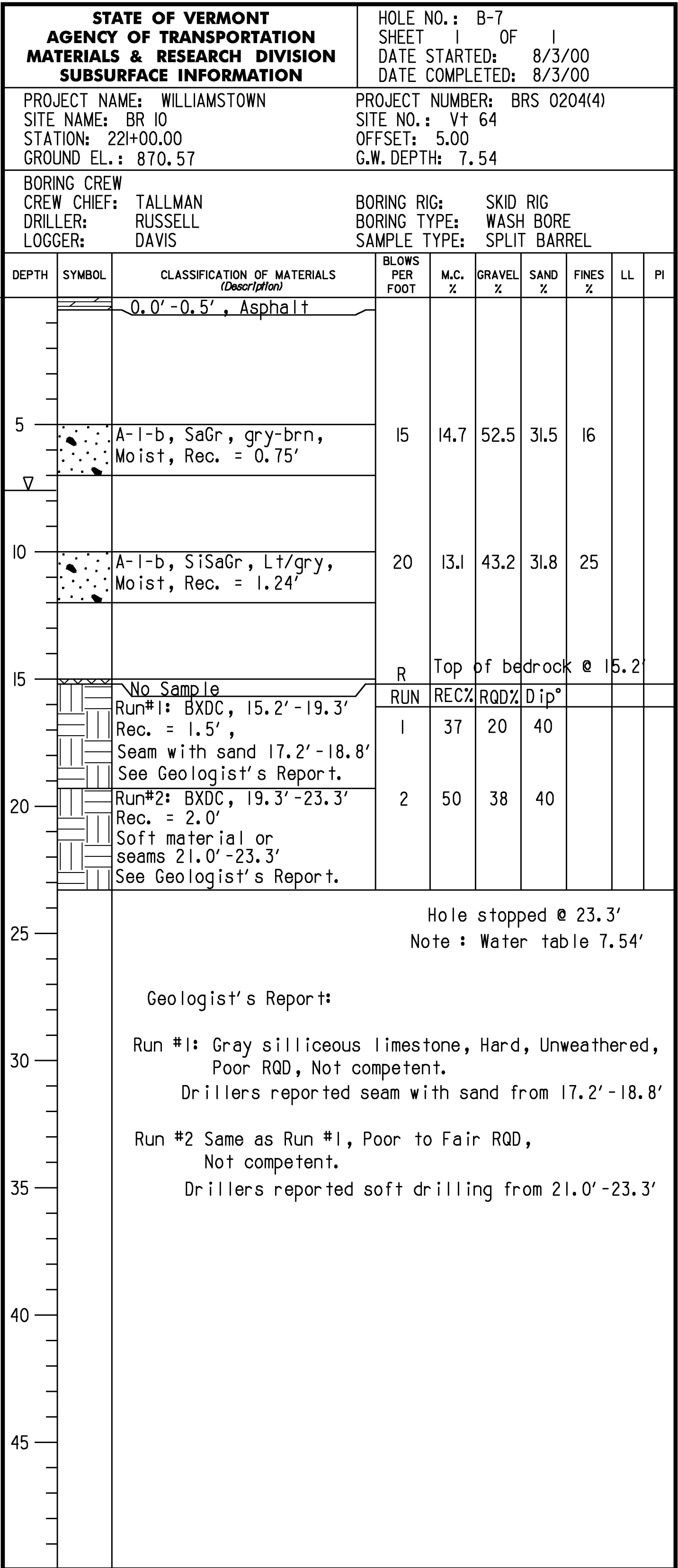
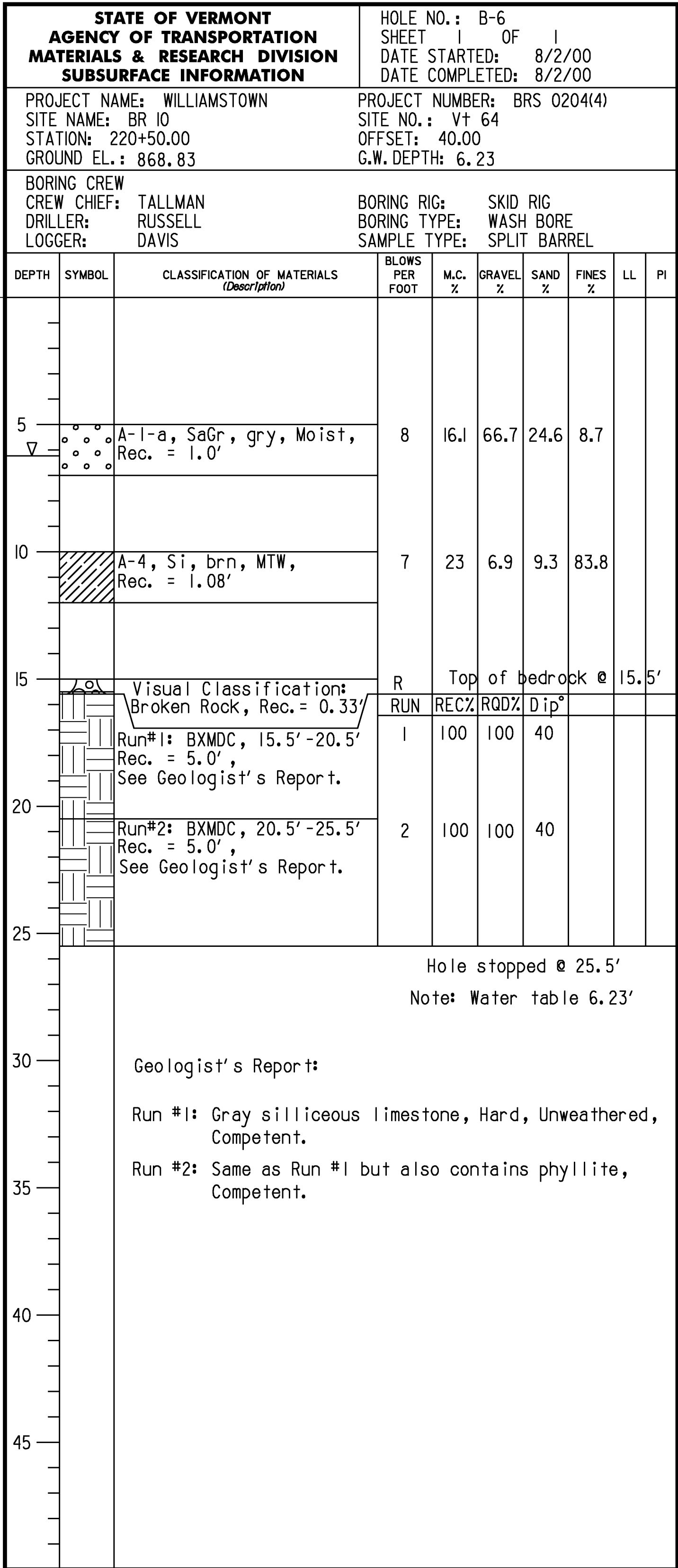
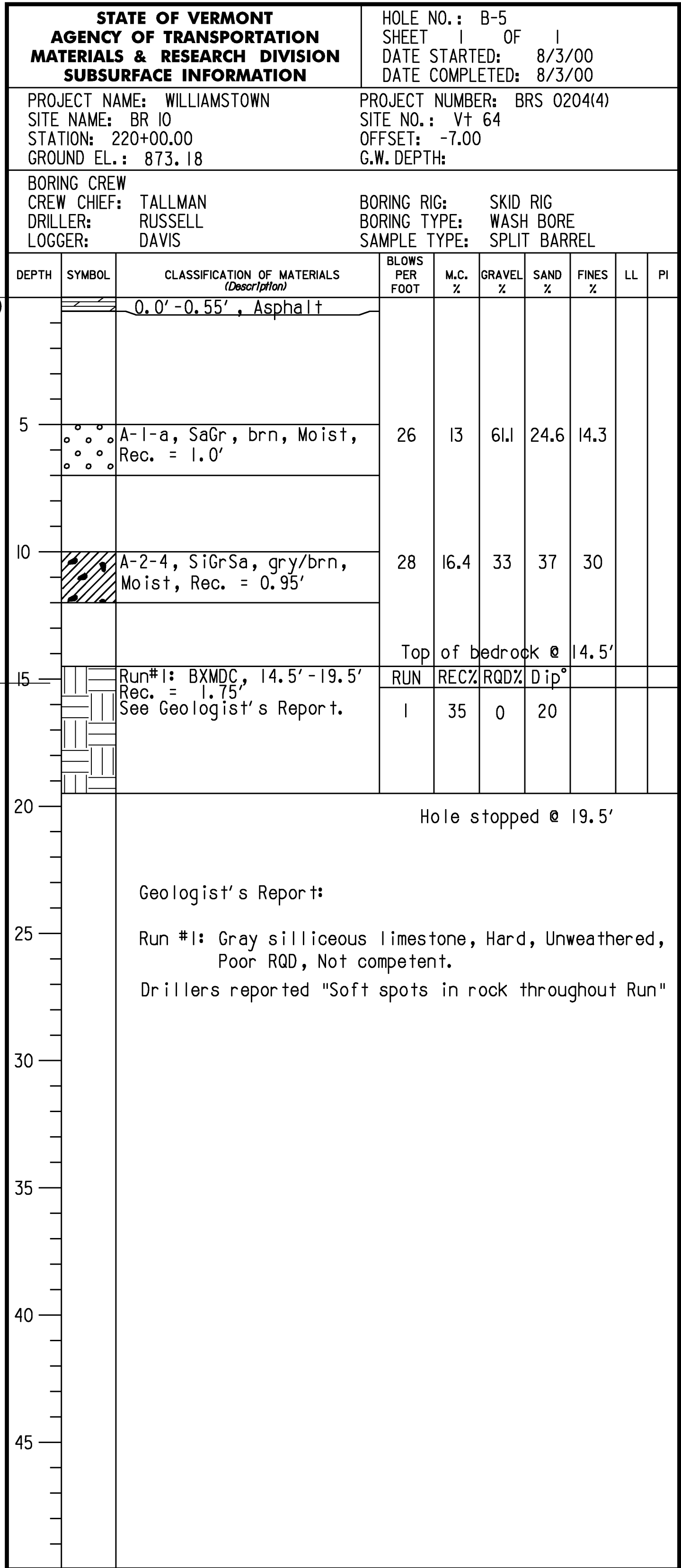
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.

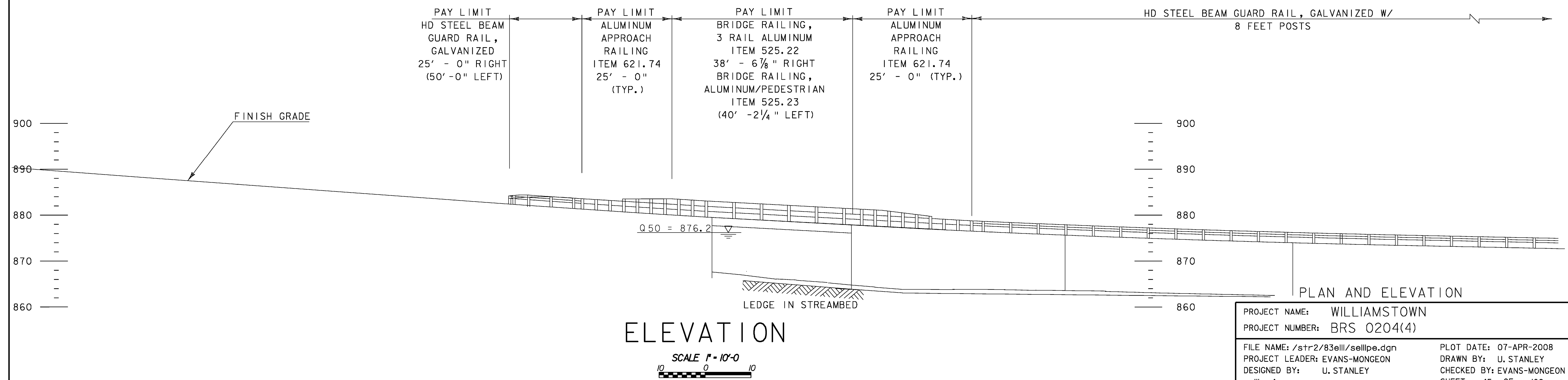
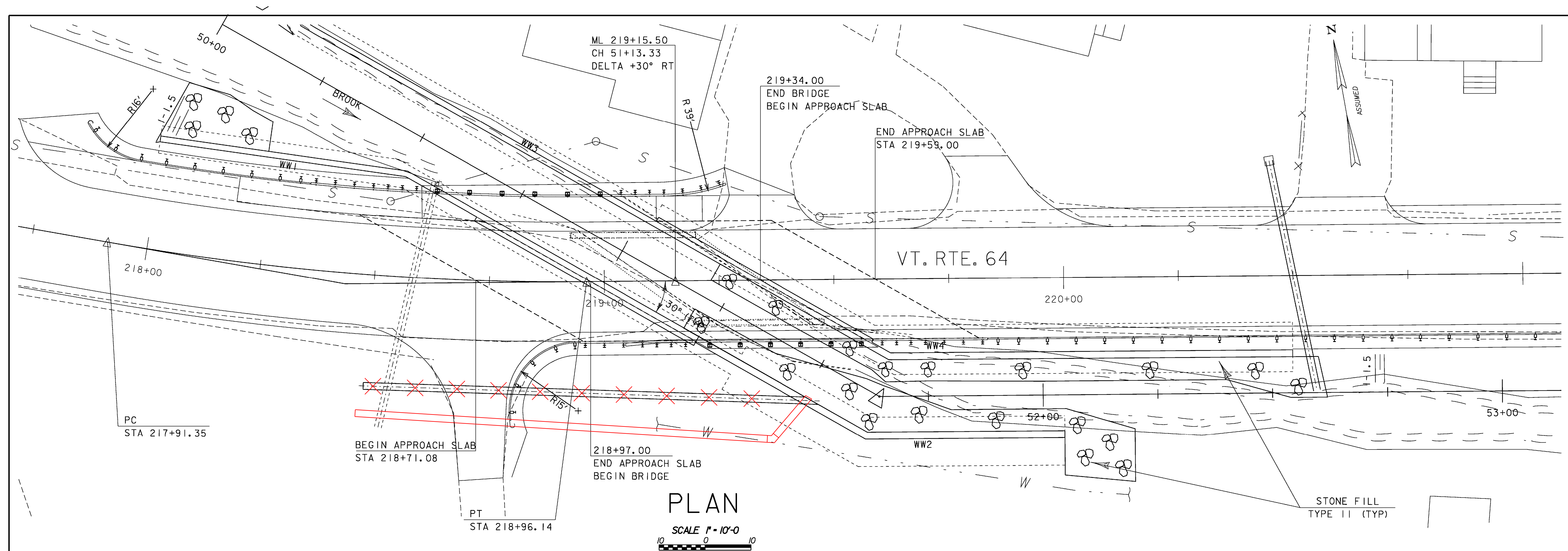
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

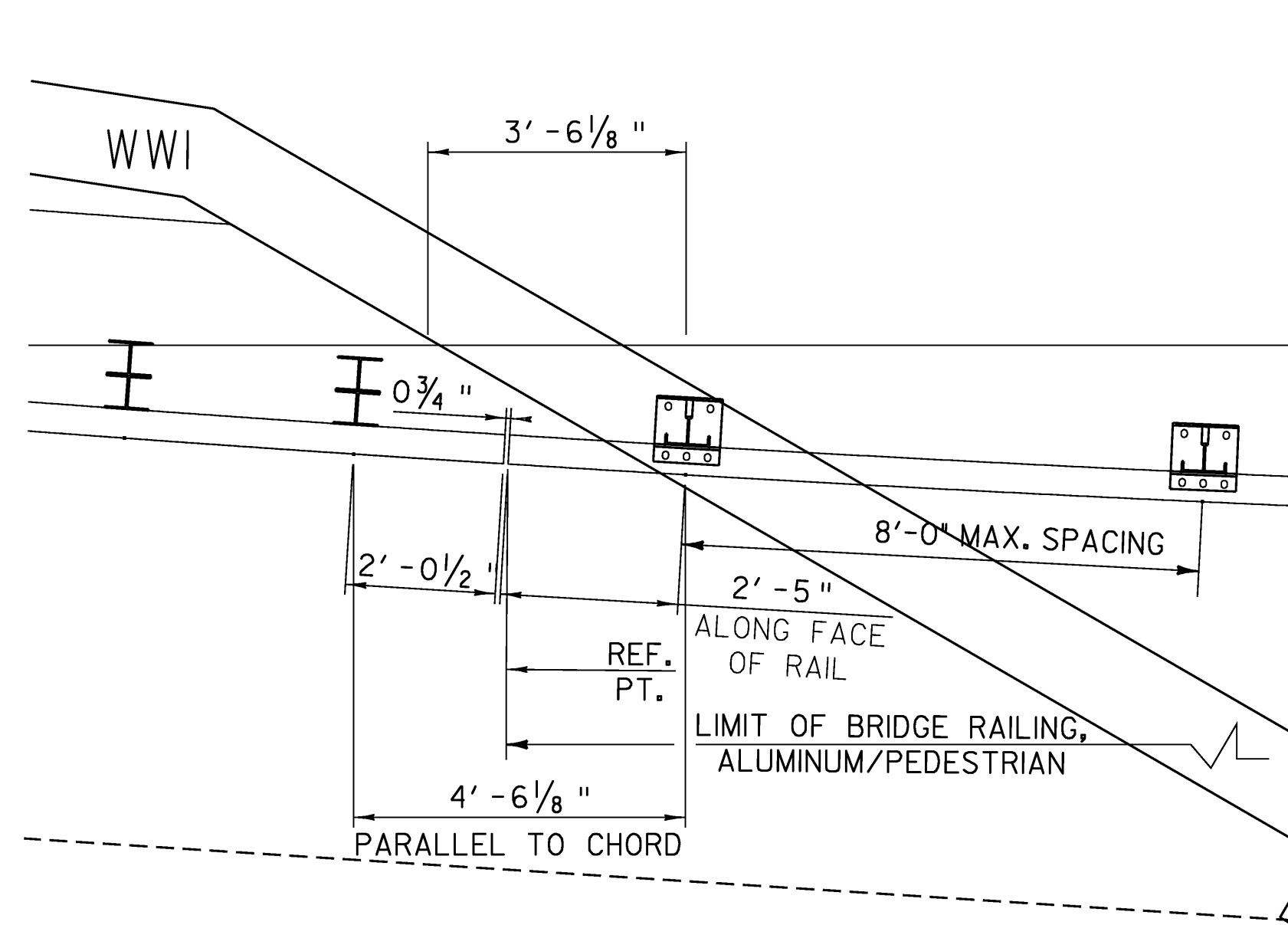
Town Of	WILLIAMSTOWN	Bridge No.	10
Highway No.	VT. 64	Log Sta.	
		Surv. Sta.	
BORING PLAN			
Plot Date	07-APR-2008		
Designed By	STANLEY	Drawn By	STANLEY
Checked By	EVANS-MONGEON	Date	Jan. 08
		Bridge Design Supervisor	EVANS-MONGEON
		Date	Jan. 08
PROJECT	WILLIAMSTOWN	PROJECT NO.	BR 0204(4)
I.G.C. Info.	projects\seil\structures\seilbor.dgn	seilbol	
Bridge Sheet No.	Sheet 42 of 108		





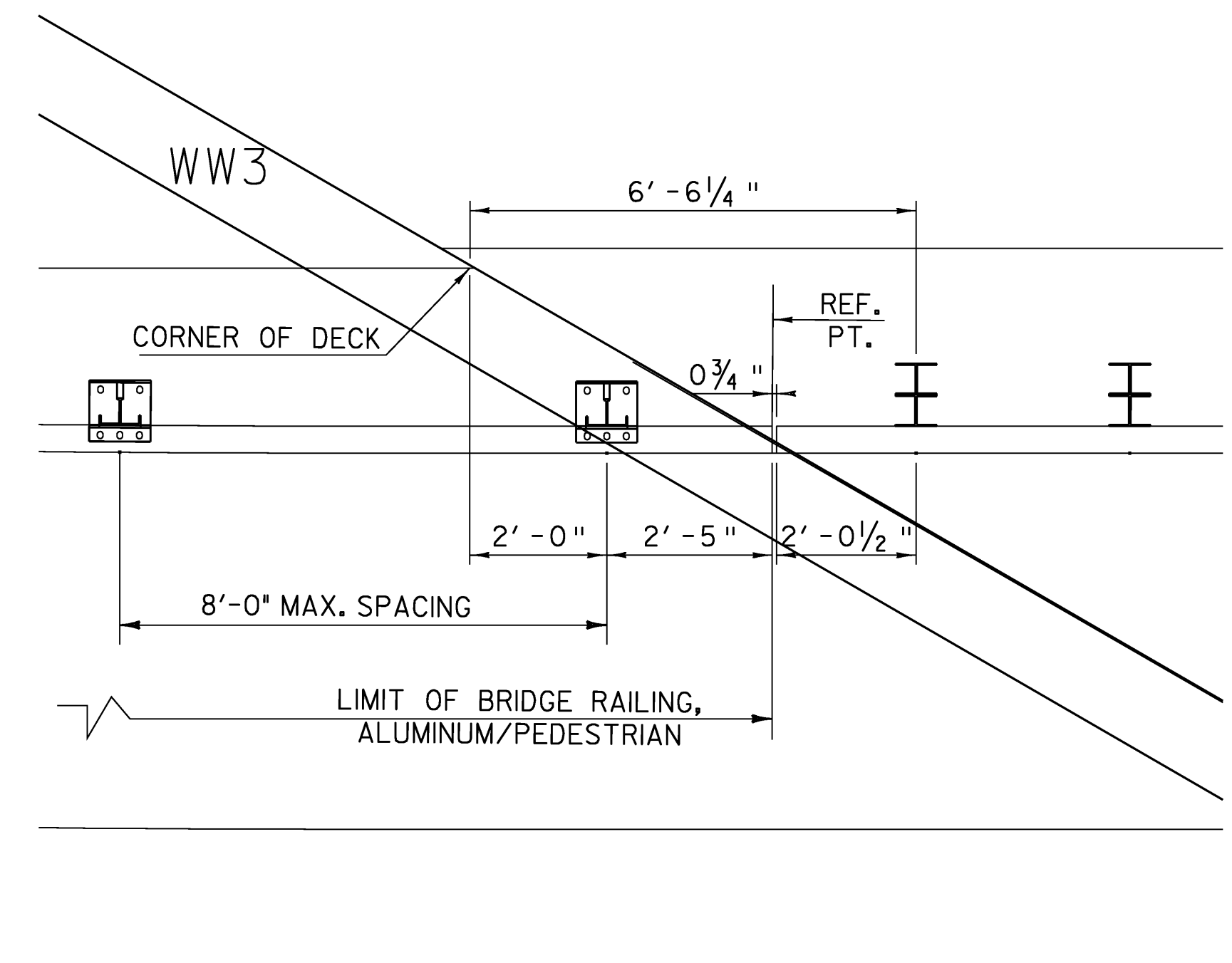
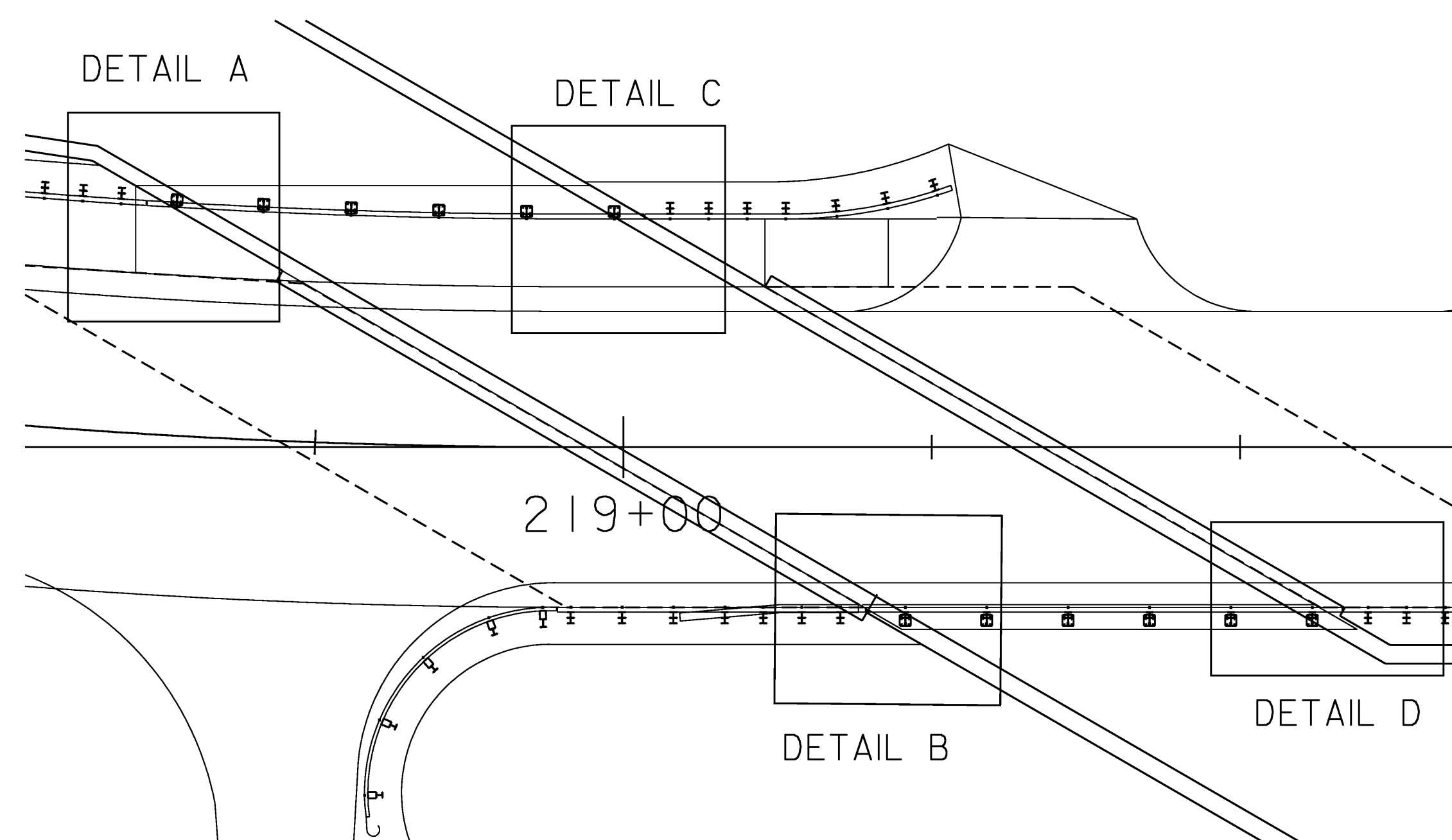


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PROJECT NUMBER:	BR5 0204(4)	DRAWN BY:	U. STANLEY
FILE NAME:	/str2/83ell/sellpe.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	45 OF 108
DESIGNED BY:	U. STANLEY		
sellpe.1			

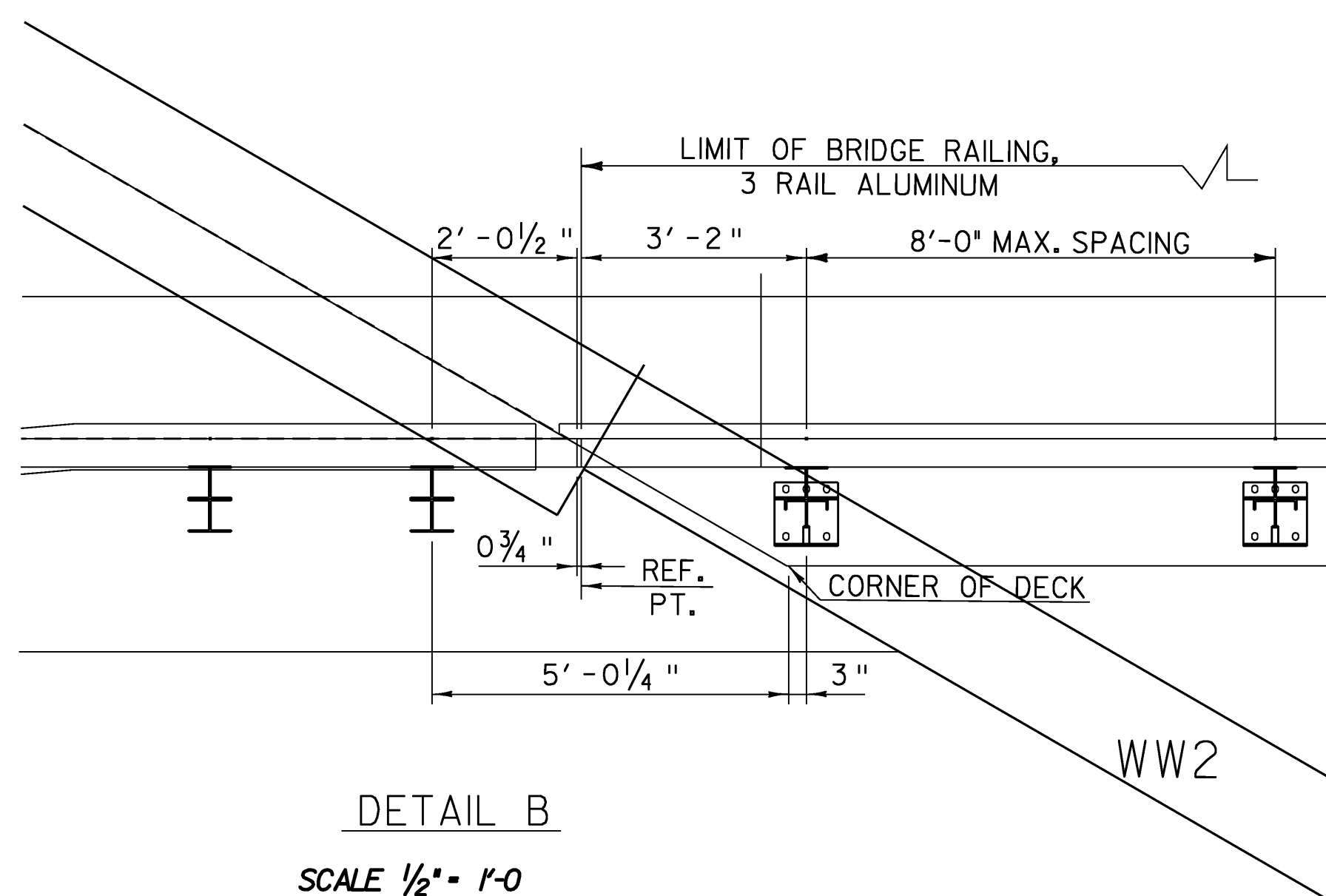


DETAIL A
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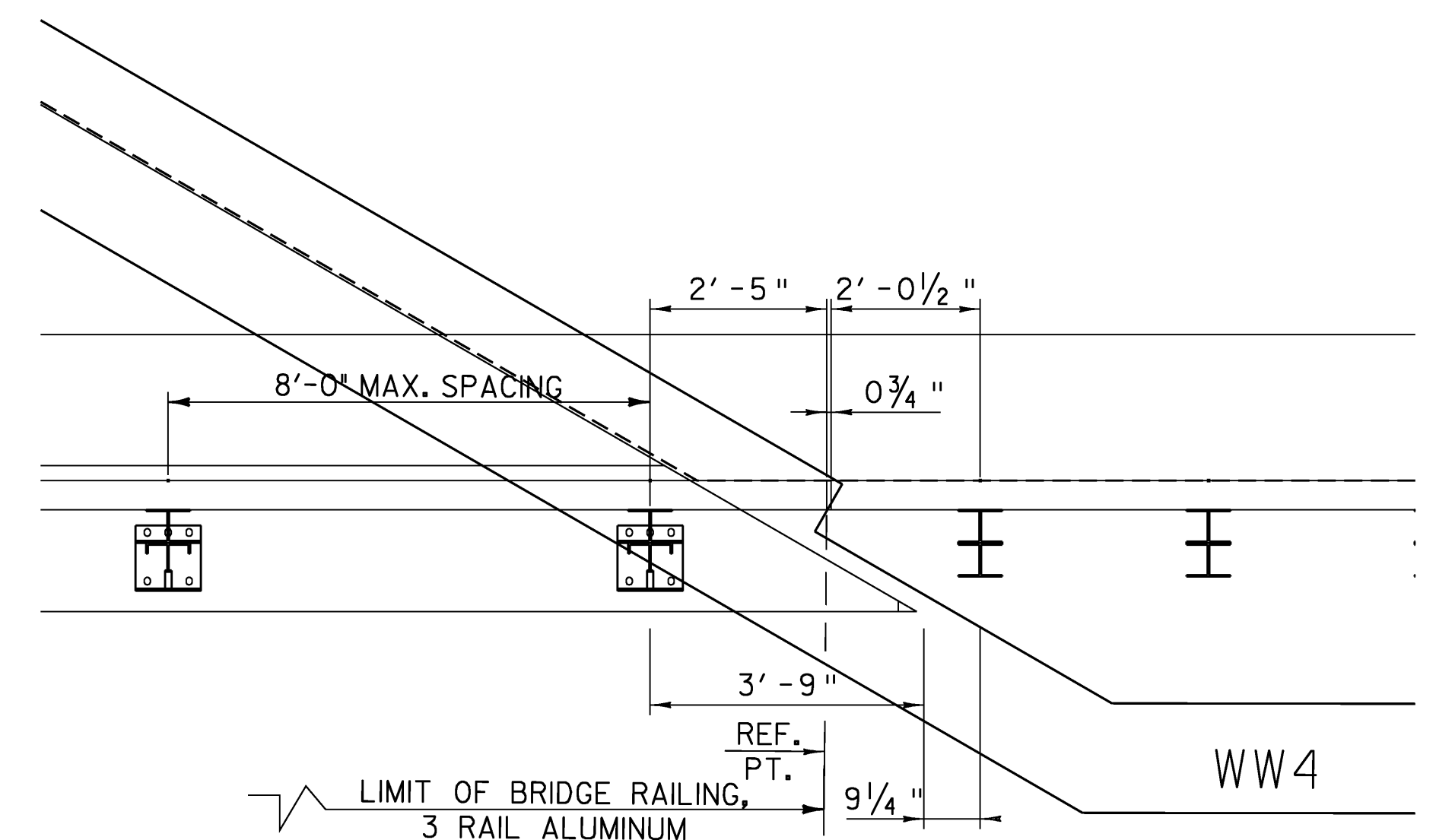
REF PT = END OF
PAY LIMIT FOR
BRIDGE RAILING



DETAIL C
SCALE $\frac{1}{2}$ " = 1'-0"
1 0 1 2



DETAIL B
SCALE $\frac{1}{2}$ " = 1'-0"
1 0 1 2



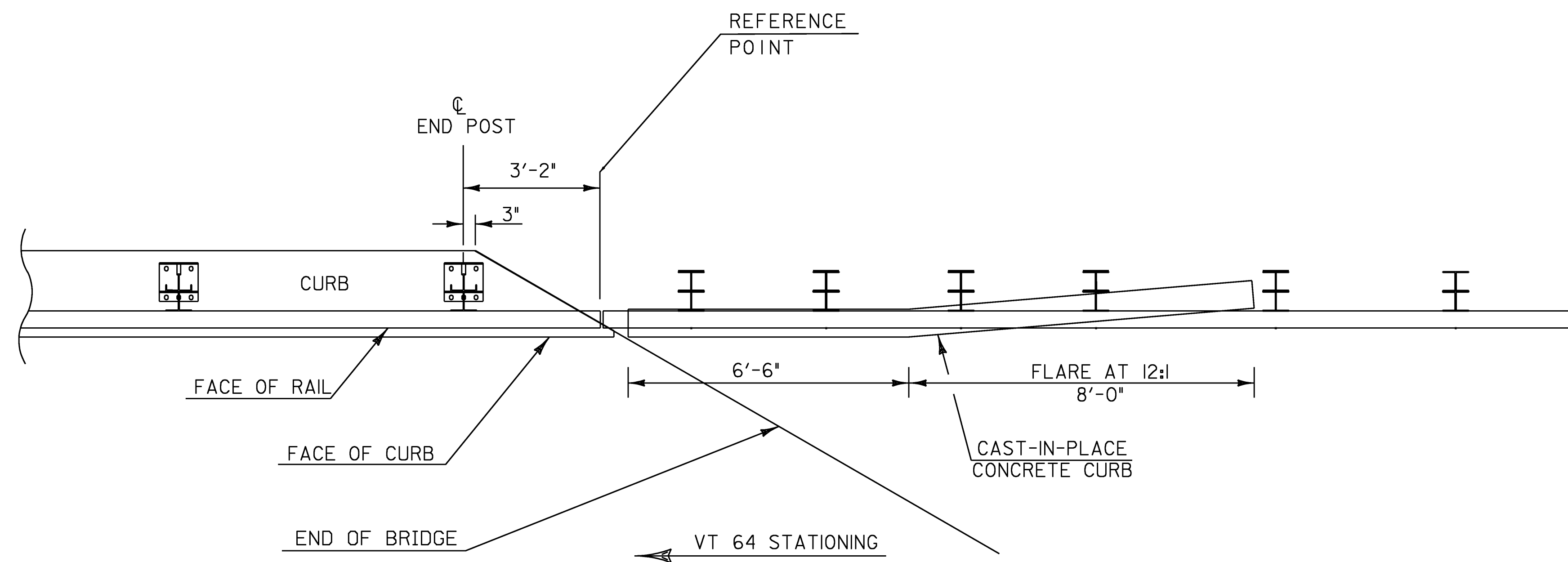
DETAIL D
SCALE $\frac{1}{2}$ " = 1'-0"
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BRIDGE RAIL LAYOUT SHEET

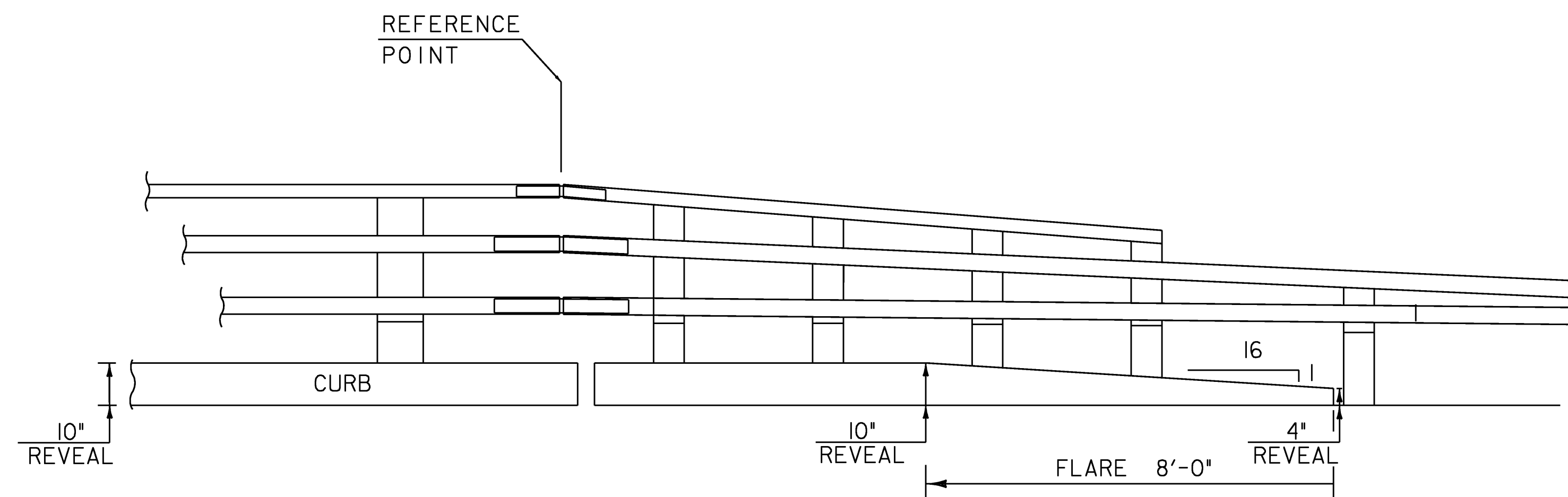
PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: /83elll/elllbrldgerallme
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY

PLOT DATE: 07-APR-2008
DRAWN BY: L. DUQUETTE
CHECKED BY: EVANS-MONGEON
SHEET 46 OF 108



PLAN
CURB TRANSITION DETAIL
VT ROUTE 64 STA. 219+04.5 TO 219+19.0 RT



ELEVATION
CURB TRANSITION DETAIL
VT ROUTE 64 STA. 219+04.5 TO 219+19.0 RT

CURB TRANSITION DETAIL

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: sellbridge.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM s83ellcurb

PLOT DATE:
DRAWN BY: U. STANLEY
CHECKED BY: EVANS-MONGEON
SHEET 47 OF 108

ALL DRAWINGS NTS

GENERAL NOTES

1.
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SIXTEENTH EDITION, AND ITS LATEST REVISIONS.
2.
- BRIDGE IS DESIGNED FOR HS 25 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.
3.
- THE EXISTING BRIDGE SUPERSTRUCTURE, AND ANY PART OF THE ASSOCIATED WINGWALLS AND RETAINING WALLS WHICH ARE OUTSIDE OF THE COFFERDAM EXCAVATION LIMITS AND OUTSIDE OF THE UNCLASSIFIED CHANNEL EXCAVATION LIMITS DEFINED IN THE PLANS, WILL BE REMOVED UNDER ITEM 529.15, REMOVAL OF STRUCTURE (475 SF - EST.). PORTIONS OF THE ABUTMENTS, WINGWALLS AND RETAINING WALLS THAT ARE WITHIN THE COFFERDAM LIMITS, WILL BE REMOVED AS EITHER COFFERDAM EXCAVATION EARTH OR COFFERDAM EXCAVATION ROCK, AS APPROPRIATE. PORTIONS OF THE ABUTMENTS, WINGWALLS AND COFFERDAMS THAT ARE WITHIN THE UNCLASSIFIED CHANNEL EXCAVATION LIMITS WILL BE REMOVED UNDER ITEM 203.27.
4.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE, INTO ANY BROOK, STREAM OR RIVER.
5.
- THE STRUCTURE AT STA. 219+75 RIGHT WILL BE REMOVED AND DISPOSED OF. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 202.10, DEMOLITION AND DISPOSAL OF BUILDING.
6.
- A 5' WIDE PAVED PEDESTRIAN WALKWAY WILL BE PROVIDED FROM DETOUR STA. 305+40 TO STA. 305+65. A 4' HIGH RAILING SHALL SEPARATE THE PEDESTRIAN WALKWAY FROM THE PROPOSED DETOUR. THE RAILING SHALL BE ORNAMENTAL STEEL AS SHOWN ON SHEET 69. PAYMENT FOR MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR THE INSTALLATION OF THE RAILING WILL BE MADE UNDER ITEM 900.640 SPECIAL PROVISION (PEDESTRIAN HAND RAILING).
7.
- EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.015 GALLONS PER SQUARE YARD BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.
8.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND GIVEN AT 68 DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.
9.
- THE BITUMINOUS CONCRETE SIDEWALK LOCATED AT VT 64 STA. 220+90 LEFT WILL BE RE-PAVED TO A DEPTH OF 1 INCH AS A PART OF THIS PROJECT. THE WORK REQUIRED TO ACCOMPLISH THIS WILL BE PAID FOR UNDER ITEM 406.25, BITUMINOUS CONCRETE PAVEMENT (PG 58-34). TESTING OF BITUMINOUS MATERIAL IS WAIVED FOR THIS SIDEWALK.
10.
- THE CURB REVEAL WILL VARY FROM 0" AT STA. 218+18 LT TO 10" AT STA. 218+73 LT. THE CURB REVEAL WILL VARY FROM 10" AT STA. 219+11.5 LT TO 0" AT STA. 219+21.5 LT.
11.
- THE SHRUB TO BE TRANSPLANTED, LOCATED AT STA. 220+52 LT, SHALL BE REPLANTED AT APPROXIMATELY THE SAME LOCATION, OR AS DIRECTED BY THE ENGINEER UPON COMPLETION OF THE REMOVAL OF THE OLD DI AND CONSTRUCTION OF THE NEW DI.

CONCRETE

12.
- THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
13.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
14.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
15.
- REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING + - 1"
CLEARANCE + - 1/4"
16.
- MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG THE BACK FACES OF WALLS AGAINST EARTH, TWO AND ONE-HALF (2 1/2) INCHES ALONG THE TOP SURFACE OF THE DECK, ONE AND ONE-HALF (1 1/2) INCHES ALONG THE BOTTOM SURFACE OF THE DECK AND THREE (3) INCHES ELSEWHERE, UNLESS OTHERWISE NOTED.
17.
- ALL REINFORCING STEEL USED IN THE SLAB AND THE APPROACH SLABS WILL BE EPOXY COATED AND PAID FOR UNDER ITEMS 507.17. WHEN EPOXY COATED REINFORCING STEEL IS CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING WILL NOT BE PERMITTED.
18.
- NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.

19.
- WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SLAB BETWEEN THE DRIP BEADS.
20.
- ALL SUBSTRUCTURE CONCRETE SHALL BE CONCRETE HIGH PERFORMANCE CLASS B UNLESS OTHERWISE NOTED.
21.
- THE CAST-IN-PLACE SLAB AND THE APPROACH SLABS SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.
22.
- THE CURBS AND SIDEWALKS SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A.
23.
- THE CURB AND SIDEWALK ON THE BRIDGE MAY BE PLACED IN ONE CONTINUOUS POUR, WITHOUT CONSTRUCTION JOINTS.

TEMPORARY ROADWAY

24.
- STATE HIGHWAY 64 IS TO BE CLOSED, BETWEEN HEBERT ROAD AND ROUTE 14, TO THRU TRAFFIC DURING CONSTRUCTION.
25.
- TRAFFIC WILL BE MAINTAINED ON A TWO-WAY PAVED TEMPORARY DETOUR LOCATED SOUTH OF THE EXISTING ROADWAY. CONSTRUCTION OF THE DETOUR ALSO INCLUDES CONSTRUCTION OF A PAVED PARKING LOT FOR THE RANDOLPH NATIONAL BANK, LOCATED AT STATION 304+25, LEFT OF THE TEMPORARY DETOUR. CONSTRUCTION OF THE DETOUR WILL ALSO INCLUDE INSTALLATION OF A TEMPORARY ENTRANCE FOR THE RANDOLPH NATIONAL BANK ONTO VT 14, (SEE NOTE 25) AND INSTALLATION OF A PEDESTRIAN WALKWAY AS SHOWN ON SHEET 23. ALL OF THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR 900.645, SPECIAL PROVISIONS (TEMPORARY ROADWAY).
26.
- THE TEMPORARY ENTRANCE FROM VT 14 INTO THE PARKING LOT IN FRONT OF THE RANDOLPH NATIONAL BANK SHALL CONSIST OF A DRIVE, 12 FEET WIDE, AS SHOWN ON SHEET 23 OF 108. THIS DRIVE WILL HAVE A SUBBASE OF 15" OF SUBBASE OF DENSE GRADED CRUSHED STONE, AND WILL BE PAVED WITH 2 1/2" OF BITUMINOUS CONCRETE PAVEMENT (PG 58-34). THE COST OF THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645, SPECIAL PROVISION (TEMPORARY ROADWAY).
27.
- THE LOCATION OF THE TEMPORARY ROADWAY WILL REQUIRE THAT SOME OF WINGWALL 2 AS DESIGNED, BE CONSTRUCTED AND THE AREA BACKFILLED PRIOR TO INSTALLATION OF THE TEMPORARY ROADWAY, SEE SHEET 60 FOR THE LIMITS OF THIS WORK. IF THE CONTRACTOR PROPOSES TO CHANGE THE DESIGN SO THAT THE TEMPORARY DETOUR CAN BE INSTALLED PRIOR TO CONSTRUCTING ANY OF THE SUBSTRUCTURE. THE CONTRACTORS COFFERDAM DESIGN SHALL INDICATE HOW THIS WORK WILL BE DONE. NO ADDITIONAL COMPENSATION WILL BE DUE THE CONTRACTOR, FOR THIS ALTERNATE DESIGN.
28.
- PAYMENT FOR TWO COFFERDAM ITEMS ARE INCLUDED IN THIS CONTRACT. IF THE CONTRACTOR CHOSES TO USE ONE COFFERDAM TO CONTSTRUCT THE PORTION OF WINGWALL 2 DESIGNATED TO BE BUILT PRIOR TO THE INSTALLATION OF THE TEMPORARY ROADWAY AND ANOTHER FOR THE CONSTRUCTION OF THE REMAINDER OF ABUTMENT 1 AND WINGWALL 1, PAYMENT FOR BOTH PORTIONS OF THIS COFFERDAM WILL BE INCLUDED IN THE BID PRICE FOR 208.40 COFFERDAM (@ STA. 218+97).
29.
- THE CONTRACTOR SHALL NOTIFY MAINTENANCE DISTRICT 6; ~~ERNIE-ENGLEHARDT~~,WAYNE CAMMELL DISTRIC TRANSPORTATION ADMINISTRATOR, 802-828-2691 AND THE TOWN OF WILLIAMSTOWN; ED MAGEE, TOWN MANAGER, 802-433-6671 A MINIMUM OF TWO (2) WEEKS PRIOR TO MOVING TRAFFIC TO THE DETOUR LOCATION.

30.
- WHEN THE TEMPORARY DETOUR IS NO LONGER NEEDED, SOME OF THE PAVEMENT BETWEEN DETOUR STATIONS 300+35 AND 304+25 WILL BE REMOVED, AS SHOWN ON SHEET 31 OF 108. WHERE THE PAVEMENT IS REMOVED, THE AREA WILL BE COVERED WITH A 6 INCH DEPTH OF TOPSOIL, SEEDED AND MULCHED. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, SPECIAL PROVISION (TEMPORARY ROADWAY).

31.
- ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.

32.
- THE COST OF ALL ON AND OFF PROJECT TRAFFIC CONTROL SIGNS AND BARRICADES REQUIRED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT WILL BE MADE UNDER ITEM 641.10, TRAFFIC CONTROL.

LEDGE

33.
- THE FOOTINGS FOR THE SUBSTRUCTURE SHALL BE FOUNDED ON LEDGE, WHICH SHALL BE CLEANED OF ALL LOOSE ROCK AND OTHER DEBRIS. THE LEDGE SHALL BE REMOVED AS REQUIRED TO ENSURE THAT THE FOOTINGS ARE PLACED ON COMPETENT ROCK.
34.
- UPON COMPLETION OF THE COFFERDAM EXCAVATION AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER WILL CONTACT THE SOILS AND FOUNDATIONS ENGINEER/ ENGINEERING GEOLOGIST FROM THE VERMONT AGENCY OF TRANSPORTATION TO INSPECT THE LEDGE TO DETERMINE IF IT IS COMPETENT TO SUPPORT THE DESIGN PRESSURES AS SHOWN ON THE PLANS. THE GEOLOGIST SHALL BE ALLOWED 5 WORKING DAYS FROM NOTICE OF EXCAVATION COMPLETION TO MAKE THE INSPECTION AND THE DETERMINATION OF THE COMPETENCY OF THE LEDGE.
35.
- LEDGE THAT IS EXCAVATED FOR THE PLACEMENT OF FOOTINGS SHALL BE EXCAVATED TO PROVIDE A LEVEL SURFACE OR AS DIRECTED BY THE ENGINEER.

36.
- A MAXIMUM OF 6" OVERBREAKAGE WILL BE ALLOWED AND WILL BE REPLACED WITH CONCRETE, HIGH PERFORMANCE, CLASS B.OVERBREAKAGE BEYOND THE 6" WILL BE REPLACED WITH CONCRETE, HIGH PERFORMANCE, CLASS B AT THE CONTRACTOR'S EXPENSE.
37.
- FOR ALL SUBSTRUCTURE UNITS WHERE LEDGE IS 1 FOOT OR LESS BELOW THE BOTTOM OF THE FOOTING AS DESIGNED,THE FOOTING MAY BE POURED TO THE TOP OF THE LEDGE USING CONCRETE, HIGH PERFORMANCE CLASS B.
38.
- FOR ALL SUBSTRUCTURE UNITS WHERE THE LEDGE IS BELOW THE DESIGNED BOTTOM OF FOOTING ELEVATION BY MORE THAN 1 FOOT, A LEDGE PROFILE SHALL BE PROVIDED TO THE PROJECT MANAGER SO THAT IT MAY BE DETERMINED WHETHER THE FOOTING MAY BE LOWERED OR IF A SUB-FOOTING IS REQUIRED. IF A SUB-FOOTING IS REQUIRED IT WILL BE PAID FOR UNDER THE ITEM 541.30, CONCRETE, CLASS C.
39.
- IF A SUBFOOTING IS USED, #8 DOWELS WILL BE DRILLED AND GROUTED INTO LEDGE AS SHOWN ON THE SUBFOOTING DETAIL ON SHEET 57, DOWELS WILL ALSO BE USED TO CONNECT THE FOOTING TO THE SUBFOOTING AS SHOWN IN THE DETAIL. THE DOWELS WILL BE SPACED AT 4'-0, AND WILL HAVE AN EMBEDEMENT OF 2'-0" IN THE LEDGE AND A MINIMUM EMBEDMENT OF 1'6" IN BOTH THE SUBFOOTING AND THE FOOTING. THE DRILLING AND GROUTING WILL BE PAID FOR UNDER ITEM 507.16 DRILLING AND GROUTING DOWELS, HOWEVER THE DOWELS WILL BE PAID FOR UNDER 507.15 "REINFORCING STEEL".
40.
- IF LEDGE IS ABOVE THE DESIGNED BOTTOM OF FOOTING ELEVATION, THE FOOTING ELEVATION MAY BE RAISED. BEFORE ANY ADJUSTMENT IN THE FOOTING ELEVATION IS MADE, THE PROJECT MANAGER WILL BE CONTACTED FOR APPROVAL.

41.
- THE ABUTMENTS AND WINGWALLS ARE DESIGNED FOR A MAXIMUM FOOTING PRESSURE OF 10 KSF.

STONE FILL

42.
- THE STONE FILL, TYPE II MAY NOT BE REQUIRED IN AREAS OF EXPOSED LEDGE, AS DETERMINED BY THE ENGINEER.

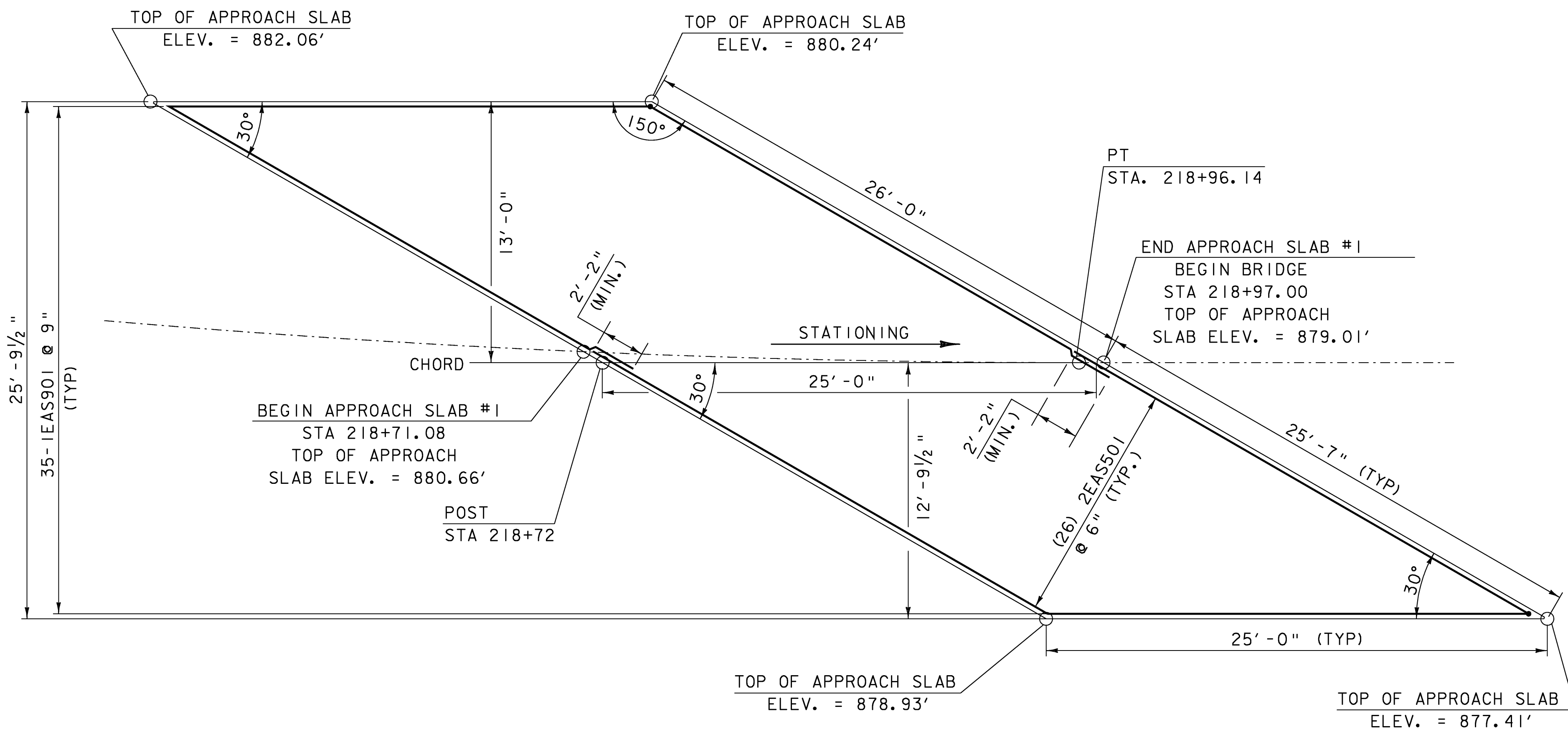
UTILITIES

43.
- THE CONTRACTOR IS ALERTED TO THE PRESENCE OF A SEWER MAIN LOCATED ON THE LEFT SIDE OF VT 64. IN THE AREA OF THE EXISTING BRIDGE, THIS SEWER MAIN IS WITHIN A TRENCH EXCAVATED INTO THE LEDGE, AND IS COVERED WITH CONCRETE. THIS SEWER MAIN IS TO REMAIN IN PLACEAND IN SERVICE. A PORTION OF WINGWALL #3 AND ABUTMENT # 1 WILL BE CONSTRUCTED ON TOP OF THE CONCRETE ENCASEMENT. THE CONTRACTOR WILL USE CARE IN WORKING AROUND THIS SEWER MAIN AND IS DUE NO EXTRA COMPENSATION FOR THE INCONVENIENCE OF WORKING AROUND THIS UTILITY. ANY DAMAGE THAT OCCURS TO THIS SEWER MAIN DURING CONSTRUCTION WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. THE APPROXIMATE LOCATION OF THIS SEWER MAIN IS SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION IN THE FIELD.
44.
- THE CONTRACTOR IS ALERTED TO THE PRESENCE OF A WATER LINE LOCATED ON THE RIGHT SIDE OF VT 64. THIS WATER LINE RUNS THROUGH THE AREA THAT MUST BE EXCAVATED TO CONSTRUCT WINGWALL #2. THIS WATER LINE IS TO REMAIN IN PLACE, AND IN SERVICE. THE CONTRACTOR WILL USE CARE IN WORKING AROUND THIS WATER LINE AND IS DUE NO EXTRA COMPENSATION FOR THE INCONVENIENCE OF WORKING AROUND THIS UTILITY. ANY DAMAGE THAT OCCURS TO THIS WATER LINE DURING CONSTRUCTION WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. THE APPROXIMATE LOCATION OF THIS WATER LINE IS SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION IN THE FIELD.
45.
- THE CONTRACTOR IS ALERTED TO THE PRESENCE OF A WATER LINE LOCATED ON THE LEFT SIDE OF VT 64. THIS WATER LINE RUNS THROUGH THE AREA THAT MUST BE EXCAVATED TO INSTALL THE PIPE AT STATION 220+45. THIS WATER LINE IS TO REMAIN IN PLACE AND IN SERVICE. THE CONTRACTOR WILL USE CARE IN WORKING AROUND THIS WATER LINE AND IS DUE NO EXTRA COMPENSATION FOR THE INCONVENIENCE OF WORKING AROUND THIS UTILITY. ANY DAMAGE THAT OCCURS TO THIS WATER LINE DURING CONSTRUCTION WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. THE APPROXIMATE LOCATION OF THIS WATER LINE IS SHOWN ON THE PLANS. THE CONTRACTOR SHALL THE VERIFY THE LOCATION IN THE FIELD.

GENERAL NOTES

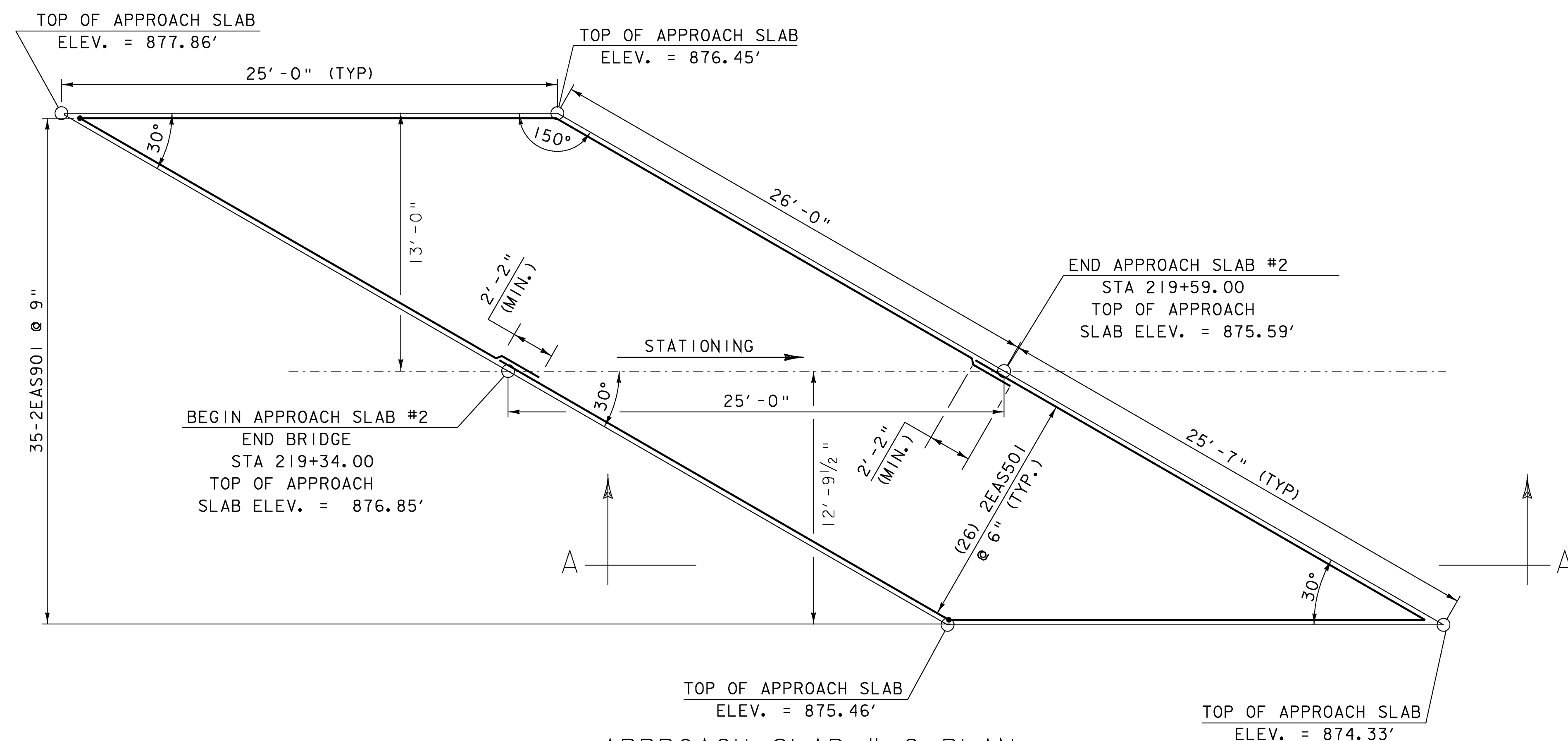
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PROJECT NUMBER: BRS 0204(4)

FILE NAME: STRUCTURES\SEI\EXCEL.DGN	PLOT DATE: 07-APR-2008
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: M. EVANS-M
DESIGNED BY: U. STANLEY	CHECKED BY: U. STANLEY
	SHEET 48 OF 108



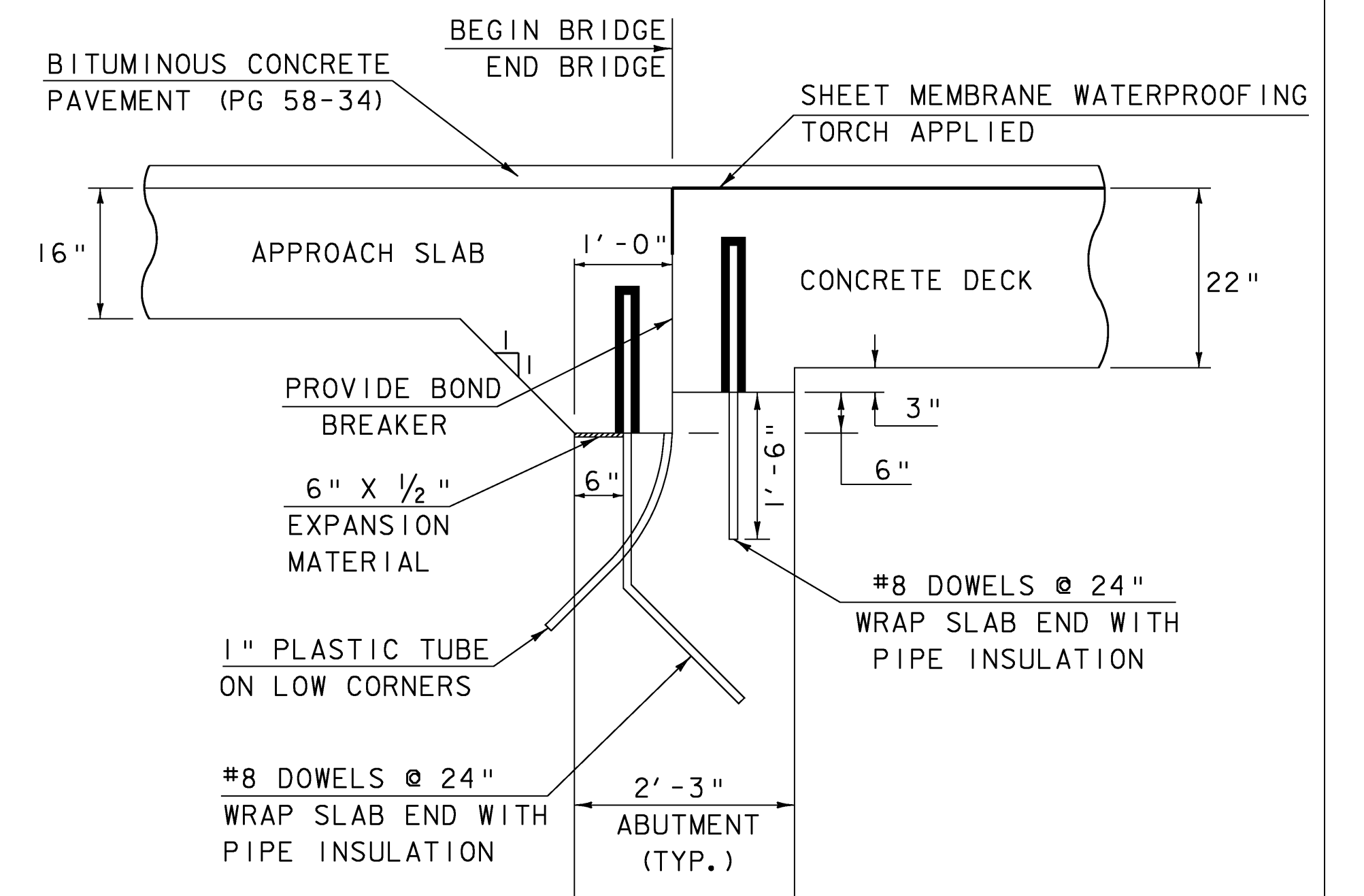
APPROACH SLAB # 1 PLAN

SCALE 1/4" = 1'-0"



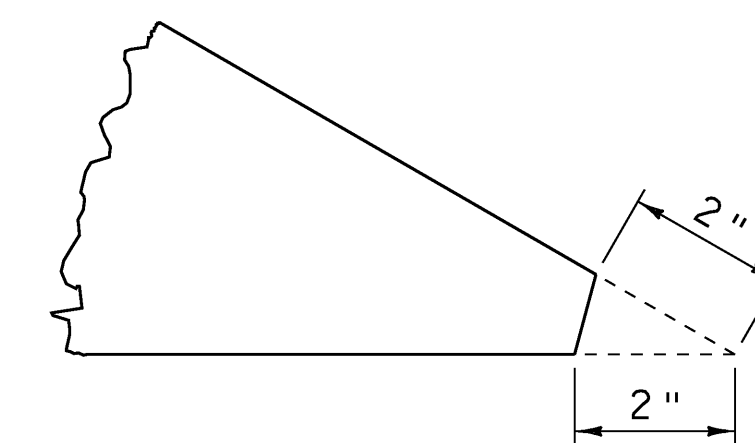
APPROACH SLAB # 2 PLAN

SCALE 1/4" = 1'-0"



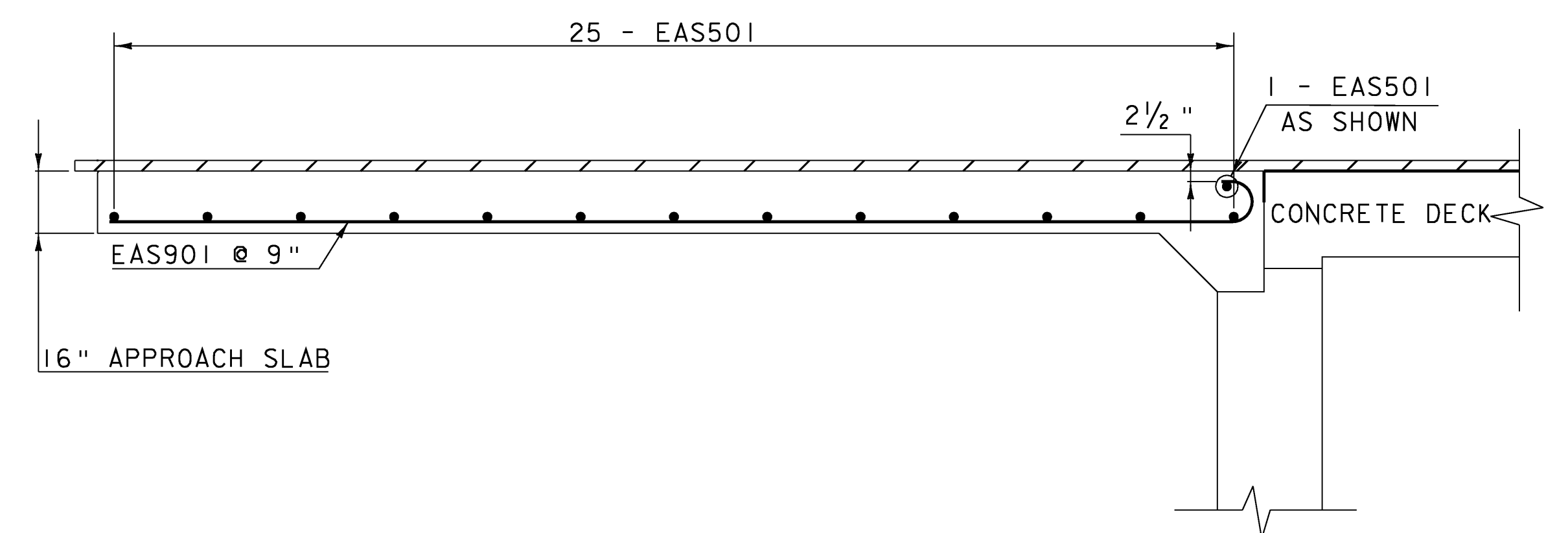
TYPICAL END SECTION

SCALE 3/4" = 1'-0"



ACUTE CORNER DETAIL

NTS



SECTION A-A

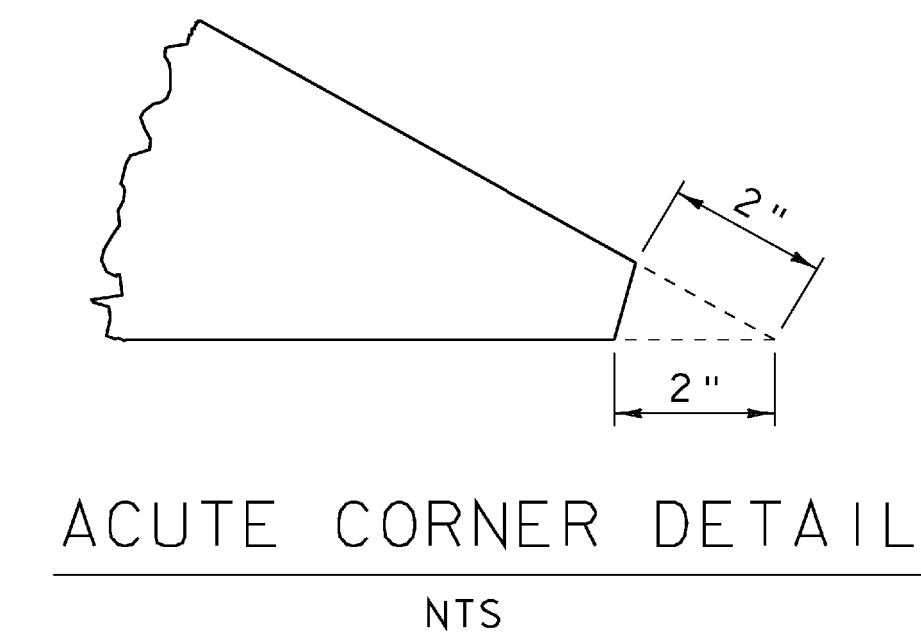
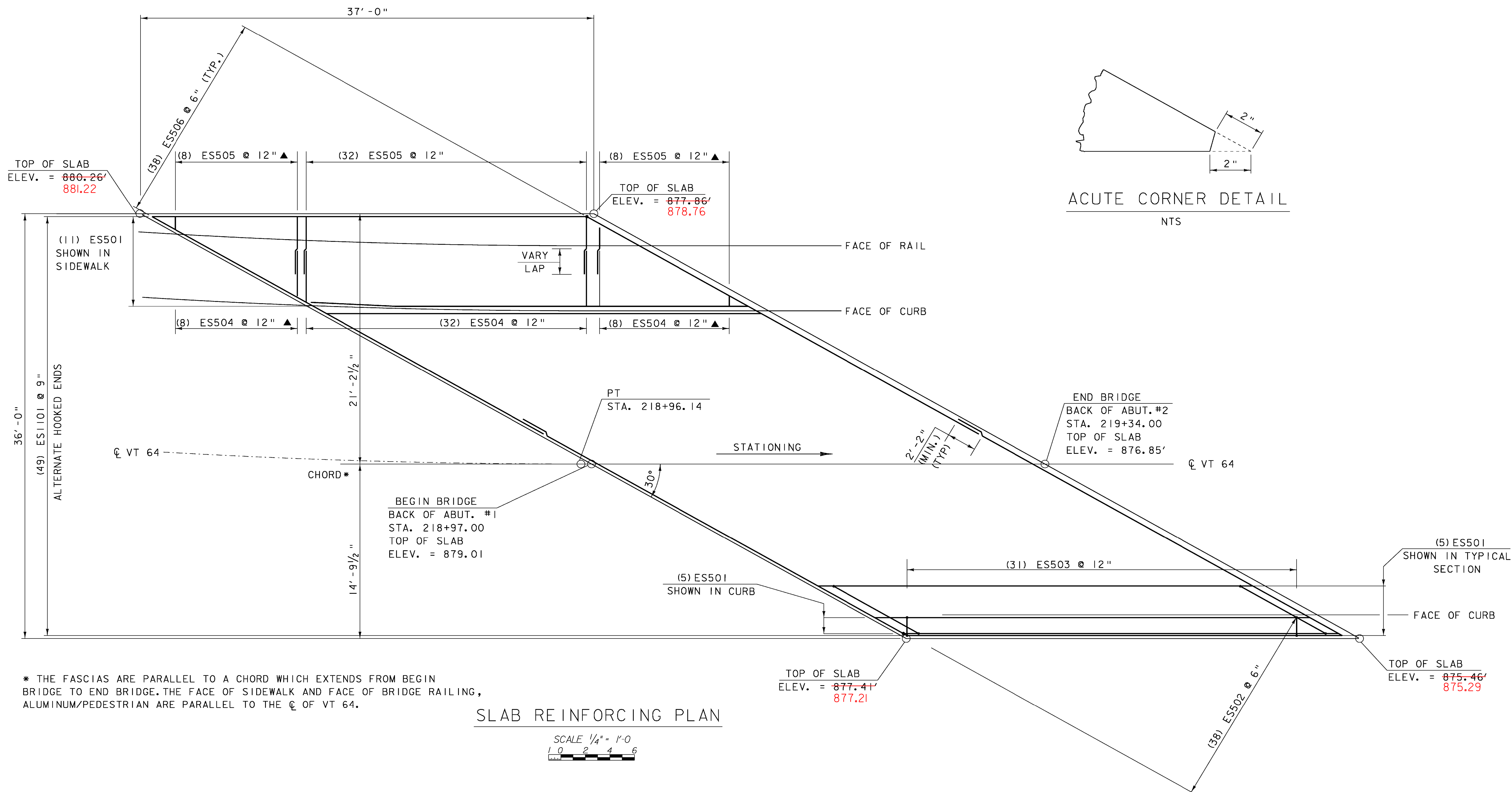
SCALE 3/8" = 1'-0"

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

APPROACH SLAB DETAILS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	U. STANLEY
FILE NAME:	83ell\structures\sellsup.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	M. EVANS-MONGEON	SHEET	49 OF 108
DESIGNED BY:	U. STANLEY		
IPARM	sellsup.t		



* THE FASCIAS ARE PARALLEL TO A CHORD WHICH EXTENDS FROM BEGIN BRIDGE TO END BRIDGE. THE FACE OF SIDEWALK AND FACE OF BRIDGE RAILING, ALUMINUM/PEDESTRIAN ARE PARALLEL TO THE CL OF VT 64.

SLAB REINFORCING PLAN

SCALE 1/4" = 1'-0"

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

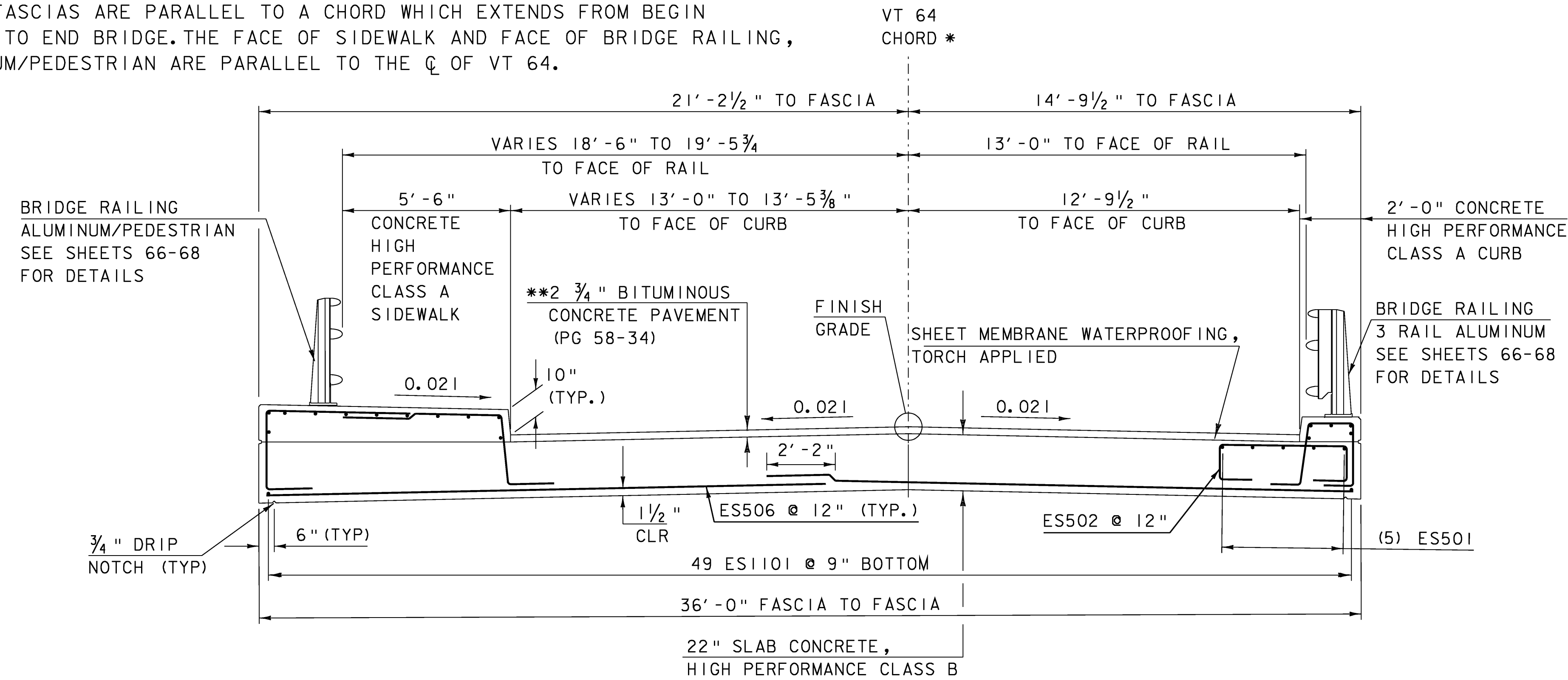
SLAB DETAIL SHEET 1

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\structures\sellsup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM sellsup.l

PLOT DATE: 07-APR-2008
DRAWN BY: U. STANLEY
CHECKED BY: EVANS-MONGEON
SHEET 50 OF 108

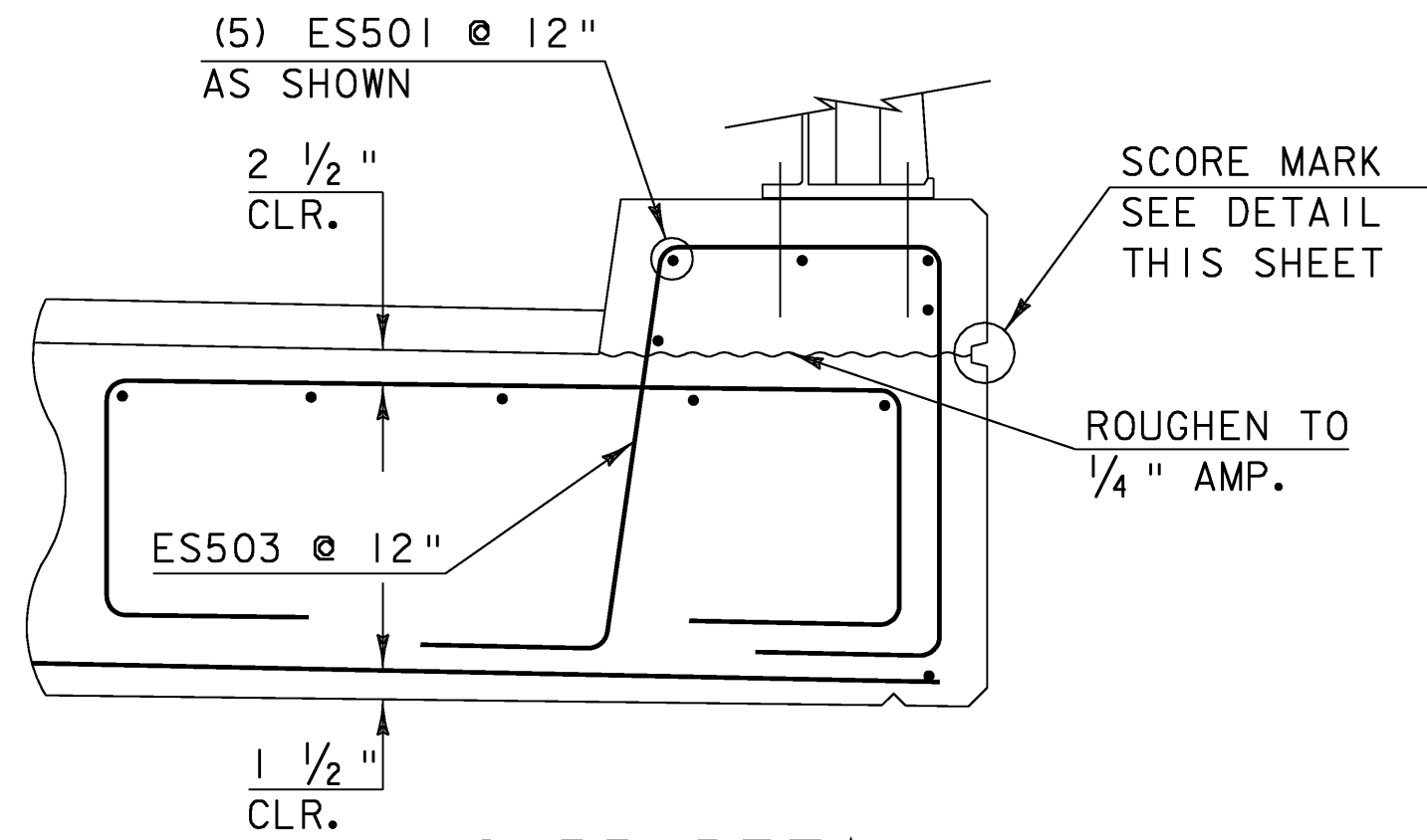
* THE FASCIAS ARE PARALLEL TO A CHORD WHICH EXTENDS FROM BEGIN
BRIDGE TO END BRIDGE. THE FACE OF SIDEWALK AND FACE OF BRIDGE RAILING,
ALUMINUM/PEDESTRIAN ARE PARALLEL TO THE $\mathcal{Q}$ OF VT 64.



**1 1/2" BIT. CONCRETE PAVEMENT TYPE IV (PG 58-34) OVER
1 1/4" BIT. CONCRETE PAVEMENT TYPE IV (PG 58-34)

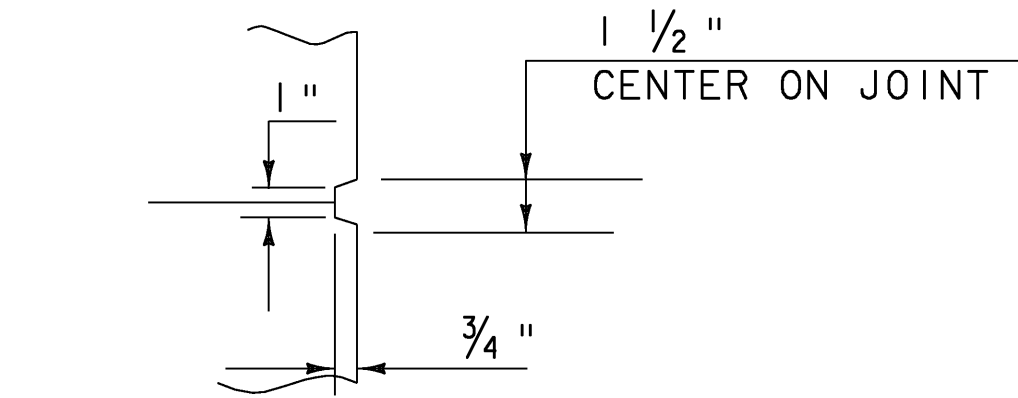
BRIDGE TYPICAL SECTION

SCALE 3/8" = 1'-0"
1 0 1 2 3 4



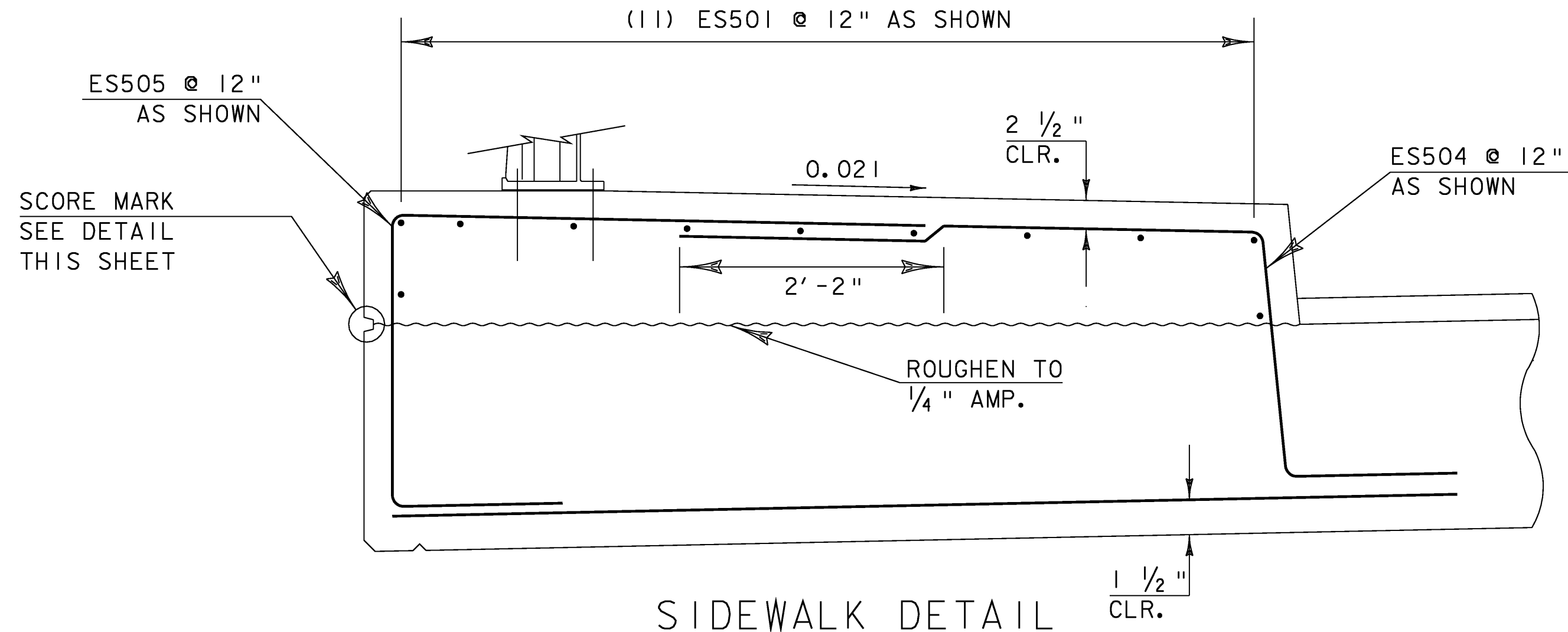
CURB DETAIL

SCALE 1" = 1'-0"
1 9 6 3 0 1 2



SCORE MARK DETAIL

NTS



SIDEWALK DETAIL

SCALE 1" = 1'-0"
1 9 6 3 0 1 2

NOTE:

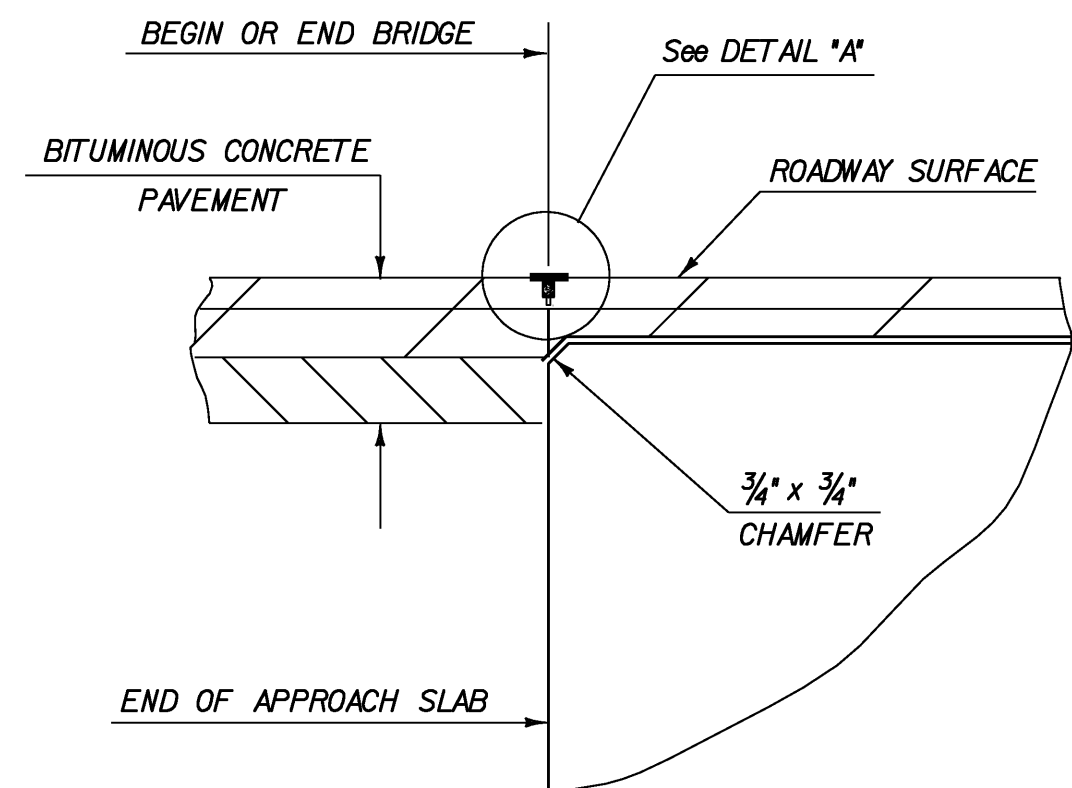
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SLAB DETAIL SHEET 2

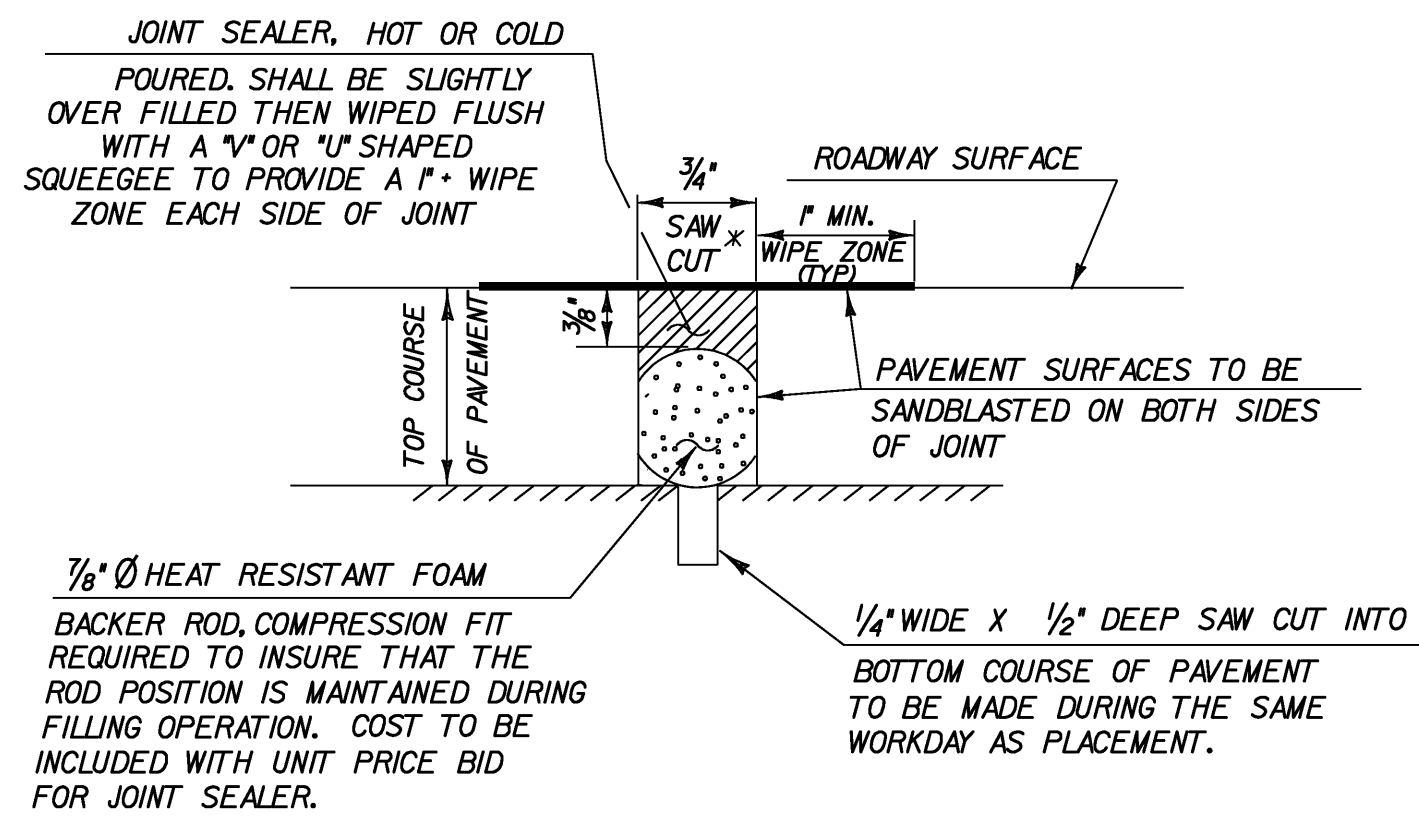
PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\structures\sellsup.dgn
PROJECT LEADER: M. EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM sellsup2.1

PLOT DATE: 07-APR-2008
DRAWN BY: U. STANLEY
CHECKED BY: EVANS-MONGEON
SHEET 51 OF 108

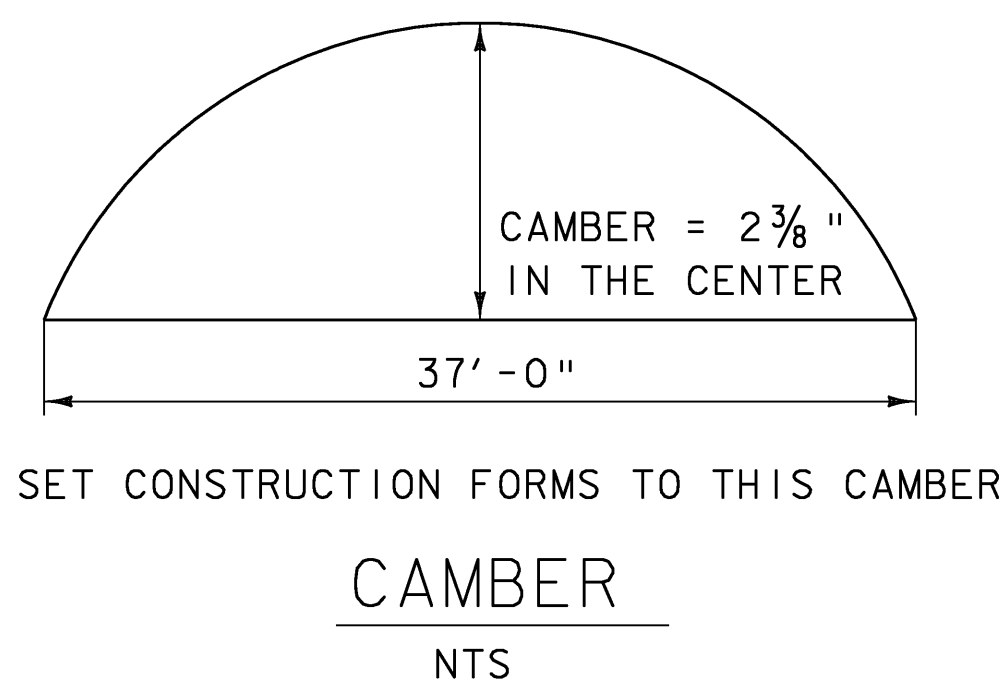


DETAIL FOR JOINT IN PAVEMENT AND
SHEET MEMBRANE AT END OF BRIDGE



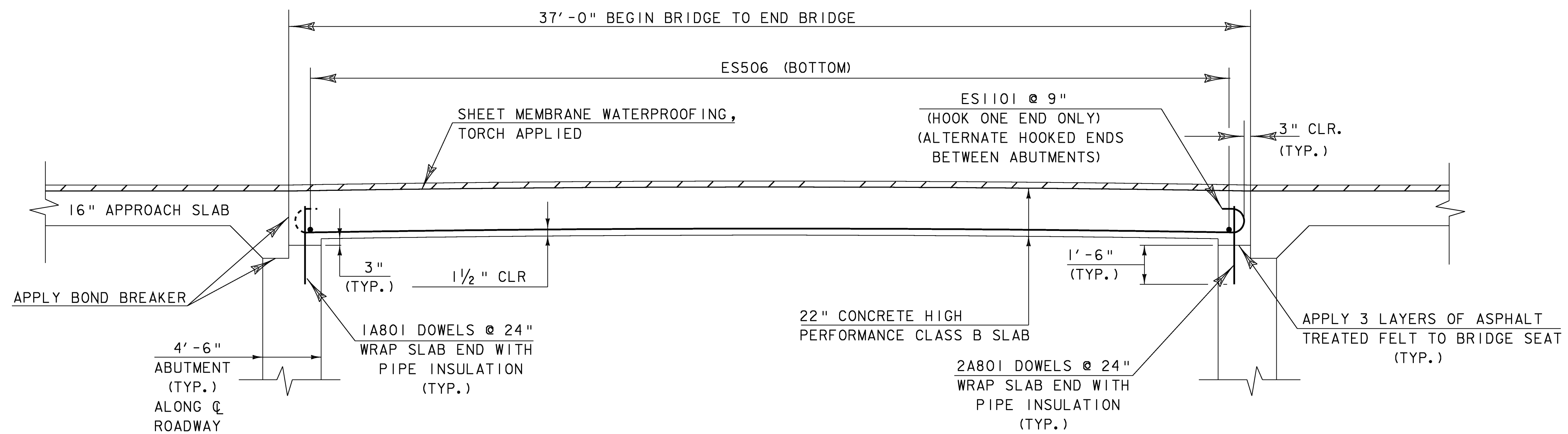
DETAIL "A"

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. SEE VT. SPECIFICATION 524.



NOTES:

1. THE SLAB SHALL BE CAMBERED A TOTAL OF $2\frac{3}{8}$ " AT MIDSPAN. THIS CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.
2. COST OF BOND BREAKER, ASPHALT TREATED FELT, PLASTIC TUBING, STEEL WOOL, EXPANSION MATERIAL, AND PIPE INSULATION AND THEIR APPLICATION SHALL BE INCIDENTAL TO CONCRETE HIGH PERFORMANCE CLASS B.



ELEVATION ALONG $\mathcal{C}$ OF ROADWAY

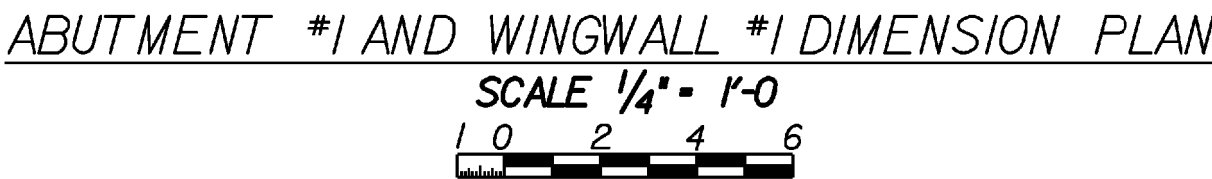
SCALE $\frac{3}{8}" = 1'-0"$
1 0 1 2 3 4

NOTE:

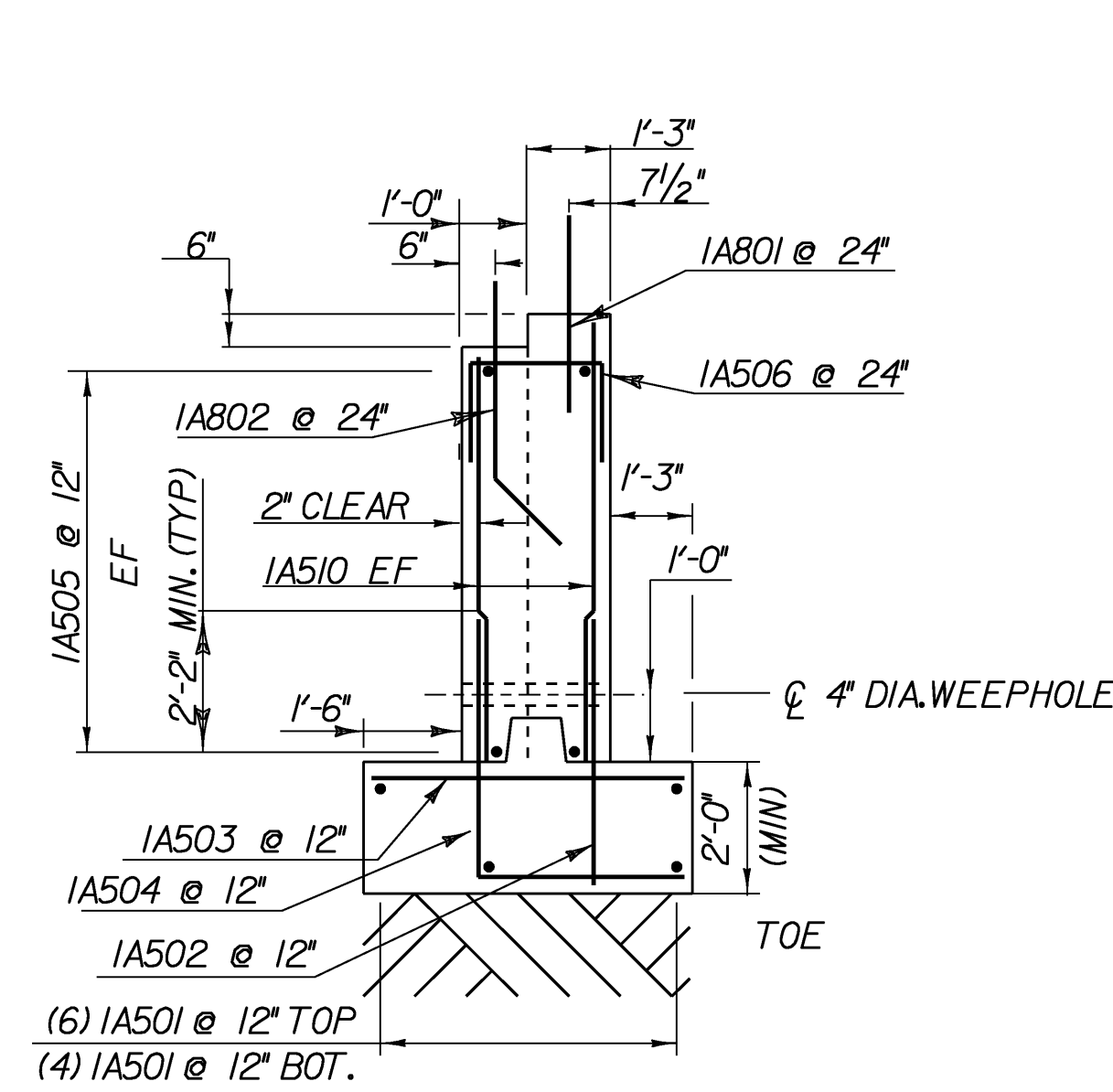
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SLAB DETAIL SHEET 3

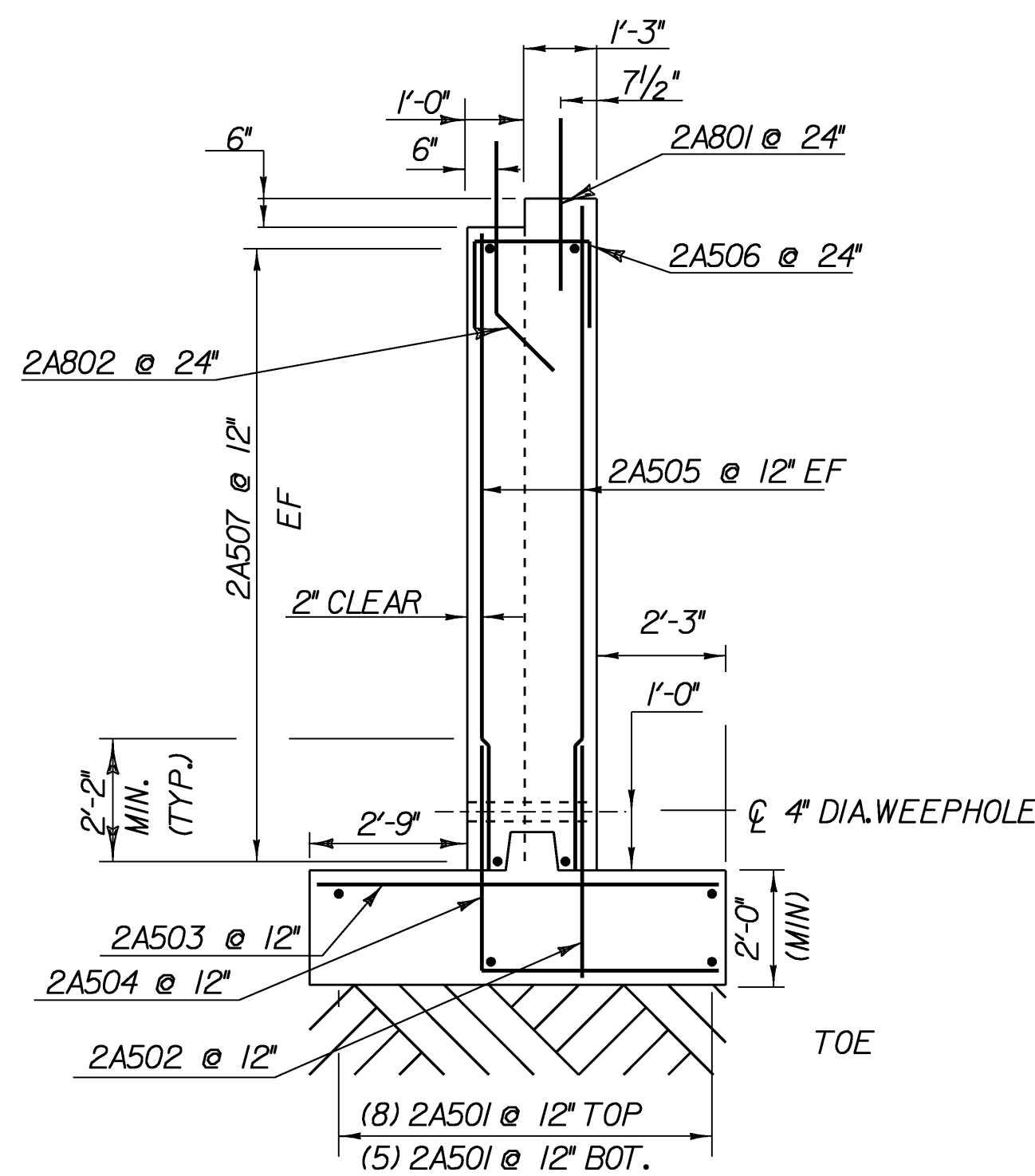
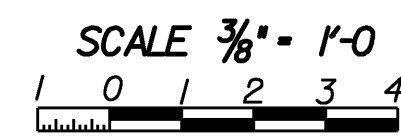
PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME: 83e\\structures\\sellsup.dgn	PLOT DATE: 07-APR-2008
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: EVANS-MONGEON
IPARM sellsup3.1	SHEET 52 OF 108



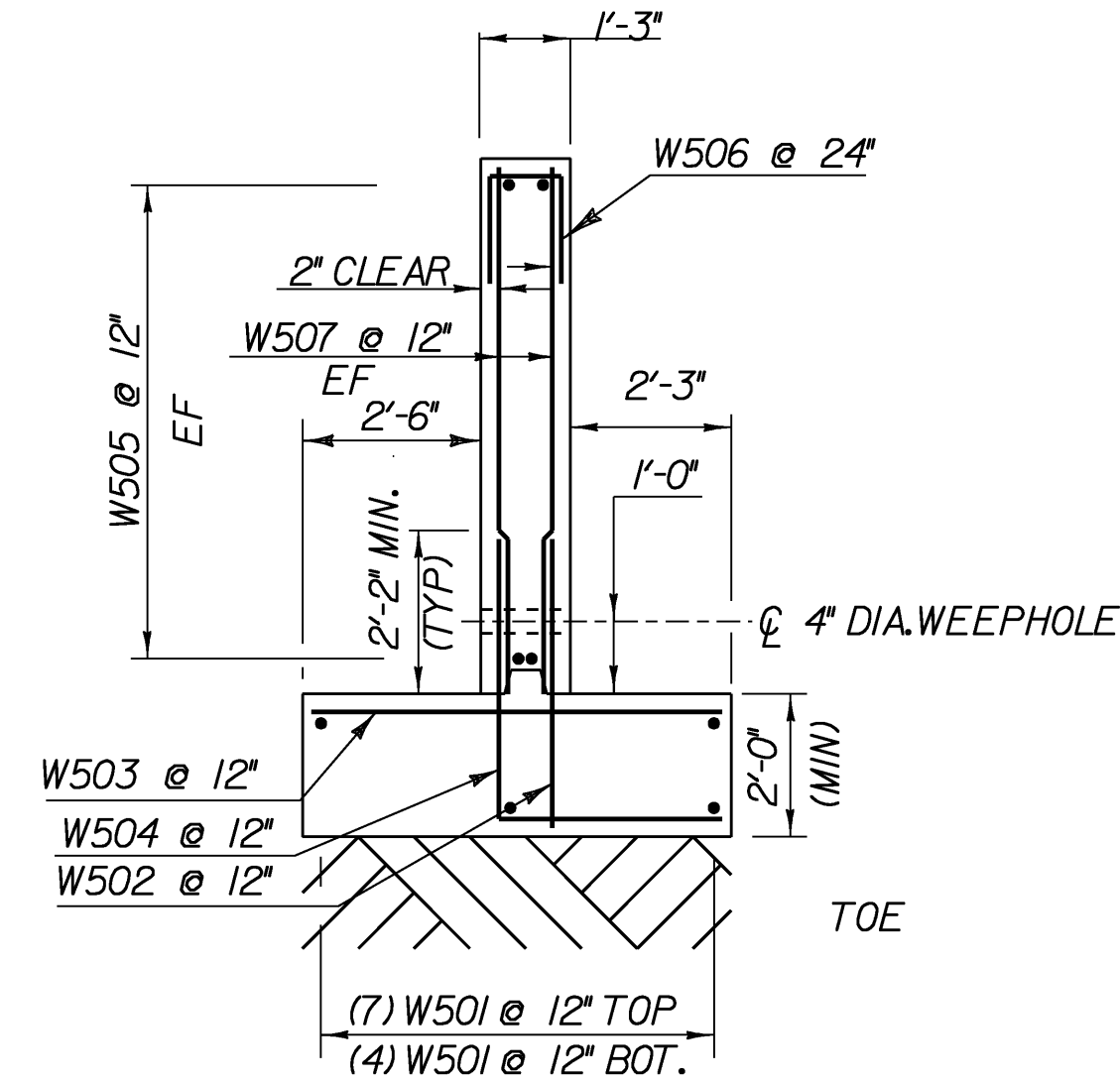
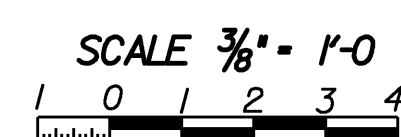
PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204(4)	
FILE NAME: 83ell\str.\sellabout1.dg	PLOT DATE: 07-APR-2008
PROJECT LEADER: M.EVANS.MONGEON	DRAWN BY: G.ROKES
DESIGNED BY: M.EVANS-MONGEON	CHECKED BY: U.STANLEY
IPARM sellsub2.1	SHEET 54 OF 108



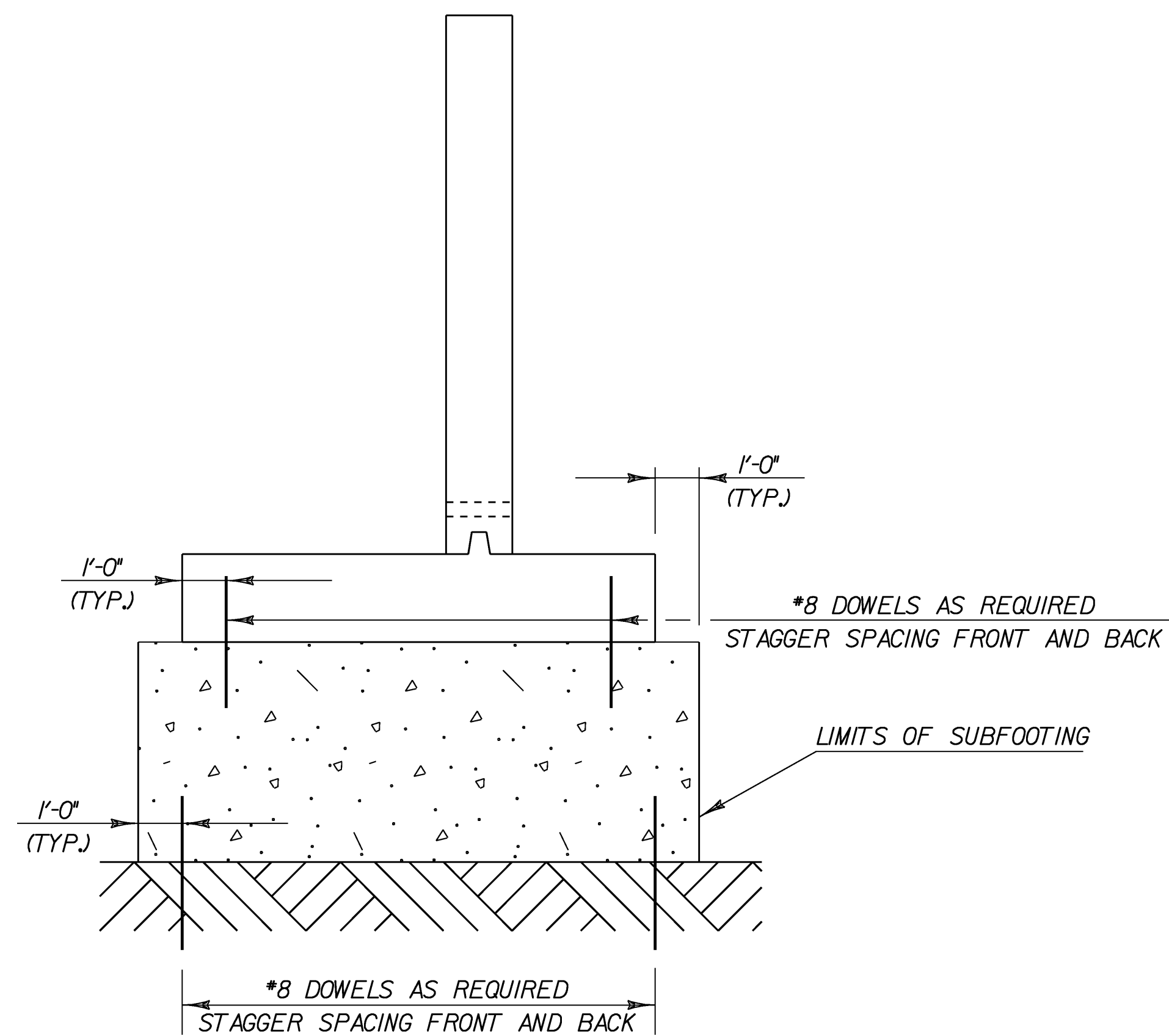
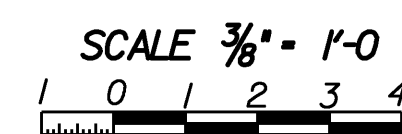
ABUTMENT #1 TYPICAL



ABUTMENT # 2 TYPICAL

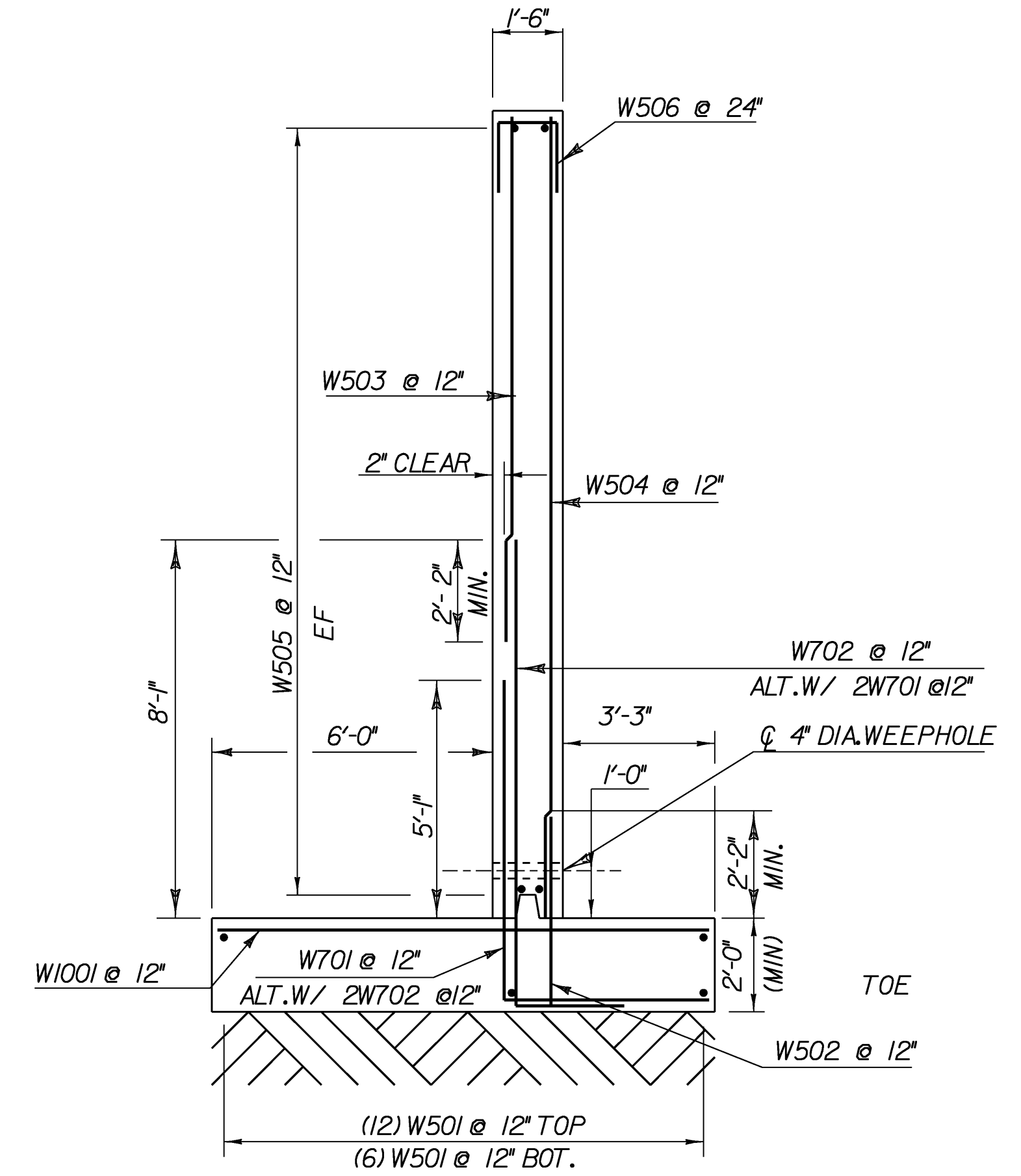


WINGWALLS 1 & 3 TYPICAL

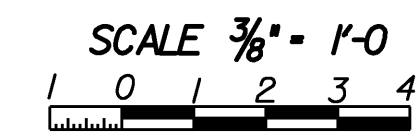


SUBFOOTING SECTION
NTS

SEE GENERAL NOTE SHEET FOR ADDITIONAL DETAILS



WINGWALLS 2 & 4 TYPICAL

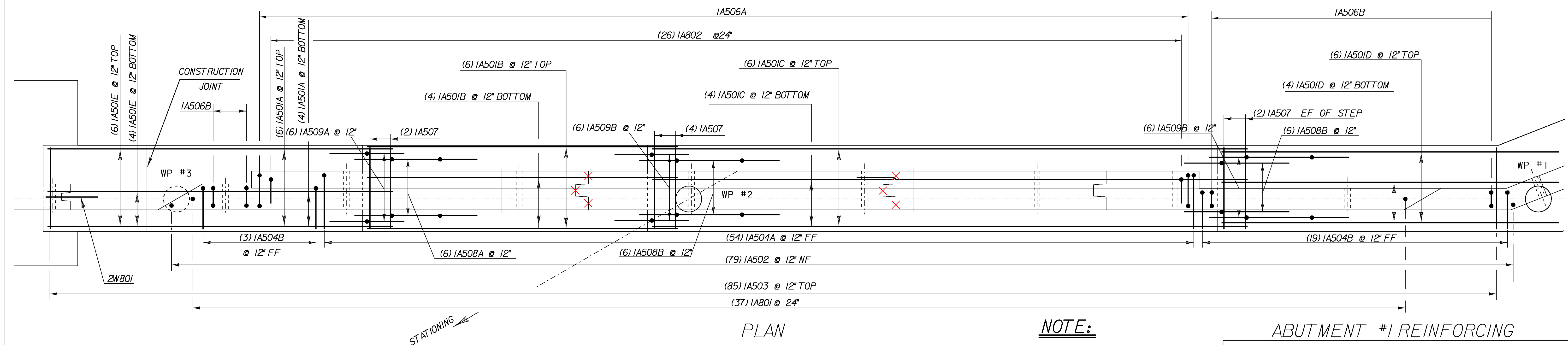
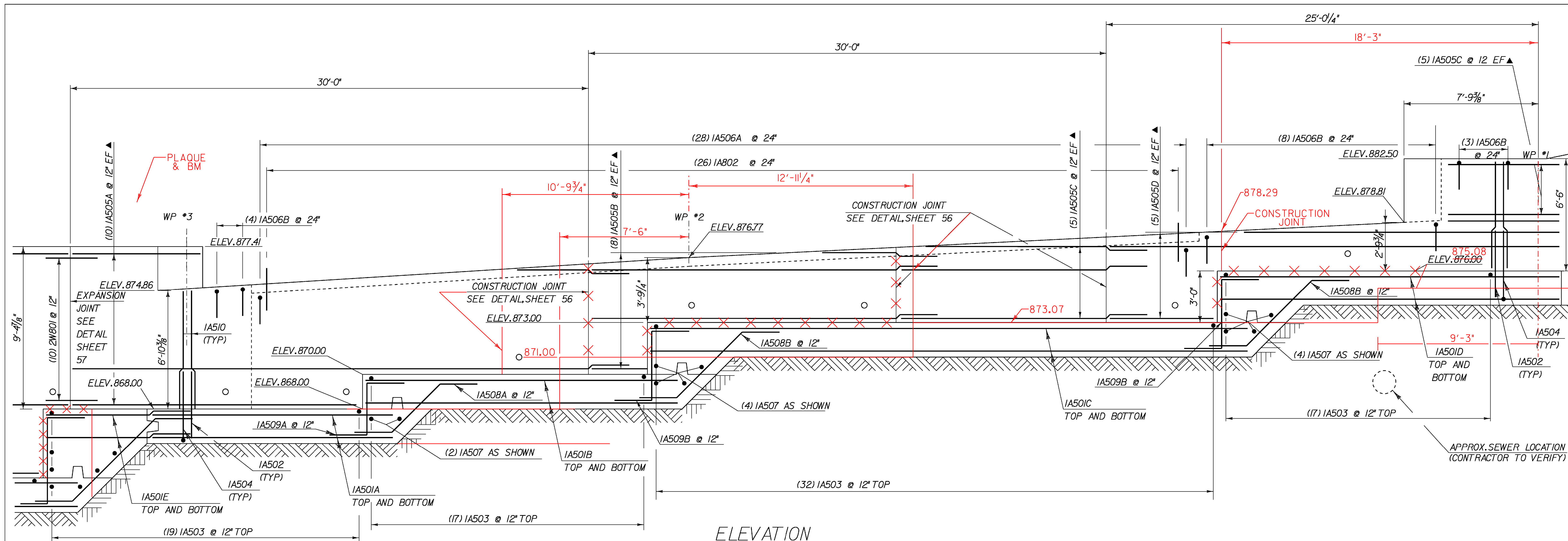


NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

**ABUTMENT AND WINGWALL
TYPICAL SECTIONS**

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\str.\sellabut1.dg	DESIGNED BY:	M.EVANS-MONGEON
PROJECT LEADER:	M.EVANS-MONGEON	CHECKED BY:	U.STANLEY
IPARM sellsub5.1		SHEET	57 OF 108



ABUTMENT #1

SCALE 3/8" = 1'-0"

1 0 1 2 3 4

NOTE:

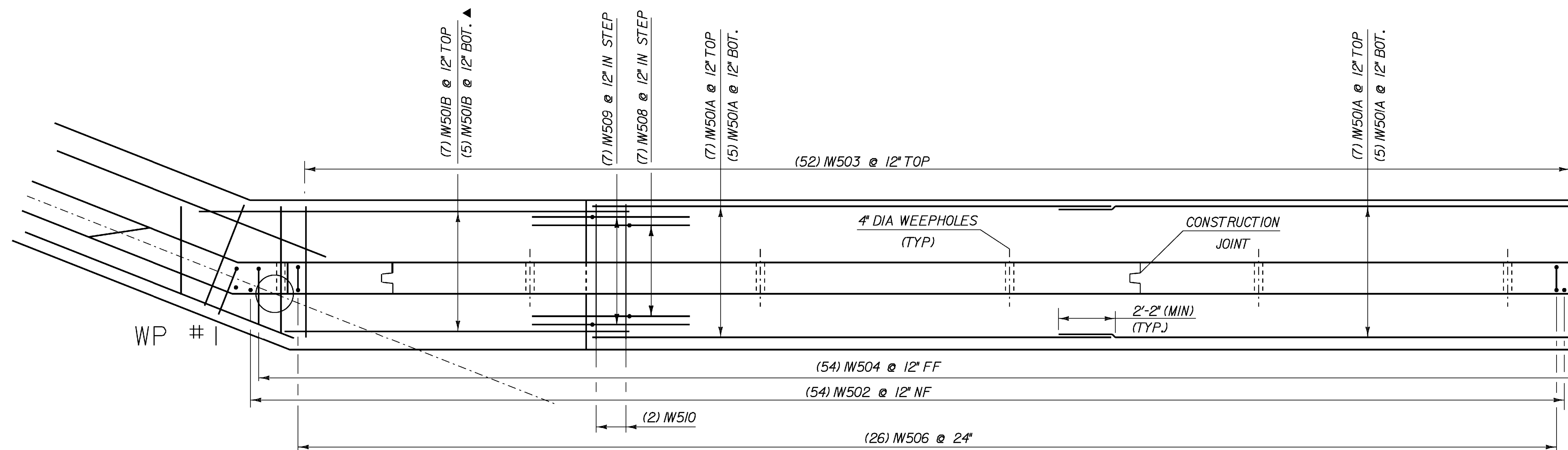
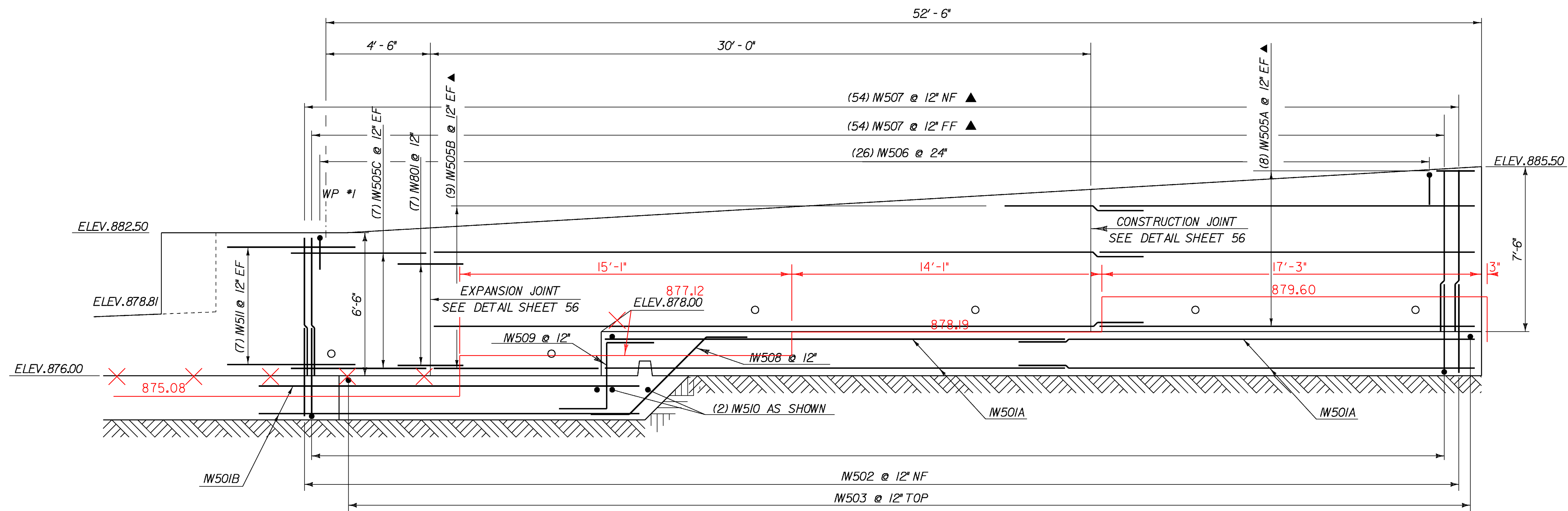
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

ABUTMENT #1 REINFORCING

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\str.\sellabut1.dg
PROJECT LEADER: M.EVANS.MONGEON
DESIGNED BY: M.EVANS-MONGEON
IPARM sellsub6.1

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: U. STANLEY
SHEET 58 OF 108



WINGWALL #1

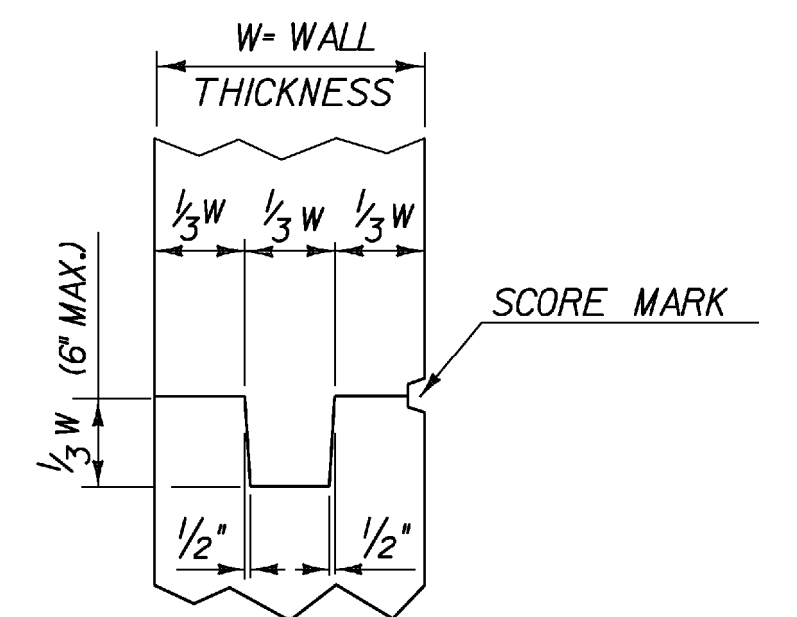
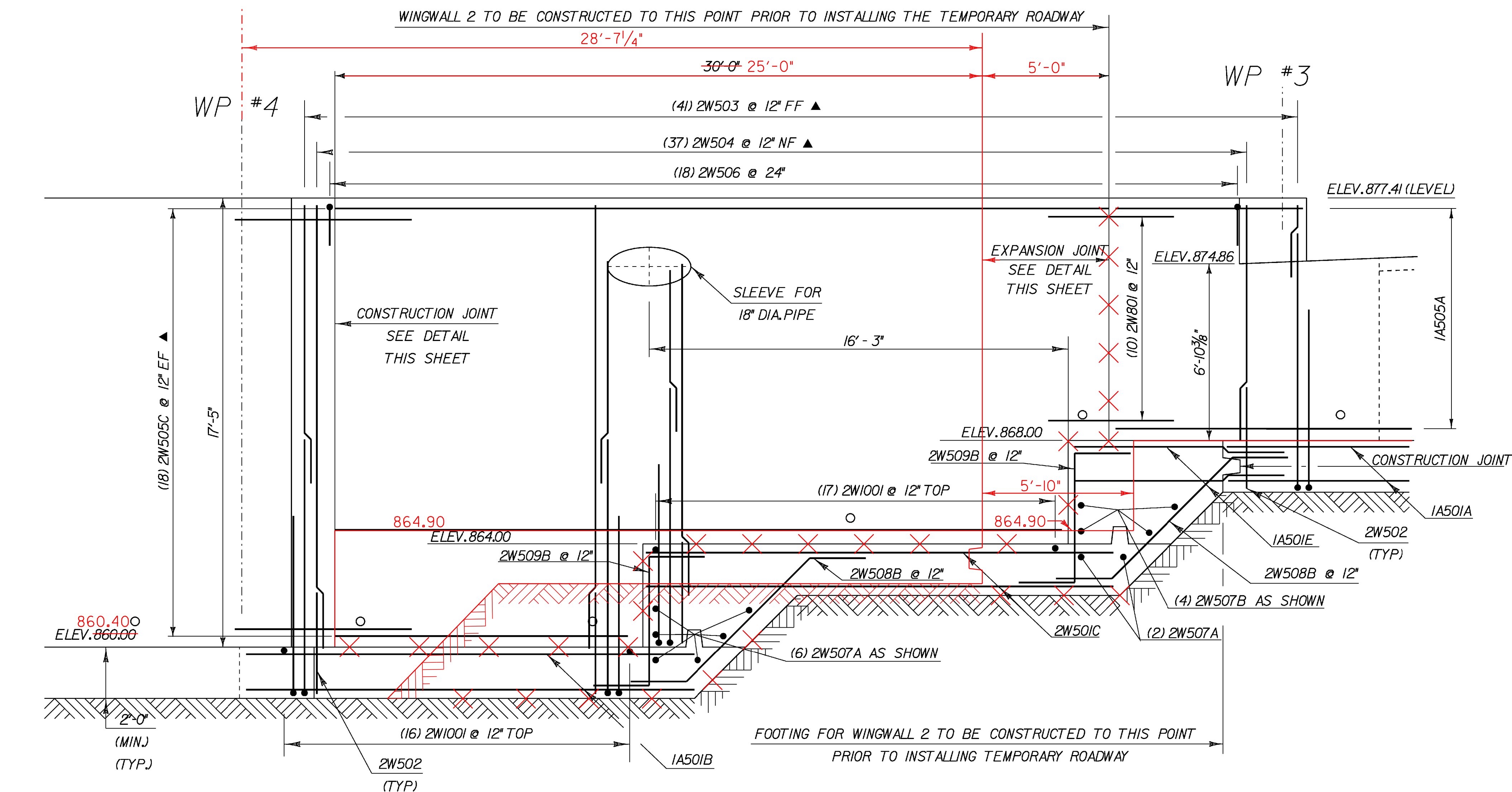
SCALE 3/8" = 1'-0"

NOTE:

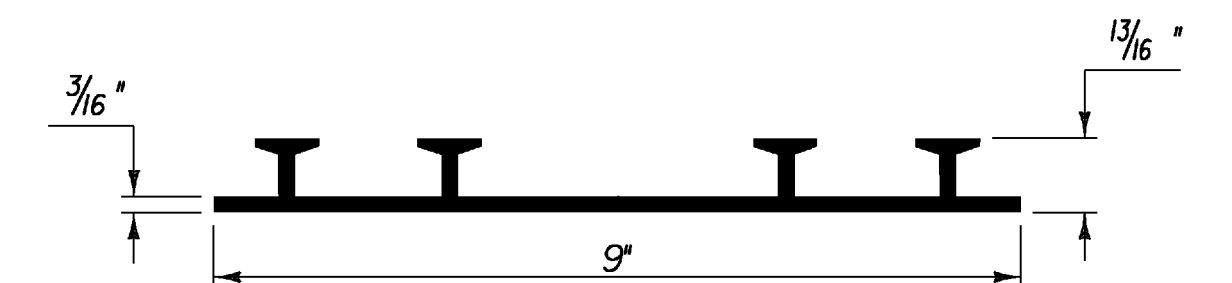
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

WINGWALL #1 REINFORCING

PROJECT NAME:	WILLIAMSTOWN	FILE NAME:	83ell\str.\sellabuti.dg	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	PROJECT LEADER:	M.EVANS.MONGEON	DRAWN BY:	G.ROKES
		DESIGNED BY:	M.EVANS-MONGEON	CHECKED BY:	U. STANLEY
		IPARM	sellsub7.i	SHEET	59 OF 108

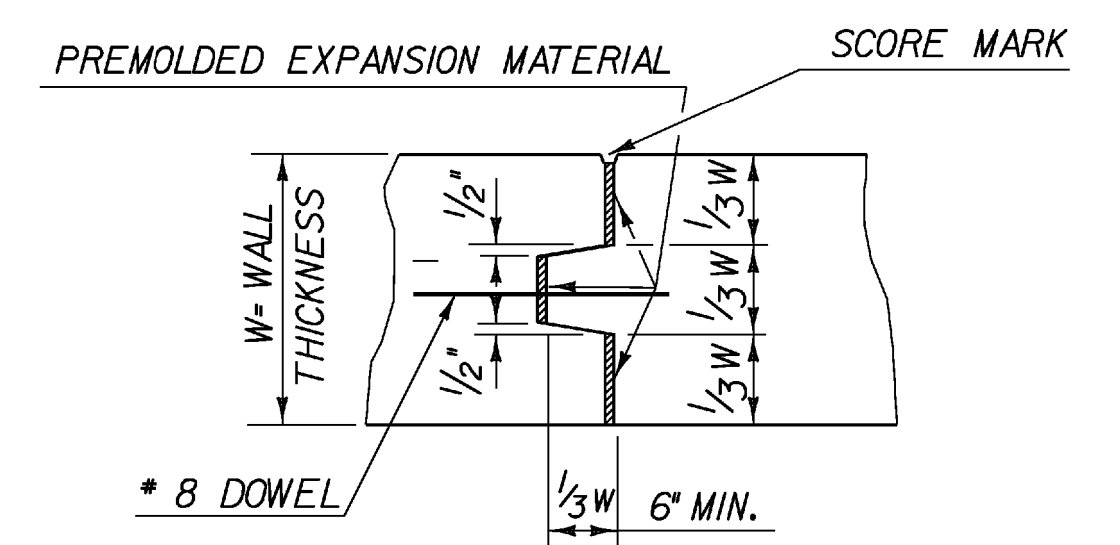


TYPICAL CONCRETE CONSTRUCTION JOINT

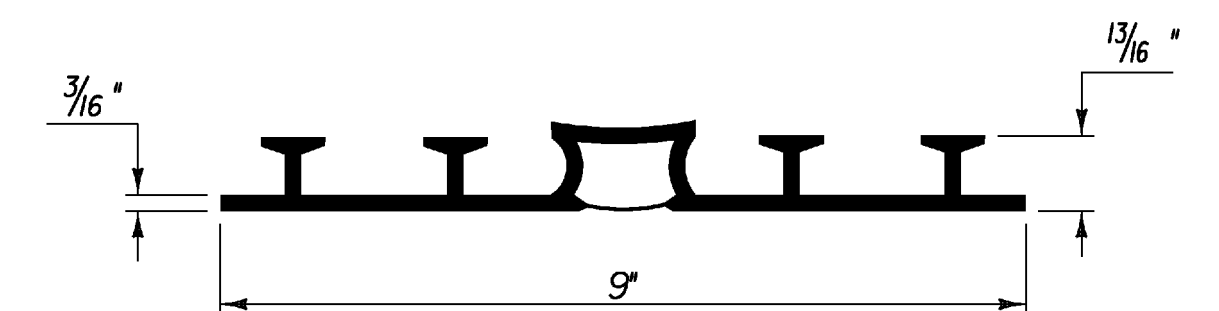


P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

THE COSTS FOR P.V.C.WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE
BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL
OF THE STRUCTURES ENGINEER.

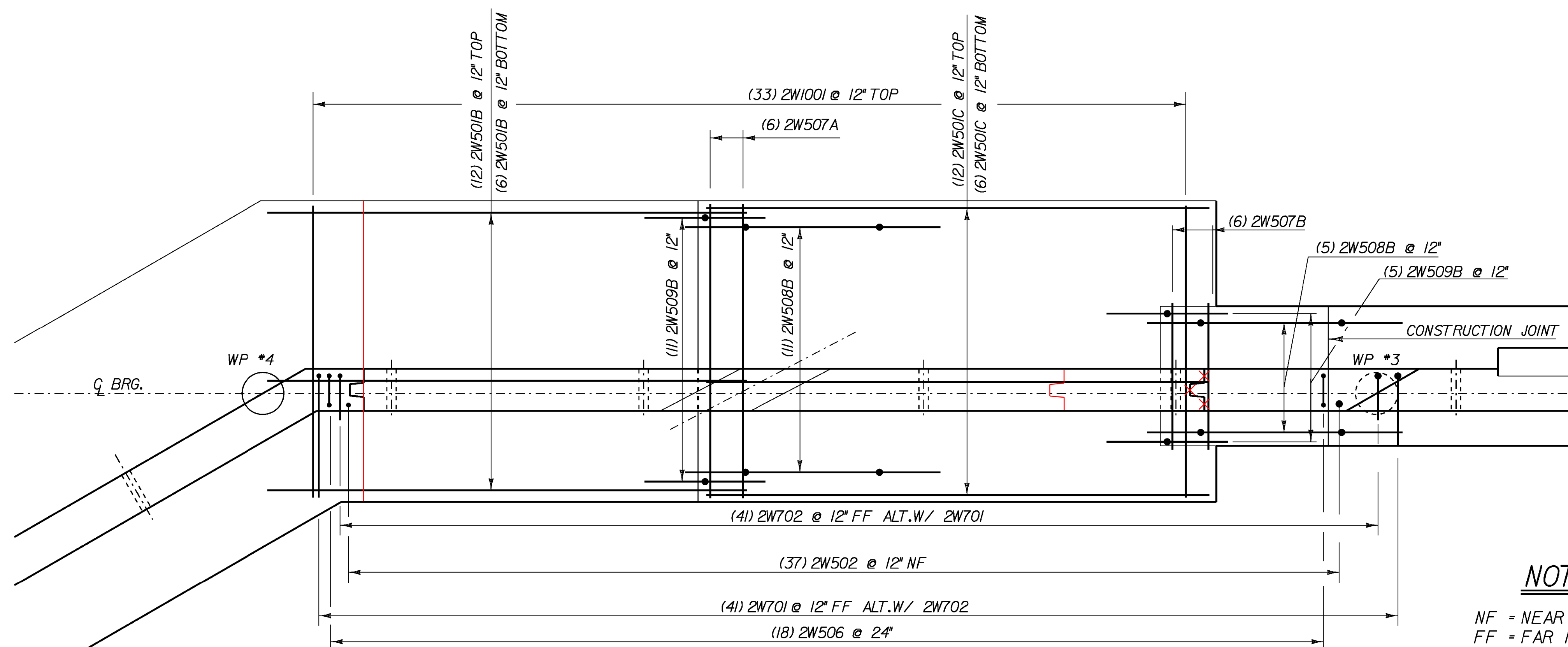


TYPICAL CONCRETE EXPANSION JOINT



P.V.C. WATERSTOP FOR EXPANSION JOINTS

THE COSTS FOR P.V.C.WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.



NOTE:

NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLR. UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.

WINGWALL #2

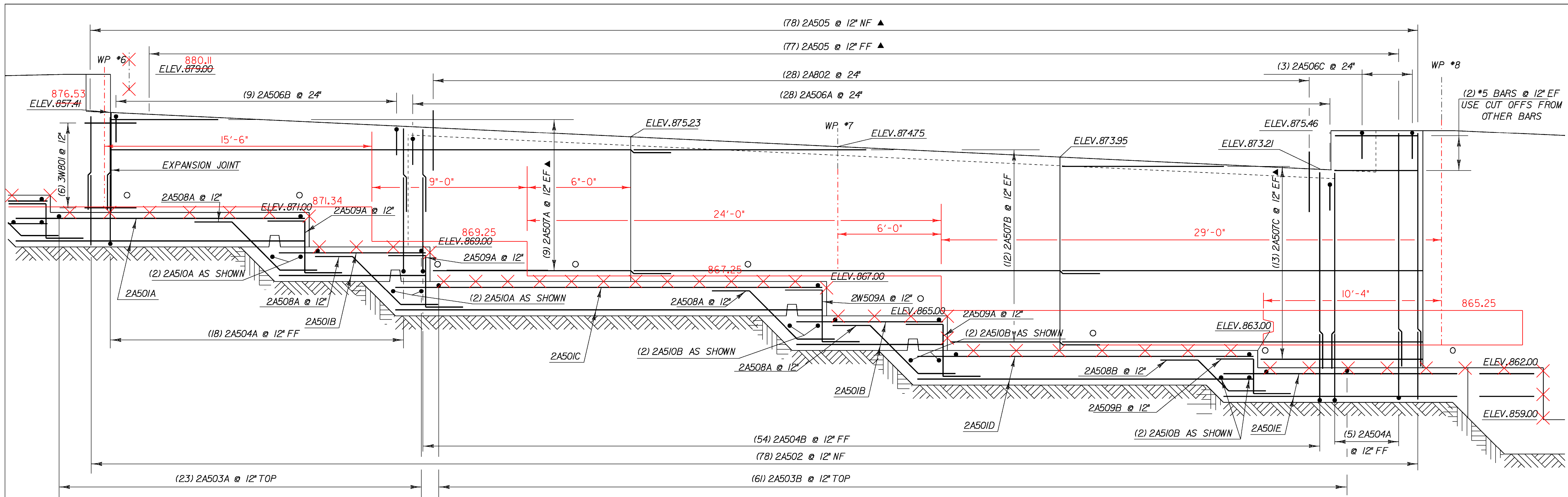
SCALE $\frac{3}{8}" = 1'-0"$

WINGWALL #2 REINFORCING SHEET 1

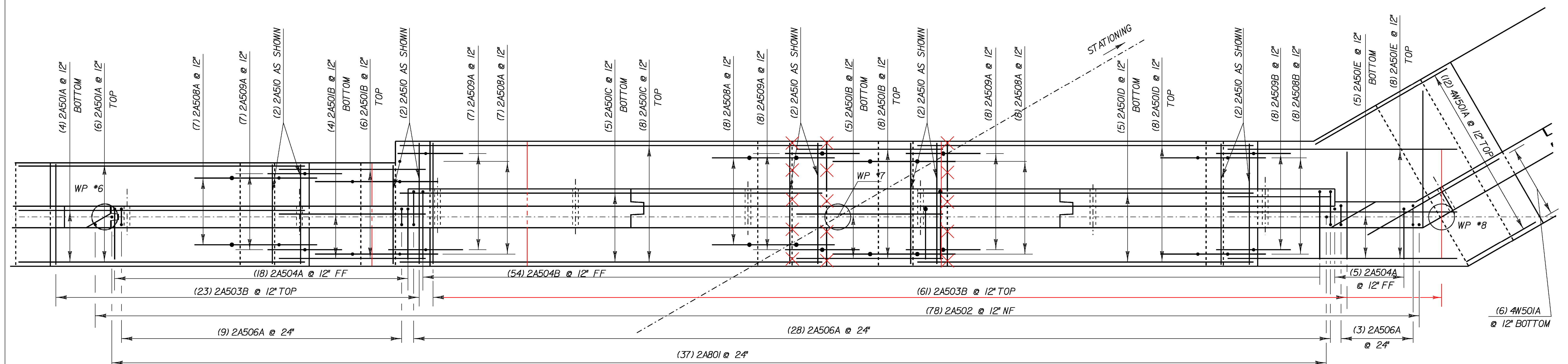
PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)

FILE NAME: 83ell\\str.\sellabuti.dg
PROJECT LEADER: M.EVANS.MONGEON
DESIGNED BY: M.EVANS-MONGEON
IPARM sellsub8.i

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: U. STANLEY
SHEET 60 OF 108



ELEVATION



PLAN

ABUTMENT #2

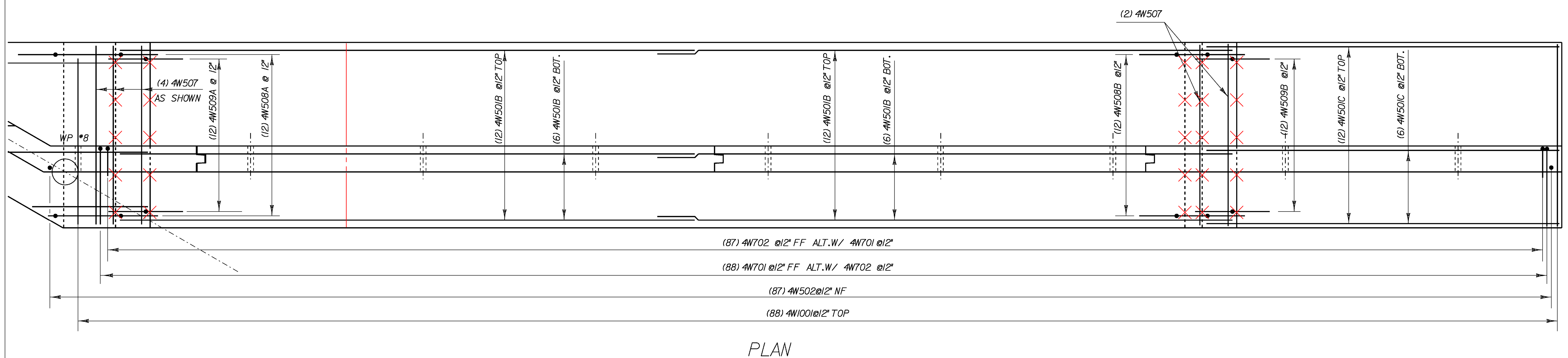
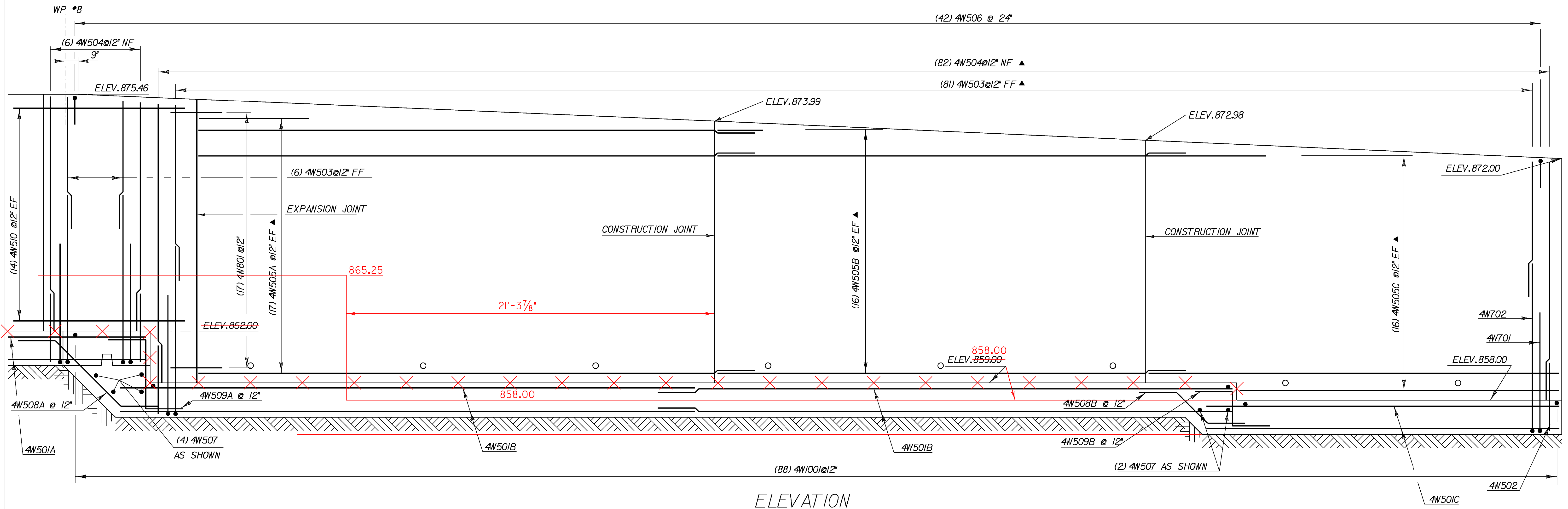
SCALE 3/8" = 1'-0"
1 0 1 2 3 4

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT #2 REINFORCING

PROJECT NAME:	WILLIAMSTOWN	FILE NAME:	83ell\str\sellabut2.dgn	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BR5 0204(4)	PROJECT LEADER:	M.EVANS-MONGEON	DRAWN BY:	EVANS-MONGEON
		DESIGNED BY:	M.EVANS-MONGEON	CHECKED BY:	U. STANLEY
		IPARM:	sellsub10.1	SHEET	62 OF 108



WINGWALL #4

SCALE 3/8" = 1'-0"

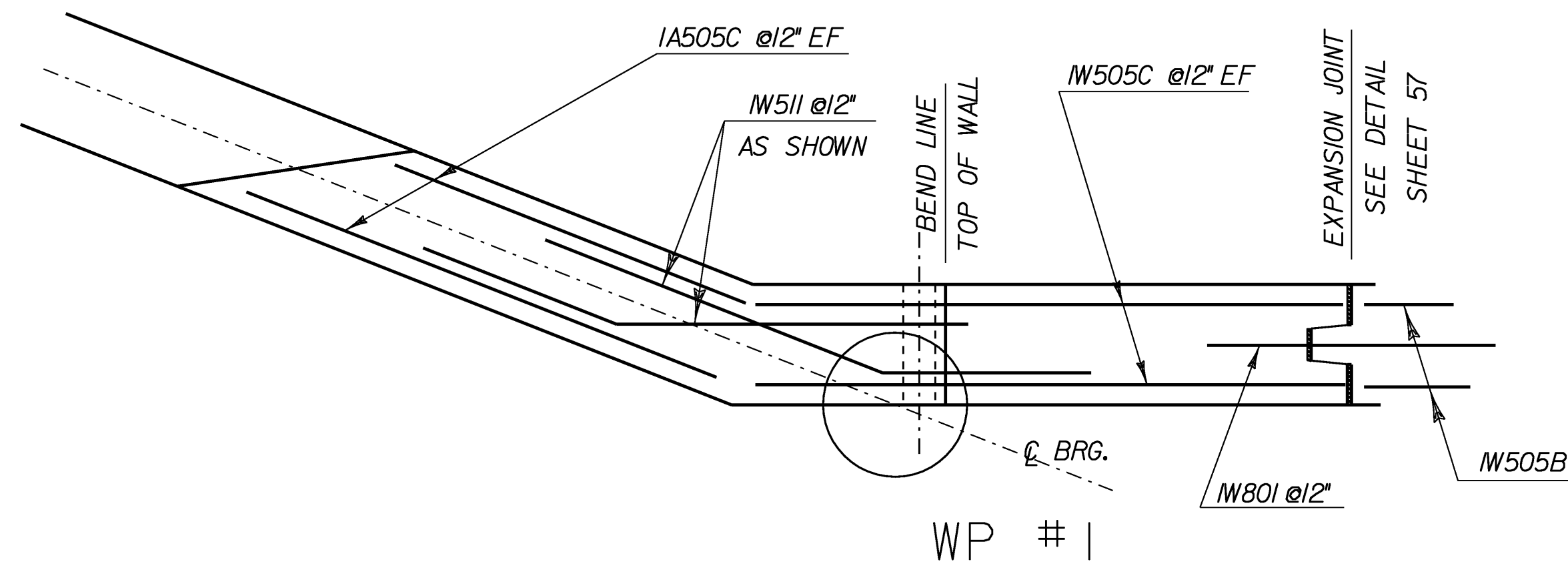
1 0 1 2 3 4

NOTE:

NF - NEAR FACE
FF - FAR FACE
EF - EACH FACE
▲ - CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

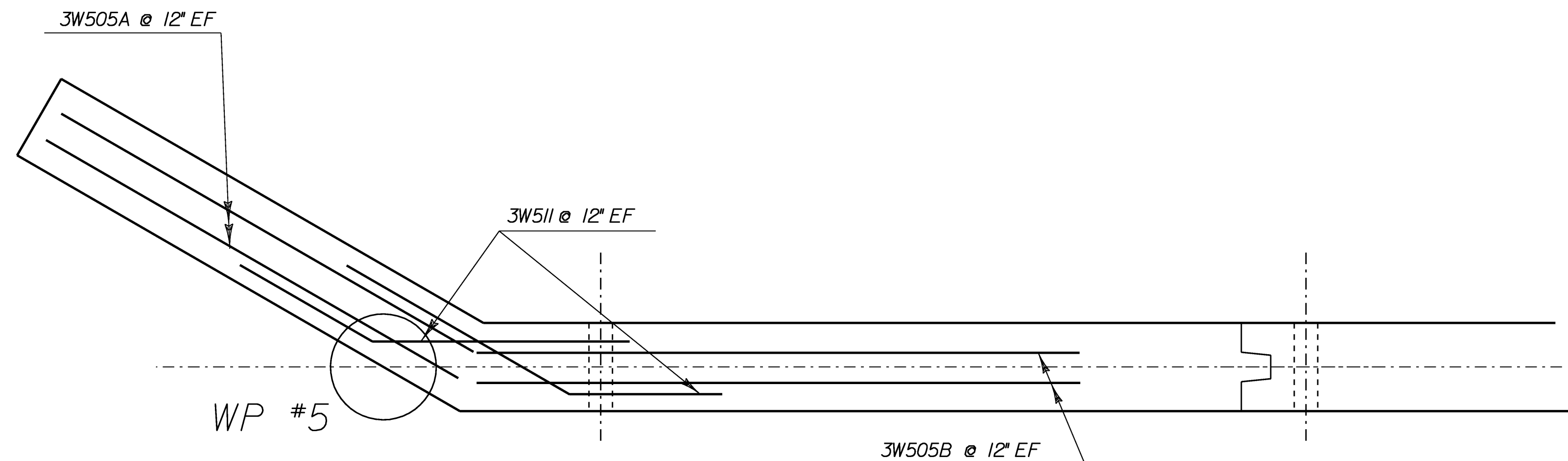
WINGWALL #4 REINFORCING

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	EVANS-MONGEON
FILE NAME:	83ell\str\sellabut2.dgn	CHECKED BY:	U. STANLEY
PROJECT LEADER:	M.EVANS-MONGEON	SHEET	64 OF 108
DESIGNED BY:	M.EVANS-MONGEON		
IPARM	sellsub12.1		



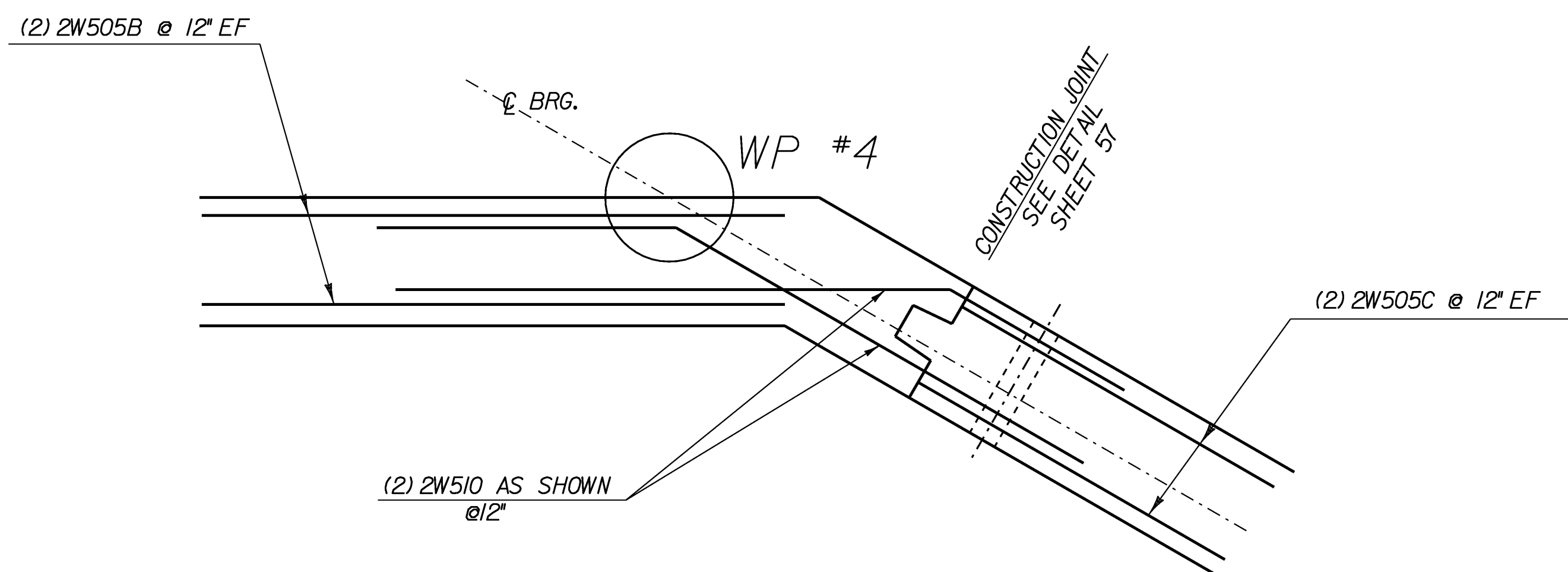
CORNER DETAIL
ABUTMENT #1 AND WINGWALL #1

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



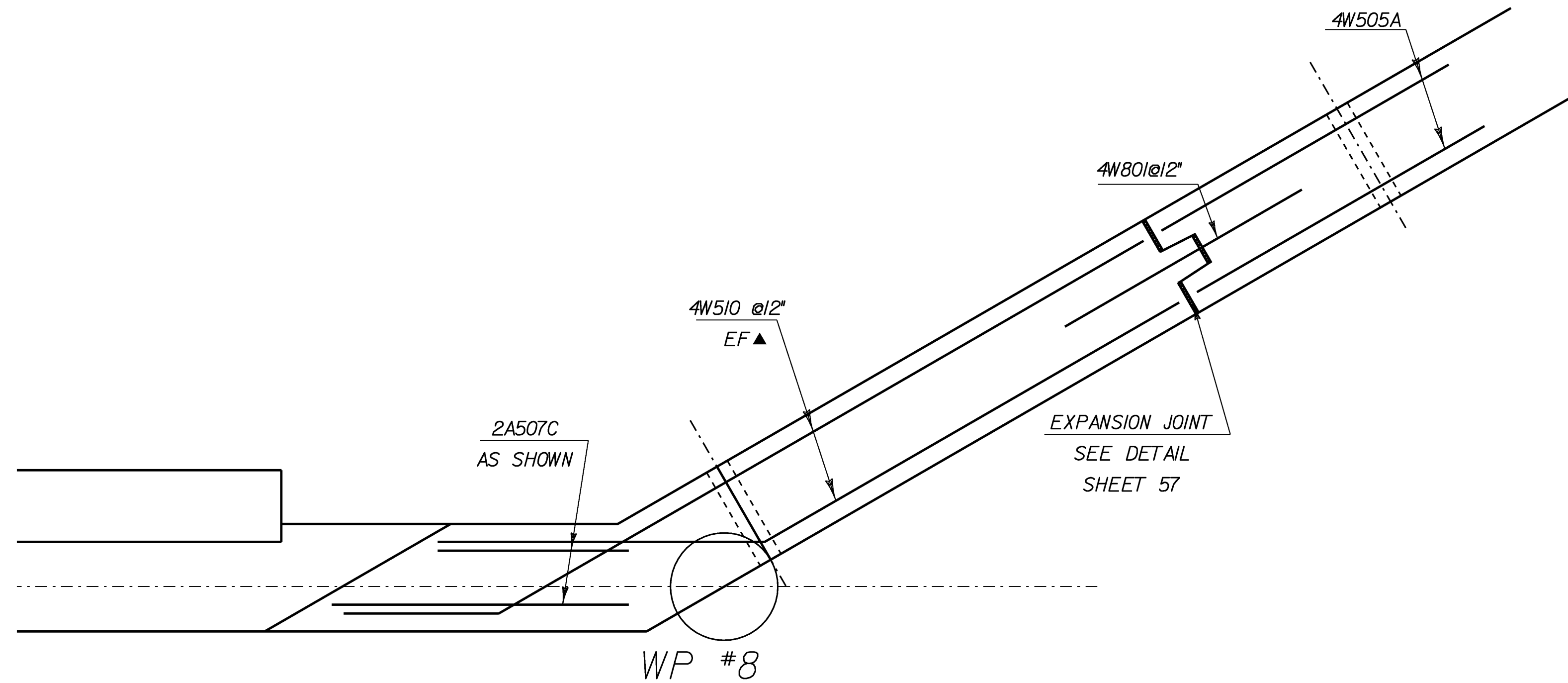
CORNER DETAIL
WINGWALL #3

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



CORNER DETAIL
WINGWALL #2

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



CORNER DETAIL
ABUTMENT #2 AND WINGWALL #4

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

NOTE:

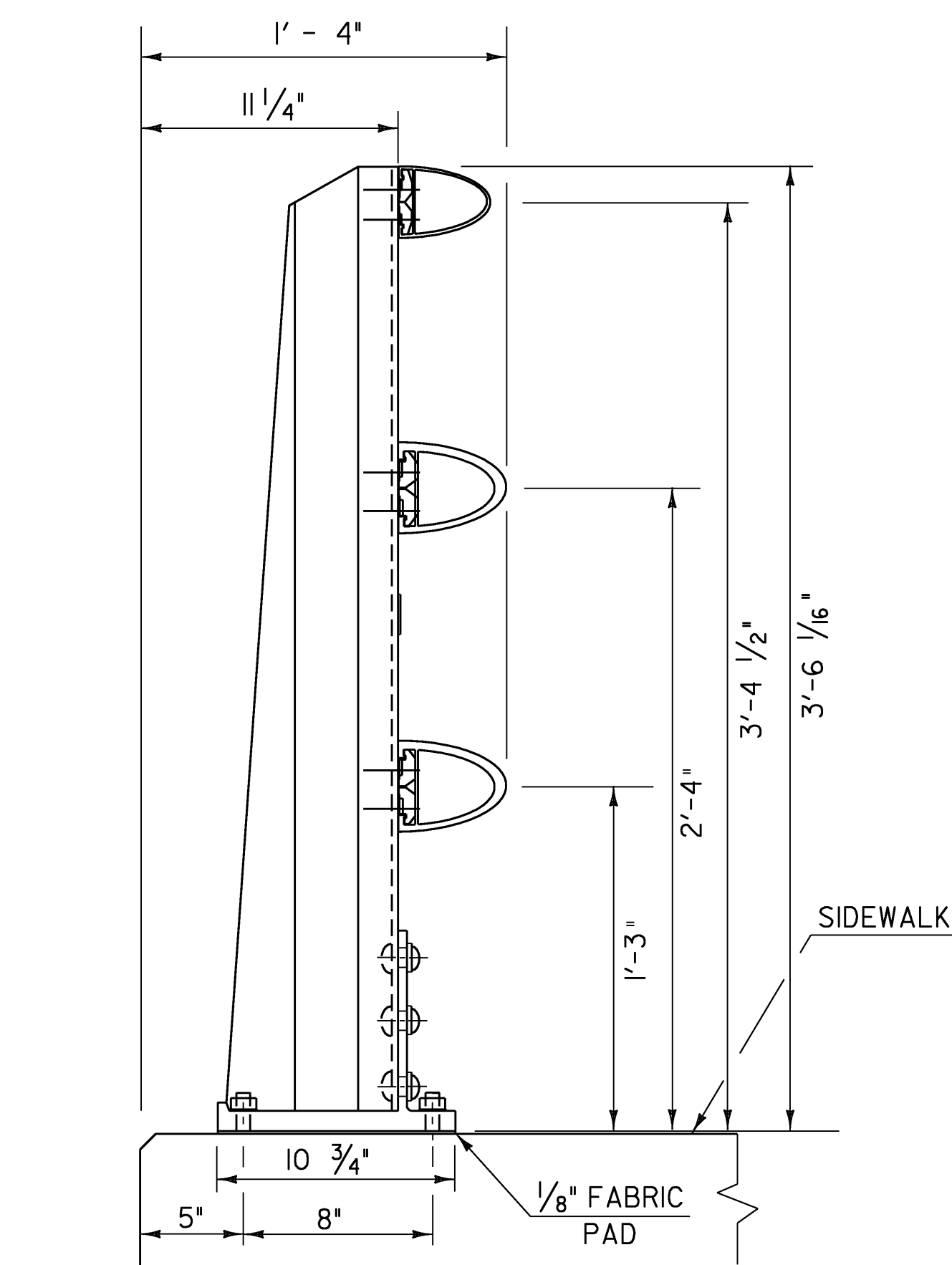
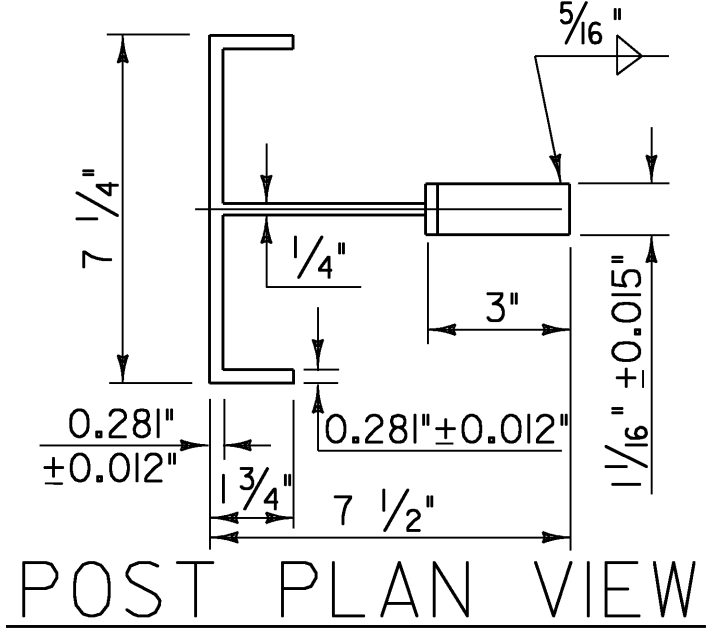
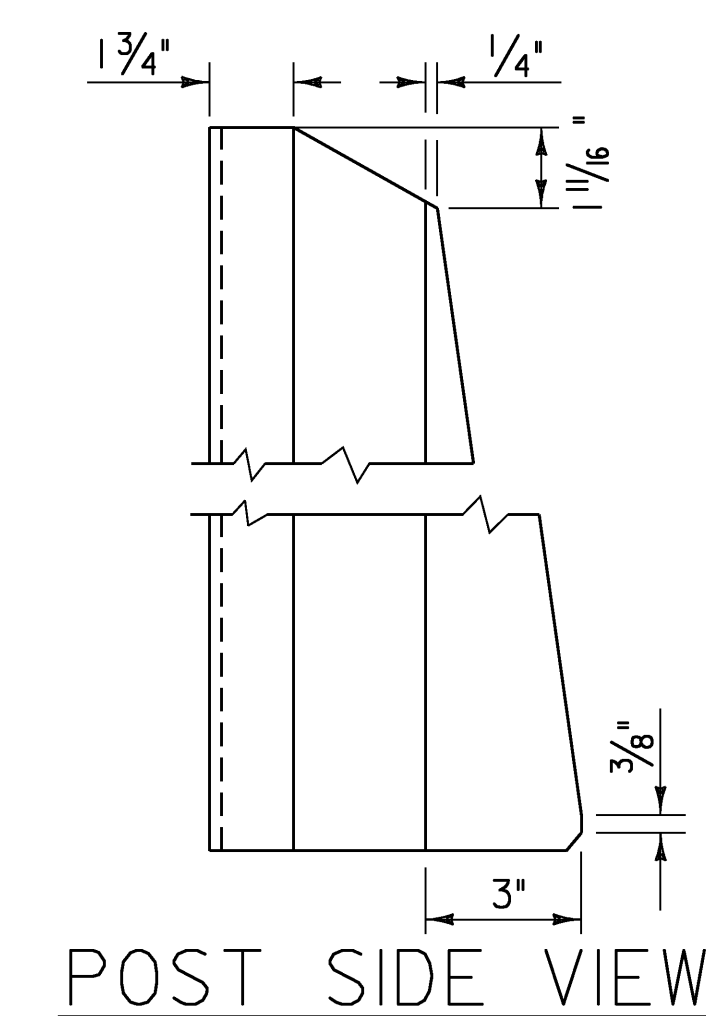
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
= CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

CORNER REINFORCING DETAILS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

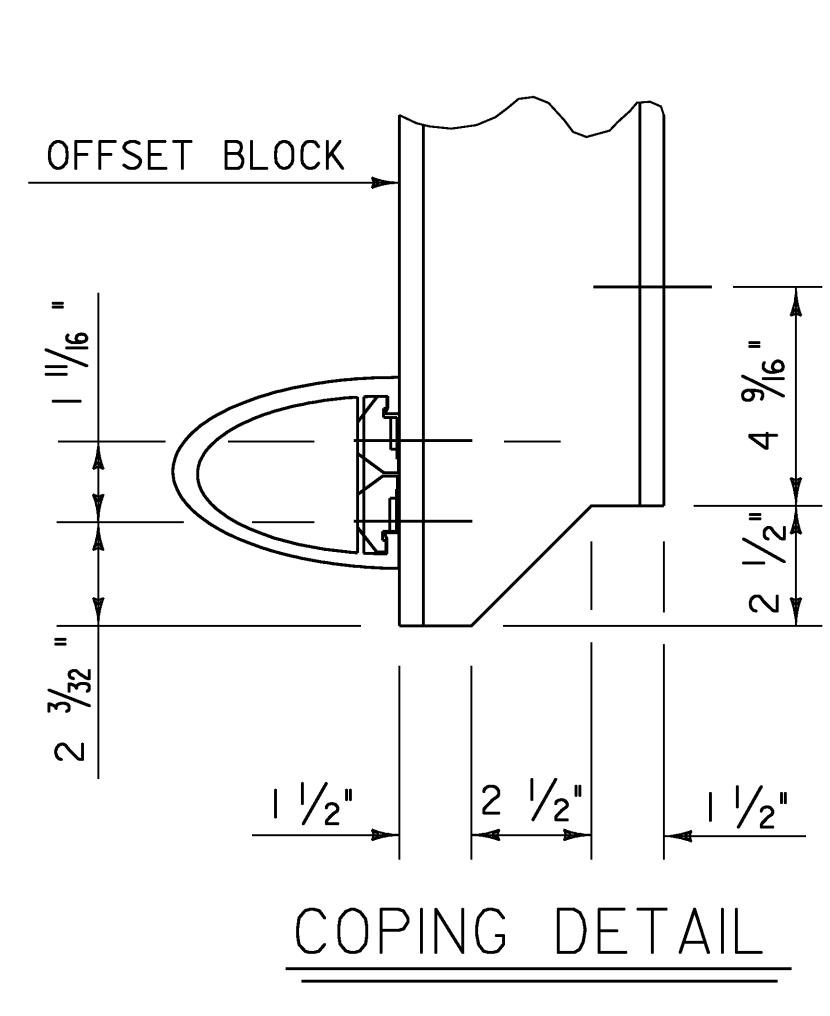
FILE NAME: 83ell\str.\sellabut1.dg
PROJECT LEADER: M.EVANS.MONGEON
DESIGNED BY: M.EVANS-MONGEON
IPARM sellsub13.1

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: U.STANLEY
SHEET 65 OF 108



SIDE ELEVATION OF THREE RAIL
TO BE USED ON SIDEWALK SIDE

RAIL POST DETAILS ON SUPERSTRUCTURE



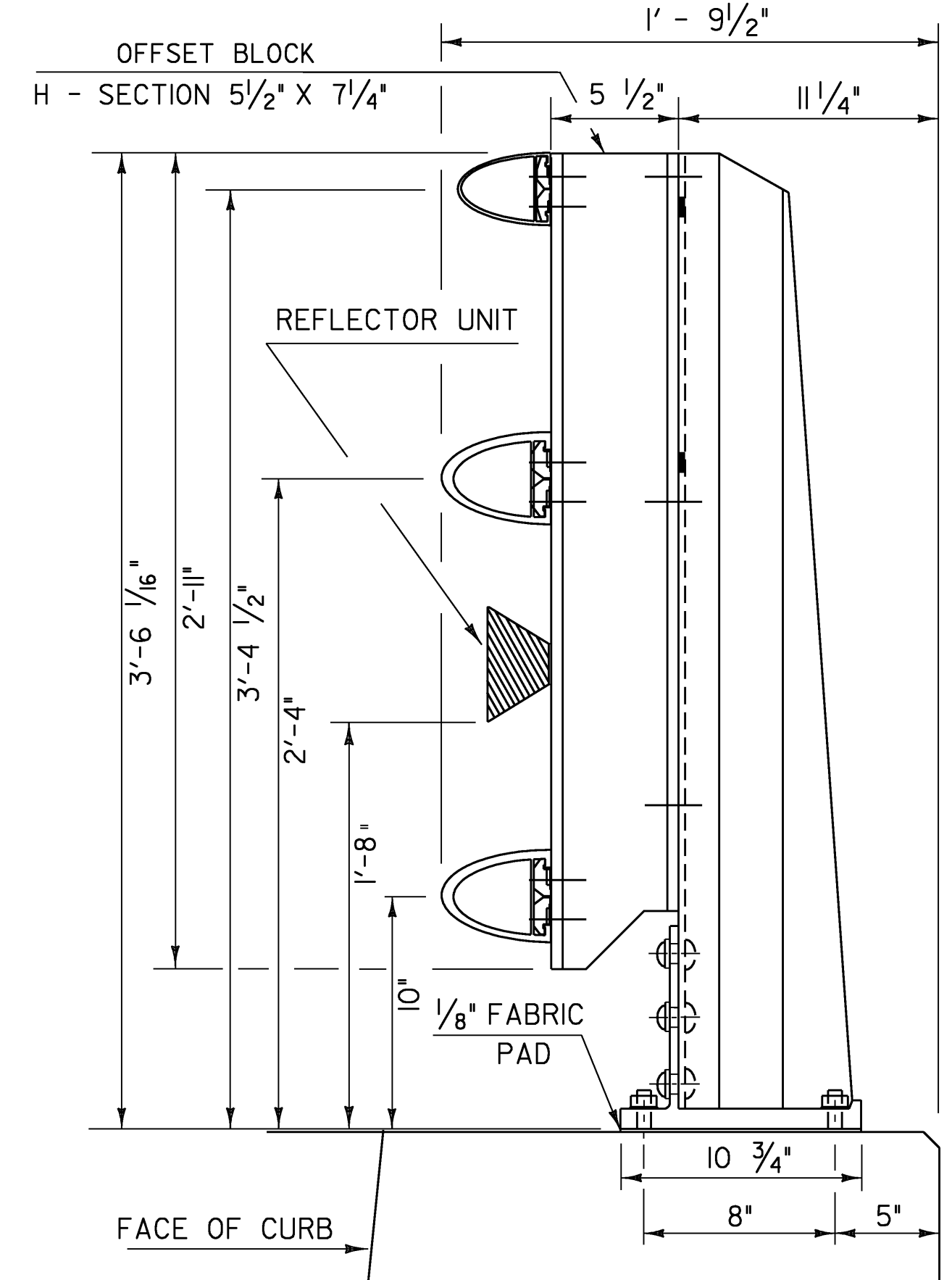
REFLECTORS TO BE ERECTED EVERY
30 FEET (OR CLOSEST POST) WITH 2
NO. 8 X 3/4" SELF-TAPPING SCREWS.

REFLECTORS SHALL MEET SPECIFICATION REQUIREMENTS
FOR ASTM B209 ALLOY 5052-H32.

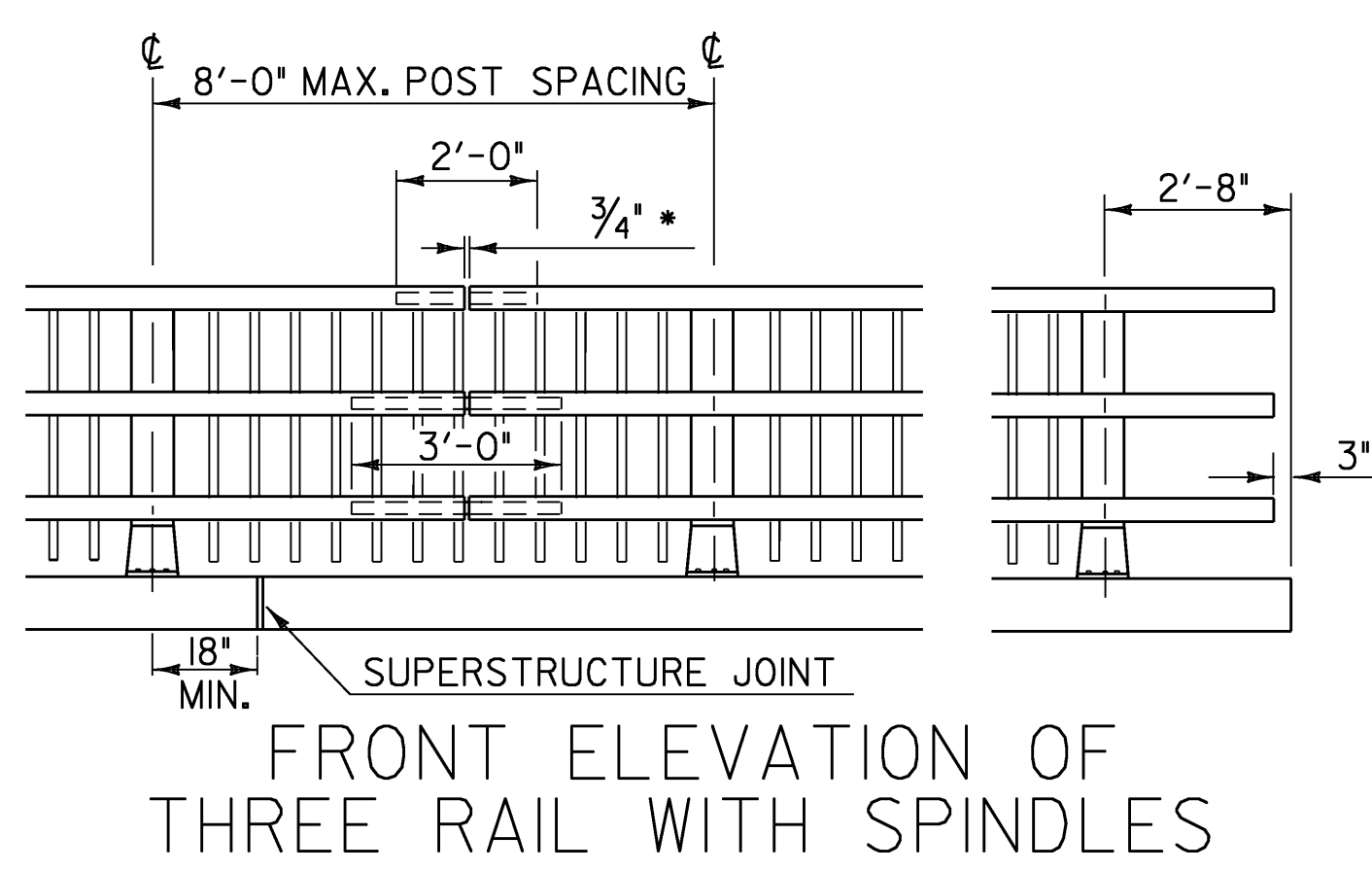
REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF
SUBSECTION 750.08 AND SHALL BE OF ASTM TYPE III SHEETING
SILVER OR AMBER. AMBER IS TO BE INSTALLED
ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.

ON BRIDGES WITH A SIDEWALK, REFLECTORS ARE NOT TO BE INSTALLED
ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. REFLECTORS INSTALLED ONLY
ON THE CURB SIDE AND ON THE APPROACH RAIL ON THE CURB SIDE)

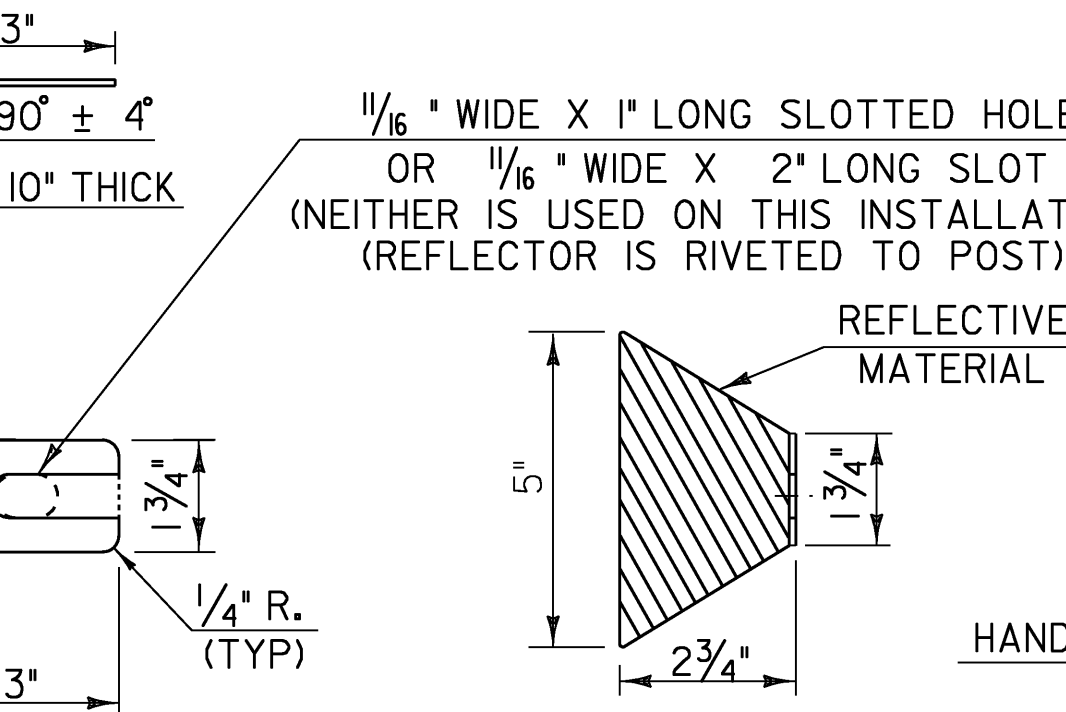
PAYMENT SHALL BE INCIDENTAL TO ALL OTHER ITEMS.



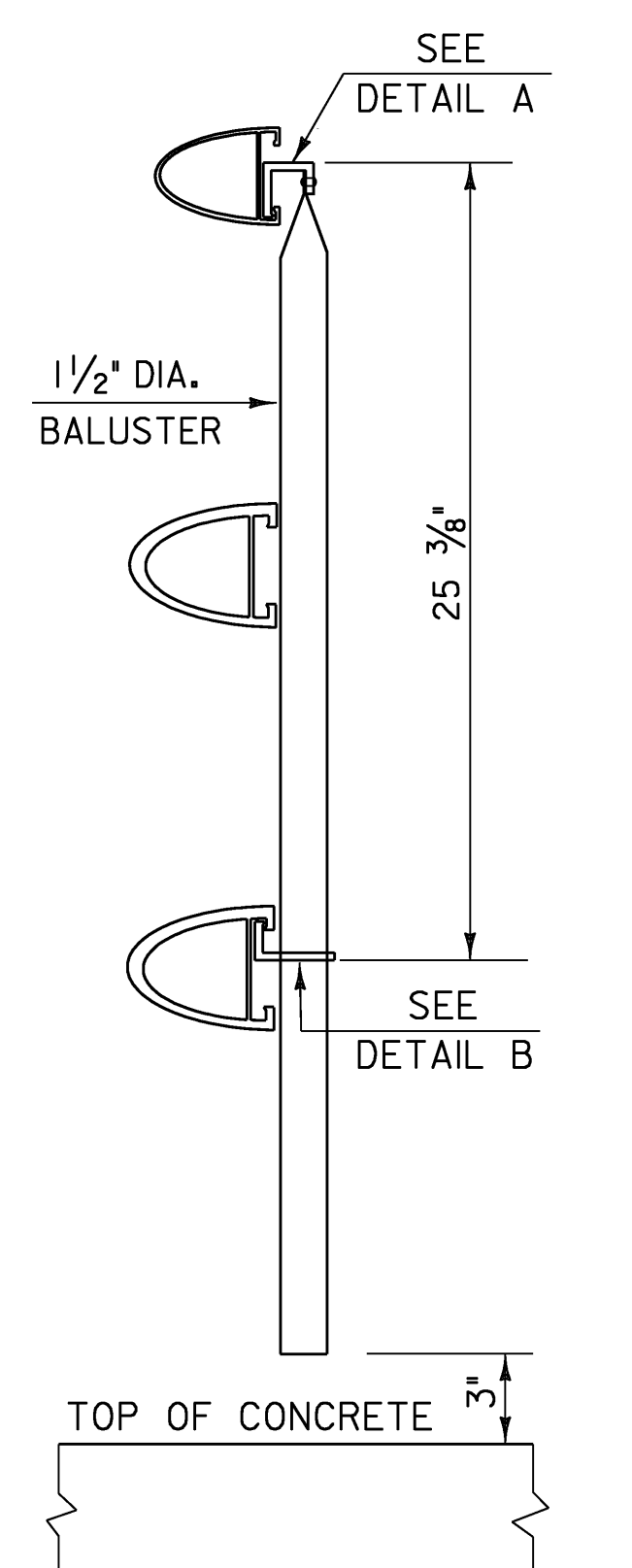
SIDE ELEVATION OF THREE RAIL
TO BE USED ON CURB SIDE



NOTE : RAIL POSTS ARE TO BE SET NORMAL TO GRADE
UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.
ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE
DESIGNATED ON BRIDGE PLANS.



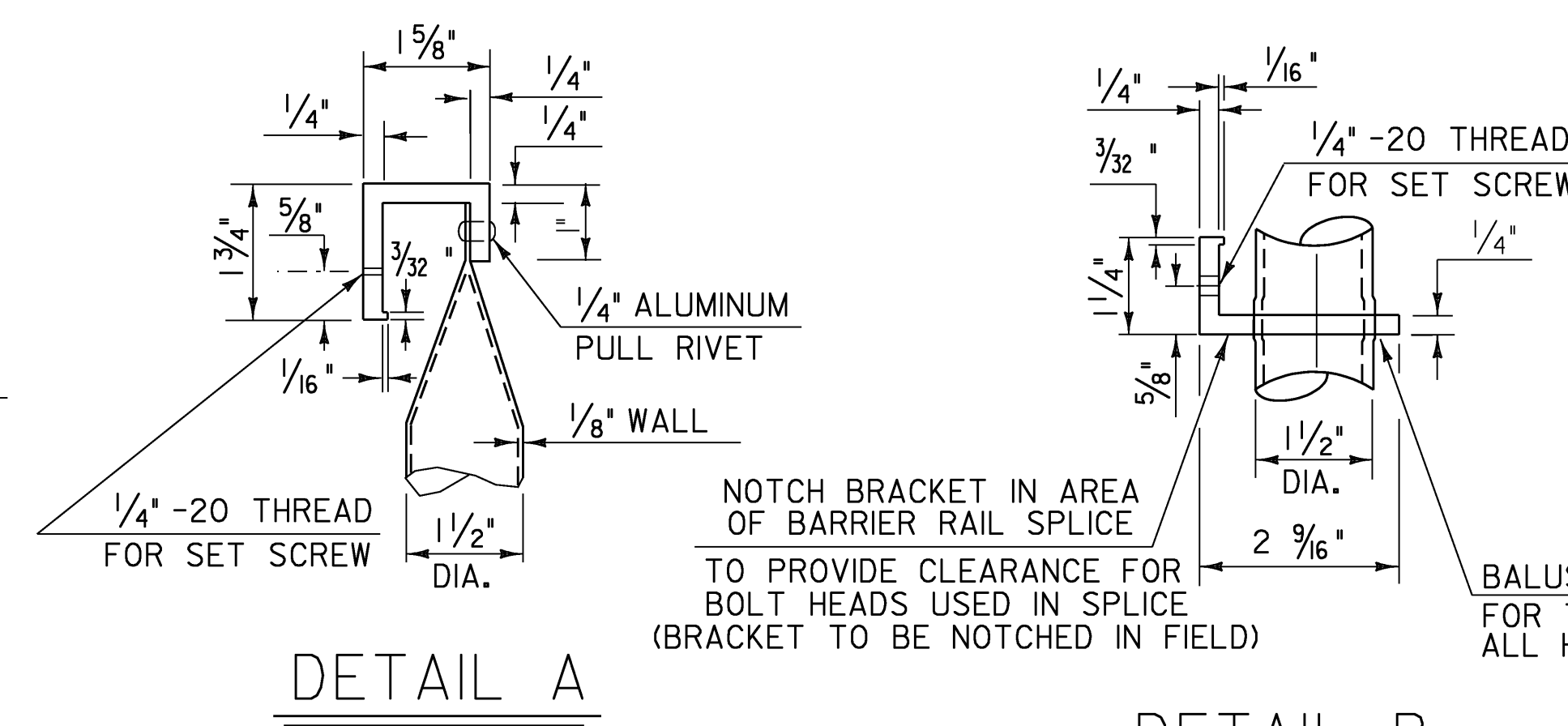
REFLECTOR DETAILS



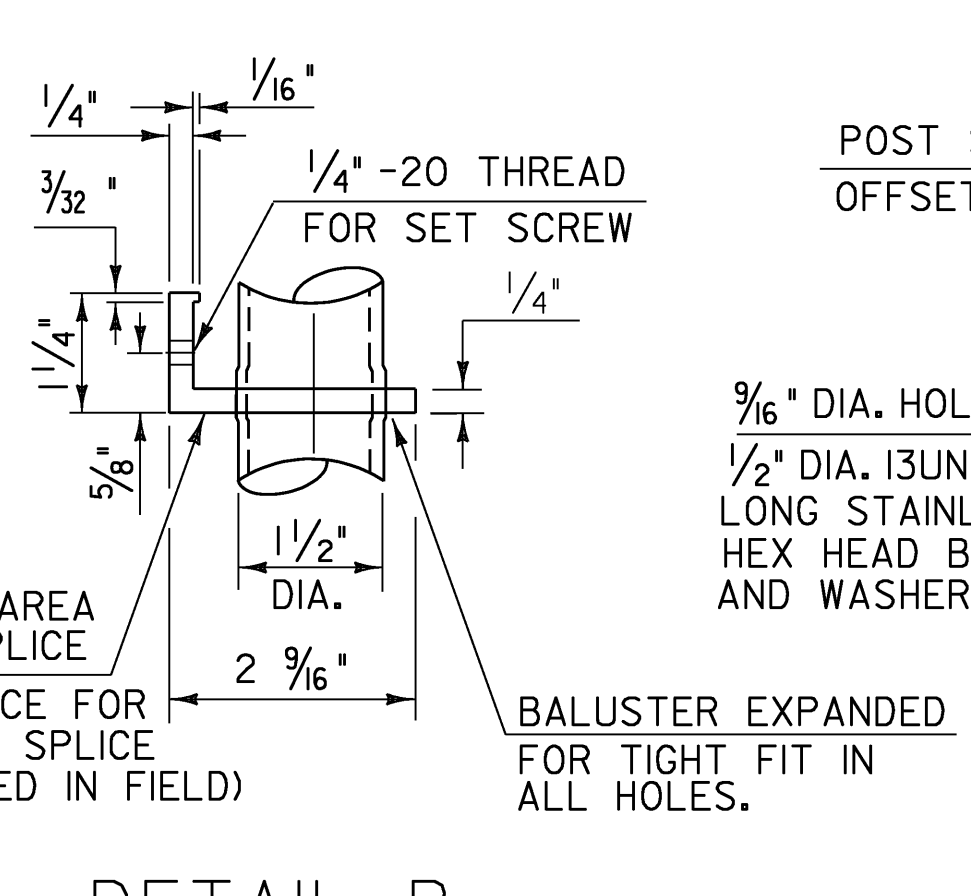
SECTION AA

DETAILS OF SPINDLES FOR ALUMINUM RAILING

* NOTE : SPINDLES SHALL BE PROVIDED ON THE
SIDEWALK SIDE OF THE BRIDGE, ONLY.

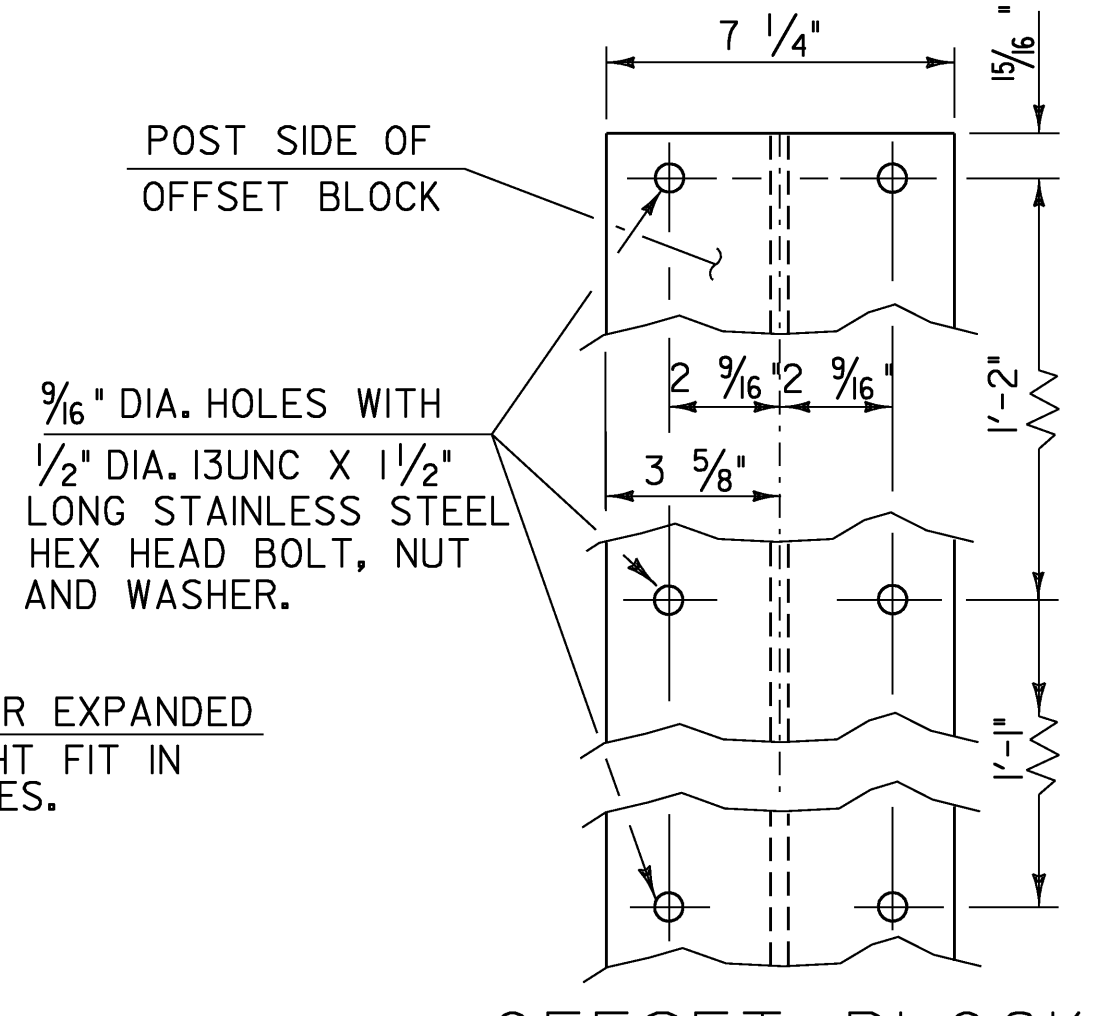


DETAIL A

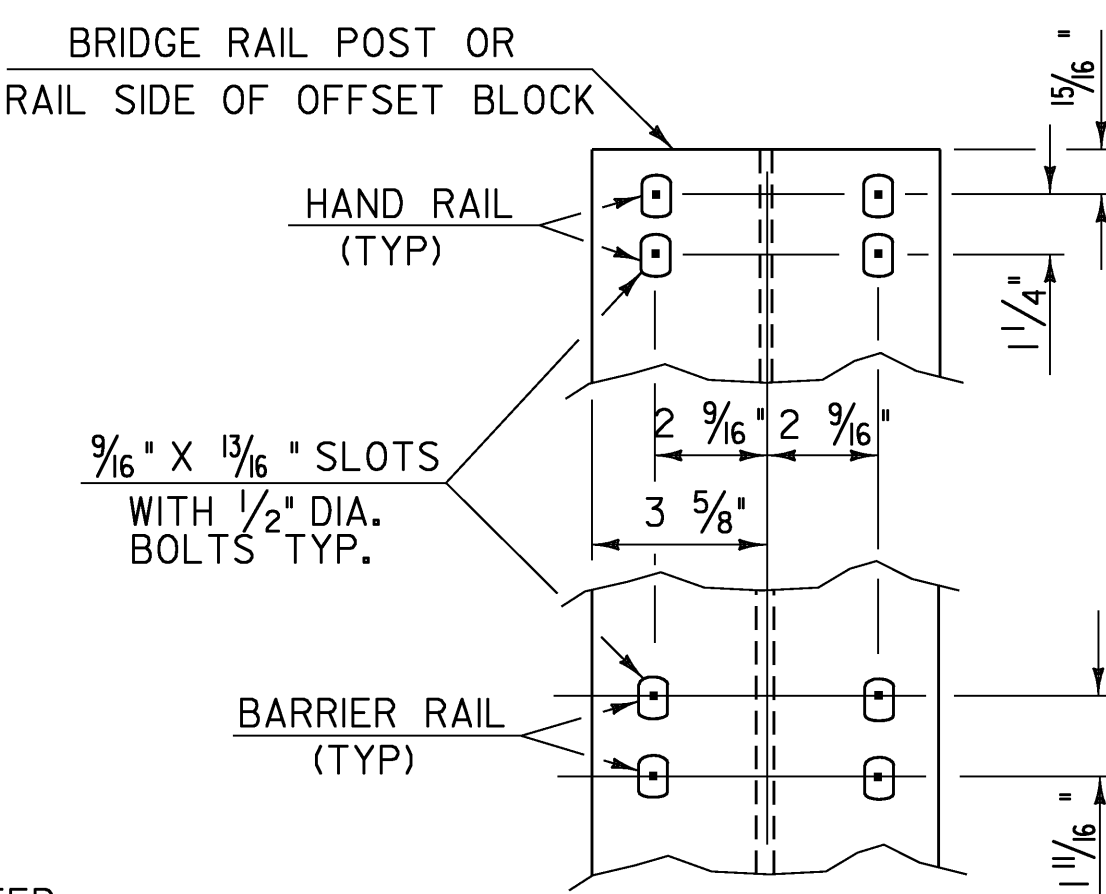


DETAIL B

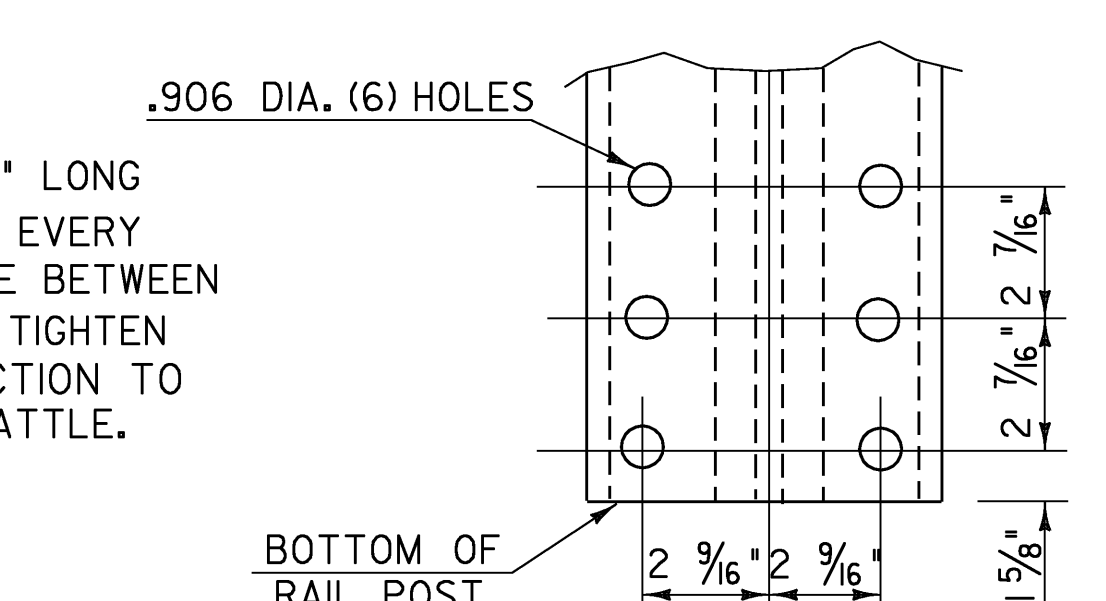
OUTSIDE ELEVATION OF
THREE RAIL POST & SPINDLES



OFFSET BLOCK
CONNECTION



RAIL CONNECTION

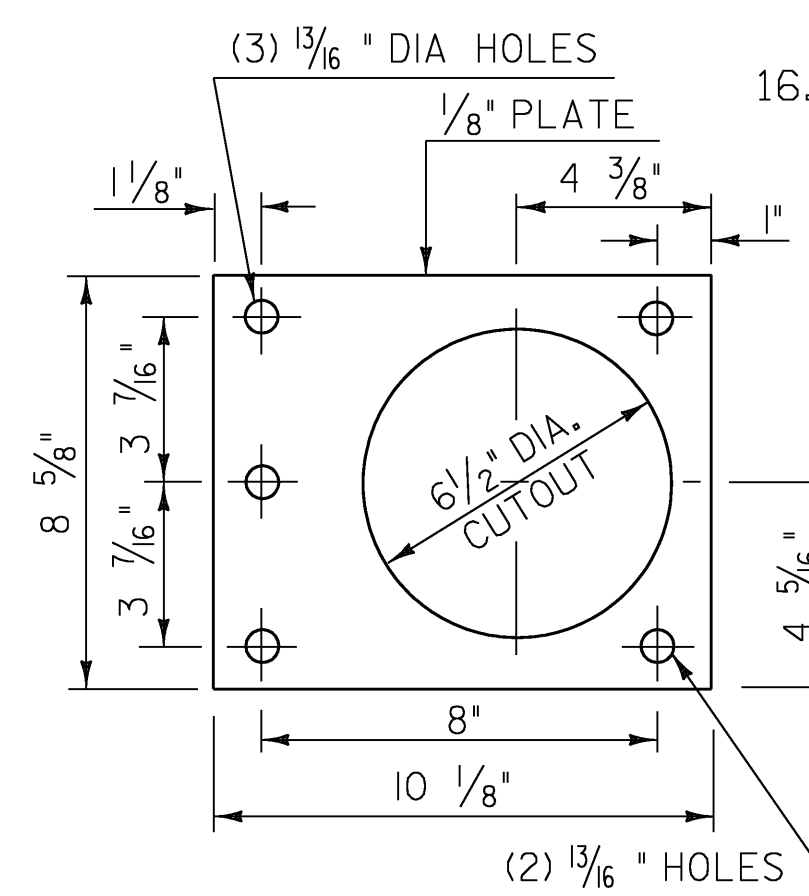
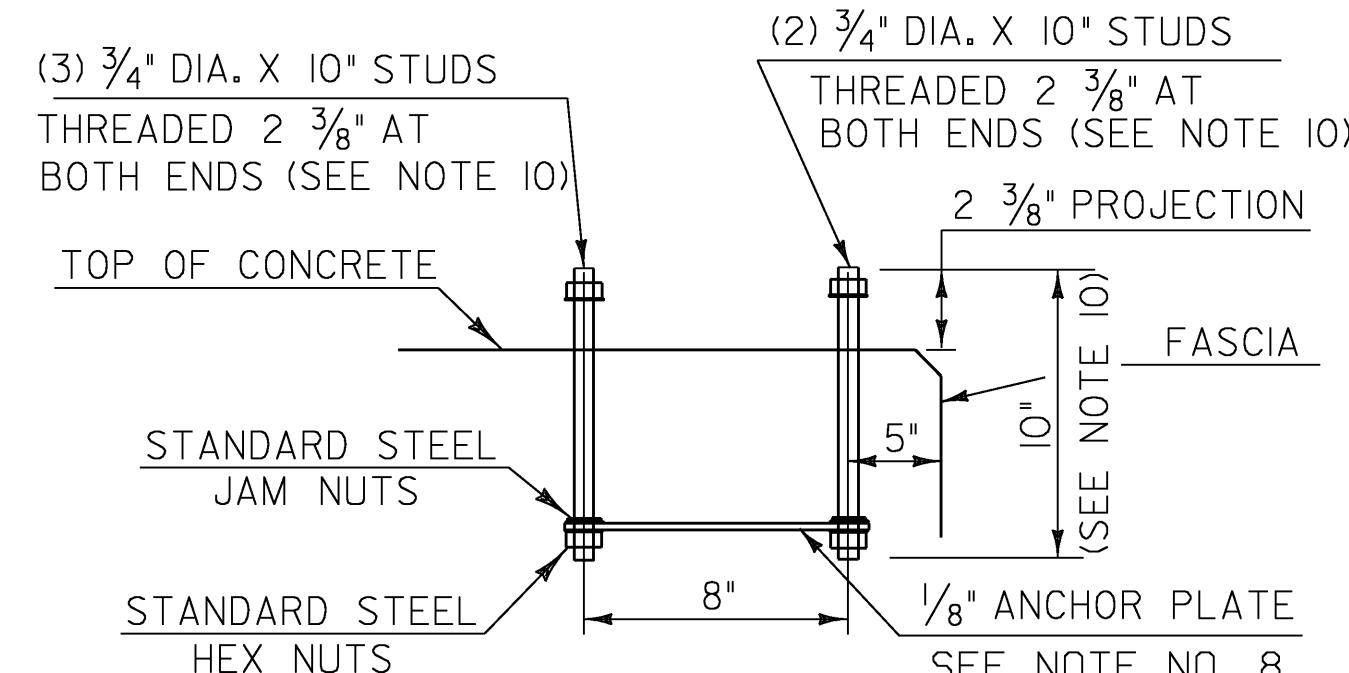
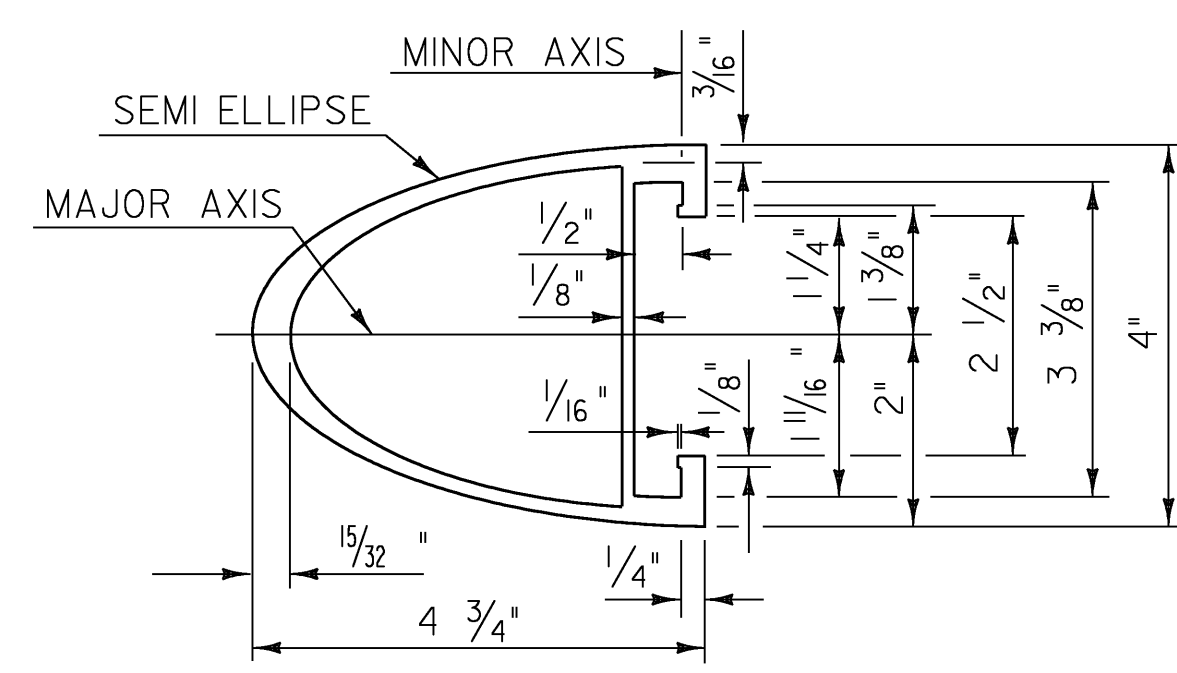
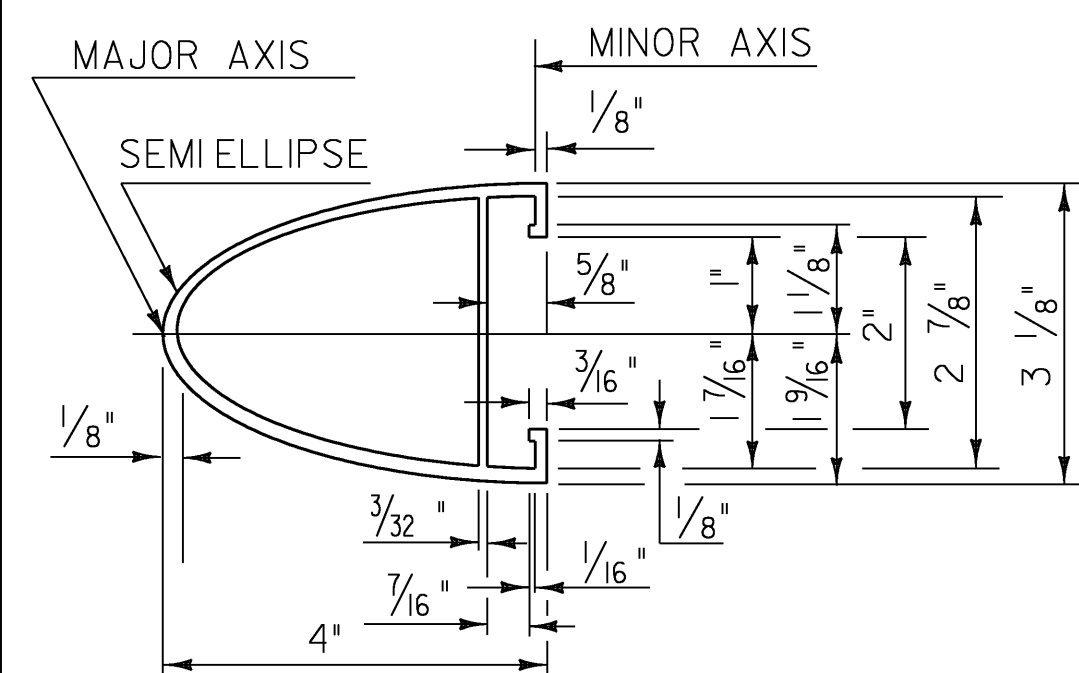
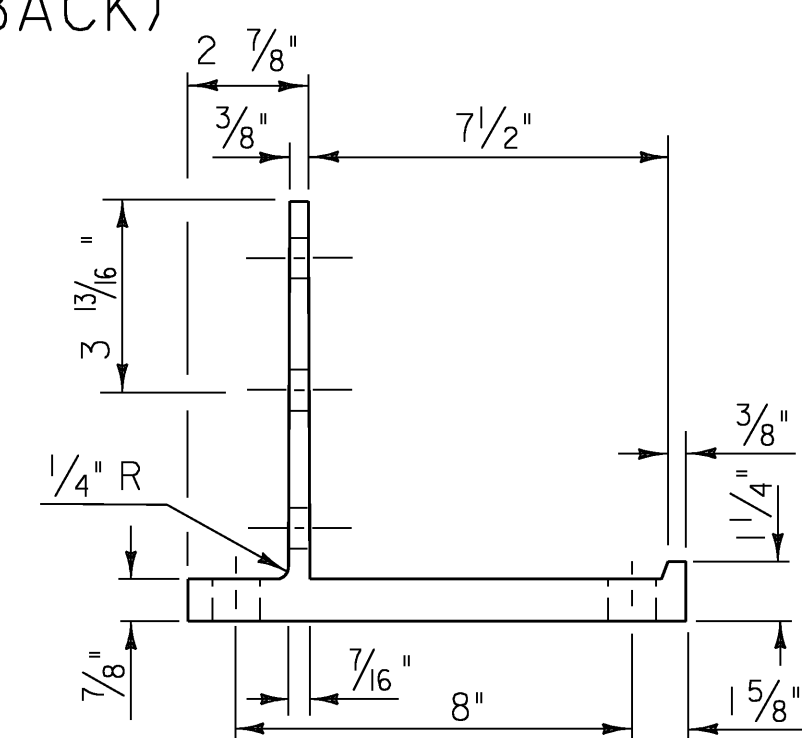
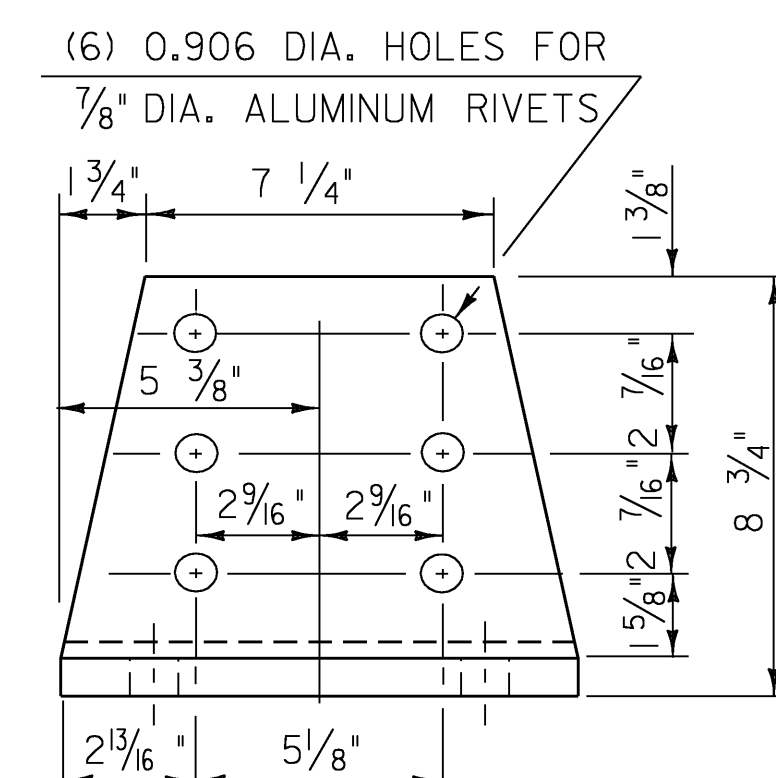
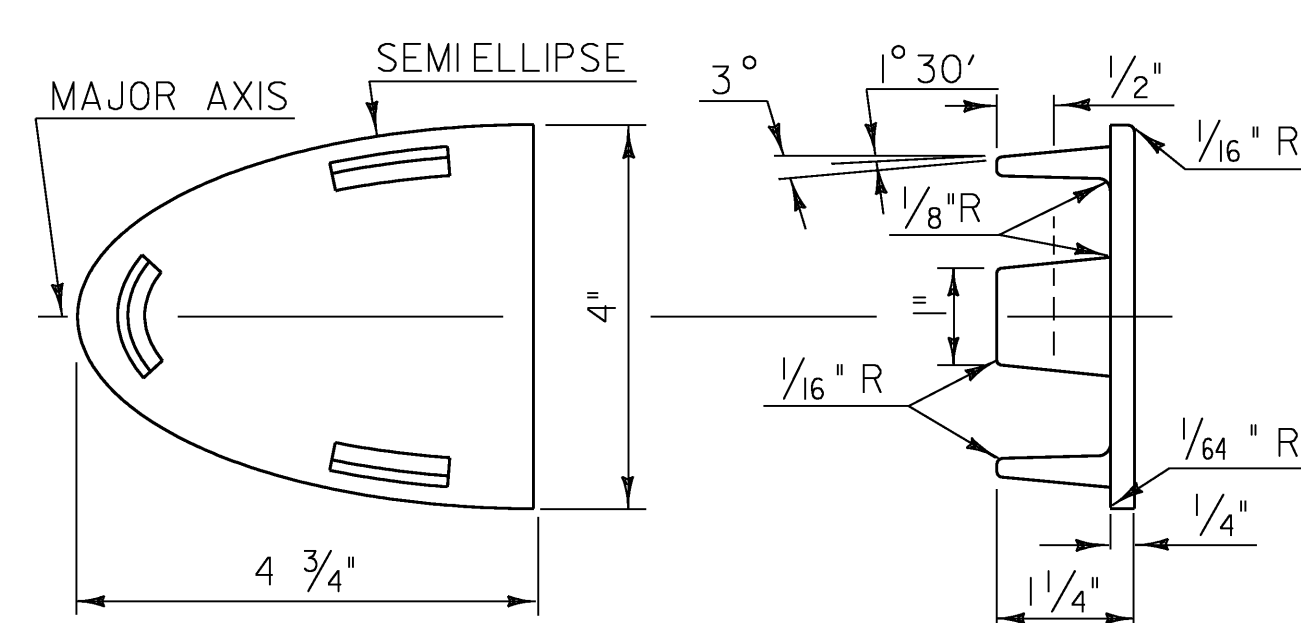
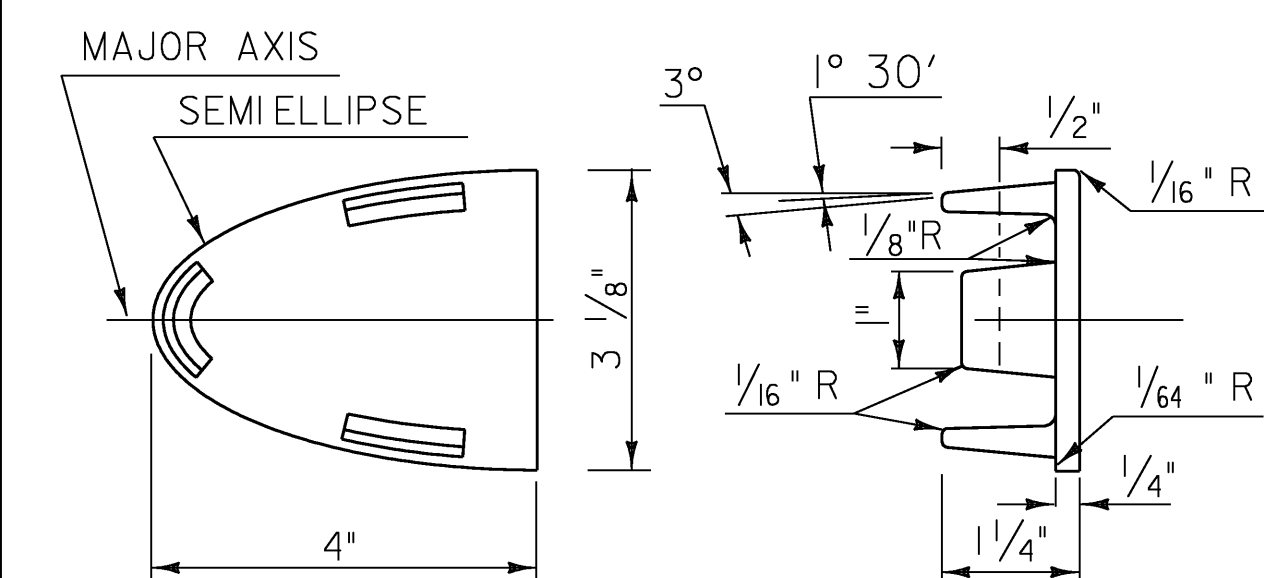
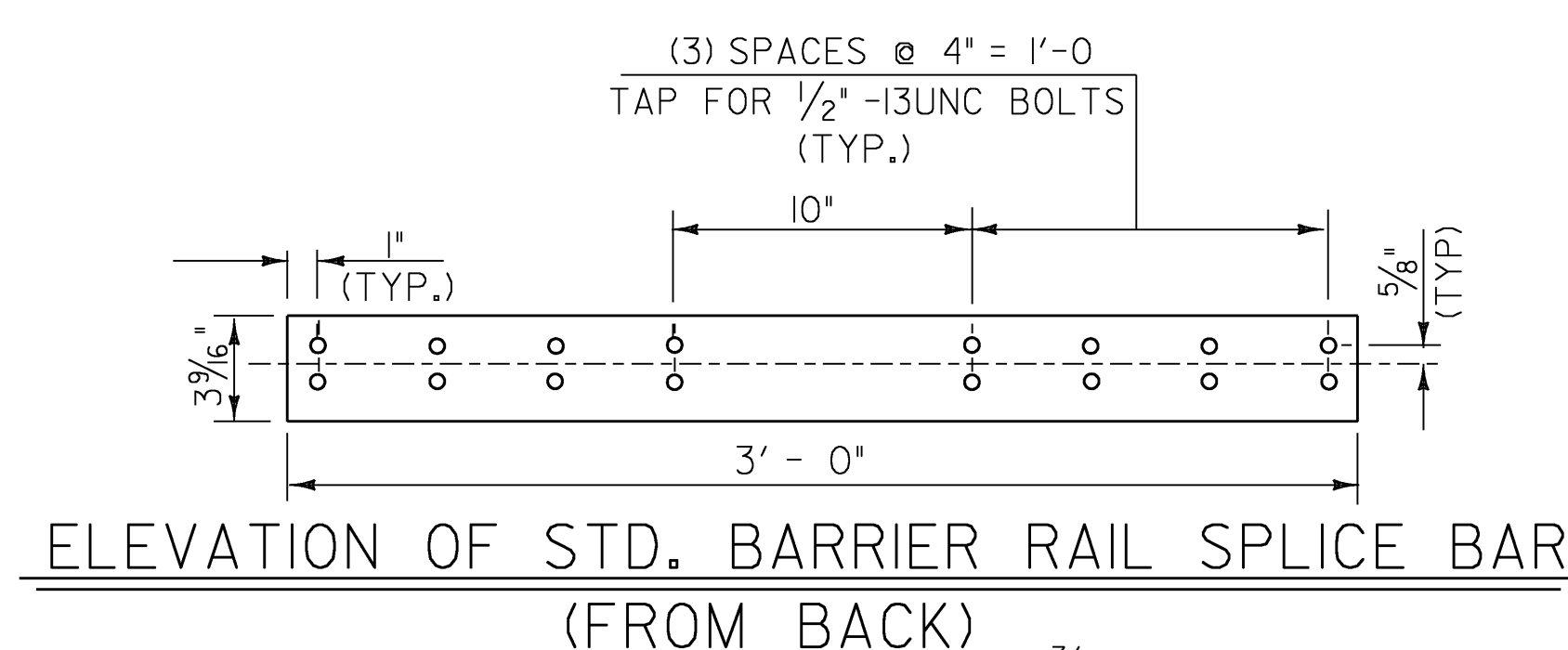
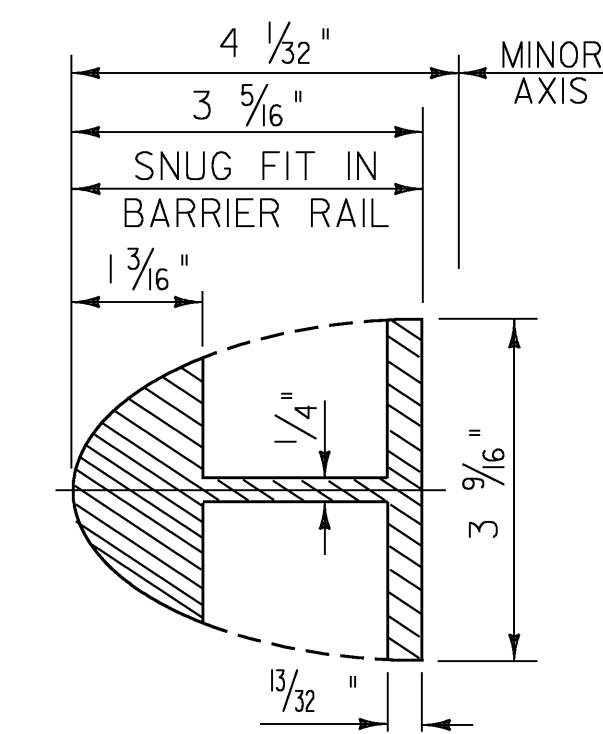
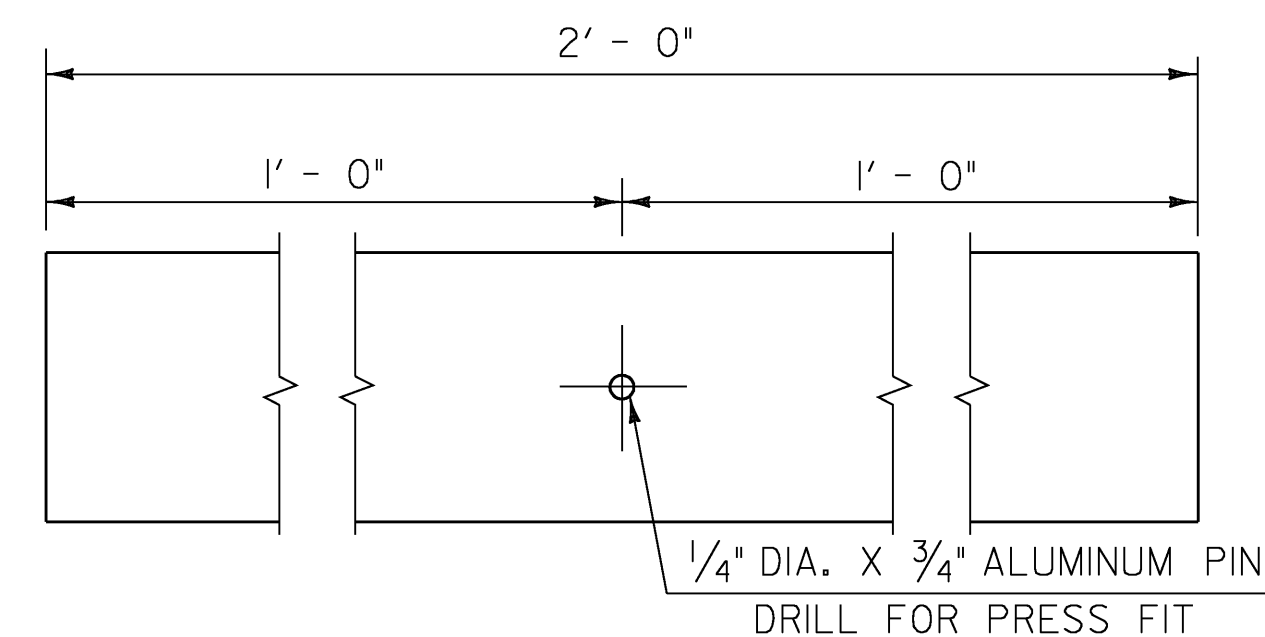
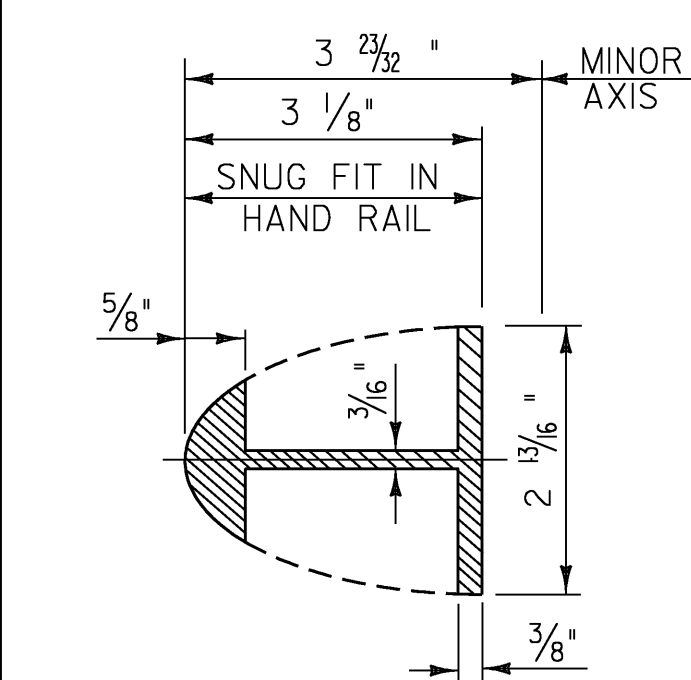
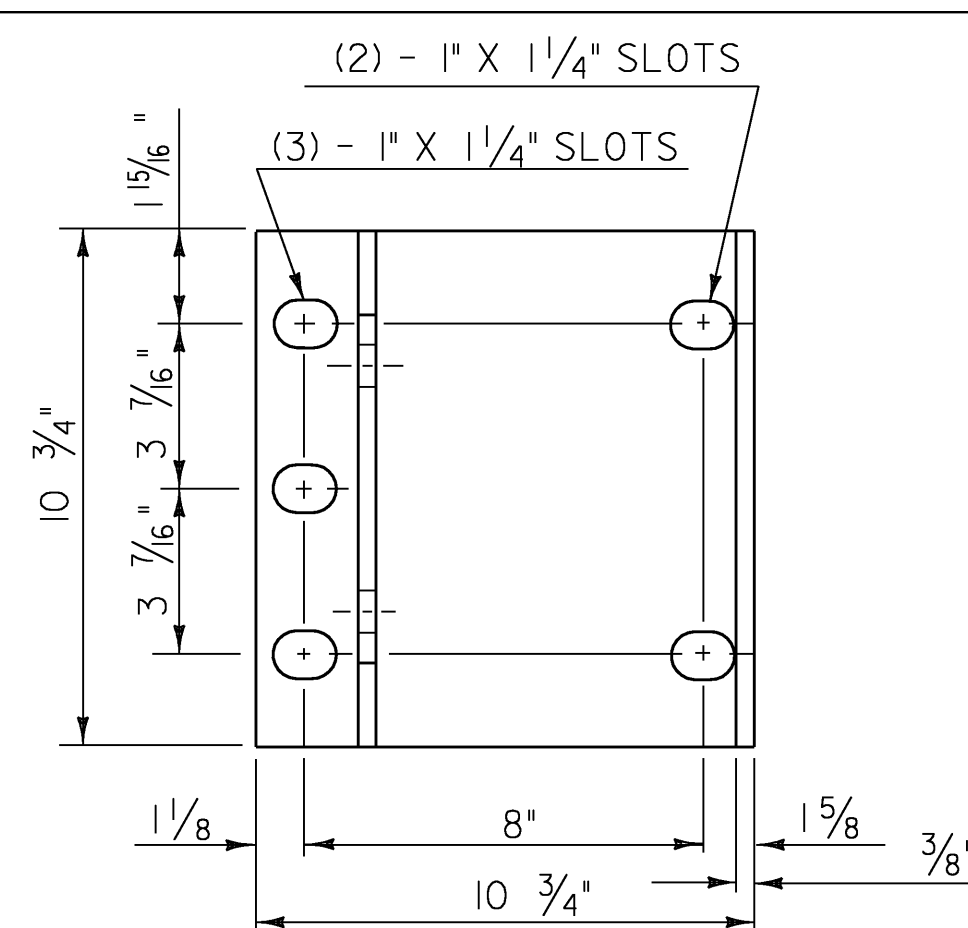
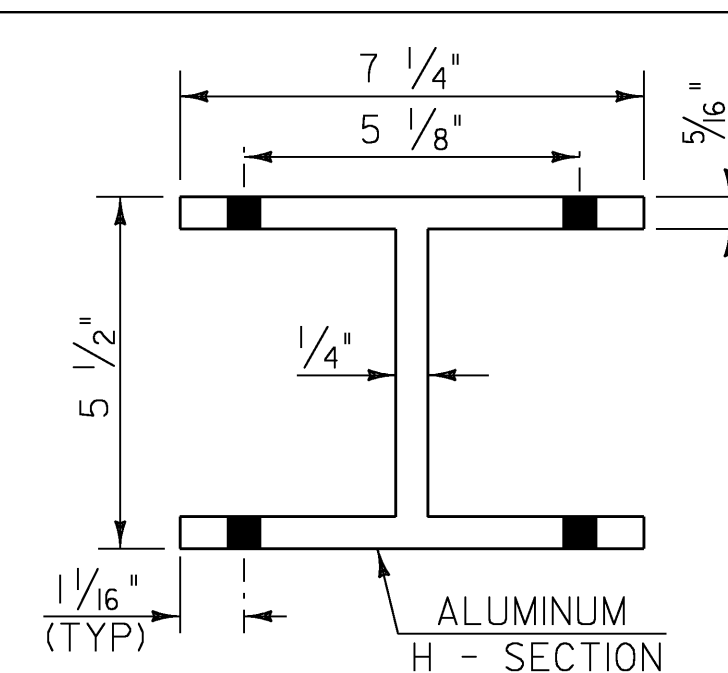
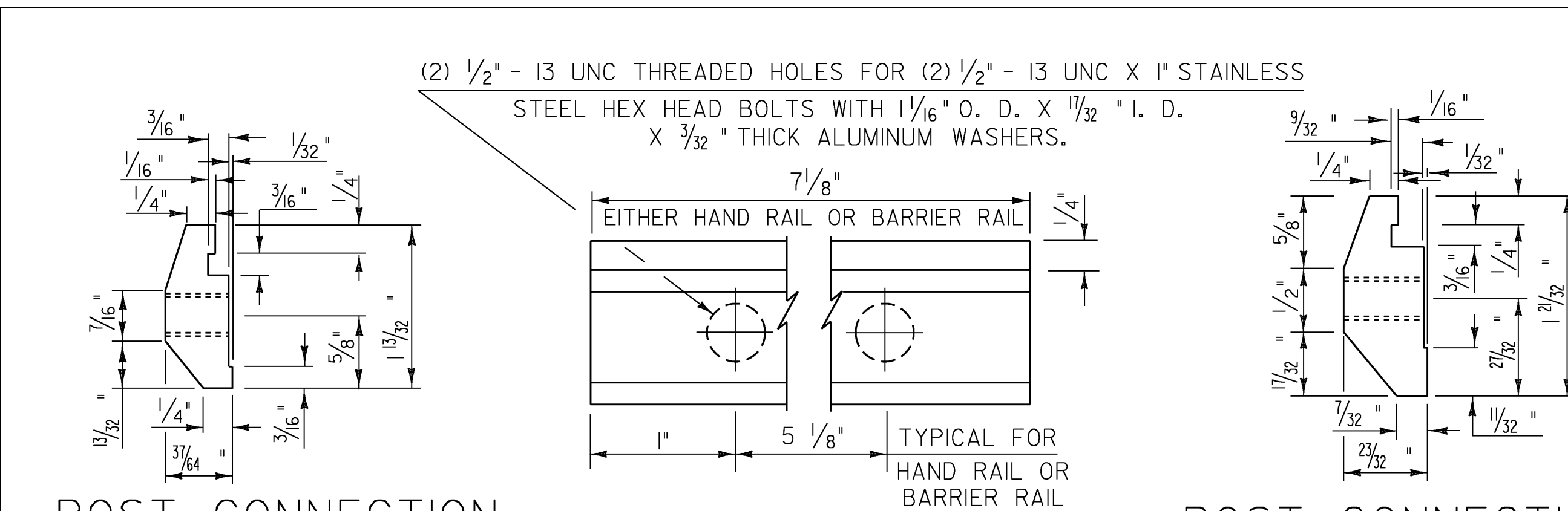


POST BASE
BOLT HOLE DETAILS

ALL DRAWINGS NTS

BRIDGE RAIL DETAIL SHEET I

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	U. STANLEY
FILE NAME:	sellbrdgerall.dgn	CHECKED BY:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY	SHEET	67 OF 108
IPARM	s83ellrall2		



NOTES

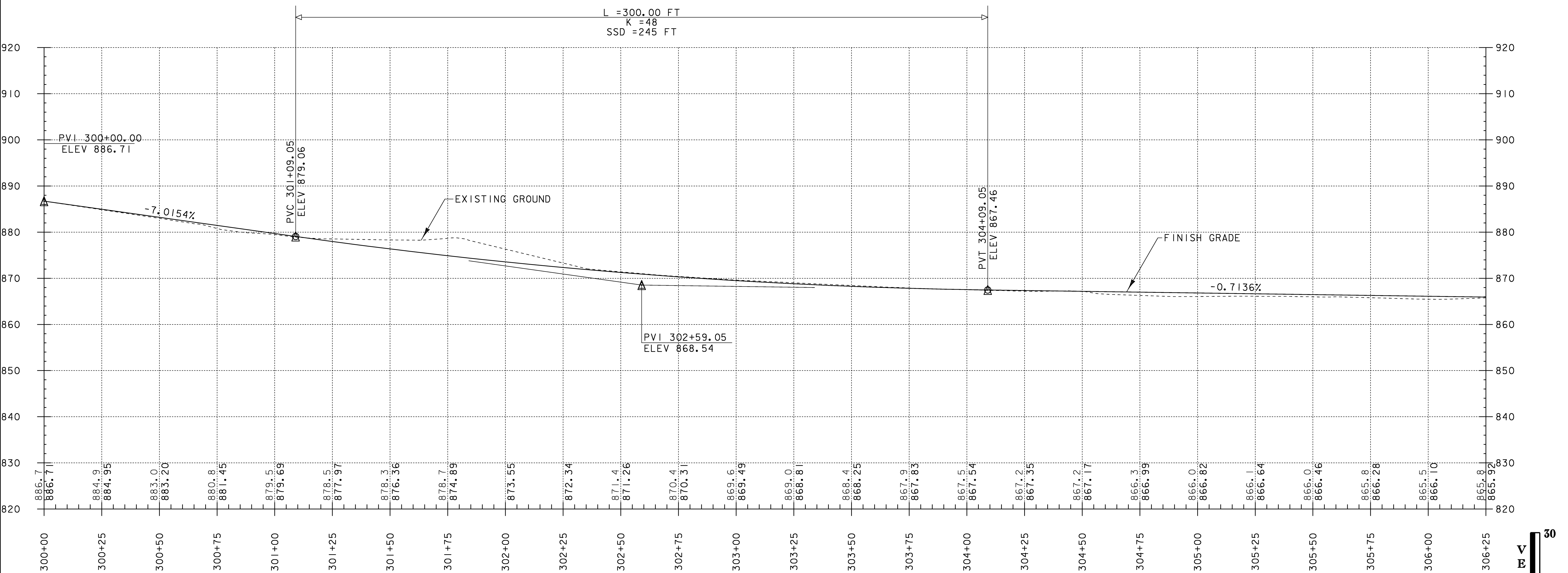
1. ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING:
 - A. ASTM A449 GALVANIZED, OR
 - B. AASHTO M164 (ASTM A325) GALVANIZED
 - C. BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8NA.
2. ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS $F_y = 35,000$ PSI.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
5. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE AISI 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
6. SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
7. RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
8. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
9. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
10. UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
11. BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS AND SHALL BE ATTACHED TO AT LEAST THREE POSTS.
12. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
13. THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE SUBSIDIARY TO THE UNIT PRICE BID FOR THE RAILING.
14. SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 100-0.
15. EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
16. ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY A166 2024-T4.

ALL DRAWINGS NTS

BRIDGE RAIL DETAIL SHEET 2

PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204(4)	
FILE NAME: sellbr1dgerall.dgn	PLOT DATE: 07-APR-2008
PROJECT LEADER: M. EVANS-MONGEON	DRAWN BY: U. STANLEY
DESIGNED BY: U. STANLEY	CHECKED BY: EVANS-MONGEON
IPARM s83sellbr1d3	SHEET 68 OF 108

DETOUR PROFILE



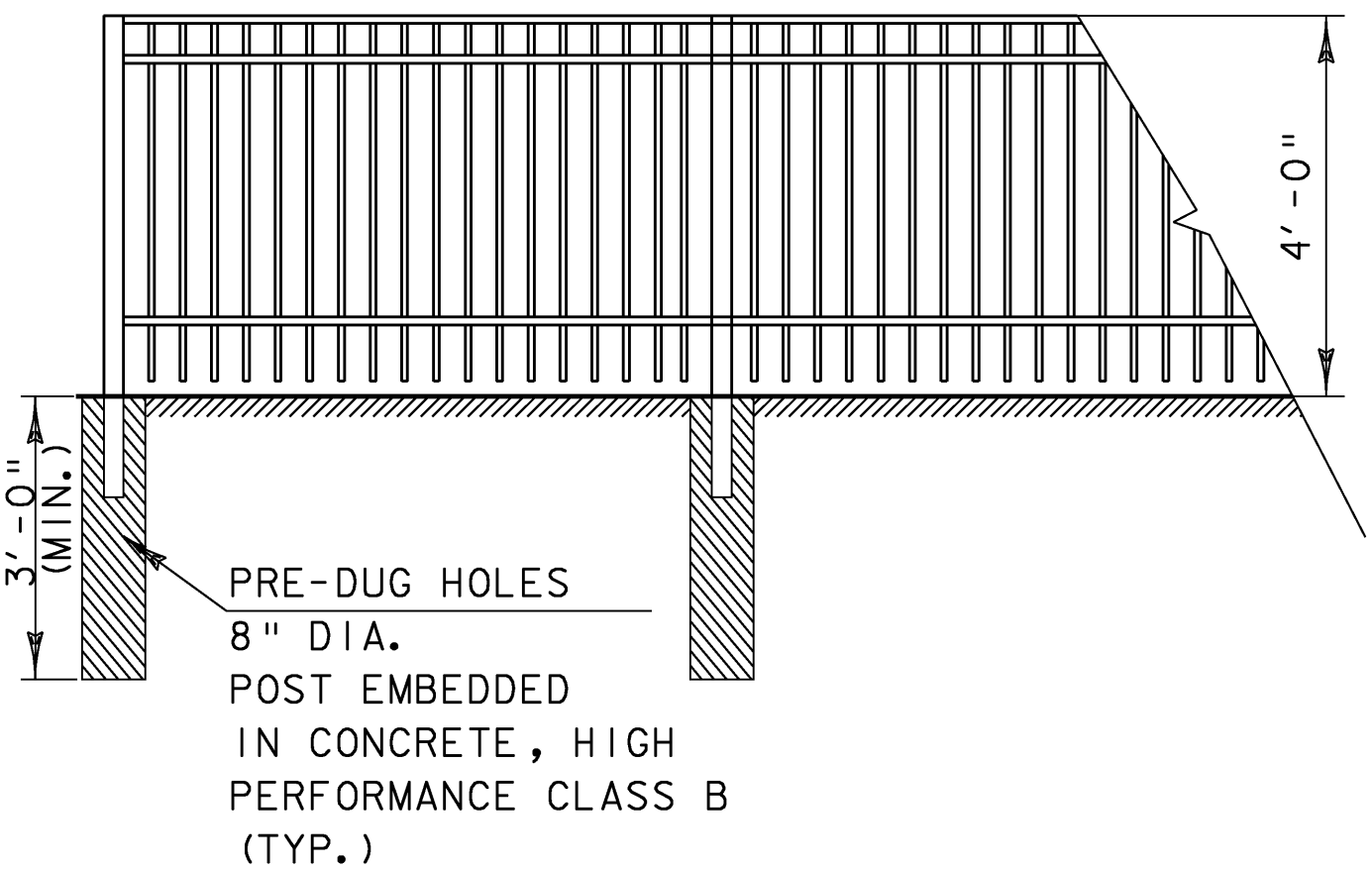
THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE PROPOSED GRADES FOR THE NEW ALIGNMENT.

PEDESTRIAN HAND RAILING NOTES

PEDETSTRIAN HAND RAILING SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF SPECIAL PROVISION SECTION 900.640 (PEDESTRIAN HAND RAILING)

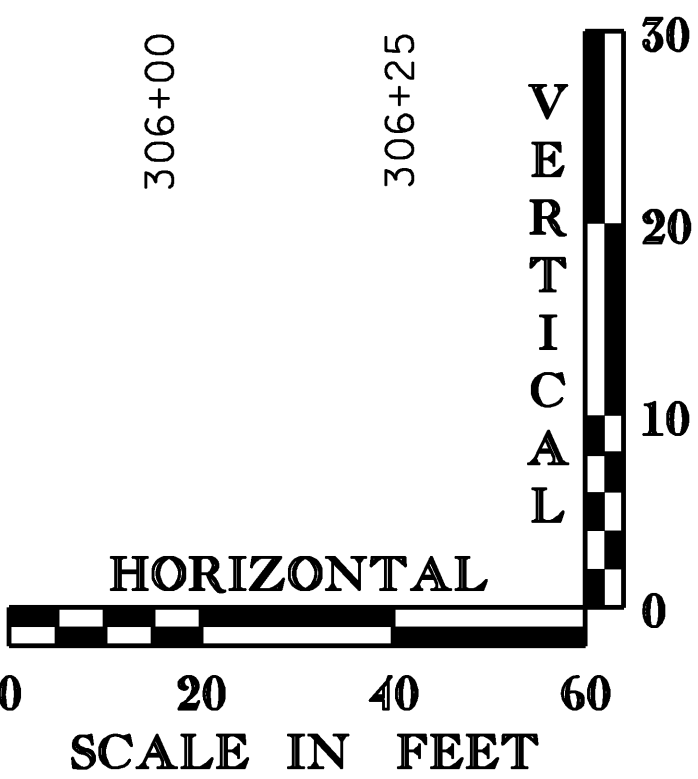
SEE GENERAL NOTE # 6 AND SHEET 23 FOR PLACEMENT DETAILS.

PEDESTRIAN HAND RAILING IS TO BE PLACED FROM DETOUR STA. 305+25 LT TO STA. 305+65 LT AND IS TO BE PAID USING ITEM 900.640 SPECIAL PROVISION (PEDESTRIAN HAND RAILING).



PEDESTRIAN HAND RAILING ELEVATION

SCALE 1/2" = 1'-0"



DETOUR PROFILE AND PEDESTRIAN HAND RAILING DETAILS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell/structures/sellxs.dgn
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	STANLEY
s83elldetpf.l	
PLOT DATE:	07-APR-2008
DRAWN BY:	EVANS-MONGEON
CHECKED BY:	EVANS-MONGEON
SHEET	69 OF 108

REINFORCING STEEL SCHEDULE

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✦ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: Williamstown

PROJECT NUMBER: BRS 0204(4)

FILE NAME: engreinf_New.xls

PROJECT MANAGER: M. Evans-Mongeon

DESIGNED BY: M. Evans-Mongeon

REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: 3/3/2008

DRAWN BY: M. Evans-Mongeon

CHECKED BY: L. Russell

SHEET OF

REINFORCING STEEL SCHEDULE

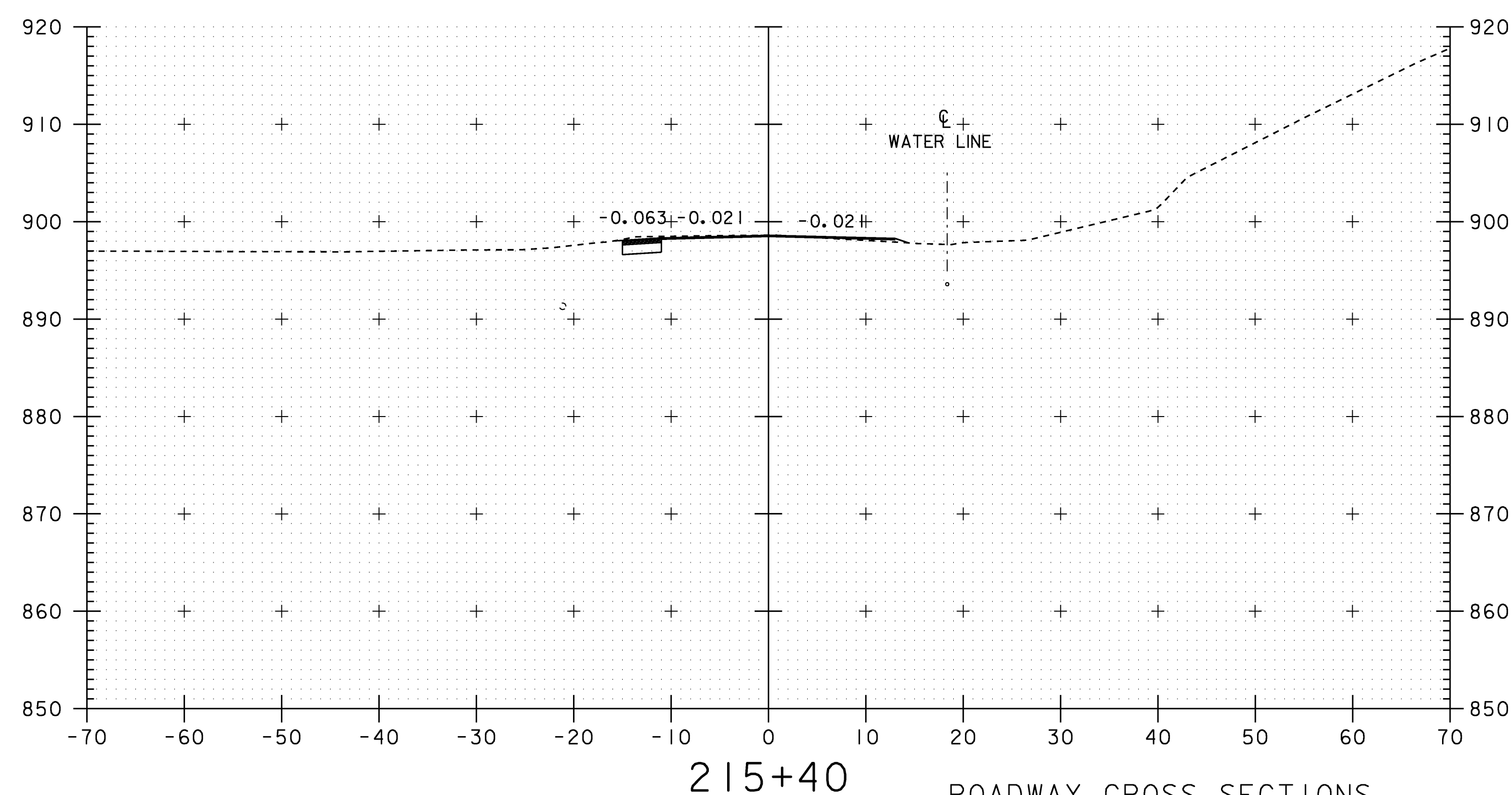
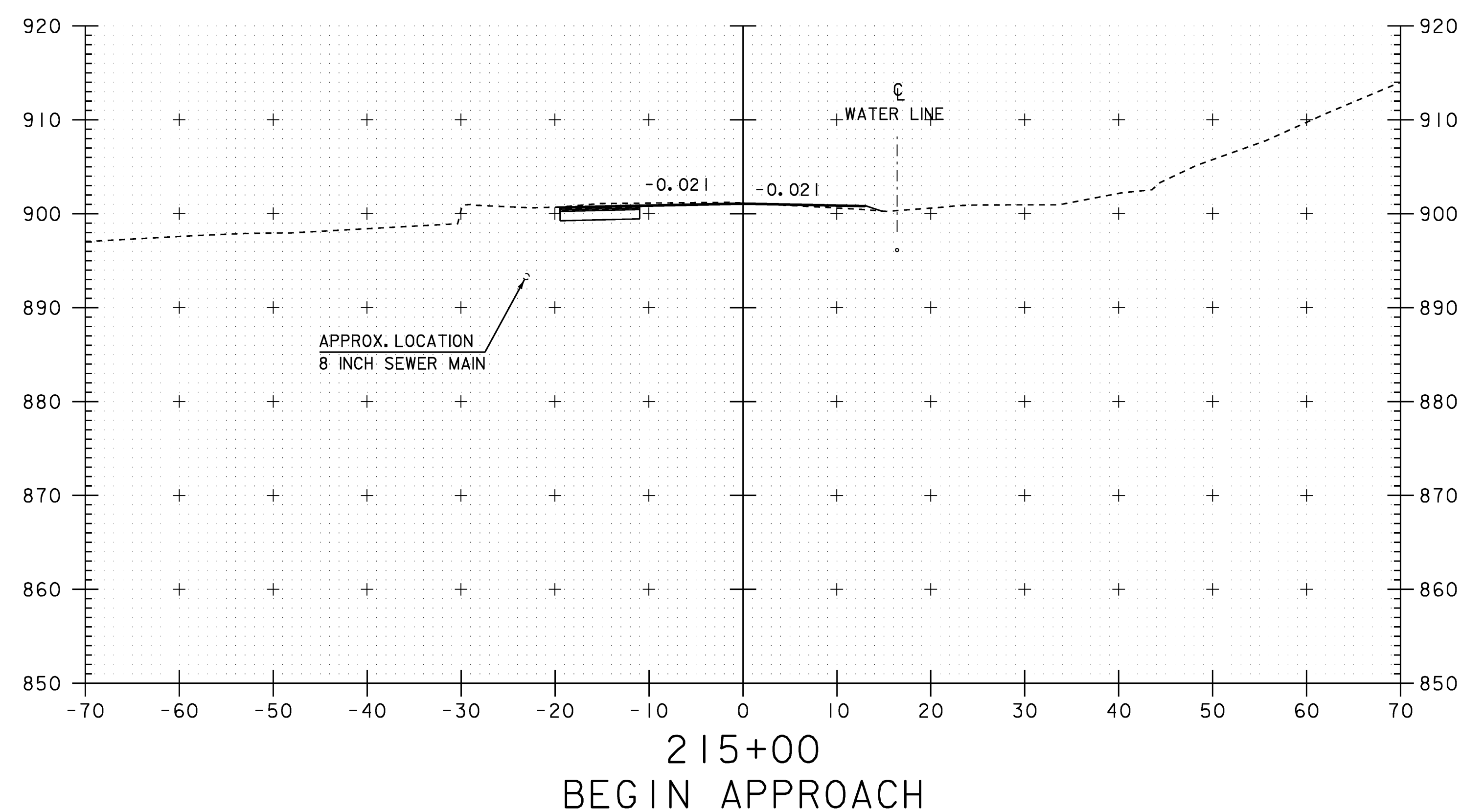
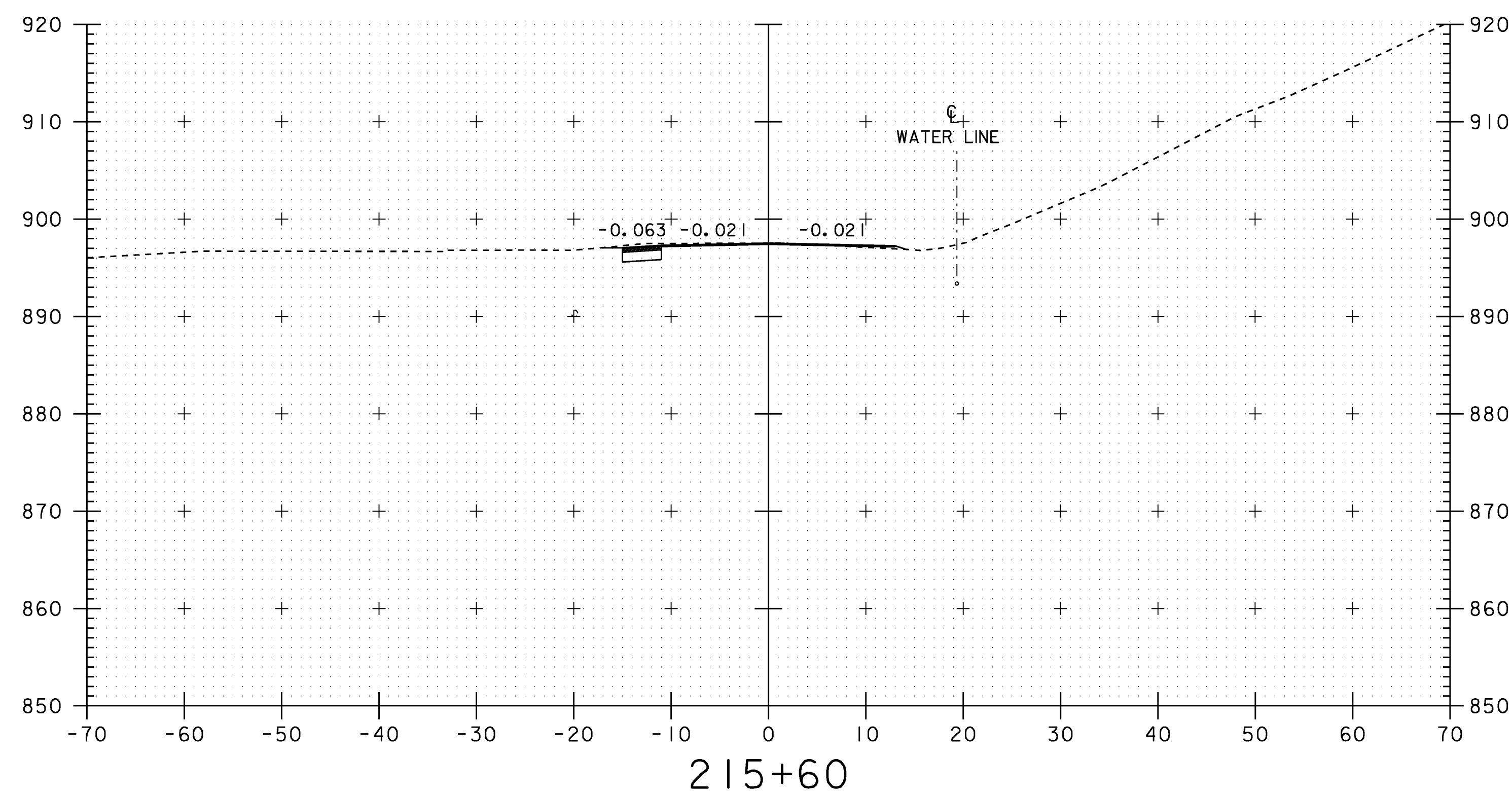
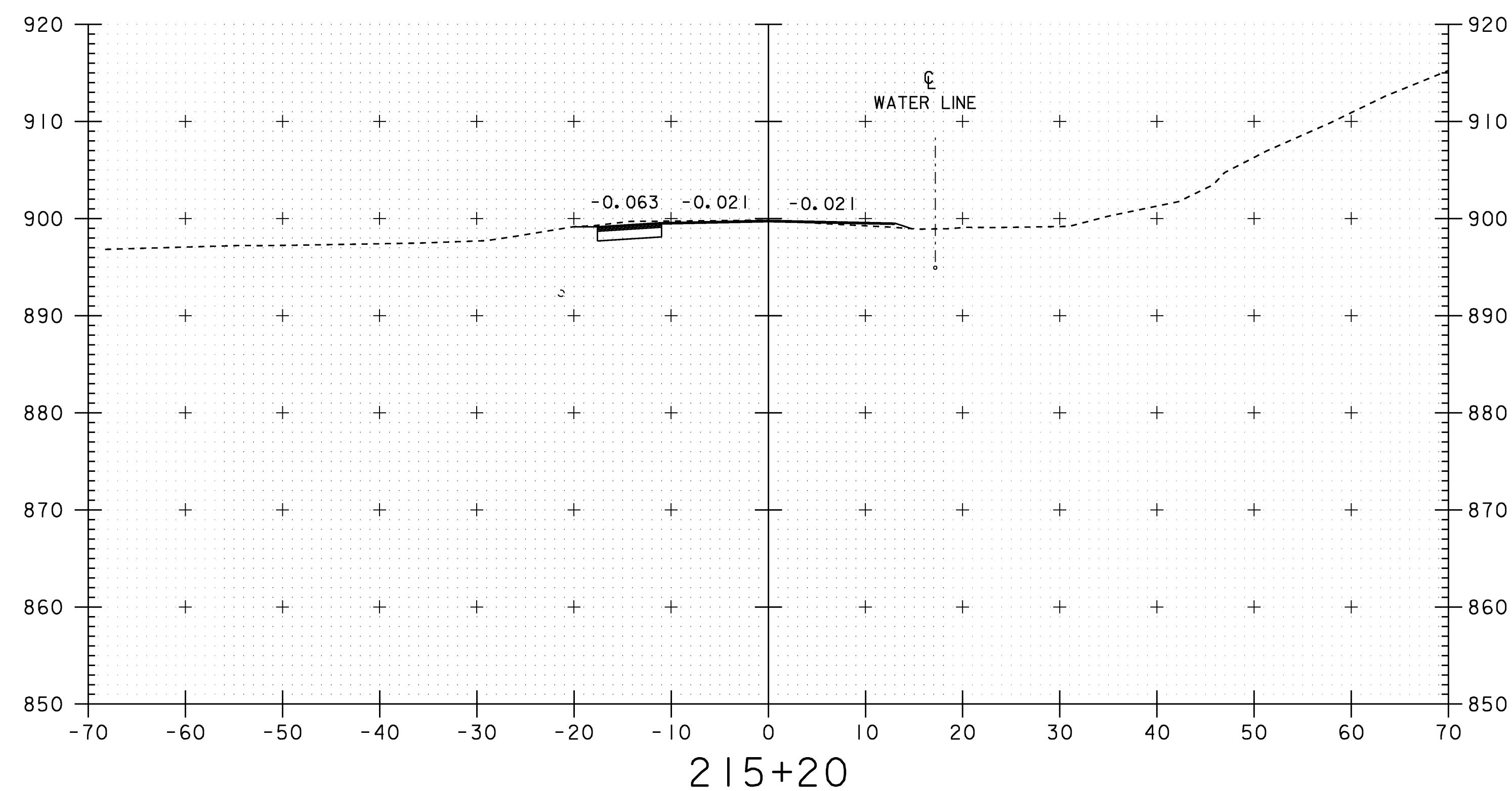
~ NOTES ~

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
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- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- + DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- E DENOTES EPOXY COATED REINFORCING STEEL.

ASTM STANDARD REINFORCING BARS			
	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION	
	DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
0.376	0.375	0.11	1.178
0.668	0.500	0.20	1.571
1.043	0.625	0.31	1.963
1.502	0.750	0.44	2.356
2.044	0.875	0.60	2.749
2.670	1.000	0.79	3.142
3.400	1.128	1.00	3.544
4.303	1.270	1.27	3.990
5.313	1.410	1.56	4.430
7.65	1.693	2.25	5.32
13.60	2.257	4.00	7.09

PROJECT NAME:	Williamstown	PLOT DATE:	3/3/2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	M. Evans-Mongee
FILE NAME:	engreinf_New.xls	CHECKED BY:	L. Russell
PROJECT MANAGER:	M. Evans-Mongee		
DESIGNED BY:	M. Evans-Mongee		
REINFORCING STEEL SCHEDULE SHEET #2		SHEET	OF

PROJECTNAME: Williamstown	
PROJECTNUMBER: BRS 0204(4)	
FILE NAME: engreinf_New.xls	PLOT DATE: 3/3/2008
PROJECT MANAGER: M. Evans-Mongeon	DRAWN BY: M. Evans-Mongec
DESIGNED BY: M. Evans-Mongeon	CHECKED BY: L. Russell
REINFORCING STEEL SCHEDULE SHEET #2	SHEET OF



SCALE 1" = 10'-0"

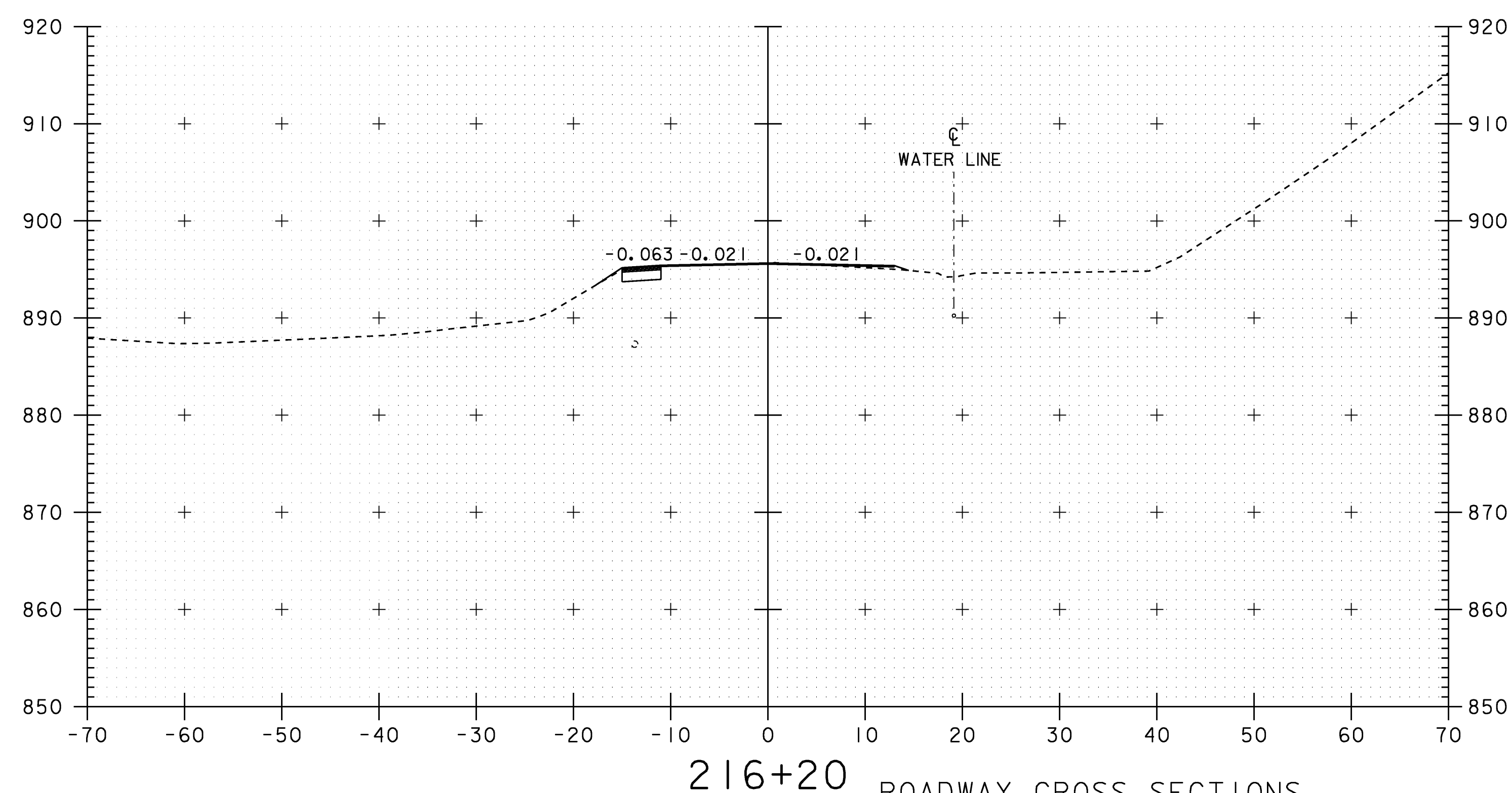
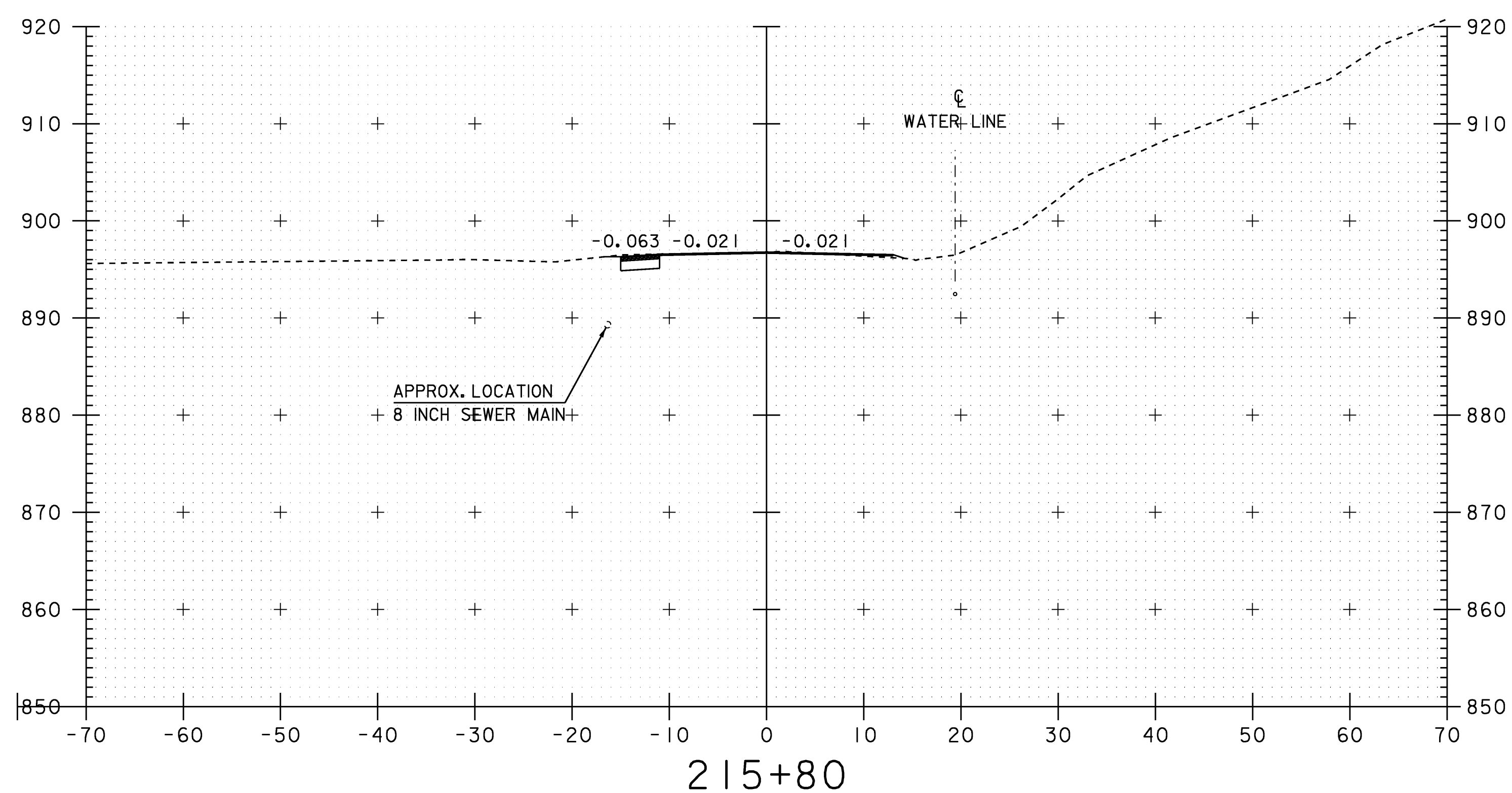
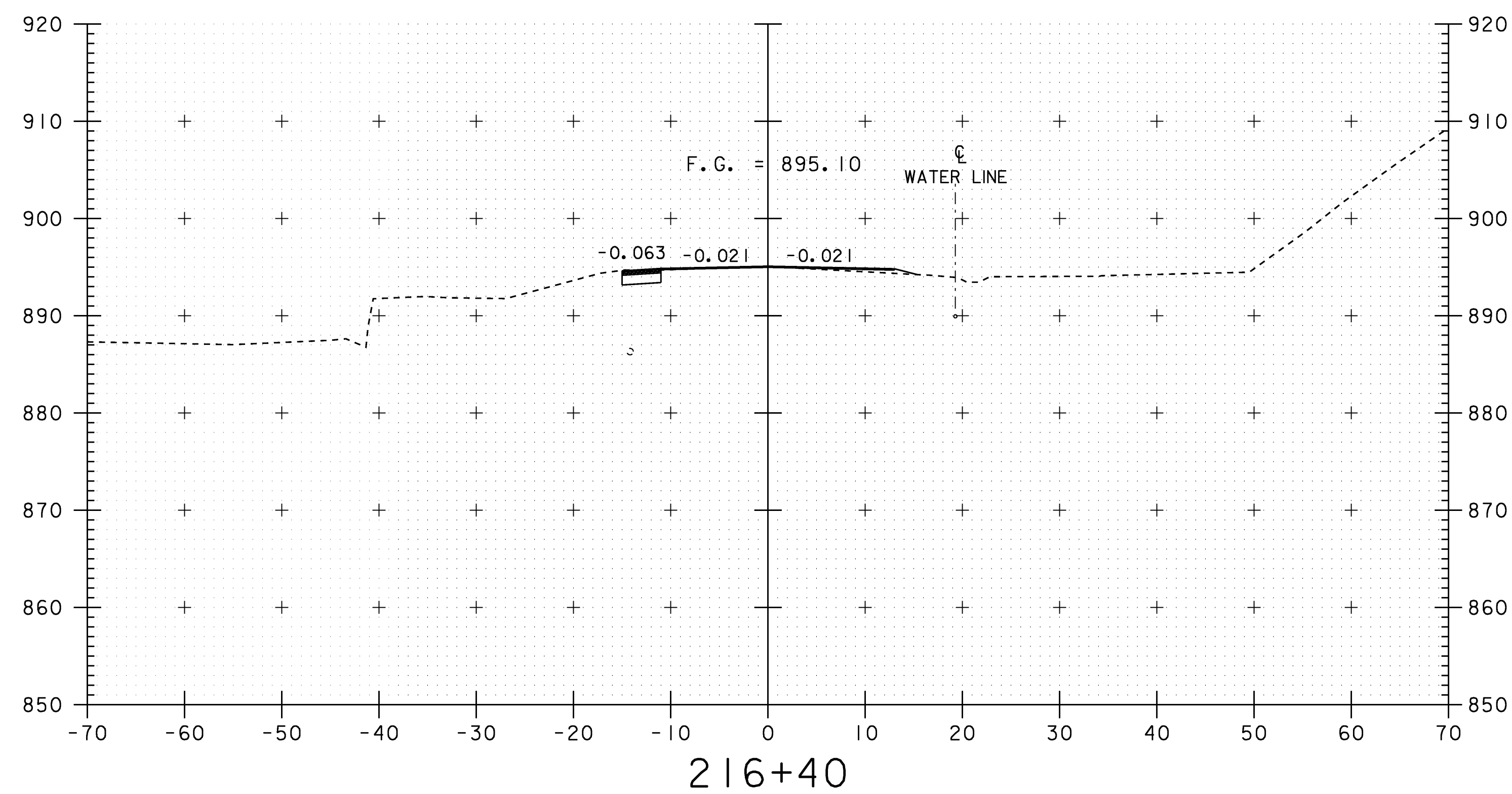
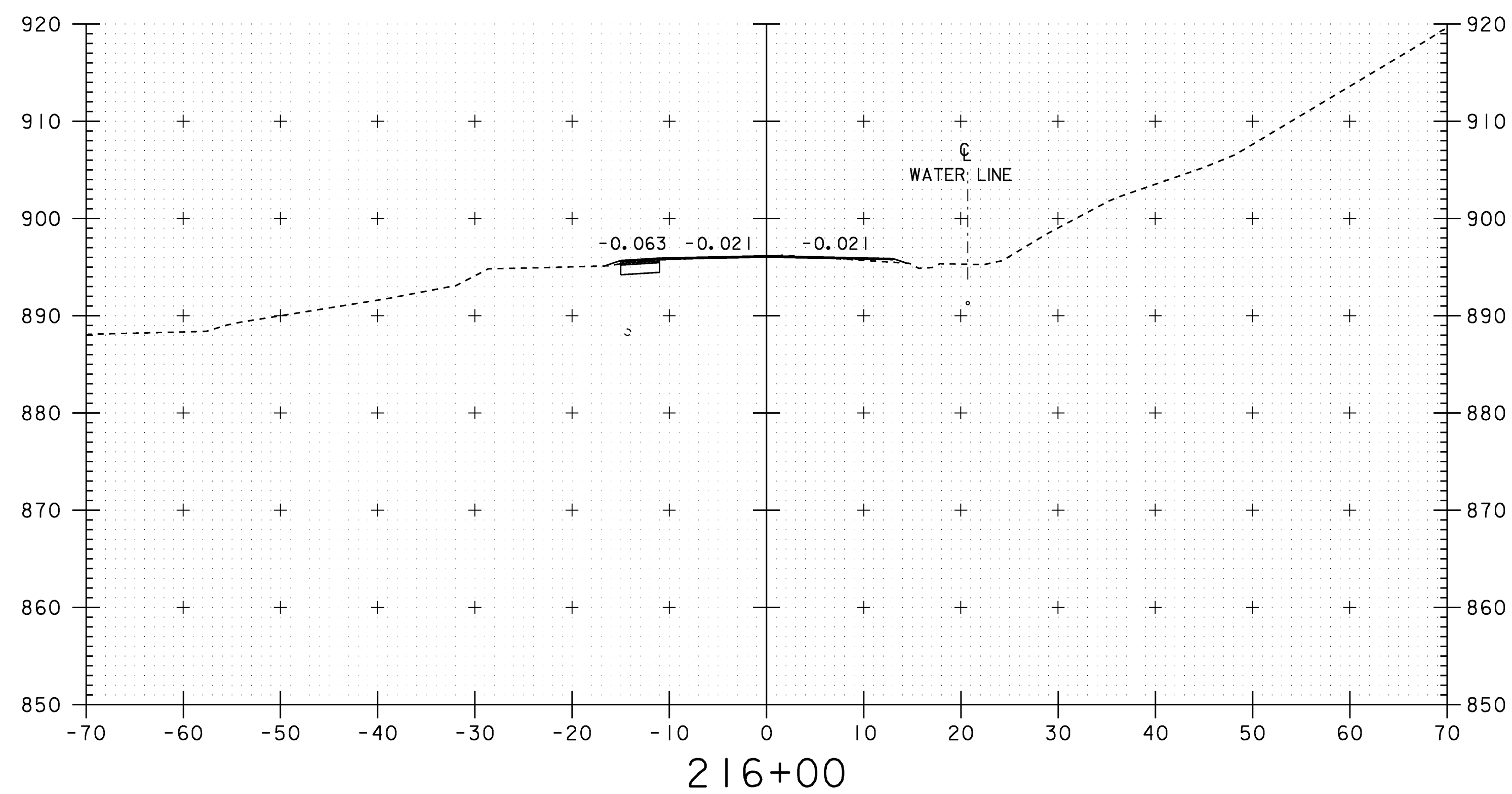
STA. 215+00 TO STA. 215+60

ROADWAY CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\Sruct\sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellxls.l

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: EVANS-MONGEON
SHEET 72 OF 108

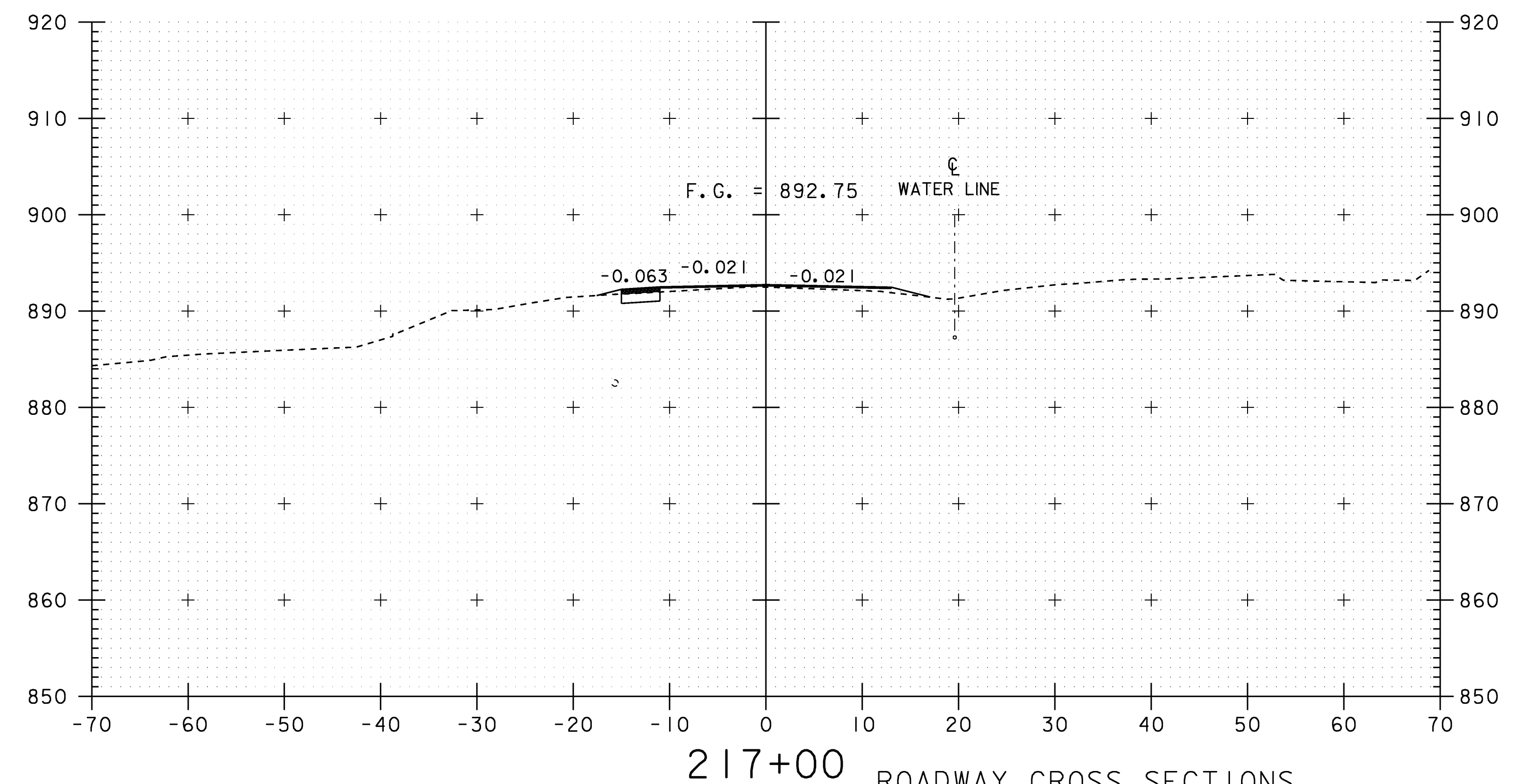
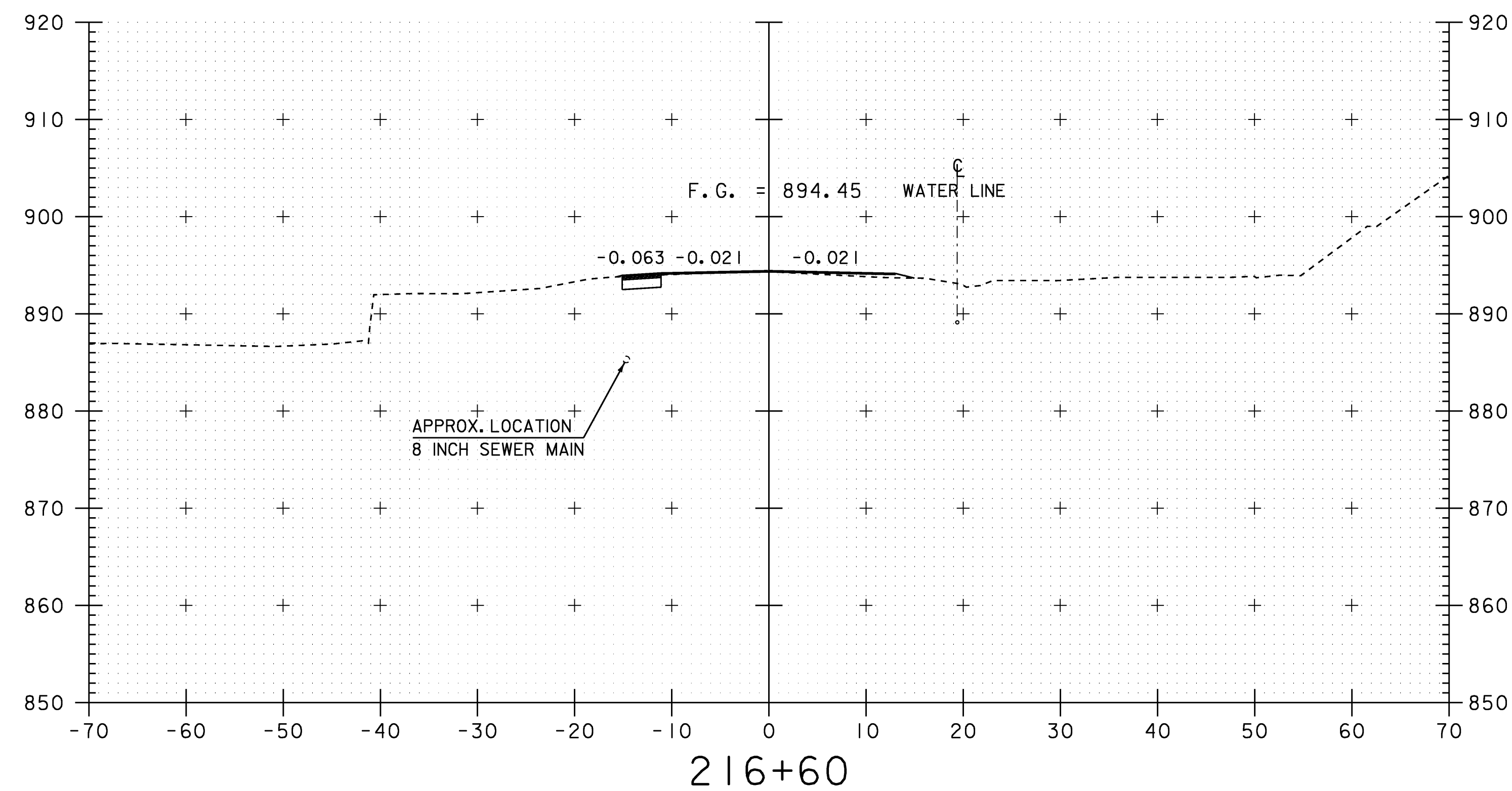
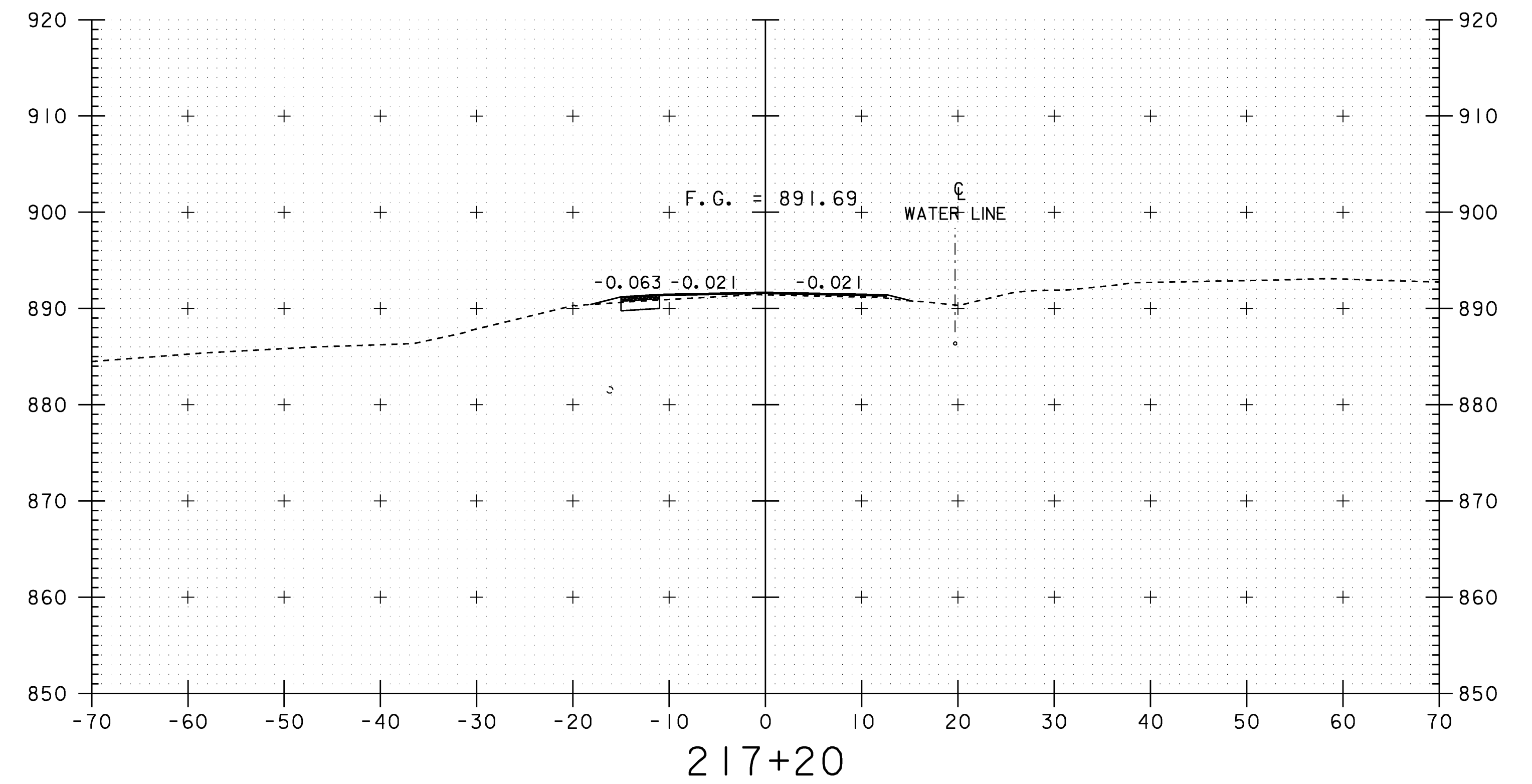
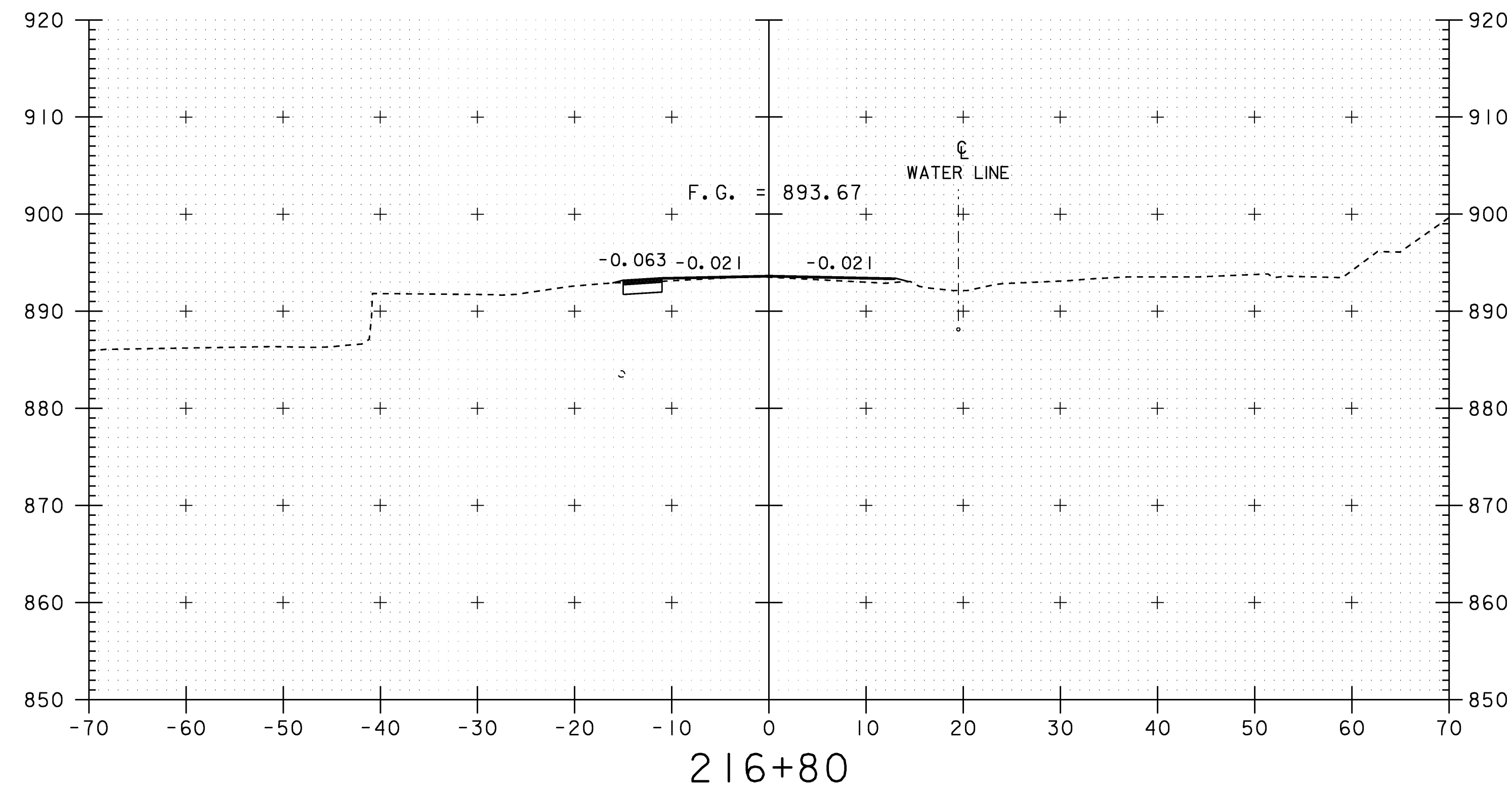


SCALE 1" = 10'-0"

STA. 215+80 TO STA. 216+40

ROADWAY CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\Structure\sellxs.dgn
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellxs2.1
PLOT DATE:	07-APR-2008
DRAWN BY:	G.ROKES
CHECKED BY:	EVANS-MONGEON
SHEET	73 OF 108

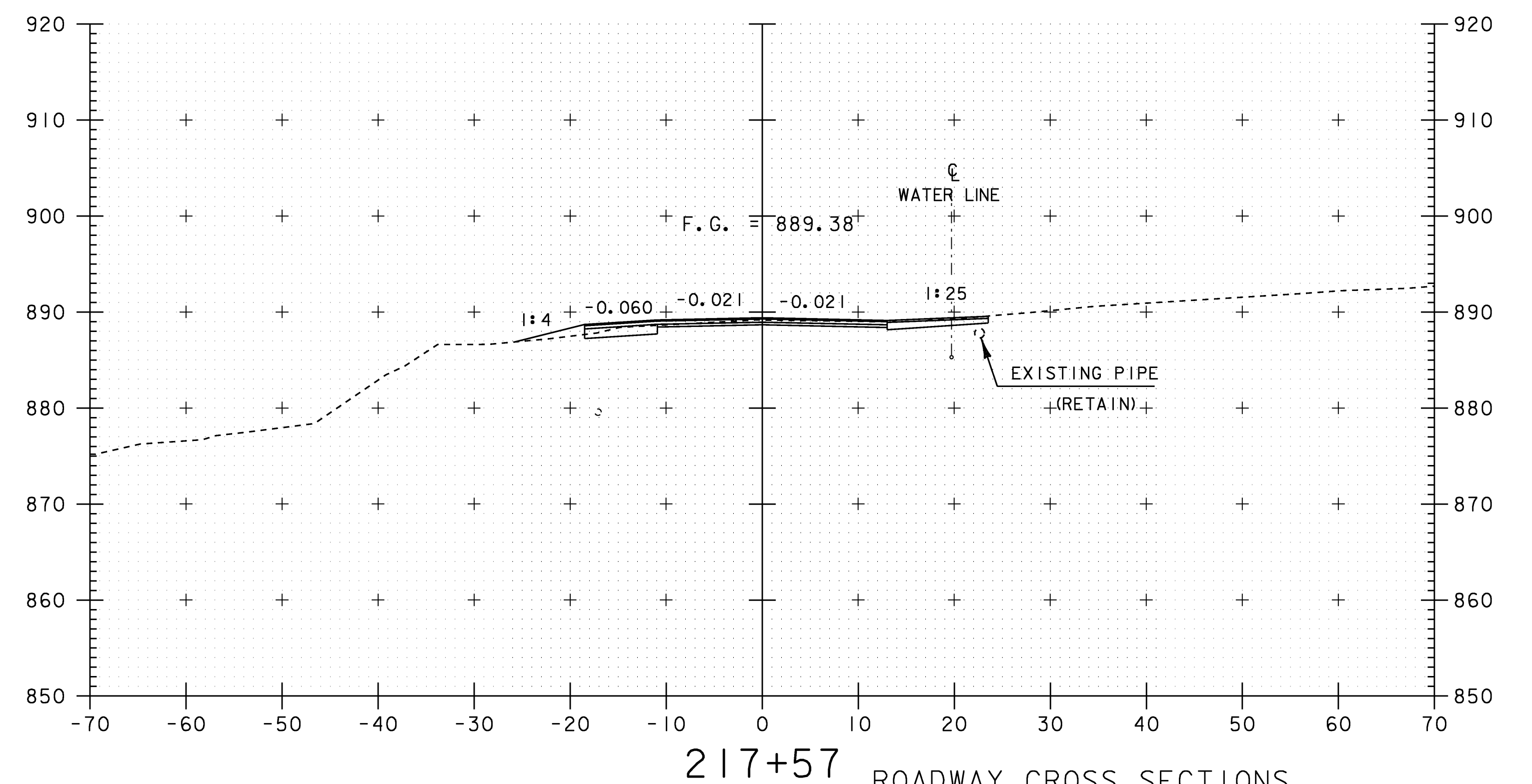
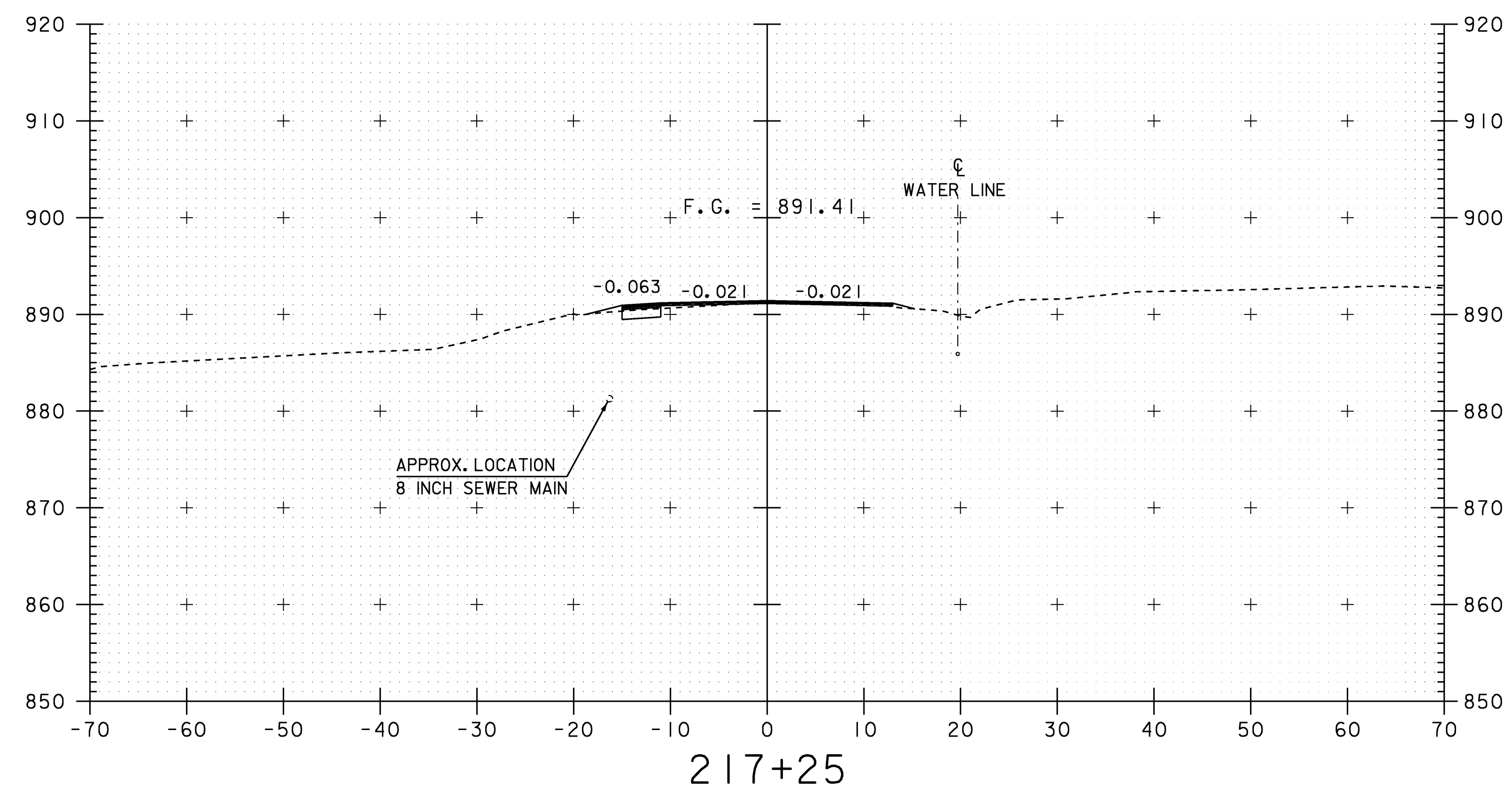
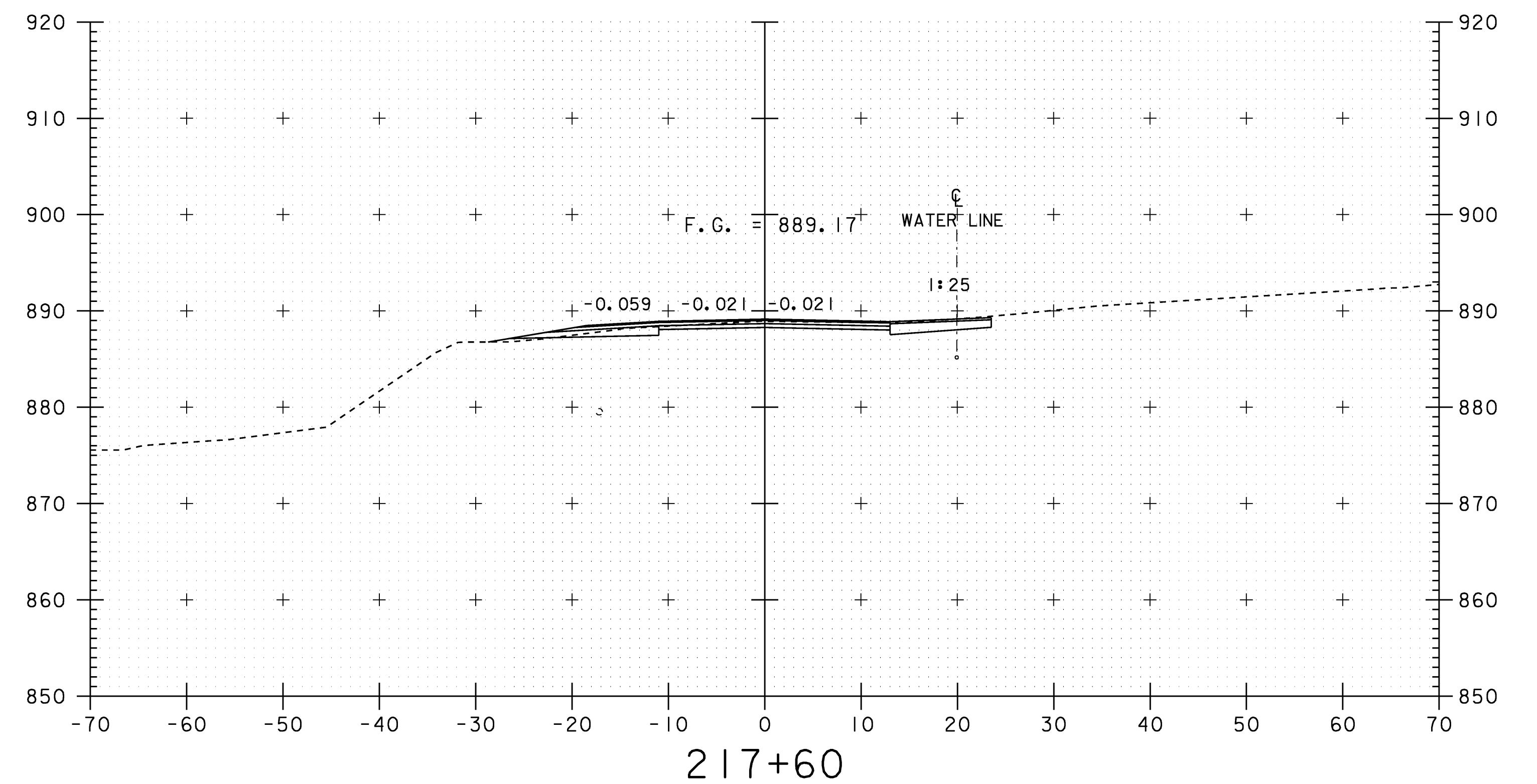
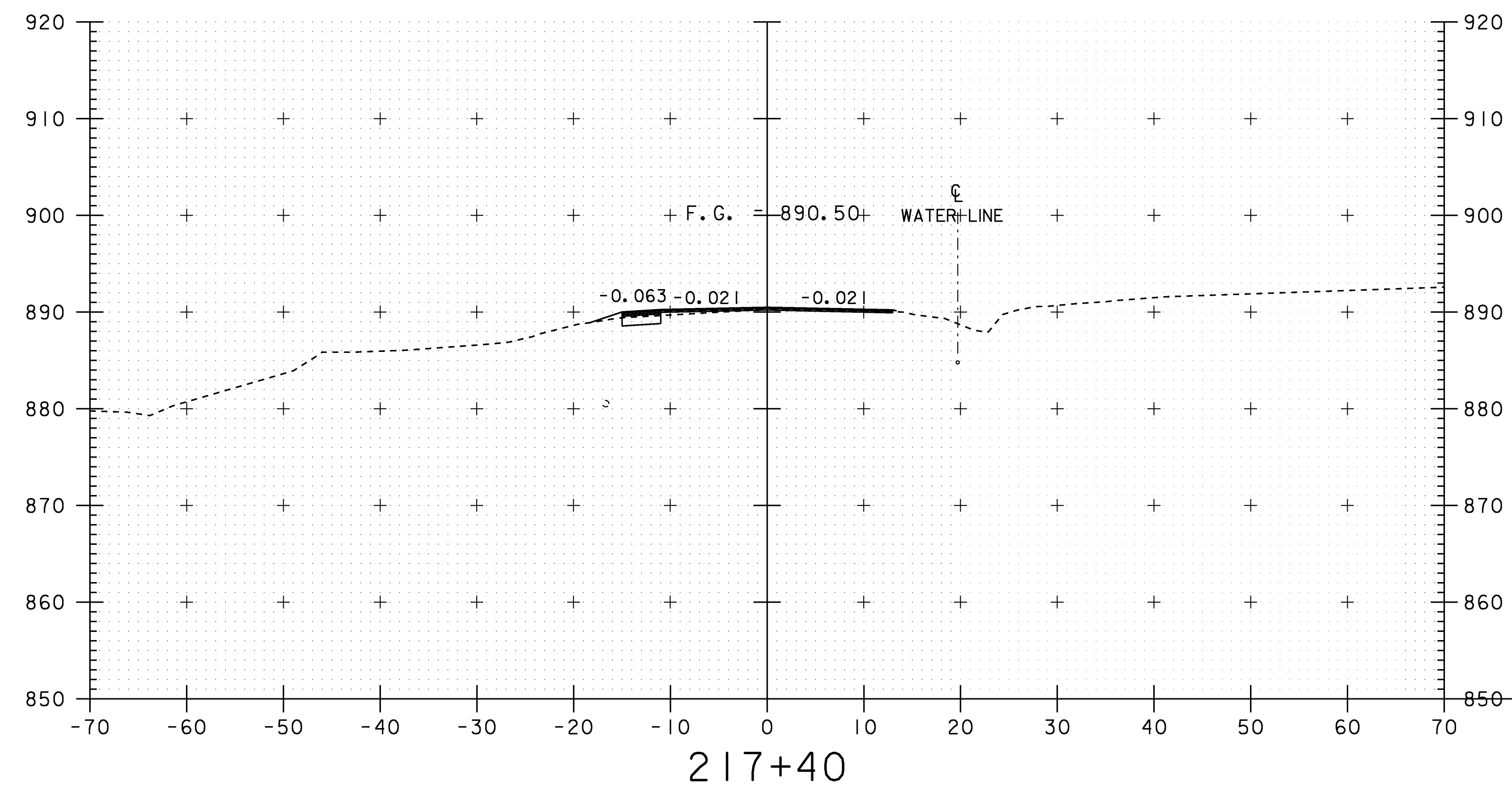


SCALE 1" = 10'-0"

STA. 216+60 TO STA. 217+20

ROADWAY CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\sr+uct\sellxs.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	74 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellxs3.1		

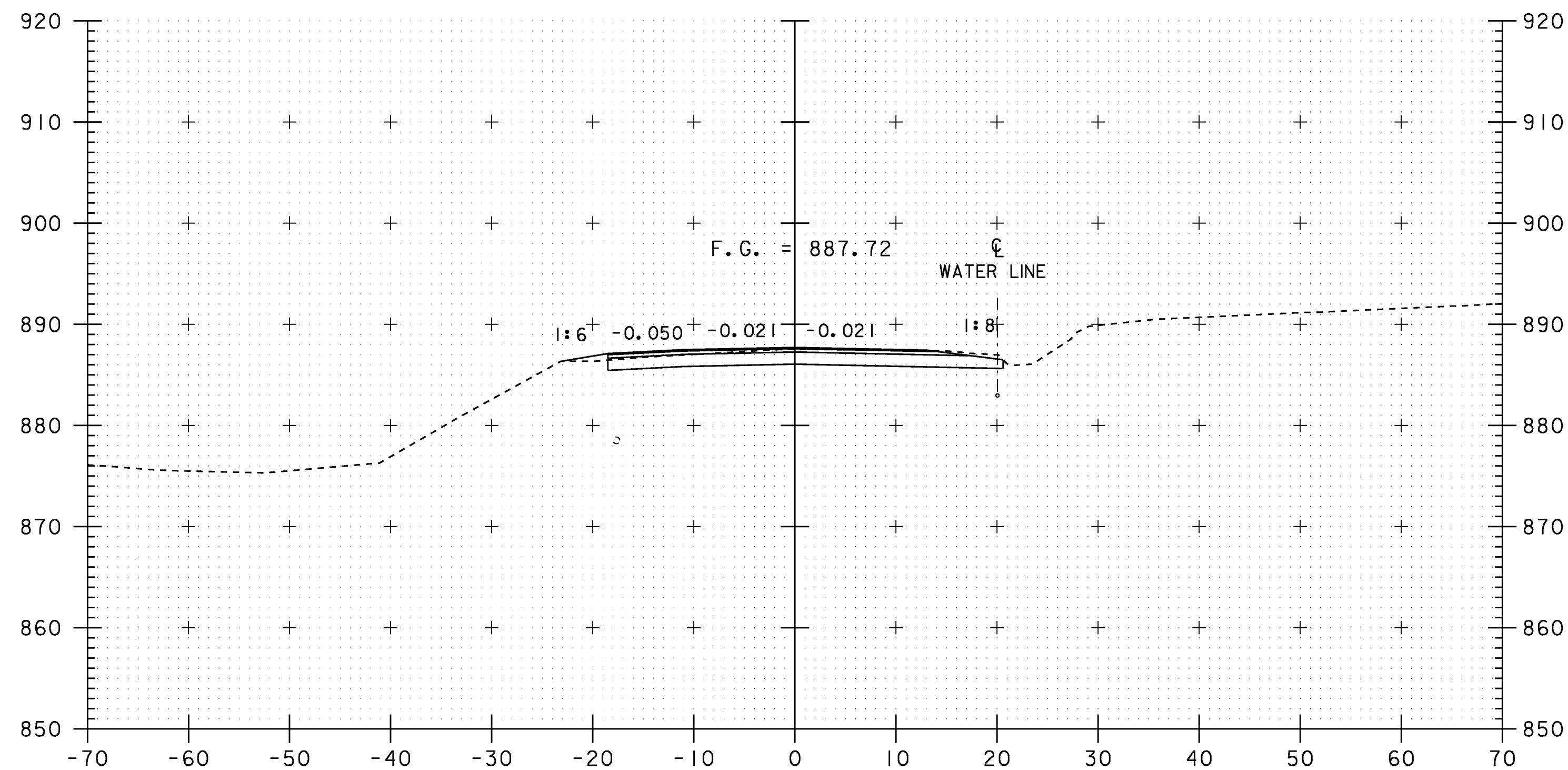


SCALE 1" = 10'-0"

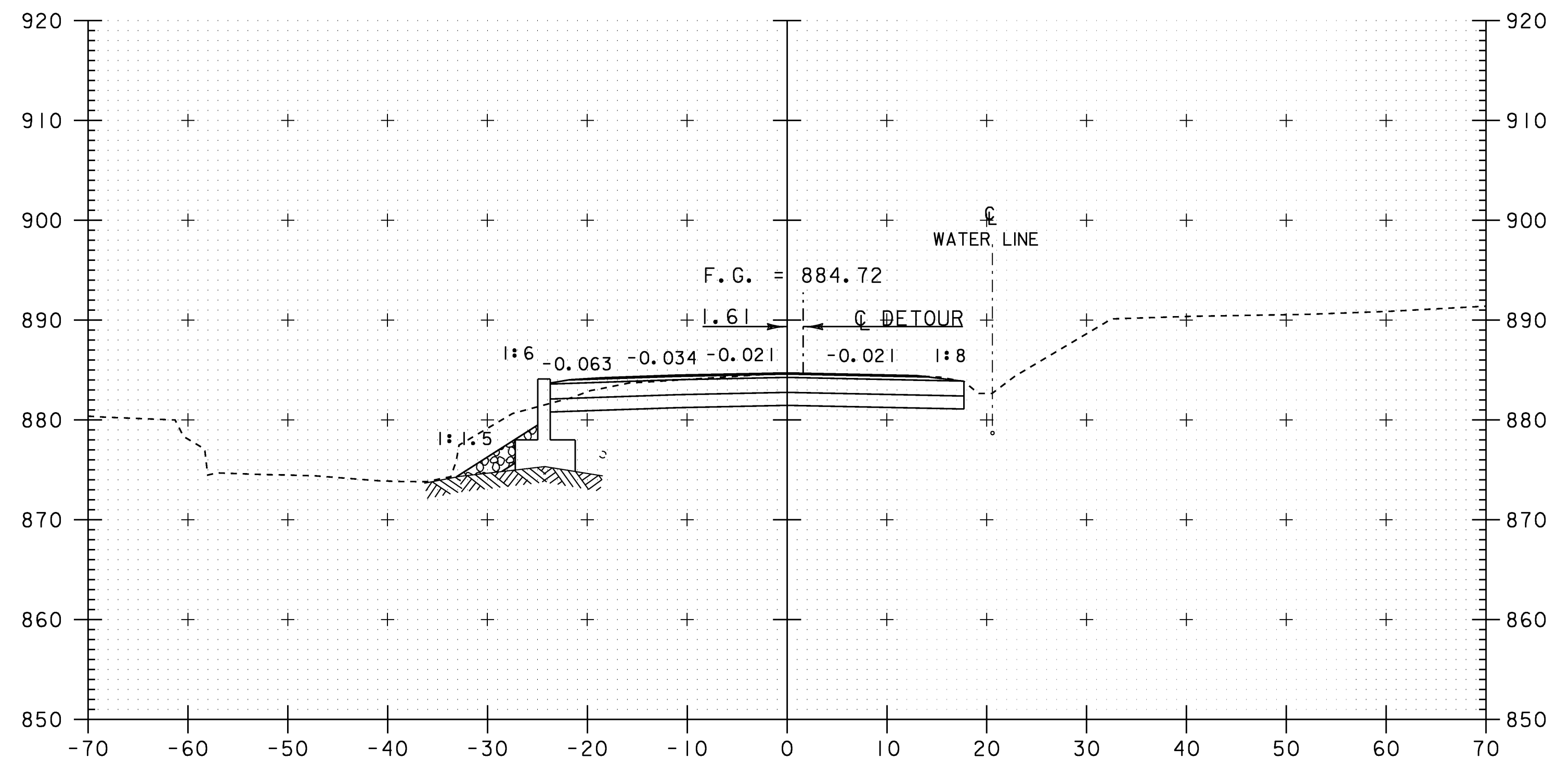
STA. 217+25 TO STA. 217+60

ROADWAY CROSS SECTIONS

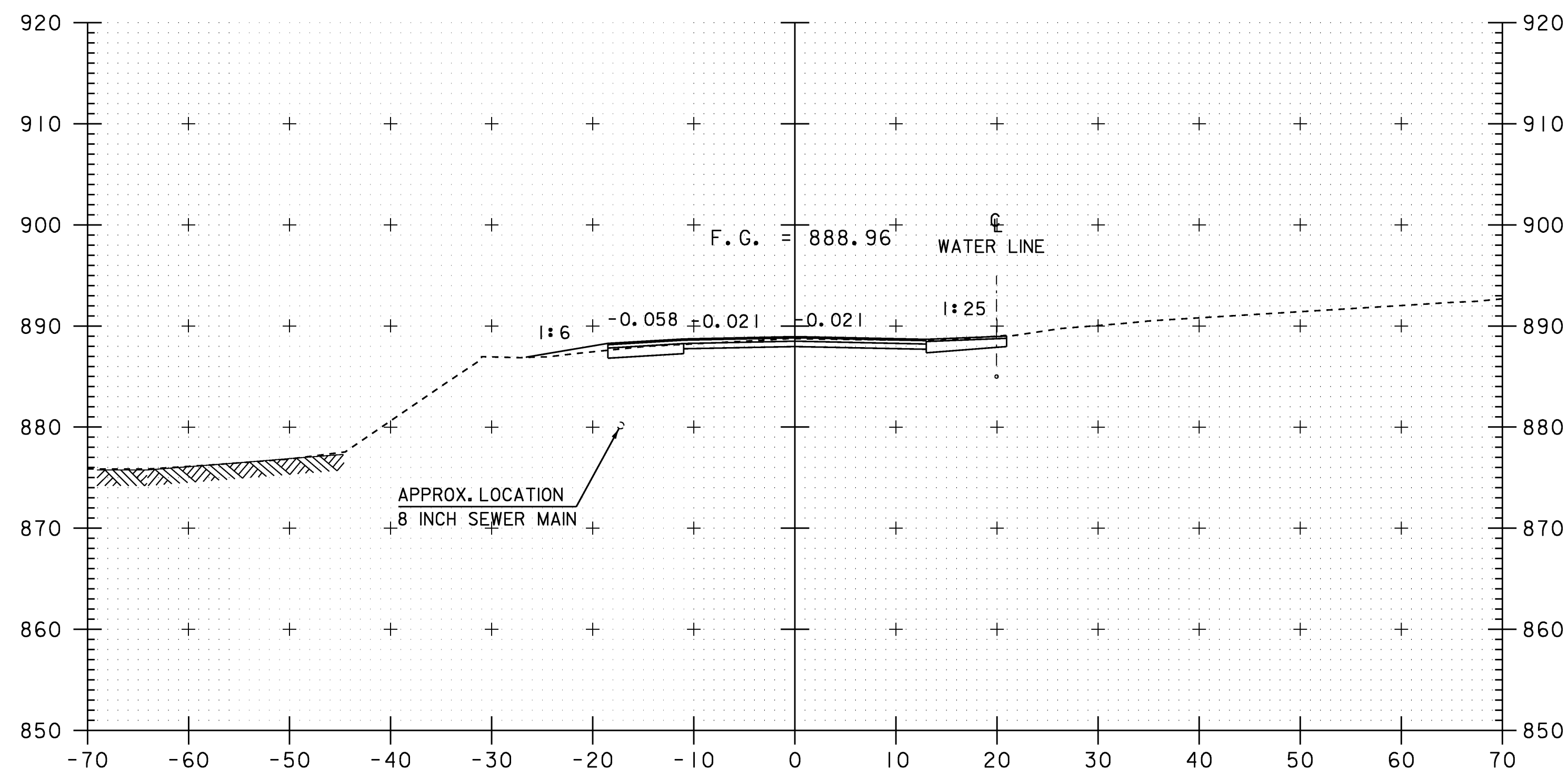
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PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\Sr+uct+sellxs.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	75 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellxs4.1		



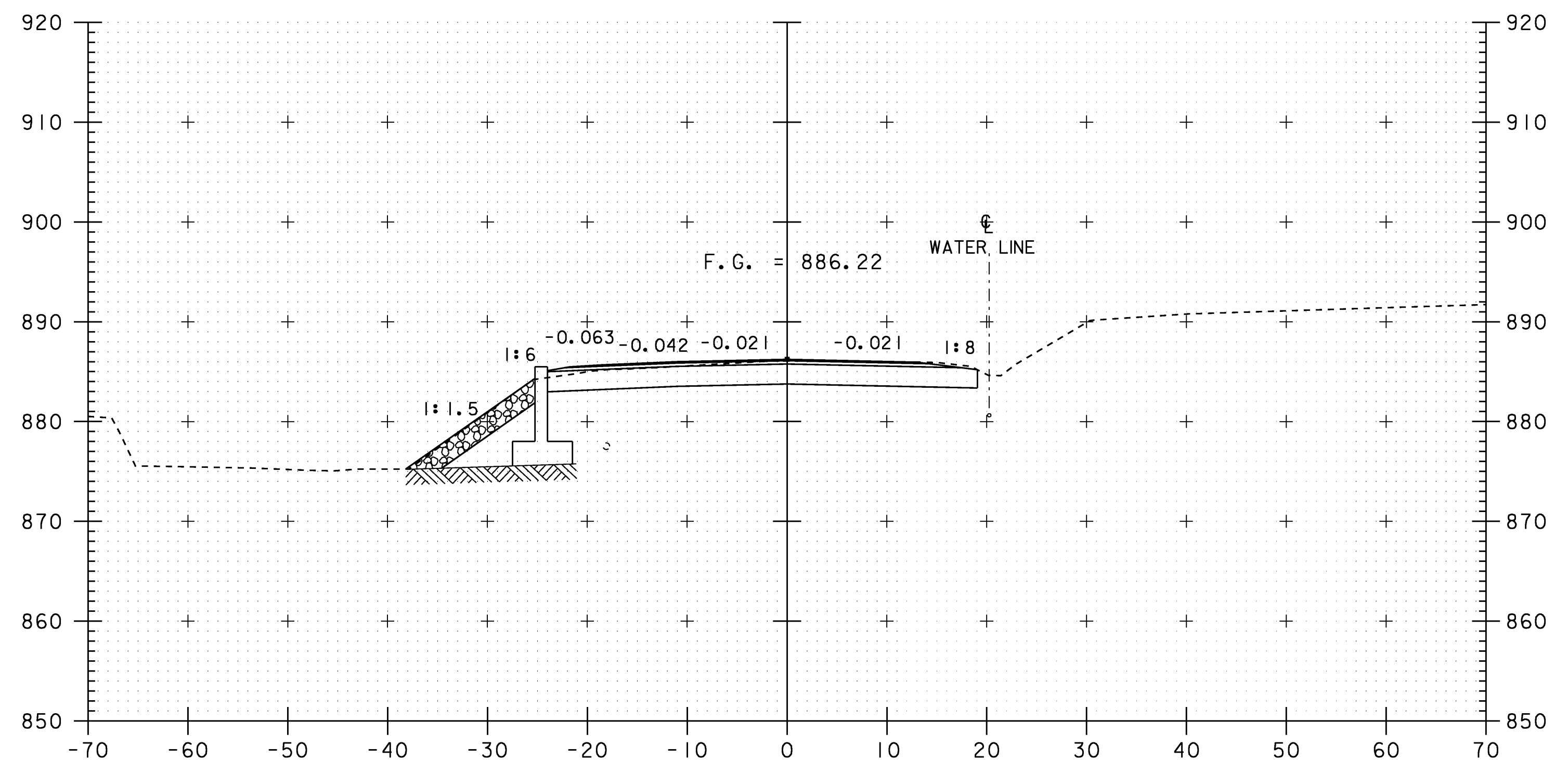
217+80



218+20



217+63



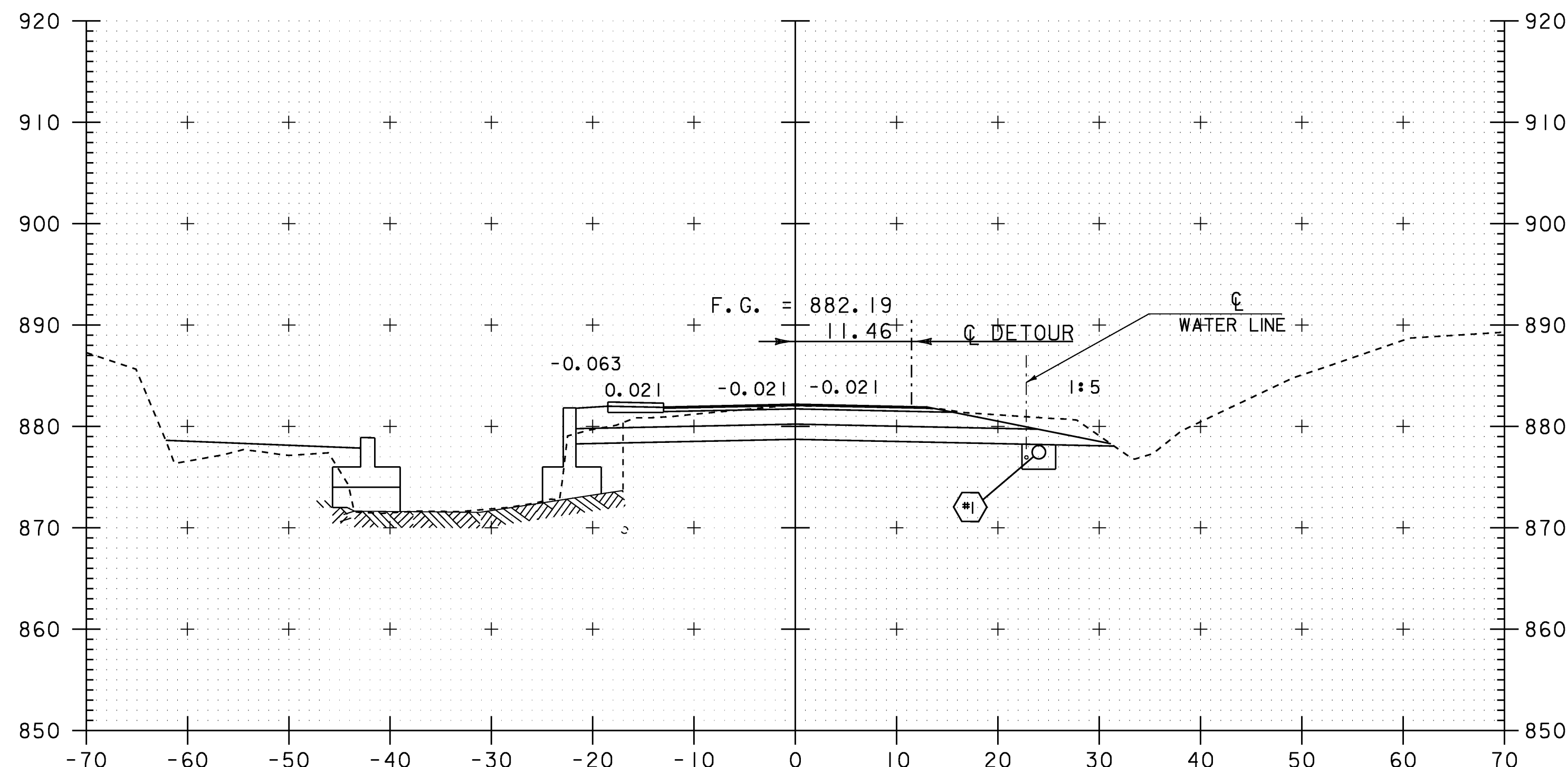
218+00

SCALE 1" = 10'-0"

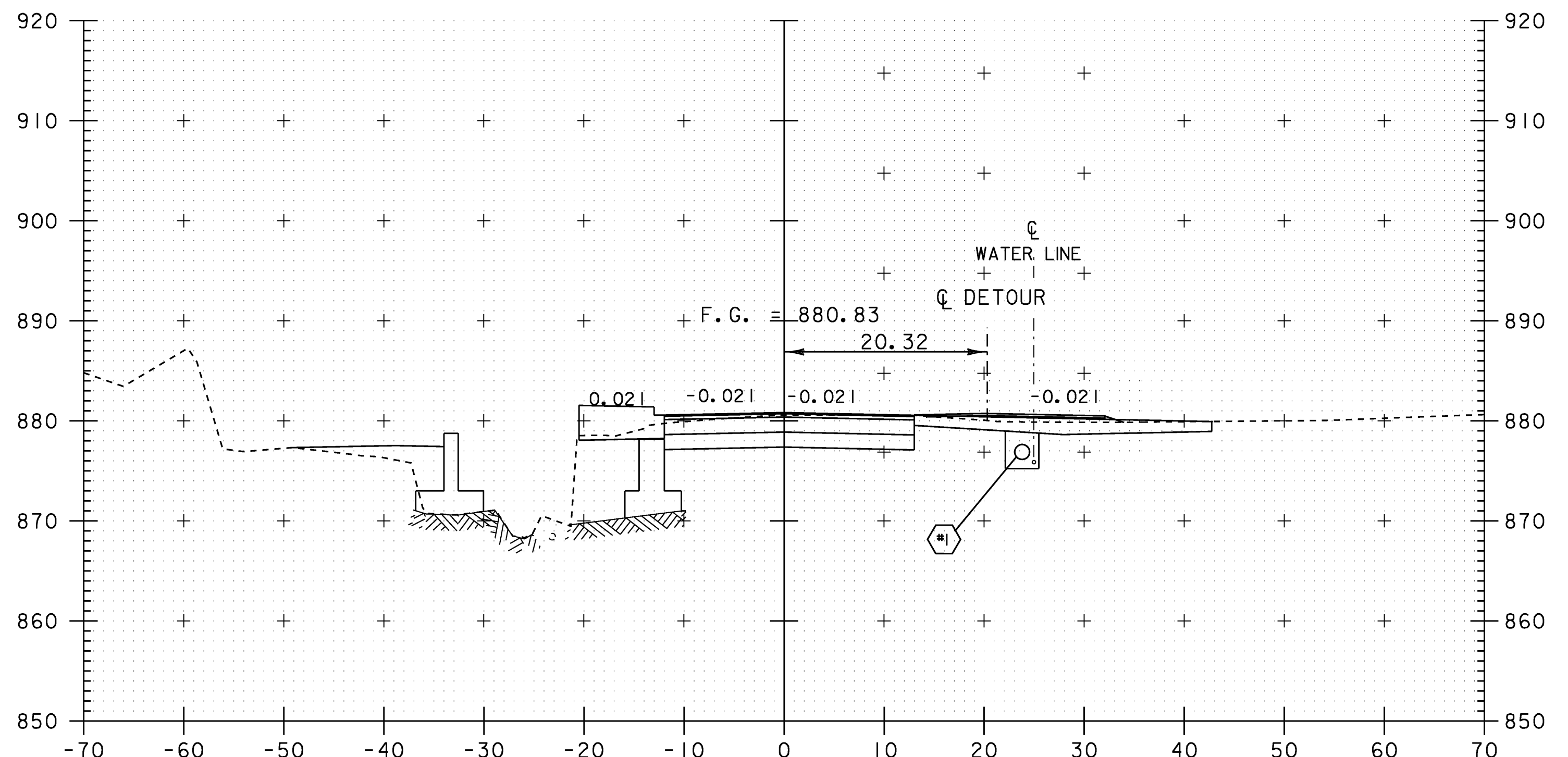
STA. 217+63 TO STA. 218+20

ROADWAY CROSS SECTIONS

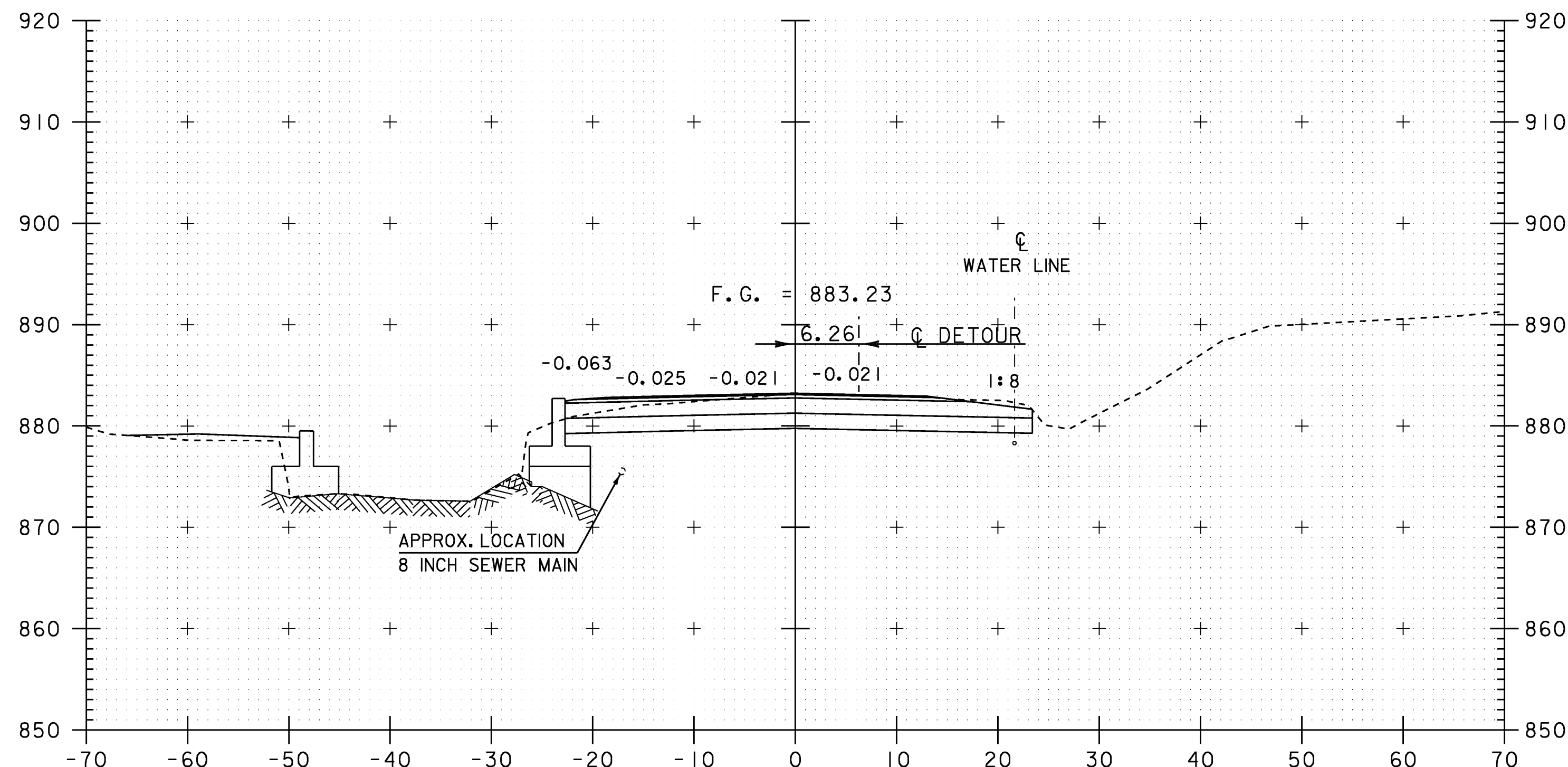
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PROJECT NUMBER: BRS 0204(4)	DRAWN BY: G.ROKES
FILE NAME: 83ell\Sr+uct+seilxs.dgn	CHECKED BY: EVANS-MONGEON
PROJECT LEADER: EVANS-MONGEON	SHEET 76 OF 108
DESIGNED BY: U. STANLEY	
IPARM: seilxs5.1	



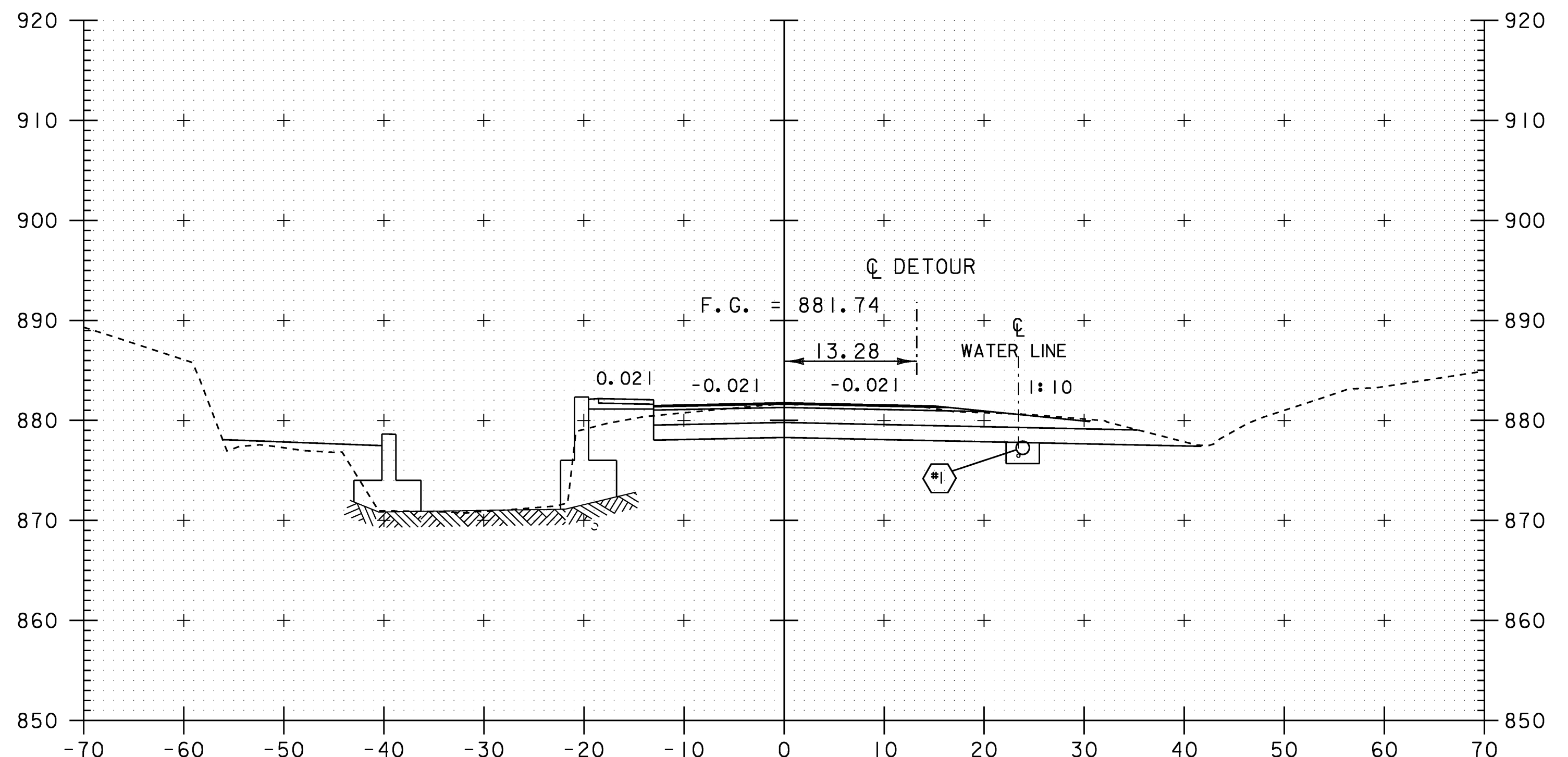
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218+73

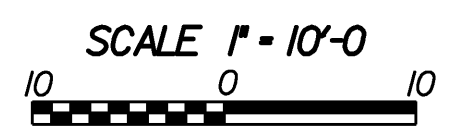


218+40



218+60

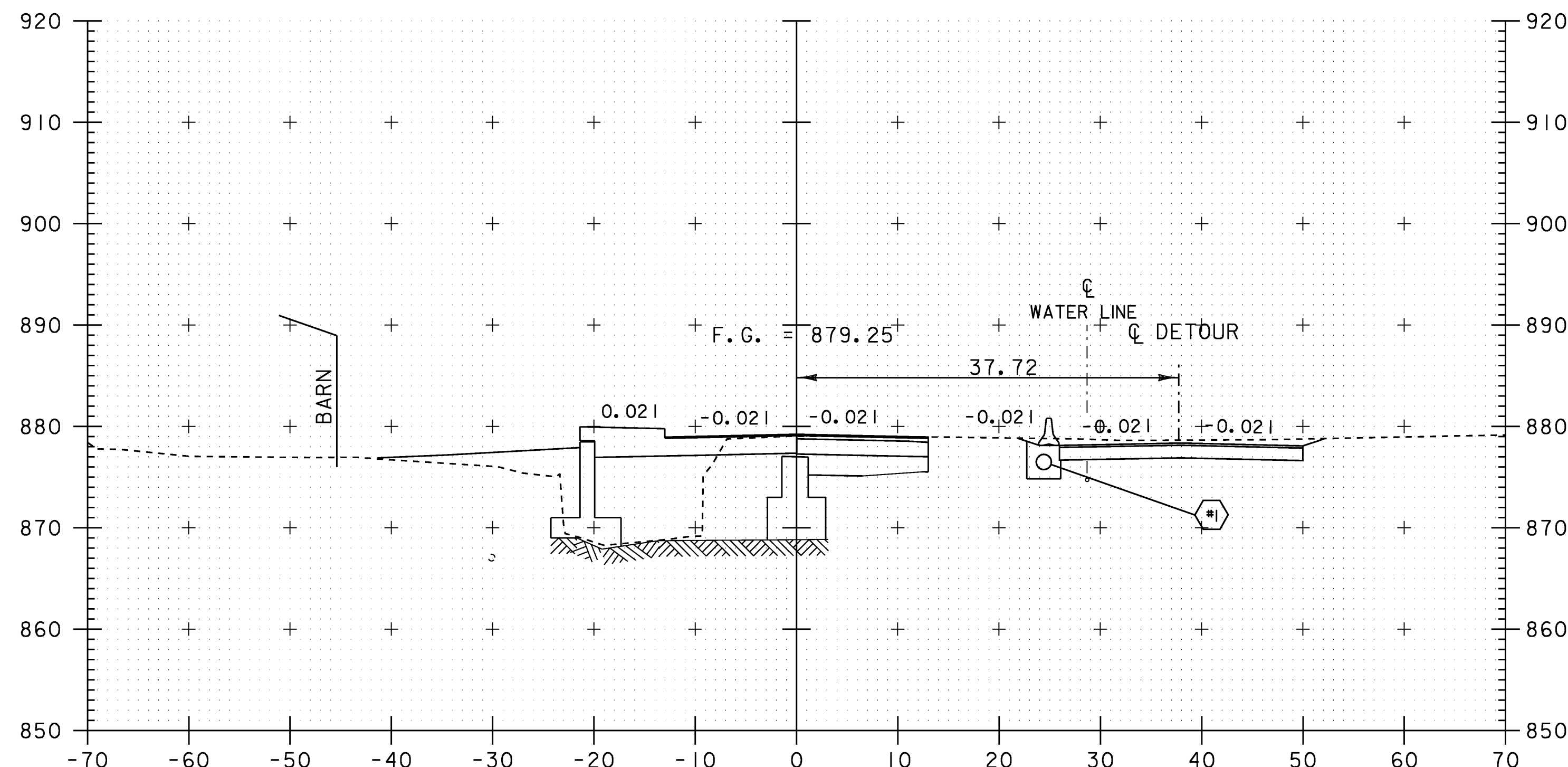
218+25
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BEGIN PROJECT



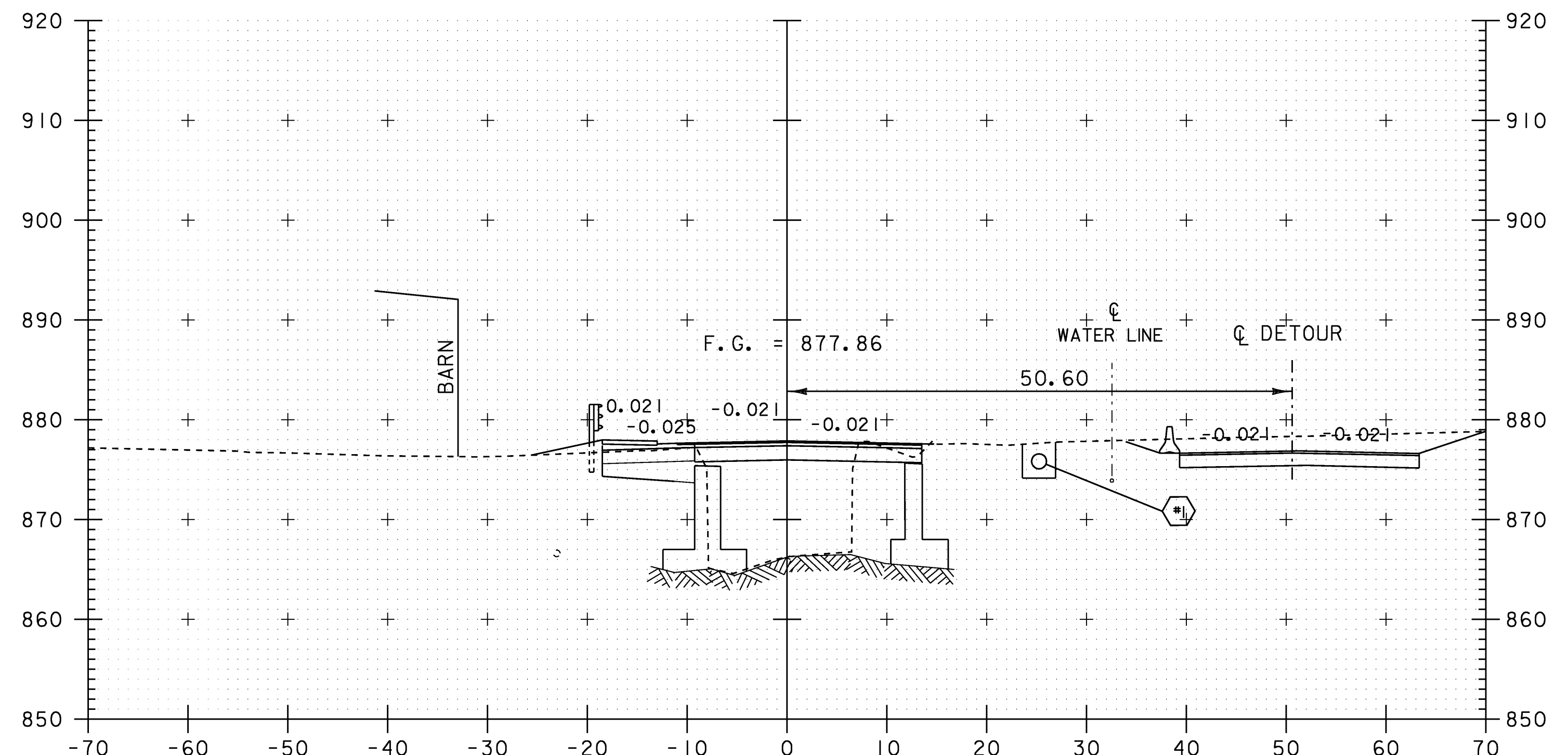
STA. 218+40 TO STA. 218+73

ROADWAY CROSS SECTIONS

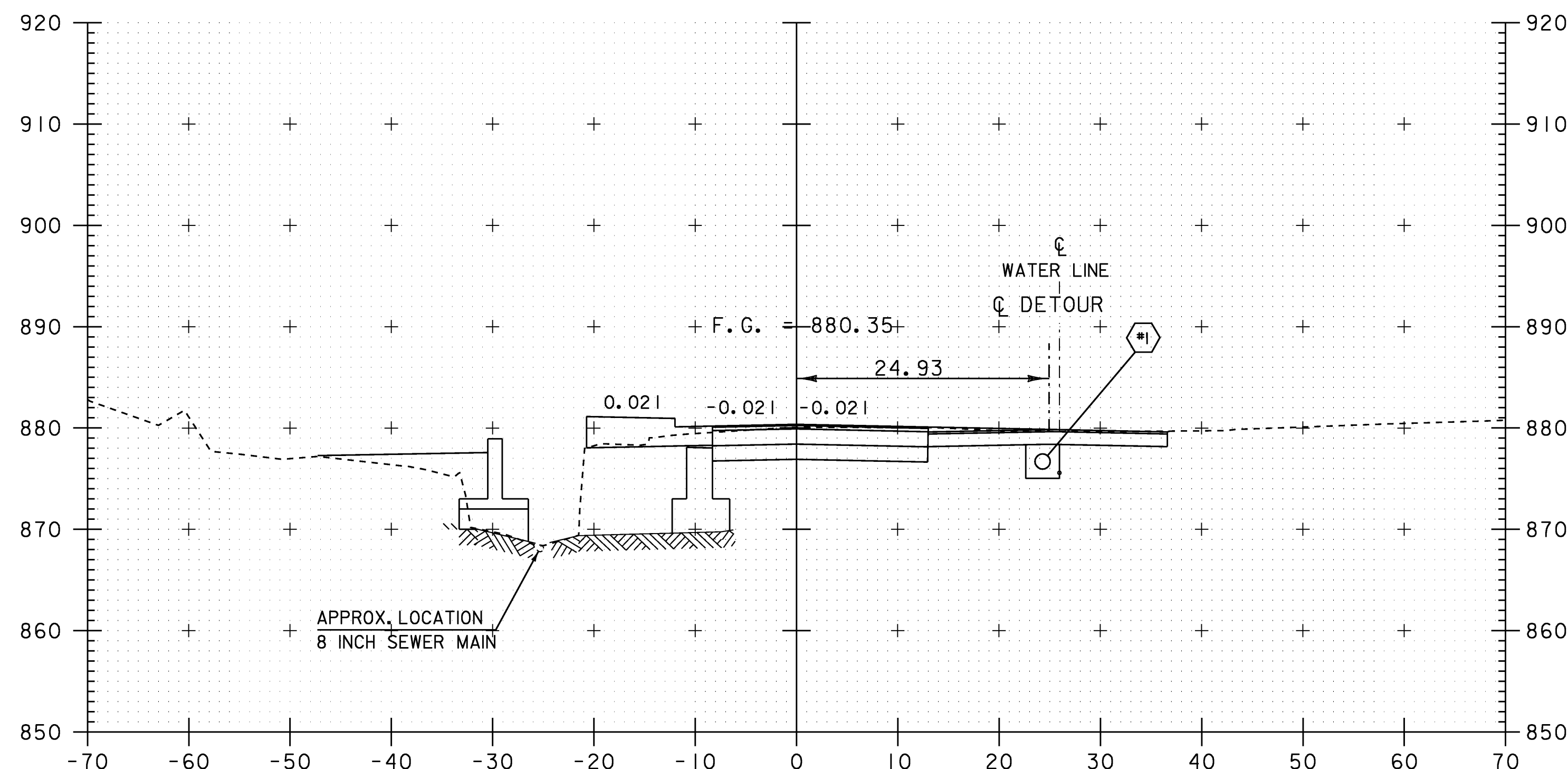
PROJECT NAME:	WILLIAMSTOWN	FILE NAME:	83ell\Sr+uct+sellxs.dgn	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	PROJECT LEADER:	EVANS-MONGEON	DRAWN BY:	G.ROKES
		DESIGNED BY:	U. STANLEY	CHECKED BY:	EVANS-MONGEON
		IPARM:	sellxs6.1	SHEET	77 OF 108



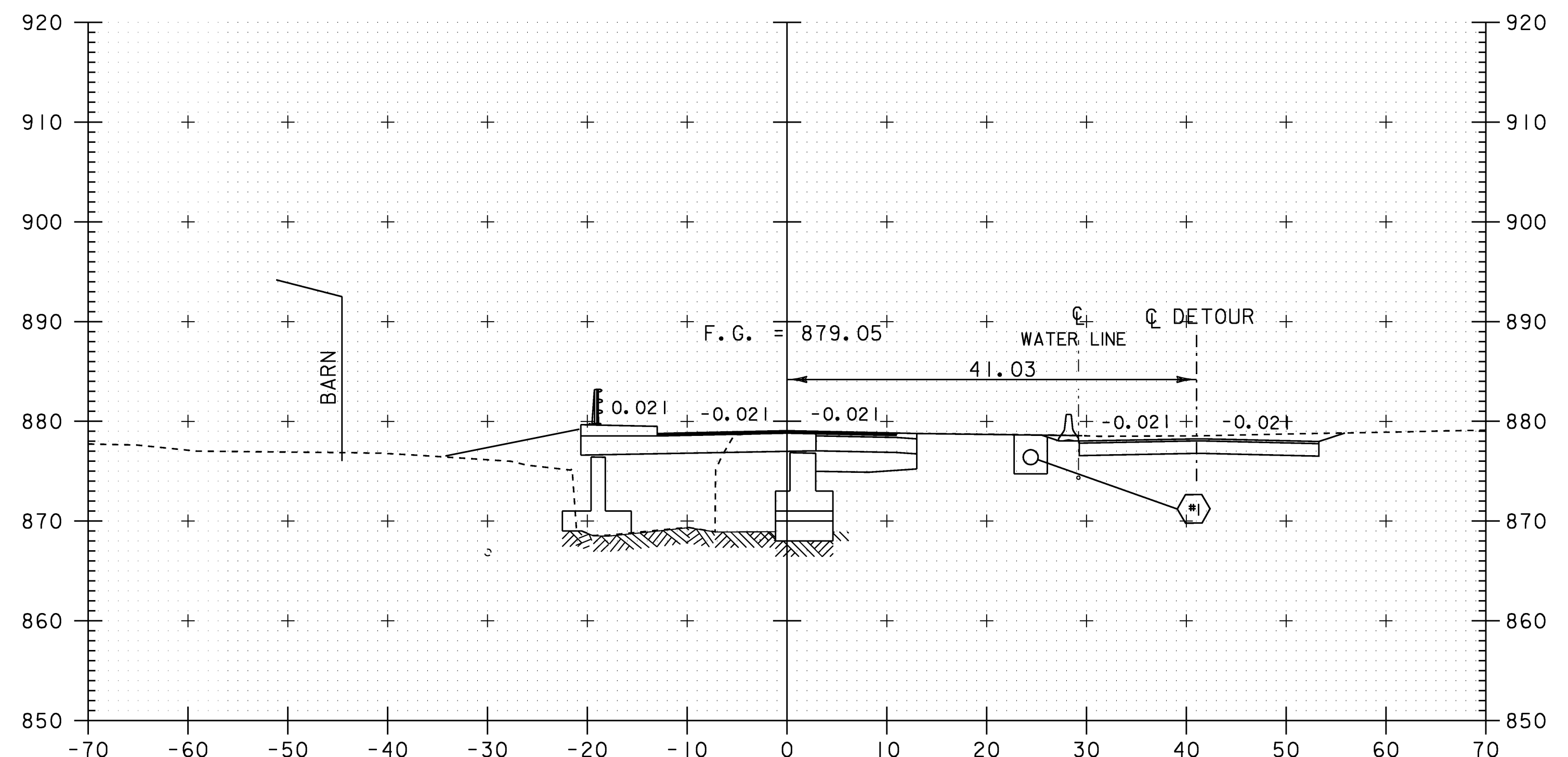
218+97
BEGIN BRIDGE



219+20



218+80



219+00

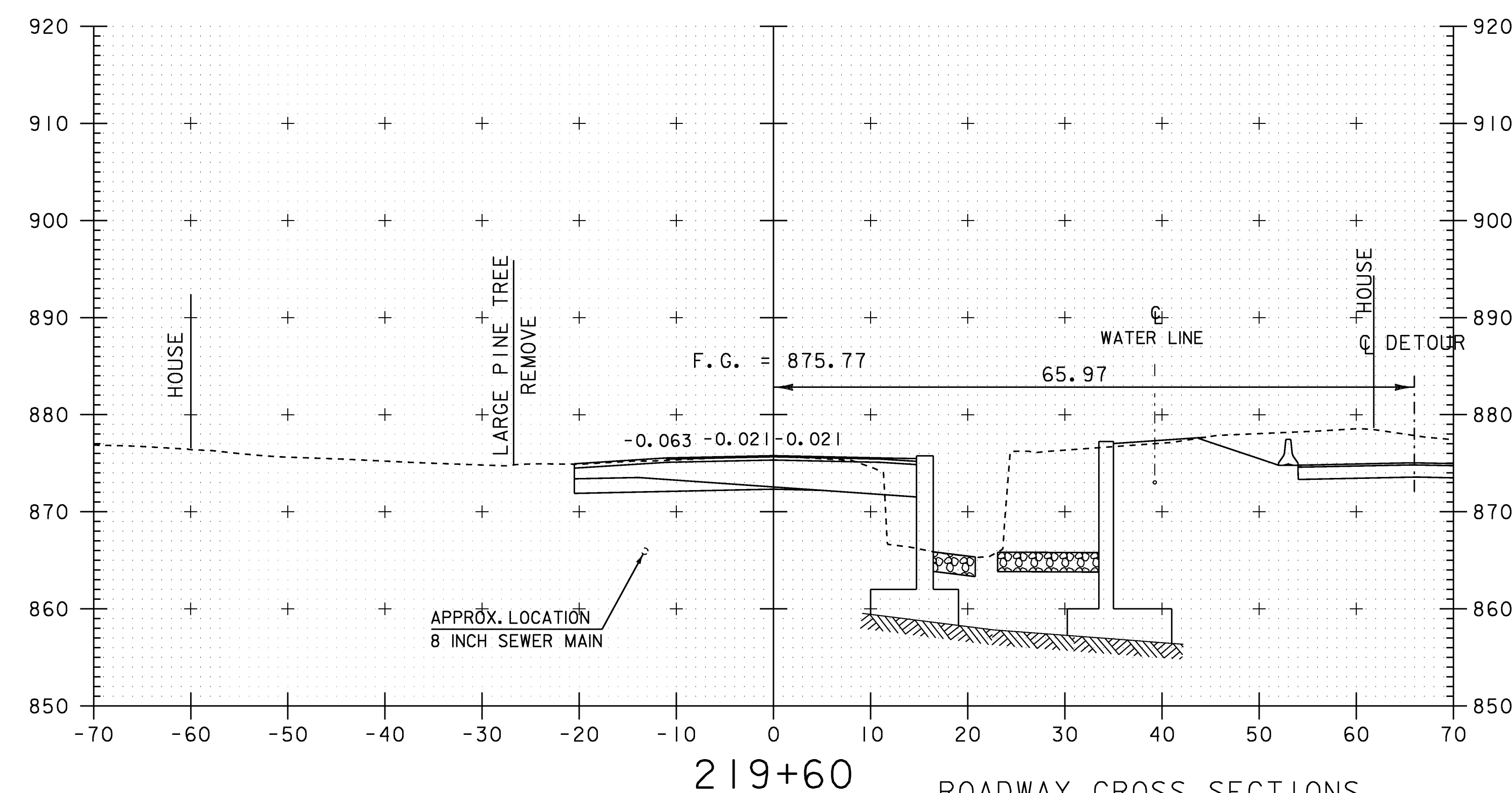
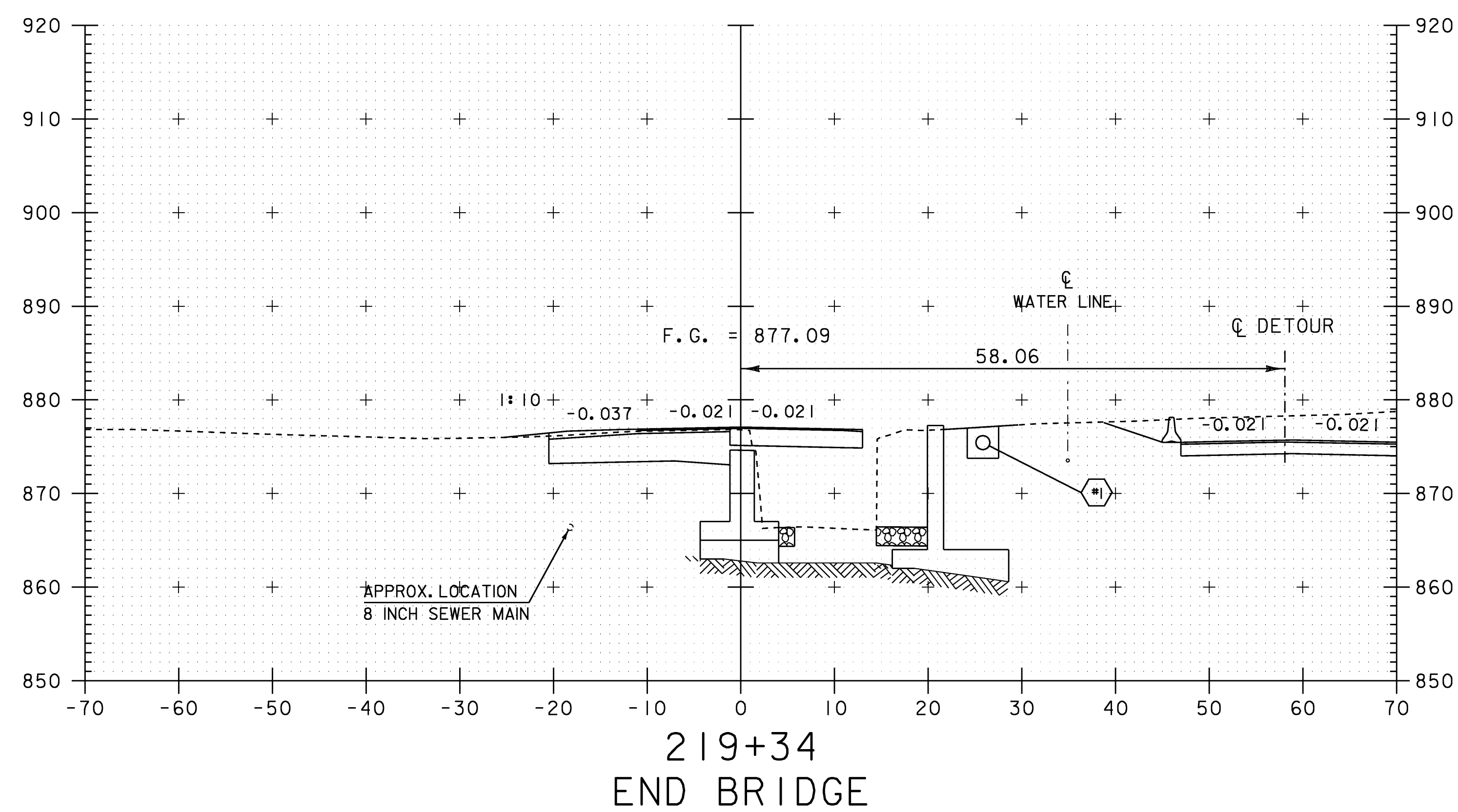
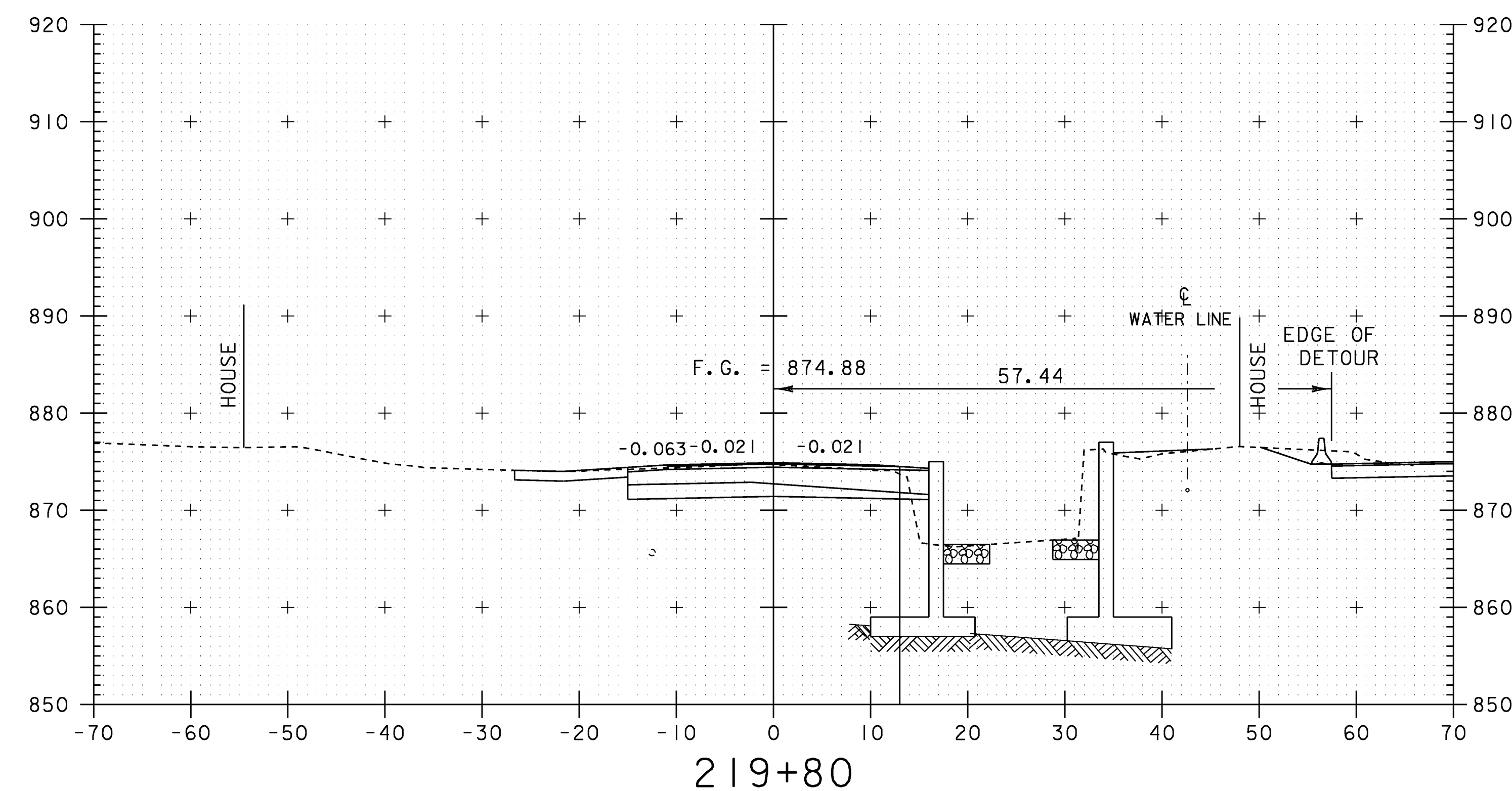
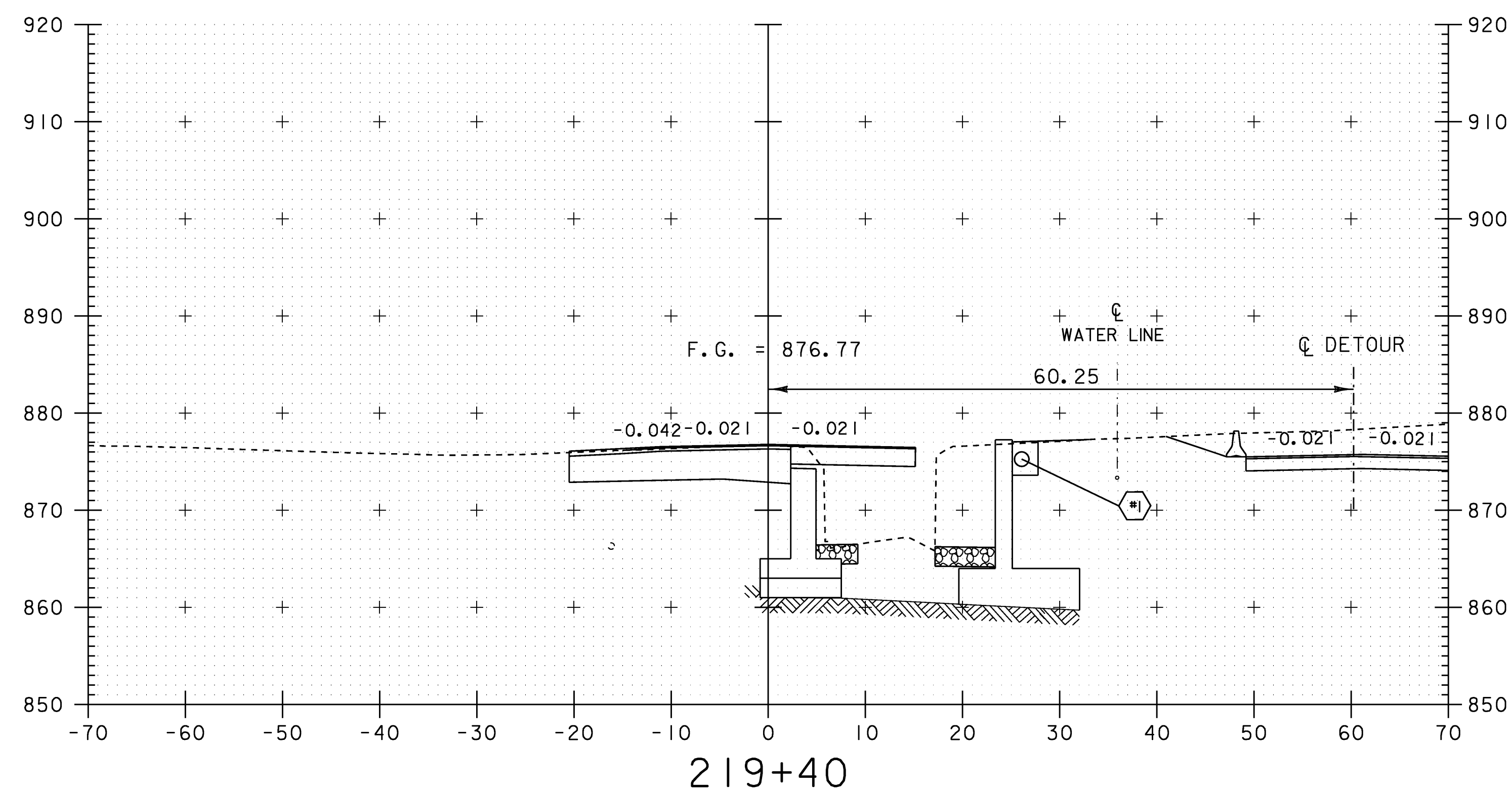
ROADWAY CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\Sr+uct+sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellxs7.1
PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: EVANS-MONGEON
SHEET 78 OF 108

SCALE 1" = 10'-0"

STA. 218+80 TO STA. 219+20



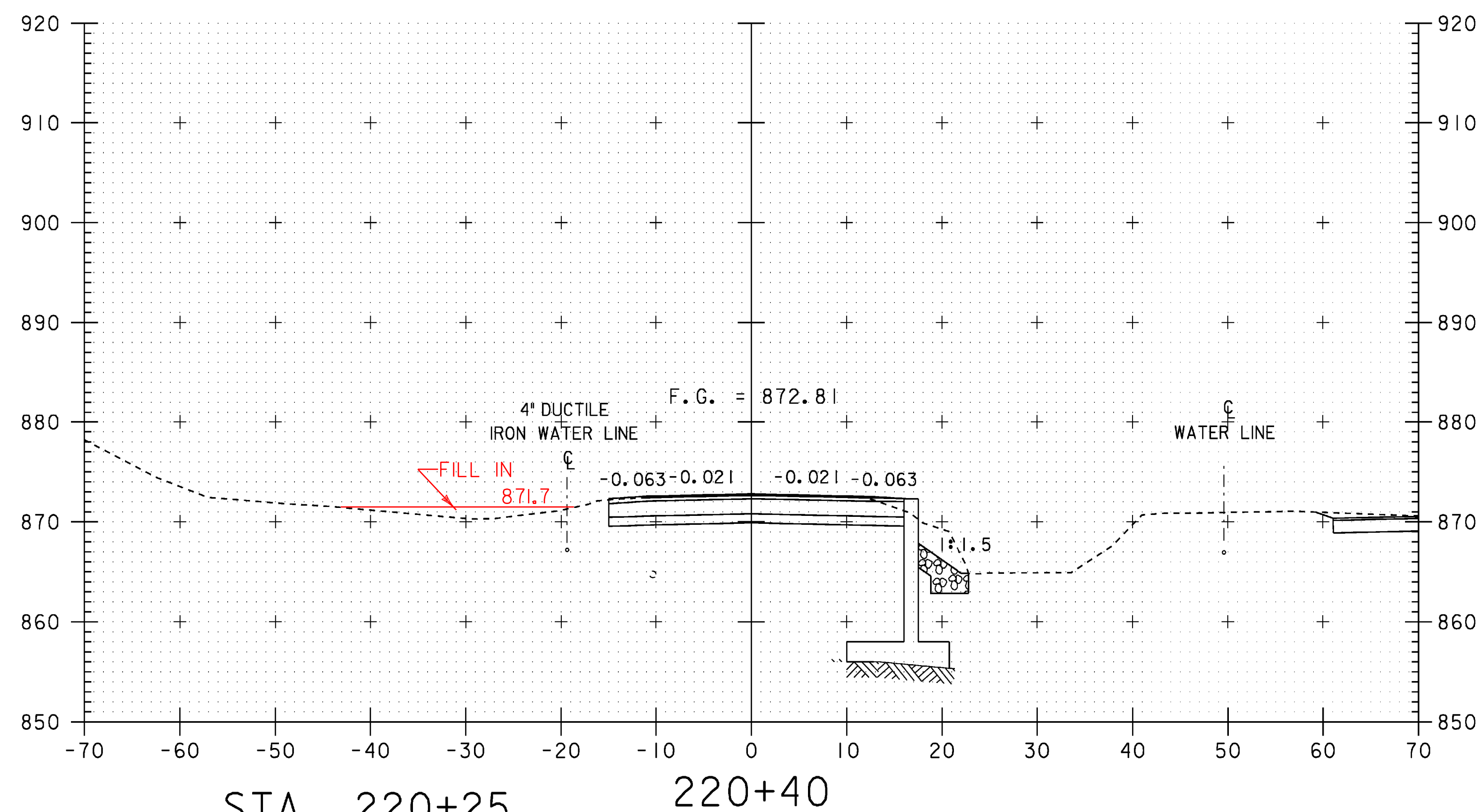
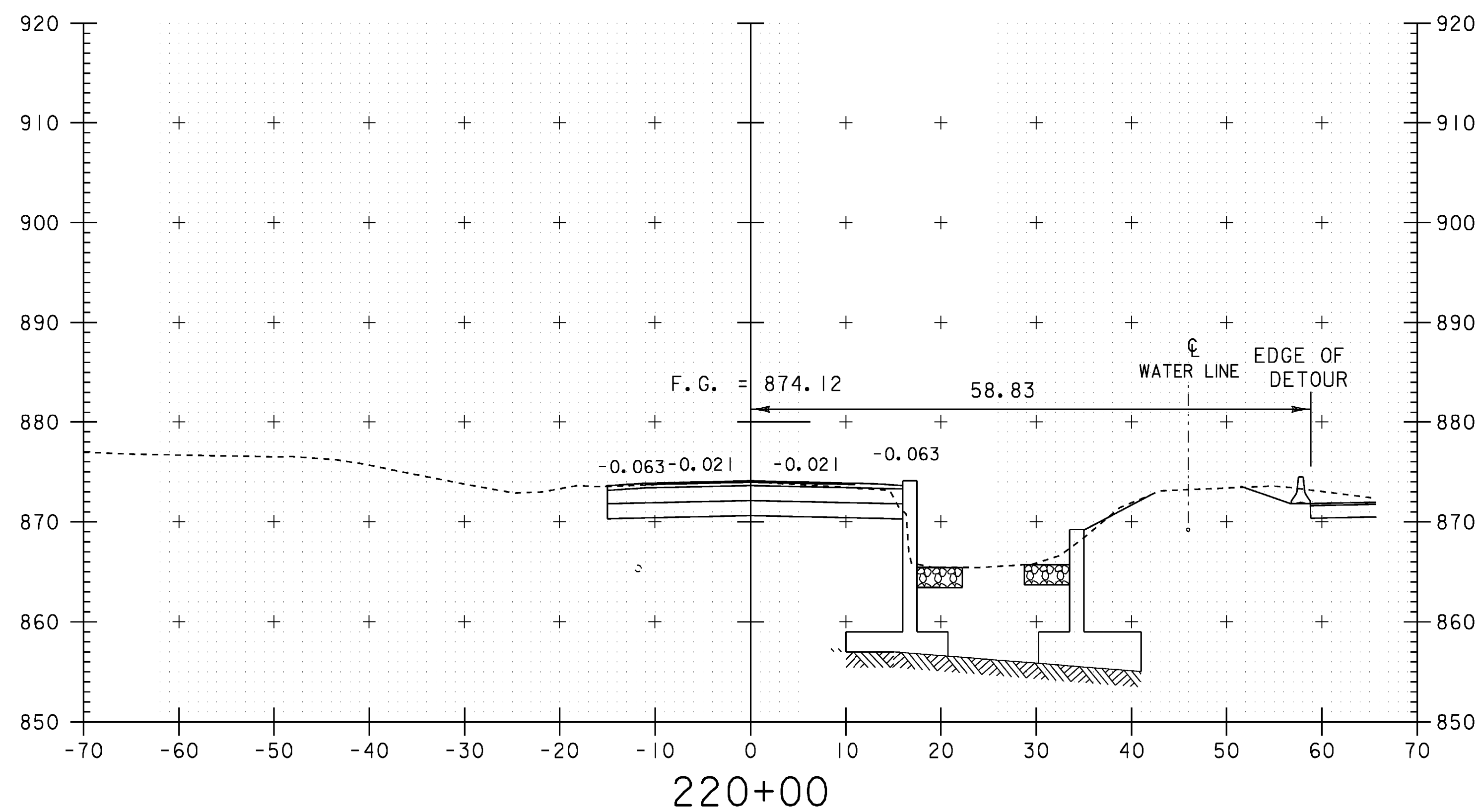
SCALE 1" = 10'-0"

STA. 219+34 TO STA. 219+80

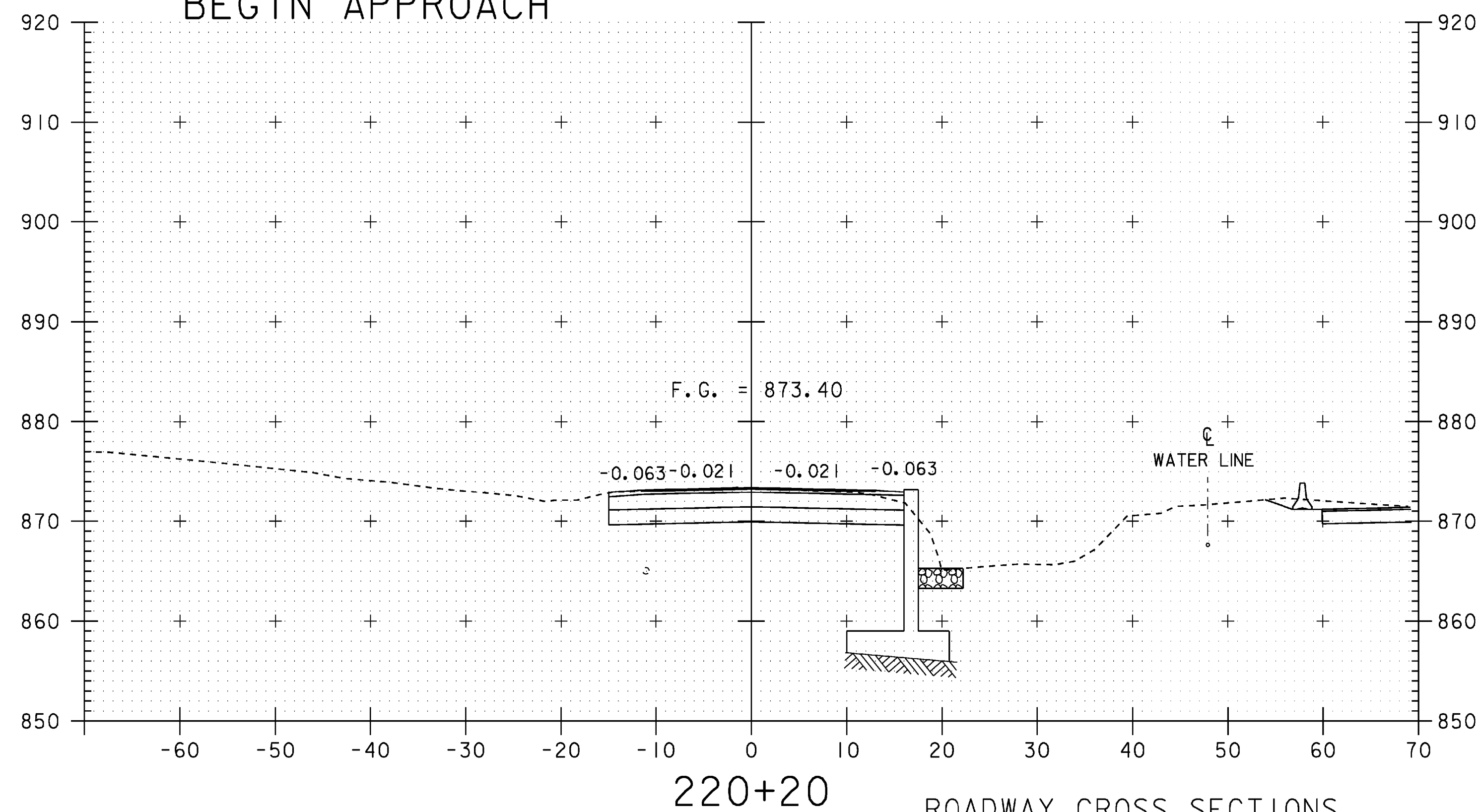
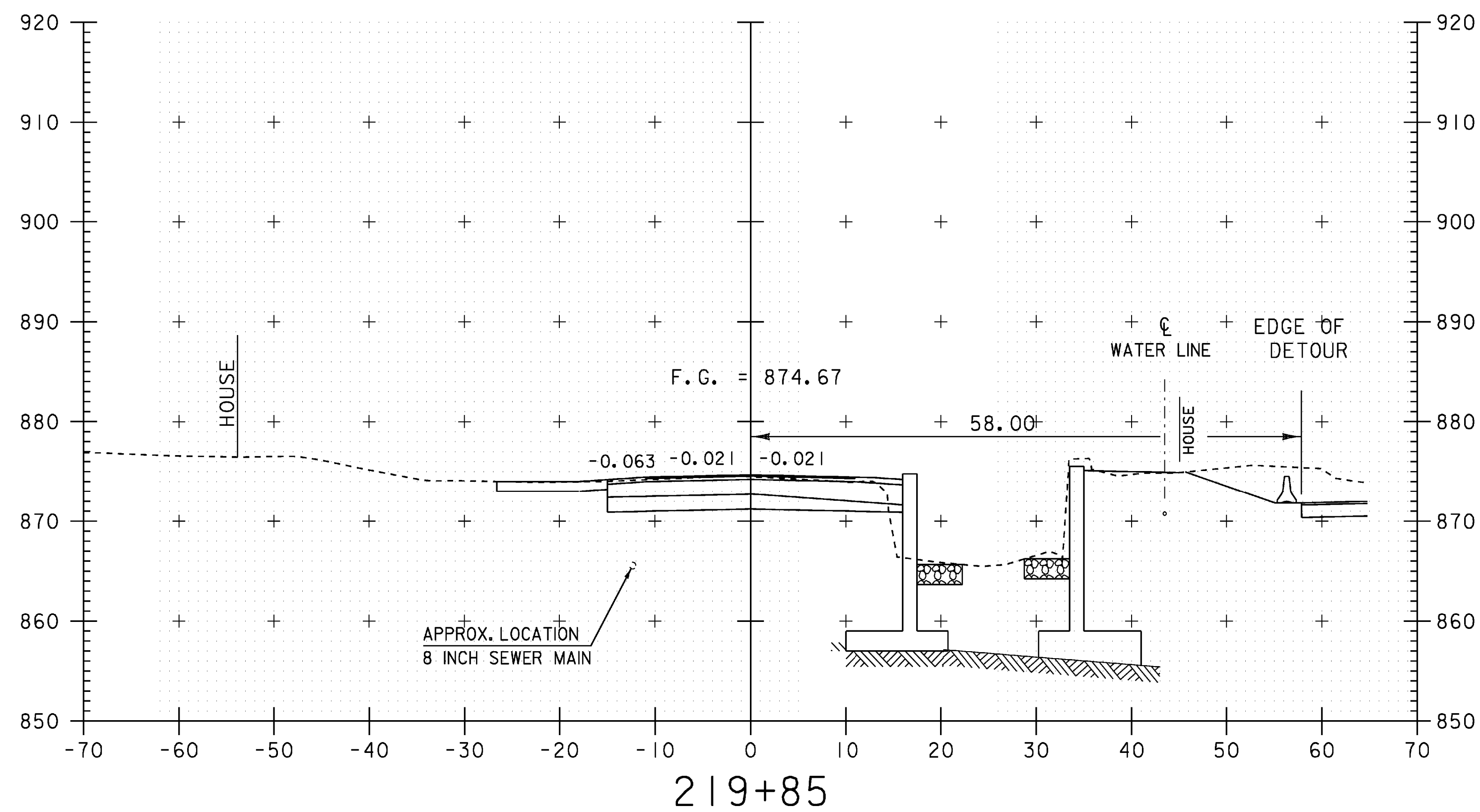
ROADWAY CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\Sr+uct+sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellxs8.1
PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: EVANS-MONGEON
SHEET 79 OF 108

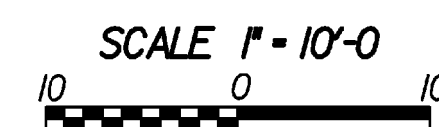


STA. 220+25
END PROJECT
BEGIN APPROACH

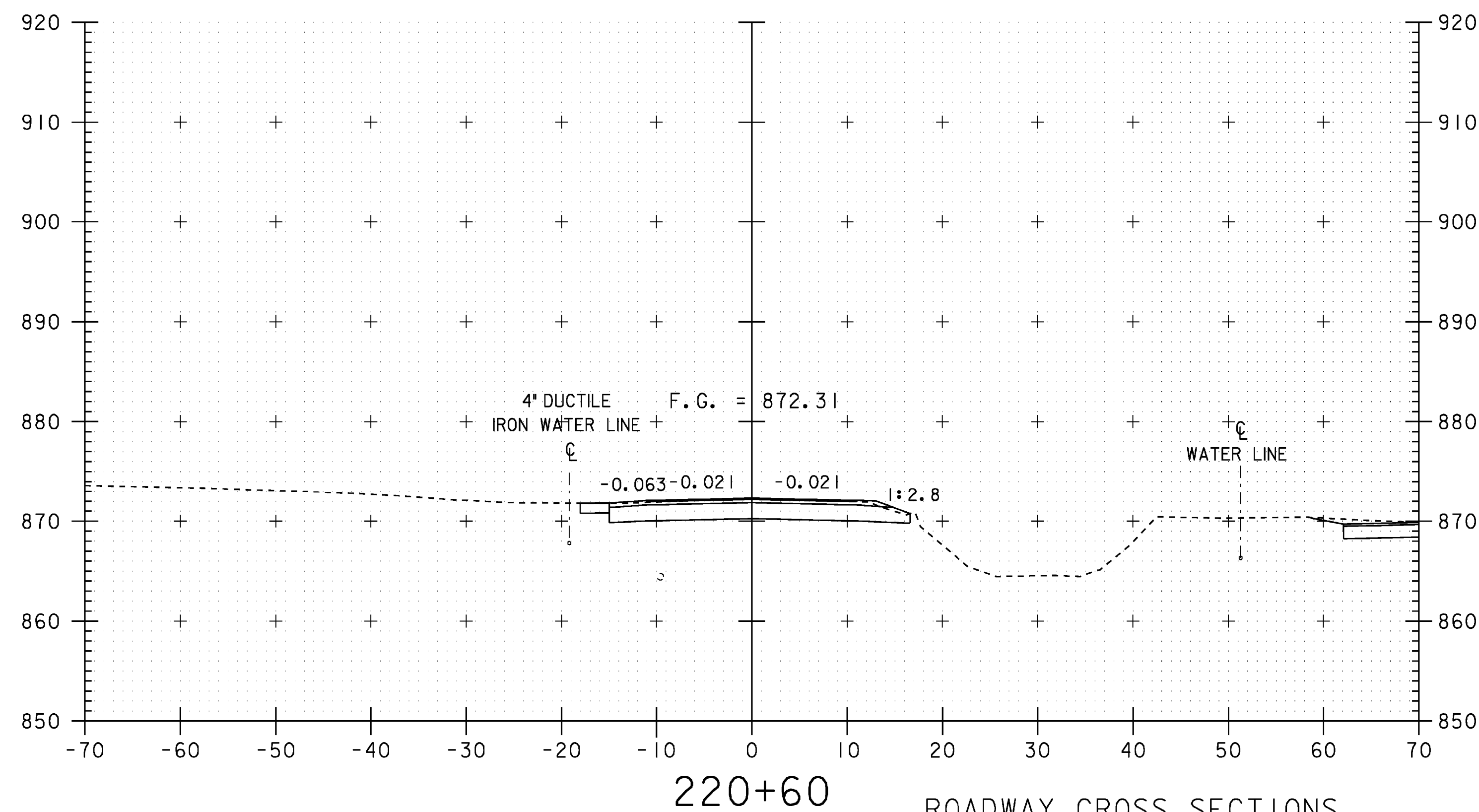
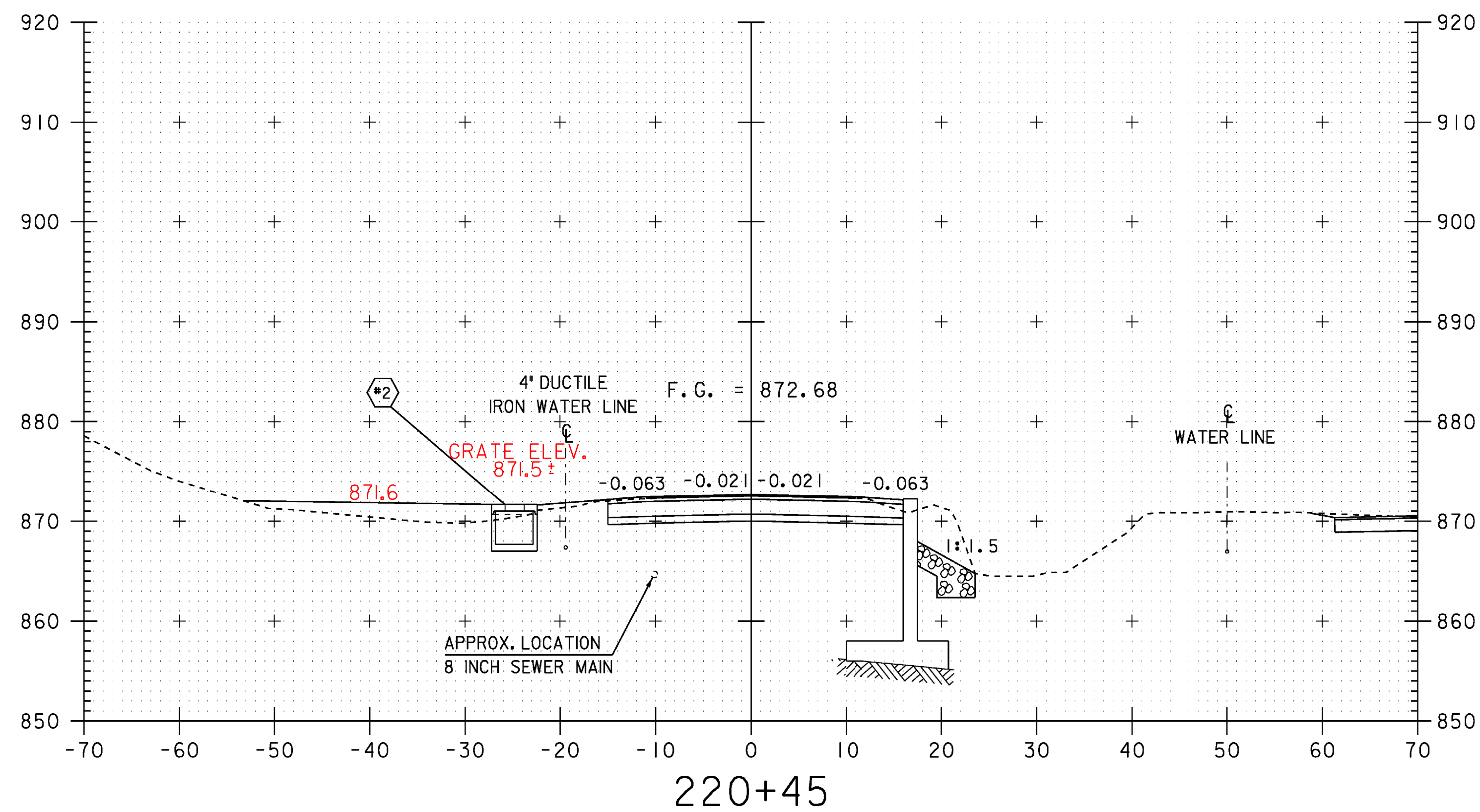
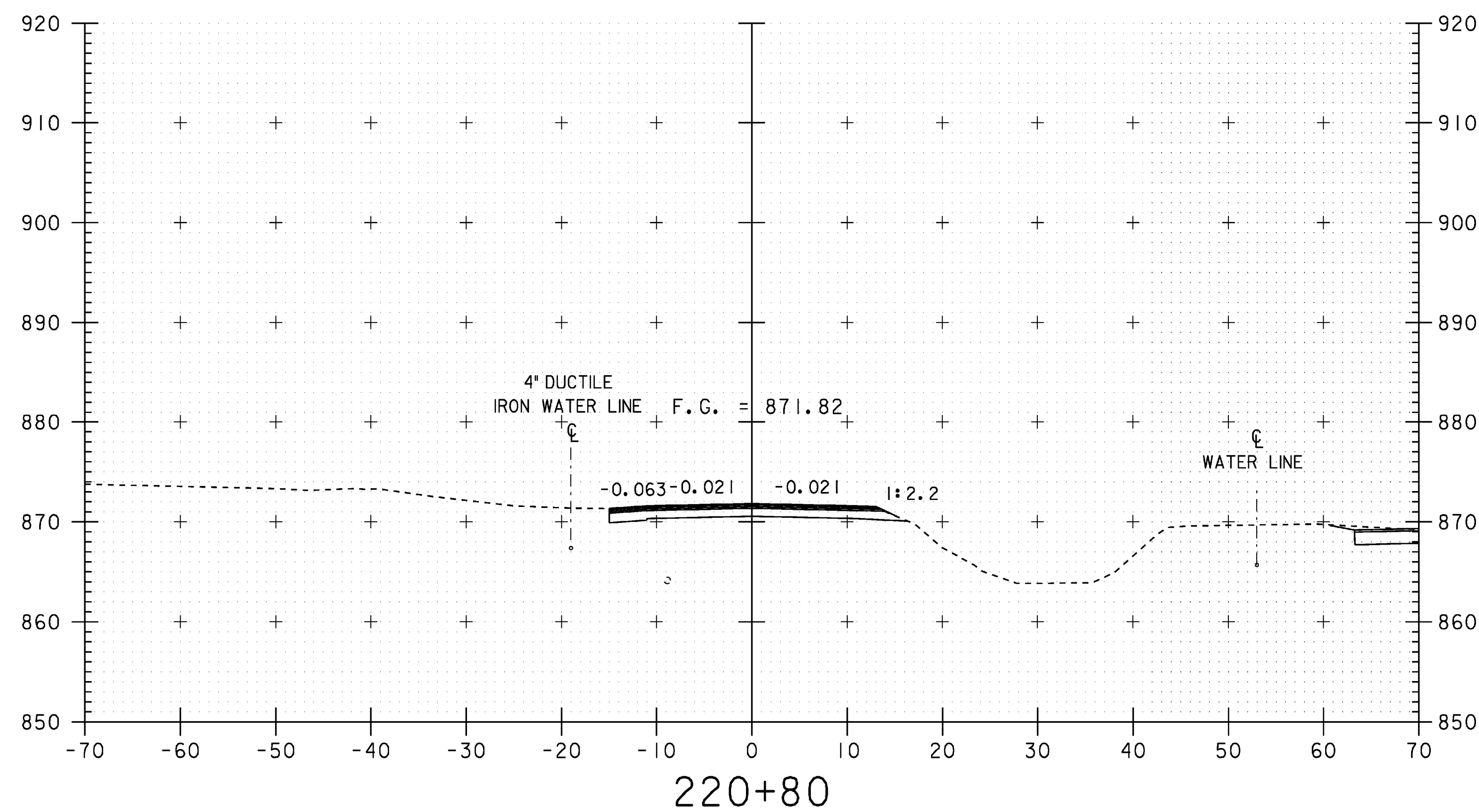
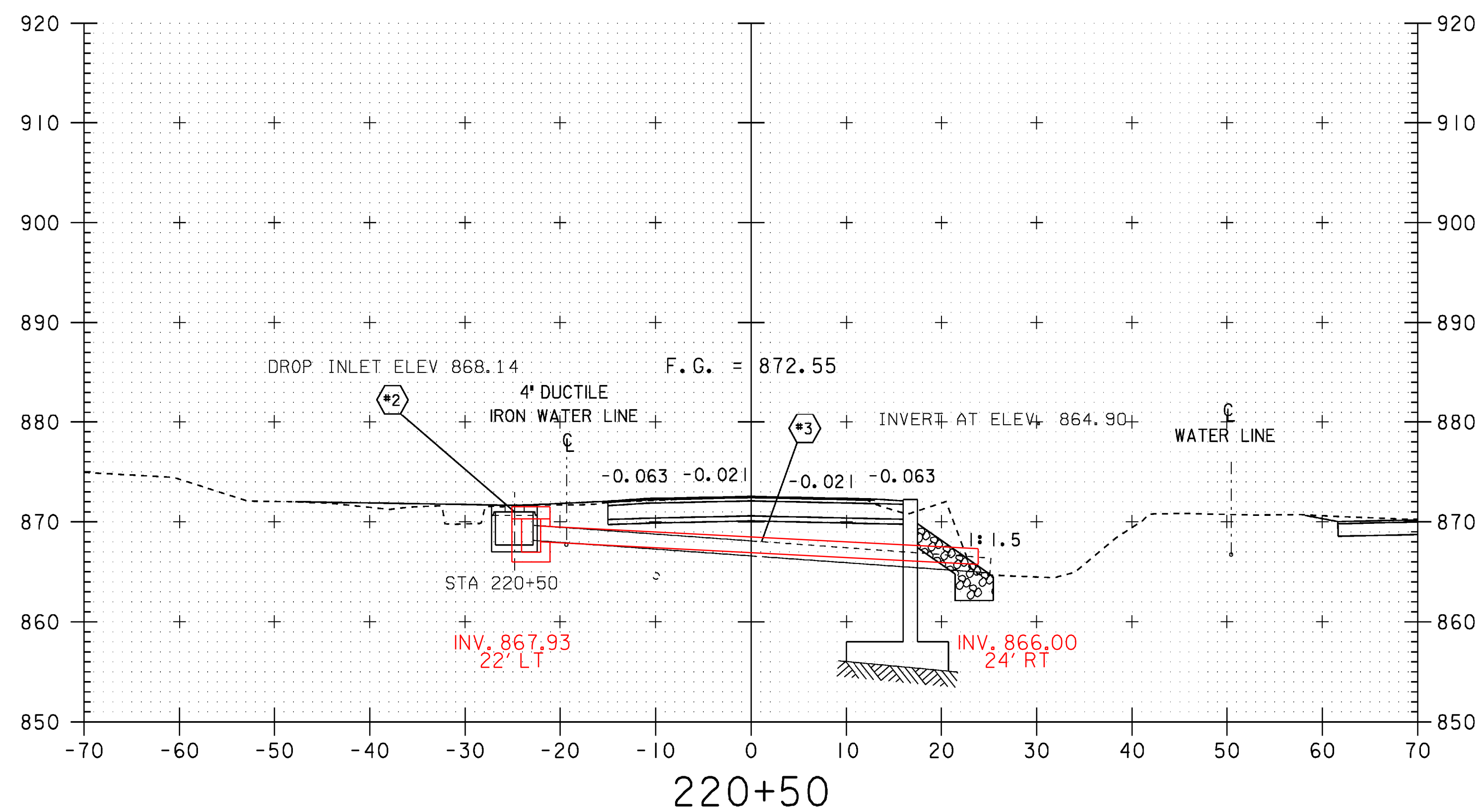


ROADWAY CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\Sr+uct\sellxs.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	80 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellxs9.1		



STA. 219+85 TO STA. 220+40

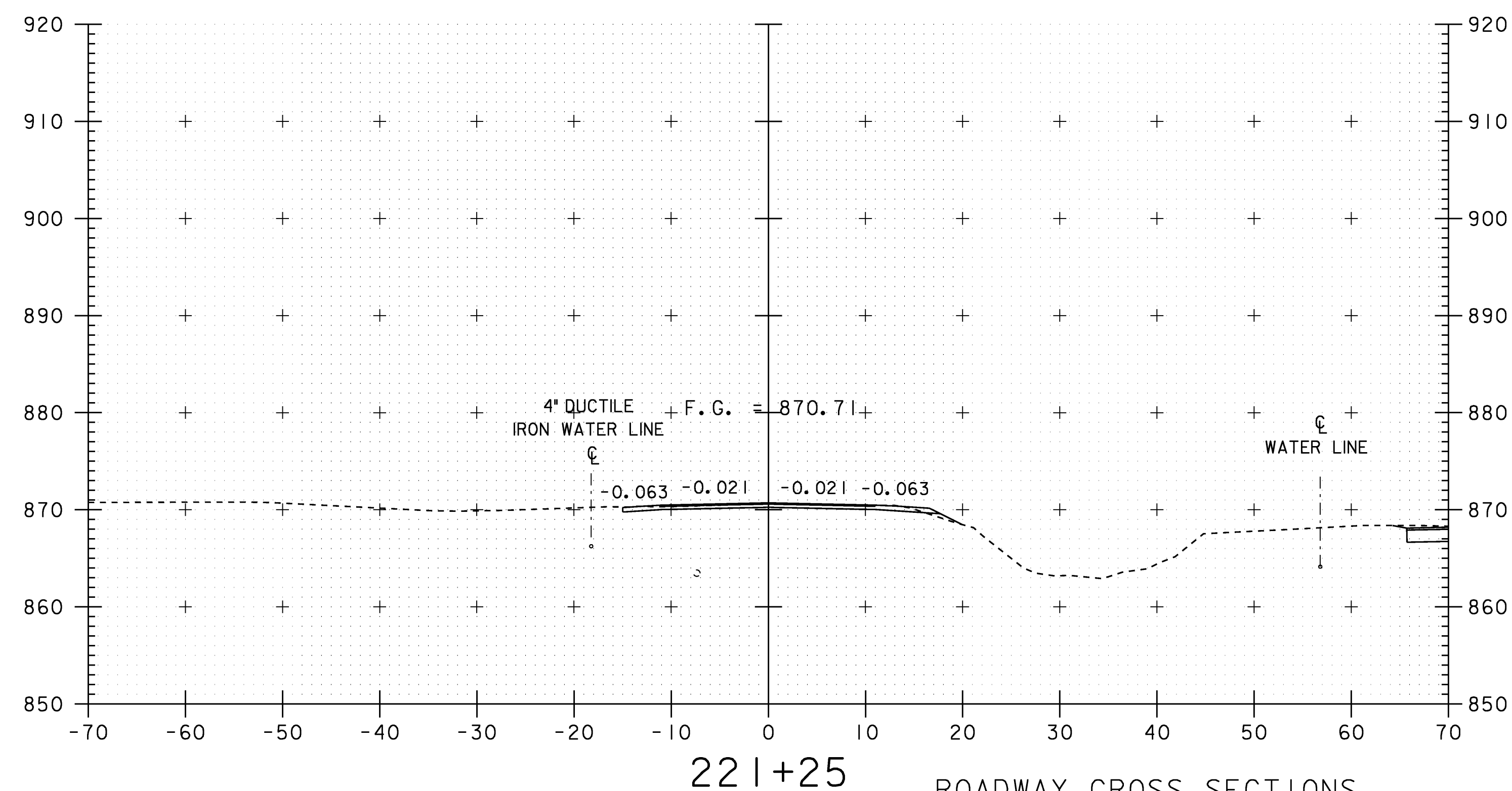
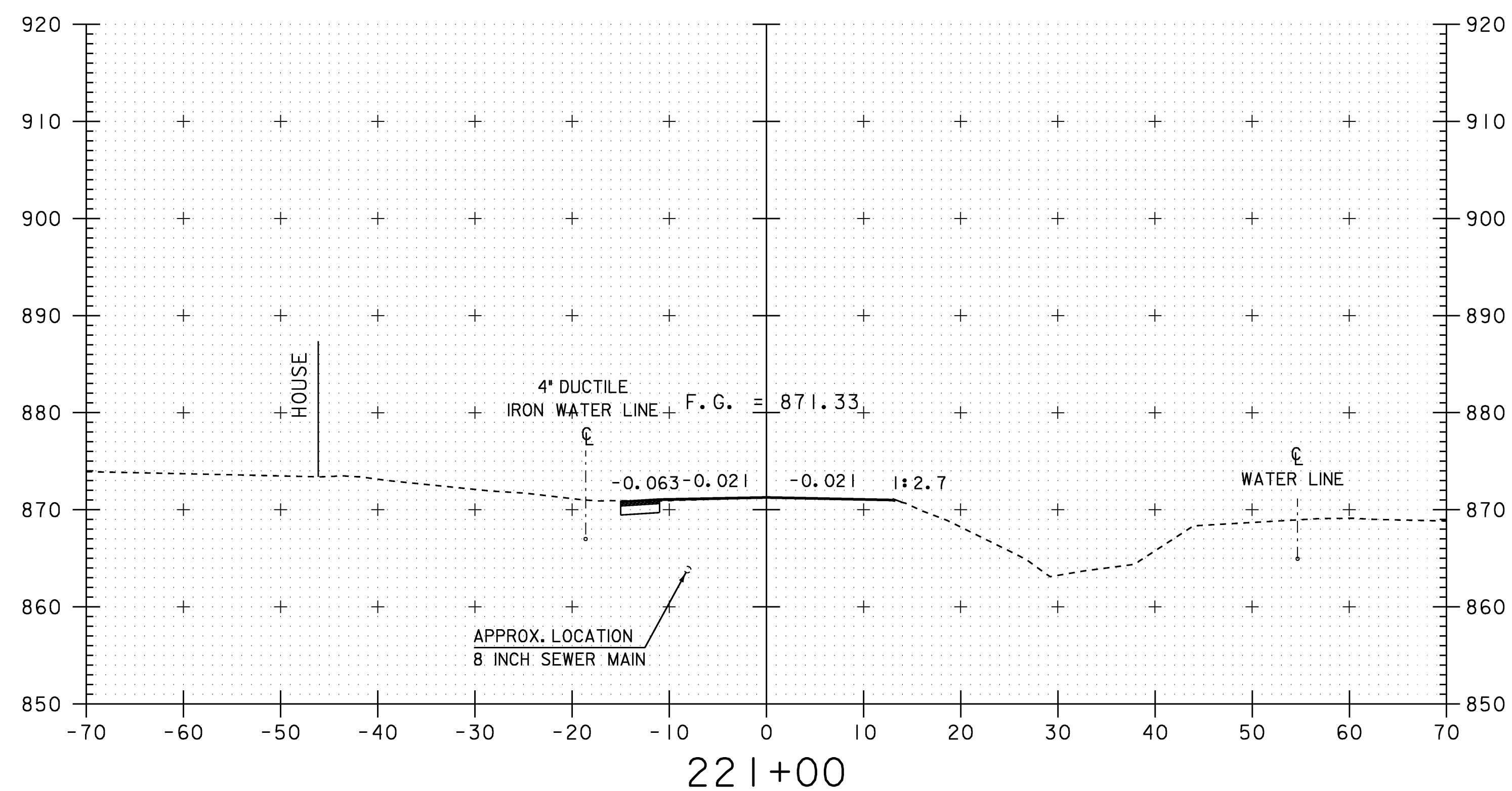
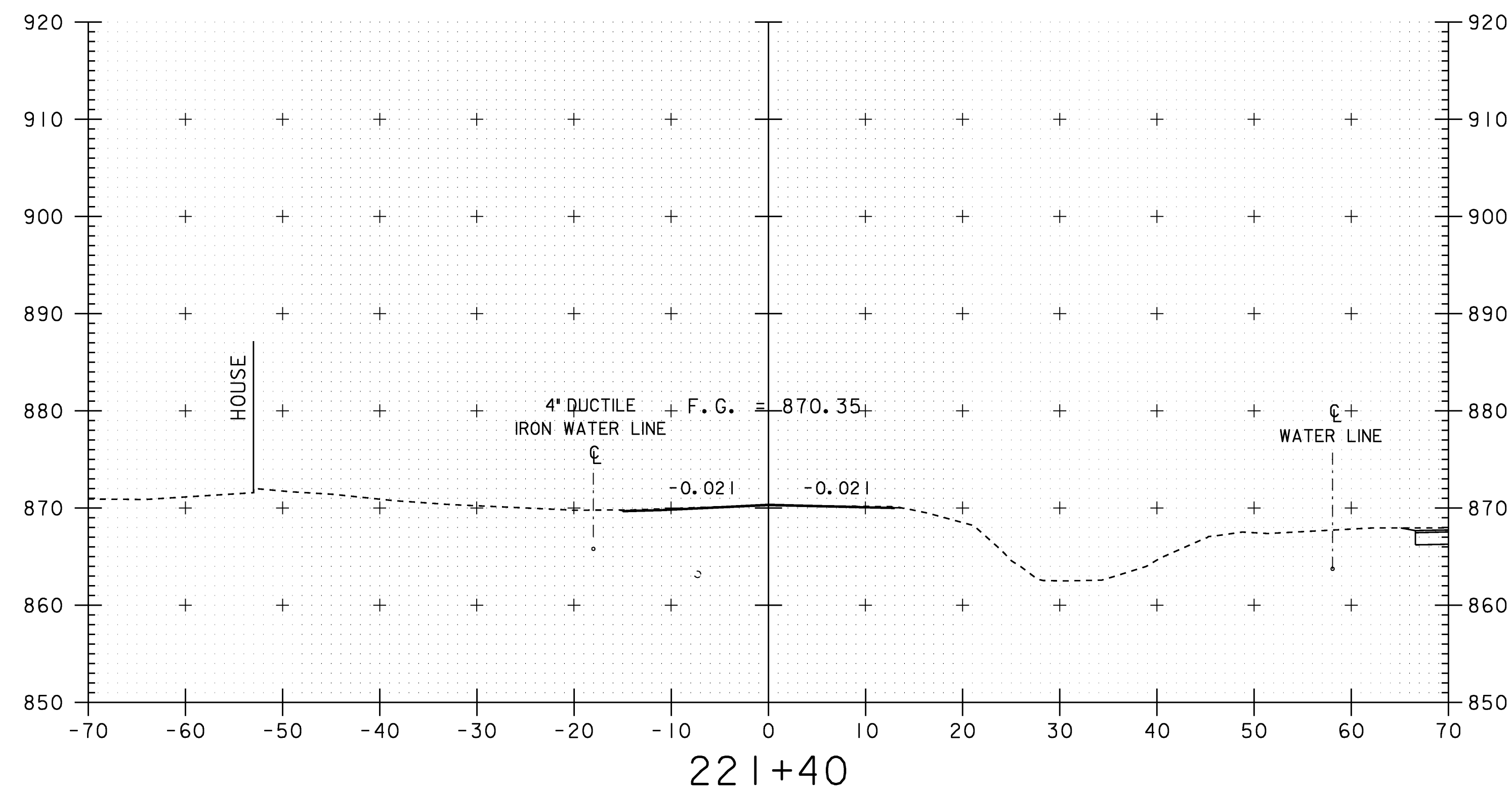
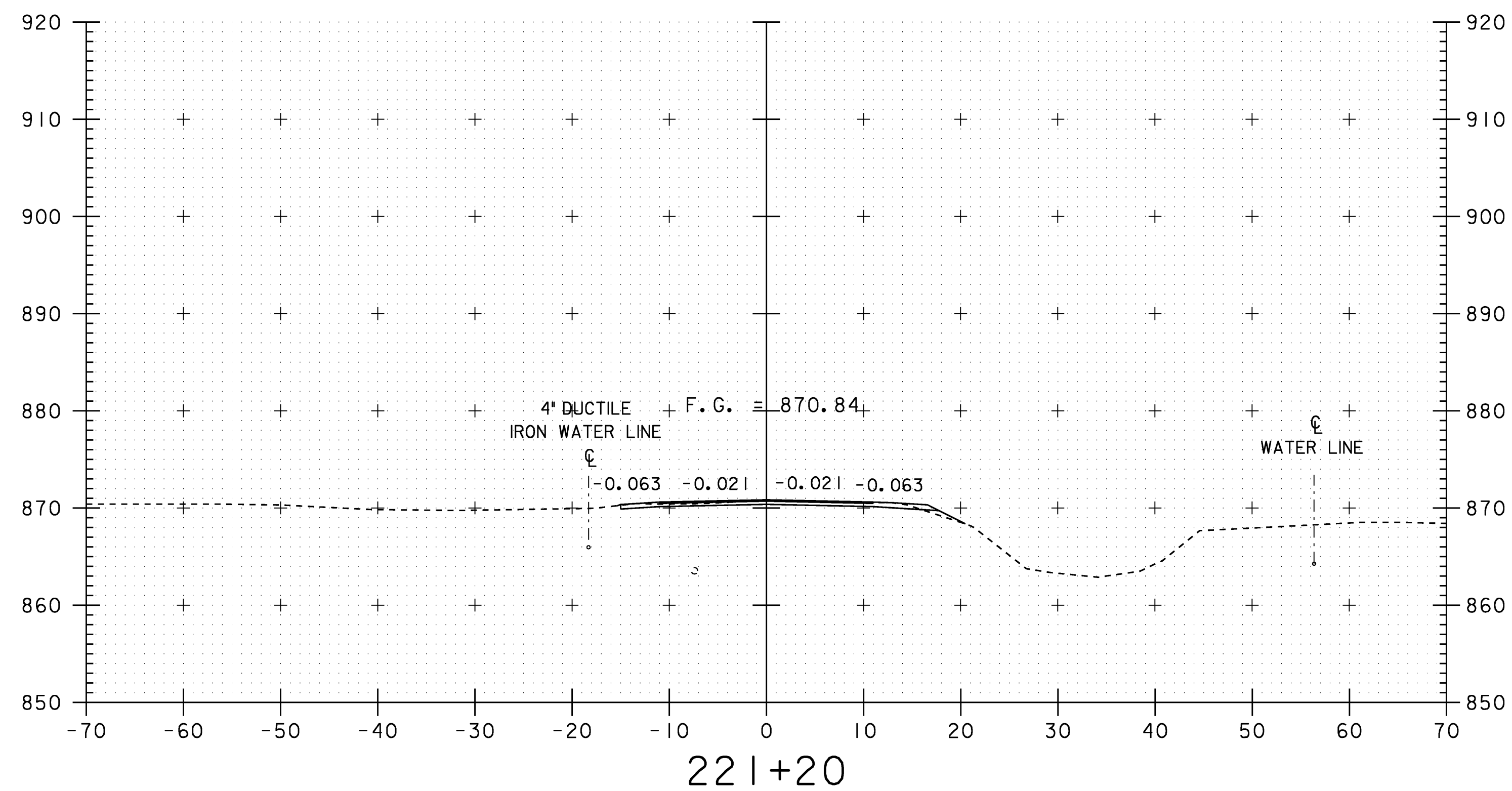


SCALE 1" = 10'-0"

STA. 220+45 TO STA. 220+80

ROADWAY CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\Sr\truct\sellxs.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	81 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellxs10.1		



SCALE 1" = 10'-0"

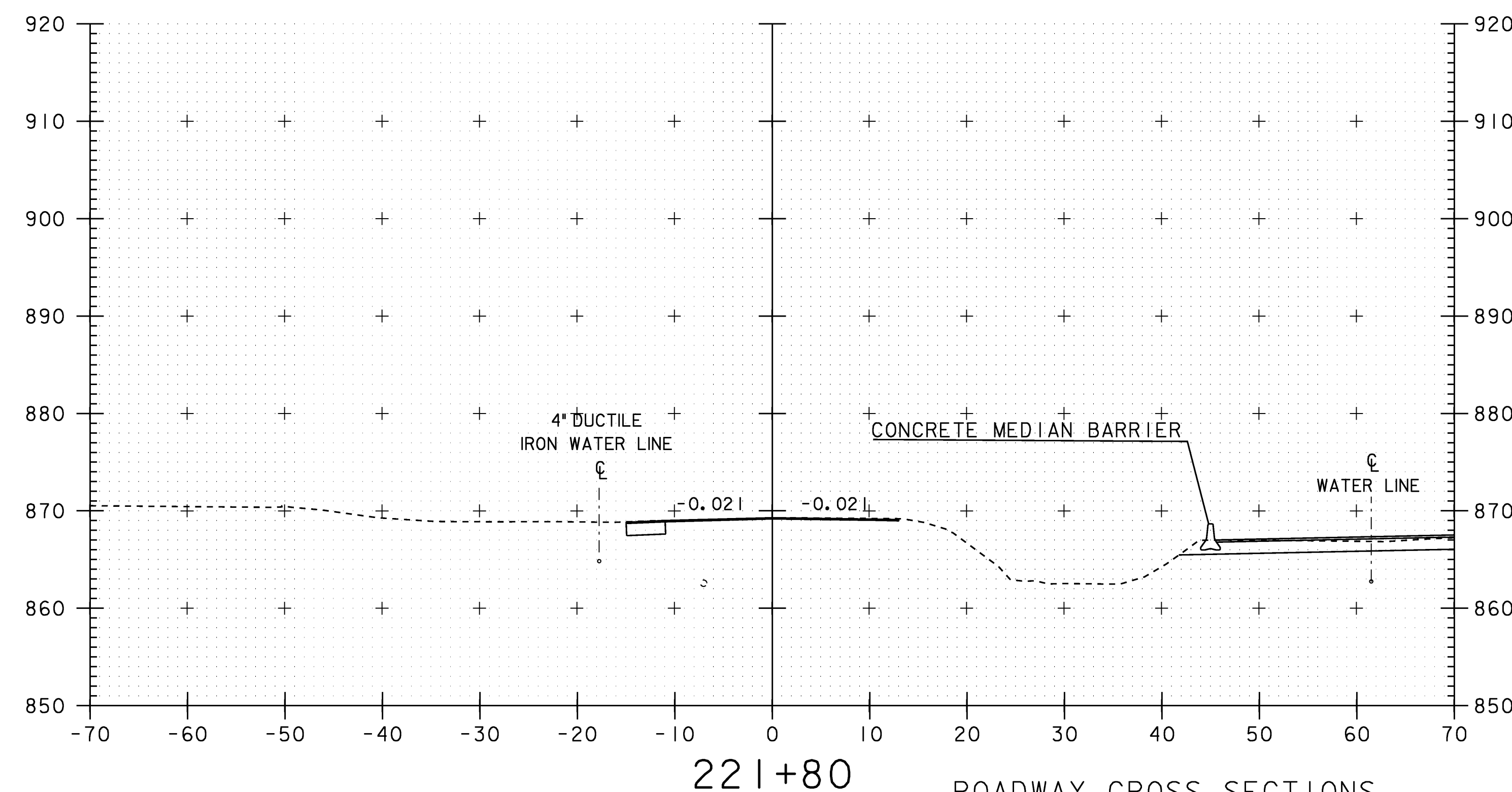
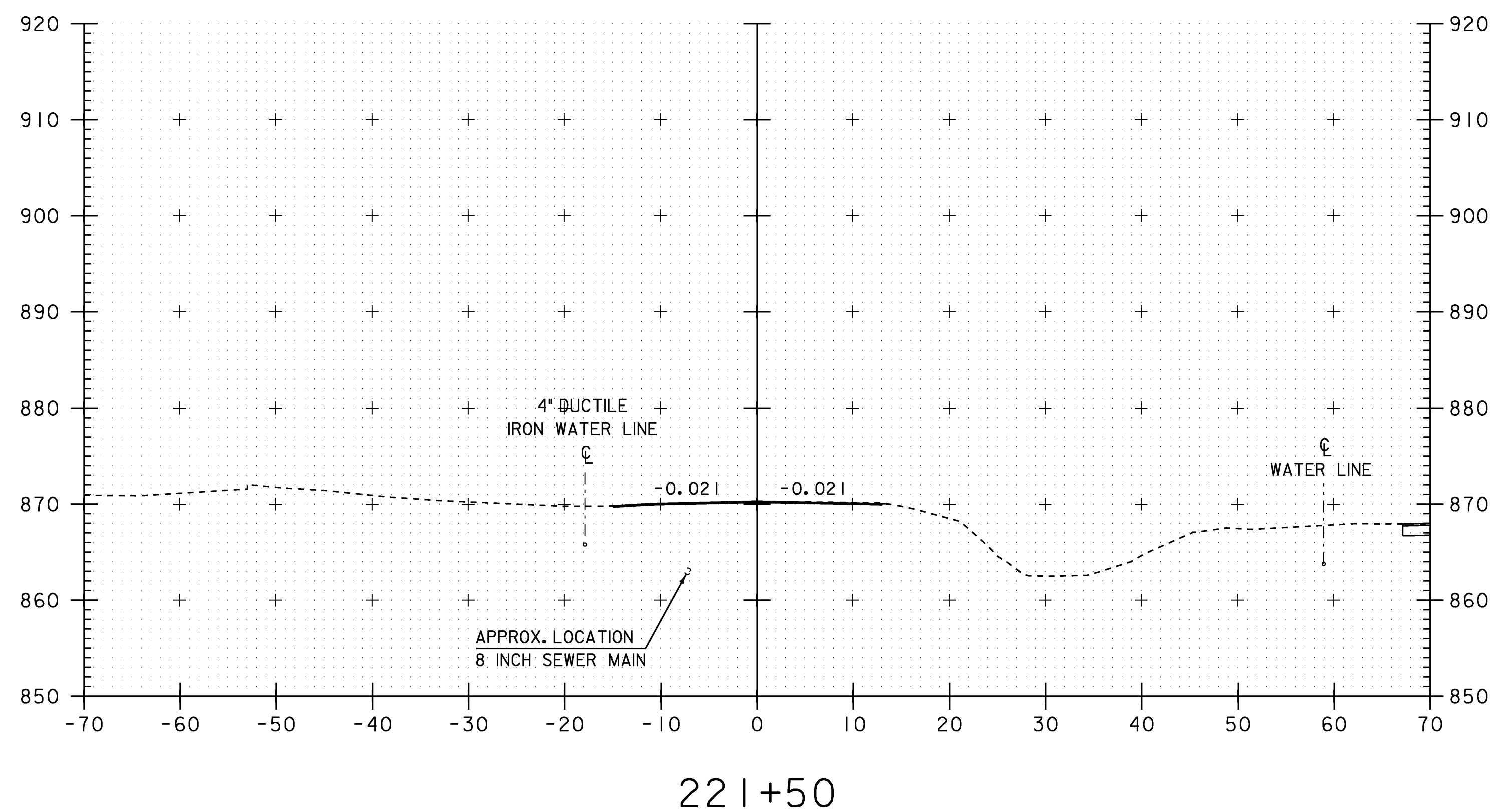
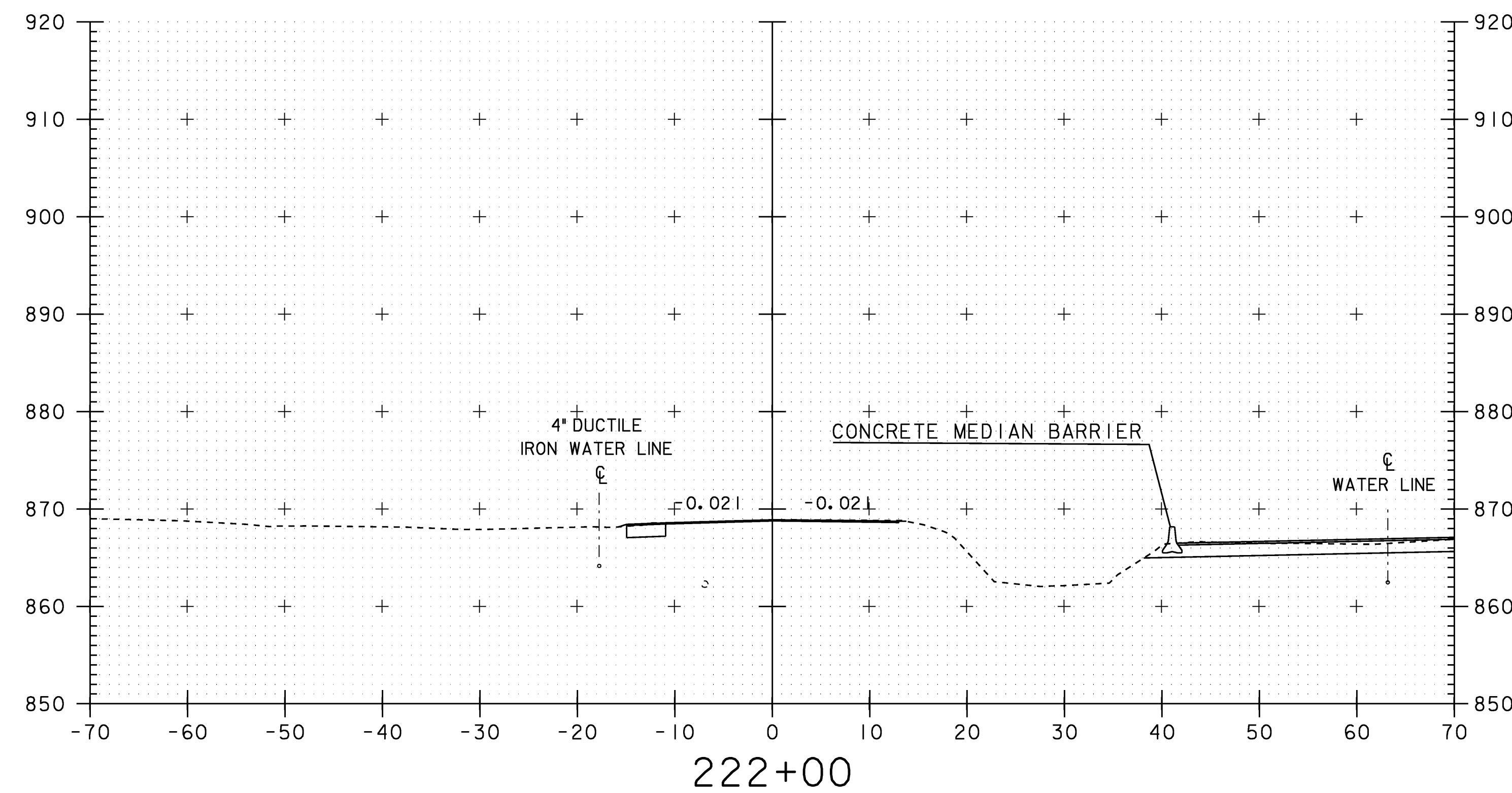
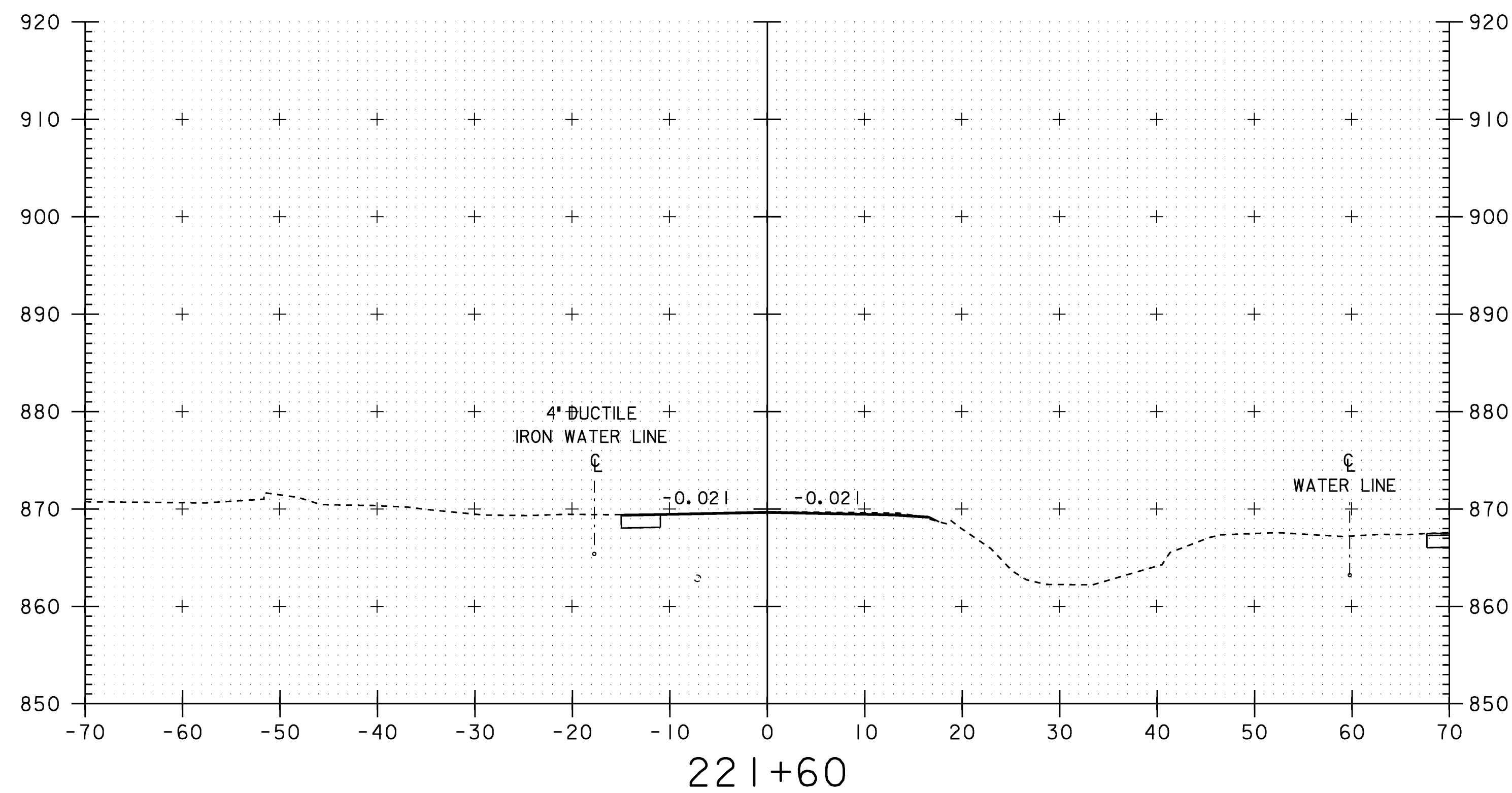
STA. 221+00 TO STA. 221+40

ROADWAY CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Sr+uct+\\sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellxsll.l

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: EVANS-MONGEON
SHEET 82 OF 108



SCALE 1" = 10'-0"

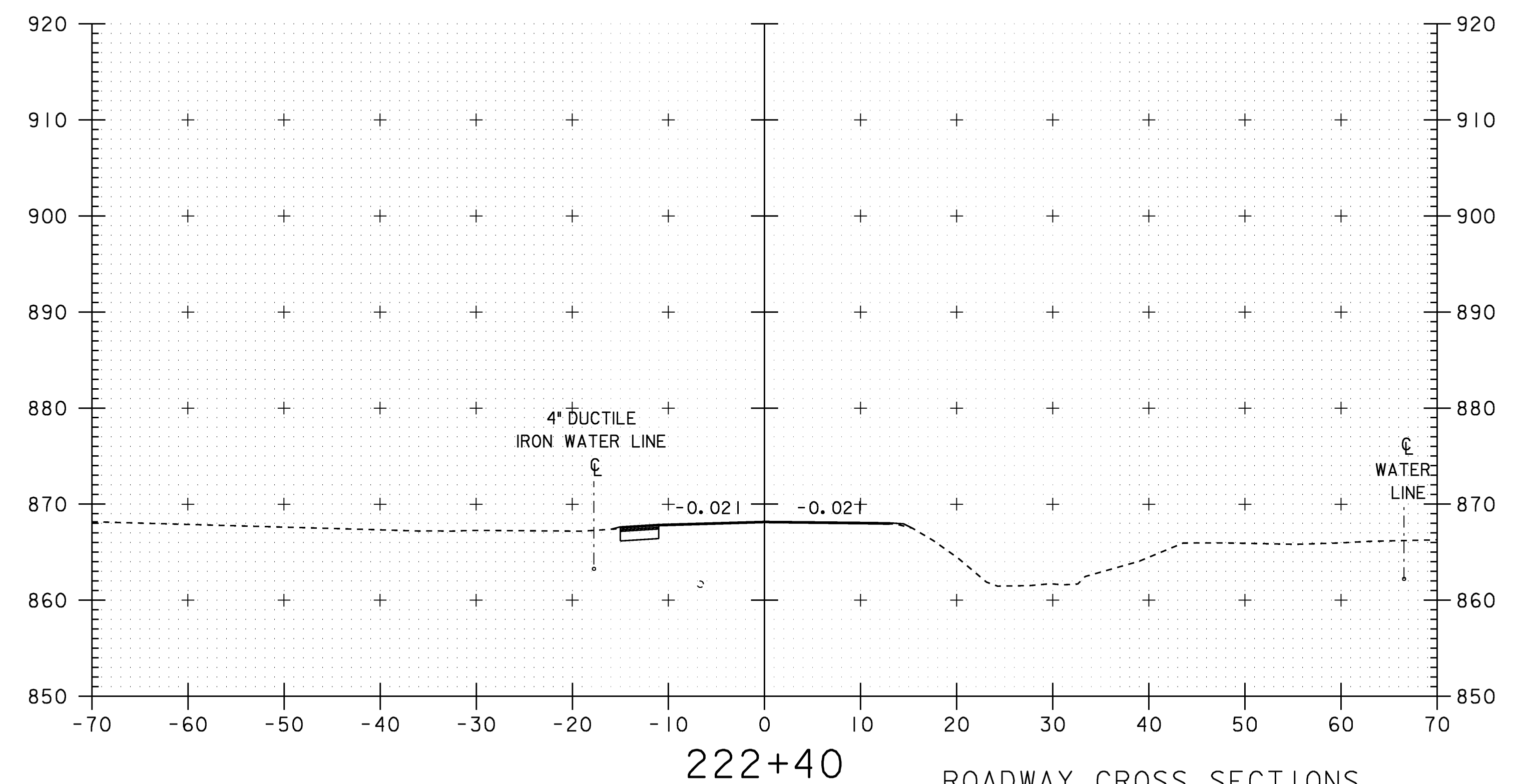
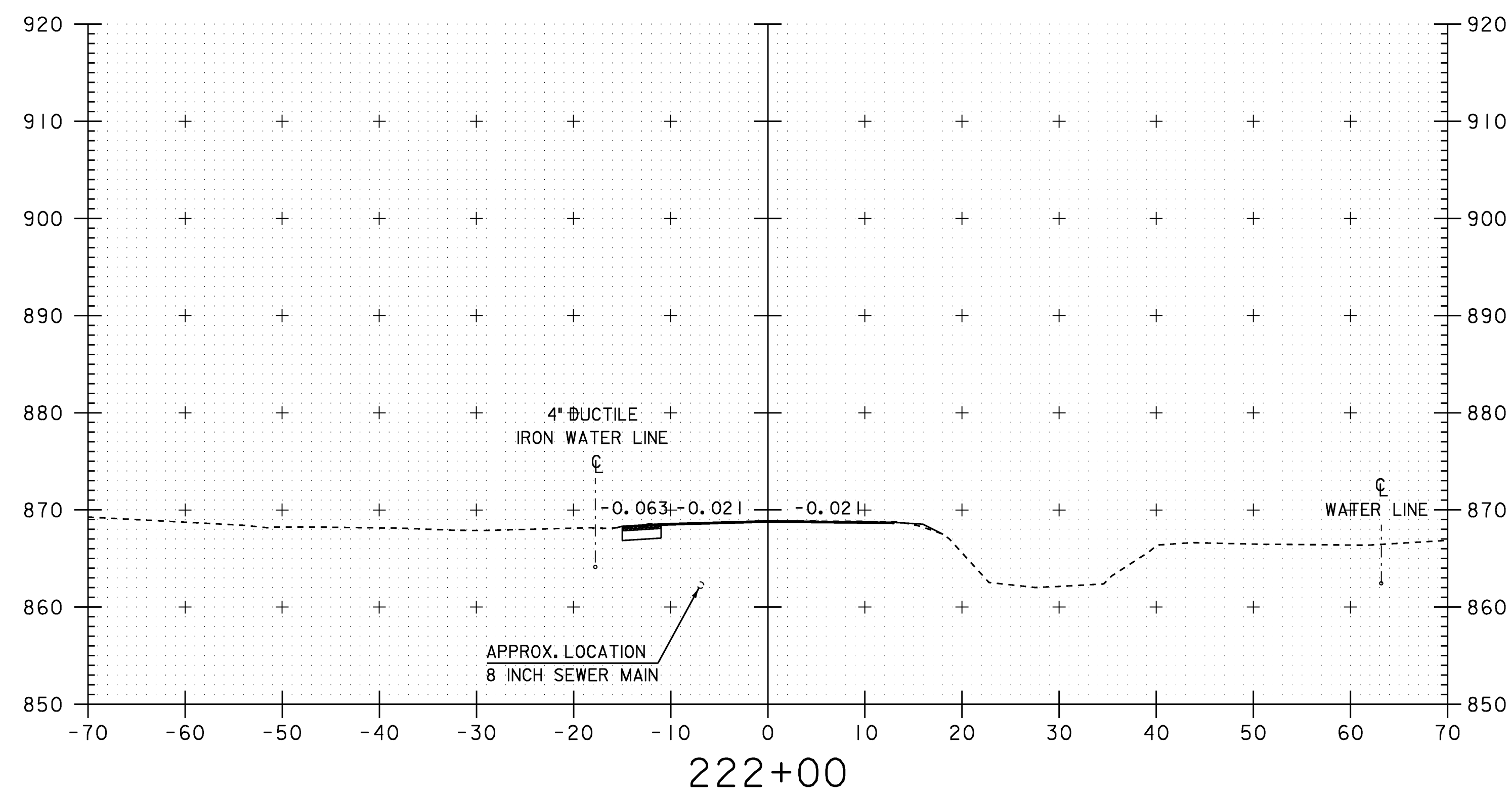
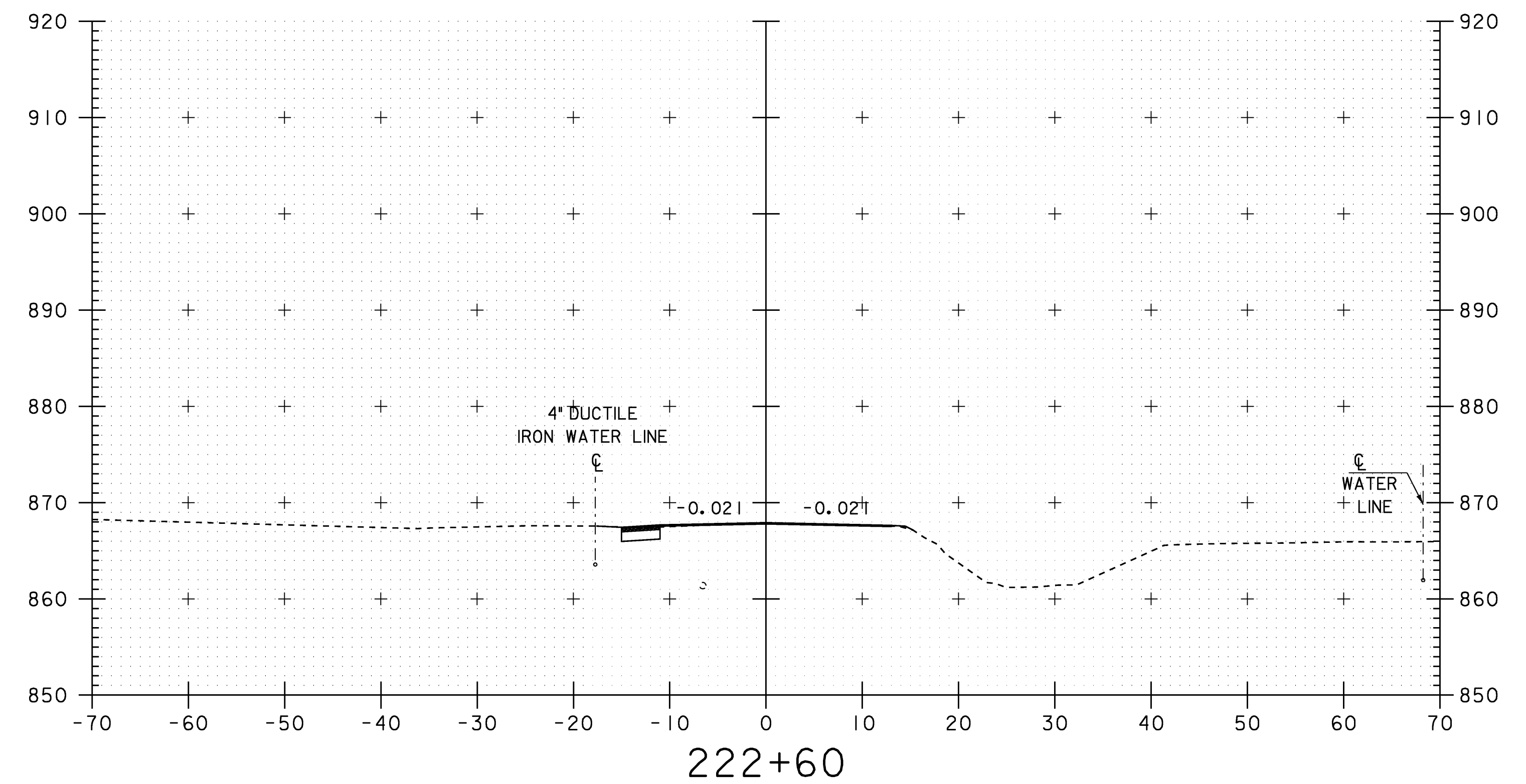
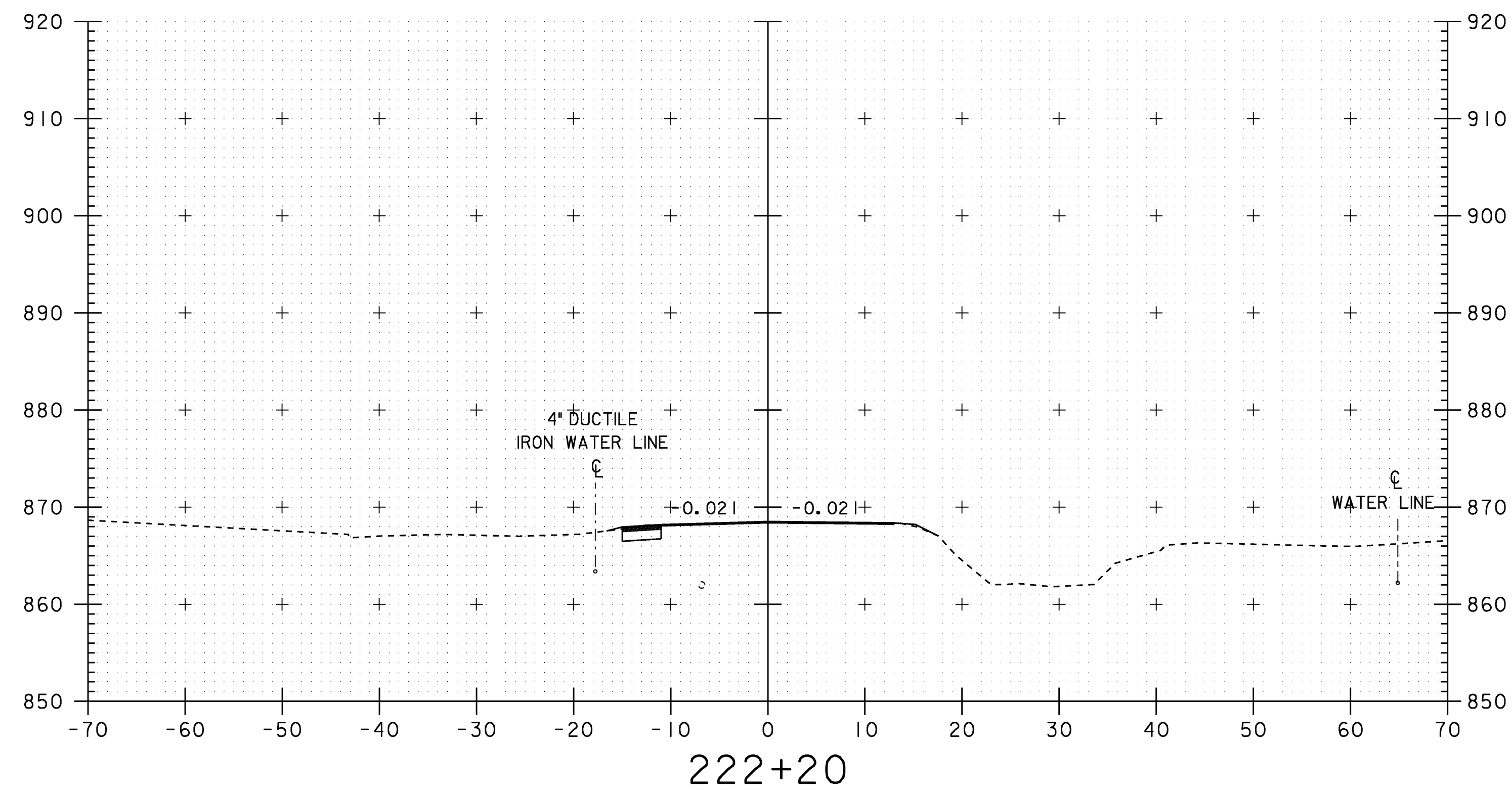
STA. 221+50 TO STA. 222+00

ROADWAY CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Sruct\\sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellxs12.1

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: EVANS-MONGEON
SHEET 83 OF 108

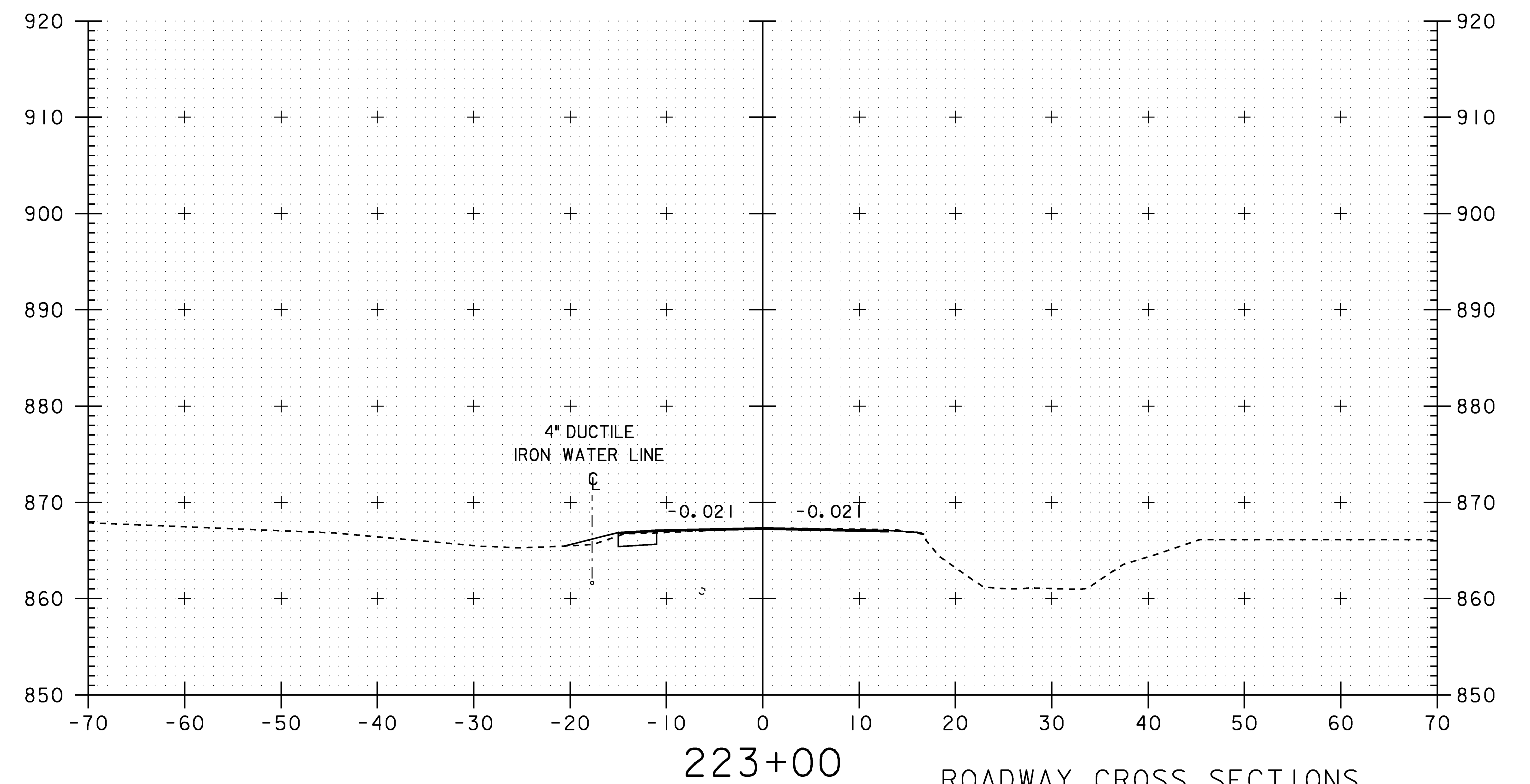
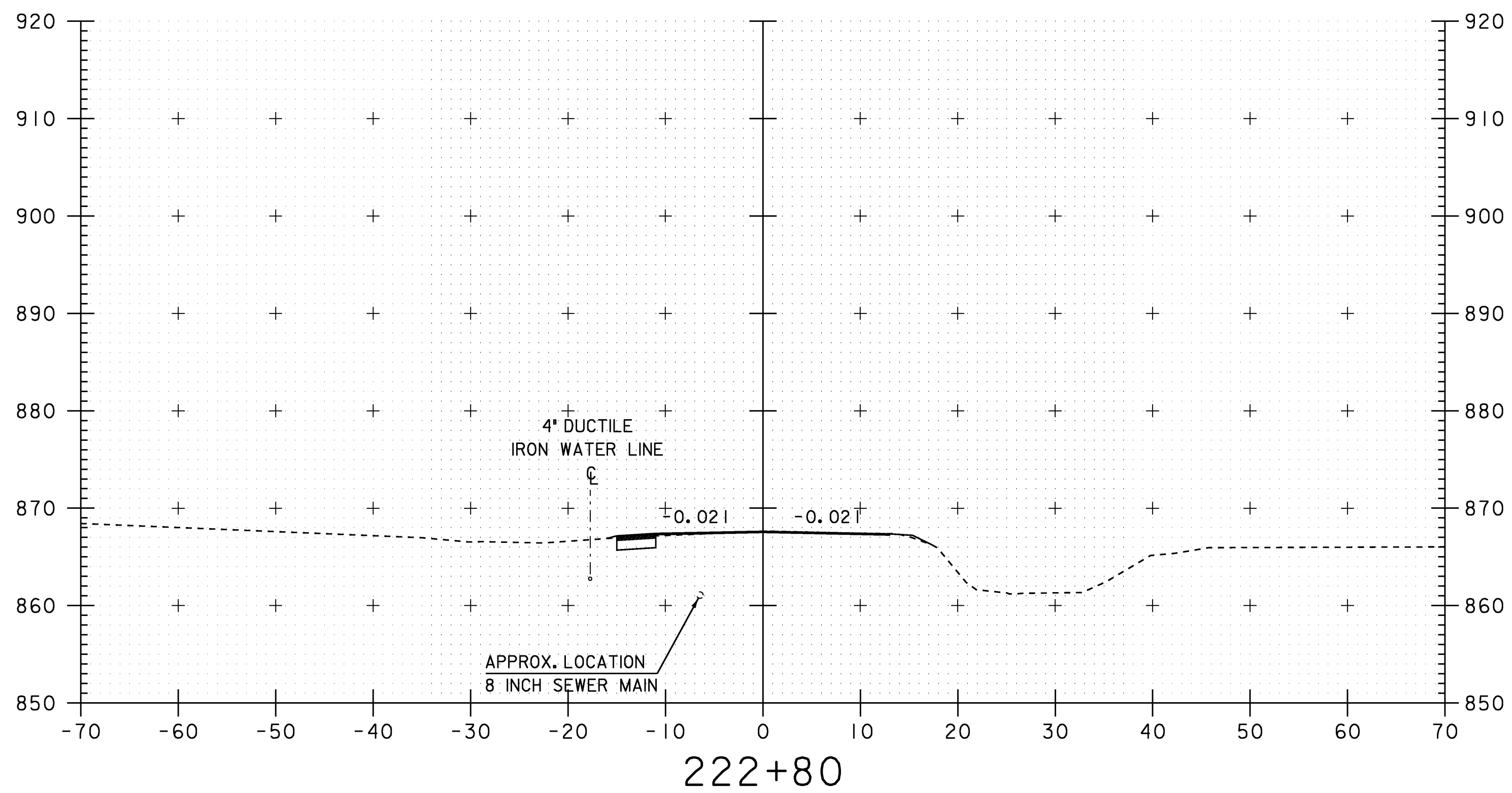
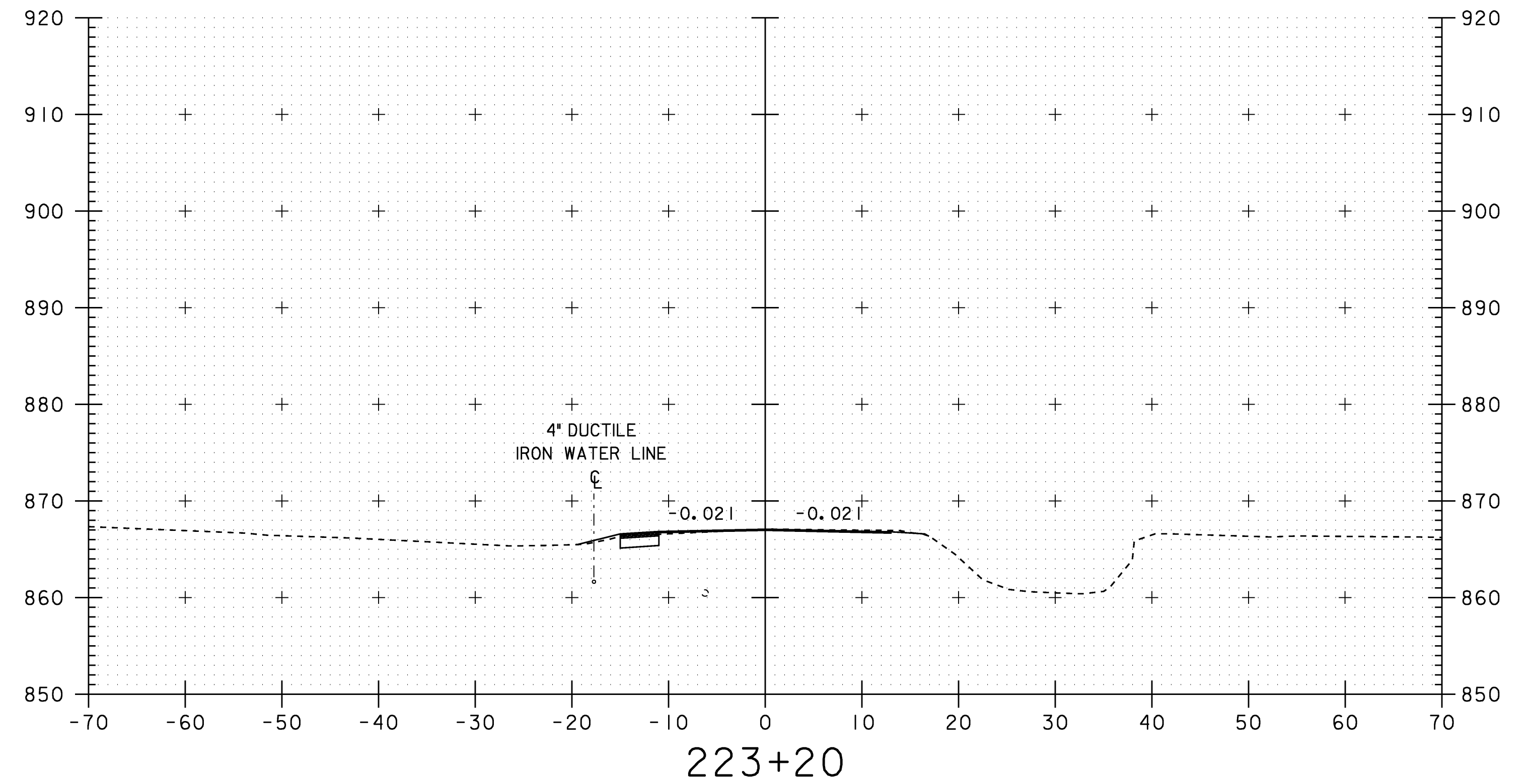
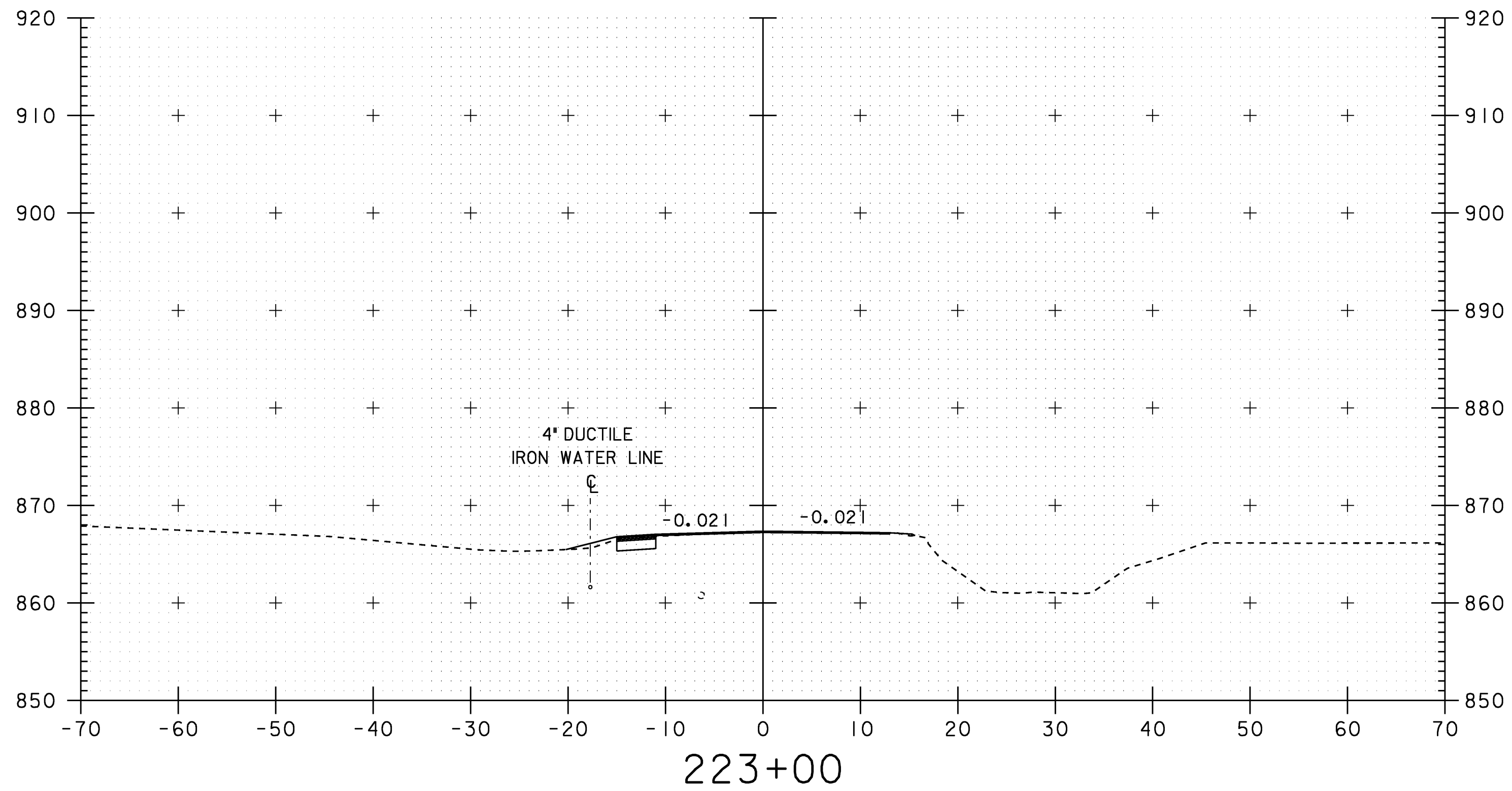


SCALE 1" = 10'-0"

STA. 222+00 TO STA. 222+60

ROADWAY CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\Structure\sellxs.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	84 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellxs13.1		



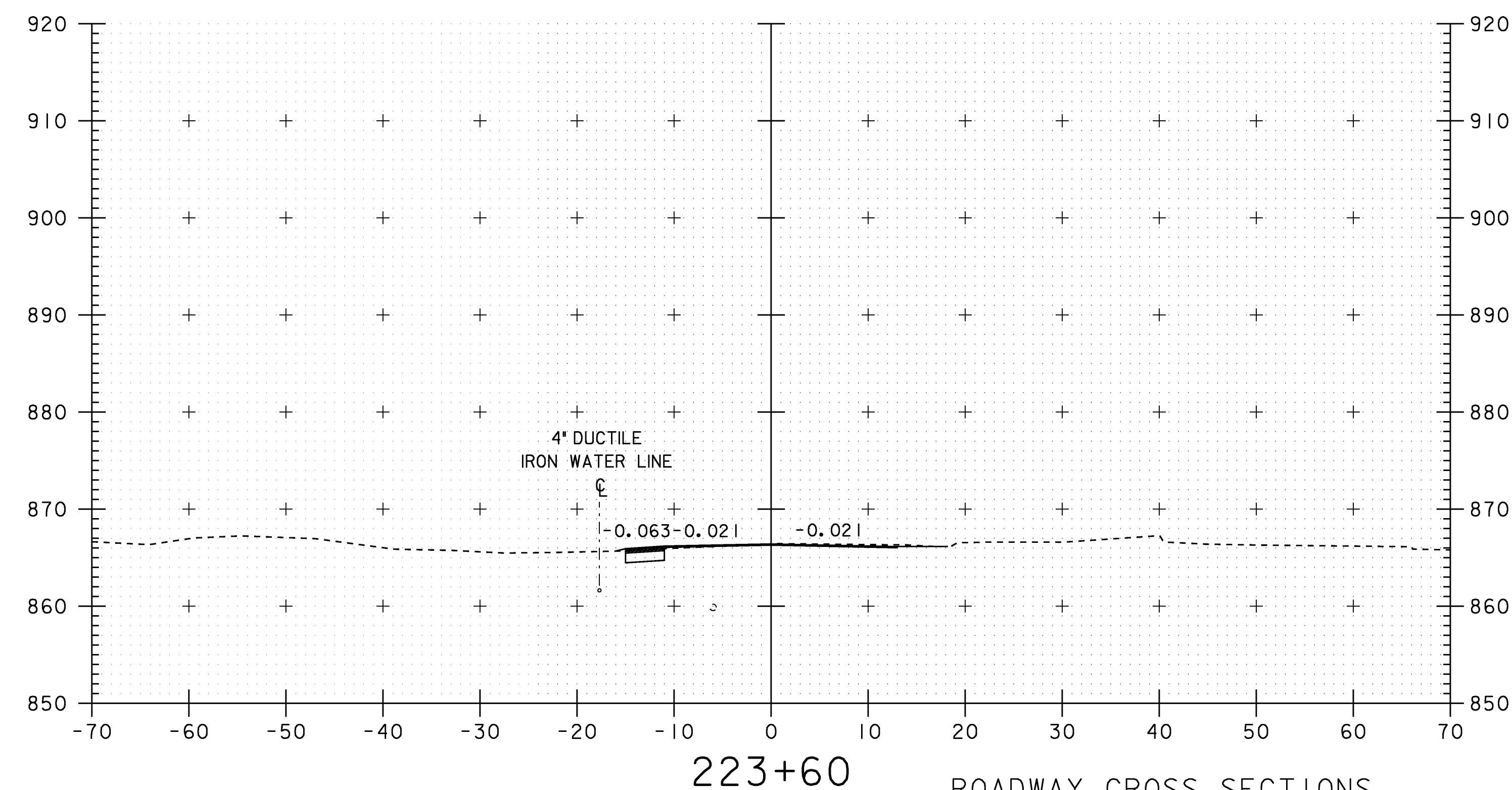
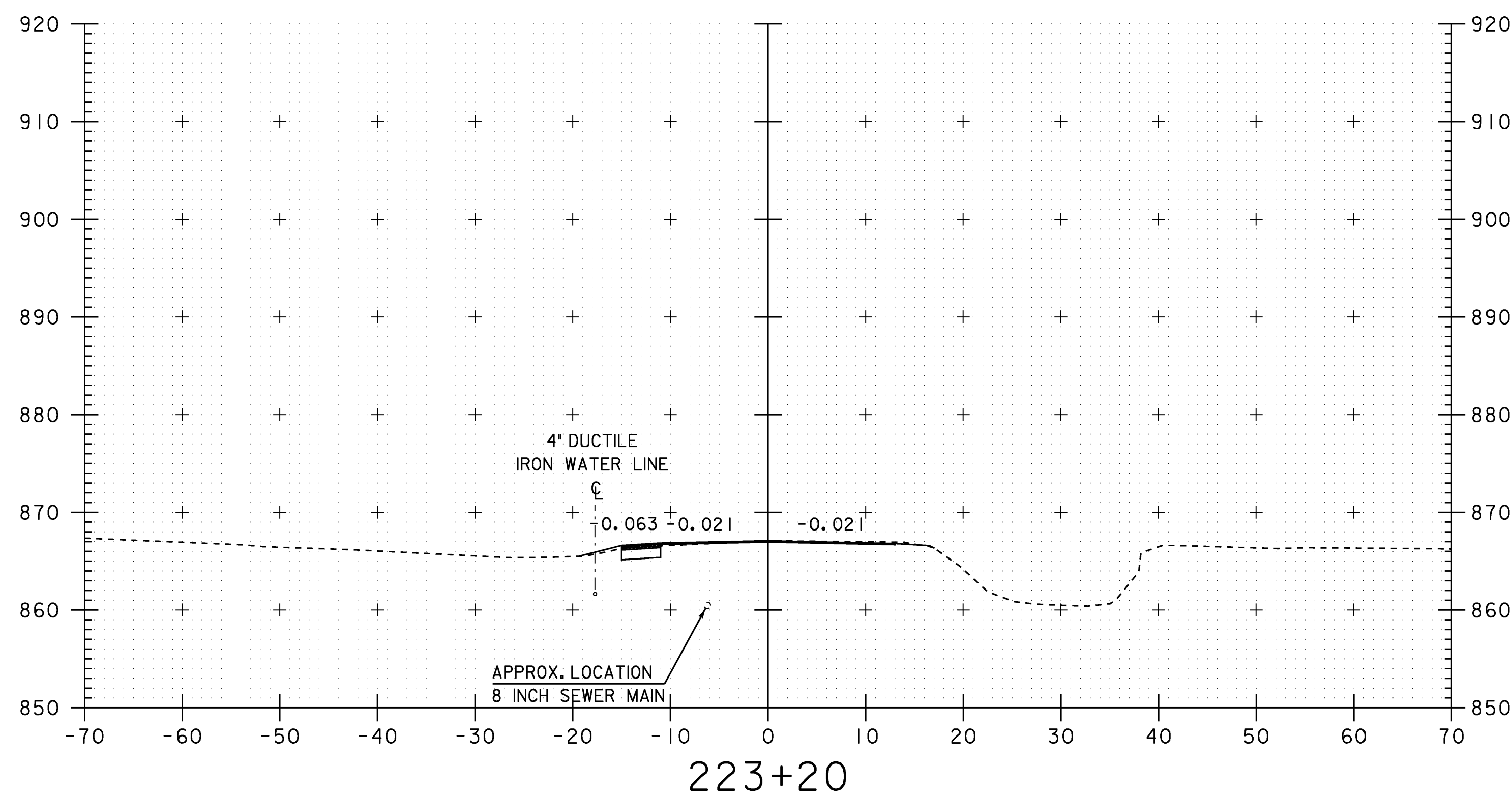
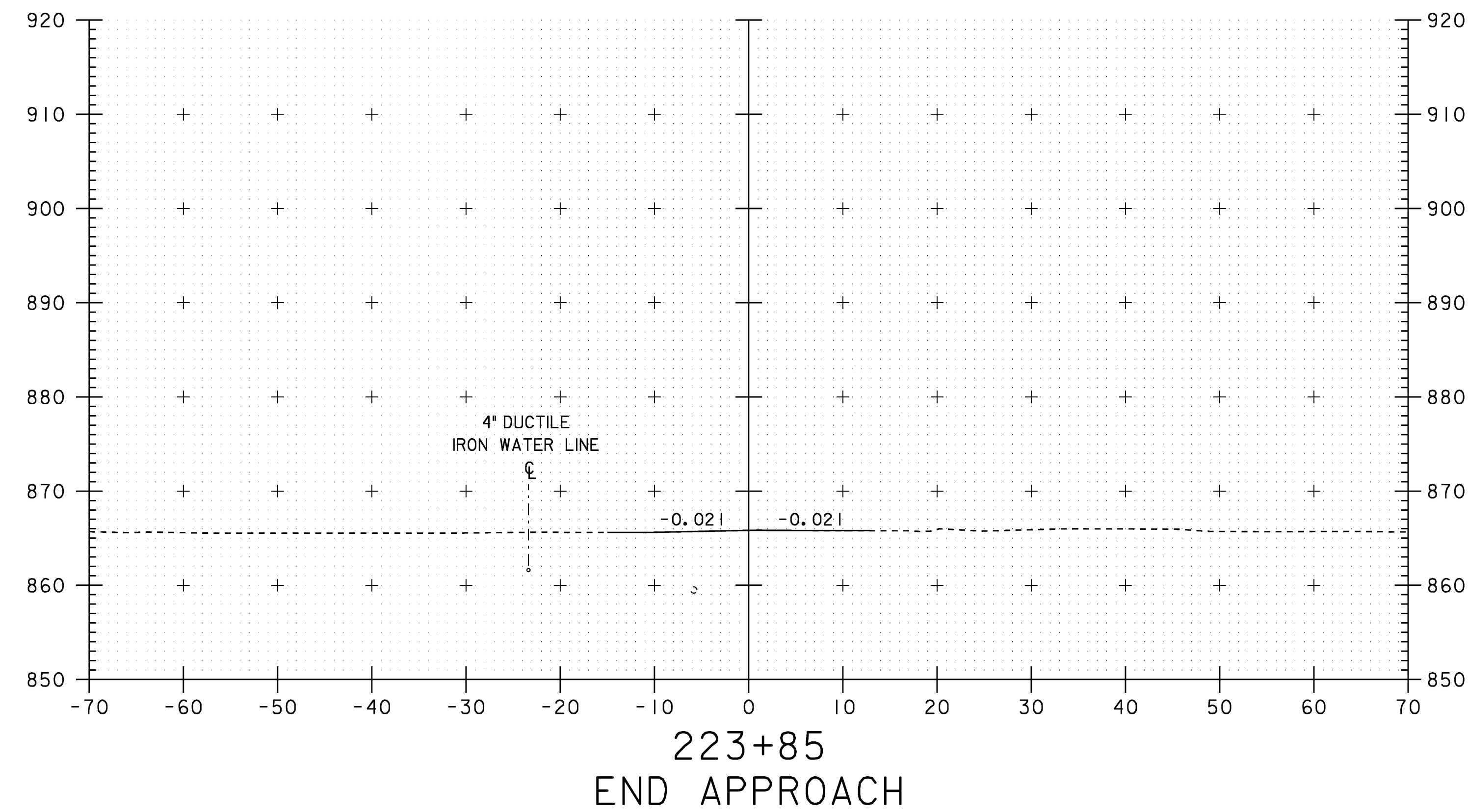
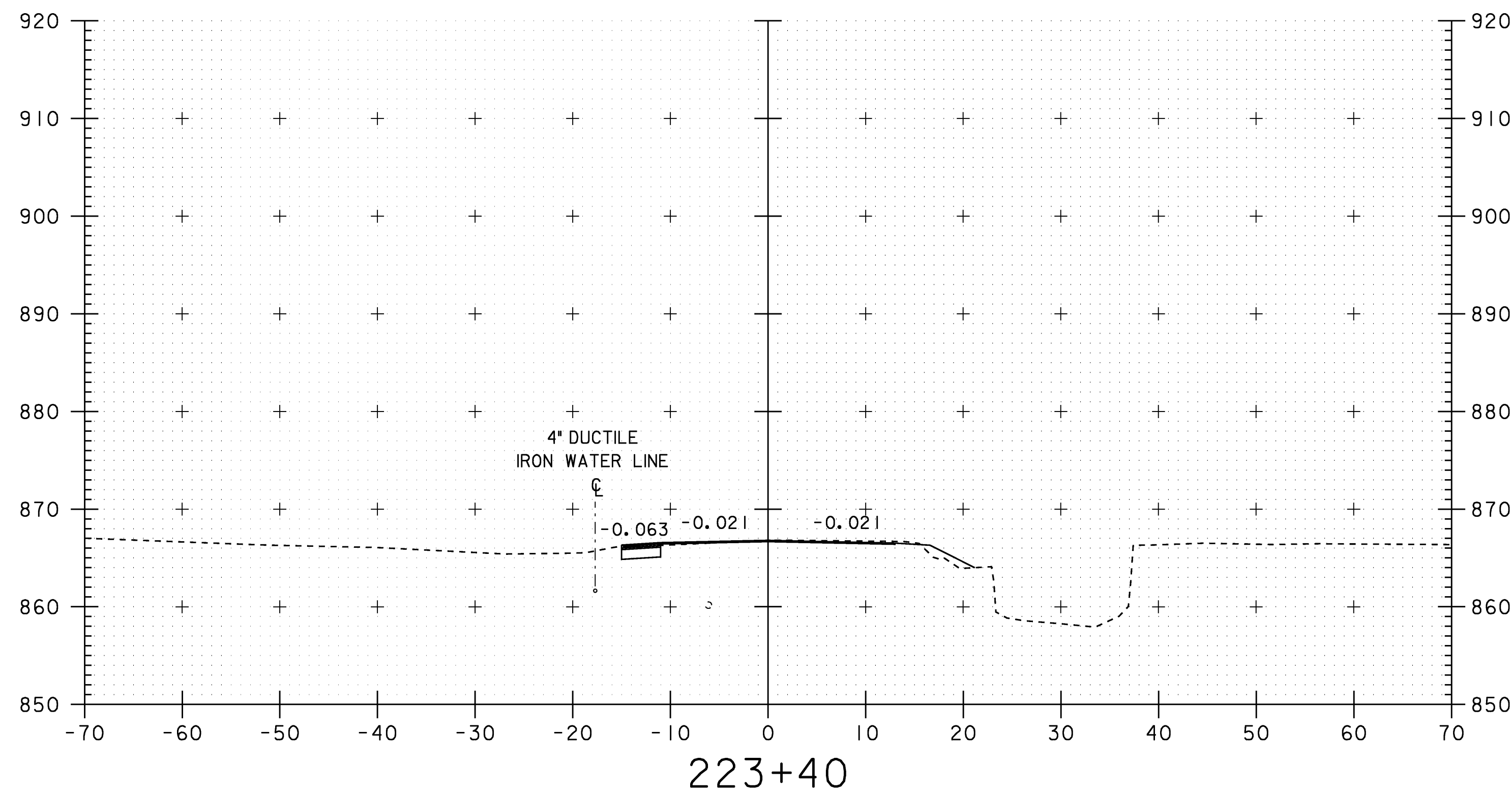
SCALE 1" = 10'-0"

STA. 222+80 TO STA. 223+20

ROADWAY CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Srtuct\\sellxs.dgn PLOT DATE: 07-APR-2008
PROJECT LEADER: EVANS-MONGEON DRAWN BY: G.ROKES
DESIGNED BY: U. STANLEY CHECKED BY: EVANS-MONGEON
IPARM: sellxs14.1 SHEET 85 OF 108

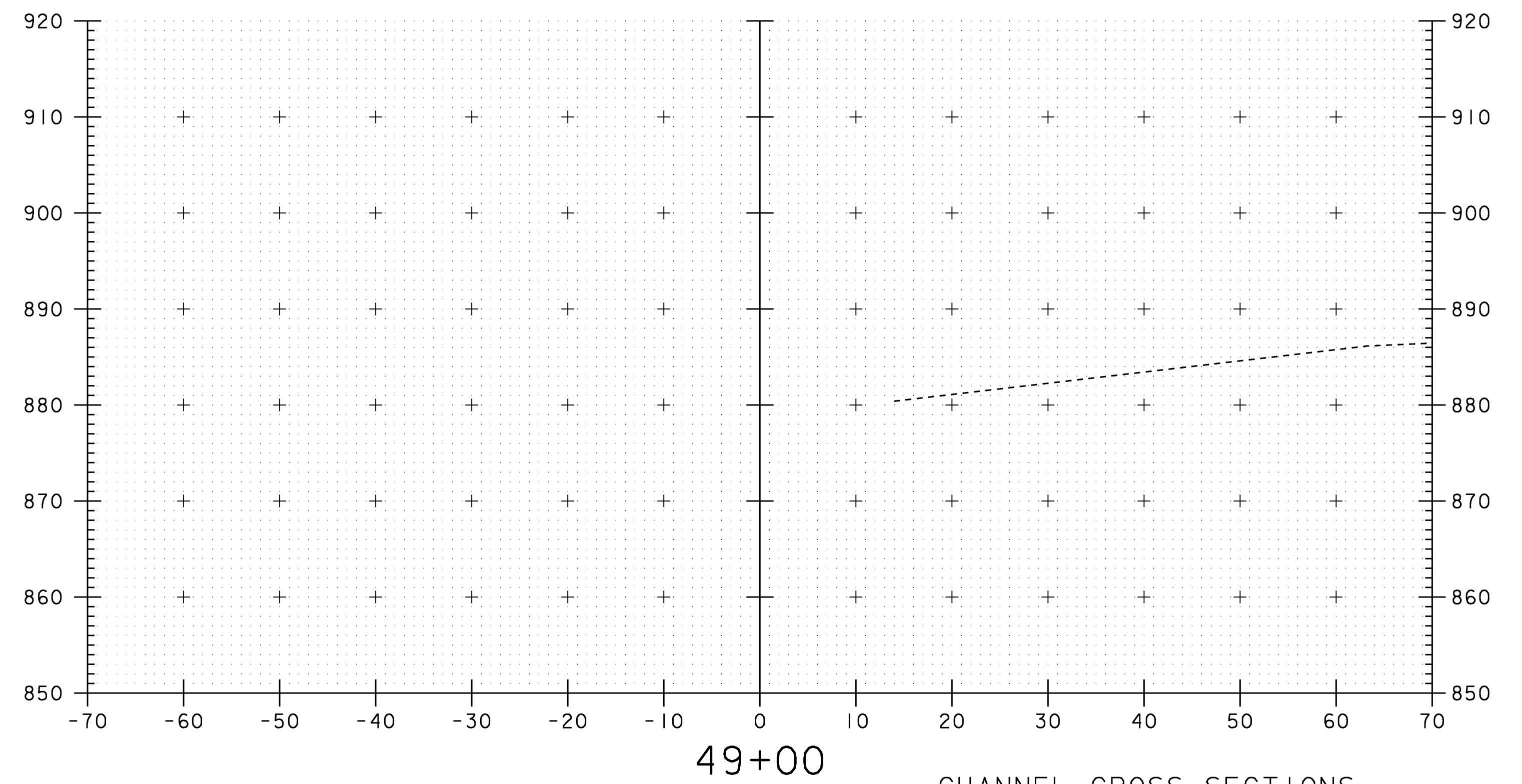
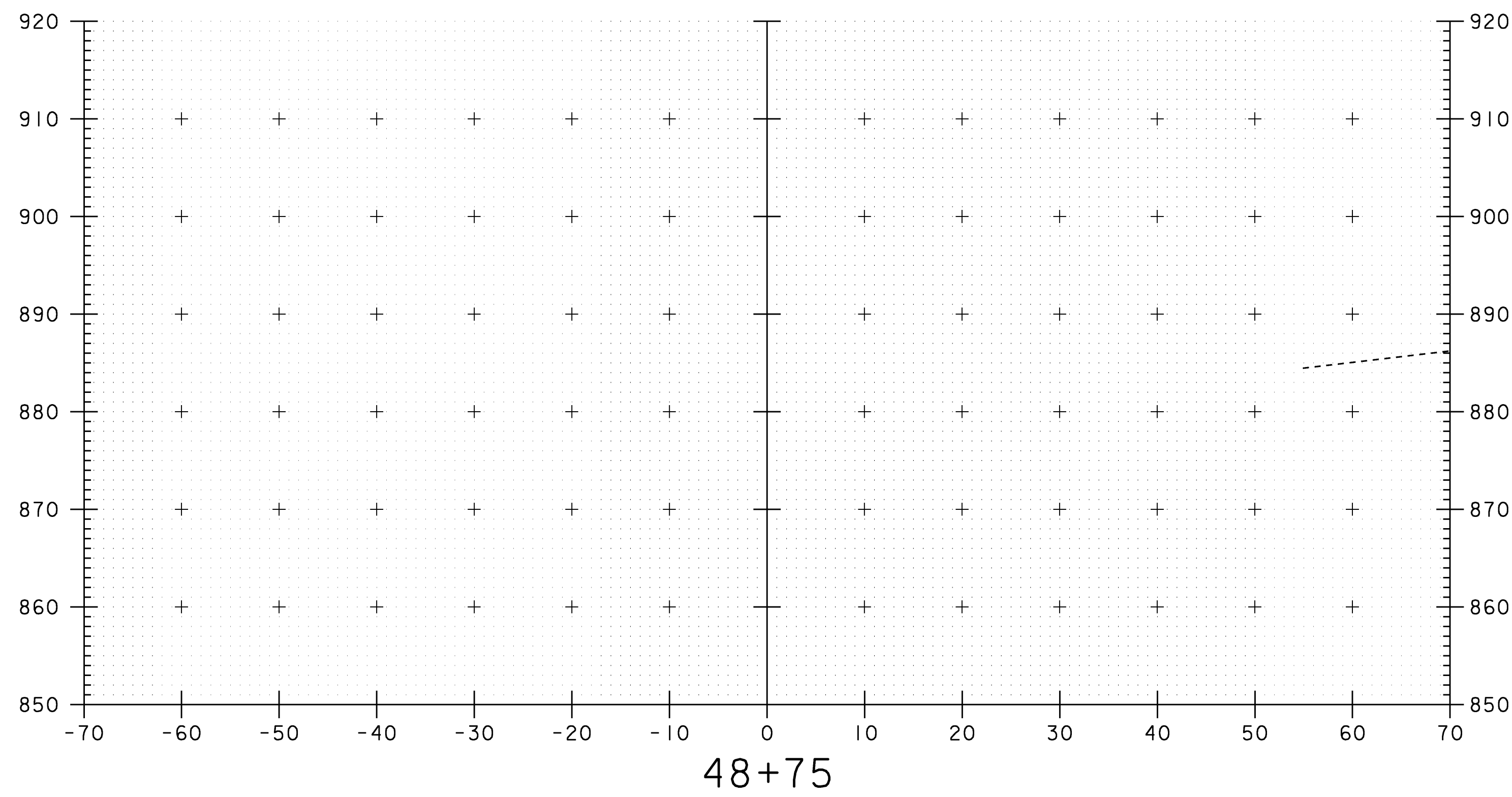
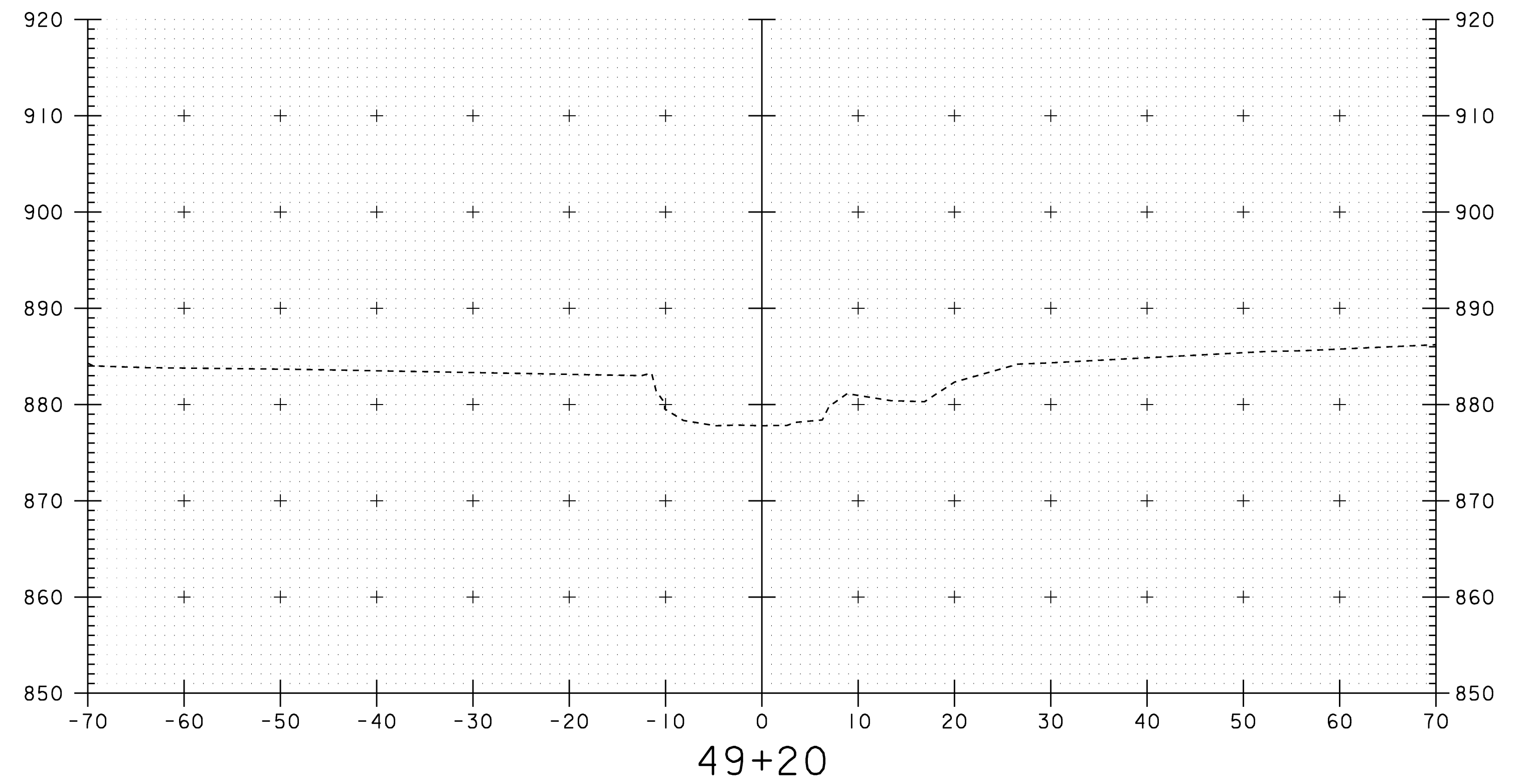
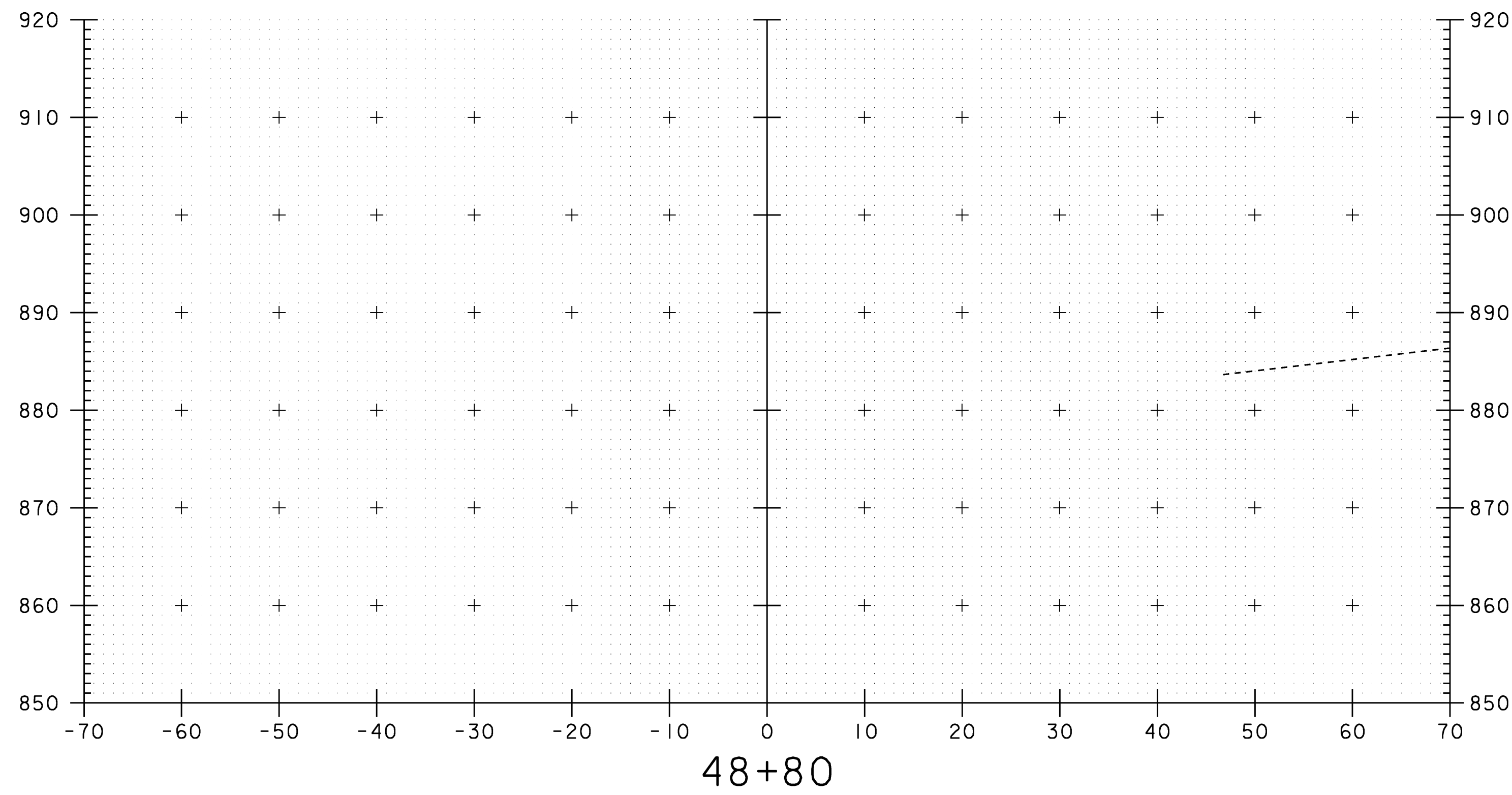


SCALE 1" = 10'-0"

STA. 223+20 TO STA. 223+85

ROADWAY CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	FILE NAME:	83ell\Sr+uct\sellxs.dgn	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	PROJECT LEADER:	EVANS-MONGEON	DRAWN BY:	G.ROKES
		DESIGNED BY:	U. STANLEY	CHECKED BY:	EVANS-MONGEON
		IPARM:	sellxs15.1	SHEET	86 OF 108

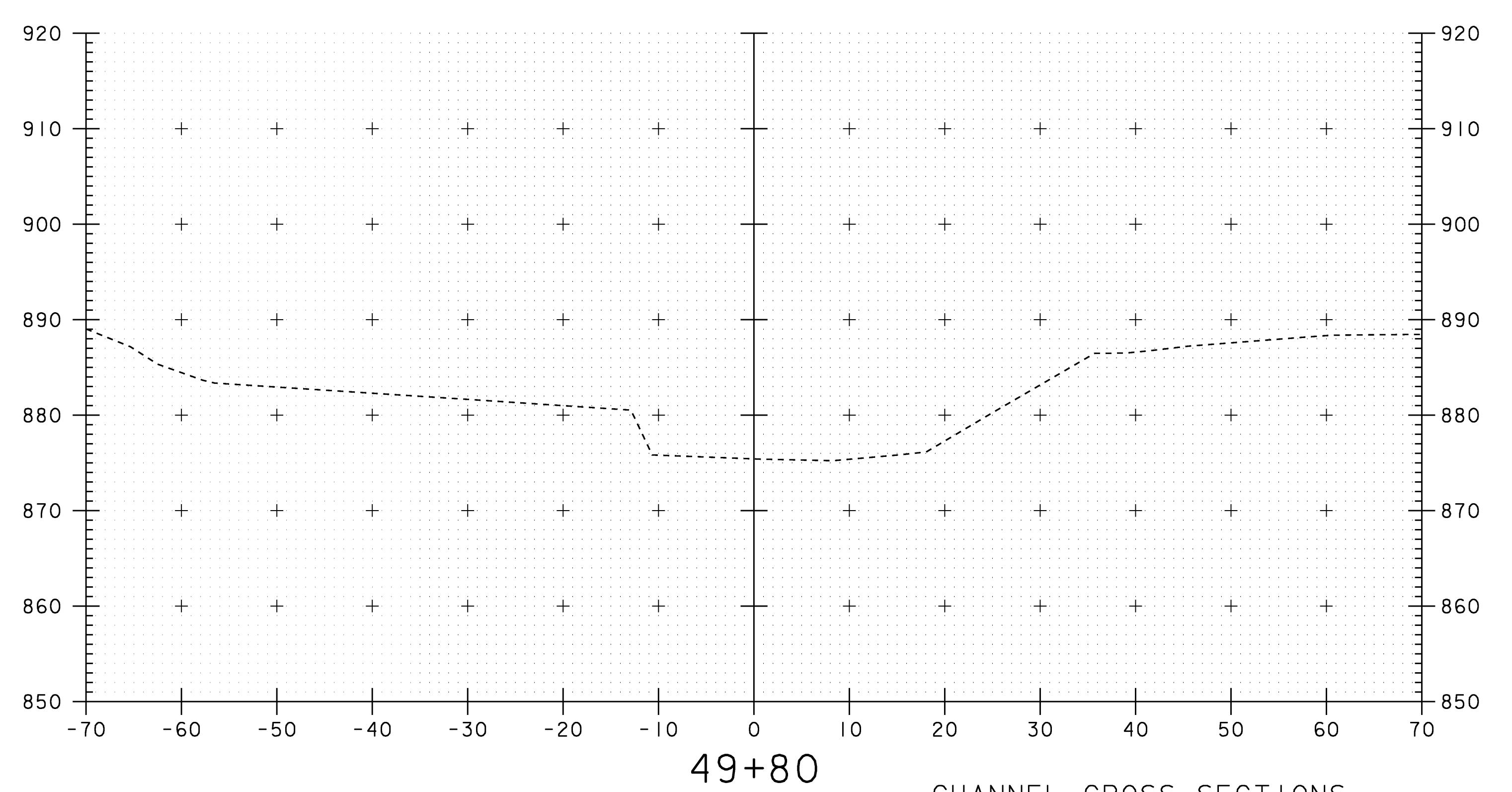
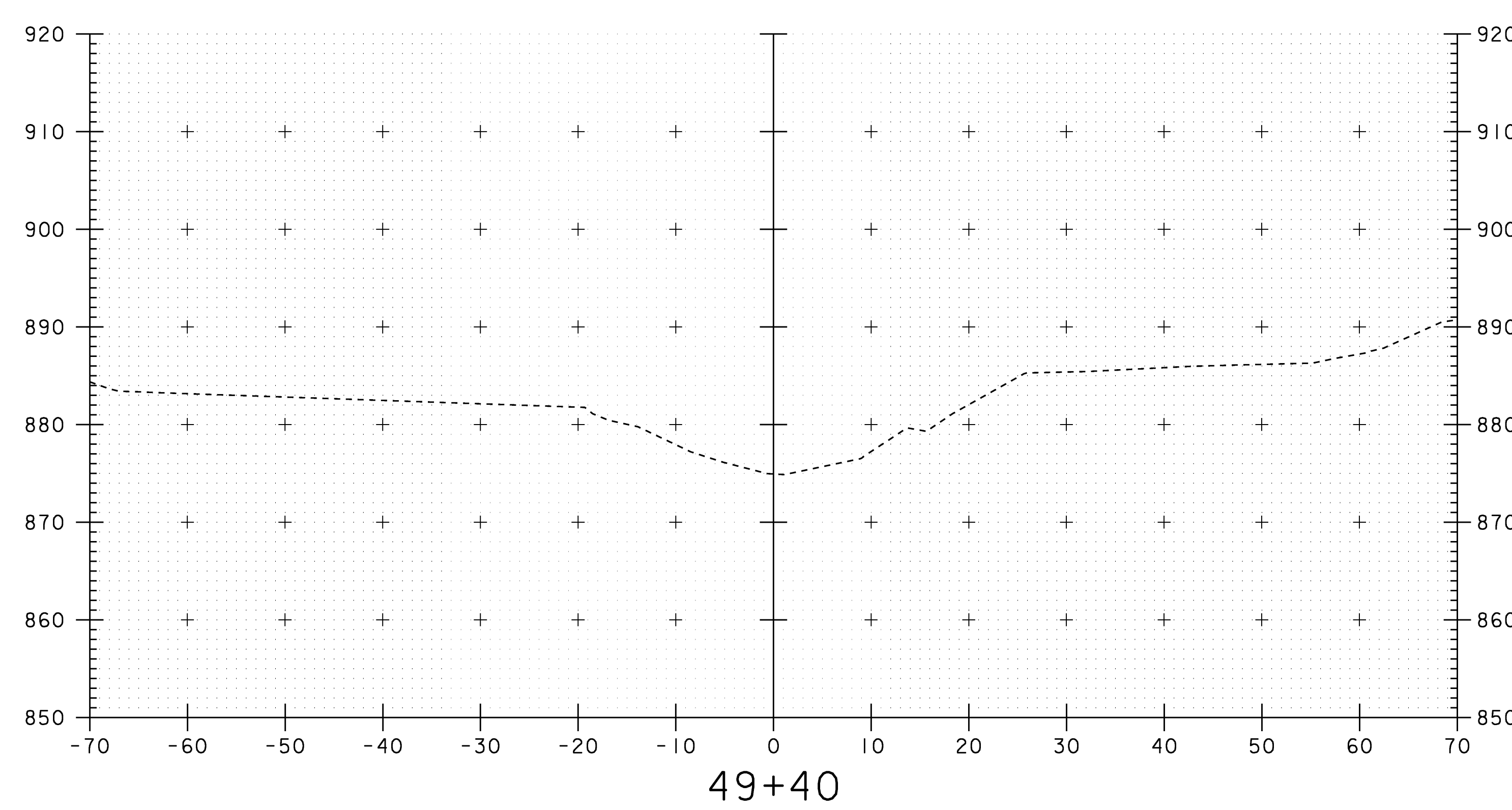
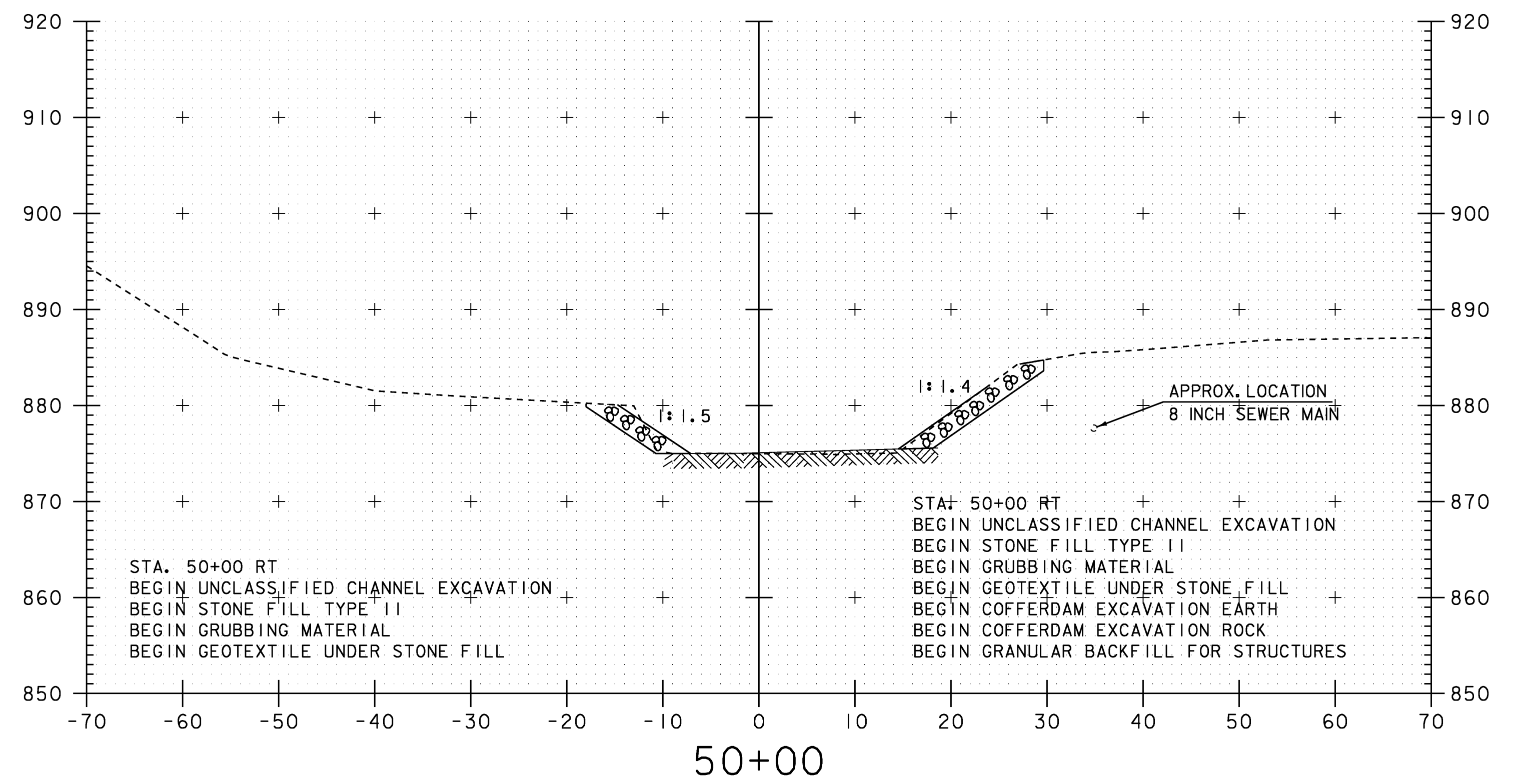
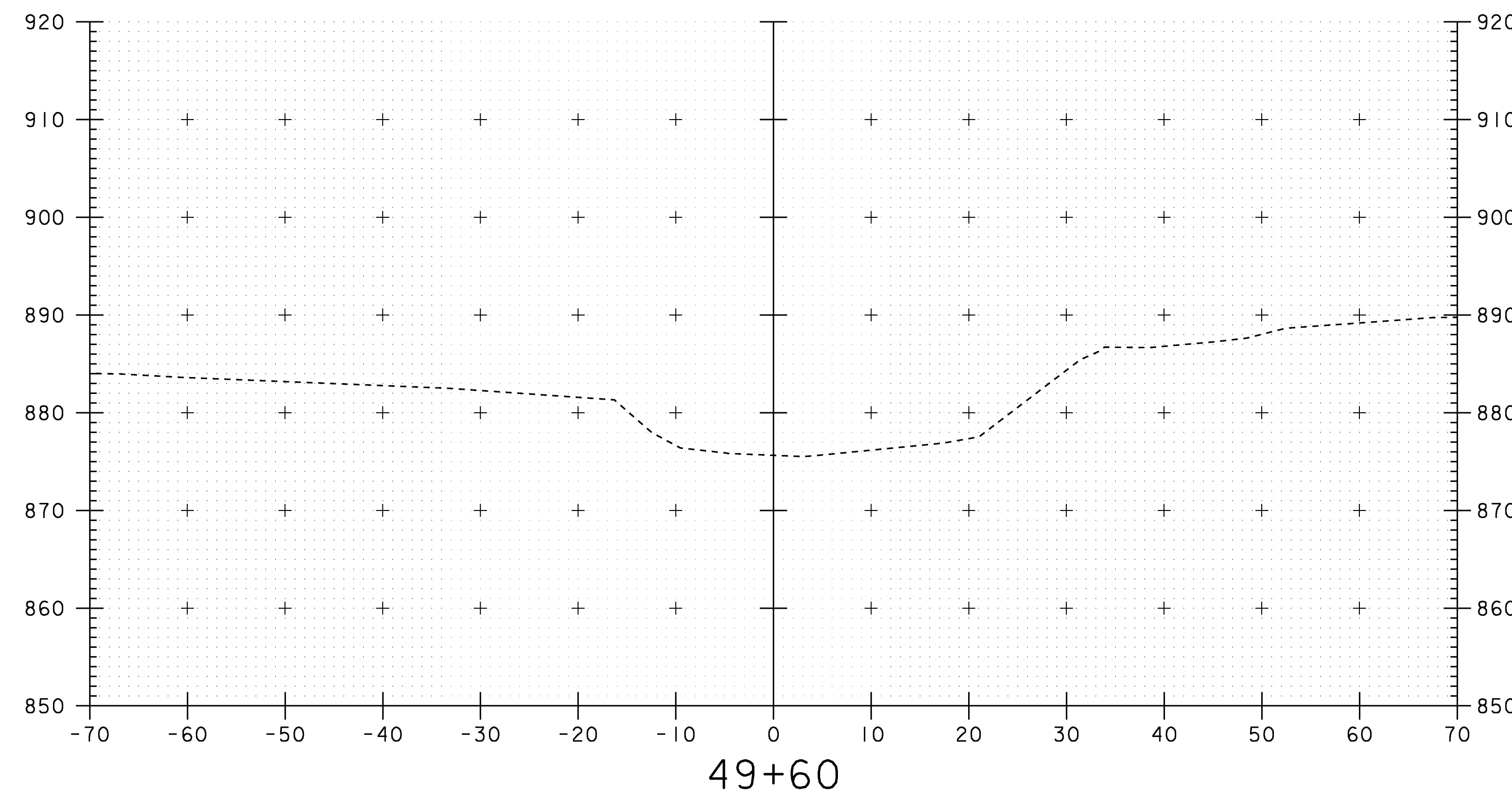


SCALE 1" = 10'-0"

STA. 48+75 TO STA. 49+20

CHANNEL CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\structuresSellxs.d
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellchl.i
PLOT DATE:	07-APR-2008
DRAWN BY:	G.ROKES
CHECKED BY:	EVANS-MONGEON
SHEET	87 OF 108

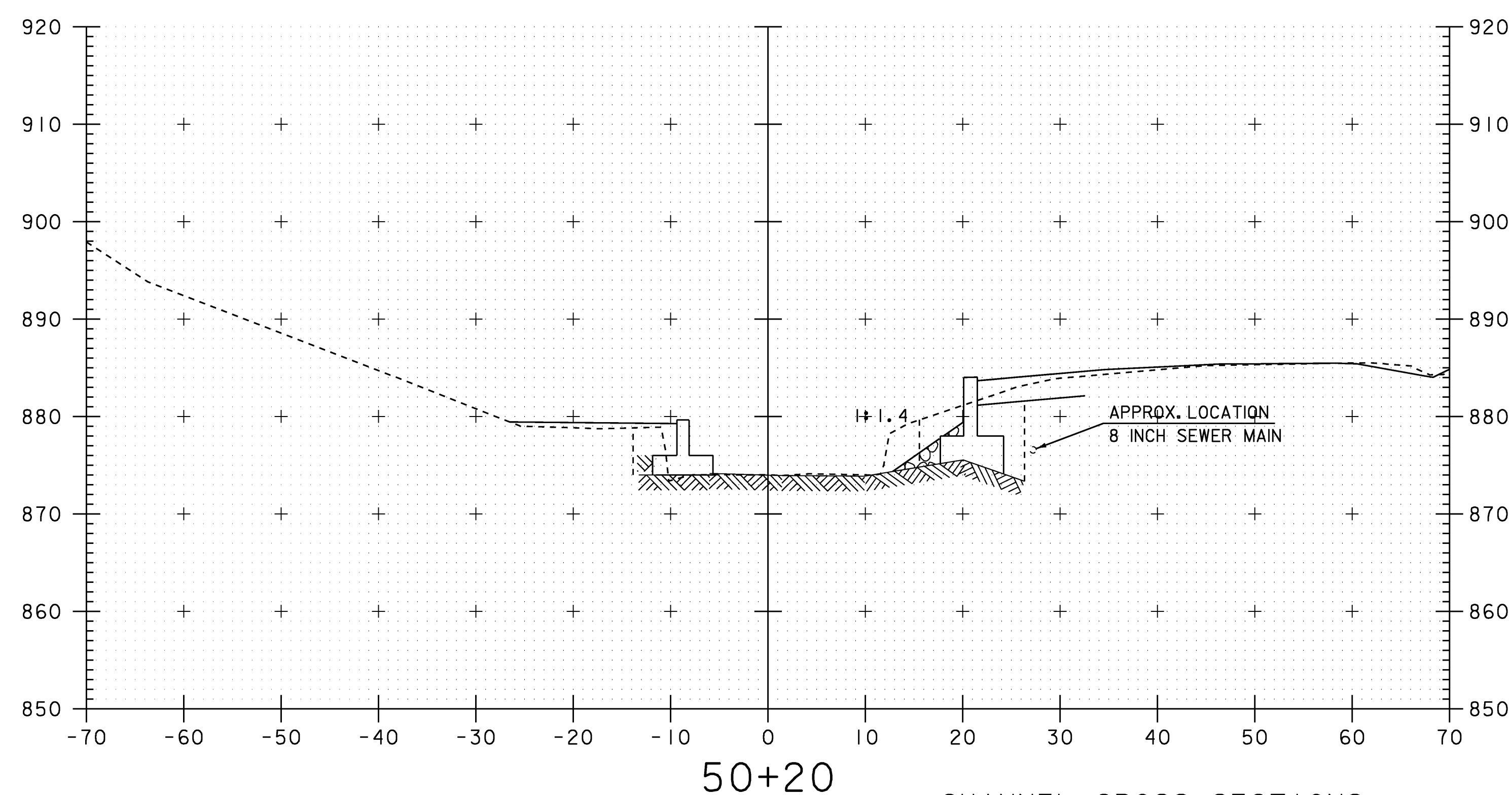
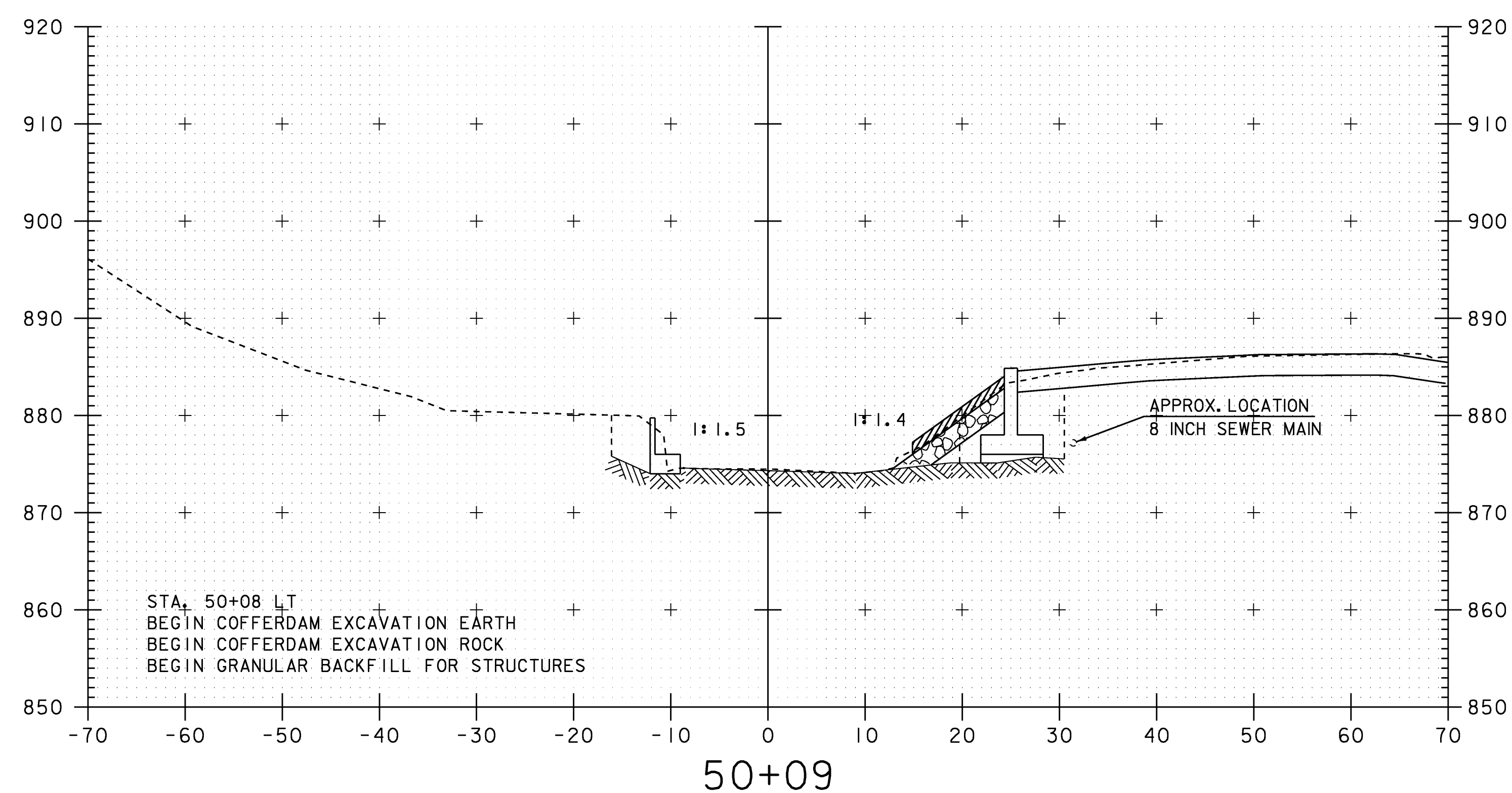
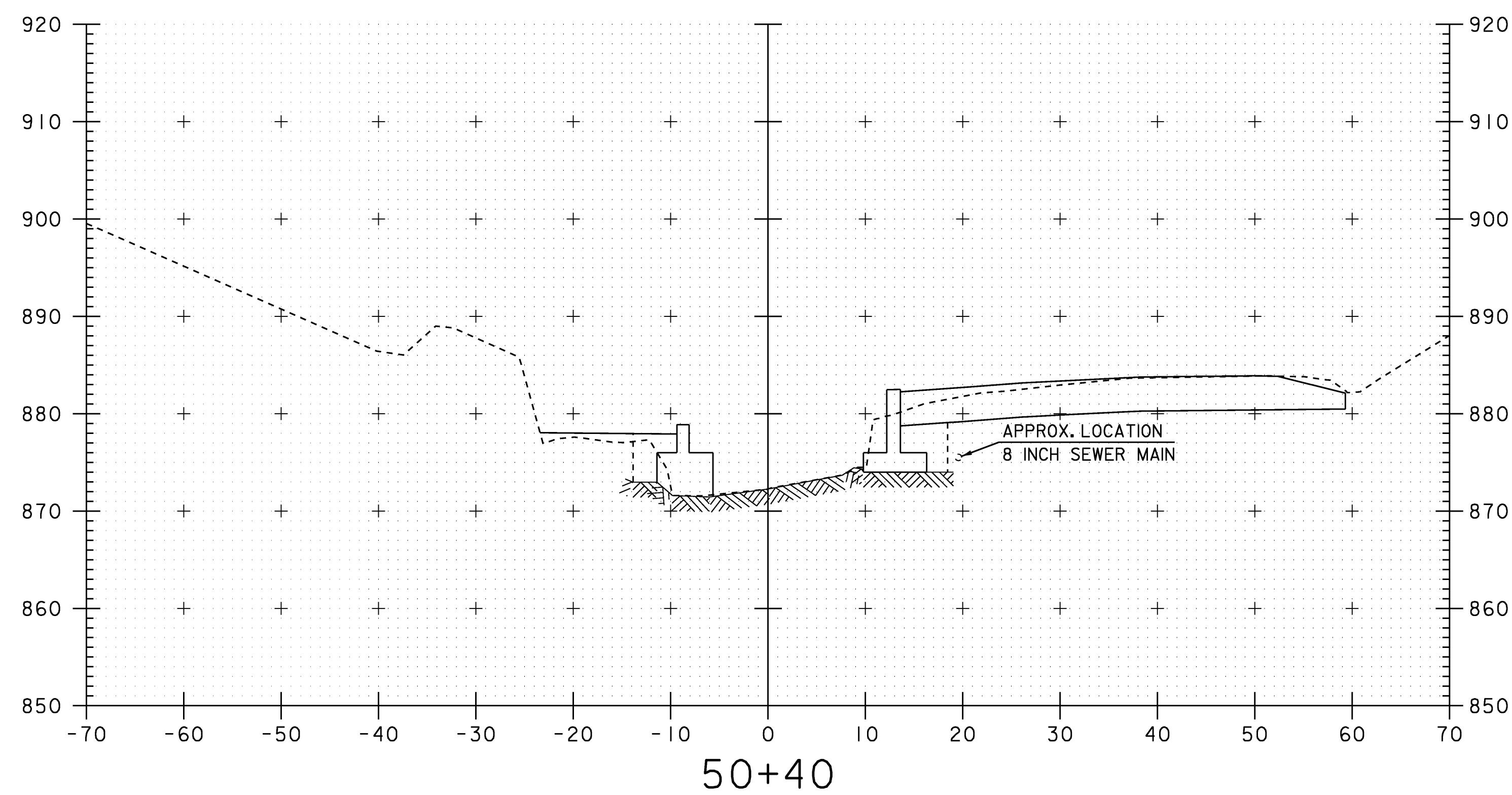
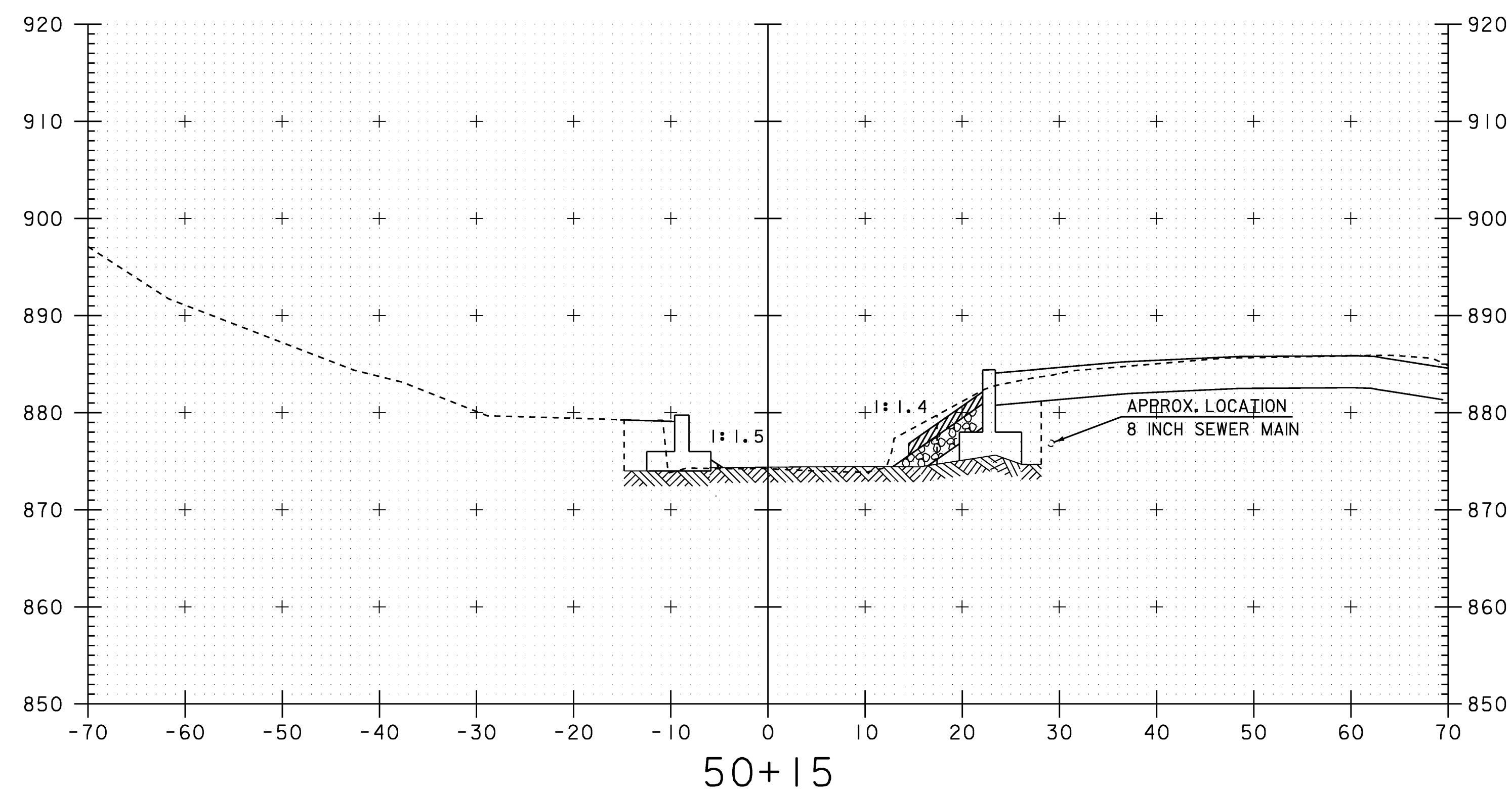


SCALE 1" = 10'-0"

STA. 49+40 TO STA. 50+00

CHANNEL CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\structuresSellxs.d
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellch2.1
PLOT DATE:	07-APR-2008
DRAWN BY:	G.ROKES
CHECKED BY:	EVANS-MONGEON
SHEET	88 OF 108

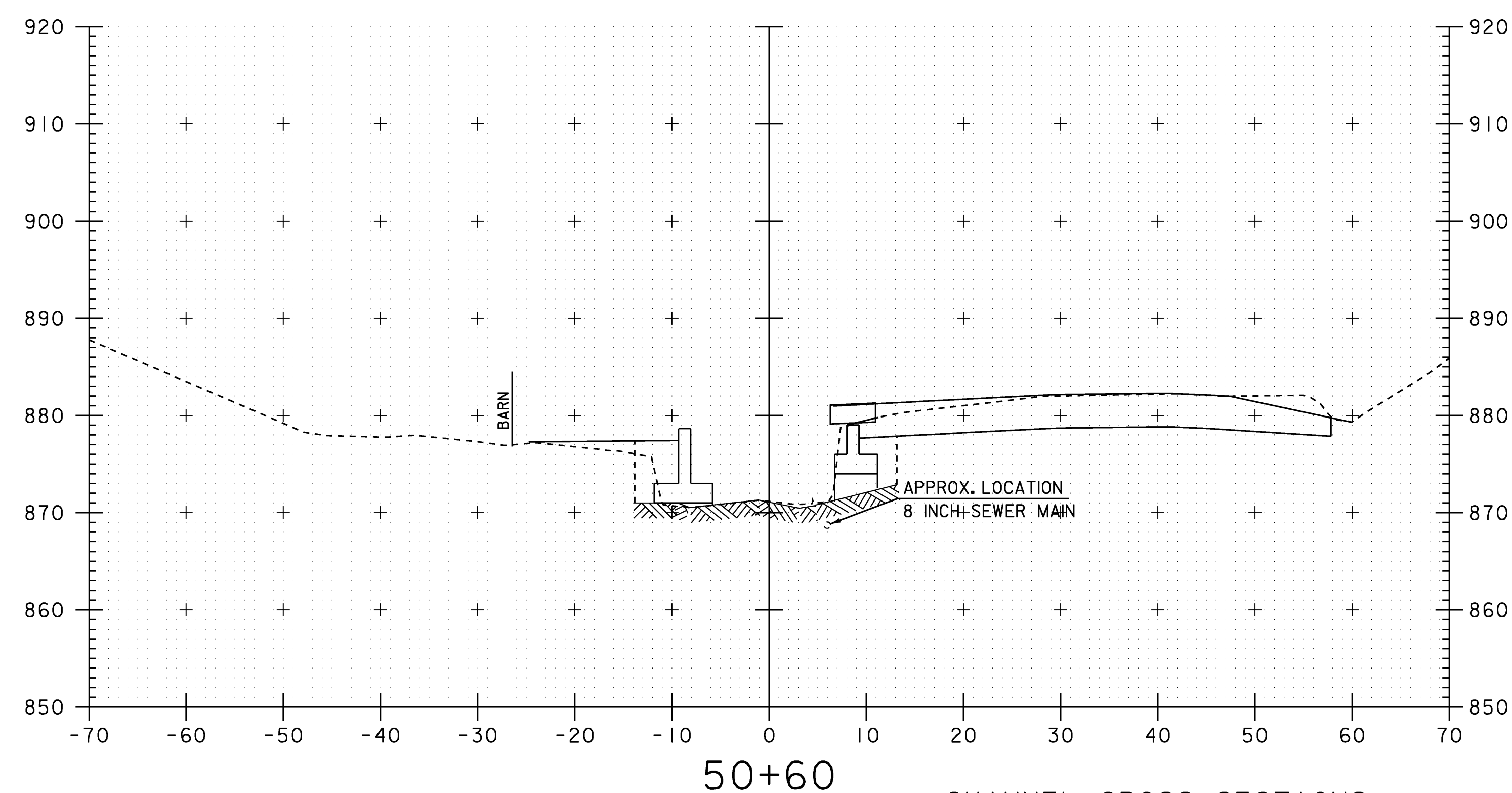
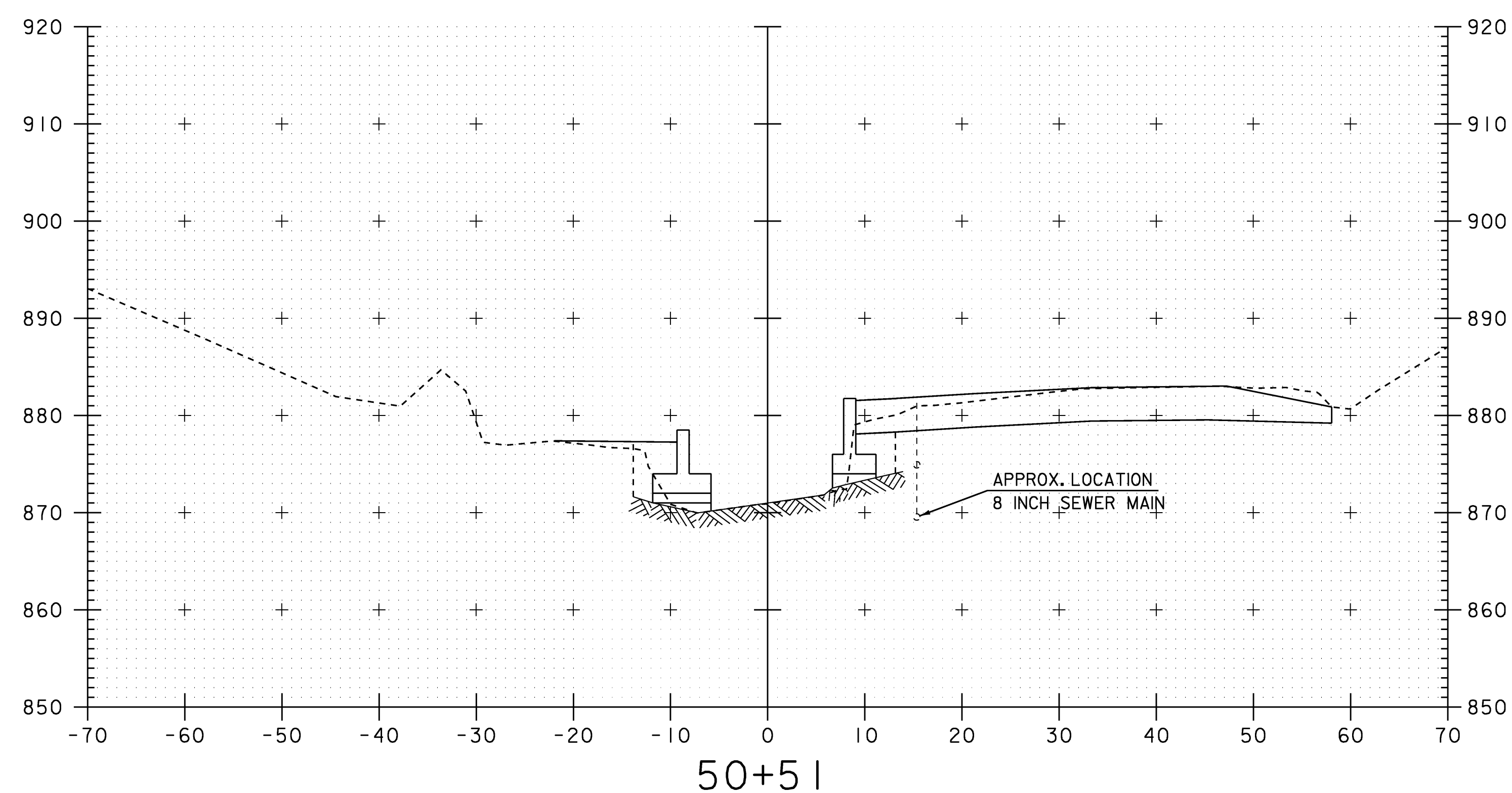
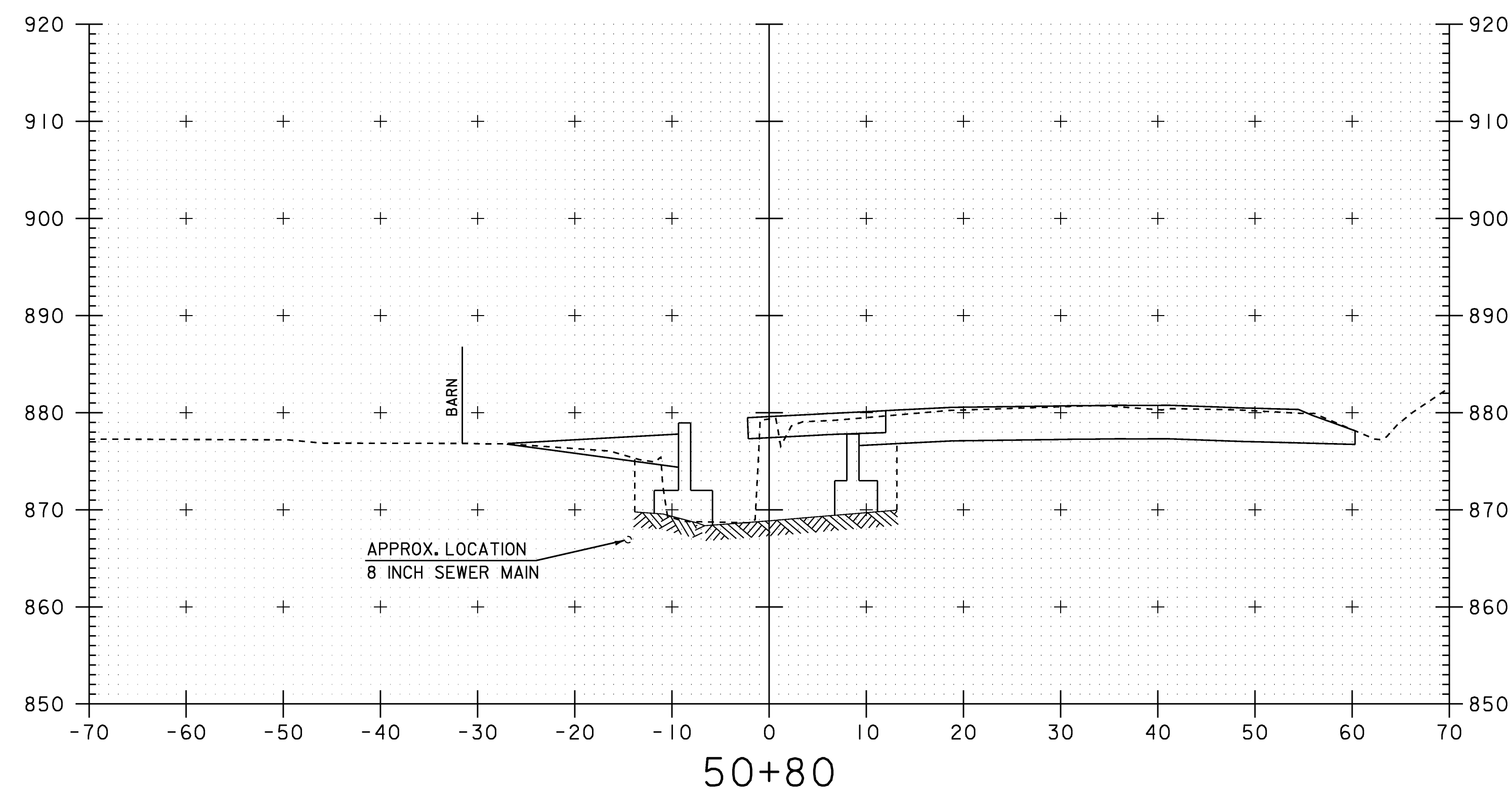
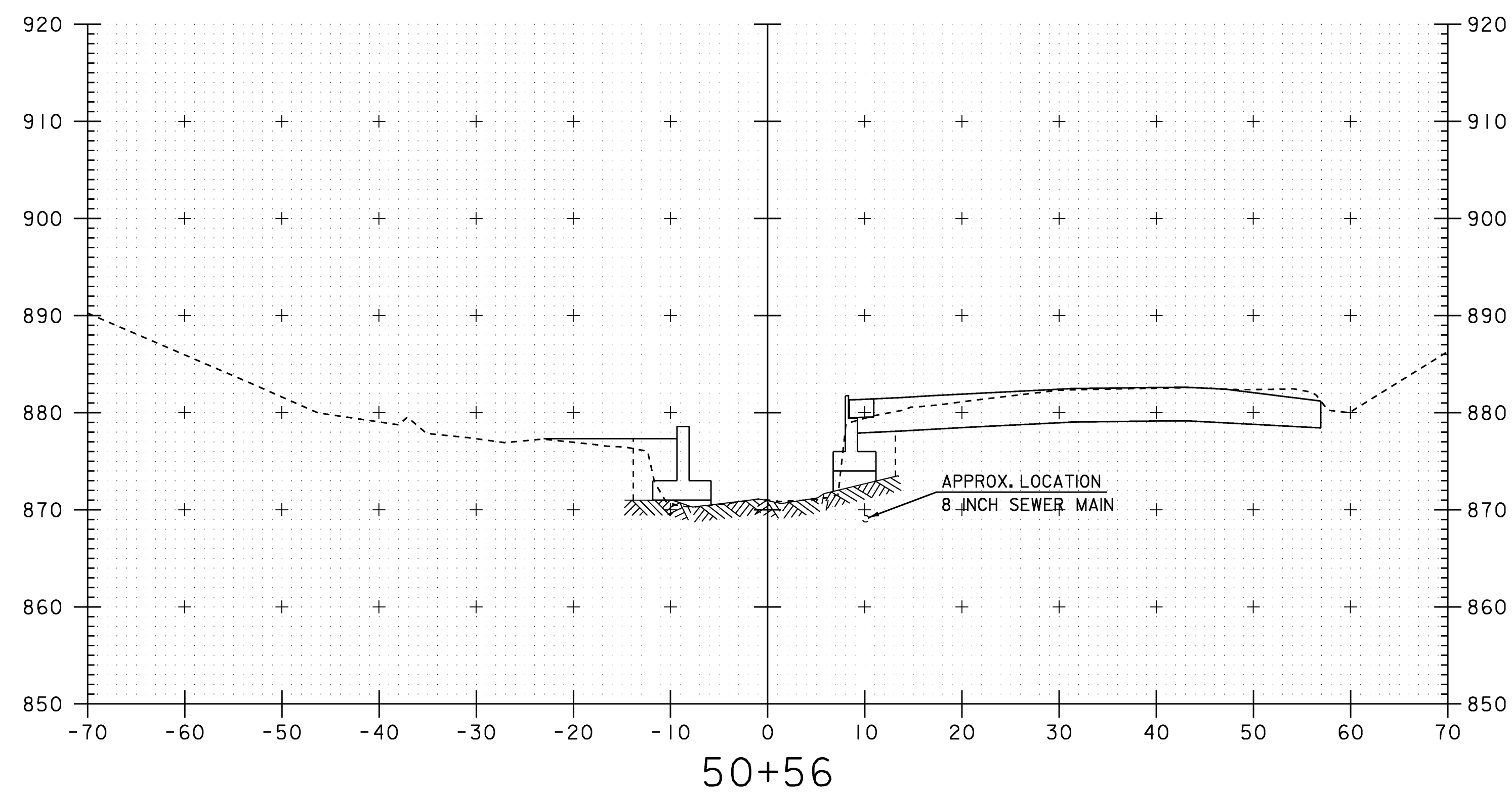


SCALE 1" = 10'-0"

STA. 50+09 TO STA. 50+40

CHANNEL CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\structuresSellxs.d	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	89 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellch3.1		

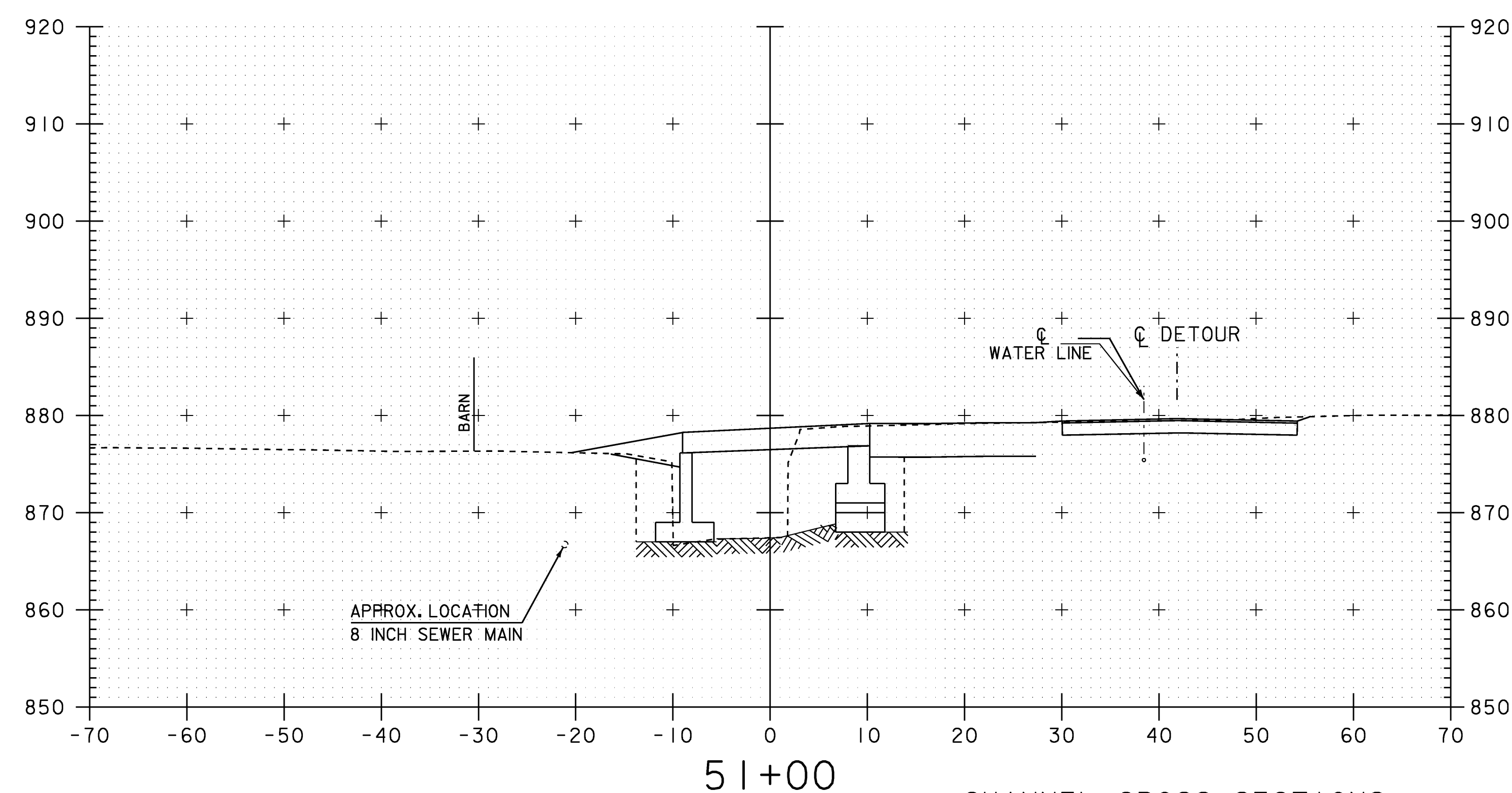
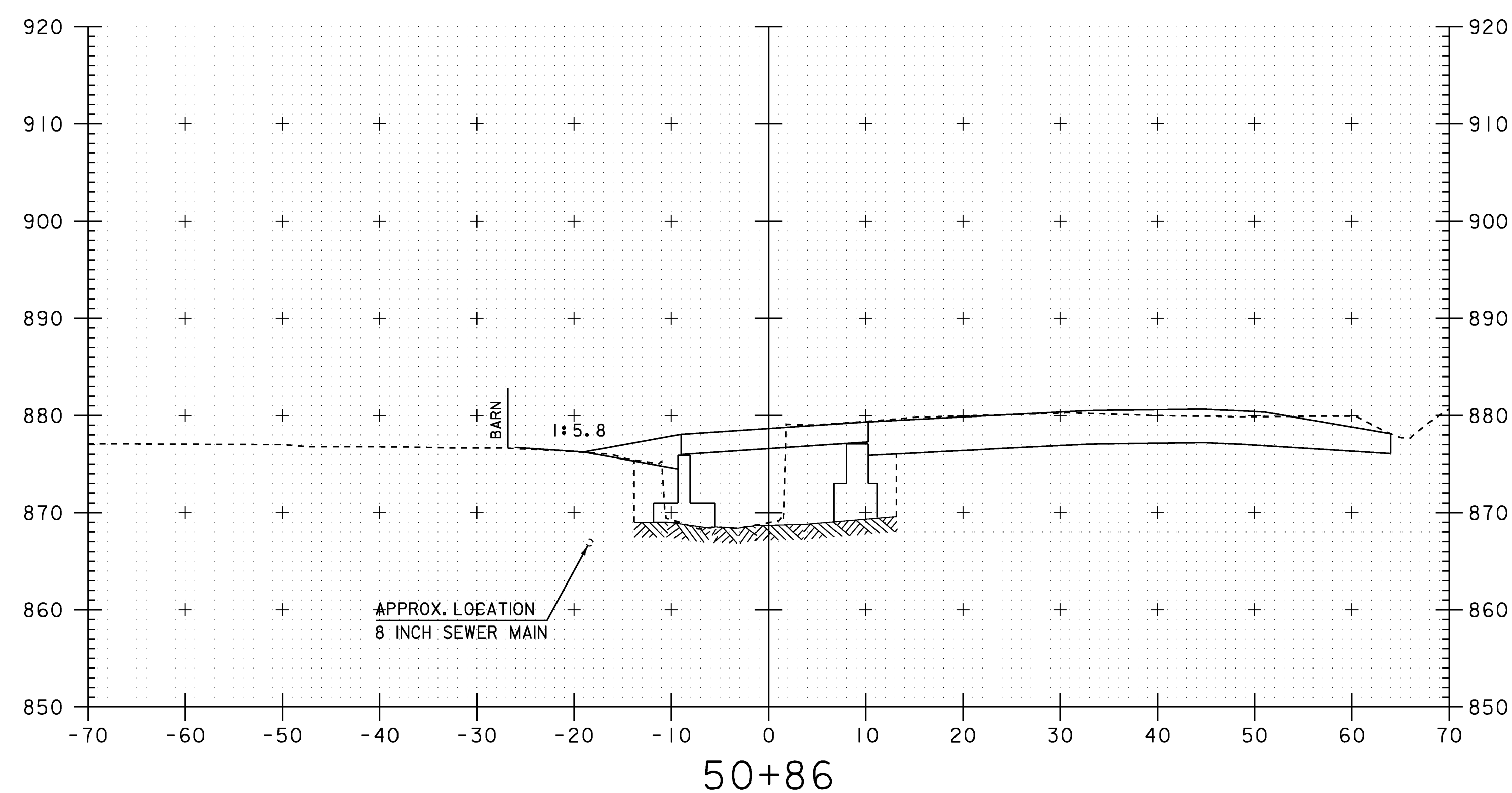
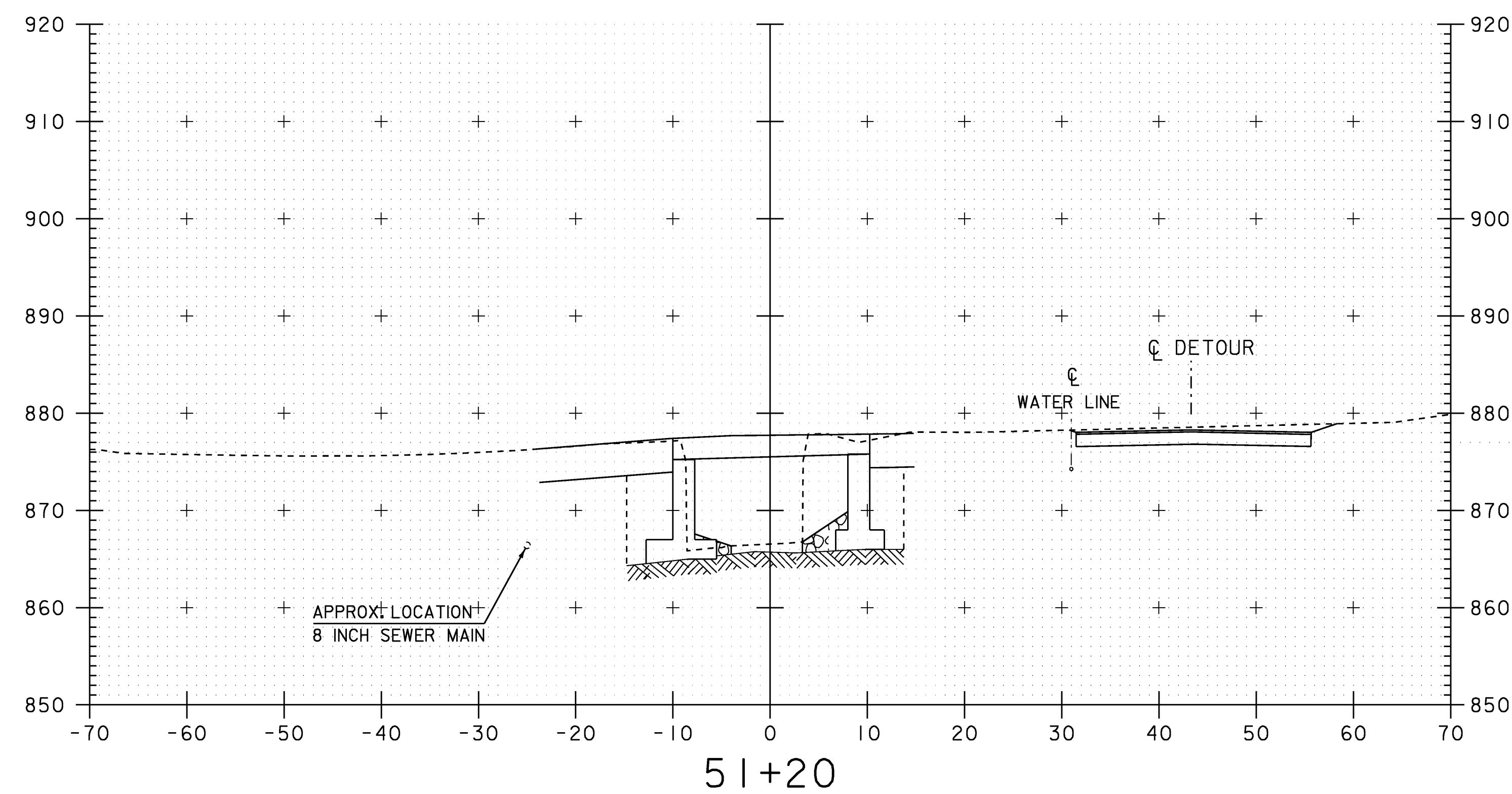
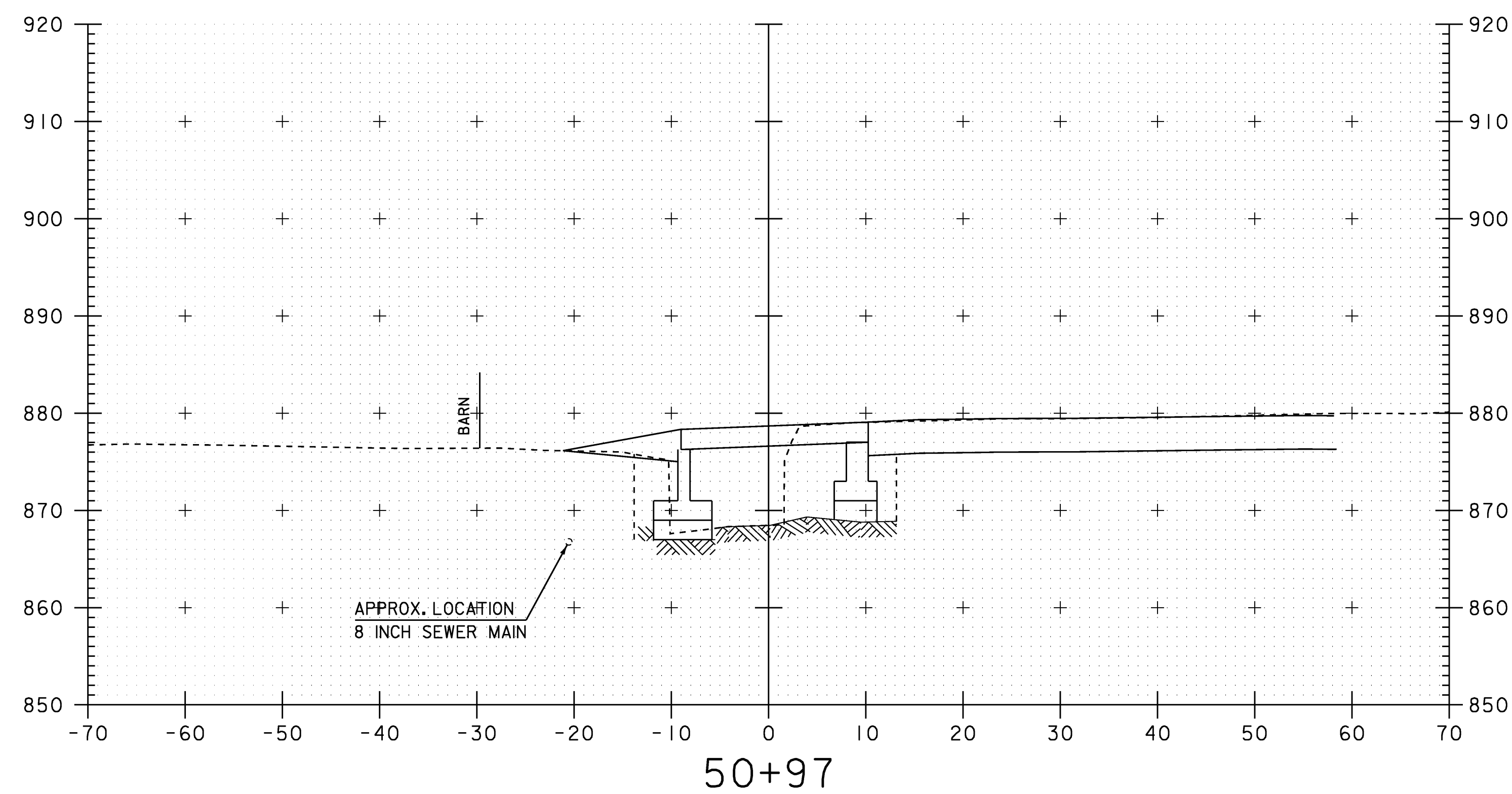


SCALE 1" = 10'-0"

STA. 50+51 TO STA. 50+80

CHANNEL CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204(4)	
FILE NAME: 83ell\structuresSellxs.d	PLOT DATE: 07-APR-2008
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: G.ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: EVANS-MONGEON
IPARM: sellch4.1	SHEET 90 OF 108



SCALE 1" = 10'-0"

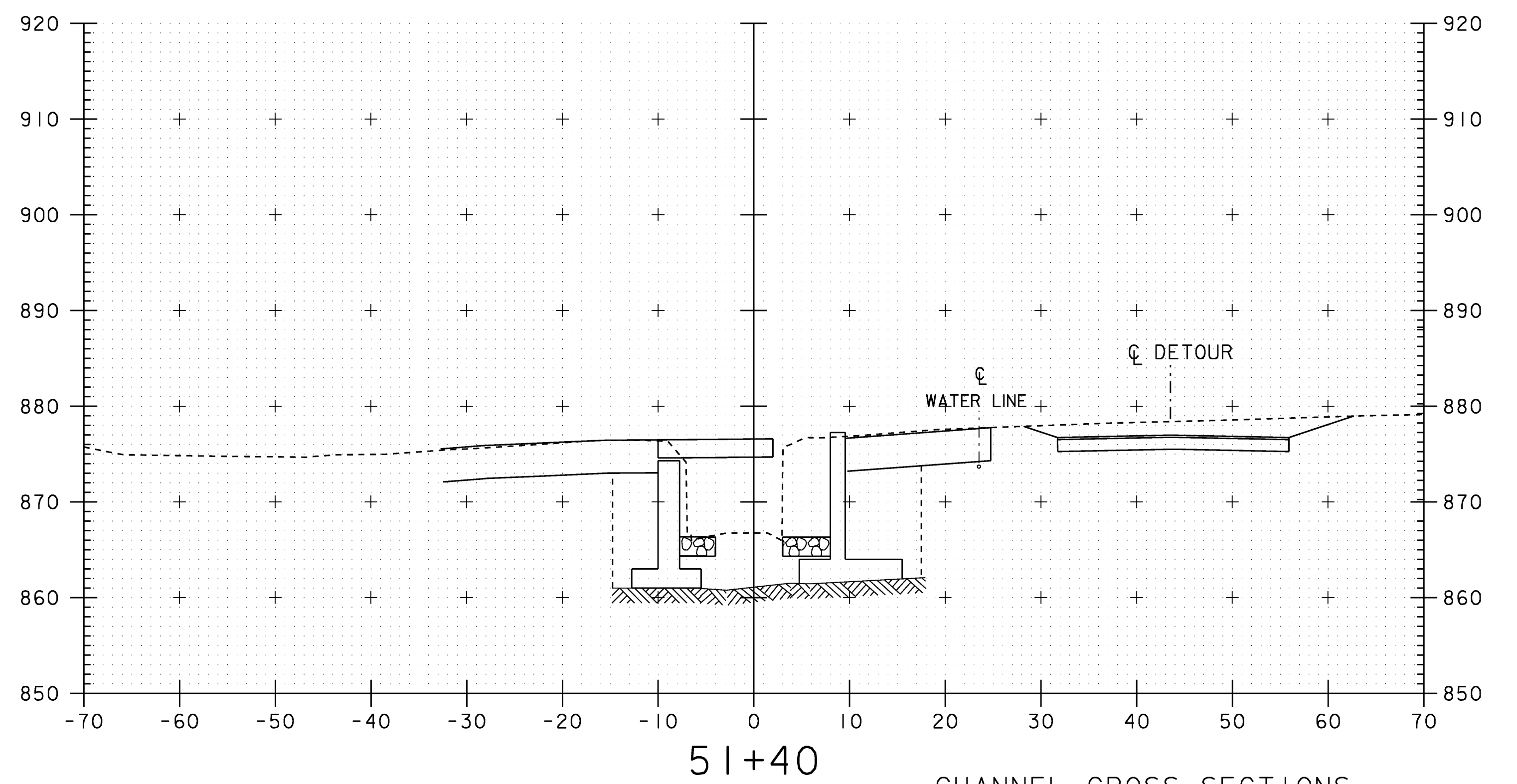
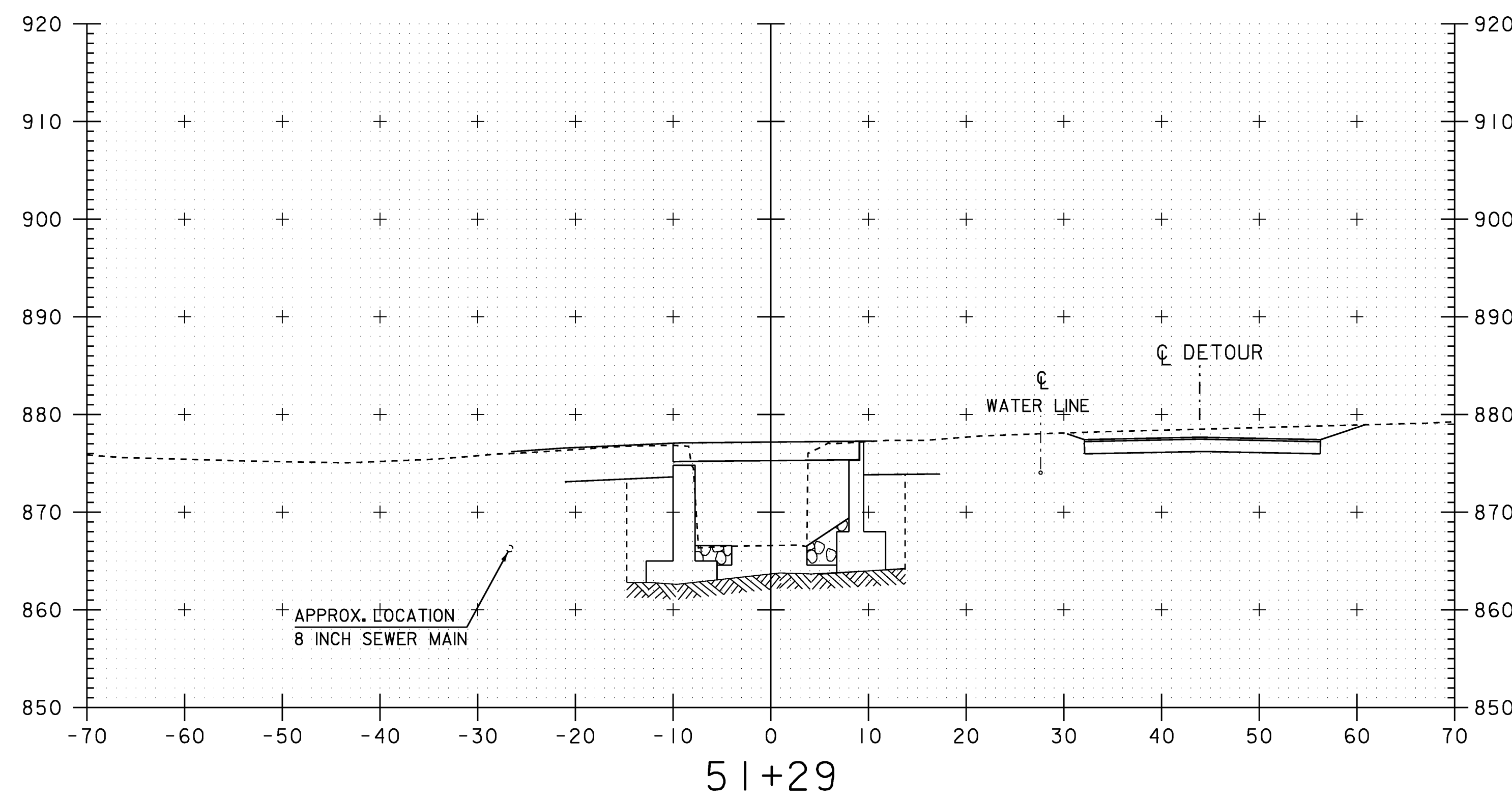
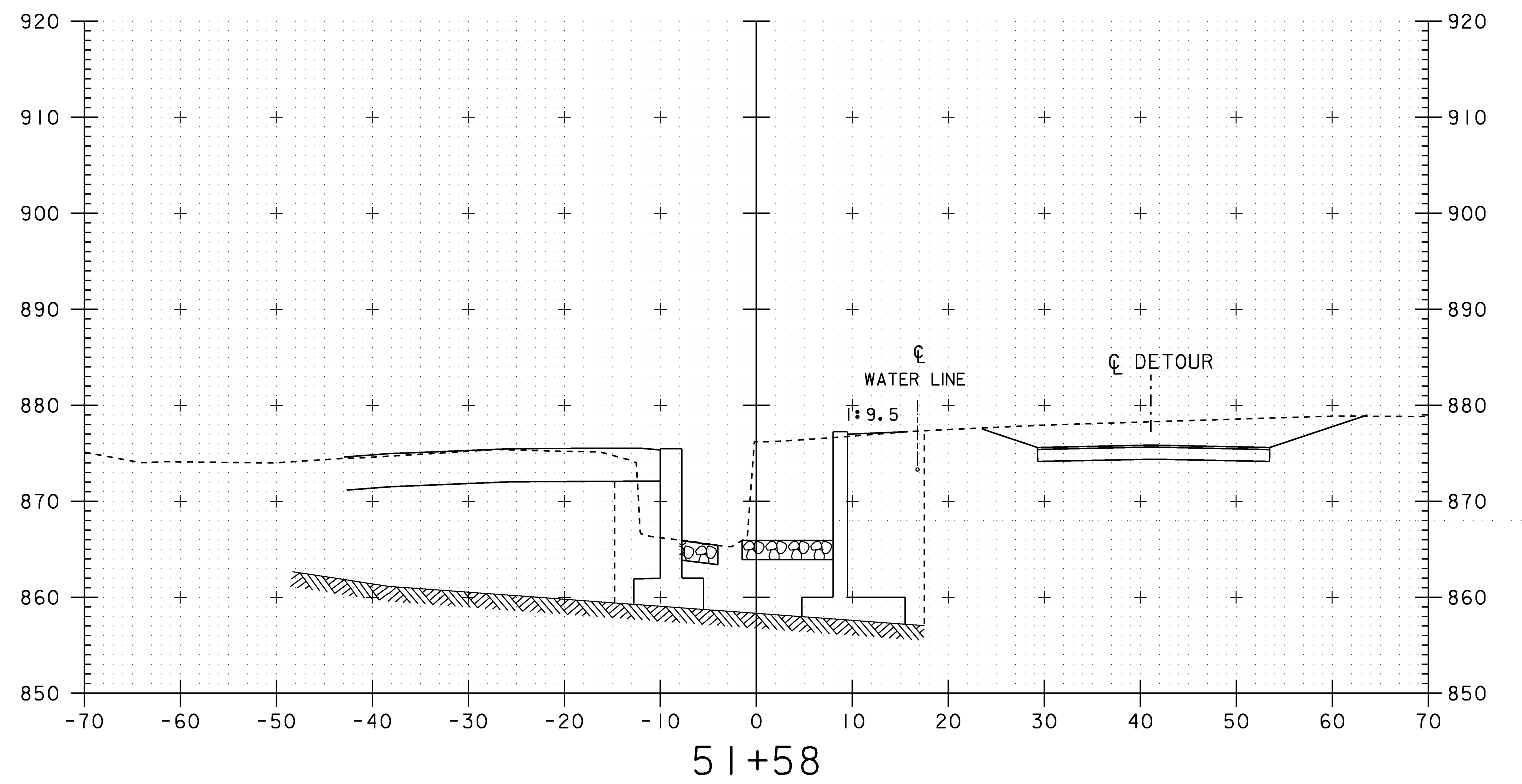
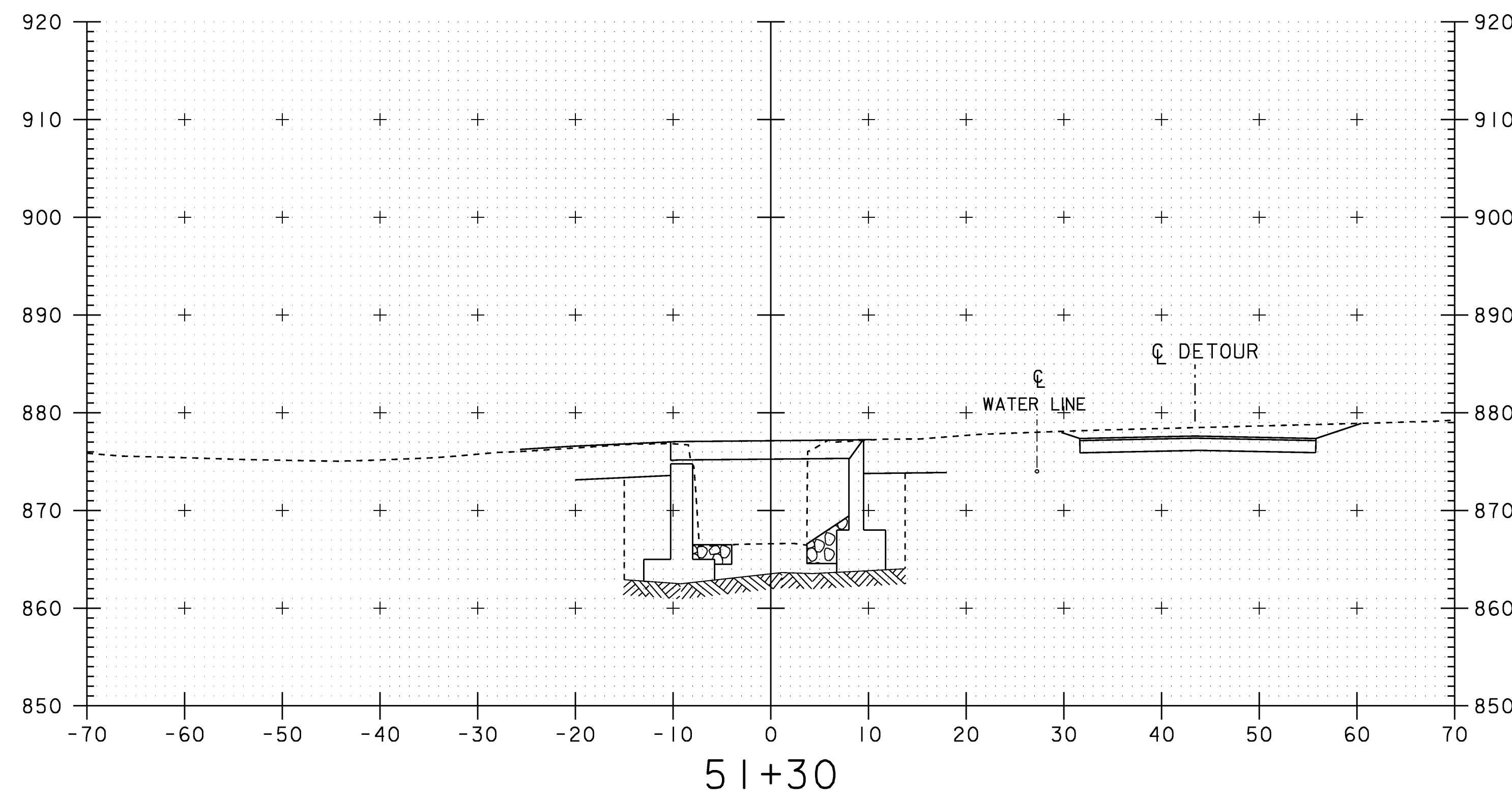
STA. 50+86 TO STA. 51+20

CHANNEL CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\structuresSellxs.d
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: MEM
IPARM: sellch5.1

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY:
SHEET 91 OF 108



SCALE 1" = 10'-0"

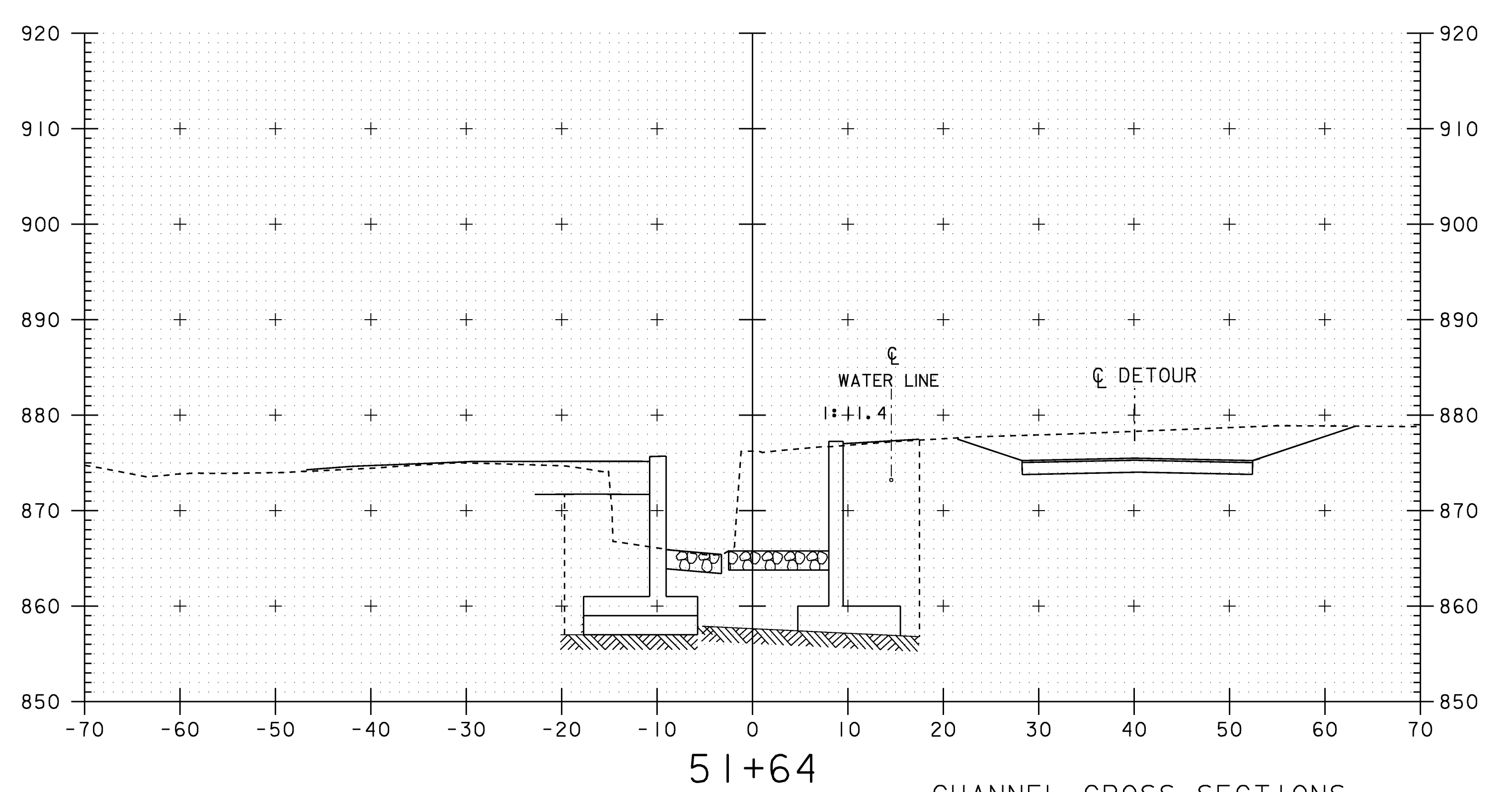
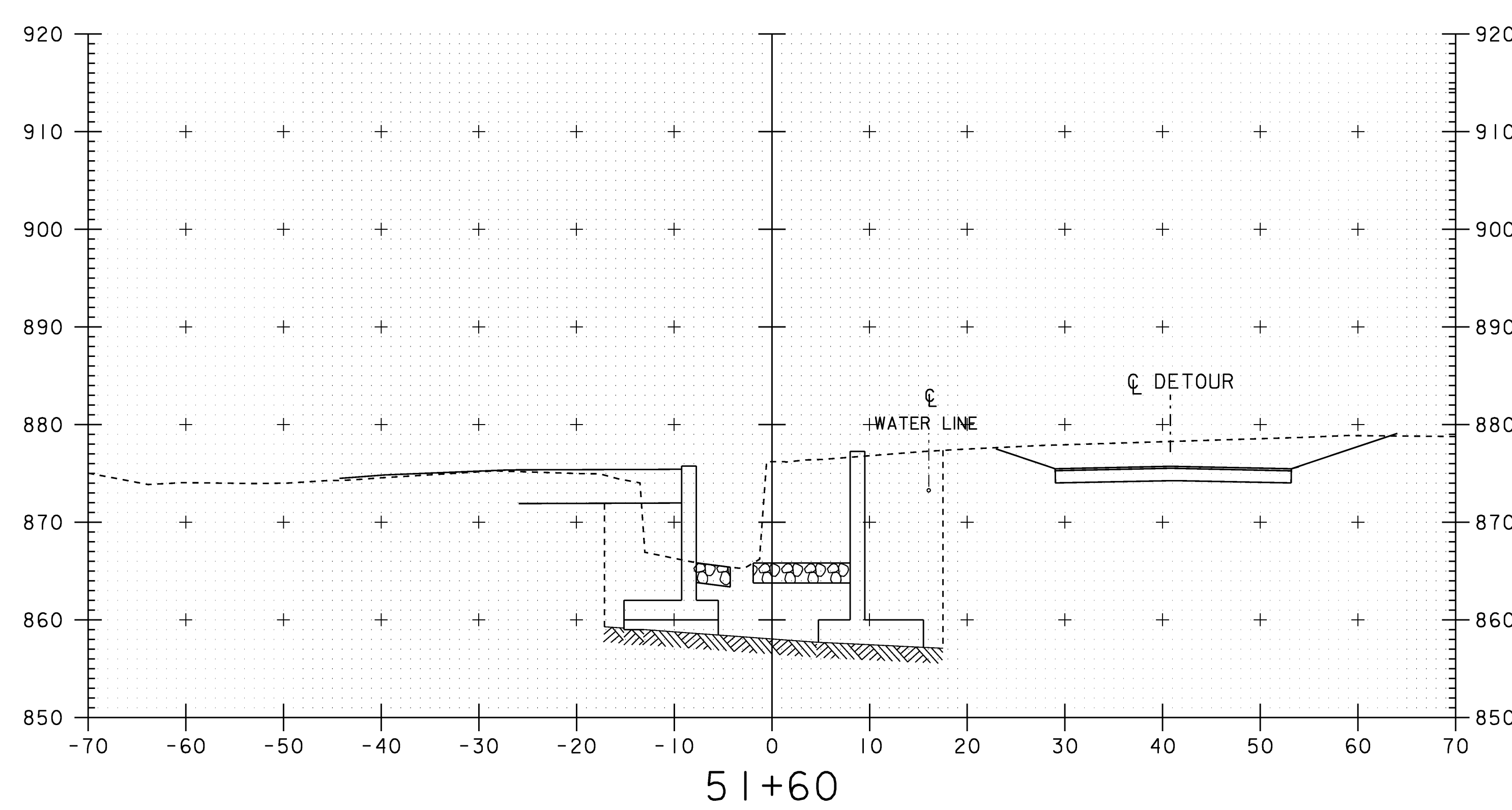
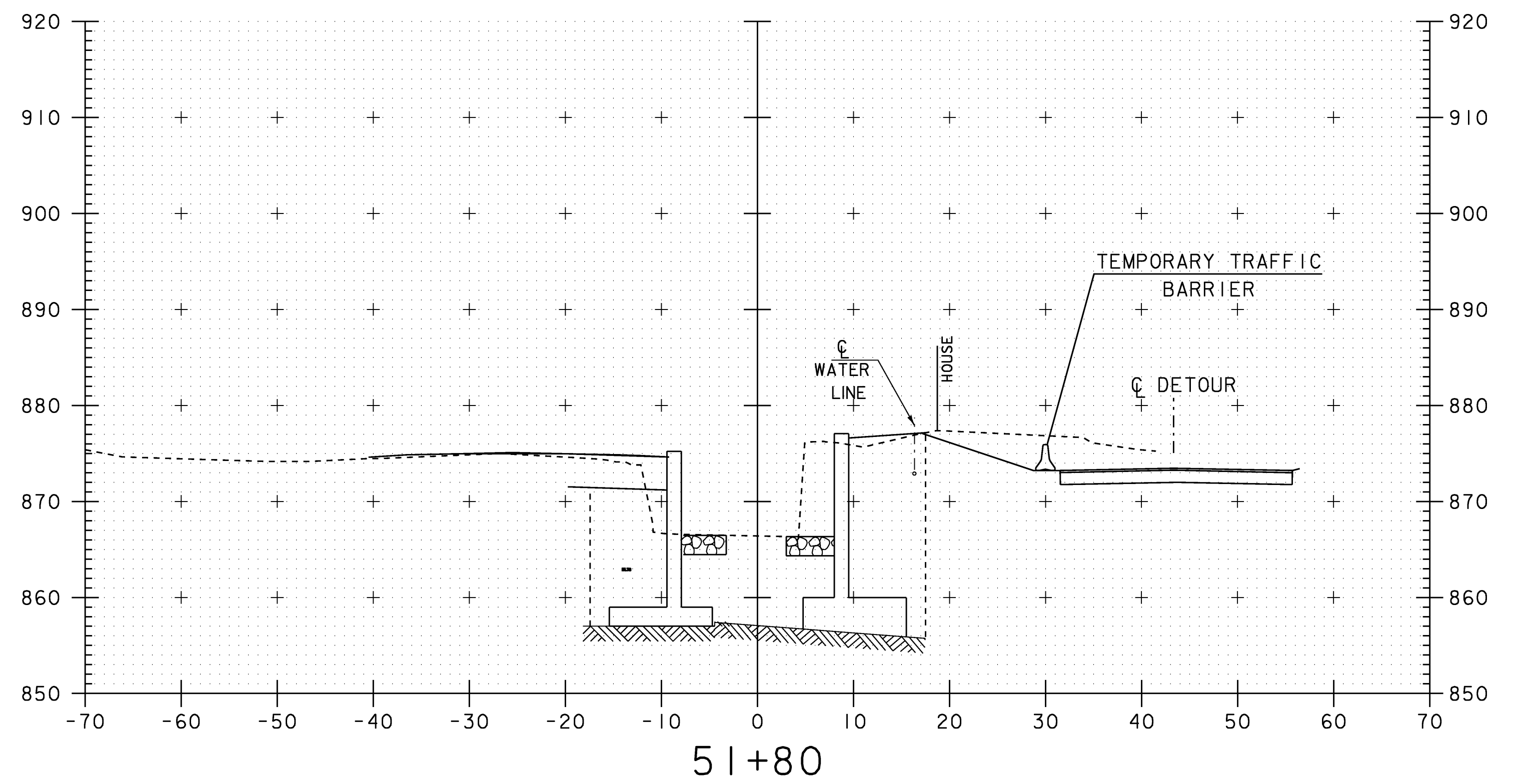
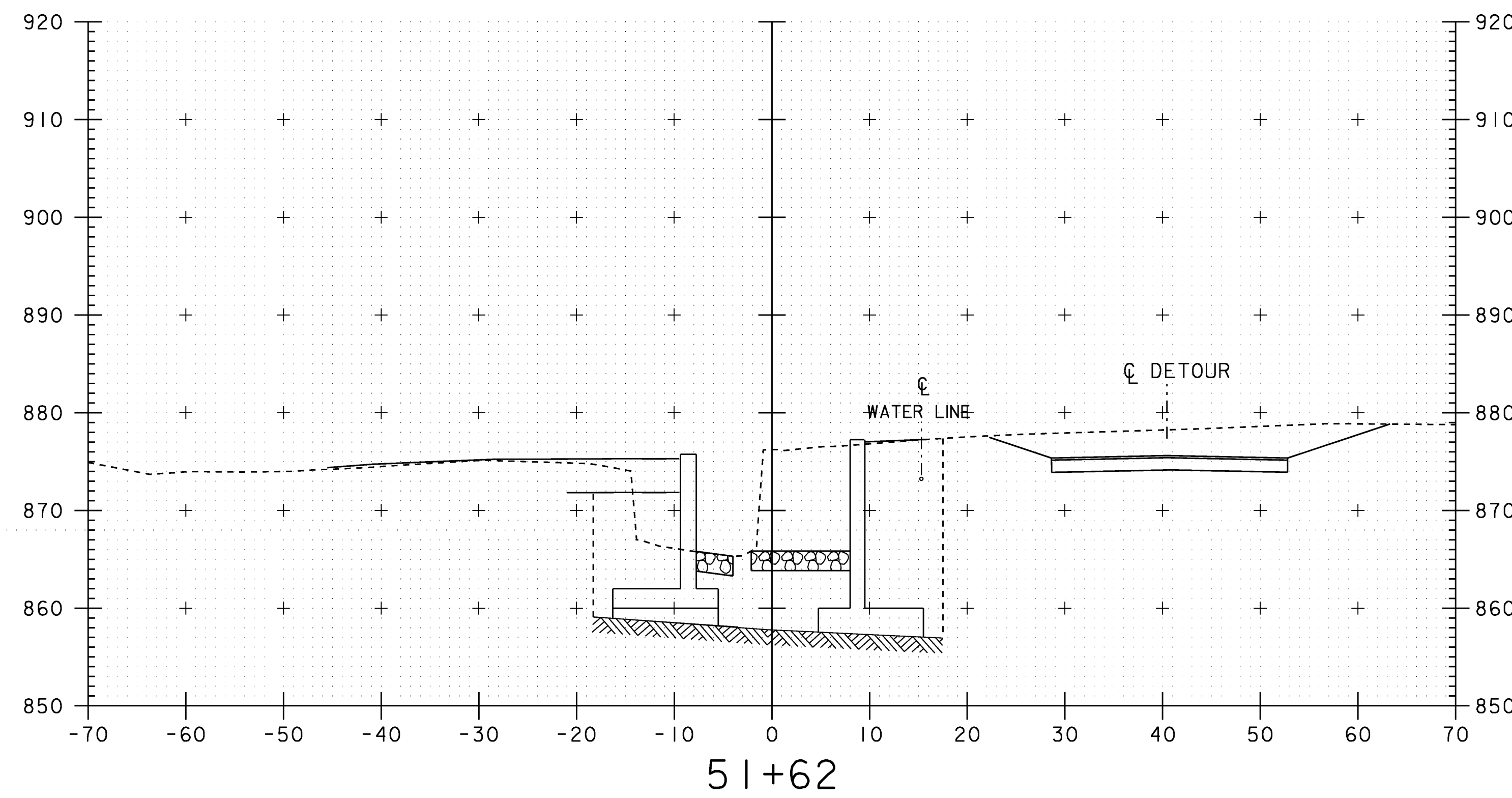
STA. 51+29 TO STA. 51+58

CHANNEL CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\structuresSellxs.d
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: MEM
IPARM: sellch6.1

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY:
SHEET 92 OF 108

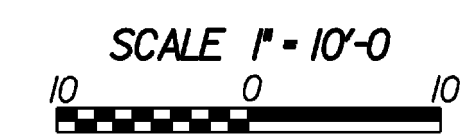
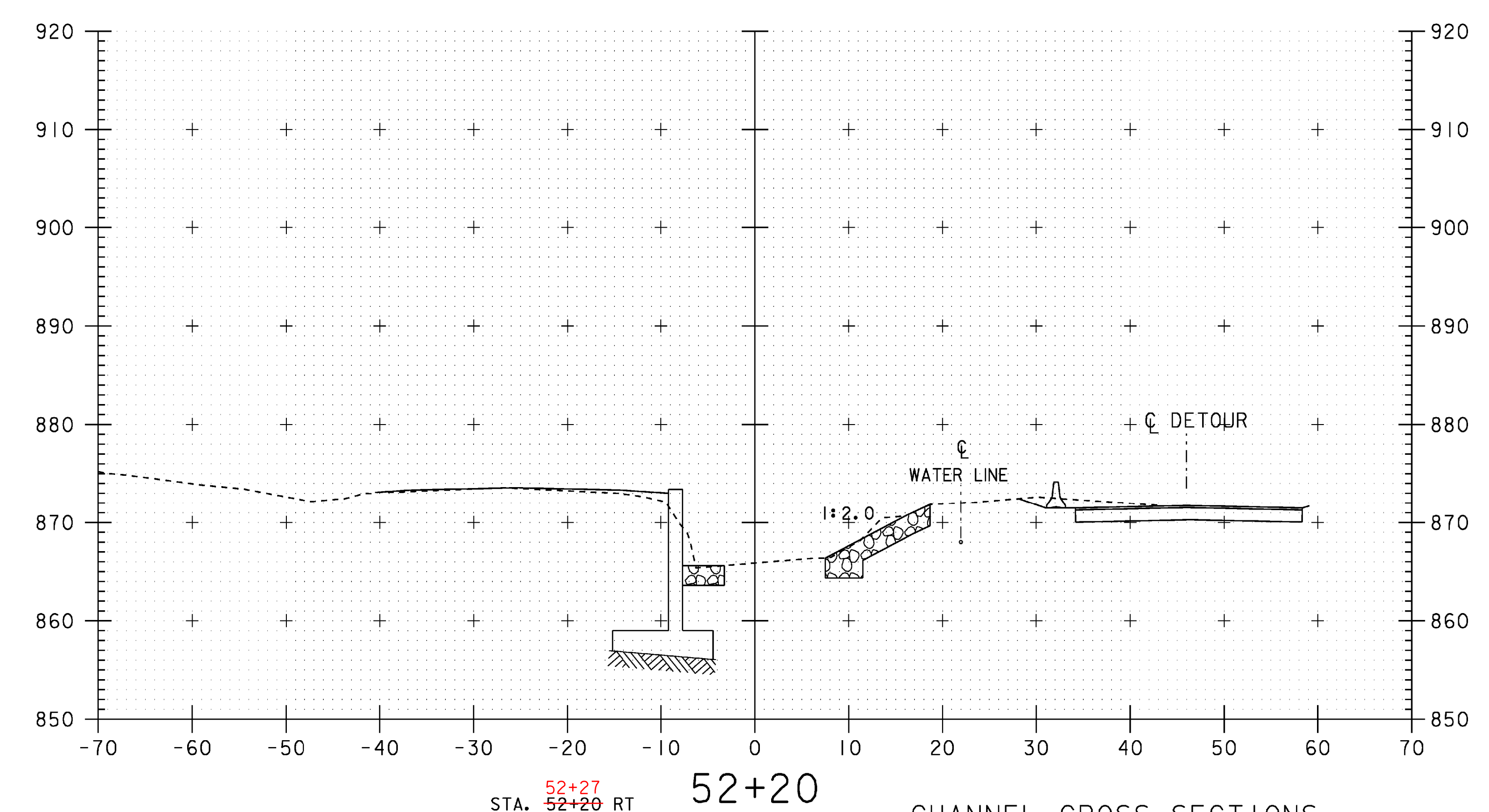
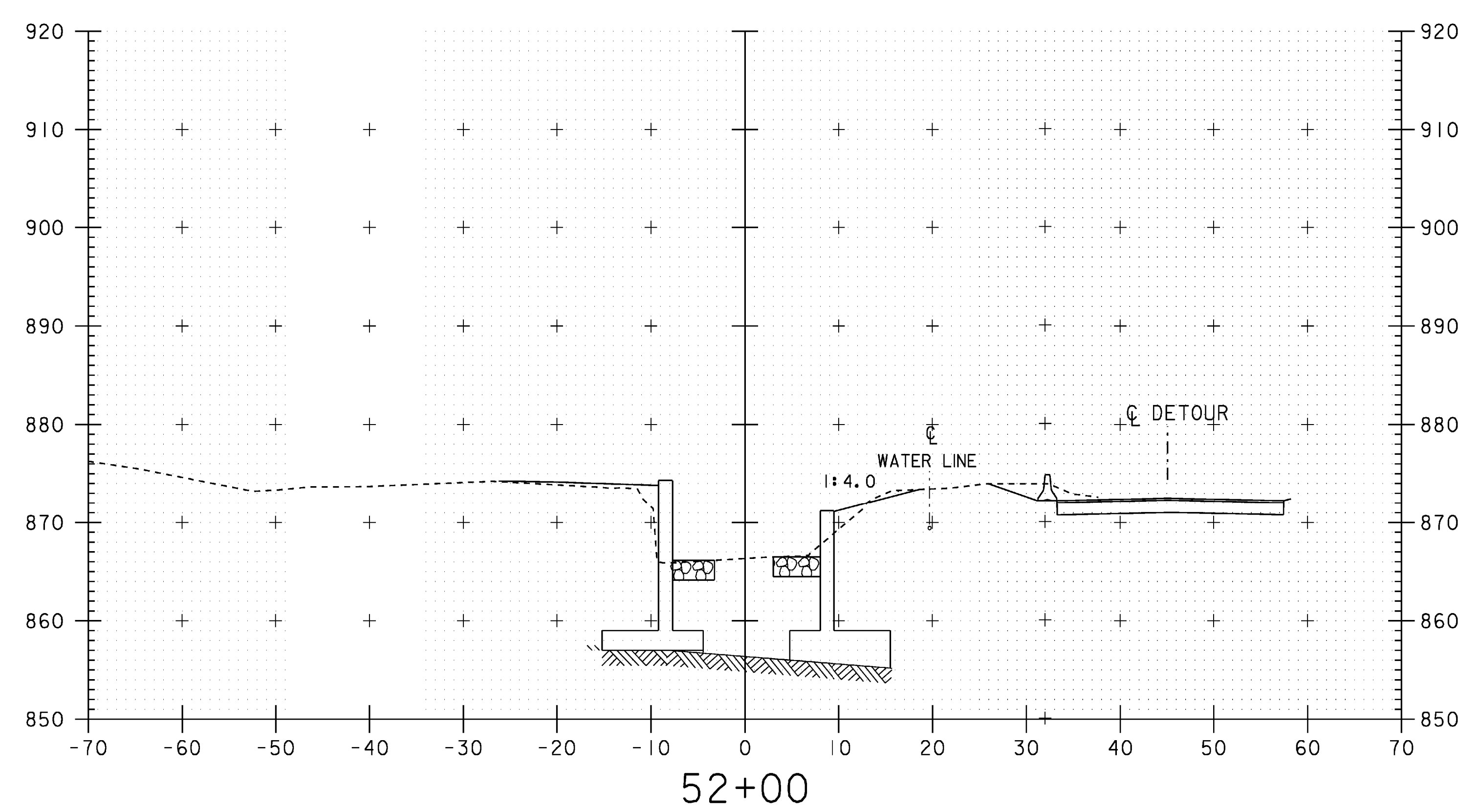
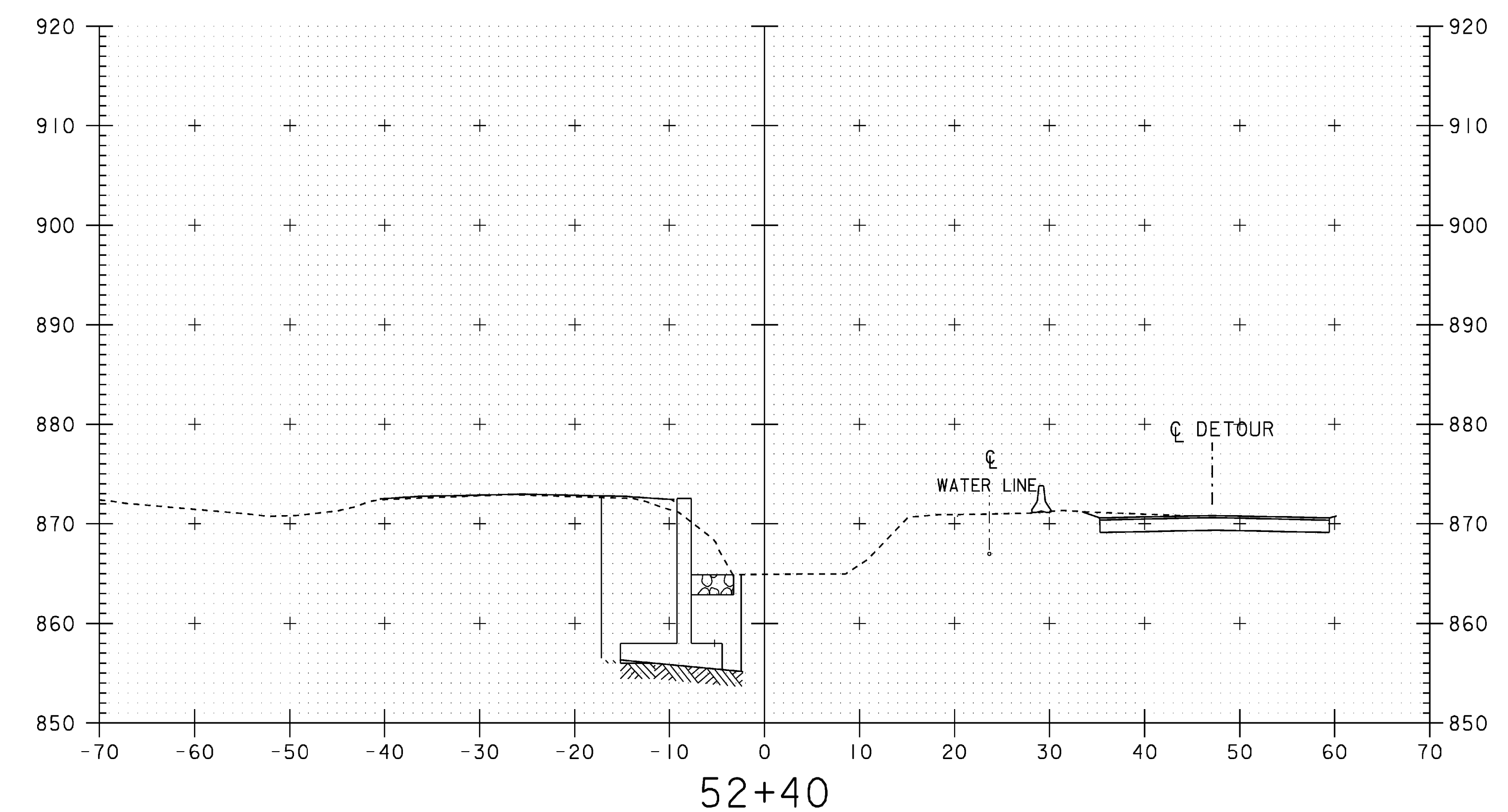
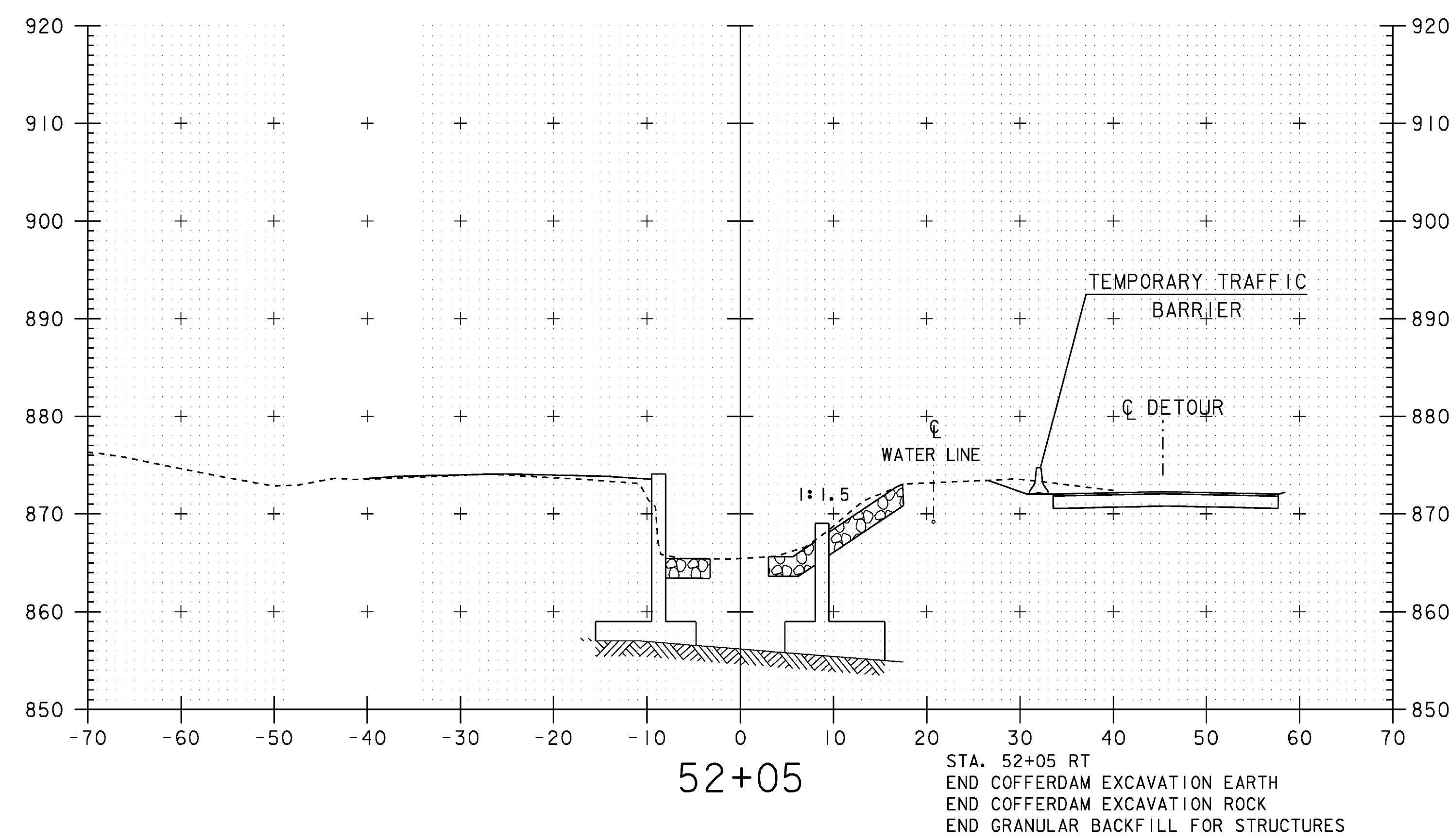


SCALE 1" = 10'-0"

STA. 51+60 TO STA. 51+80

CHANNEL CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN	
PROJECT NUMBER: BRS 0204(4)	
FILE NAME: 83ell\structuresSellxs.d	PLOT DATE: 07-APR-2008
PROJECT LEADER: EVANS-MONGEON	DRAWN BY: G.ROKES
DESIGNED BY: U. STANLEY	CHECKED BY: EVANS-MONGEON
IPARM: sellch7.1	SHEET 93 OF 108

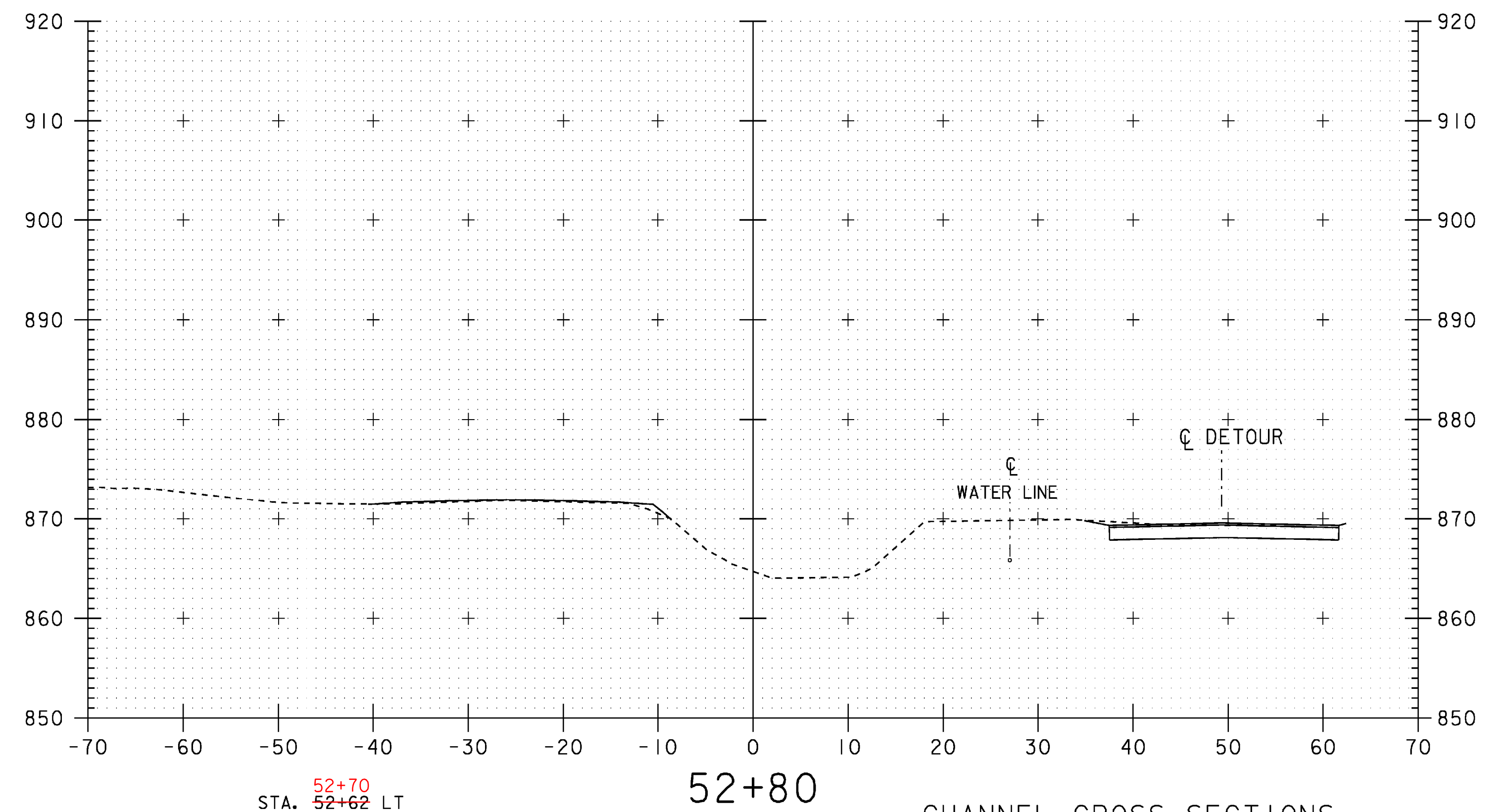
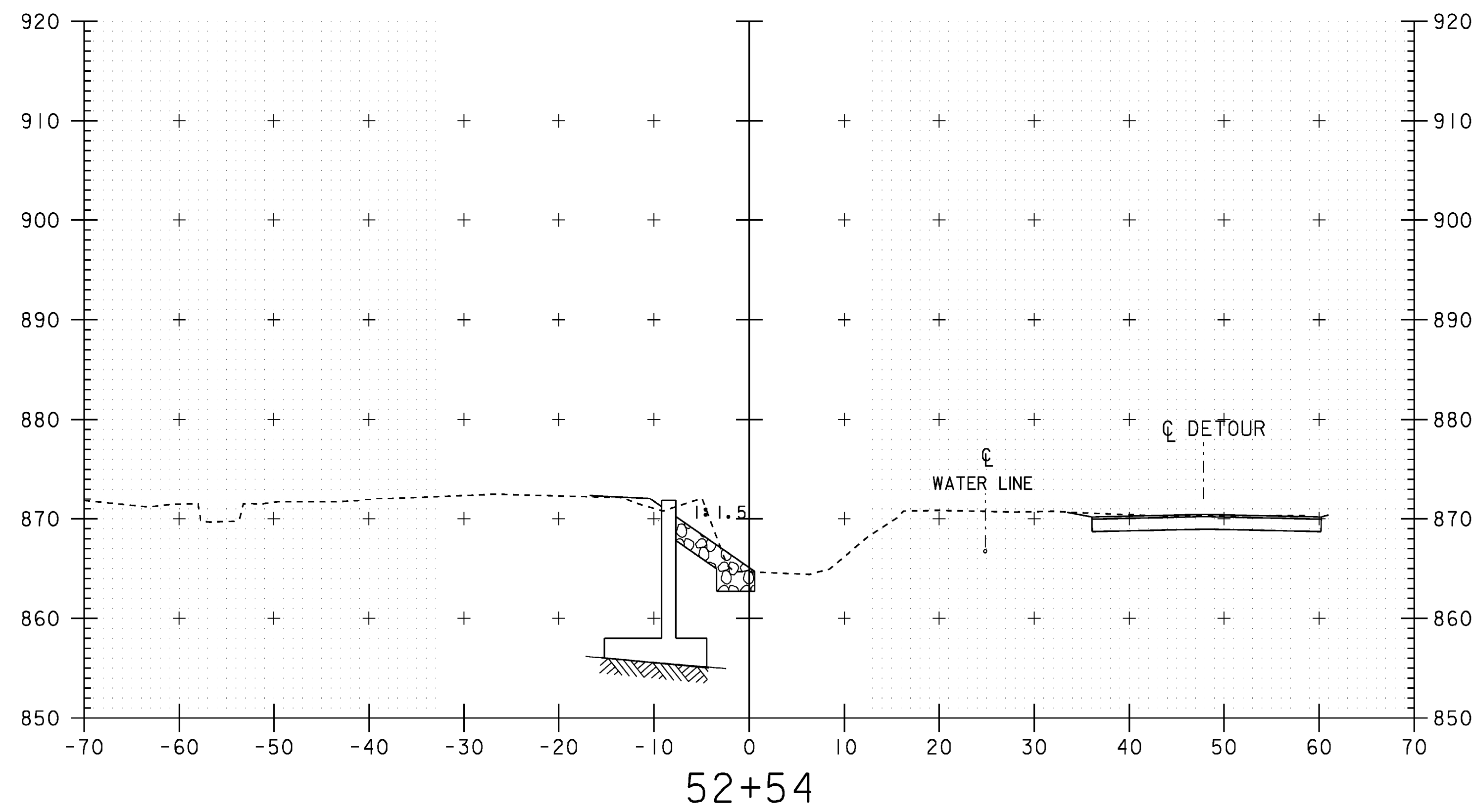
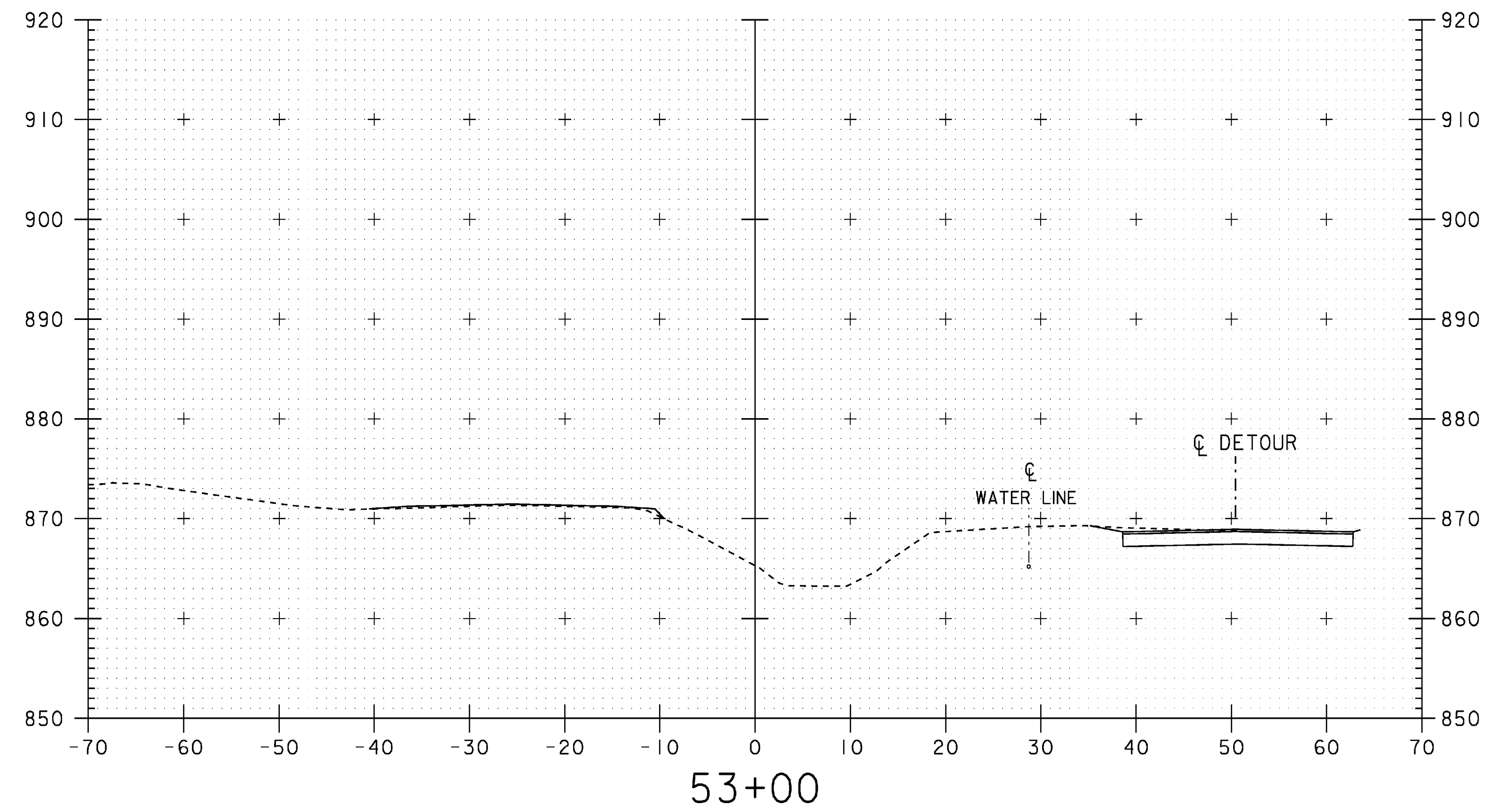
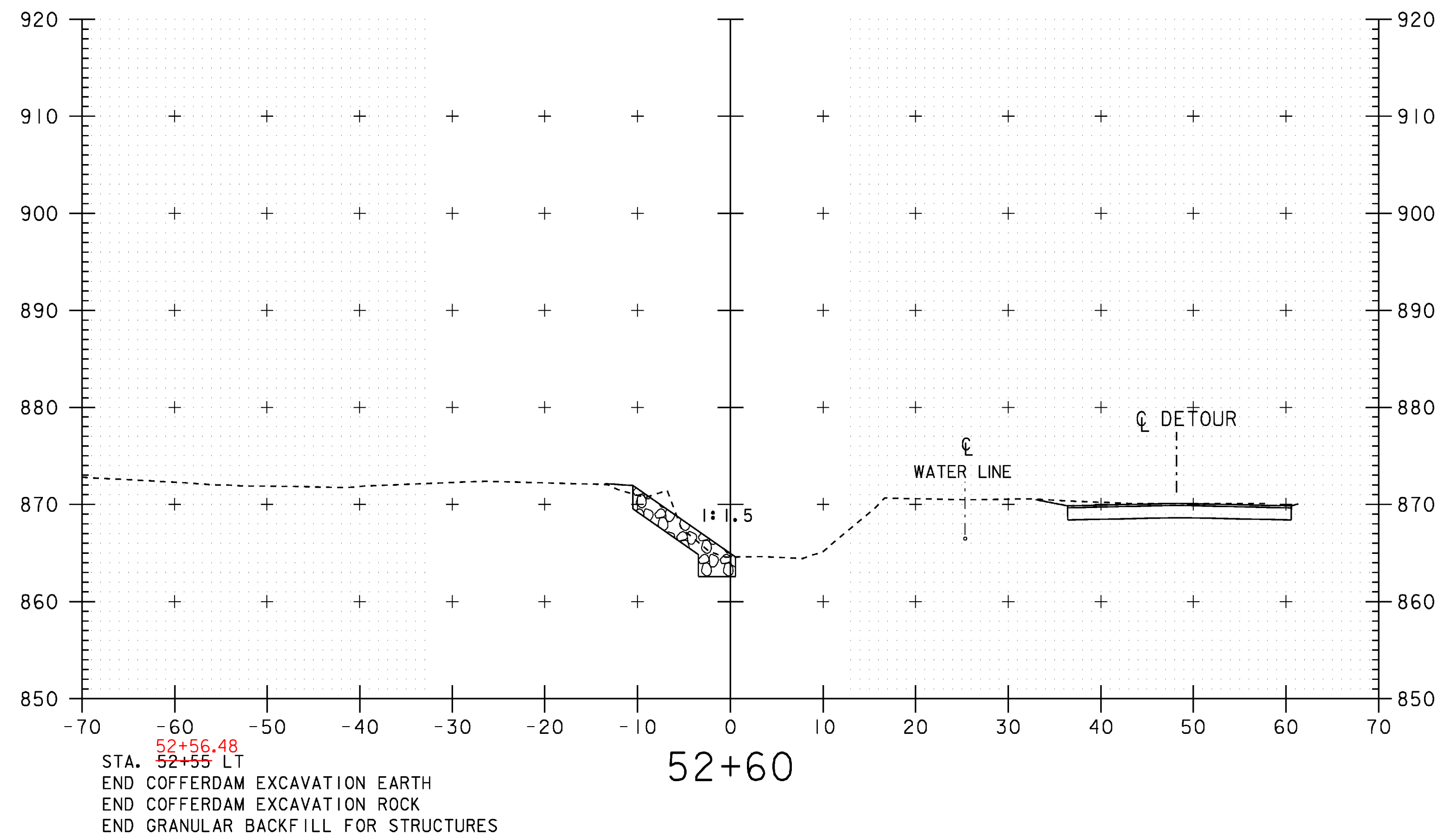


STA. ~~52+20~~ ⁵²⁺²⁷ RT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL TYPE II
END GRUBBING MATERIAL
END GEOTEXTILE UNDER STONE FILL

CHANNEL CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	G.ROKES
FILE NAME:	83ell\structuresSellxs.d	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	94 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellch8.1		

STA. 52+00 TO STA. 52+40



SCALE 1" = 10'-0"

STA. 52+62 LT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL TYPE II
END GRUBBING MATERIAL
END GEOTEXTILE UNDER STONE FILL

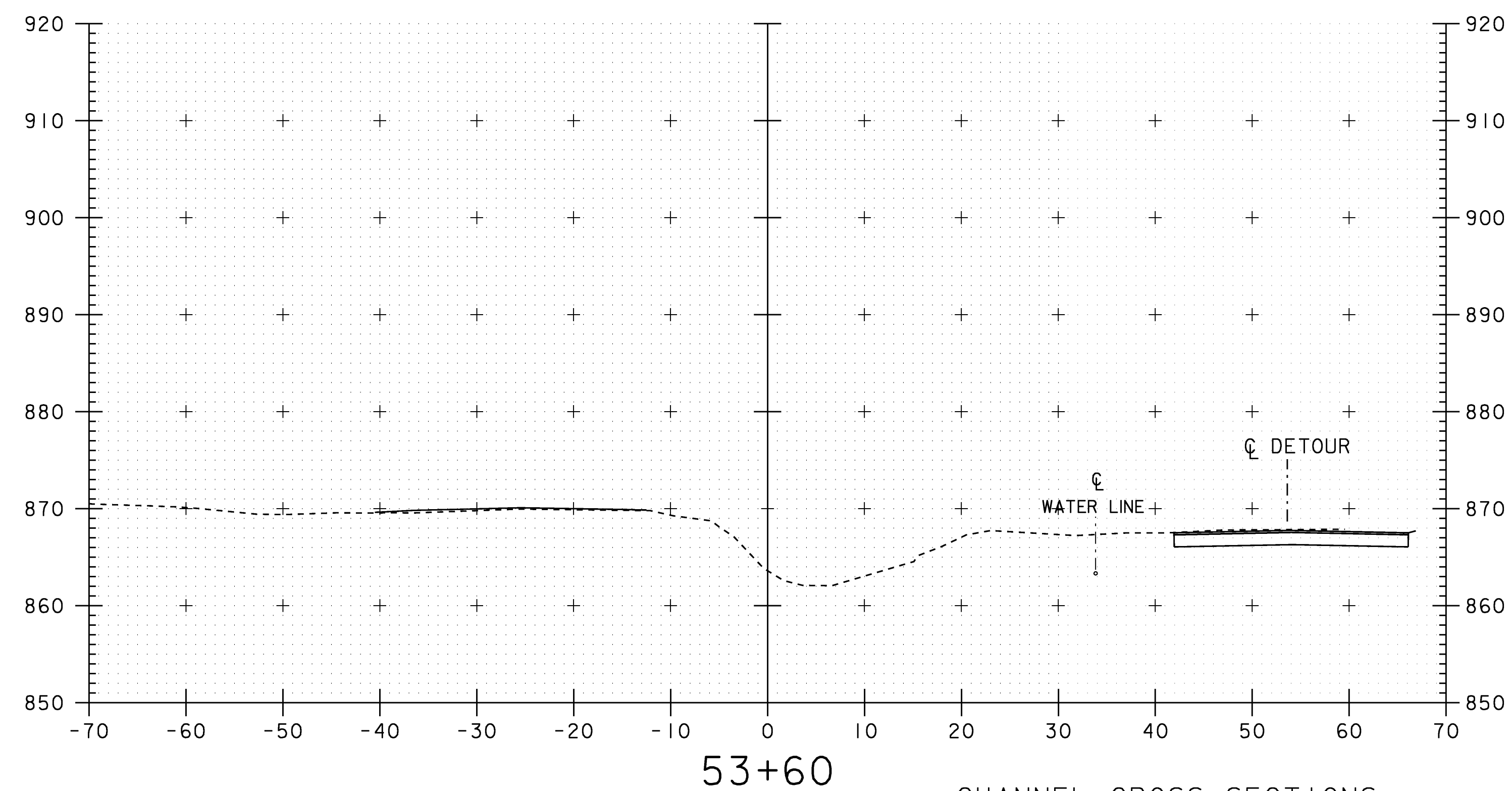
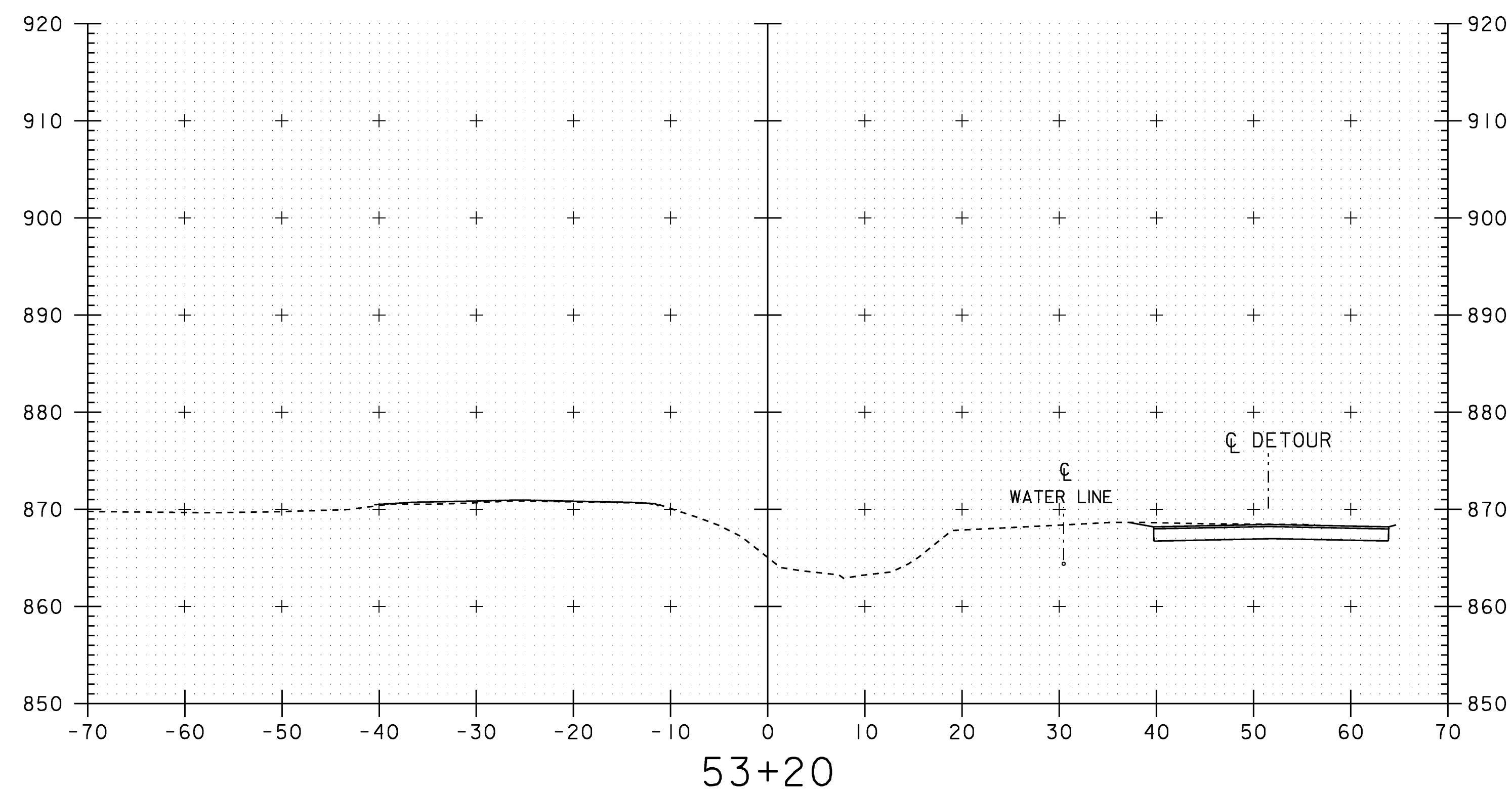
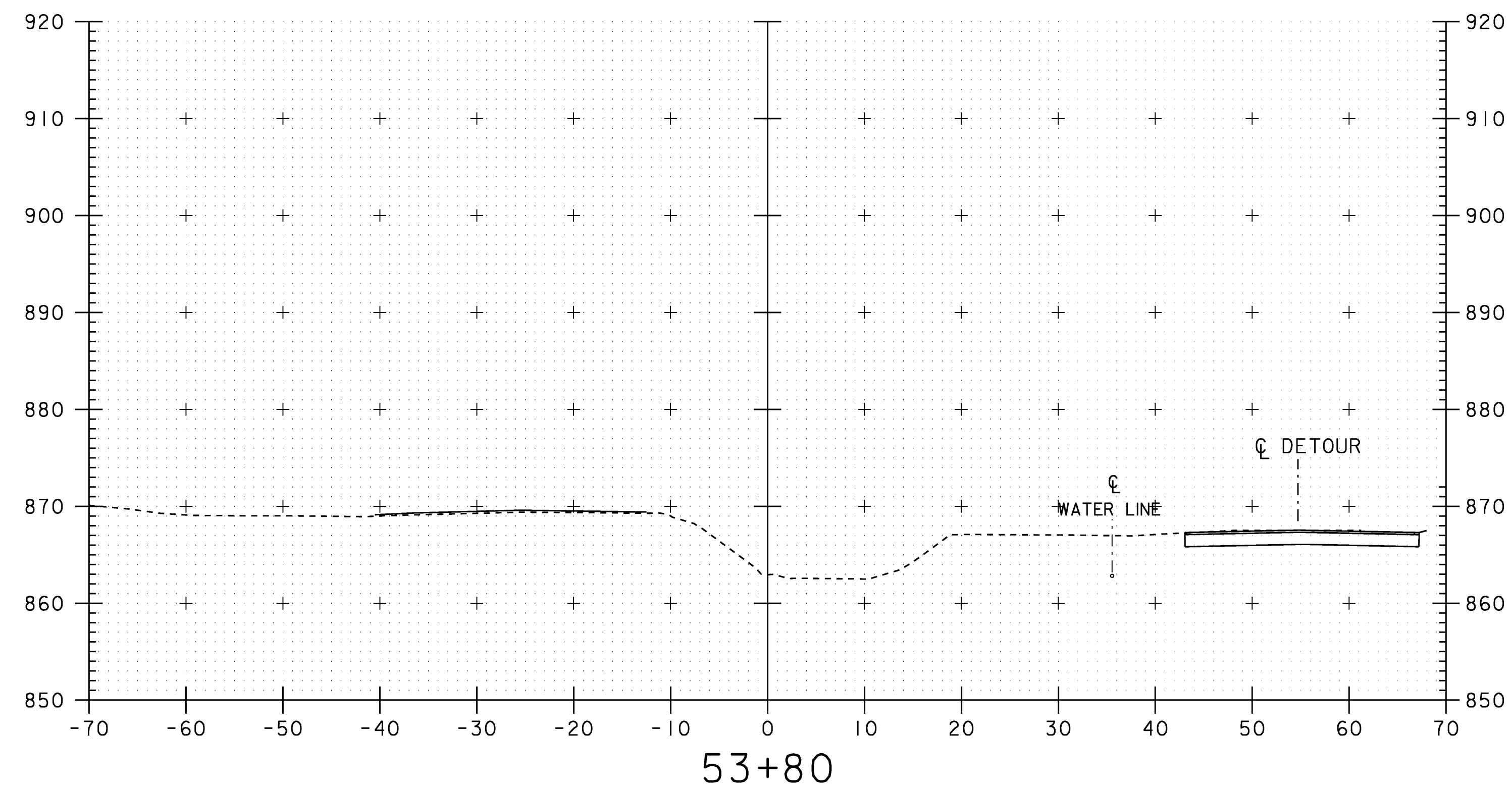
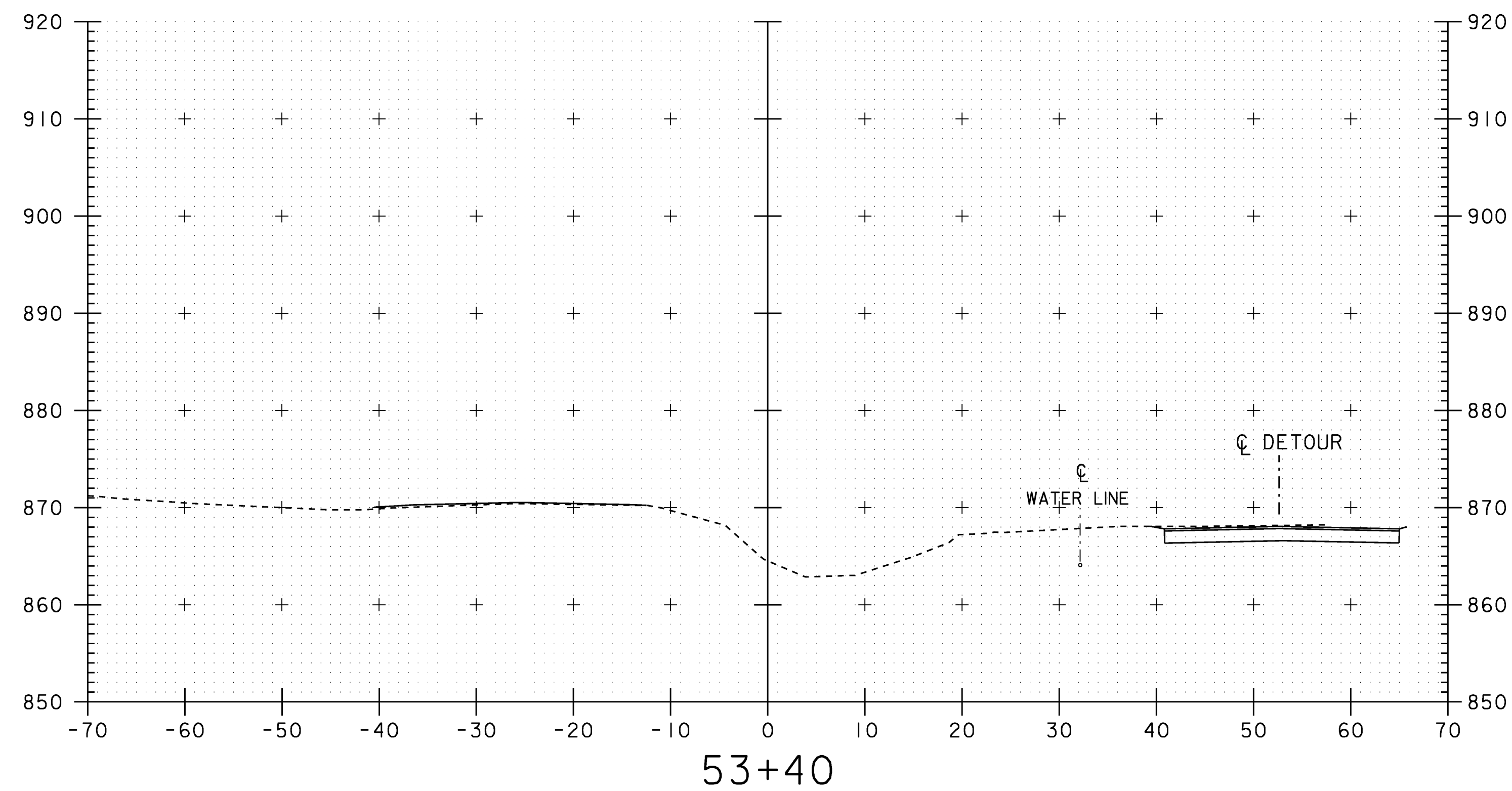
STA. 52+54 TO STA. 53+00

CHANNEL CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\structuresSellxs.d
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellch9.i

PLOT DATE: 07-APR-2008
DRAWN BY: G.ROKES
CHECKED BY: EVANS-MONGEON
SHEET 95 OF 108

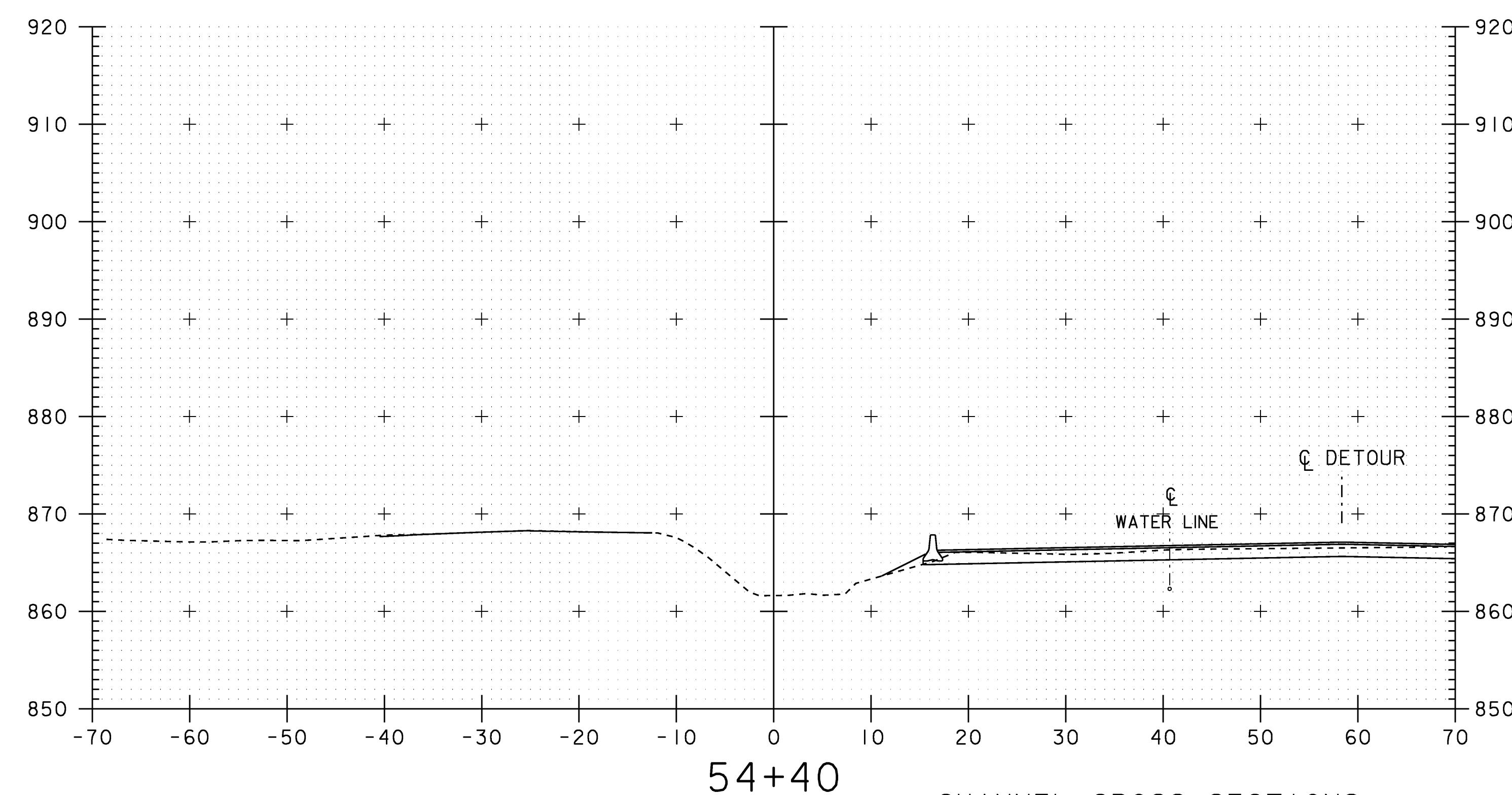
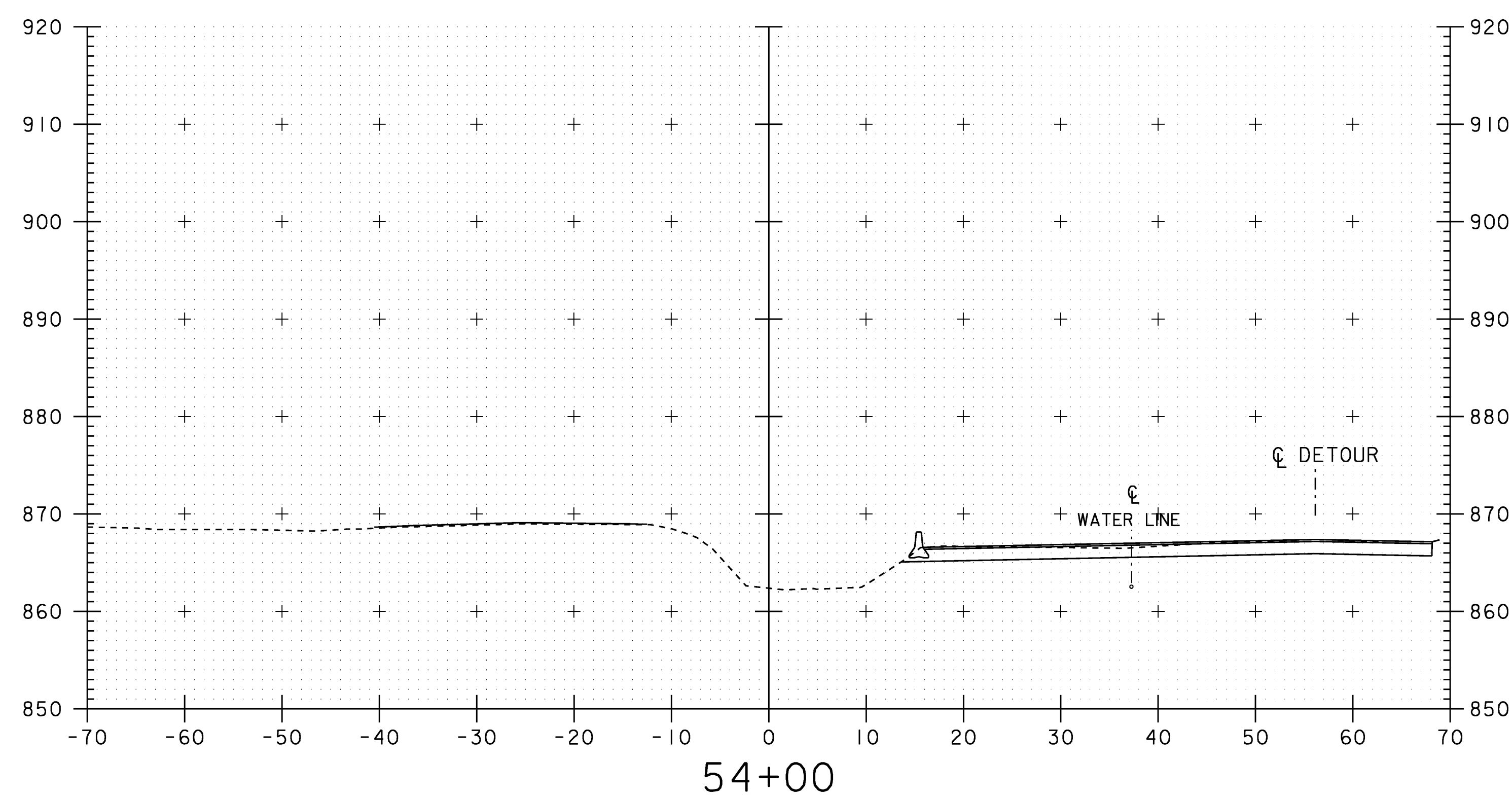
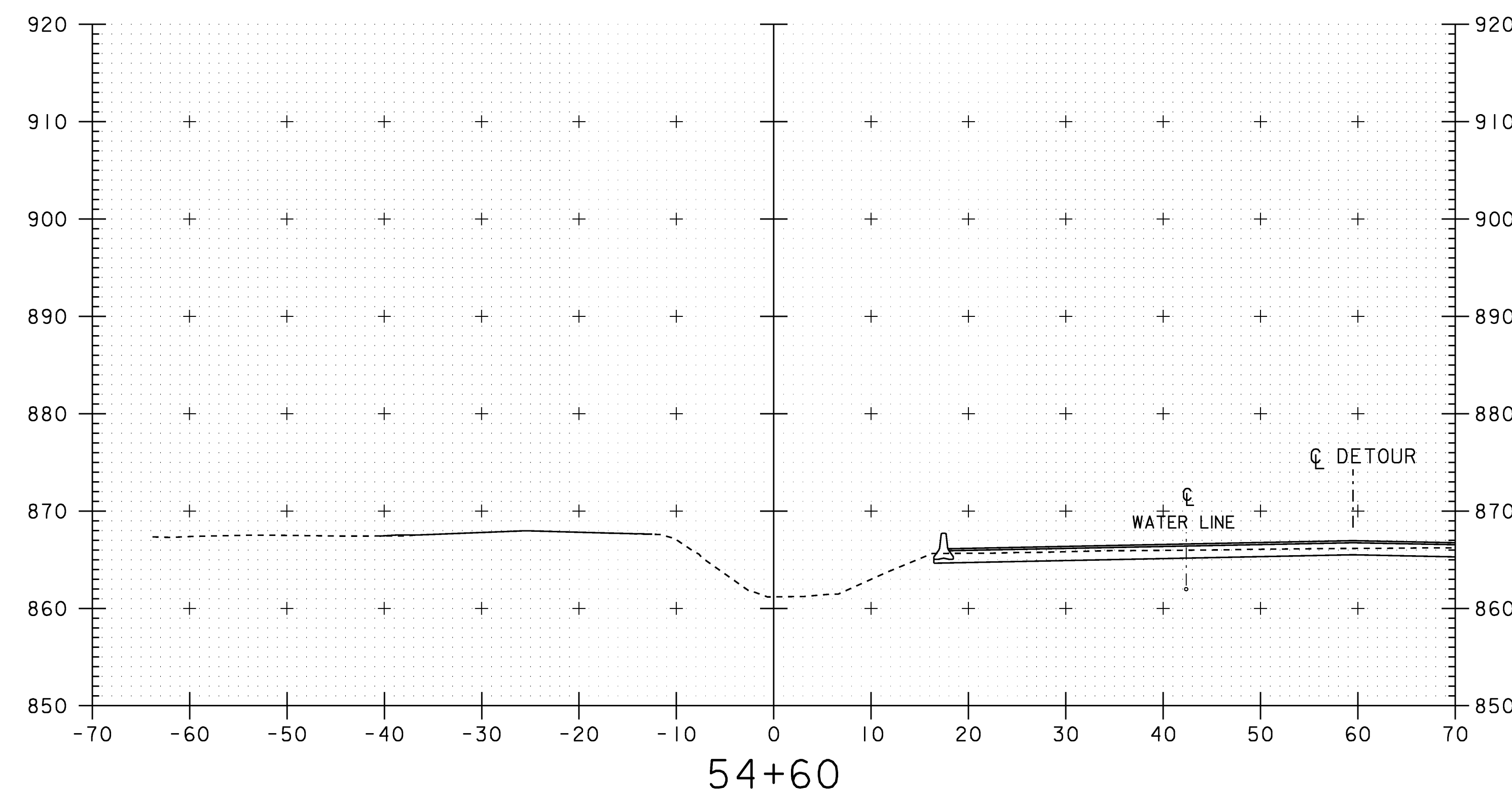
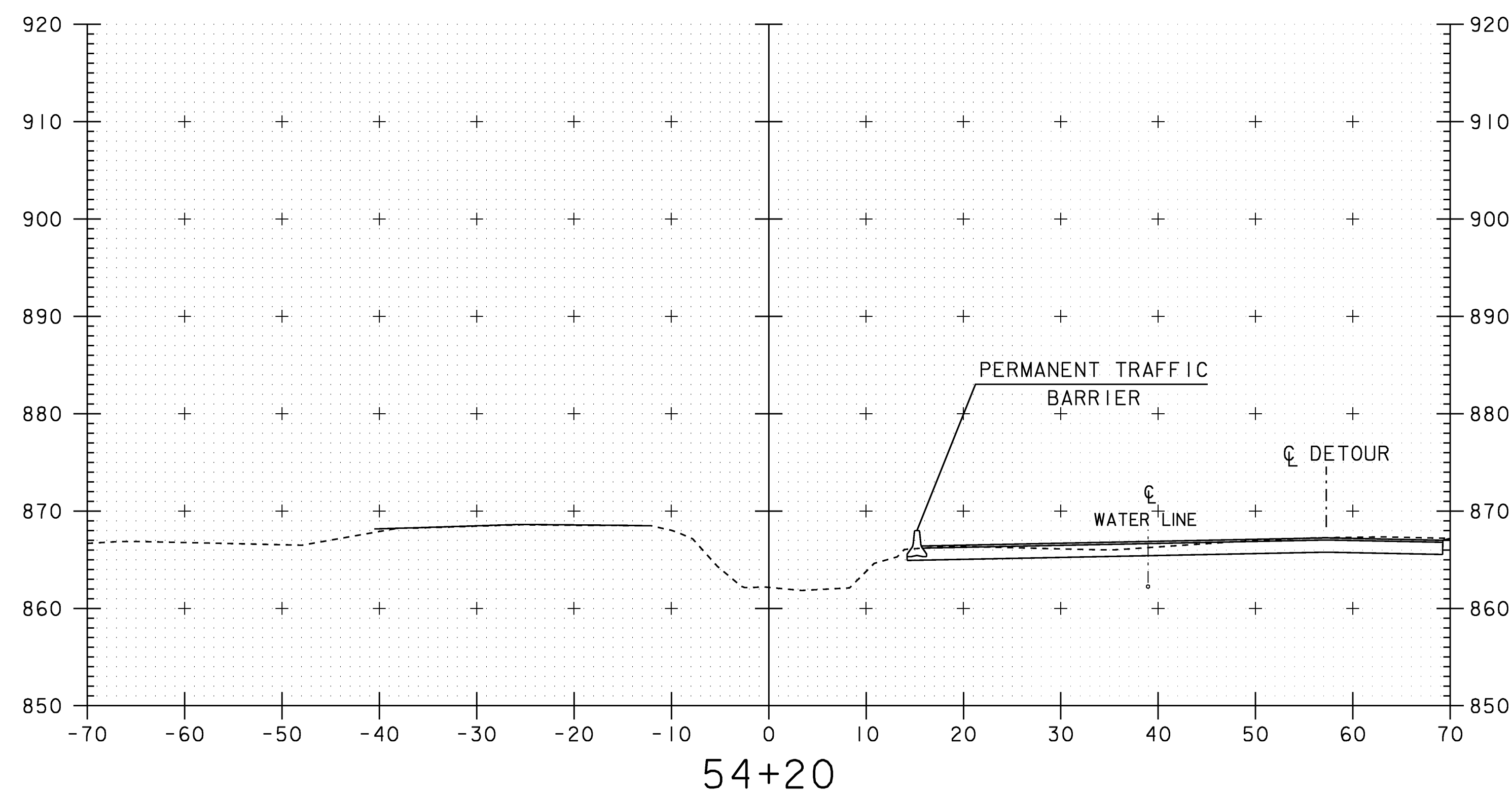


SCALE 1" = 10'-0"

STA. 53+20 TO STA. 53+80

CHANNEL CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\structuresSellxs.d
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellcl0.1
PLOT DATE:	07-APR-2008
DRAWN BY:	G.ROKES
CHECKED BY:	EVANS-MONGEON
SHEET	96 OF 108

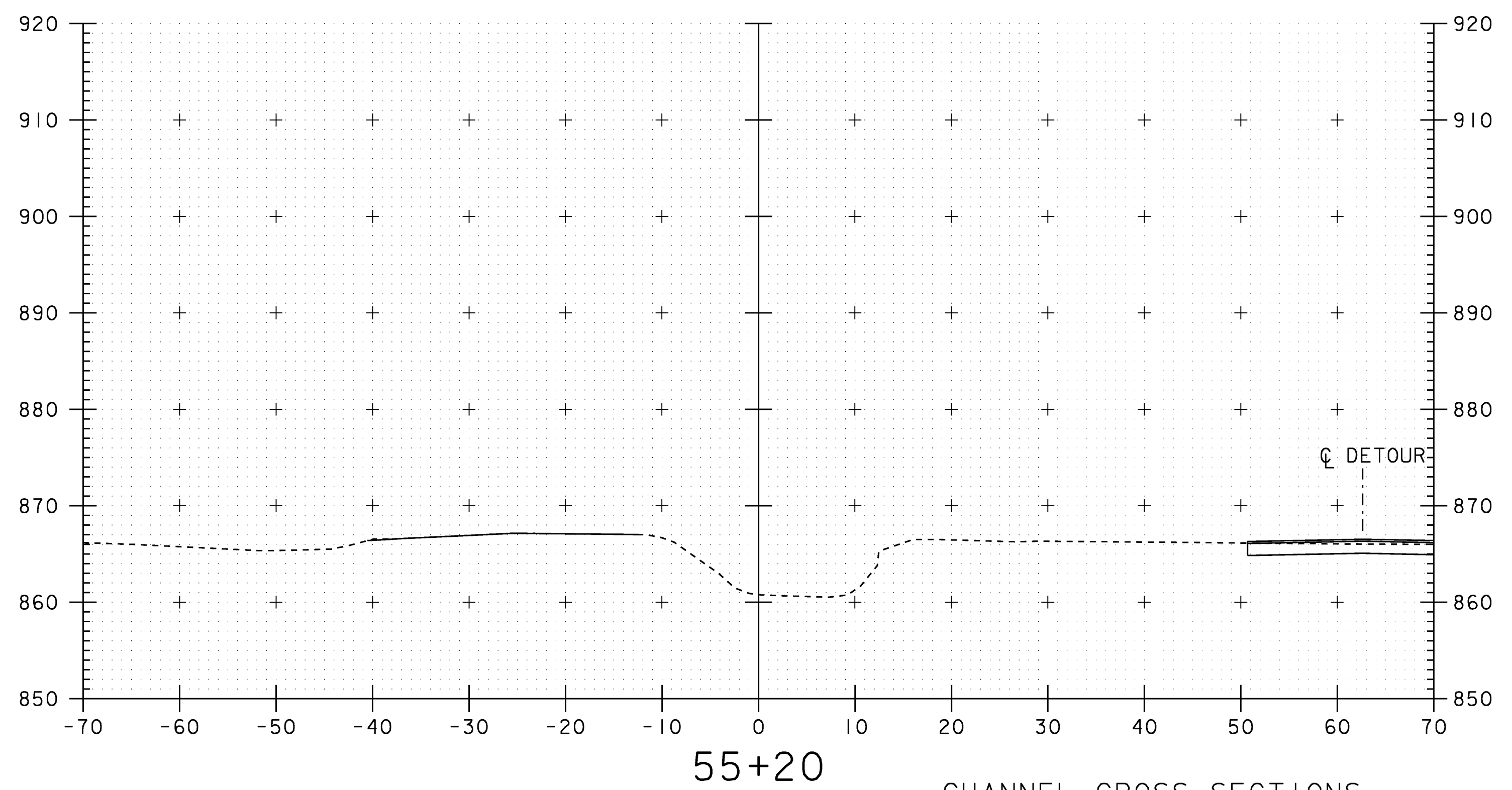
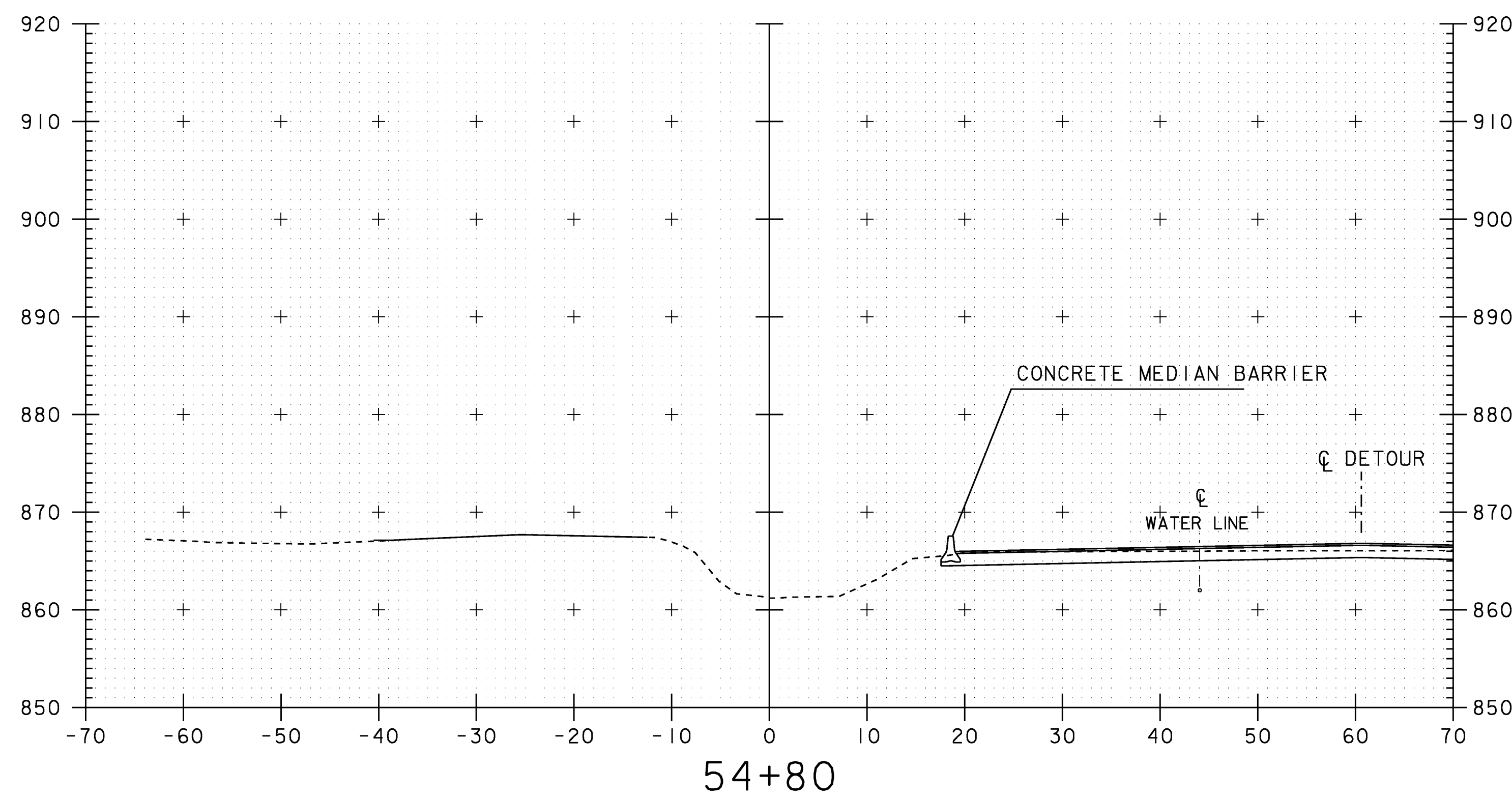
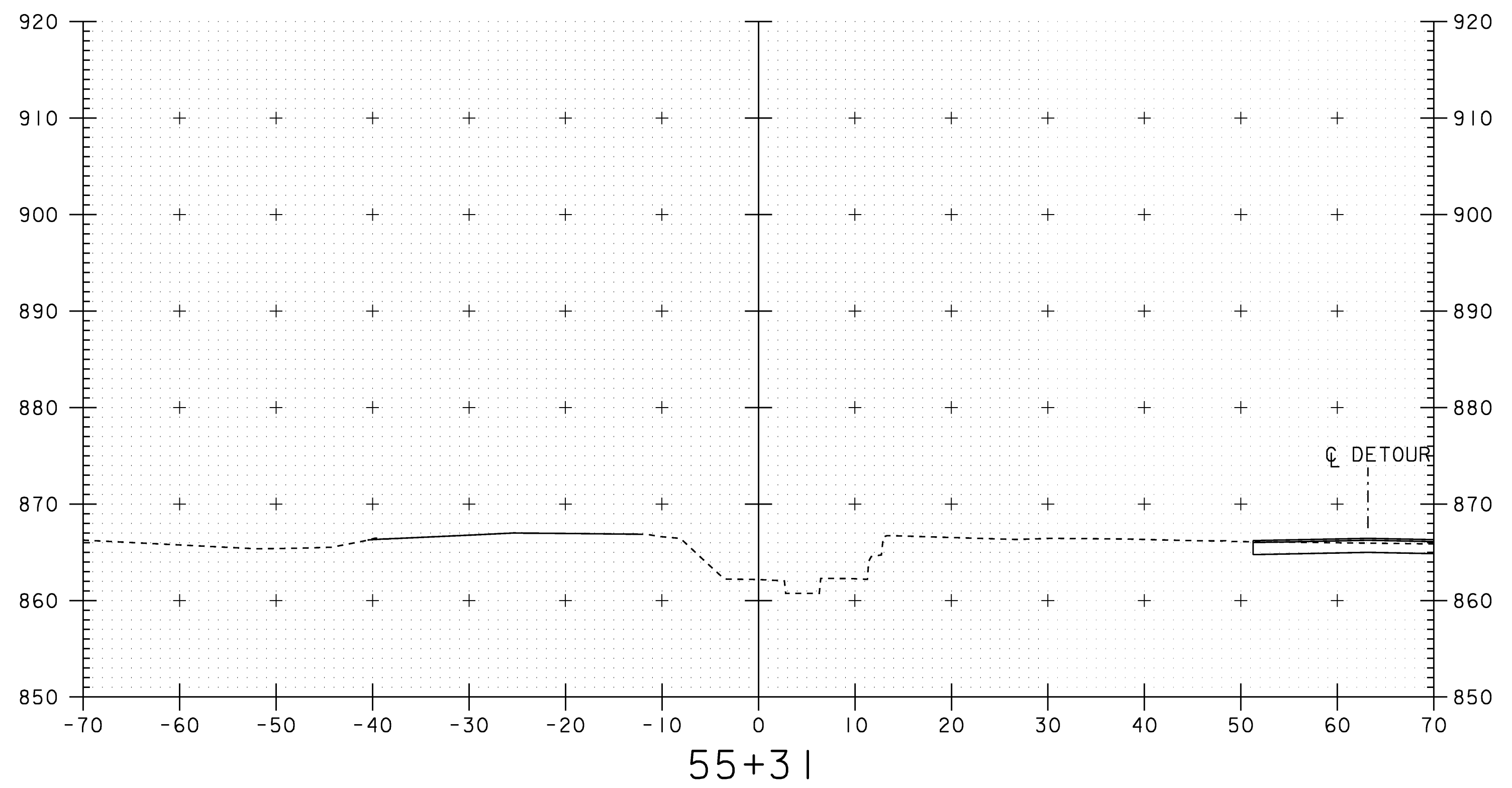
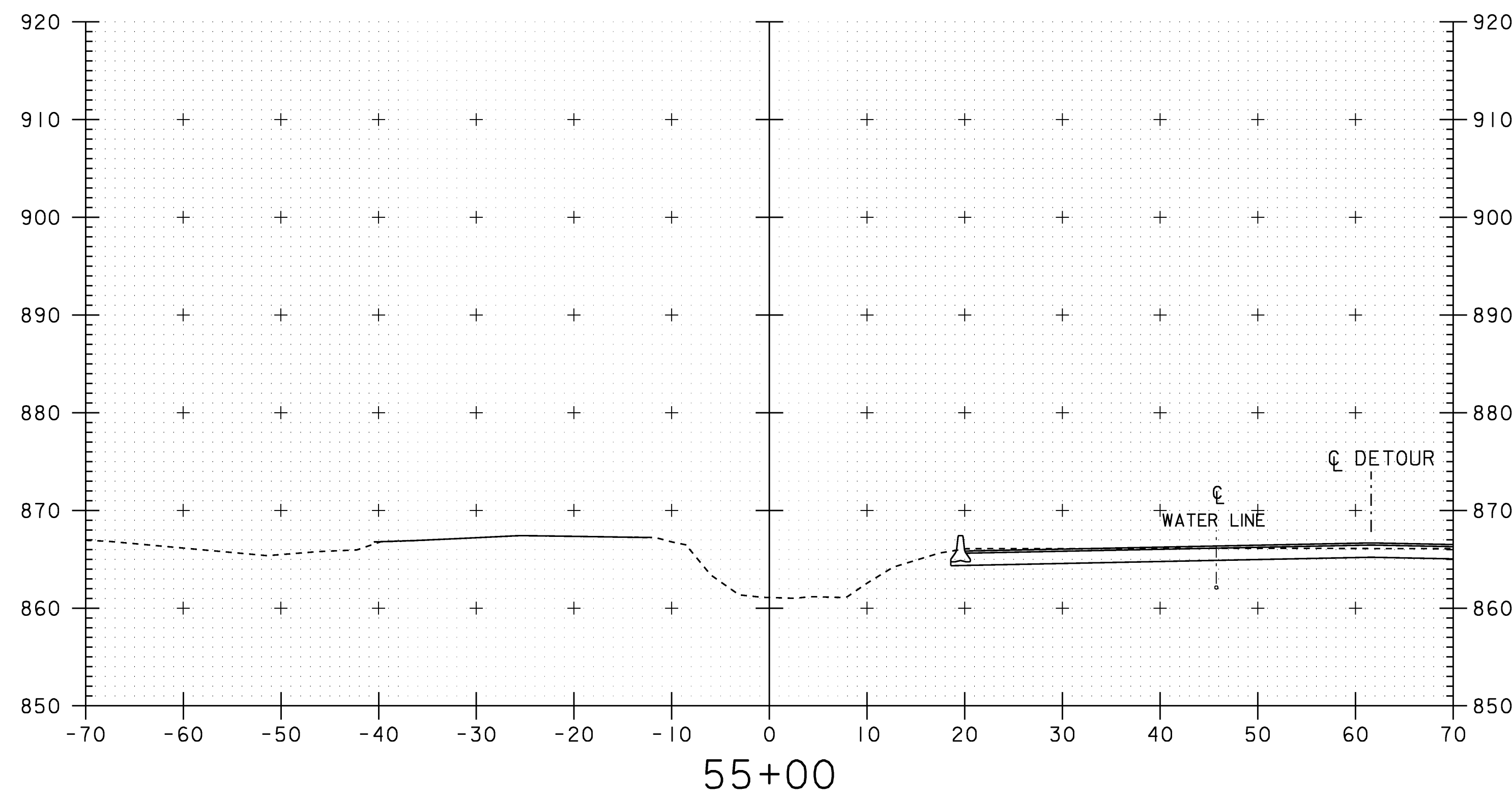


SCALE 1" = 10'-0"

STA. 54+00 TO STA. 54+60

CHANNEL CROSS SECTIONS

PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\structuresSellxs.d
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellc11.i
PLOT DATE:	07-APR-2008
DRAWN BY:	G.ROKES
CHECKED BY:	EVANS-MONGEON
SHEET	97 OF 108

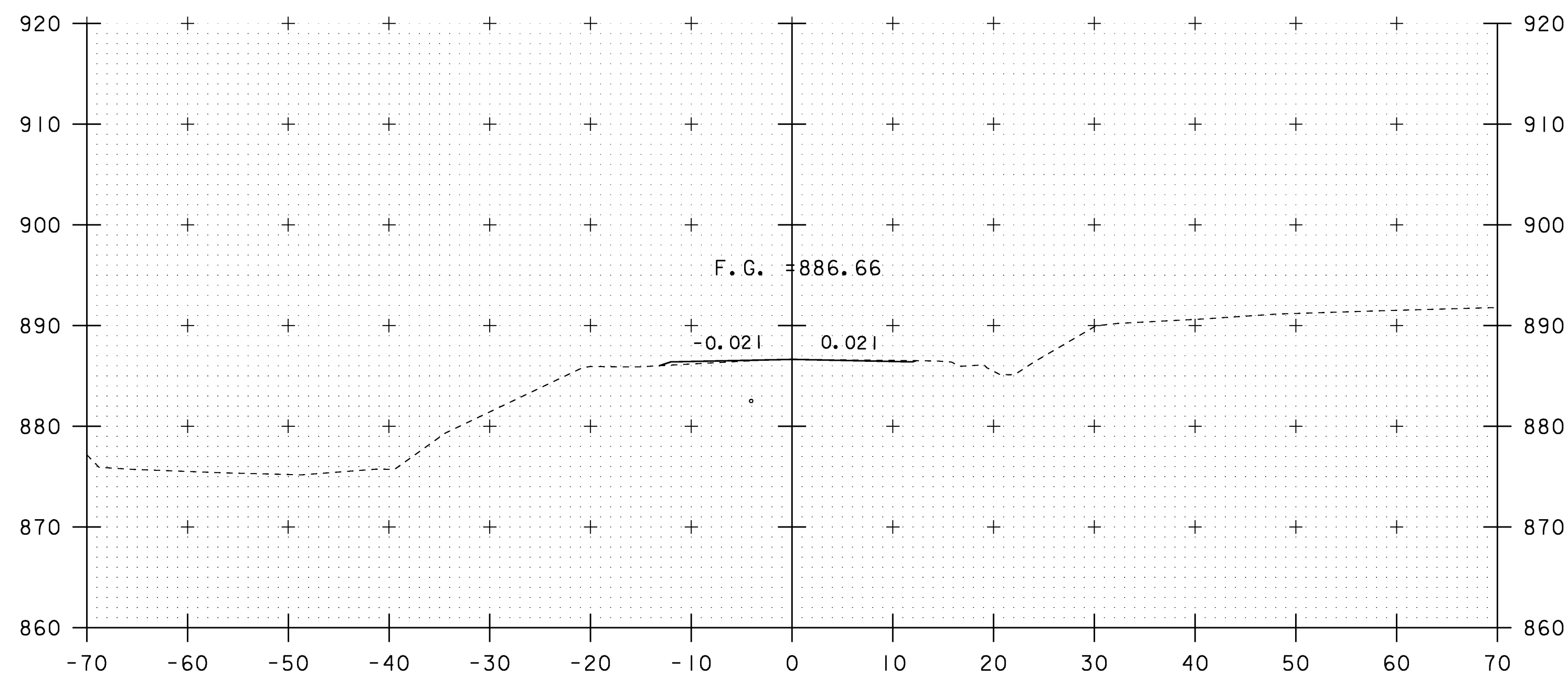


SCALE 1" = 10'-0"

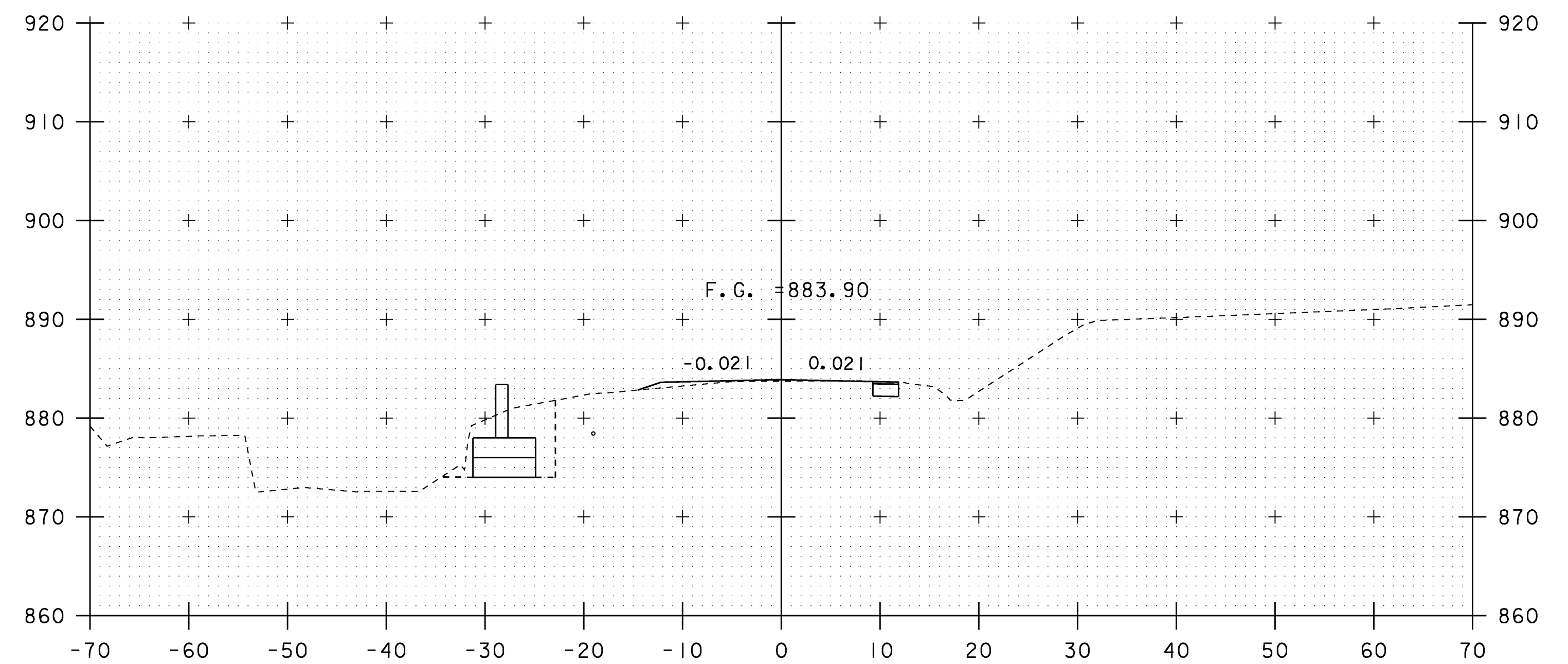
STA. 54+80 TO STA. 55+31

CHANNEL CROSS SECTIONS

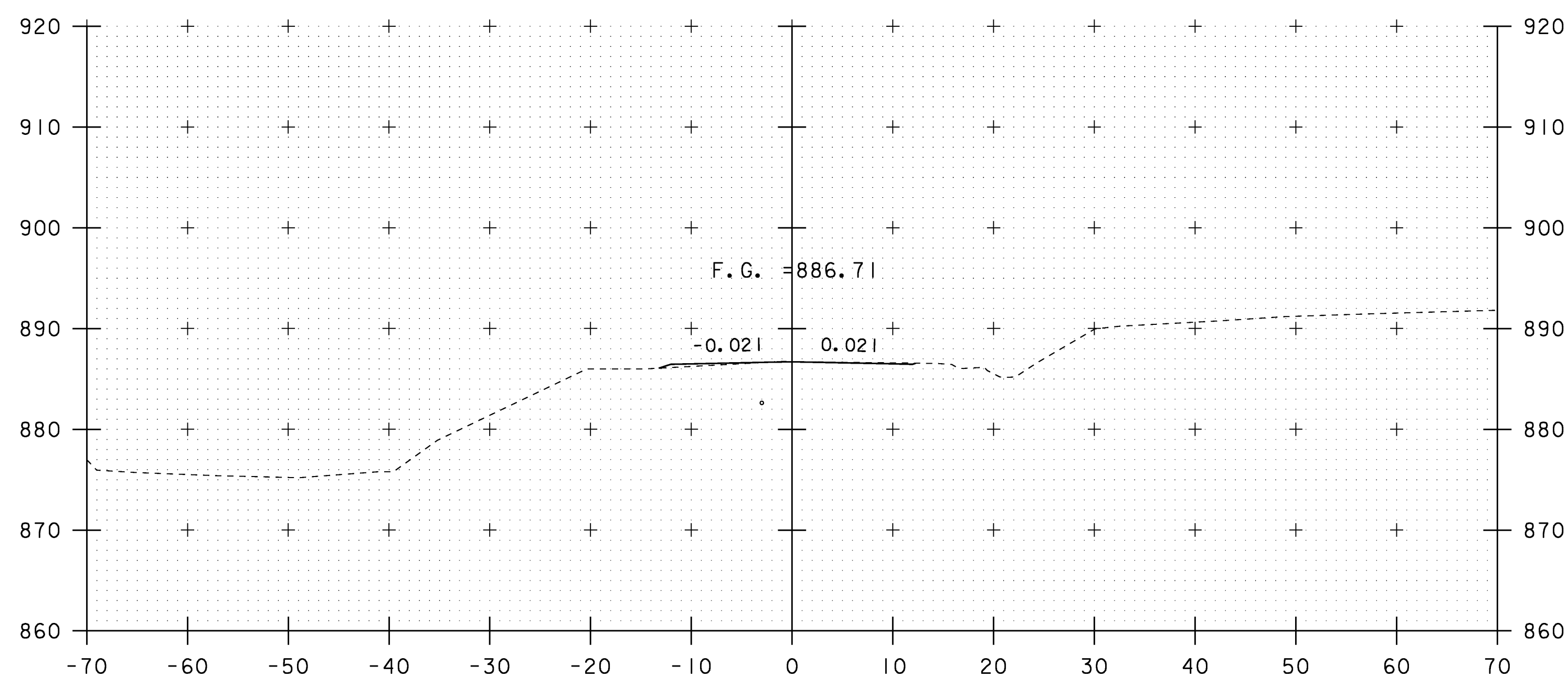
PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\structuresSellxs.d
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellcl2.1
PLOT DATE:	07-APR-2008
DRAWN BY:	G.ROKES
CHECKED BY:	EVANS-MONGEON
SHEET	98 OF 108



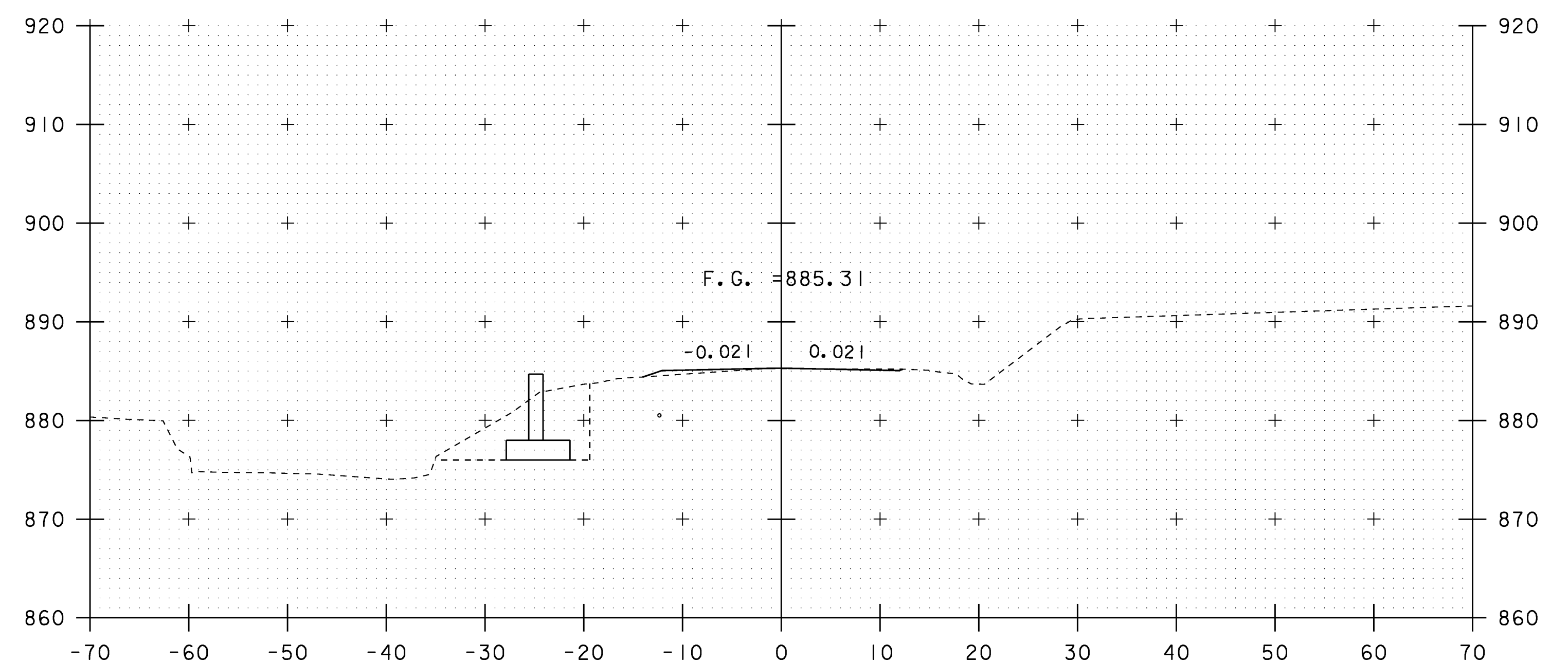
300+01



300+40



300+00



300+20

SCALE 1" = 10'-0"

STA. 300+00 TO STA. 300+40

DETOUR CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN

PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Srtuct\\sellxs.dgn

PROJECT LEADER: EVANS-MONGEON

DESIGNED BY: U. STANLEY

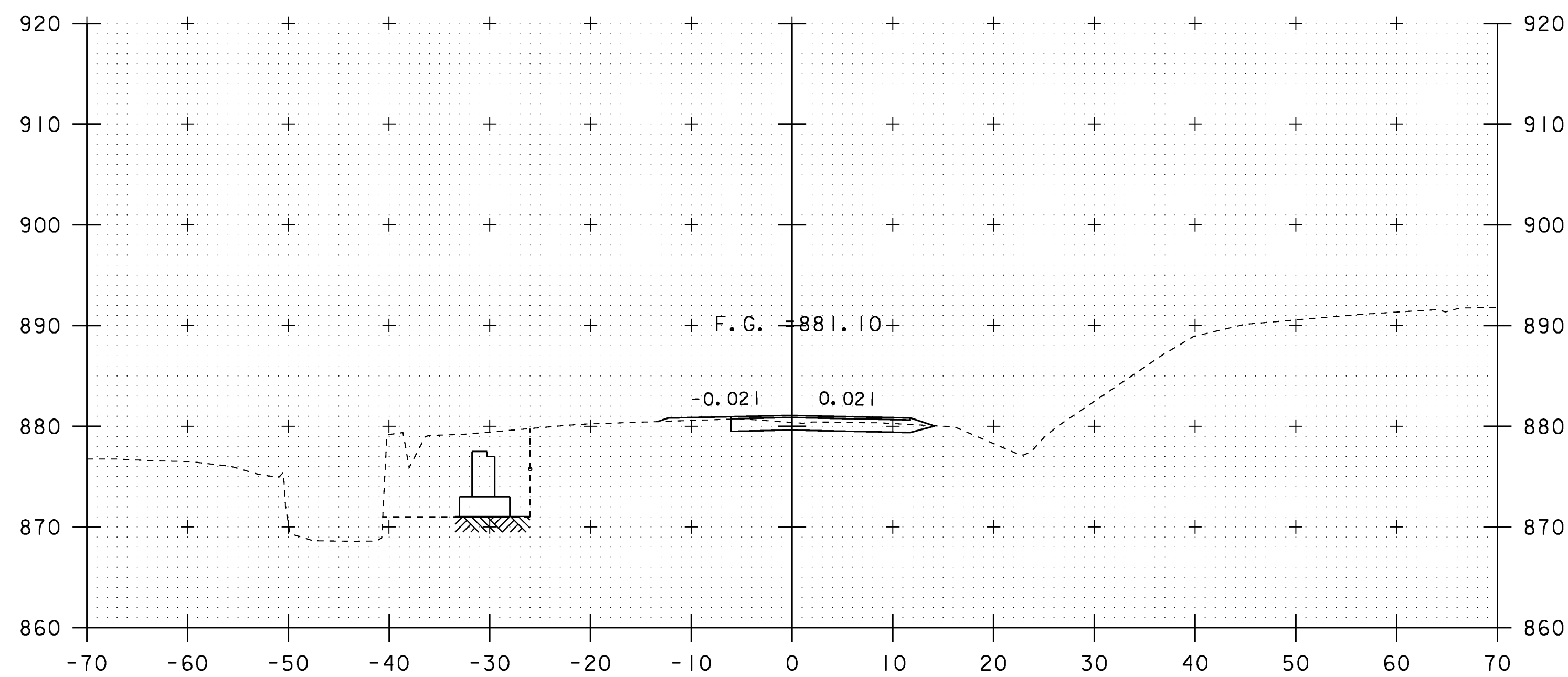
IPARM: sellidetxsl.i

PLOT DATE: 07-APR-2008

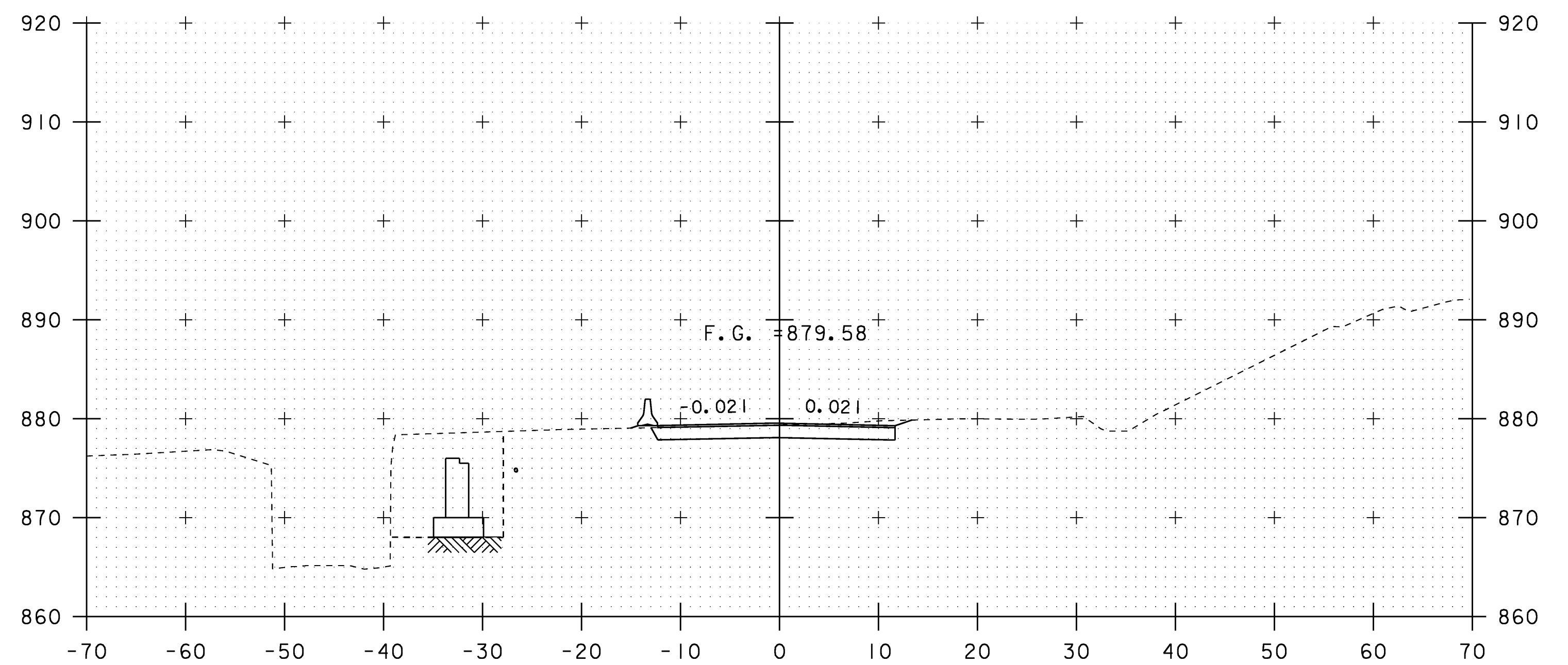
DRAWN BY: U. STANLEY

CHECKED BY: EVANS-MONGEON

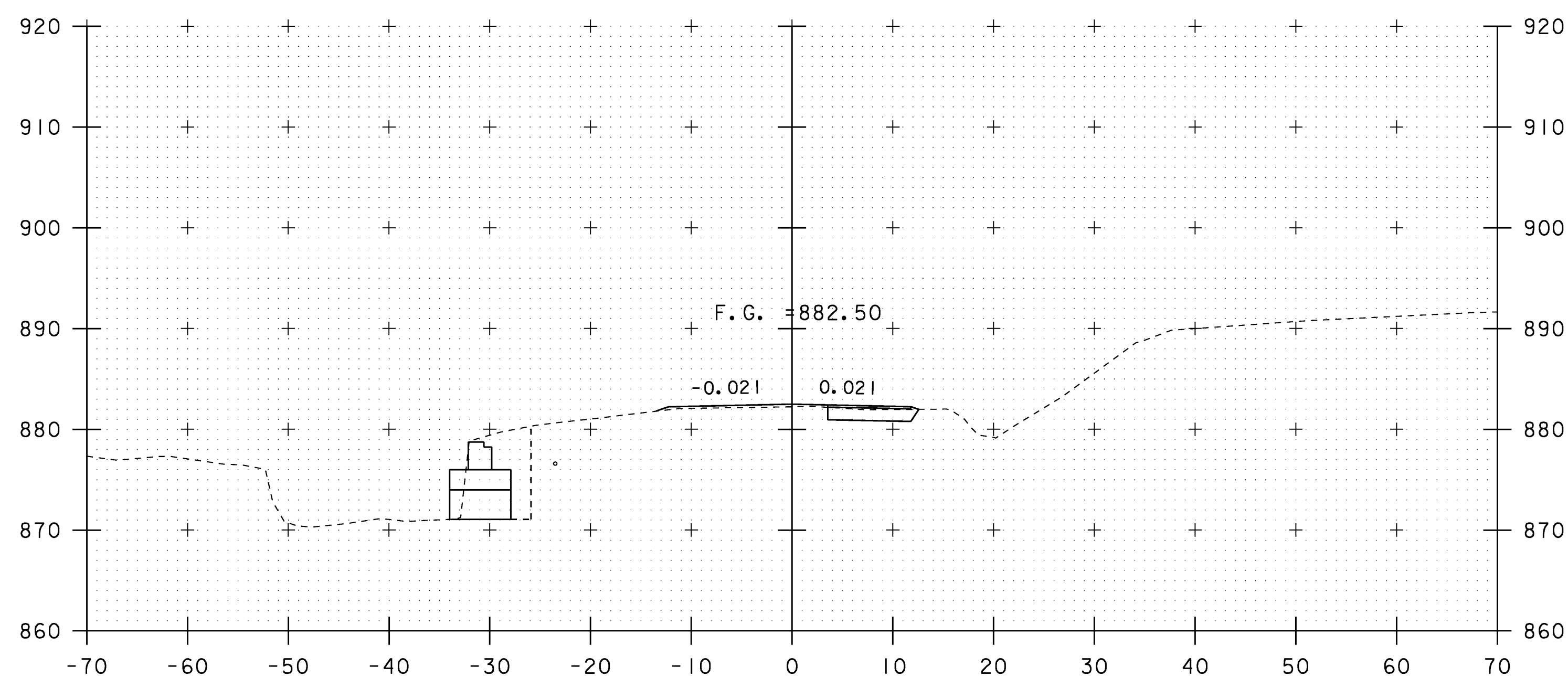
SHEET 99 OF 108



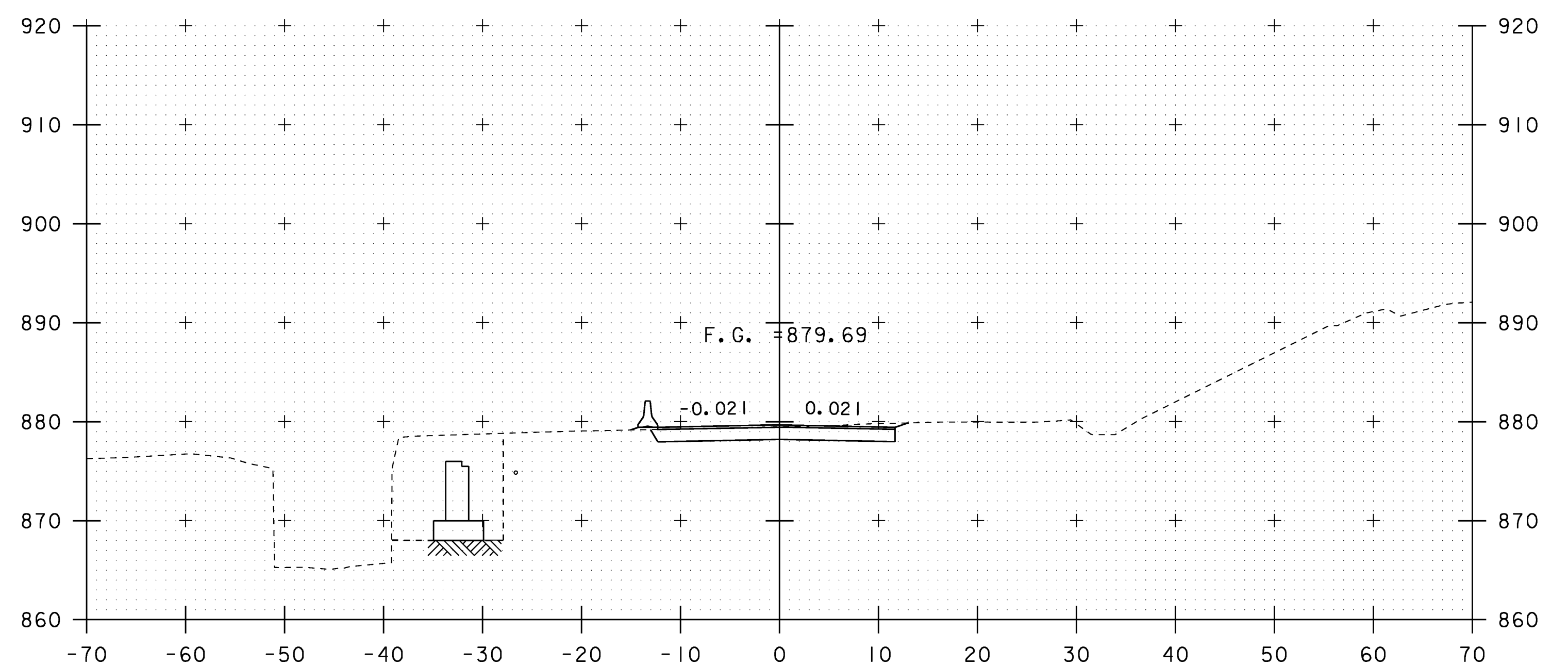
300+80



301+02



300+60



301+00

SCALE 1" = 10'-0"

STA. 300+60 TO STA. 301+02

DETOUR CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN

PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Srtuct\\sellxs.dgn

PROJECT LEADER: EVANS-MONGEON

DESIGNED BY: U. STANLEY

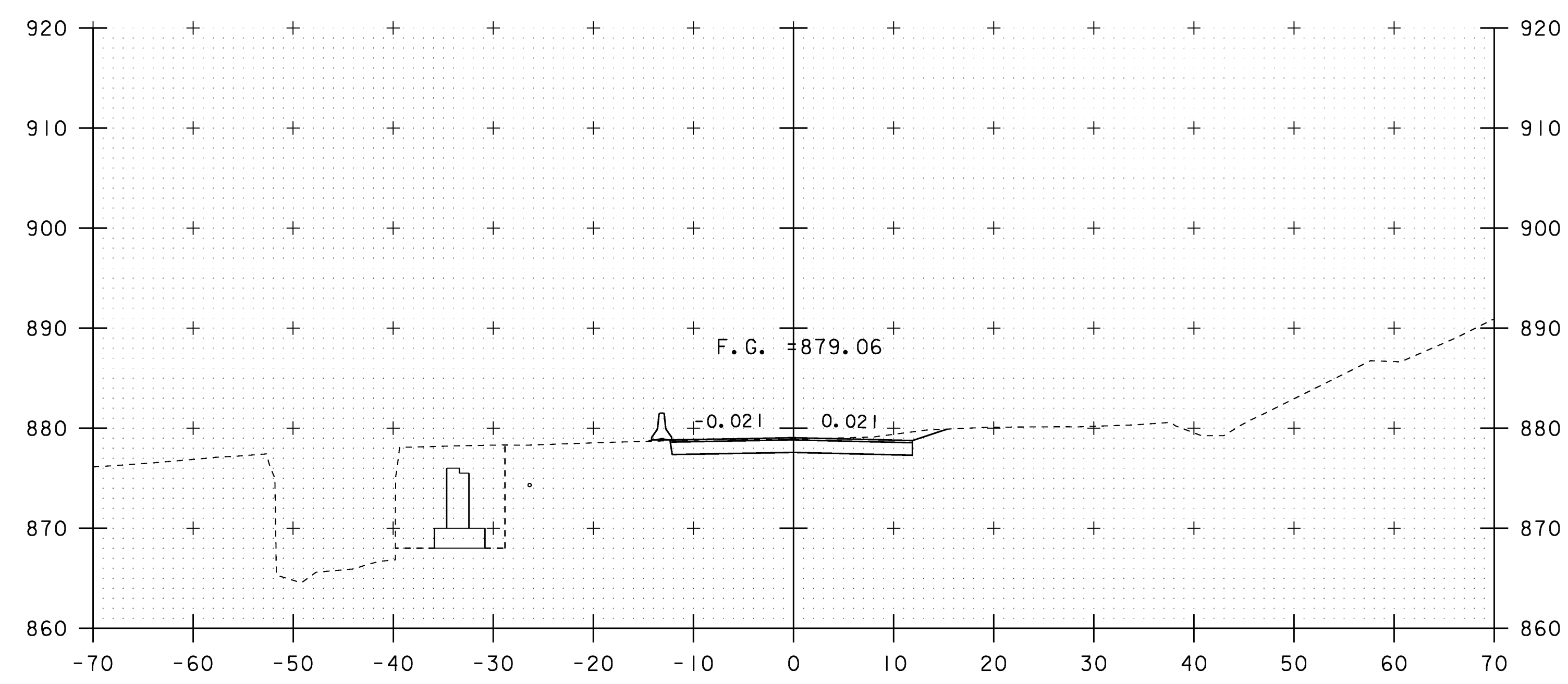
IPARM: sellde+xs2.i

PLOT DATE: 07-APR-2008

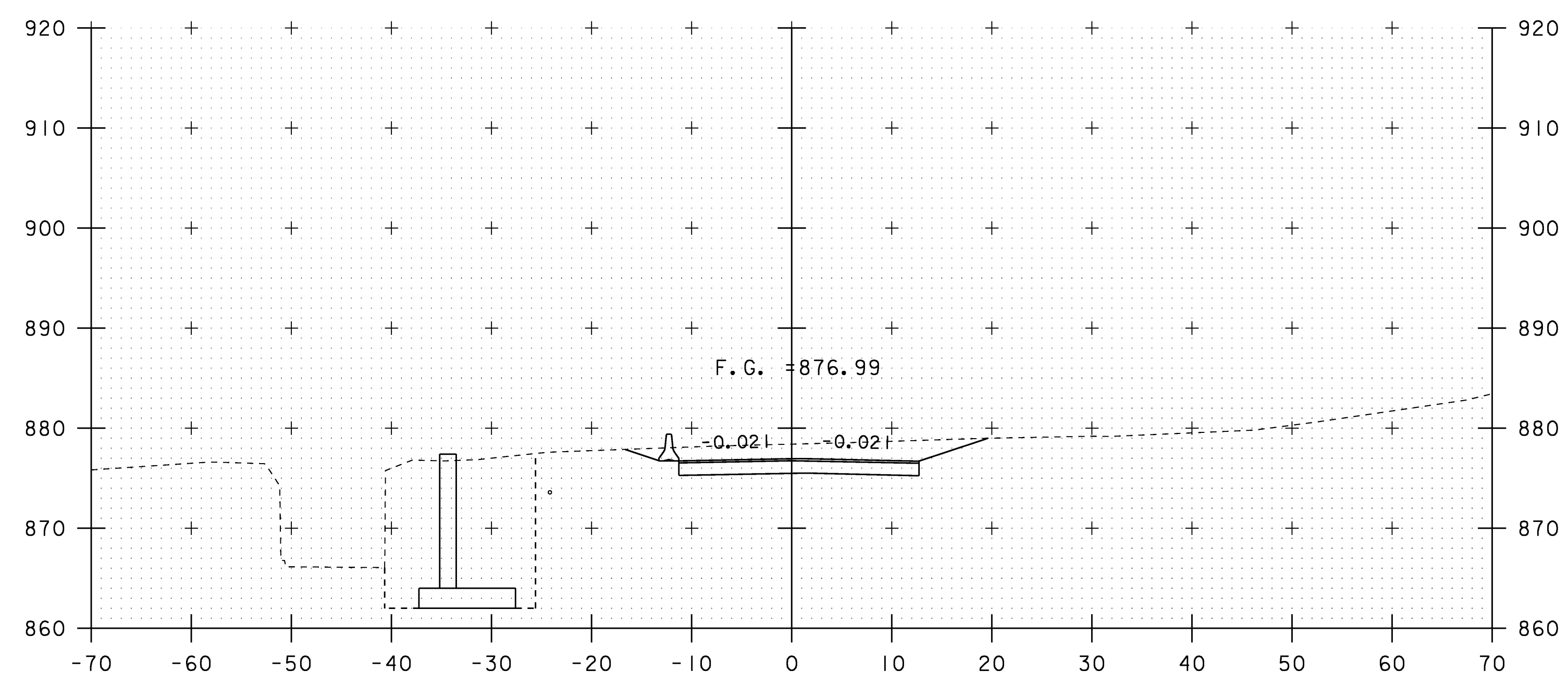
DRAWN BY: U. STANLEY

CHECKED BY: EVANS-MONGEON

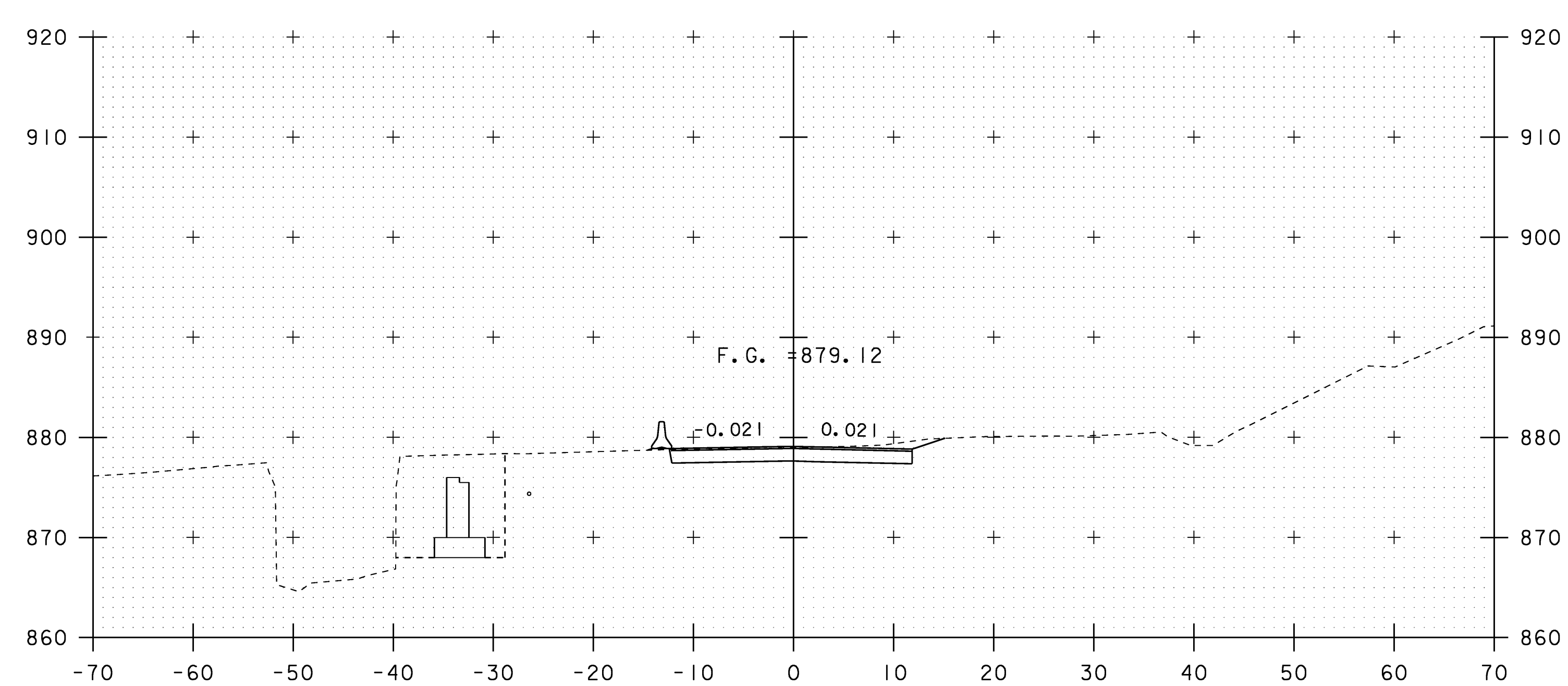
SHEET 100 OF 108



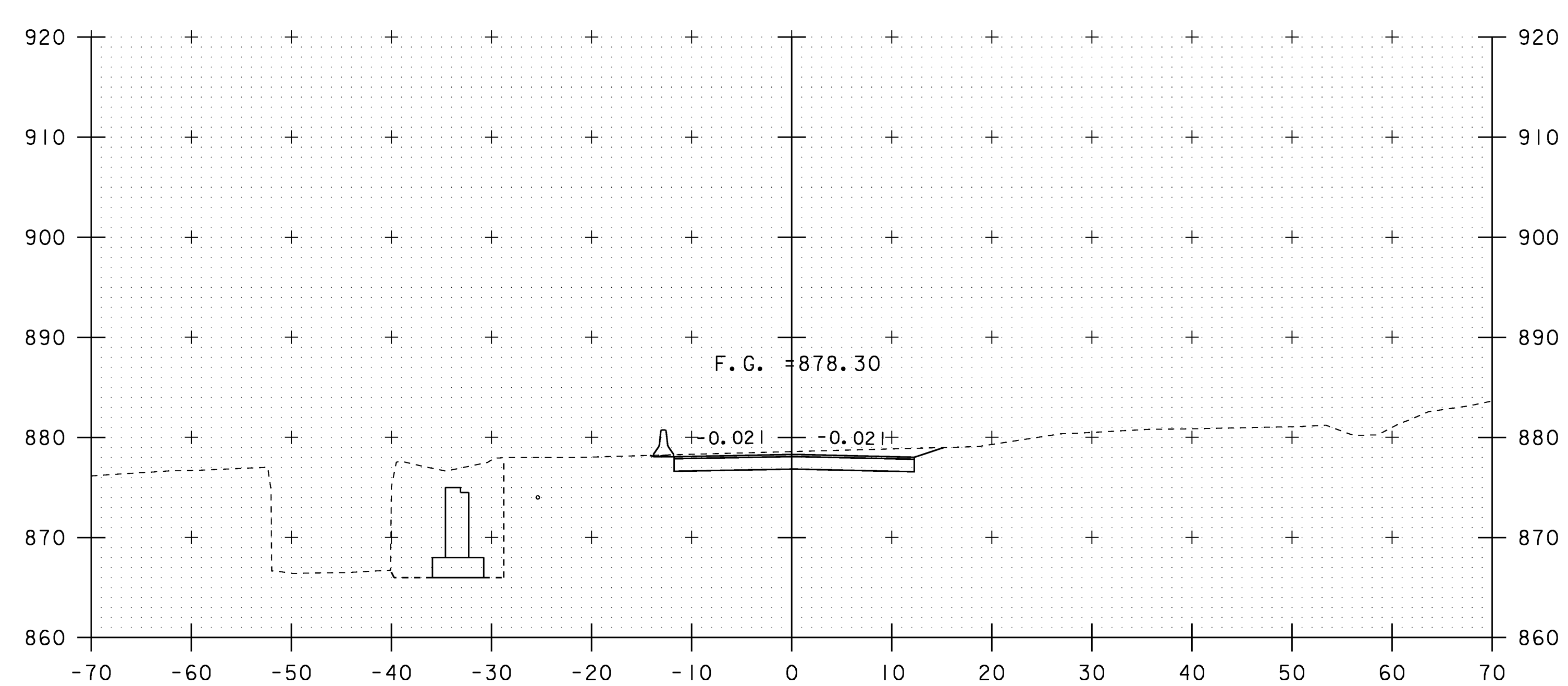
301+09



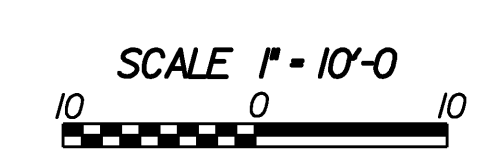
301+40



301+08



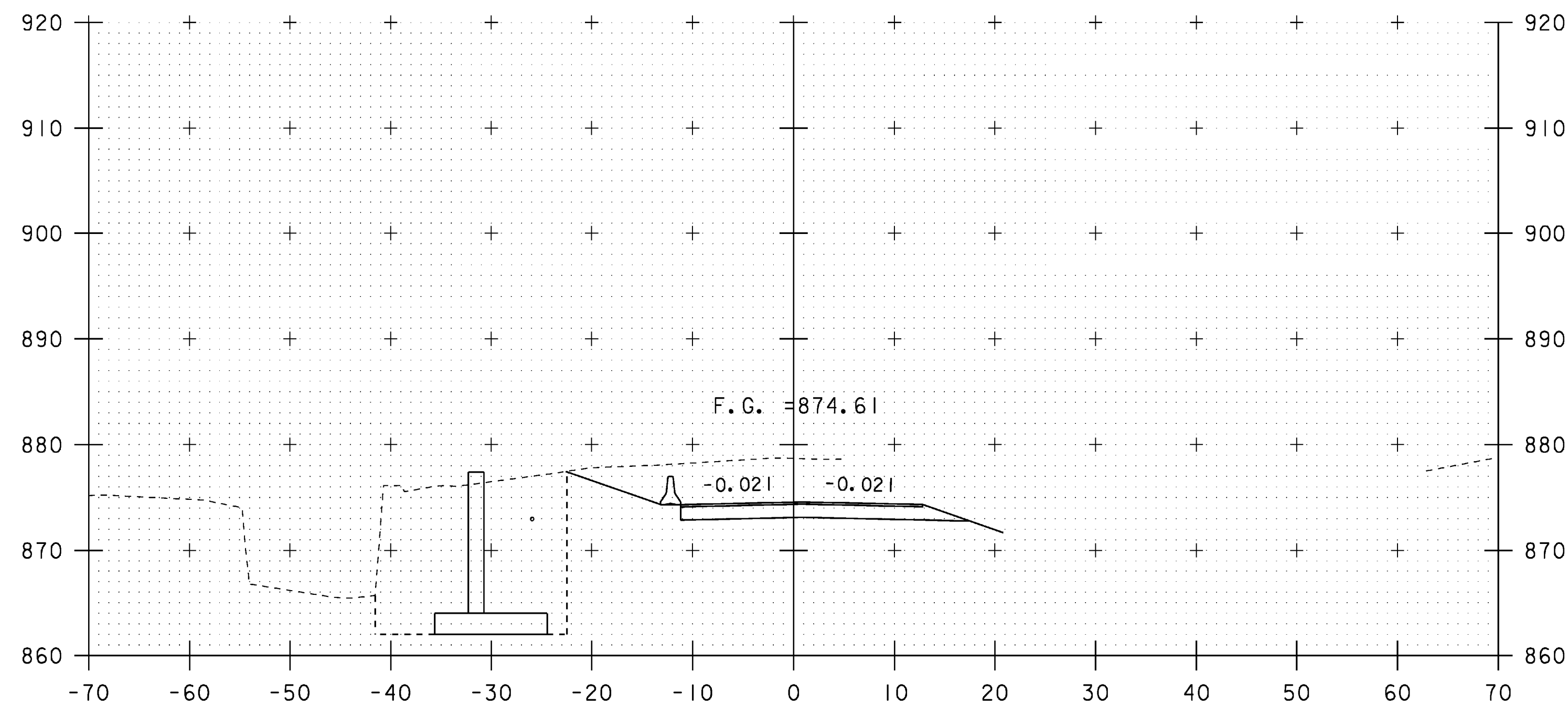
301+20



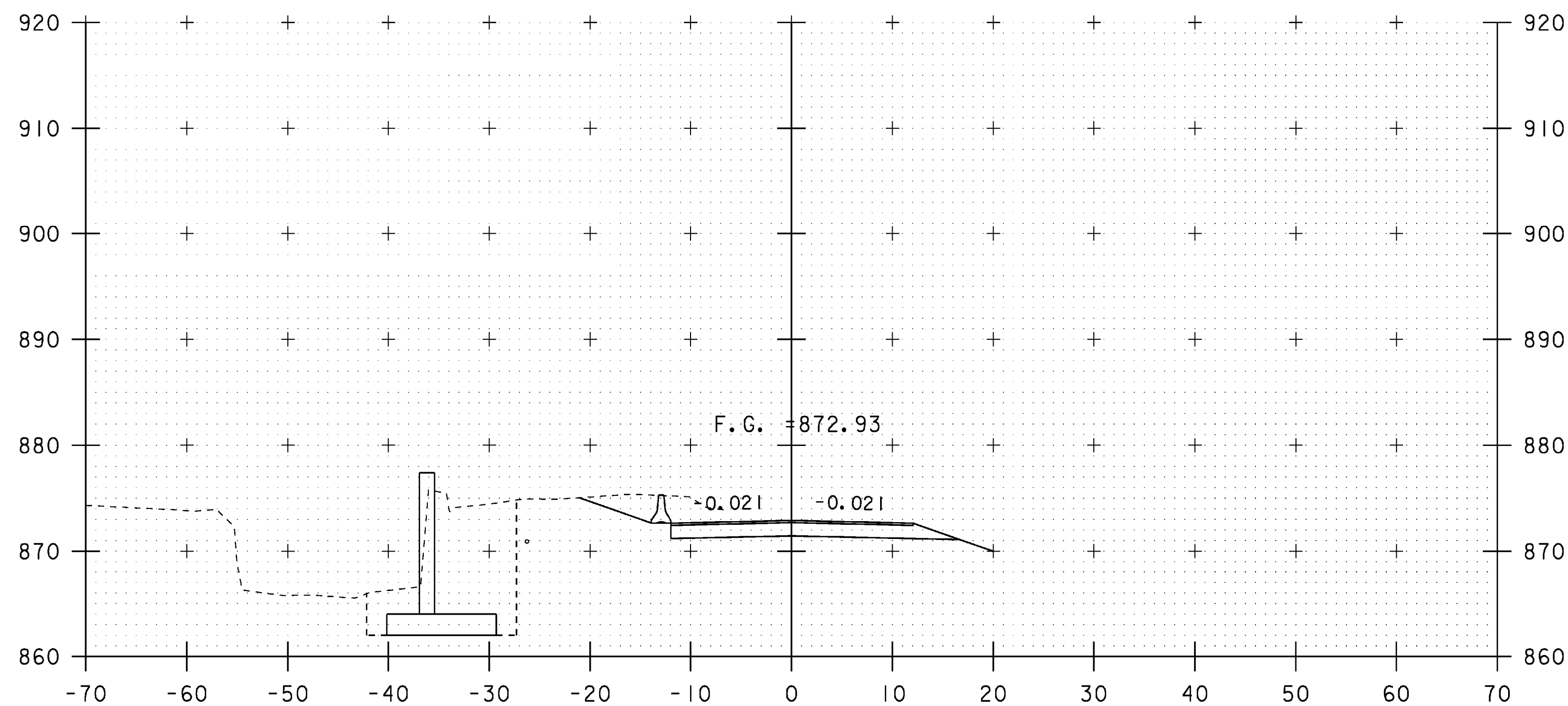
STA. 301+08 TO STA. 301+40

DETOUR CROSS SECTIONS

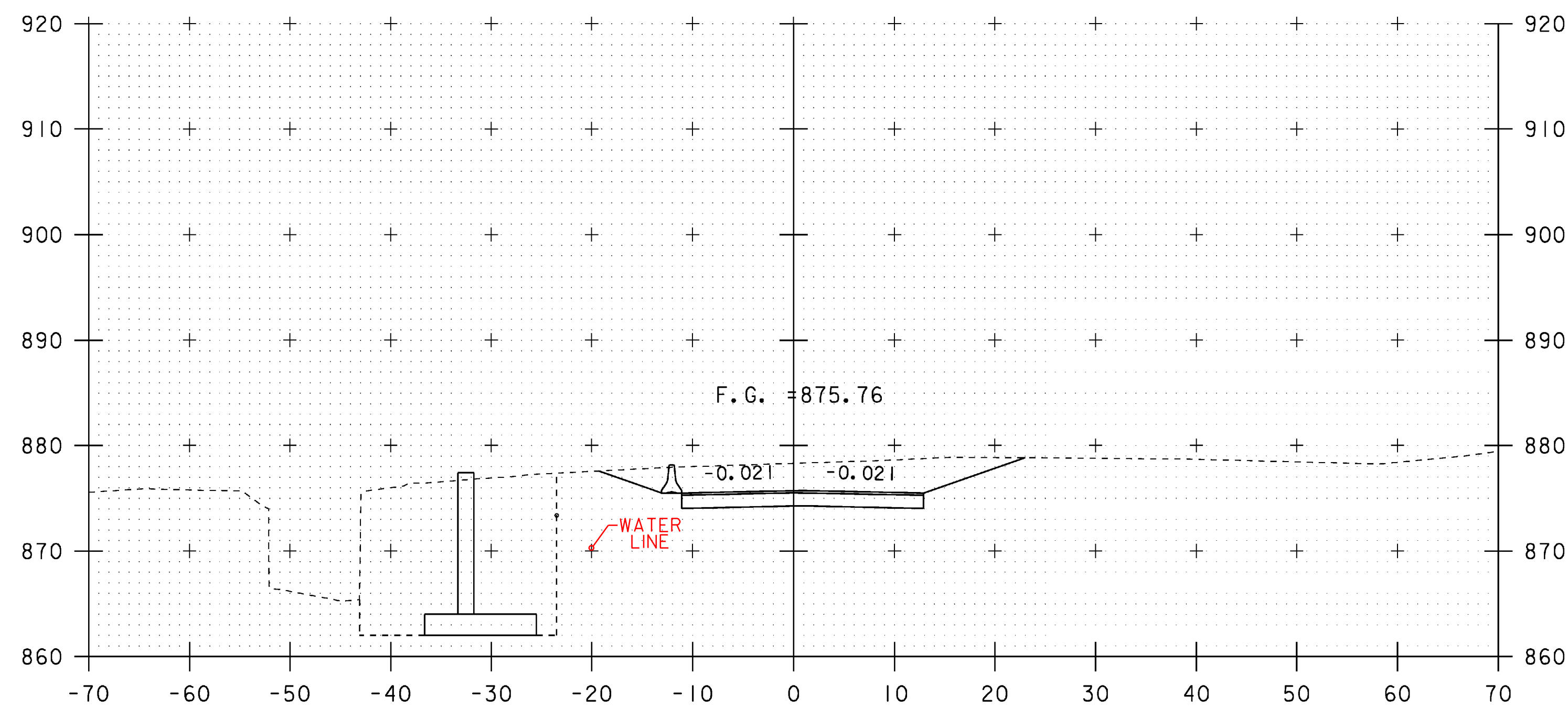
PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\Sr+uct+sellxs.dgn
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	sellde+xs3.i
PLOT DATE:	07-APR-2008
DRAWN BY:	U. STANLEY
CHECKED BY:	EVANS-MONGEON
SHEET	101 OF 108



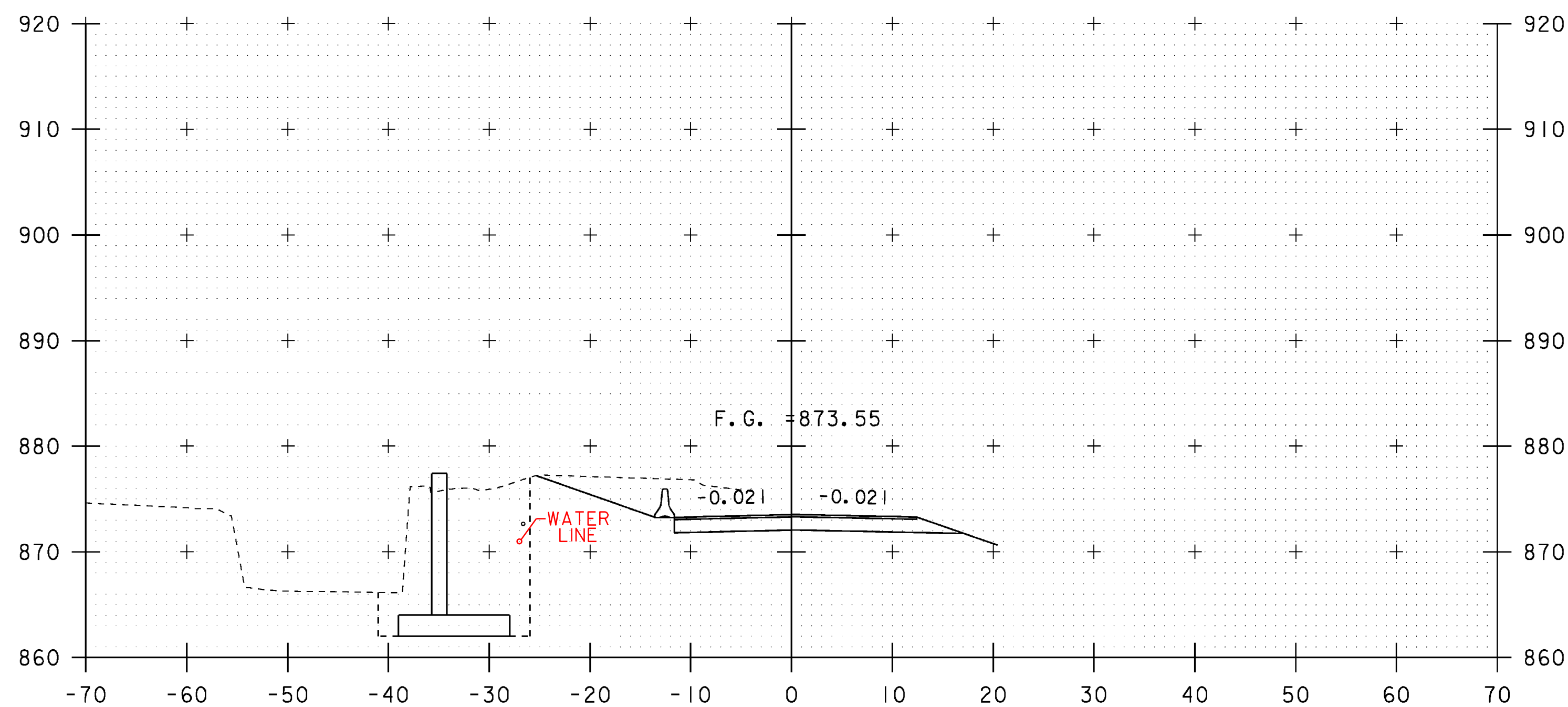
301+80



302+12



301+60



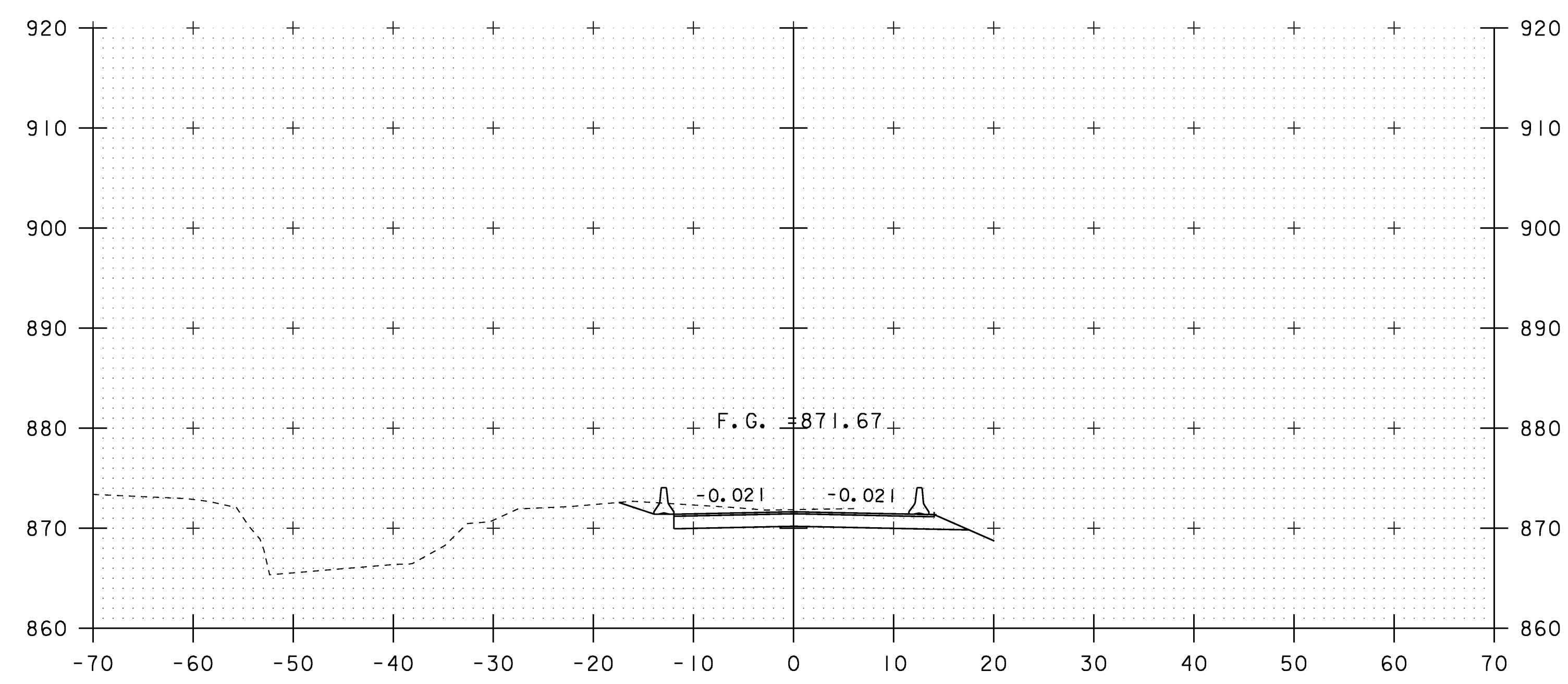
302+00

SCALE 1" = 10'-0"

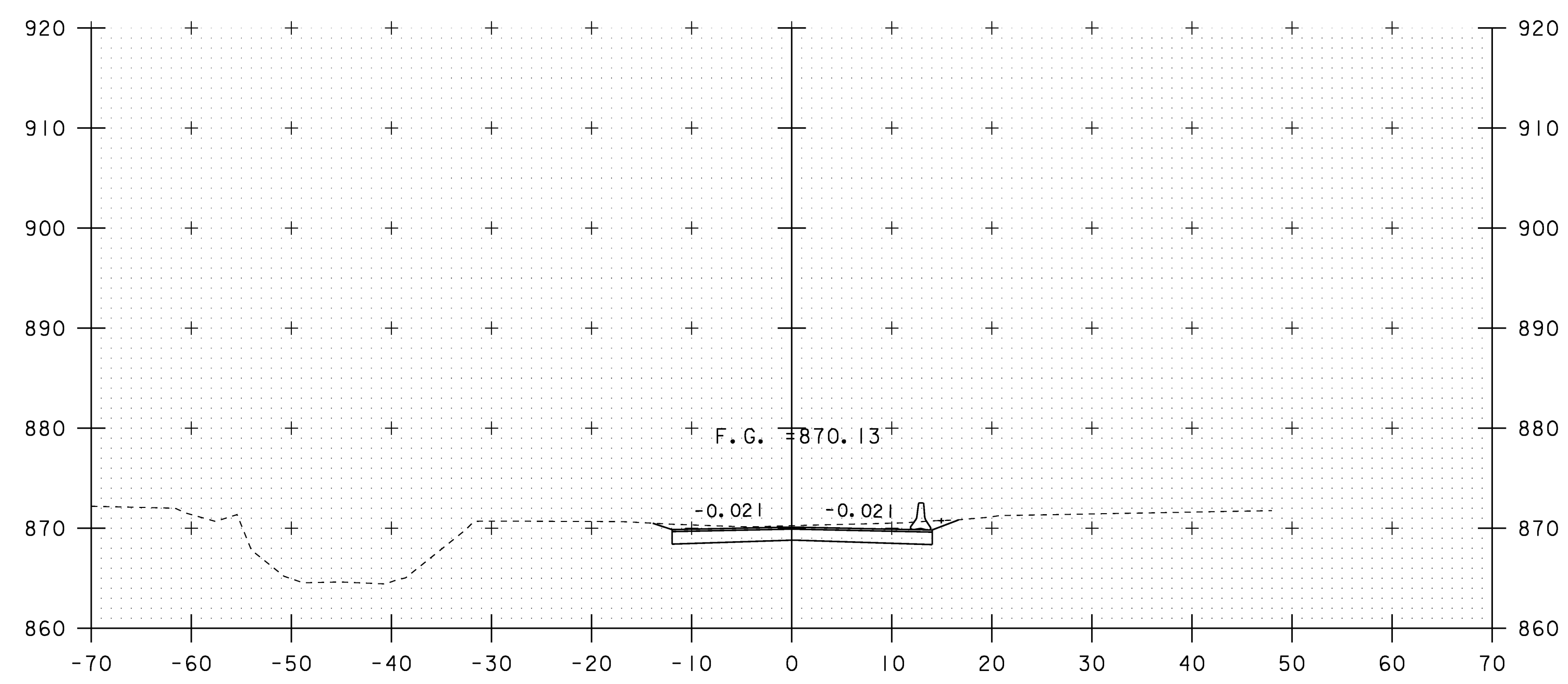
STA. 301+60 TO STA. 302+12

DETOUR CROSS SECTIONS

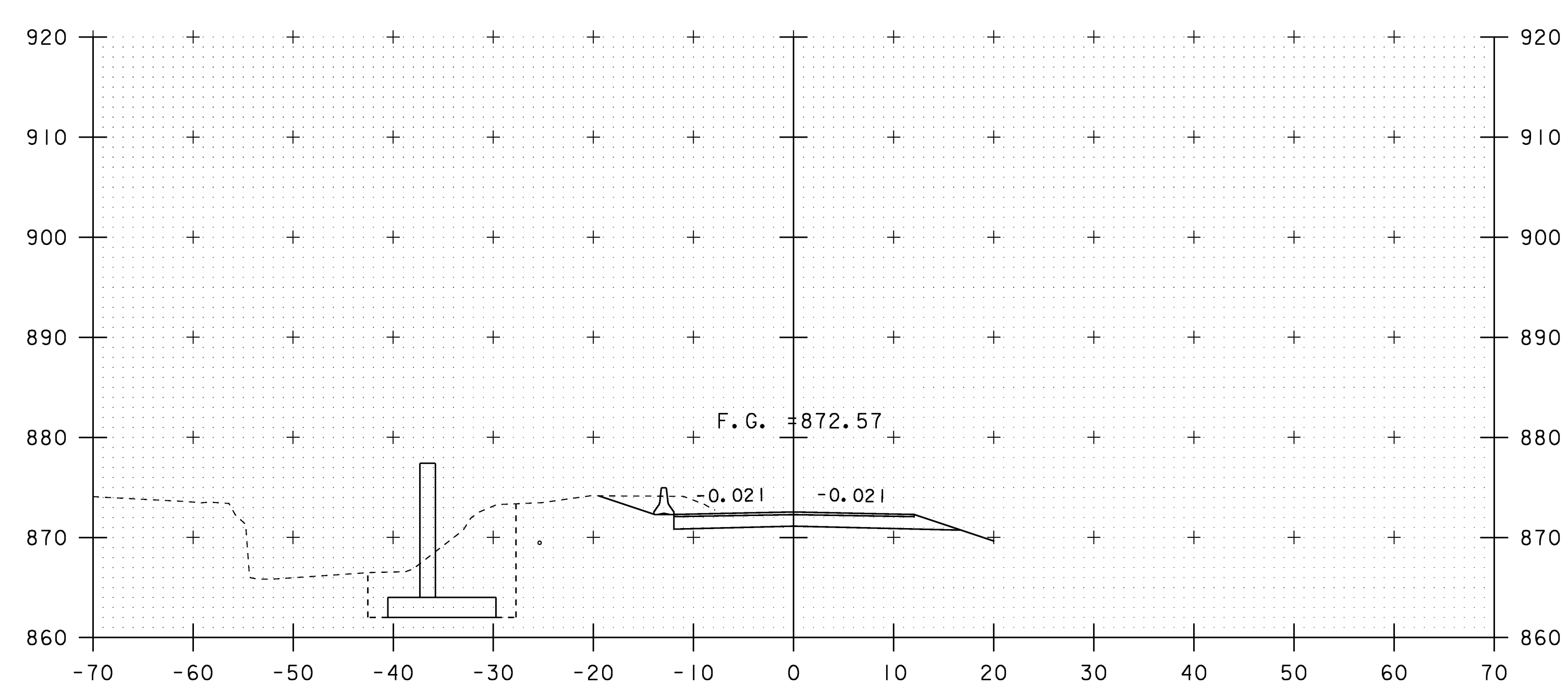
PROJECT NAME:	WILLIAMSTOWN	PLOT DATE:	07-APR-2008
PROJECT NUMBER:	BRS 0204(4)	DRAWN BY:	U. STANLEY
FILE NAME:	83ell\Sr+uct+sellxs.dgn	CHECKED BY:	EVANS-MONGEON
PROJECT LEADER:	EVANS-MONGEON	SHEET	102 OF 108
DESIGNED BY:	U. STANLEY		
IPARM:	sellidetxs4.l		



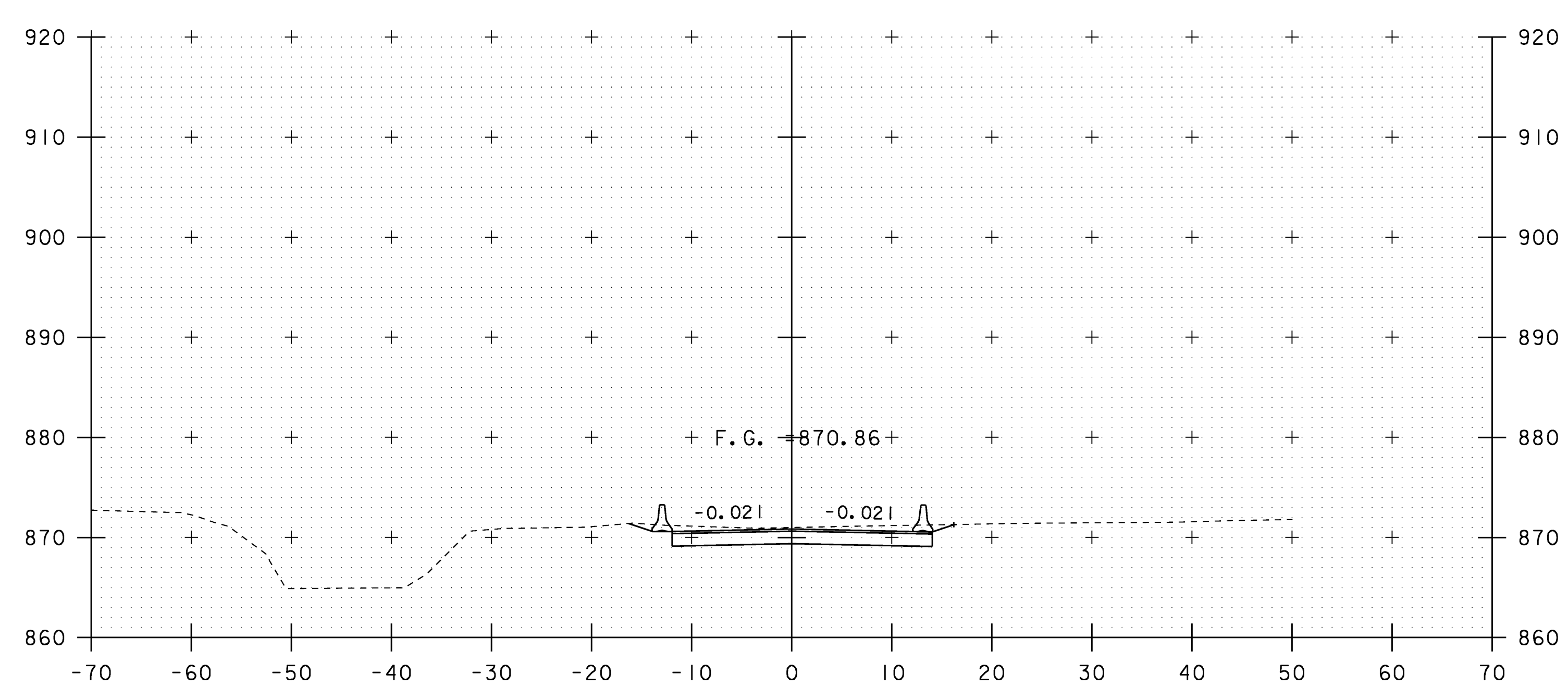
302+40



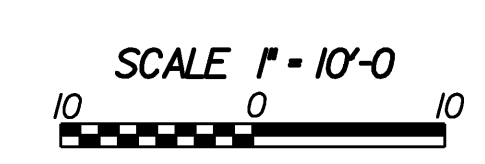
302+80



302+20



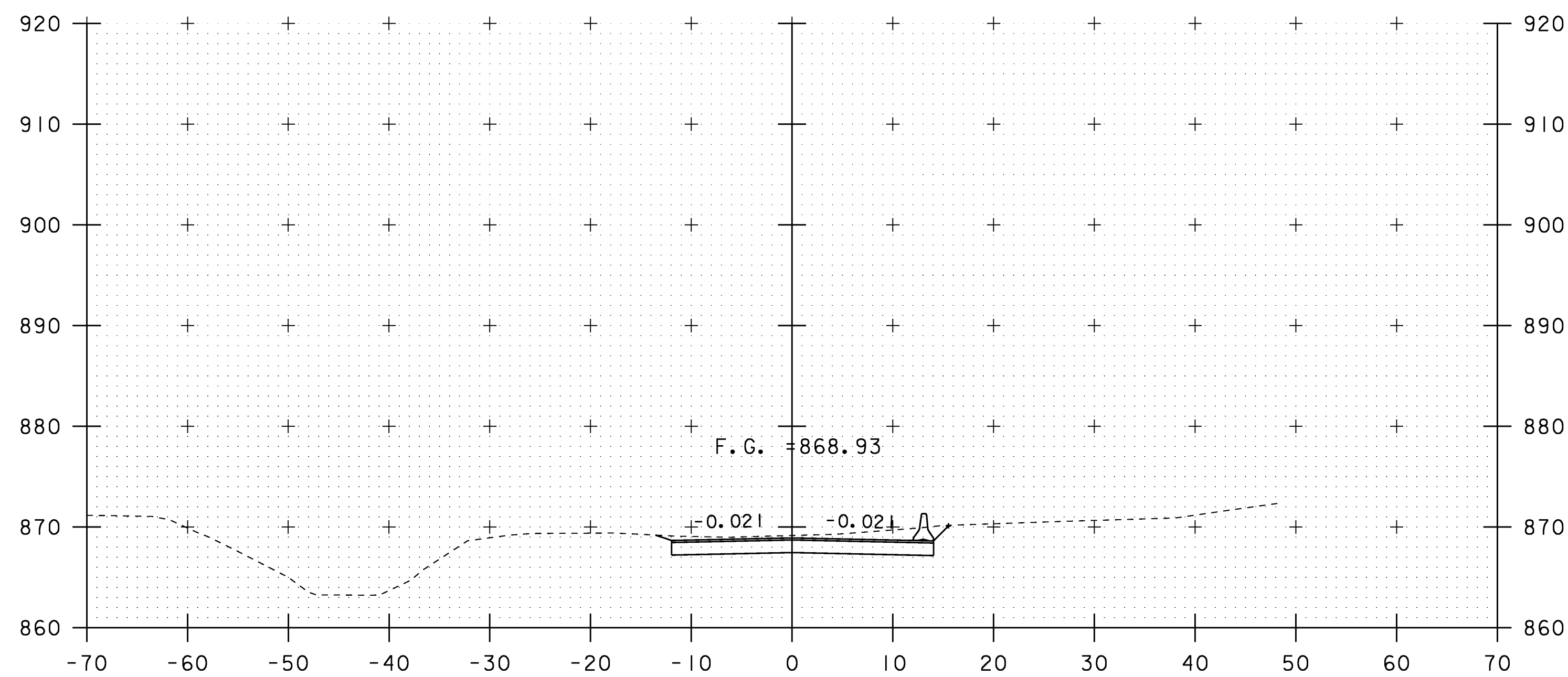
302+60



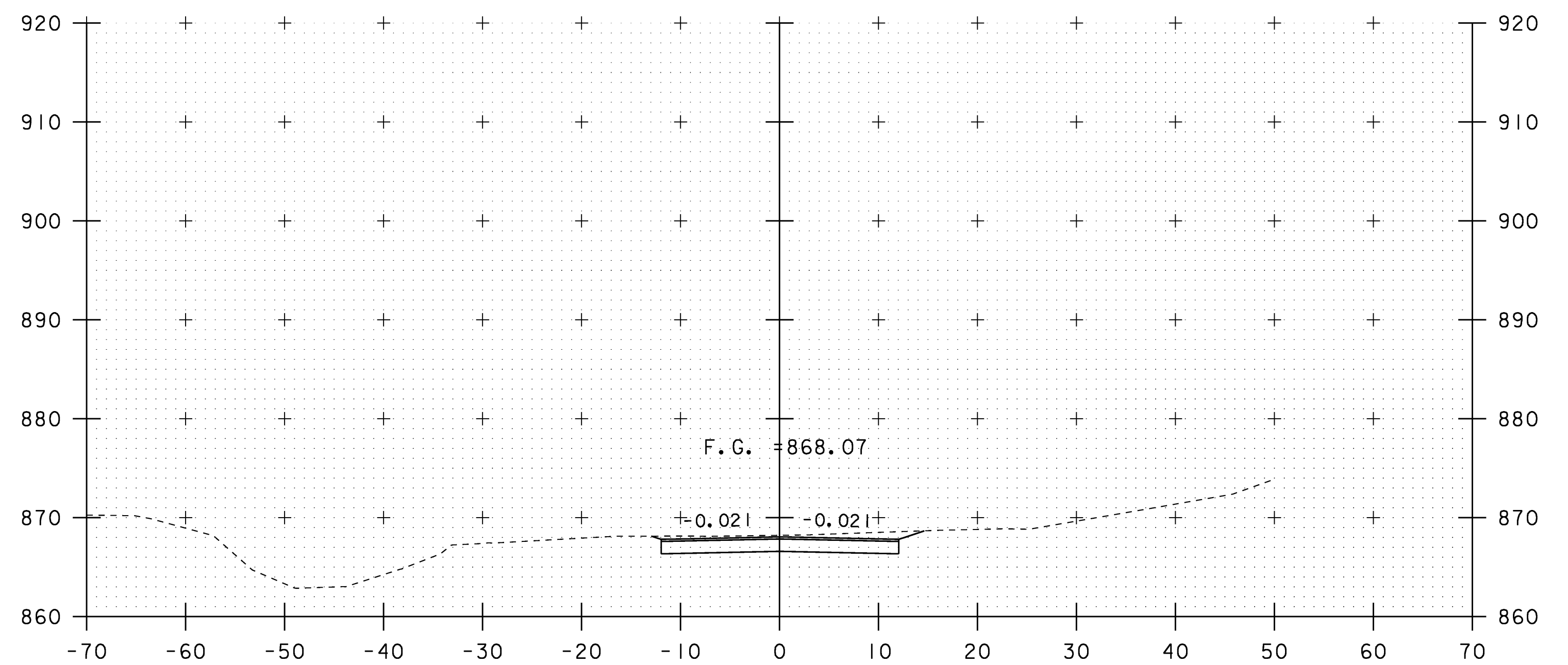
STA. 302+20 TO STA. 302+80

DETOUR CROSS SECTIONS

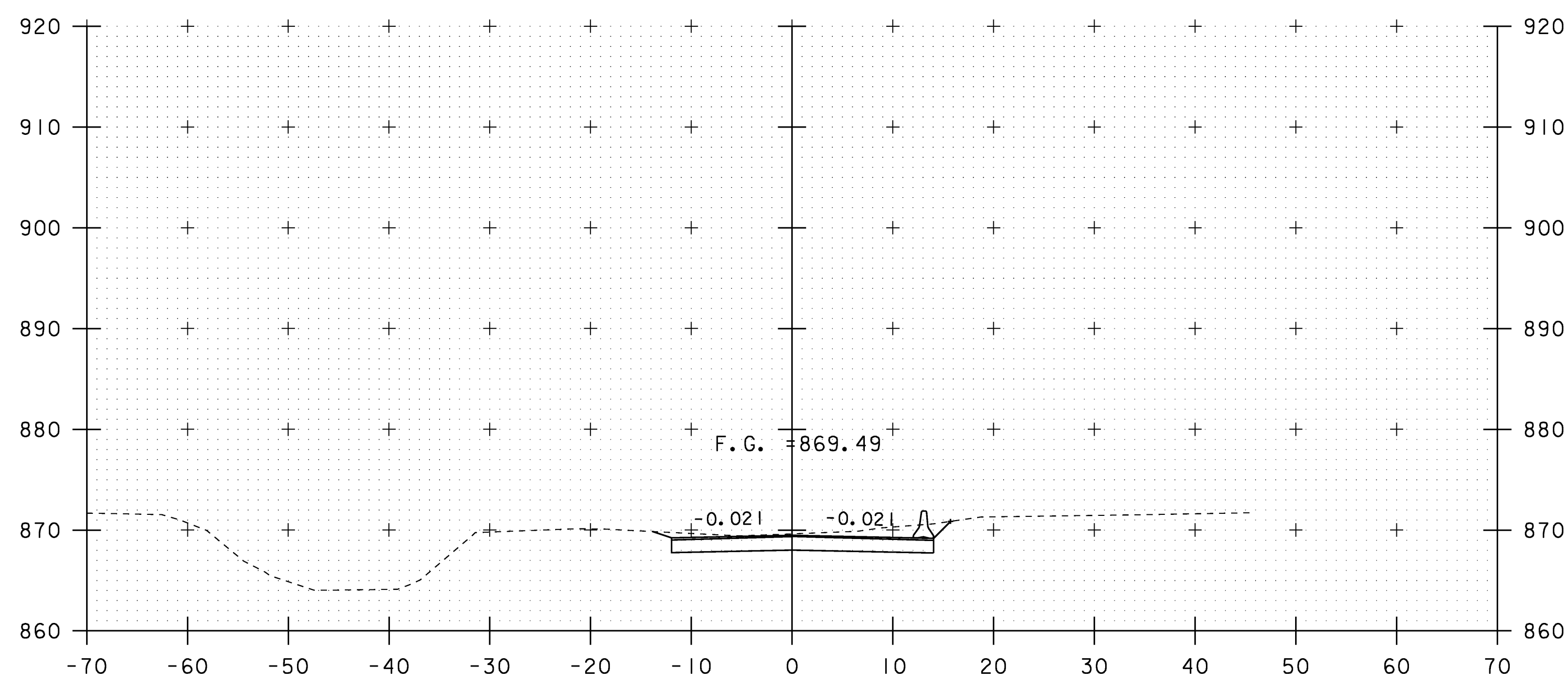
PROJECT NAME:	WILLIAMSTOWN
PROJECT NUMBER:	BRS 0204(4)
FILE NAME:	83ell\Struc+seilxs.dgn
PROJECT LEADER:	EVANS-MONGEON
DESIGNED BY:	U. STANLEY
IPARM:	seilidetxs5.1
PLOT DATE:	07-APR-2008
DRAWN BY:	U. STANLEY
CHECKED BY:	EVANS-MONGEON
SHEET	103 OF 108



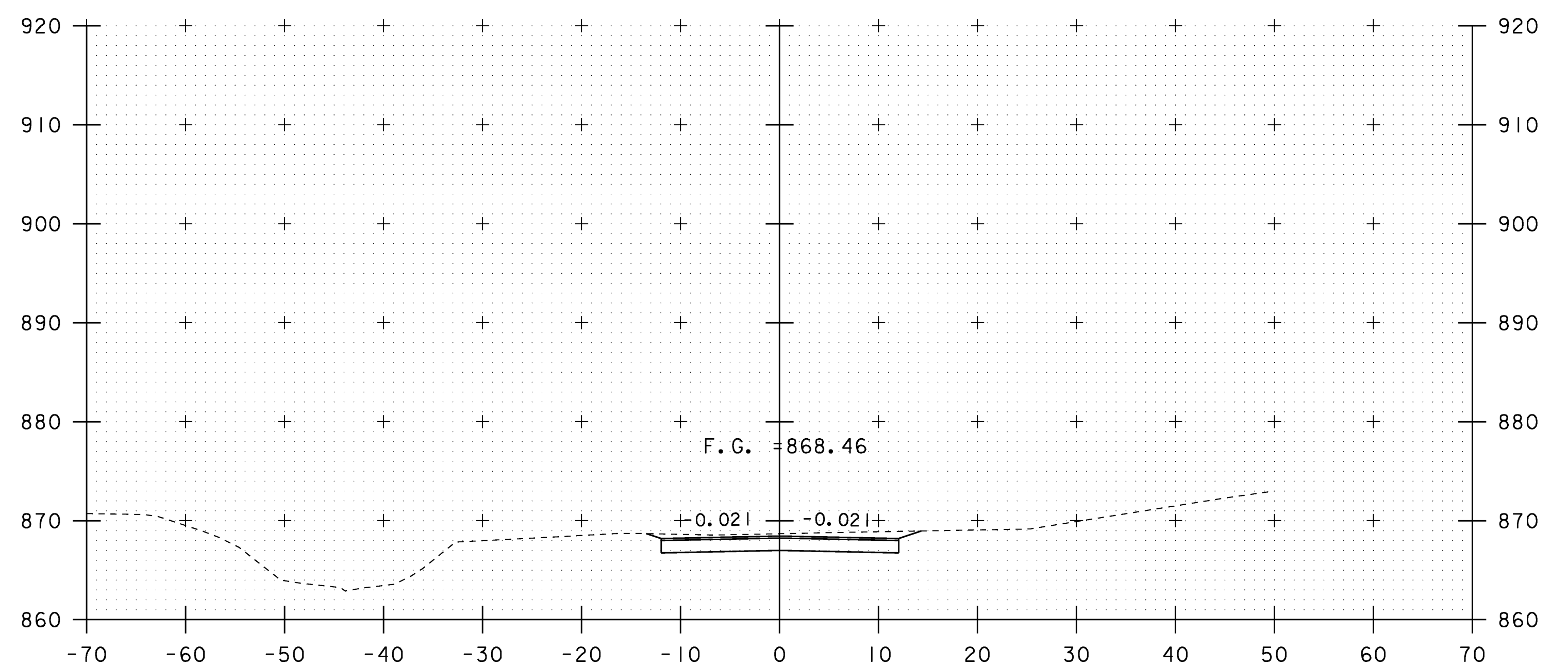
303+20



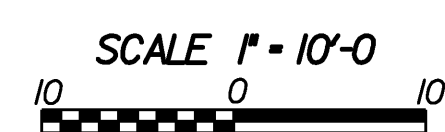
303+60



303+00



303+40



STA. 303+00 TO STA. 303+60

DETOUR CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN

PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Srtuct\\sellxs.dgn

PROJECT LEADER: EVANS-MONGEON

DESIGNED BY: U. STANLEY

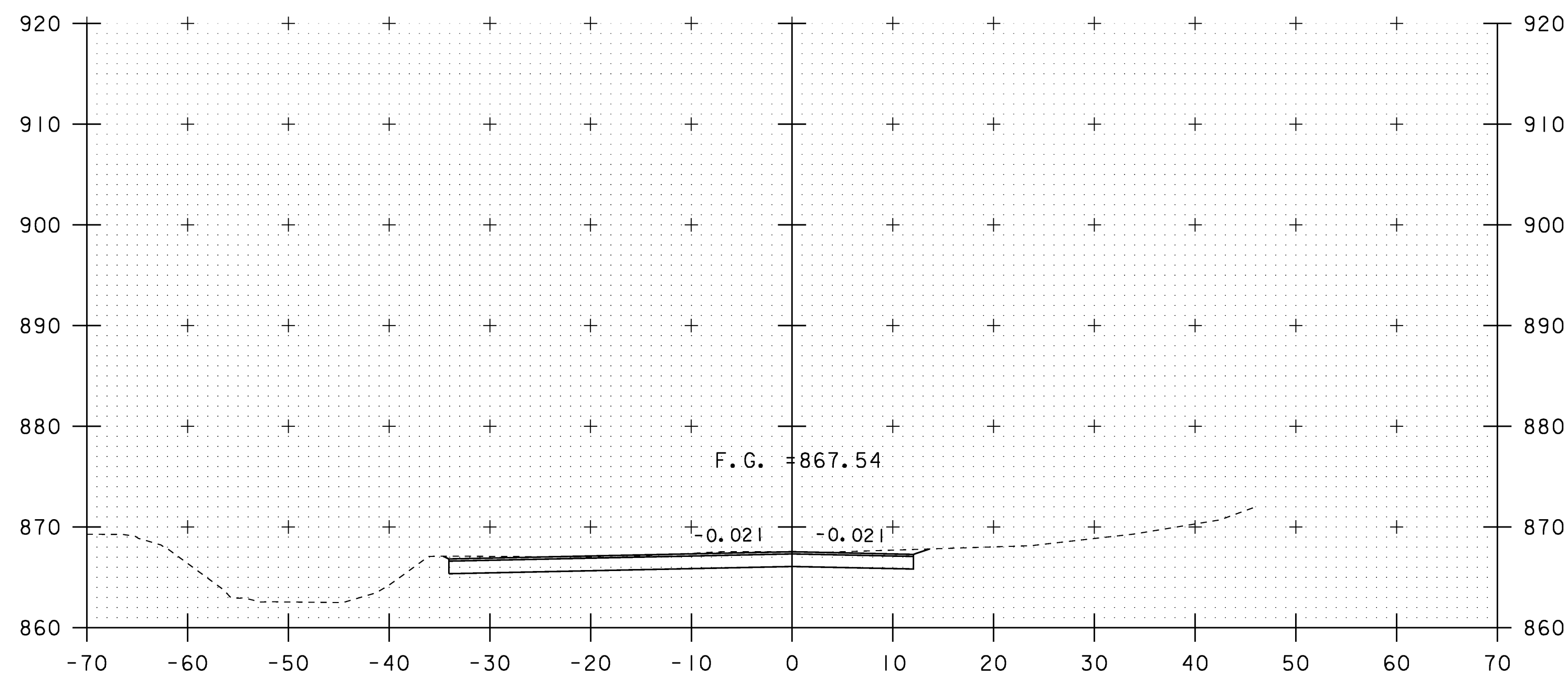
IPARM: sellde+xs6.i

PLOT DATE: 07-APR-2008

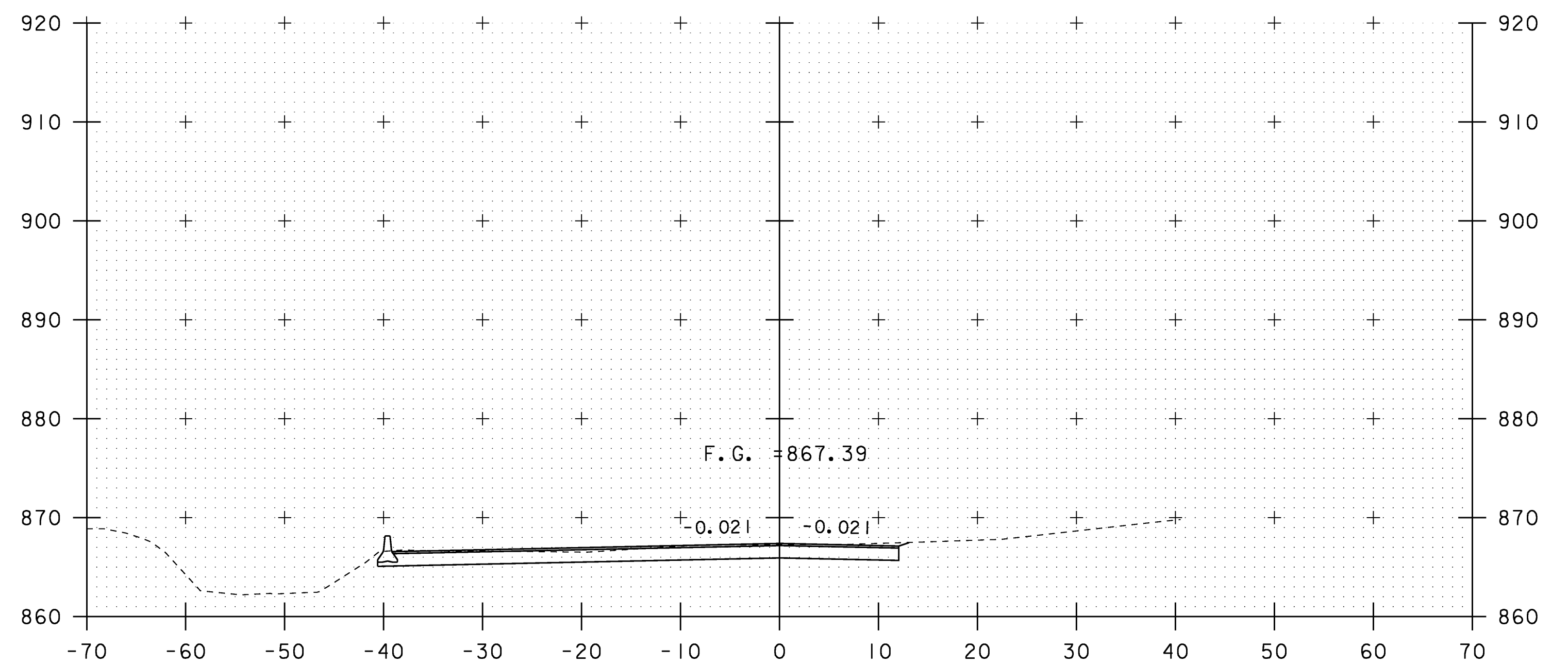
DRAWN BY: U. STANLEY

CHECKED BY: EVANS-MONGEON

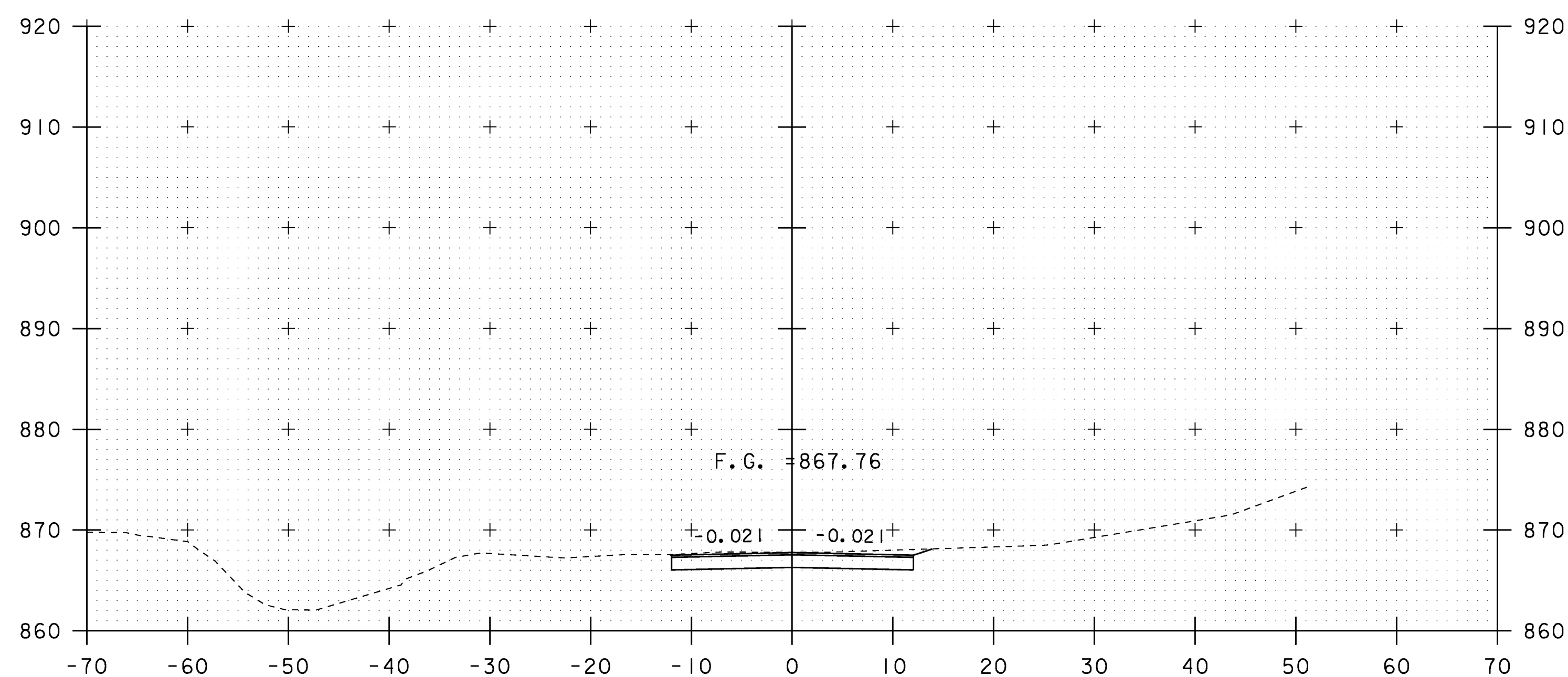
SHEET 104 OF 108



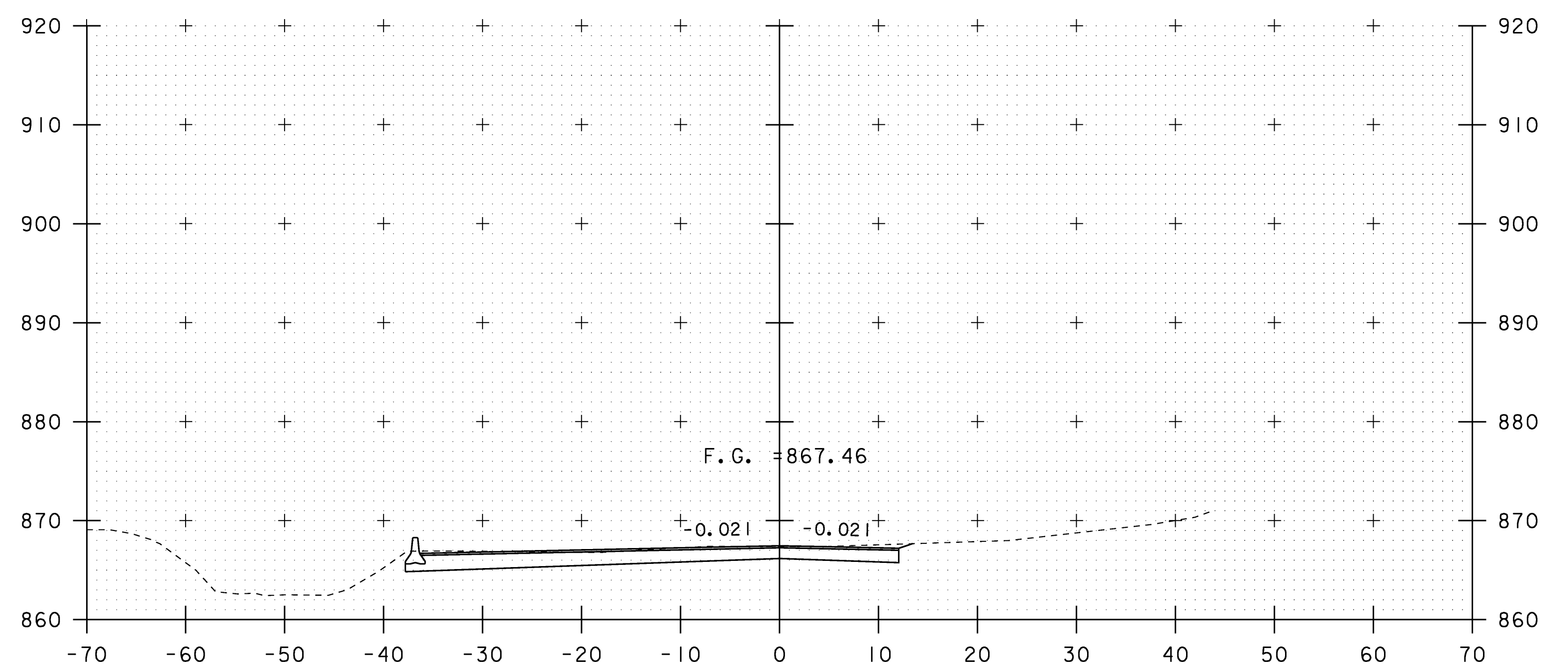
304+00



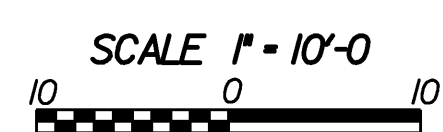
304+20



303+80



304+09



STA. 303+80 TO STA. 304+20

DETOUR CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN

PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Sr+uct+\\sellxs.dgn

PROJECT LEADER: EVANS-MONGEON

DESIGNED BY: U. STANLEY

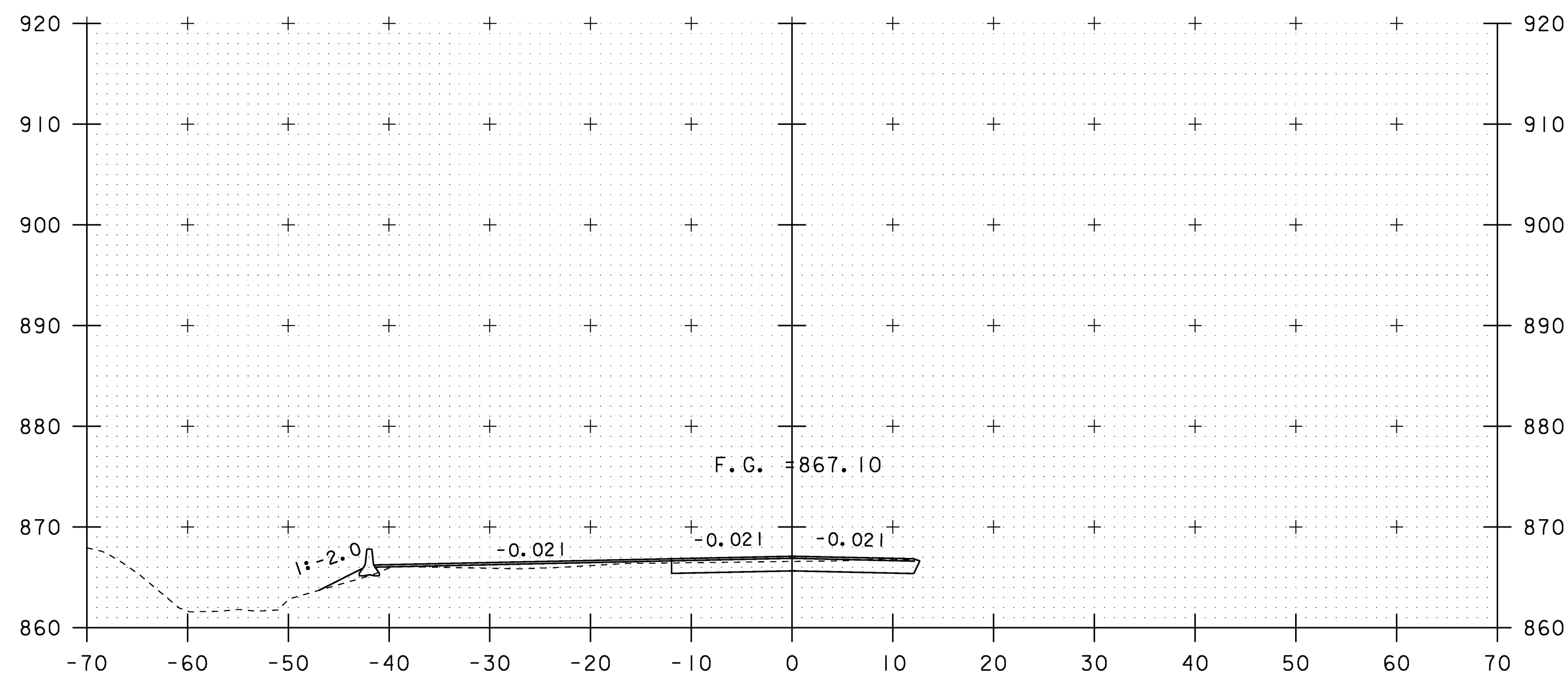
IPARM: sellde+xs7.l

PLOT DATE: 07-APR-2008

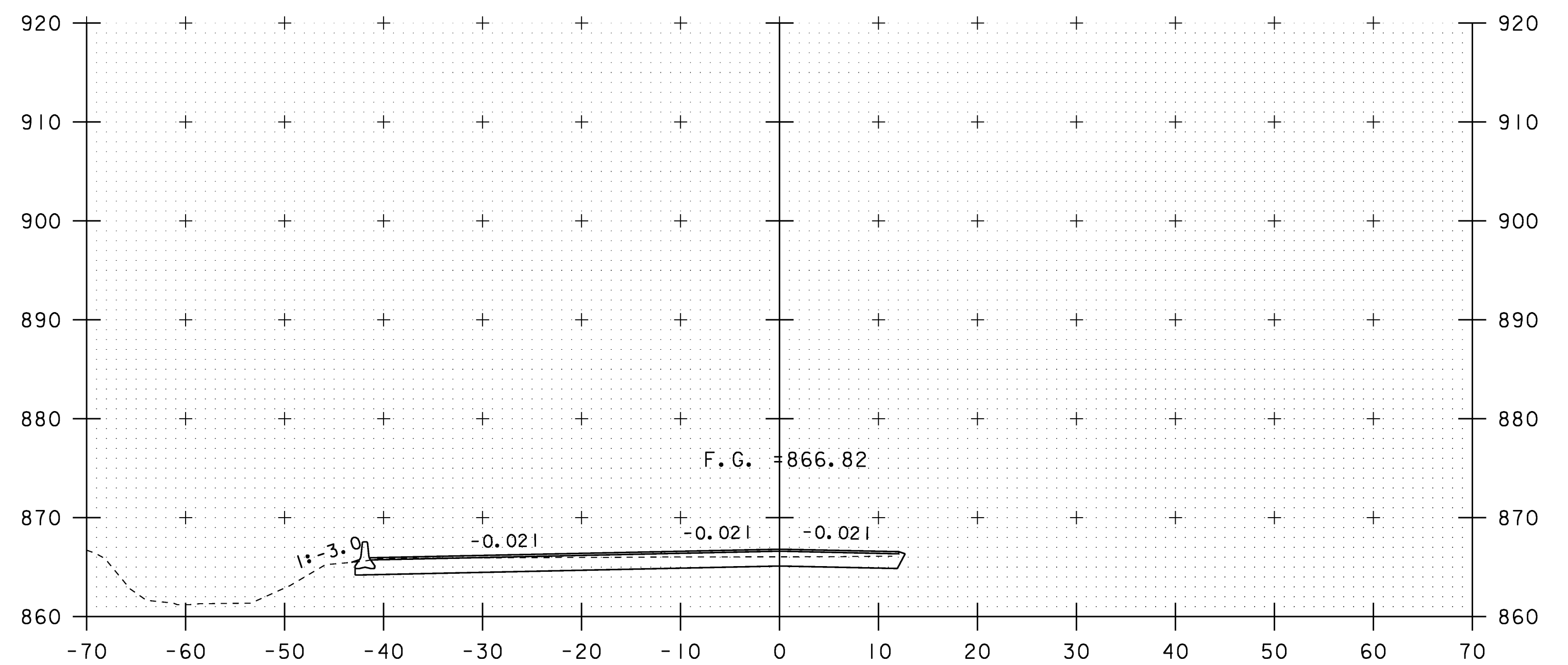
DRAWN BY: U. STANLEY

CHECKED BY: EVANS-MONGEON

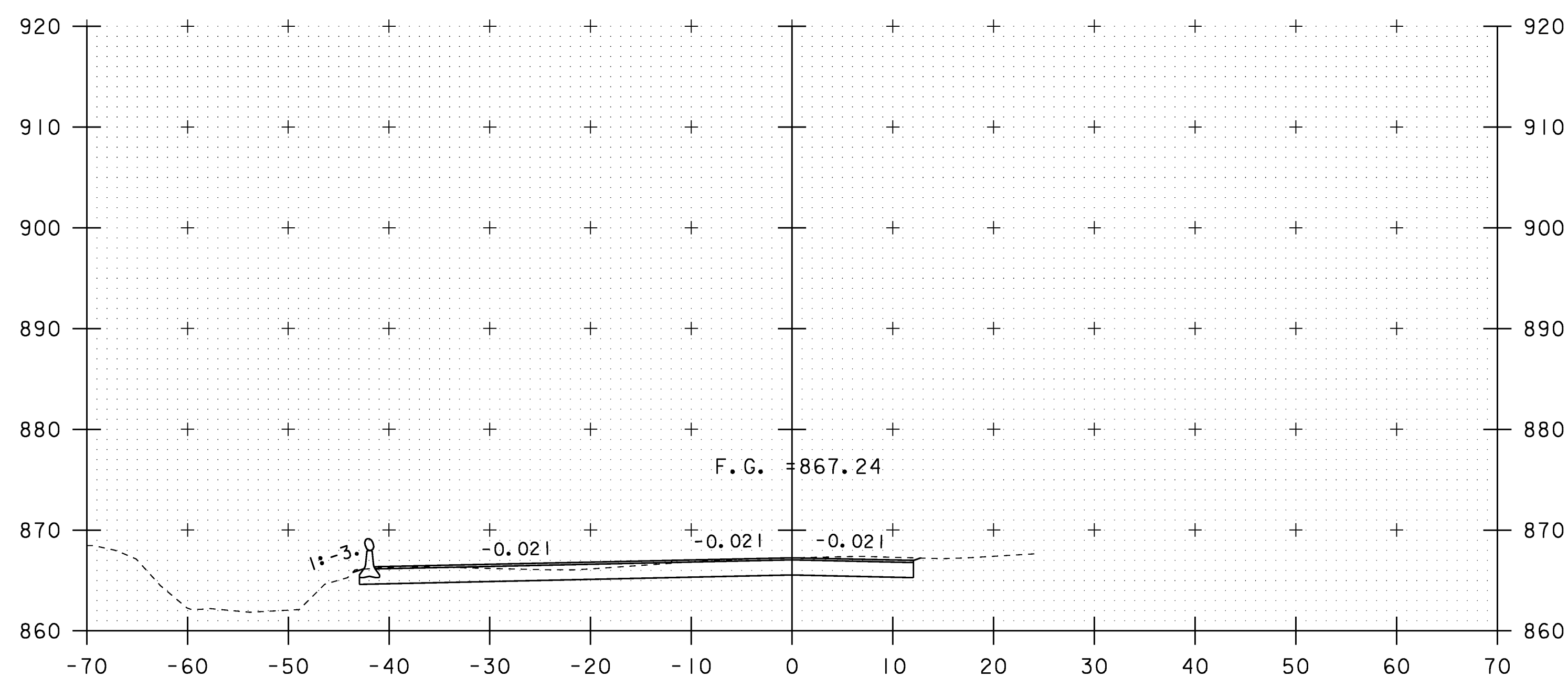
SHEET 105 OF 108



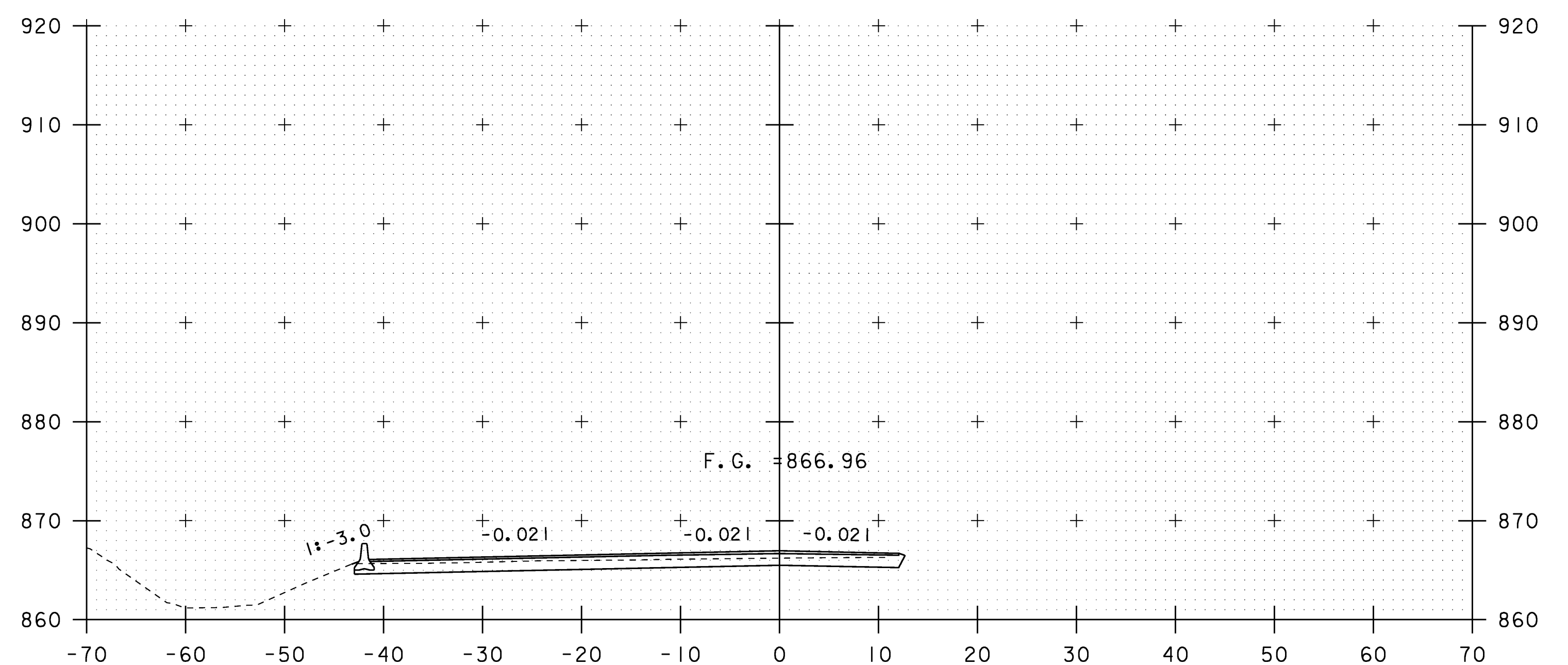
304+60



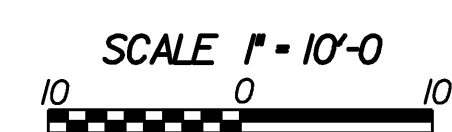
305+00



304+40



304+80



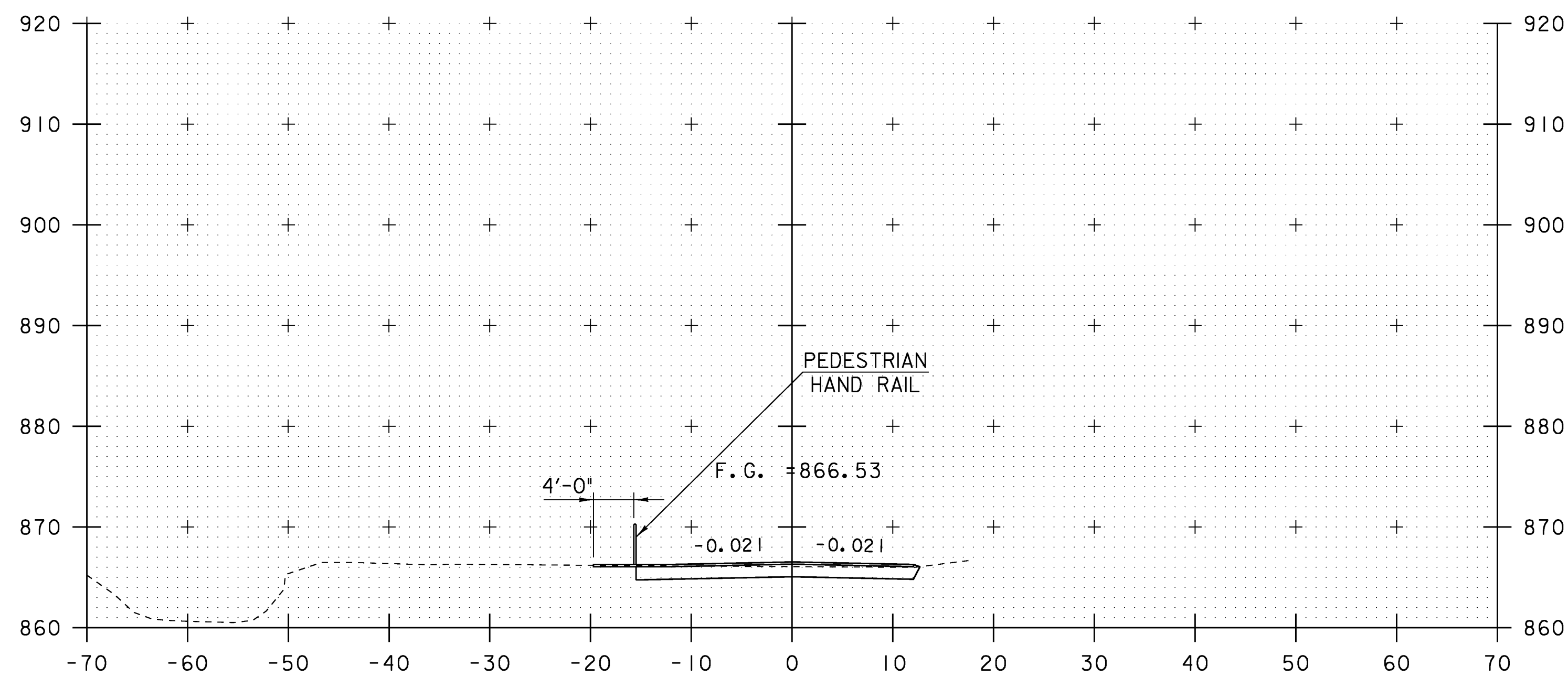
STA. 304+40 TO STA. 305+00

DETOUR CROSS SECTIONS

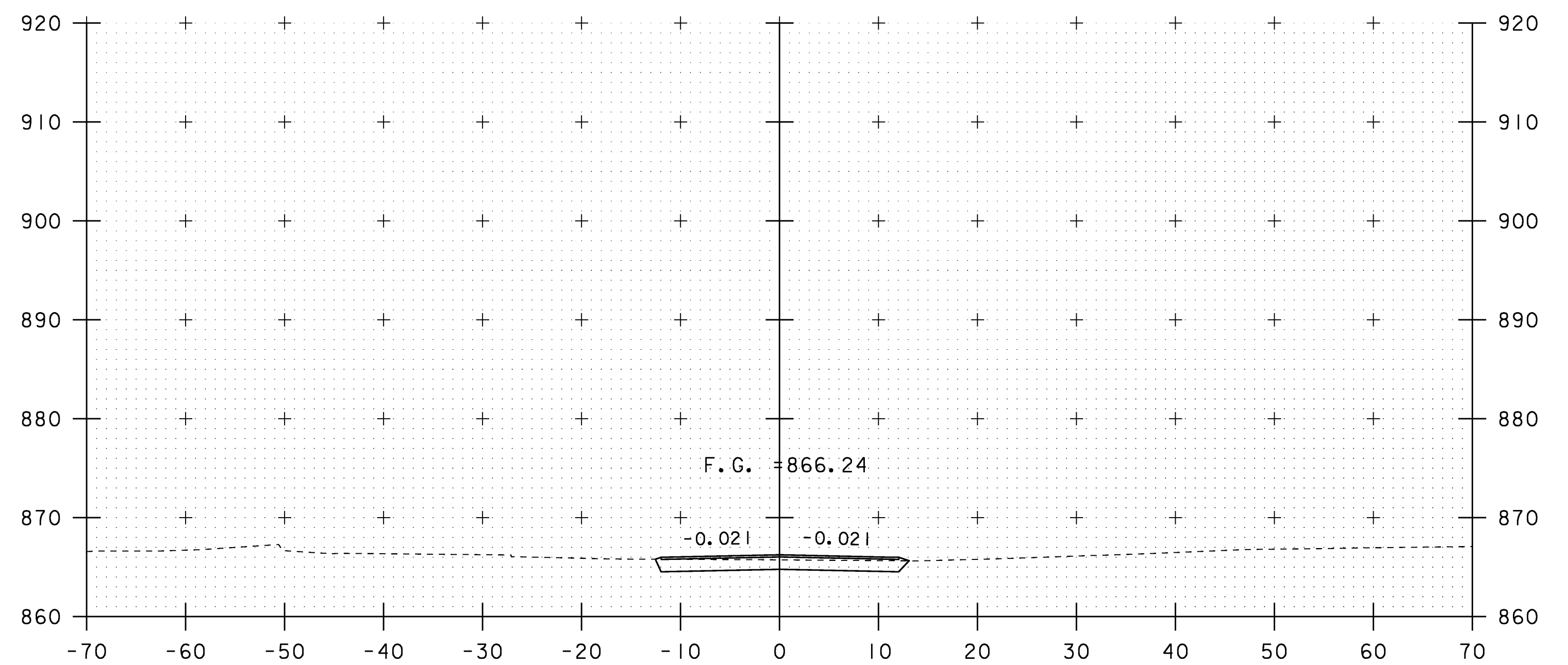
PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Sr+uct+\\sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellde+xs8.l

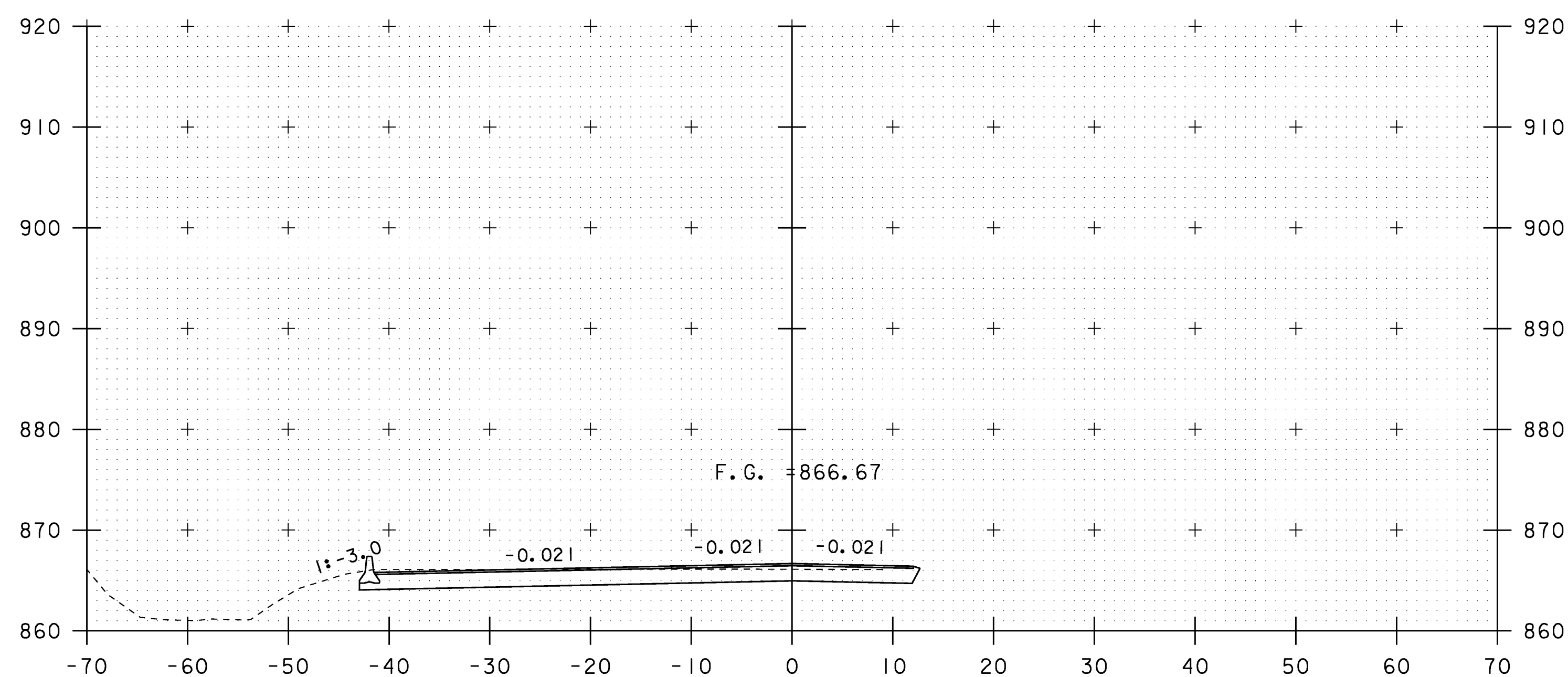
PLOT DATE: 07-APR-2008
DRAWN BY: U. STANLEY
CHECKED BY: EVANS-MONGEON
SHEET 106 OF 108



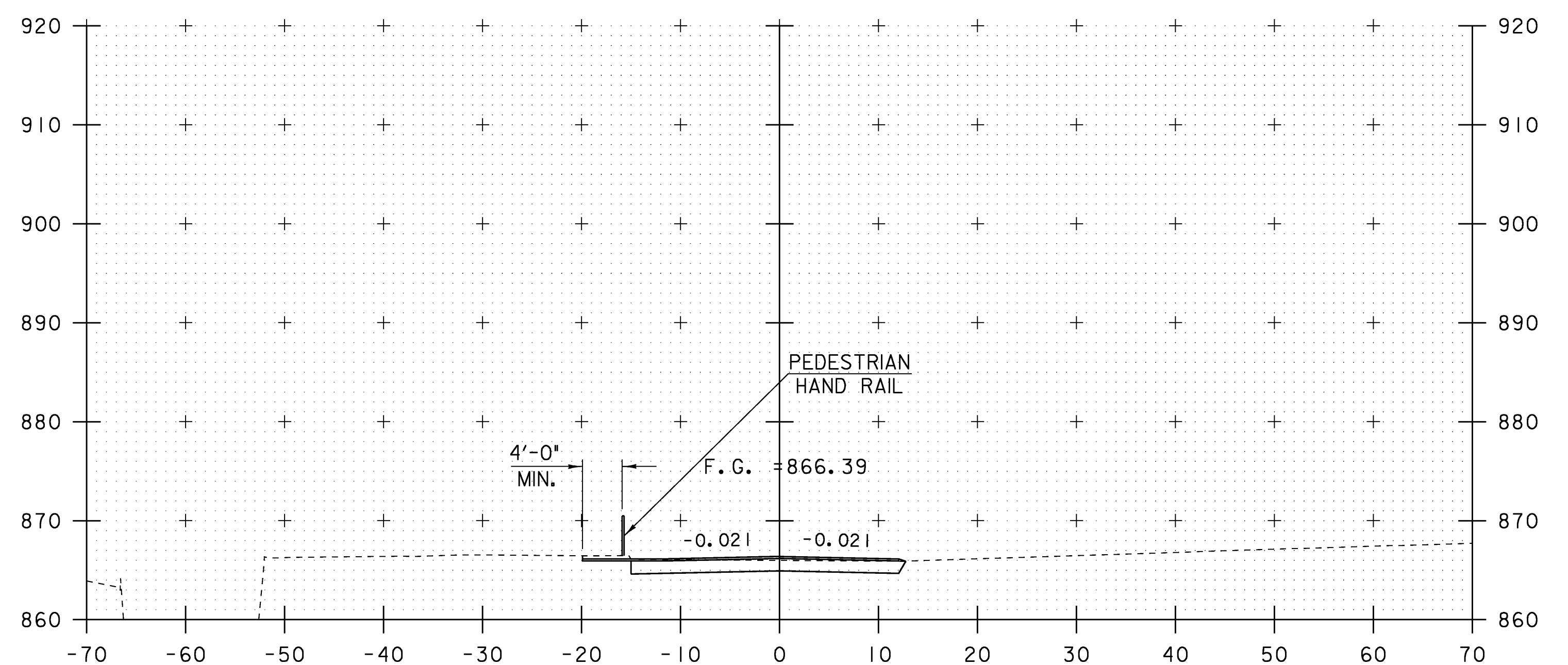
305+40



305+80



305+20



305+60

SCALE 1" = 10'-0"

DETOUR CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN

PROJECT NUMBER: BRS 0204(4)

FILE NAME: 83ell\\Sr+uct\\sellxs.dgn

PROJECT LEADER: EVANS-MONGEON

DESIGNED BY: U. STANLEY

IPARM: sellde+xs9.i

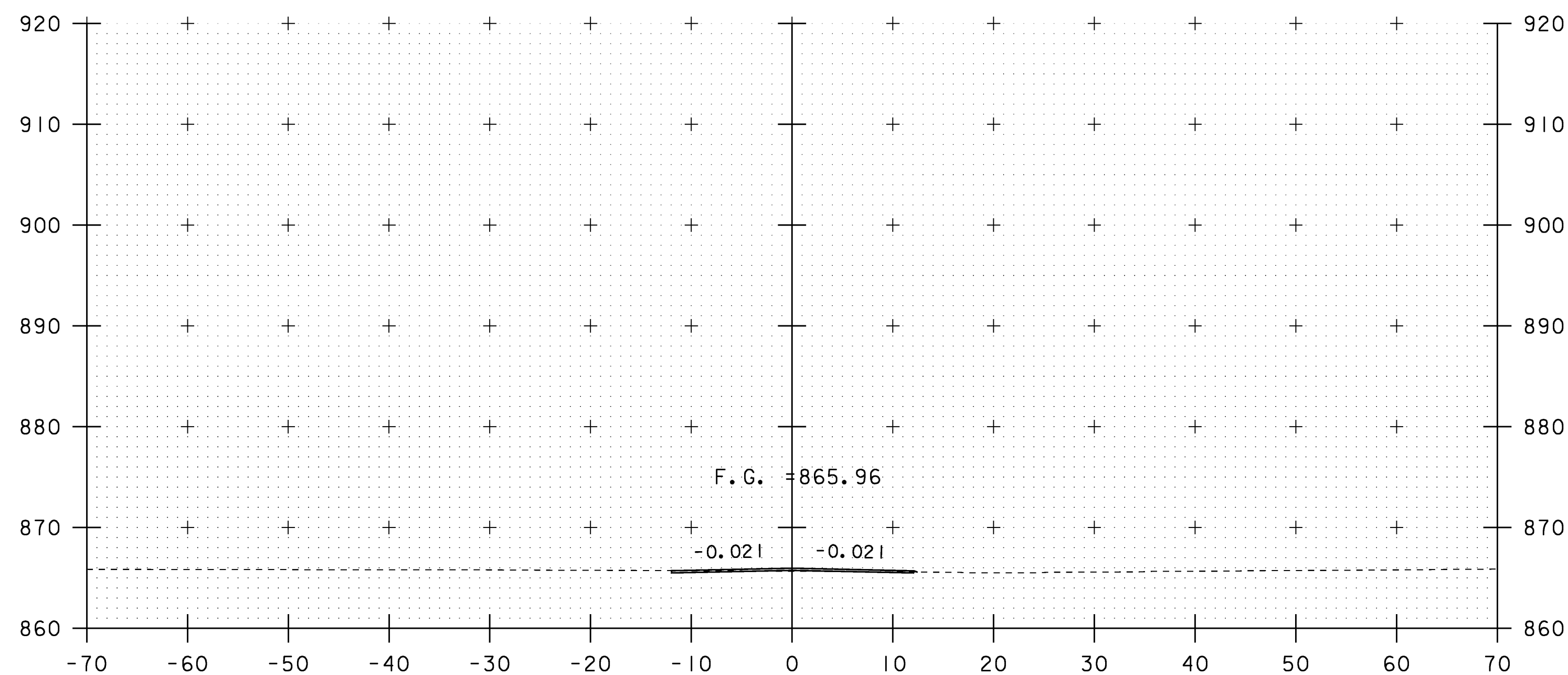
PLOT DATE: 07-APR-2008

DRAWN BY: U. STANLEY

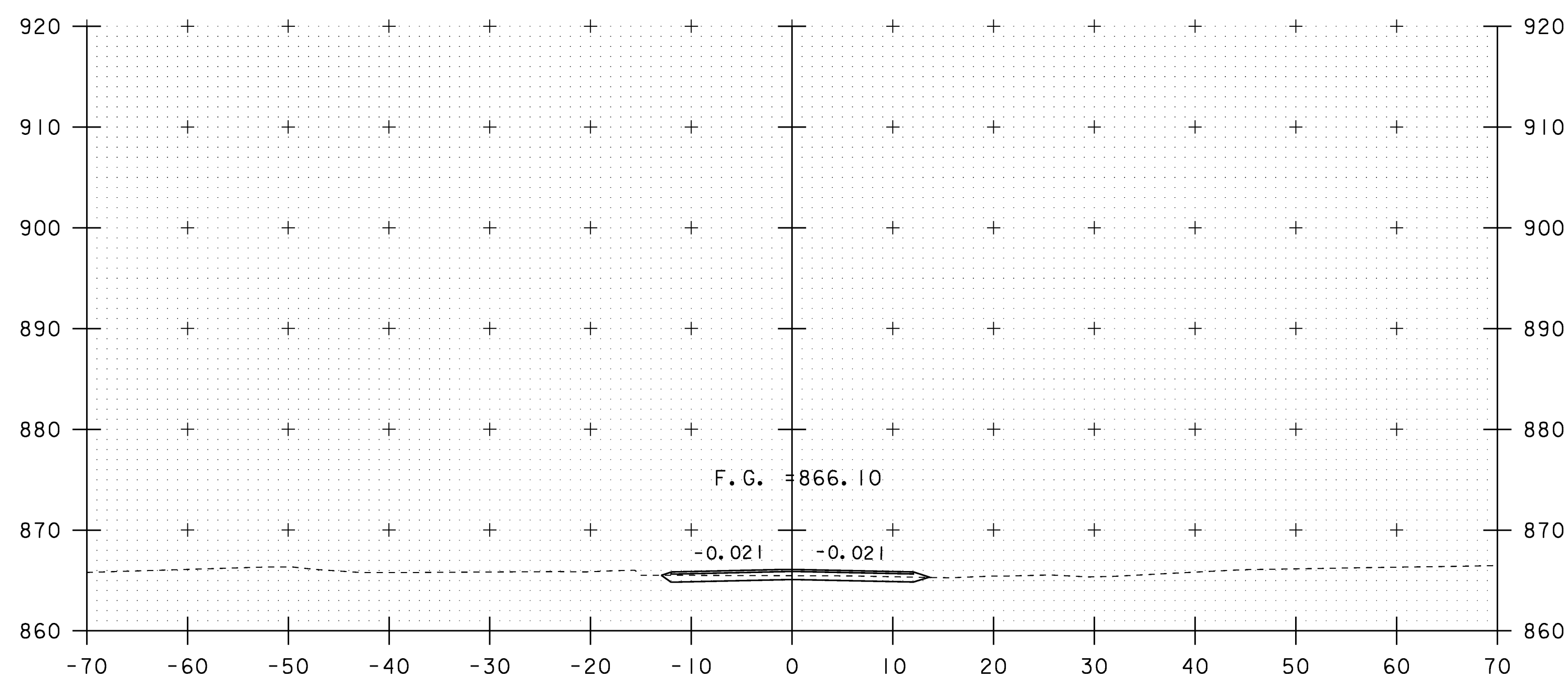
CHECKED BY: EVANS-MONGEON

SHEET 107 OF 108

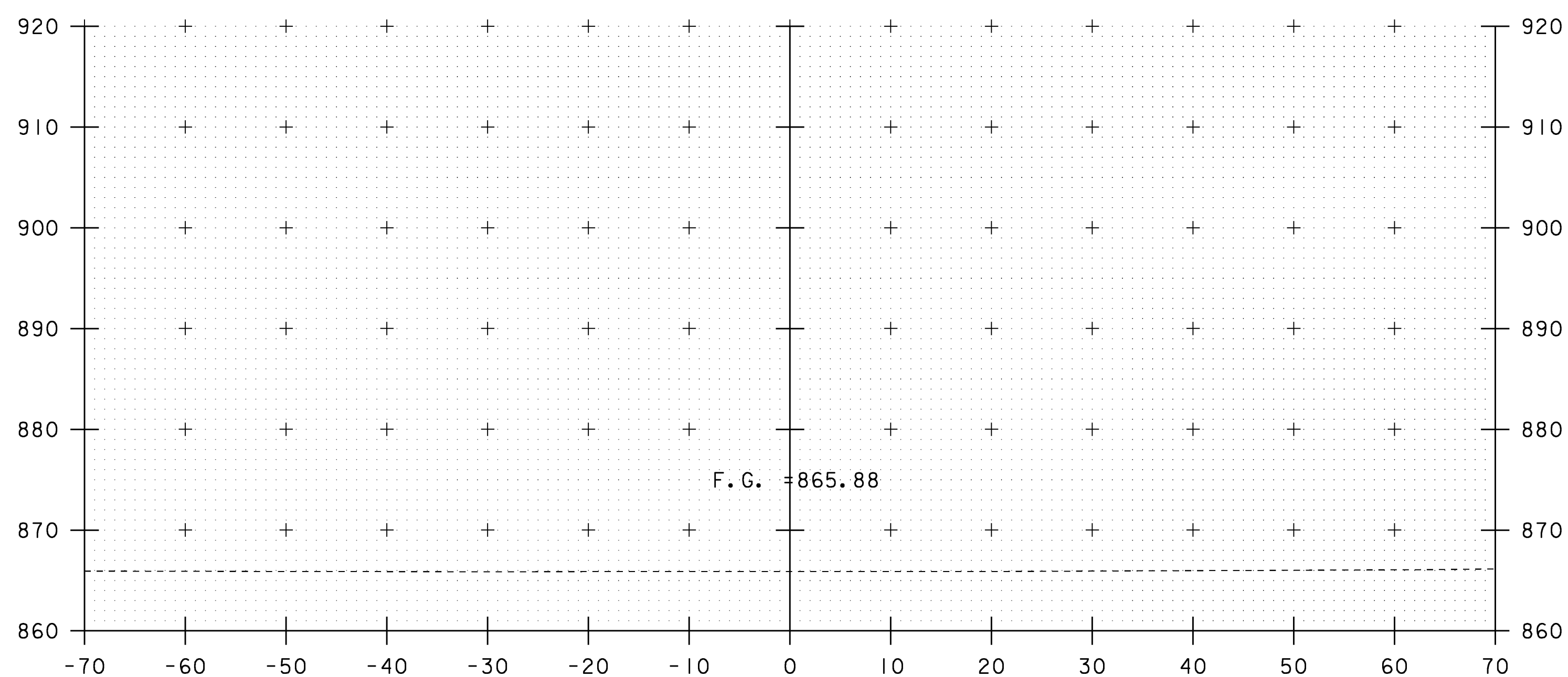
STA. 305+20 TO STA. 305+80



306+20



306+00



306+31

SCALE 1" = 10'-0"

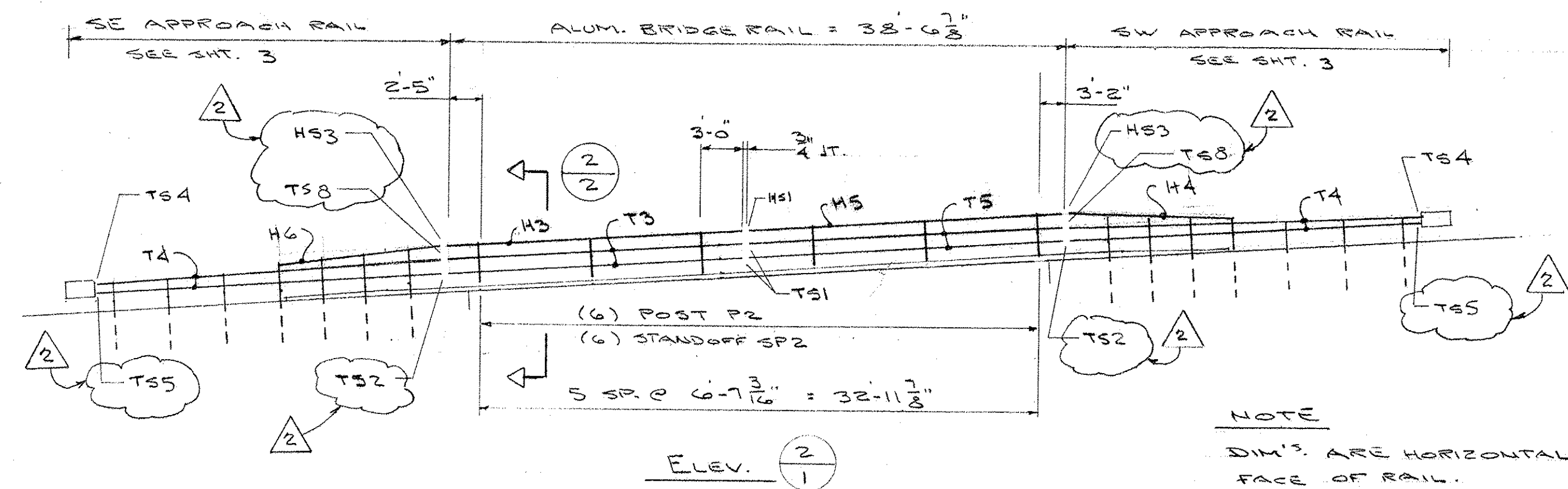
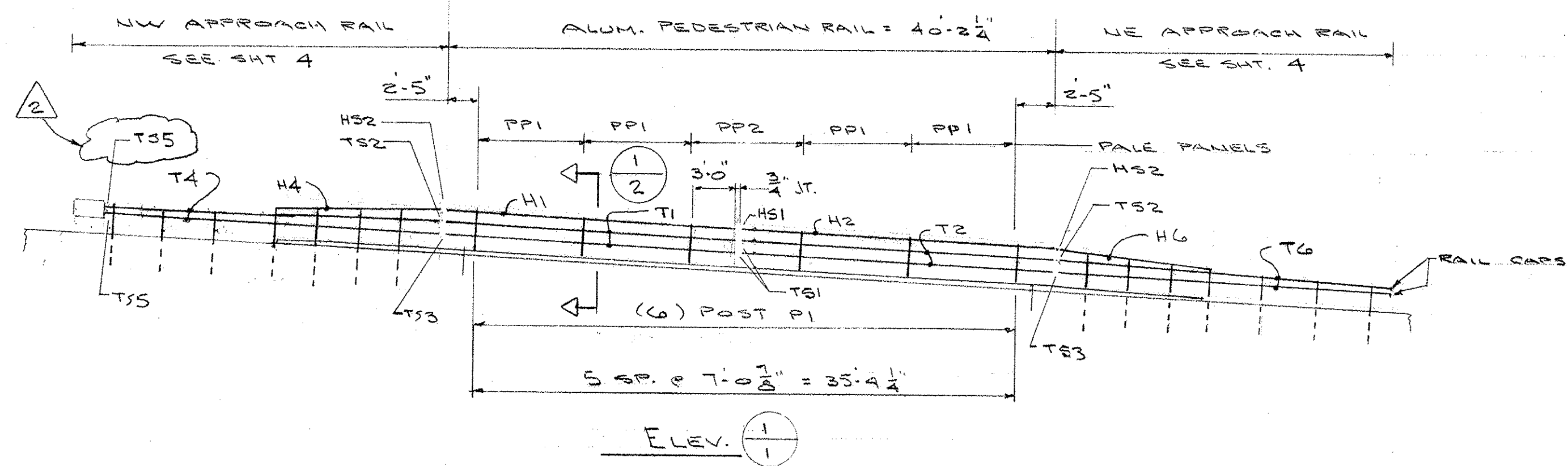
DETOUR CROSS SECTIONS

PROJECT NAME: WILLIAMSTOWN
PROJECT NUMBER: BRS 0204(4)

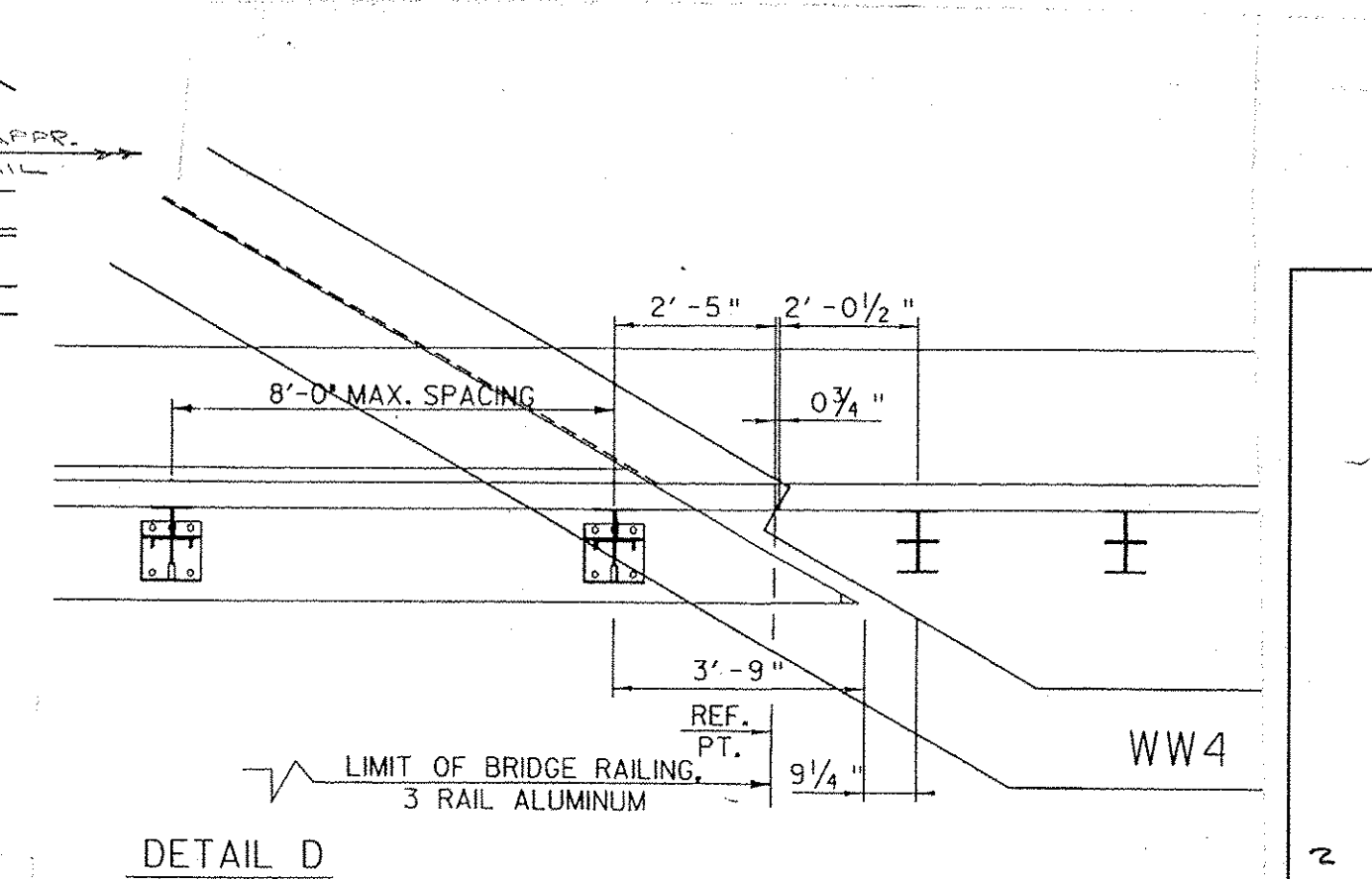
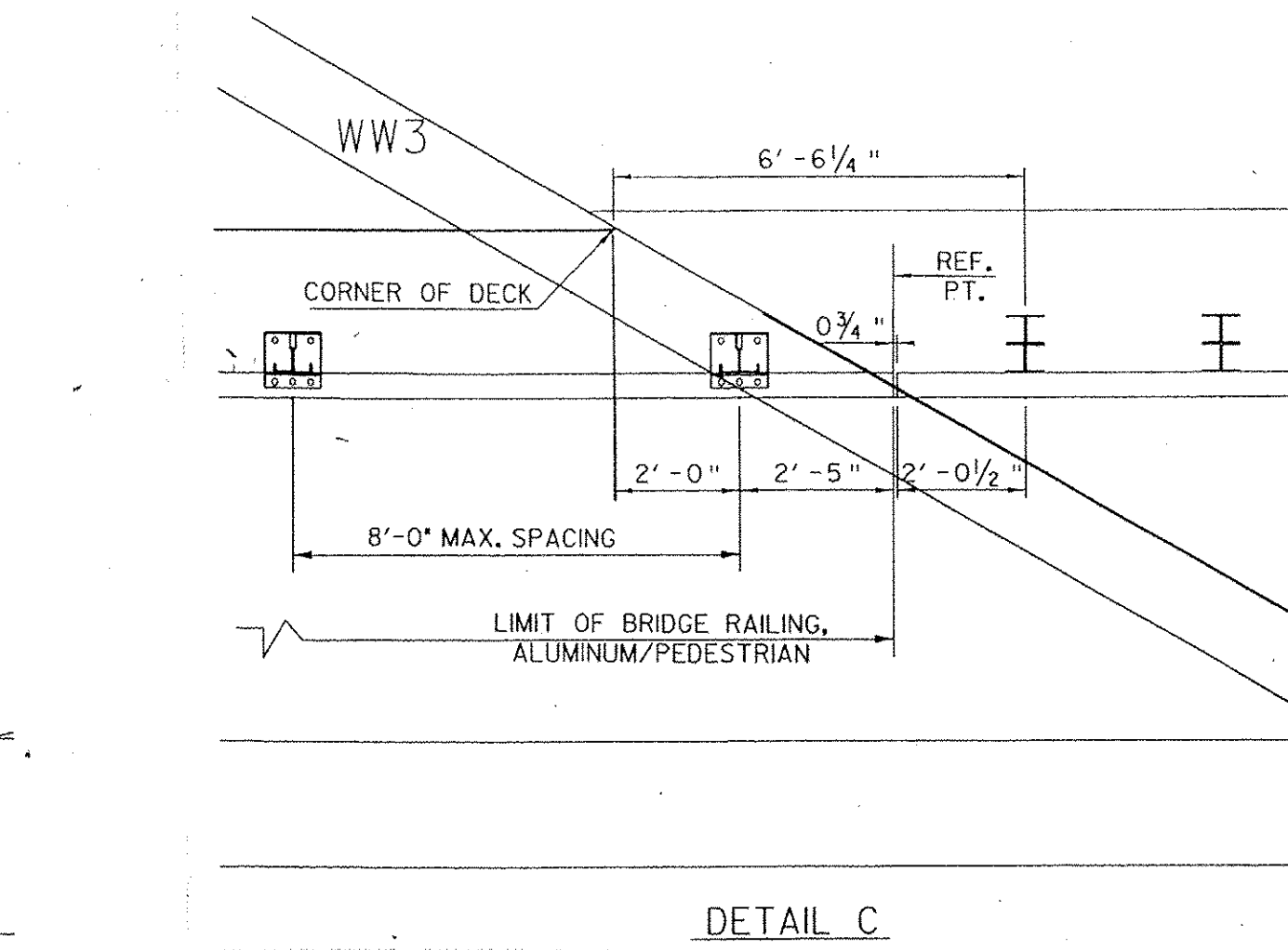
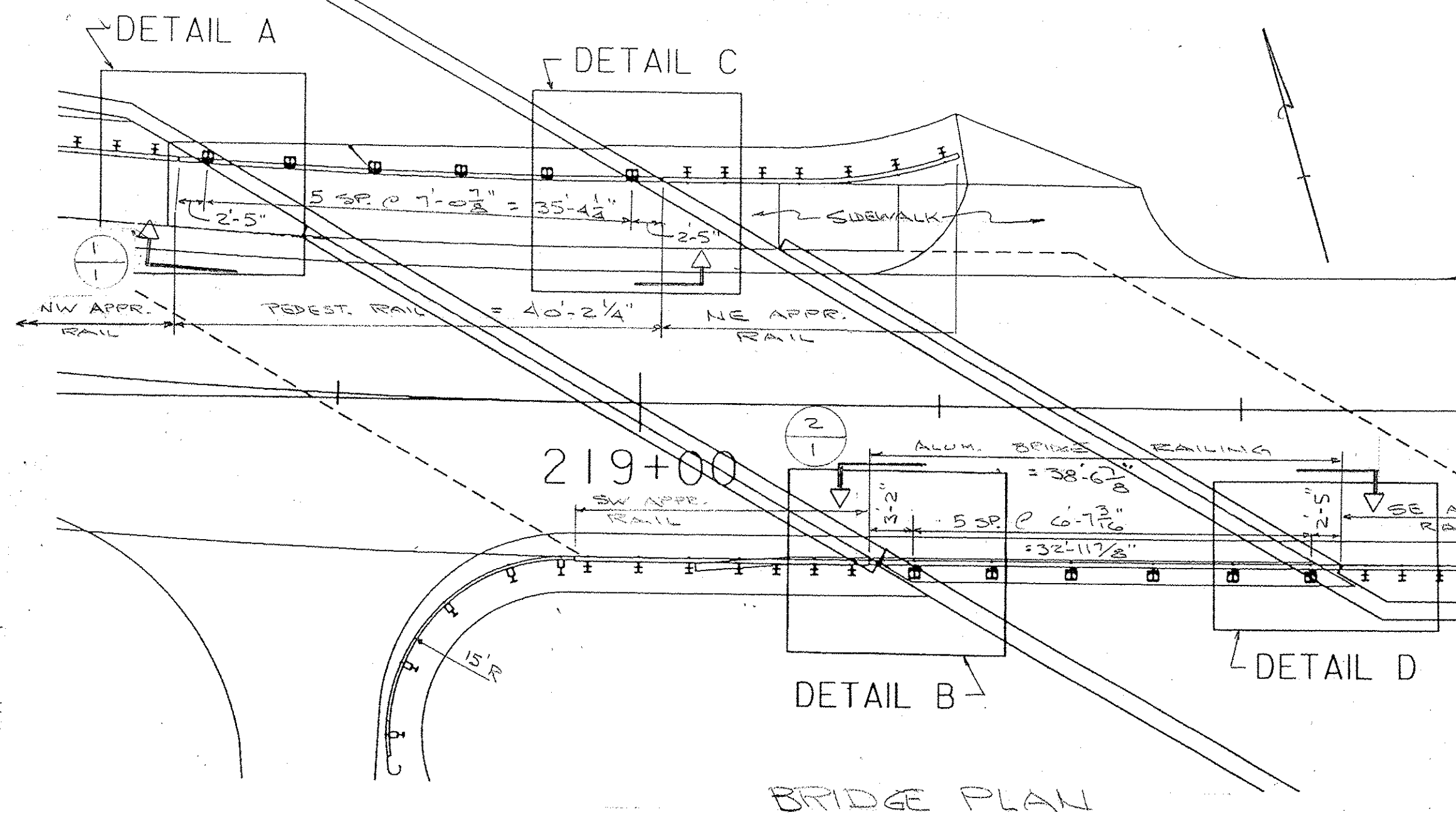
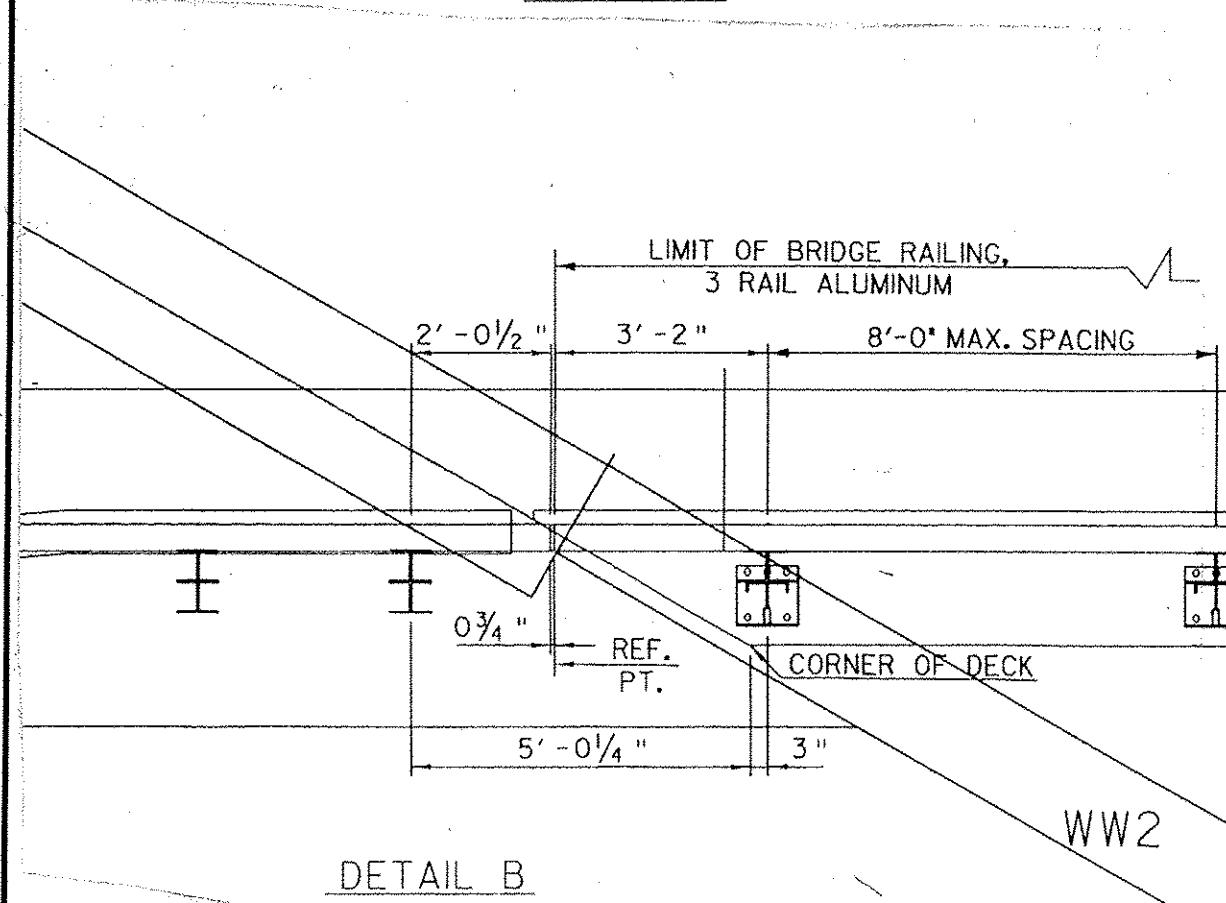
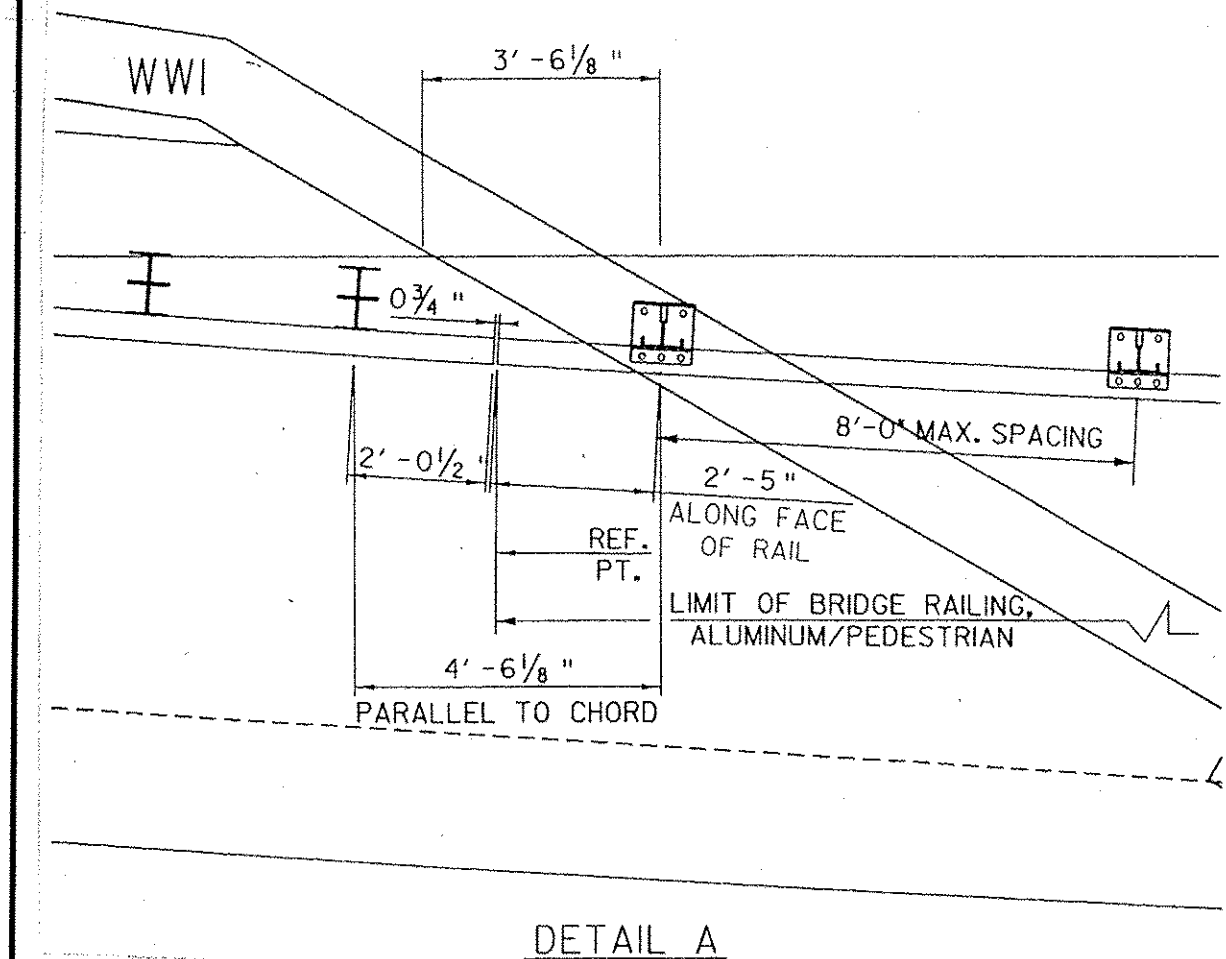
FILE NAME: 83ell\\Srtuct\\sellxs.dgn
PROJECT LEADER: EVANS-MONGEON
DESIGNED BY: U. STANLEY
IPARM: sellde+xs10.1

PLOT DATE: 07-APR-2008
DRAWN BY: U. STANLEY
CHECKED BY:
SHEET 108 OF 108

STA. 306+00 TO STA. 306+31



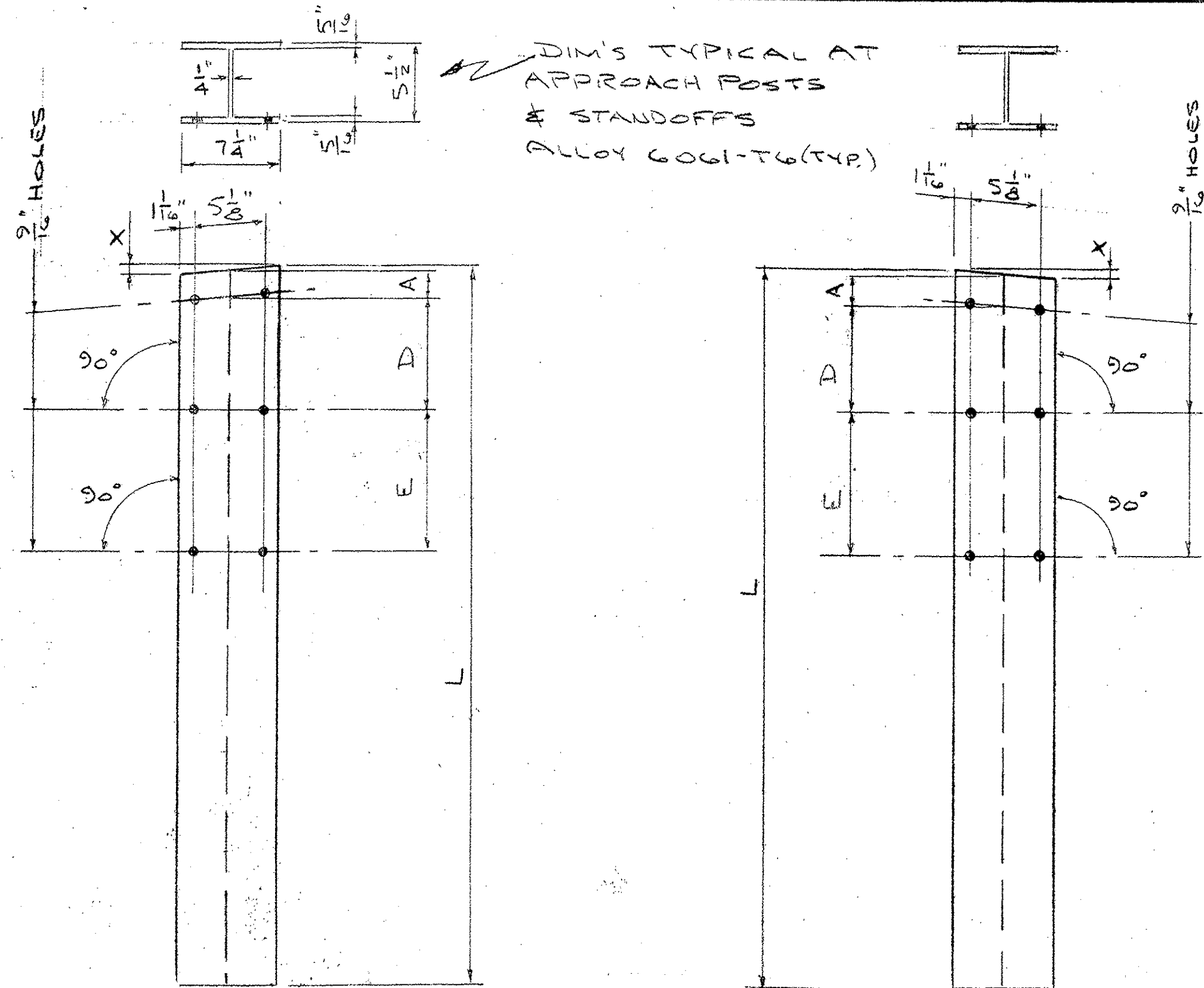
NOTE
DIM'S. ARE HORIZONTAL ALONG
FACE OF RAIL.



BRIDGE PLAN

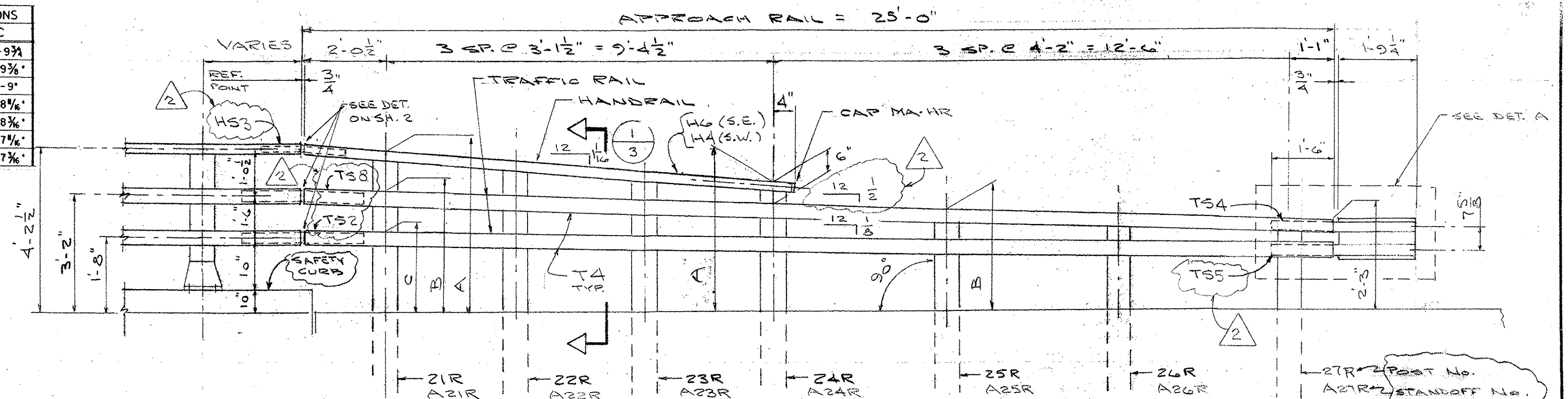
* RAIL LENGTHS ARE ADJUSTED
FOR SLOPE

JOB #A897005				
QUAN	MK	DESCRIPTION	4" x 3 1/2" HANDRAIL	
6	P1	BR. RAIL POST	QUAN	MK
6	P2	BR. RAIL POST	1	H1
1	31L	APPR. POST	1	H2
1	32L		1	H3
1	33L		2	H4
1	34L		1	H5
1	35L		2	H6
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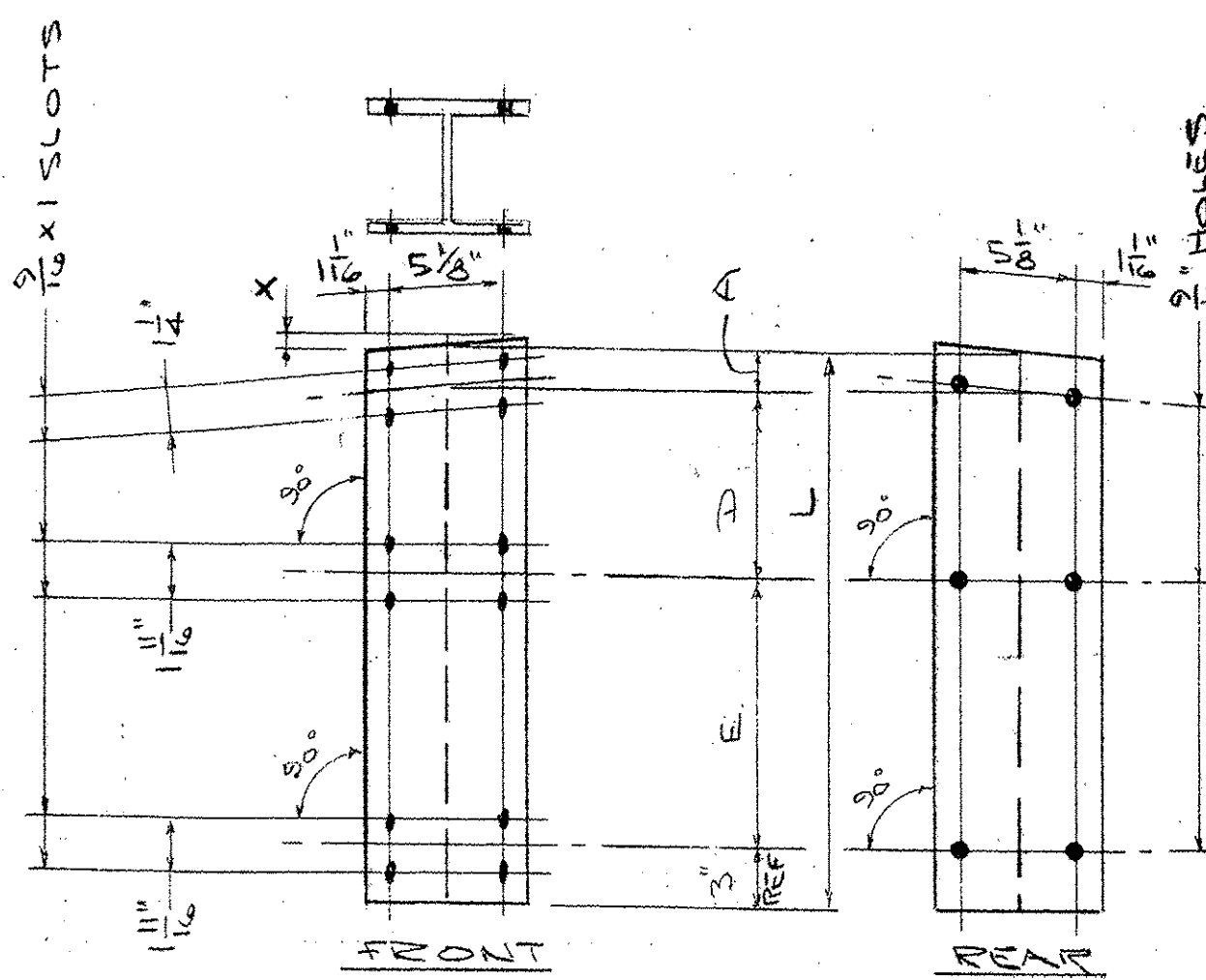


DIM'S TYPICAL AT
APPROACH POSTS
& STANDOFFS
ALLOY 6061-T6(TYP.)

POST NO.	A	B	C
21	4'-1 1/2"	3'-2 3/4"	1'-9 3/4"
22	3'-10 1/2"	3'-1 1/4"	1'-9 3/4"
23	3'-7 1/4"	2'-11 3/4"	1'-9"
24	3'-3 3/4"	2'-9 3/4"	1'-8 3/4"
25	X	2'-7 3/4"	1'-8 3/4"
26	X	2'-5 1/2"	1'-7 3/4"
27	X	2'-3 1/4"	1'-7 3/4"

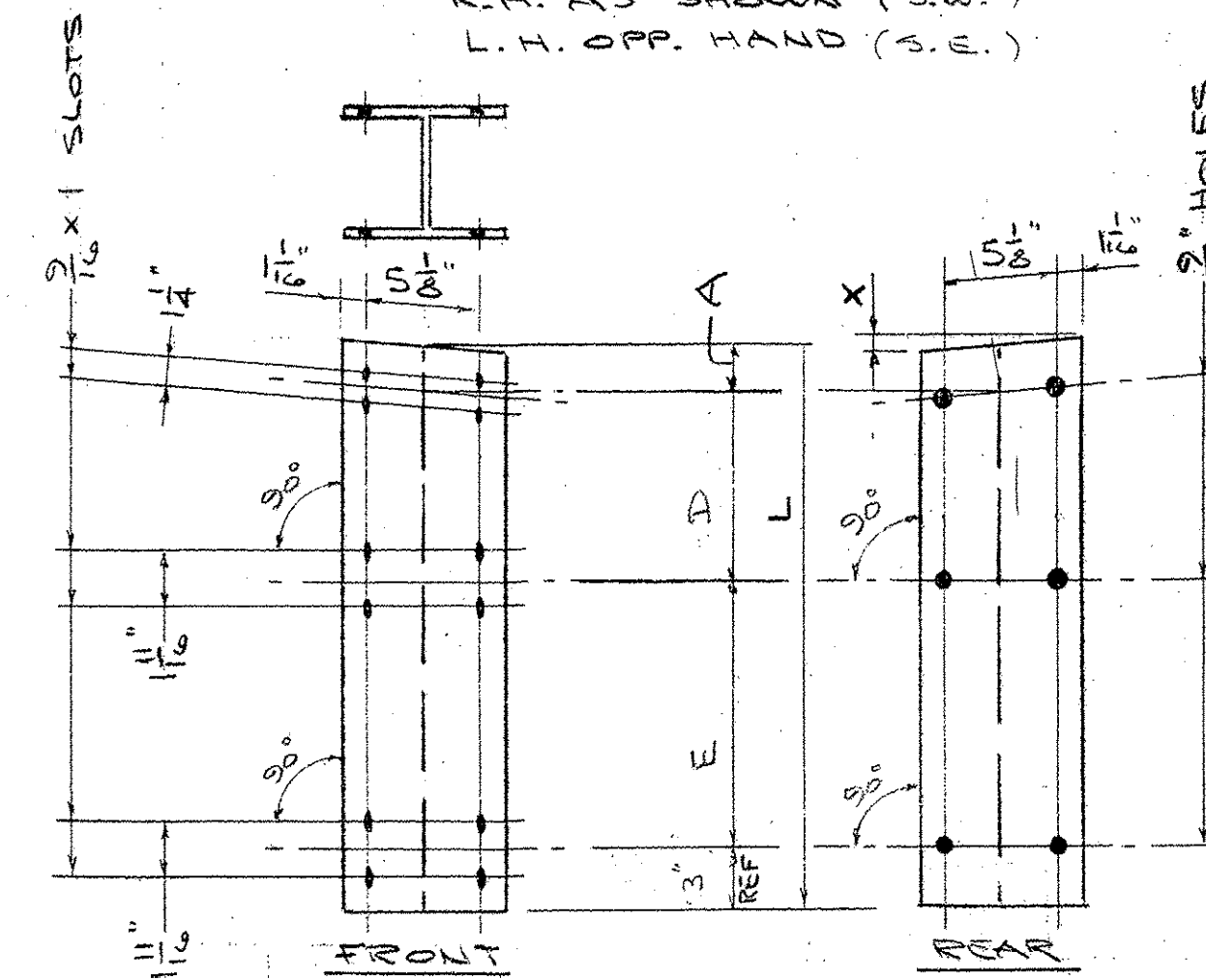


INBOARD ELEVATION AT APPROACH RAILING
R.H. AS SHOWN (S.W.)
L.H. OPP. HAND (S.E.)



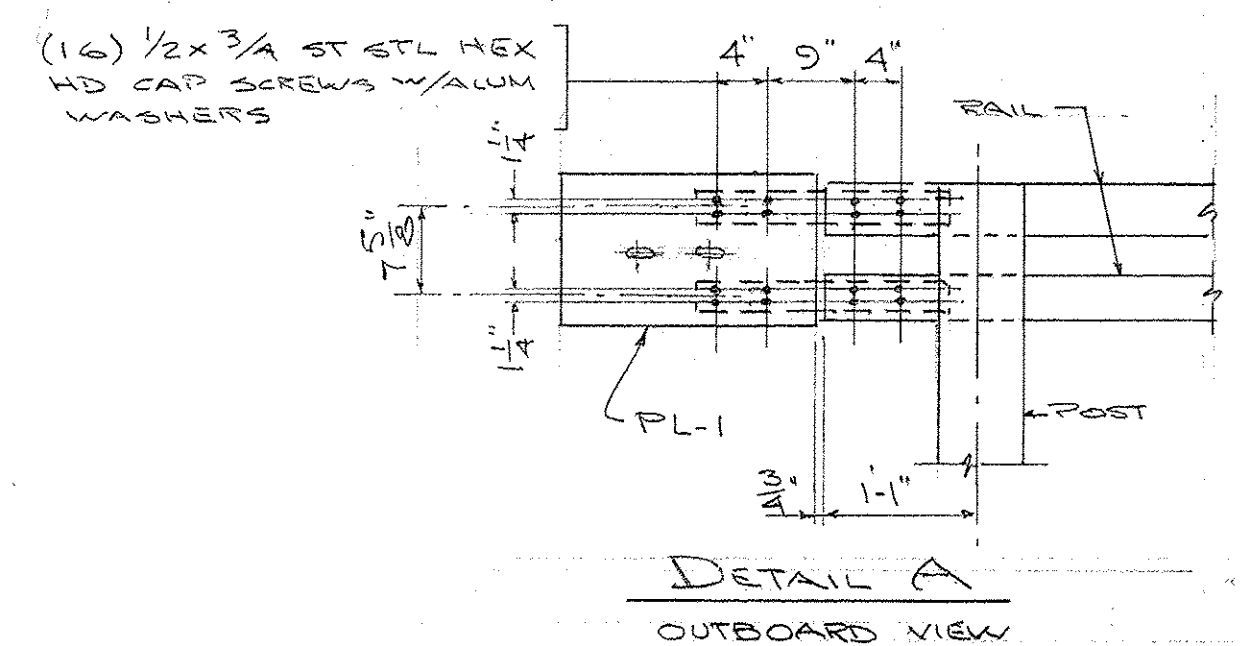
STANDOFF

MK	QUAN	L	X	A	D	E
A21L	1	2'-9 1/2"	5/8"	1 1/2"	11 1/2"	1'-5 1/2"
A22L	1	2'-6 3/4"	5/8"	1 1/2"	9 3/4"	1'-3 3/8"
A23L	1	2'-3 1/4"	5/8"	1 1/2"	8 1/8"	1'-2 3/16"
A24L	1	2'-0 1/4"	5/8"	1 1/2"	6 3/16"	1'-1 1/2"
A25L	1	1'-4 3/16"	5/16"	2"	0	11 3/16"
A26L	1	1'-2 3/16"	5/16"	2"	0	9 13/16"
A27L	1	1'-1 1/16"	5/16"	2"	0	8 1/16"

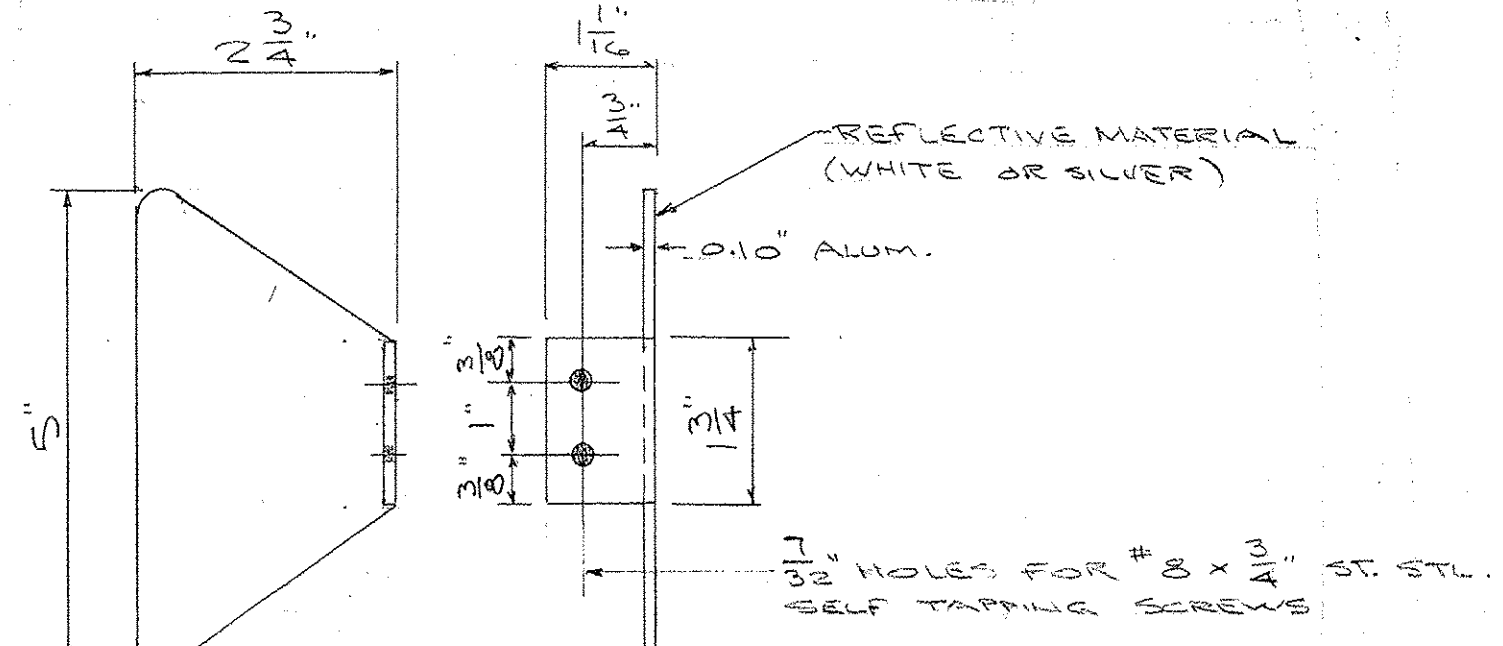
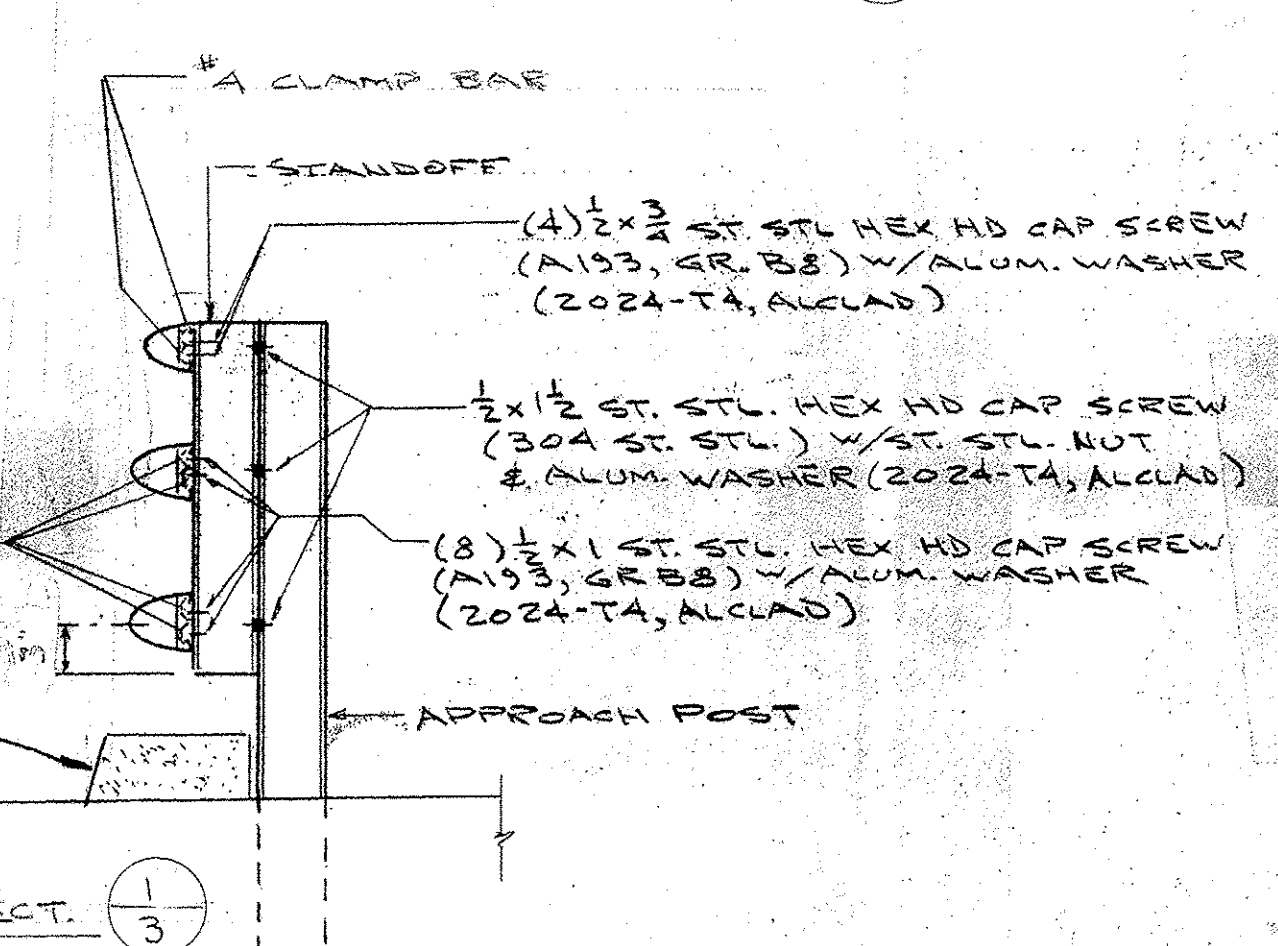
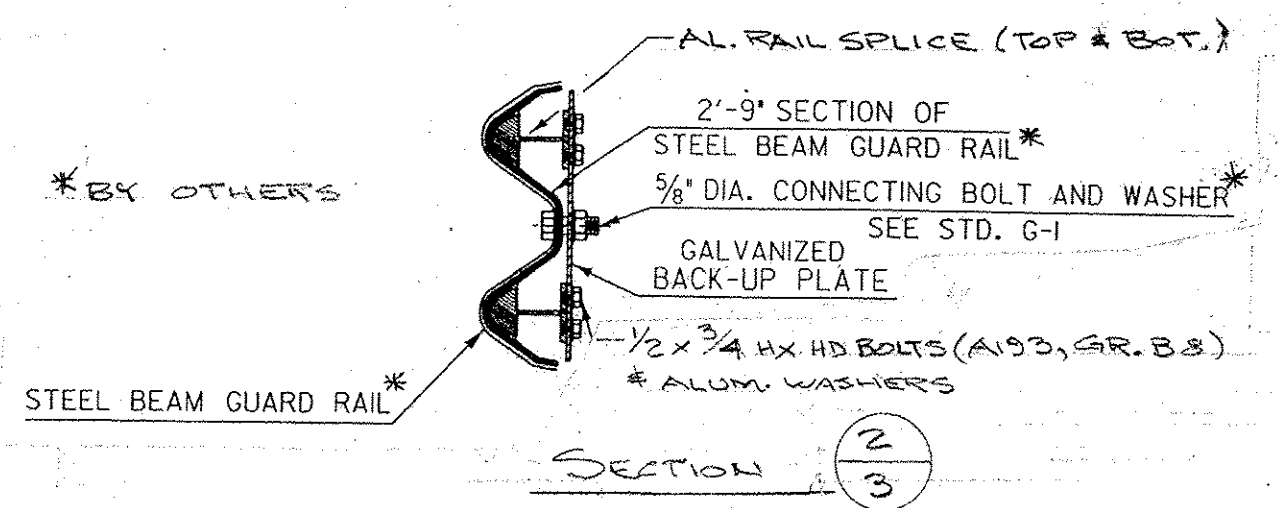


STANDOFF

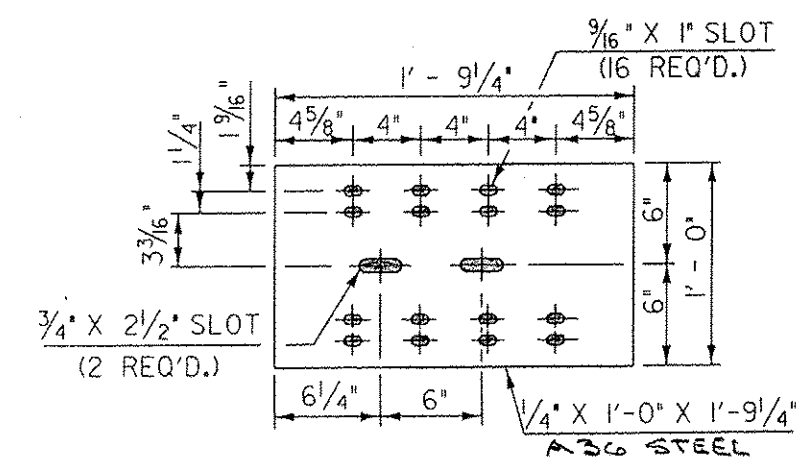
MK	QUAN	L	X	A	D	E
A21R	1	2'-9 1/2"	5/8"	1 1/2"	11 1/2"	1'-5 1/2"
A22R	1	2'-6 3/4"	5/8"	1 1/2"	9 3/4"	1'-3 3/8"
A23R	1	2'-3 1/4"	5/8"	1 1/2"	8 1/8"	1'-2 3/16"
A24R	1	2'-0 1/4"	5/8"	1 1/2"	6 3/16"	1'-1 1/2"
A25R	1	1'-4 3/16"	5/16"	2"	0	11 3/16"
A26R	1	1'-2 3/16"	5/16"	2"	0	9 13/16"
A27R	1	1'-1 1/16"	5/16"	2"	0	8 1/16"



DETAIL A
OUTBOARD VIEW

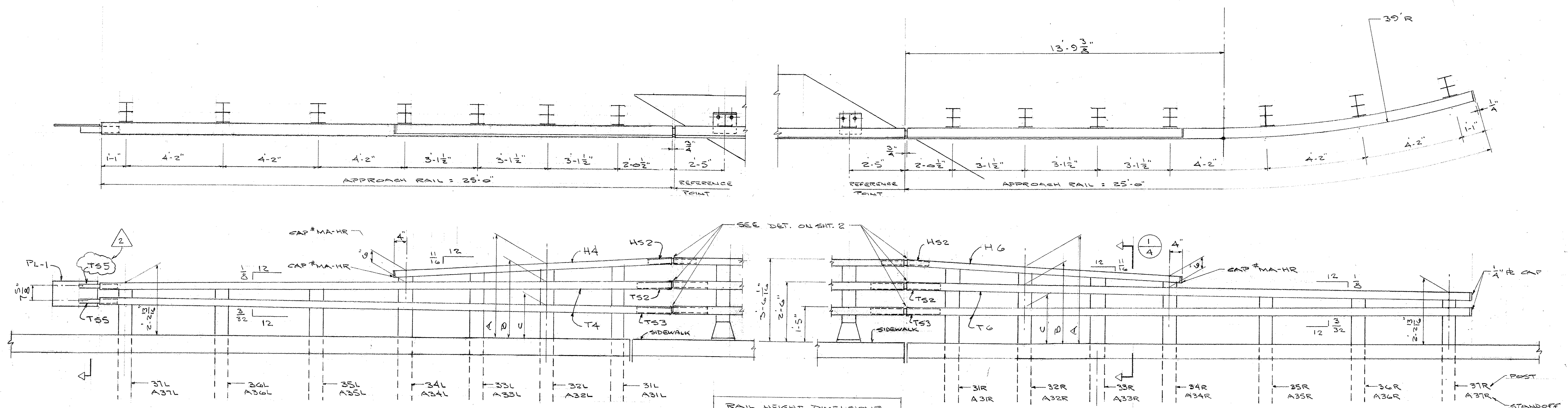


Post Reflector (4-Read)
MATERIALS PER V.A.T. SPEC.



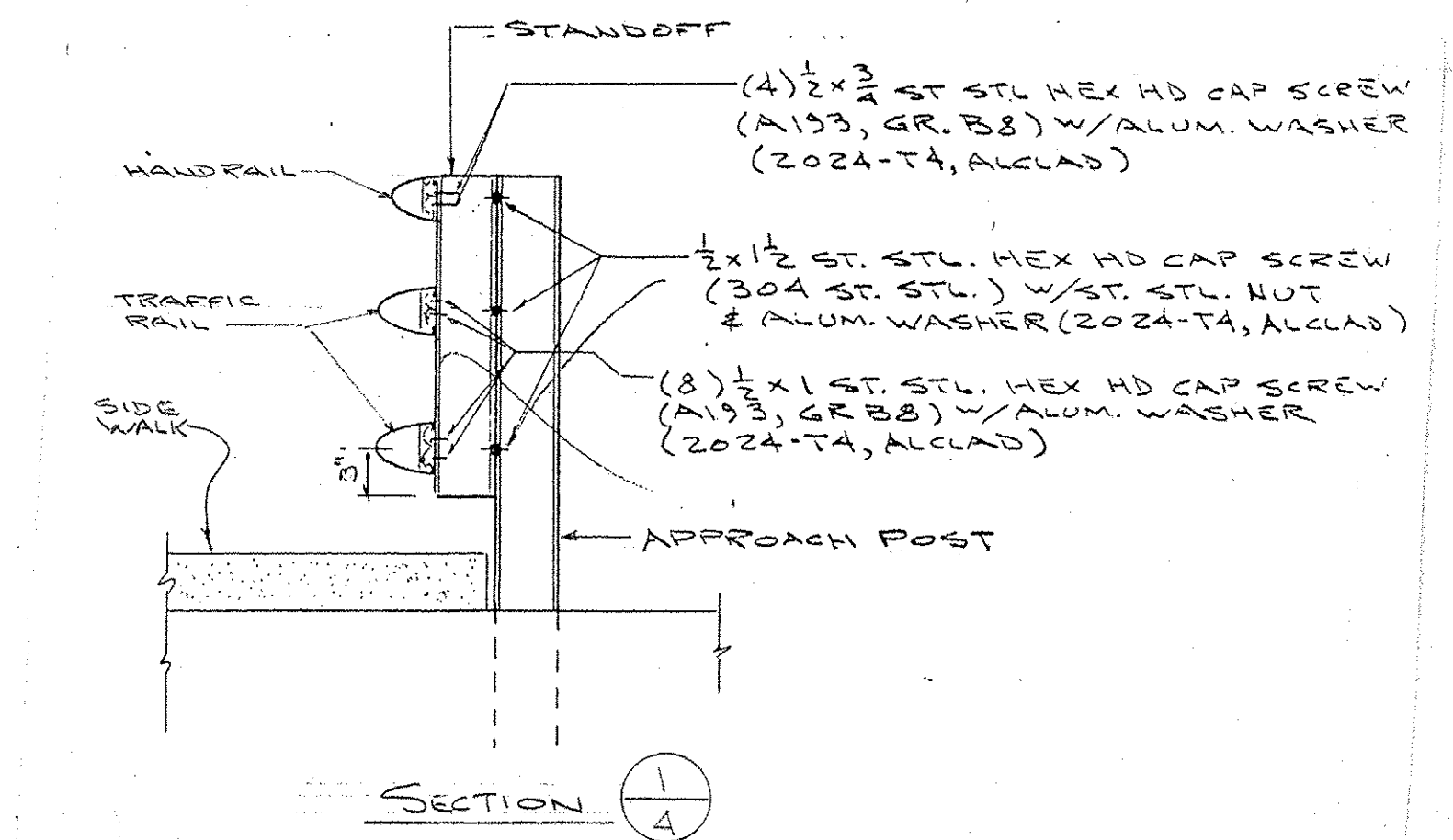
(3) PLATE PL-1

RECEIVED CHKD BY <u>WCS</u> OKD BY <u>MM</u> JUN 13 2009 RESUBMIT ☐ APPROVED ☒ BY <u> </u> DATE 6-16-09		AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382 VT. AGENCY OF TRANSPORTATION WILLIAMSTOWN #ERS 0204(4) ROUTE 64 OVER BROOK	
2 4-30-09 FOR APPROVAL B 1 1-28-09 FOR APPROVAL B ISSUE DATE DESCRIPTION BY		AL APPROACH RAIL AT SAFETY CURB SURFACE PREP: NONE FINISH: MILL FINISH FOR: E.R. LAFAYETTE, INC. DR: WM 01-19-09 DWG. NO. CHK: <u>APP</u> 1-22-09 BR-2950 JOB NO. A819005-1001 SHEET 3 OF 8	

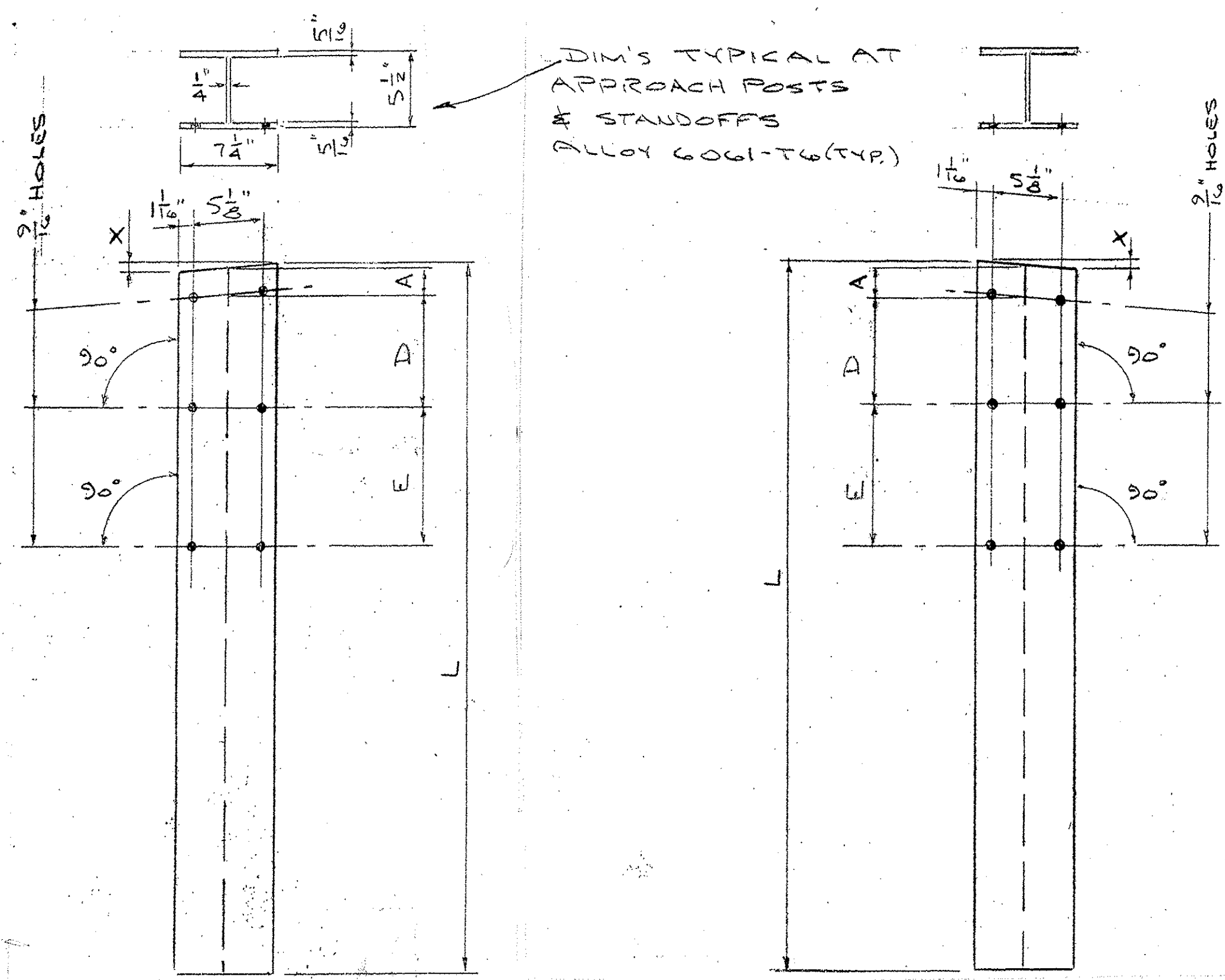


NW APPROACH RAIL

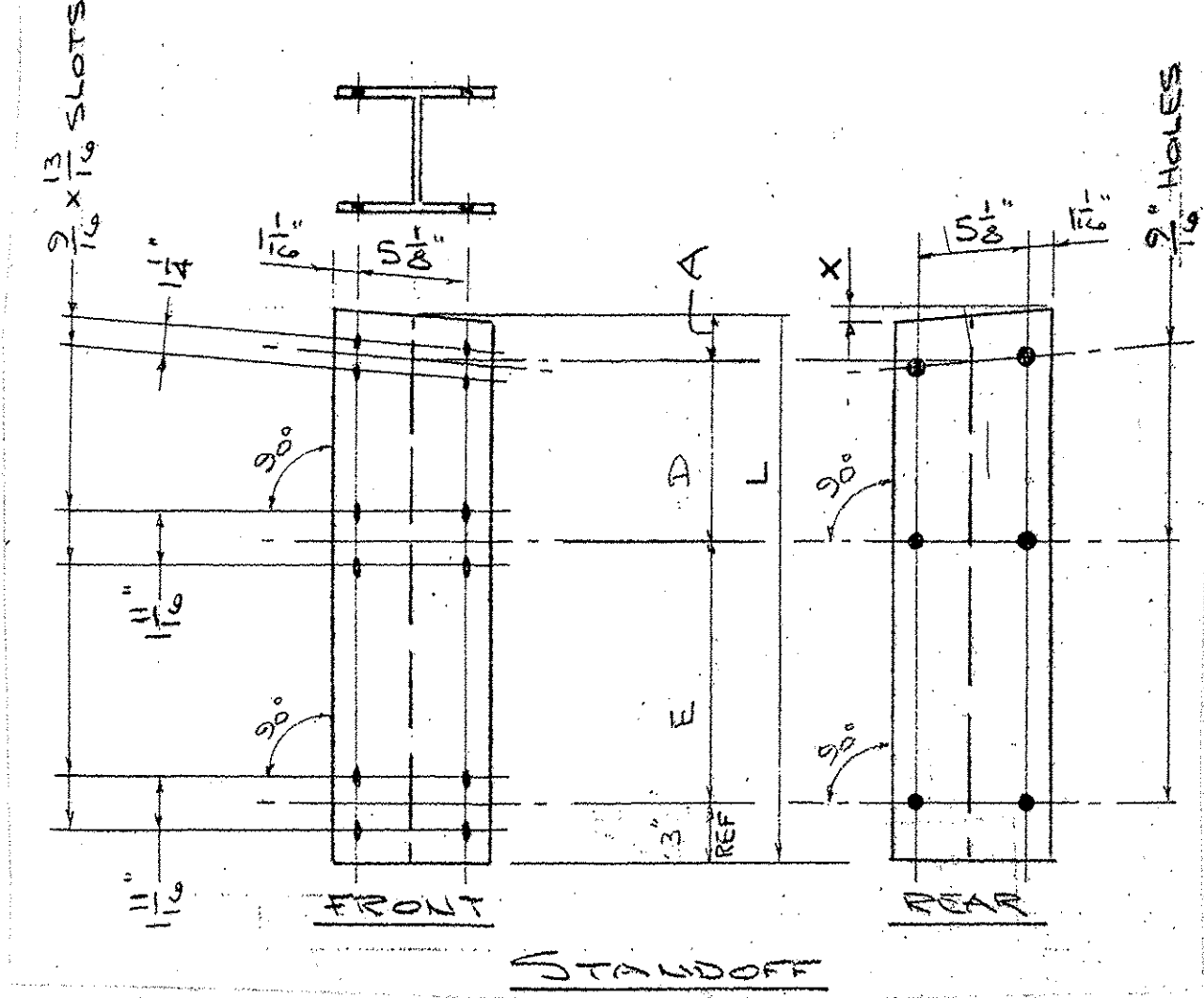
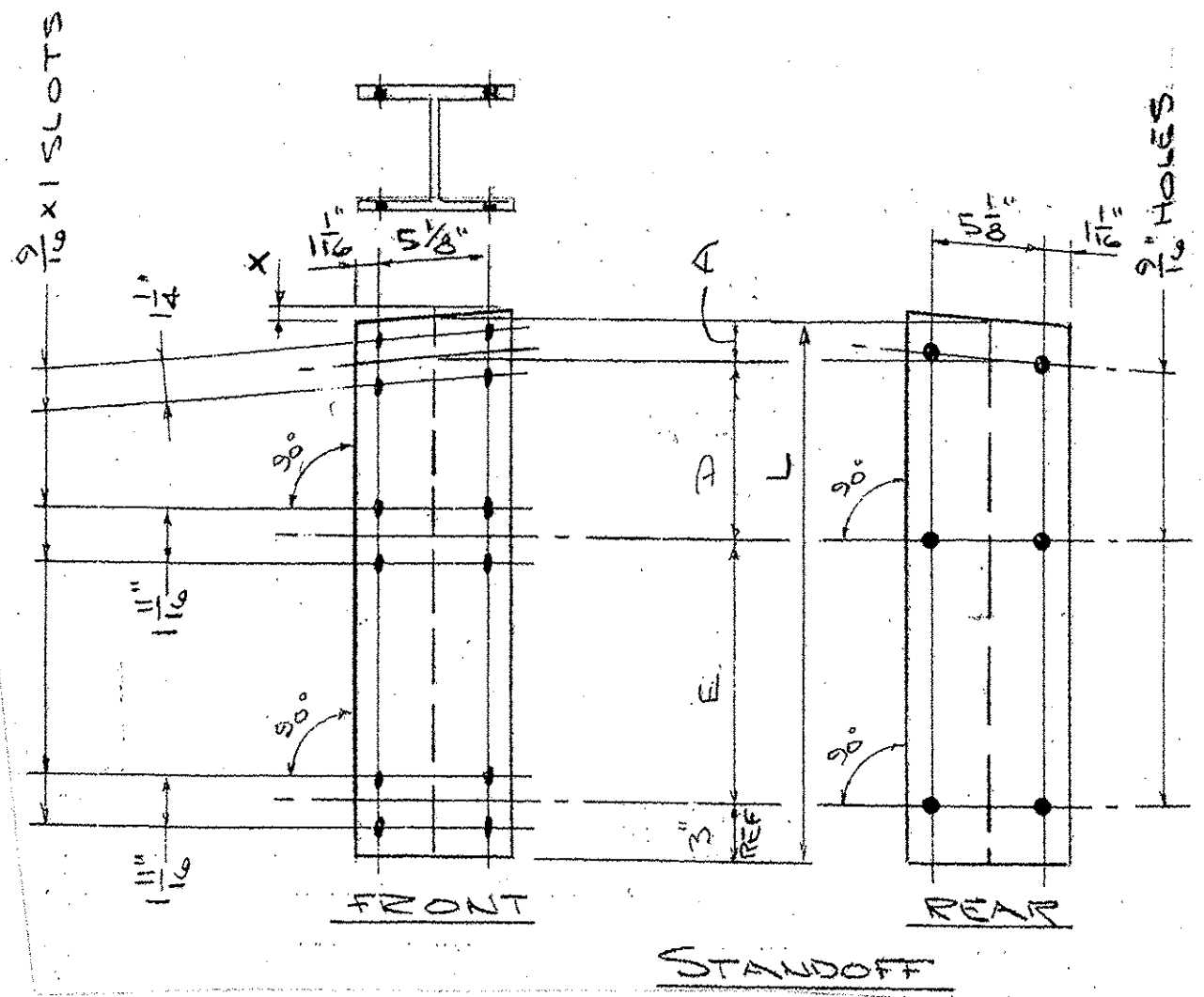
NE APPROACH RAIL



RECEIVED OK'D BY <u>UGS</u> OK'D BY <u>MEM</u> JUN 13 2009 REQUESTED <u>APPROVED</u> ✓ BY <u>DATE 6-16-09</u>		AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382 VT. AGENCY OF TRANSPORTATION WILLIAMSTOWN #BRS 0204(4) ROUTE 64 OVER BROOK	
APPROACH RAIL AT SIDEWALK SURFACE PREP: NONE FINISH: MILL FINISH		FOR: F. R. LAFAYETTE, INC. DR: WM 01-19-09 CHK: <u>1-22-09</u> JOB NO. <u>BR-2950</u> SHEET 4 OF 8	



DIM'S TYPICAL AT
APPROACH POSTS
& STANDOFFS
ALLOY 6061-T6 (TYP.)

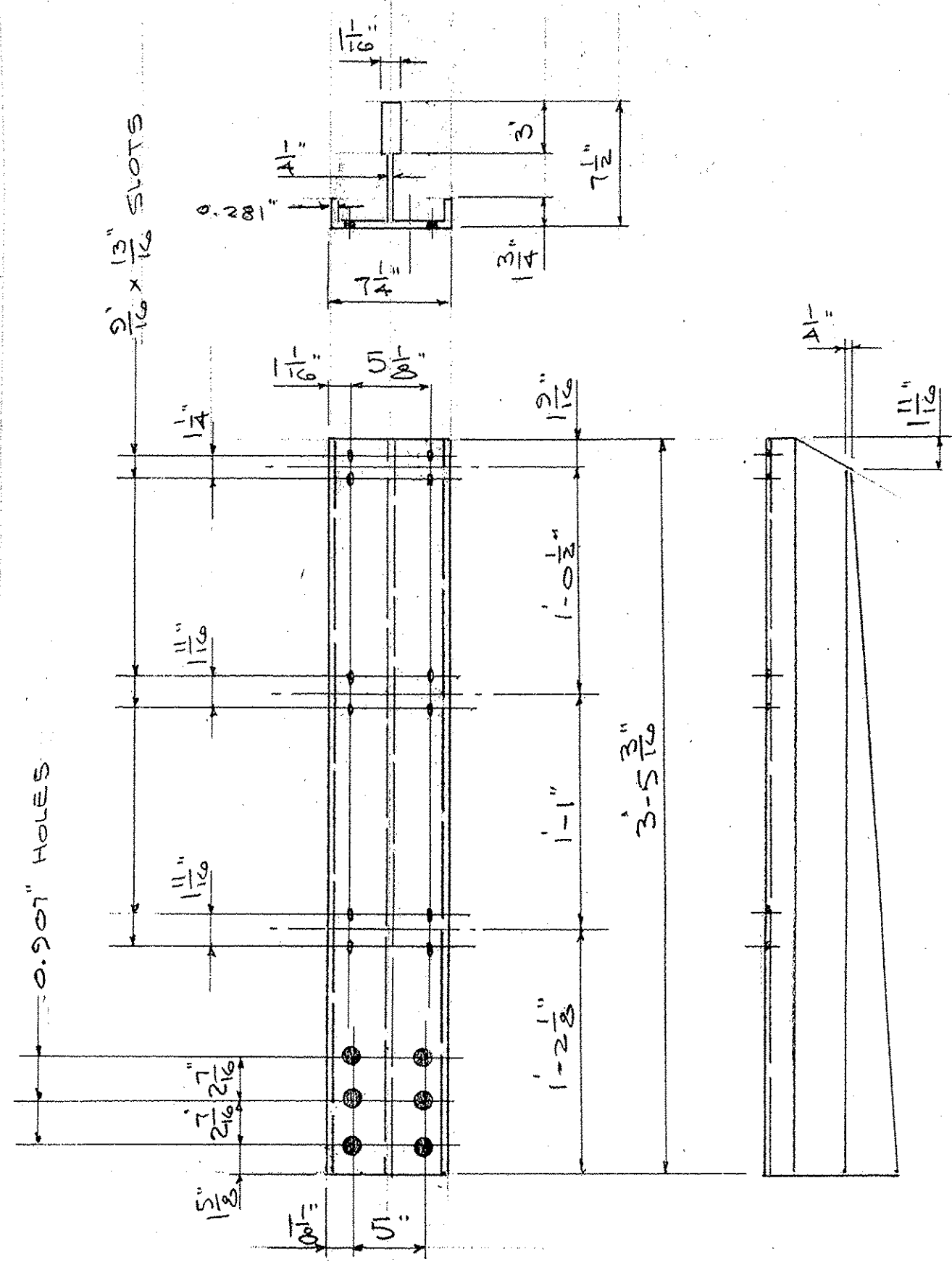


MK	QUAN	L	X	A	D	E
A31L	1	2'-4 9/16"	1 1/16"	1 9/16"	11 7/16"	1'-0 9/16"
A32L	1	2'-2 3/16"			9 3/4"	11 7/8"
A33L	1	1'-11 1/8"			8 3/8"	11 3/16"
A34L	1	1'-9 3/16"			6 1/16"	10 9/16"
A35L	1	1'-2 5/8"	0"	2"		9 5/8"
A36L	1	1'-1 3/4"				8 3/4"
A37L	1	1'-0 7/8"				7 7/8"

MK	QUAN	L	X	A	D	E
A31R	1	2'-4 9/16"	1 1/16"	1 9/16"	11 7/16"	1'-0 9/16"
A32R	1	2'-2 3/16"			9 3/4"	11 7/8"
A33R	1	1'-11 1/8"			8 3/8"	11 3/16"
A34R	1	1'-9 3/16"			6 1/16"	10 9/16"
A35R	1	1'-2 5/8"	0"	2"		9 5/8"
A36R	1	1'-1 3/4"				8 3/4"
A37R	1	1'-0 7/8"				7 7/8"

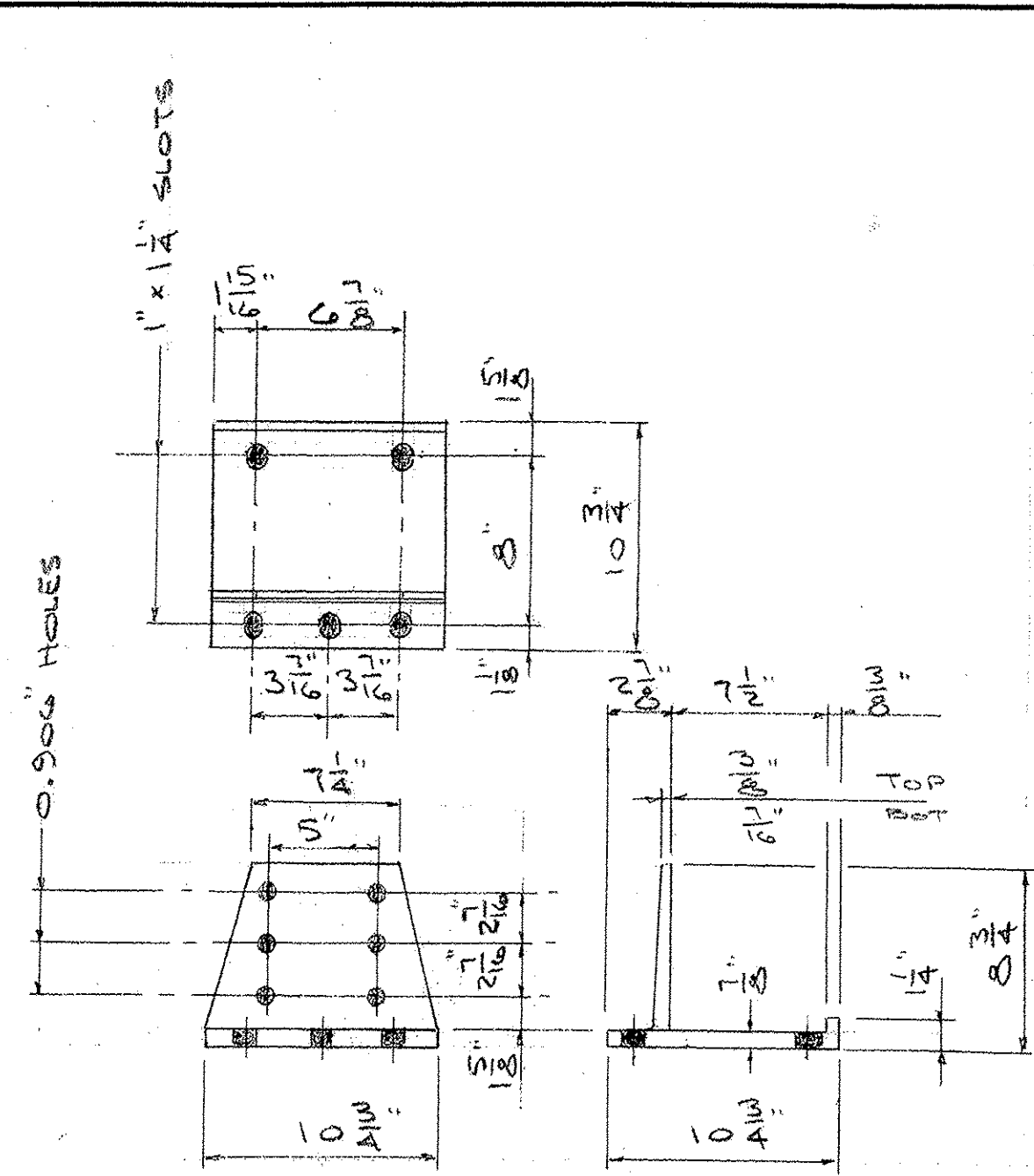
MK	QUAN	L	X	A	D	E
31L	1	6'-6"	1 1/16"	1 9/16"	11 7/16"	1'-0 9/16"
32L	1				9 3/4"	11 7/8"
33L	1				8 3/8"	11 3/16"
34L	1				6 1/16"	10 9/16"
35L	1	6'-0"	0"	2"		9 5/8"
36L	1					8 3/4"
37L	1					7 7/8"

MK	QUAN	L	X	A	D	E
31R	1	6'-6"	1 1/16"	1 9/16"	11 7/16"	1'-0 9/16"
32R	1				9 3/4"	11 7/8"
33R	1				8 3/8"	11 3/16"
34R	1				6 1/16"	10 9/16"
35R	1	6'-0"	0"	2"		9 5/8"
36R	1					8 3/4"
37R	1					7 7/8"



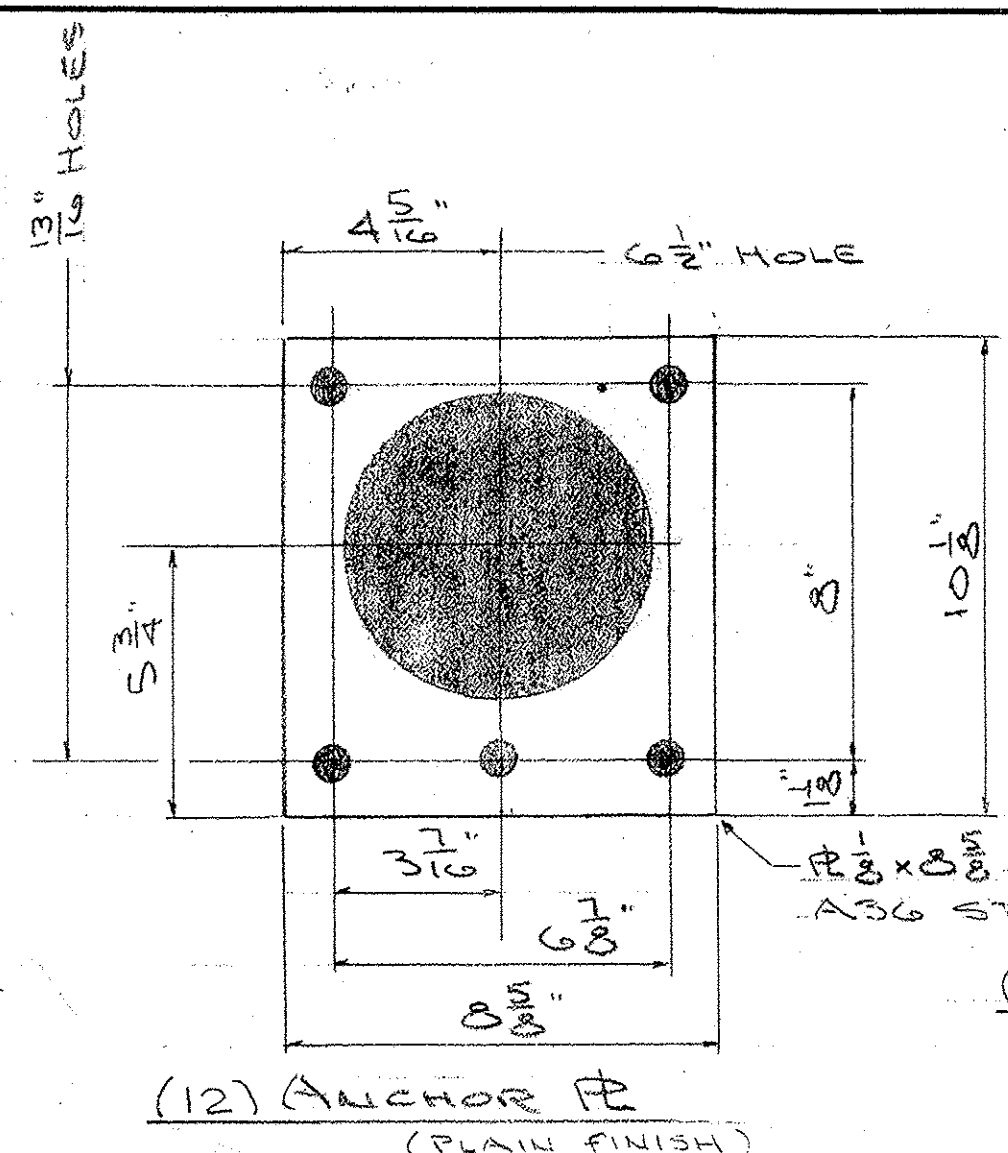
(6) Post Stem P1
ALLOY 6061-T6

RECEIVED CHKD BY: <u>UBS</u> OKD BY: <u>UBS</u> JUN 3 2009 REQUEST: <u>✓</u> APPROVED: <u>✓</u> BY: <u>UBS</u> DATE: 6-16-09		AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382 V.T. AGENCY OF TRANSPORTATION WILLIAMSTOWN "BRS 0204 (4)" ROUTE 64 OVER BROOK BRIDGE # APPROACH RAILING SURFACE PREP: <u>NONE</u> FINISH: <u>MILL FINISH</u> FOR: <u>F.R. LAFAYETTE, INC.</u> DR: <u>W.M. 01-13-09</u> DWG NO: <u>BR-2950</u> CHK: <u>UBS</u> JOB NO: <u>AB51005-1001</u> SHEET 5 OF 8	
1	1-28-09	FOR APPROVAL	5
ISSUE	DATE	DESCRIPTION	BY

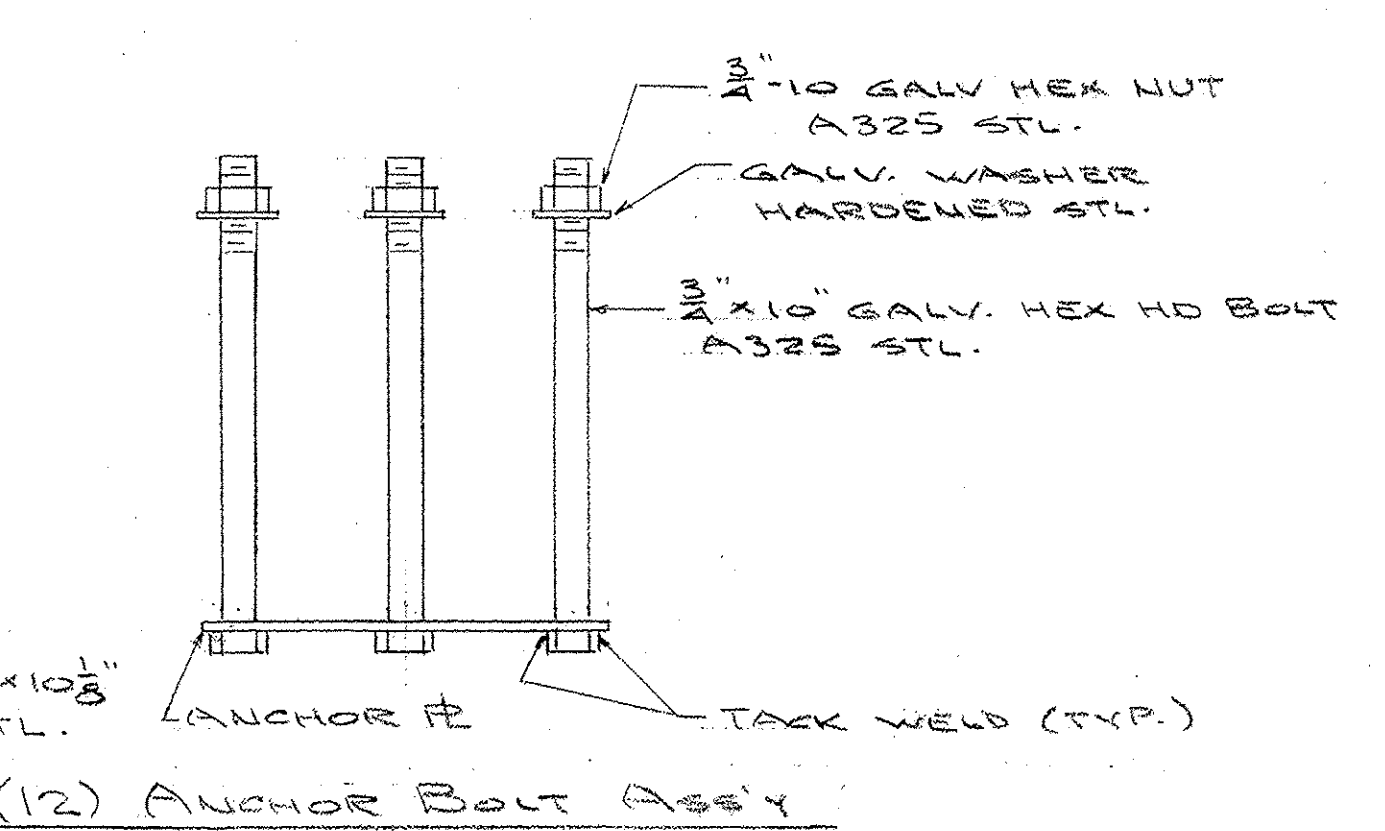


(12) POST BASE
ALLOY 6061-T6

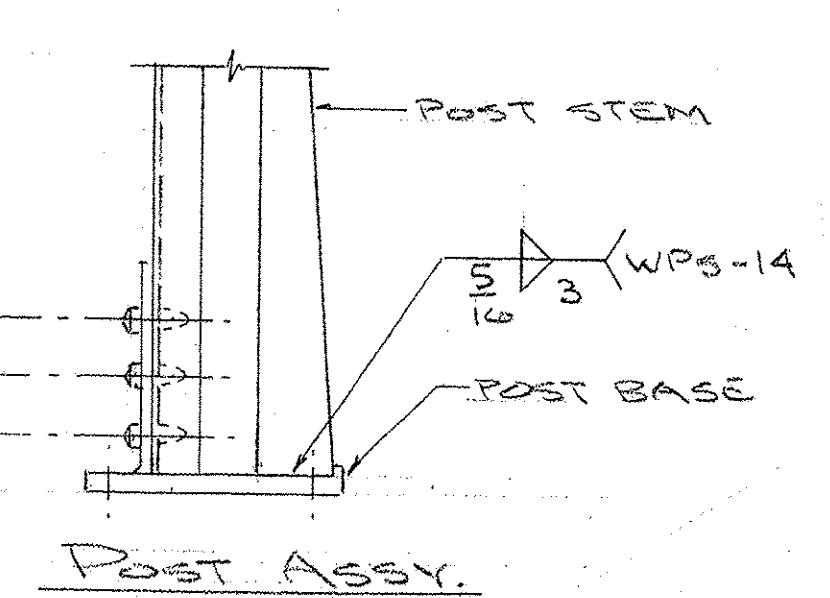
(6) 3/8" ALUM. RIVETS
ALLOY 6061-T6
COLD DRIVEN



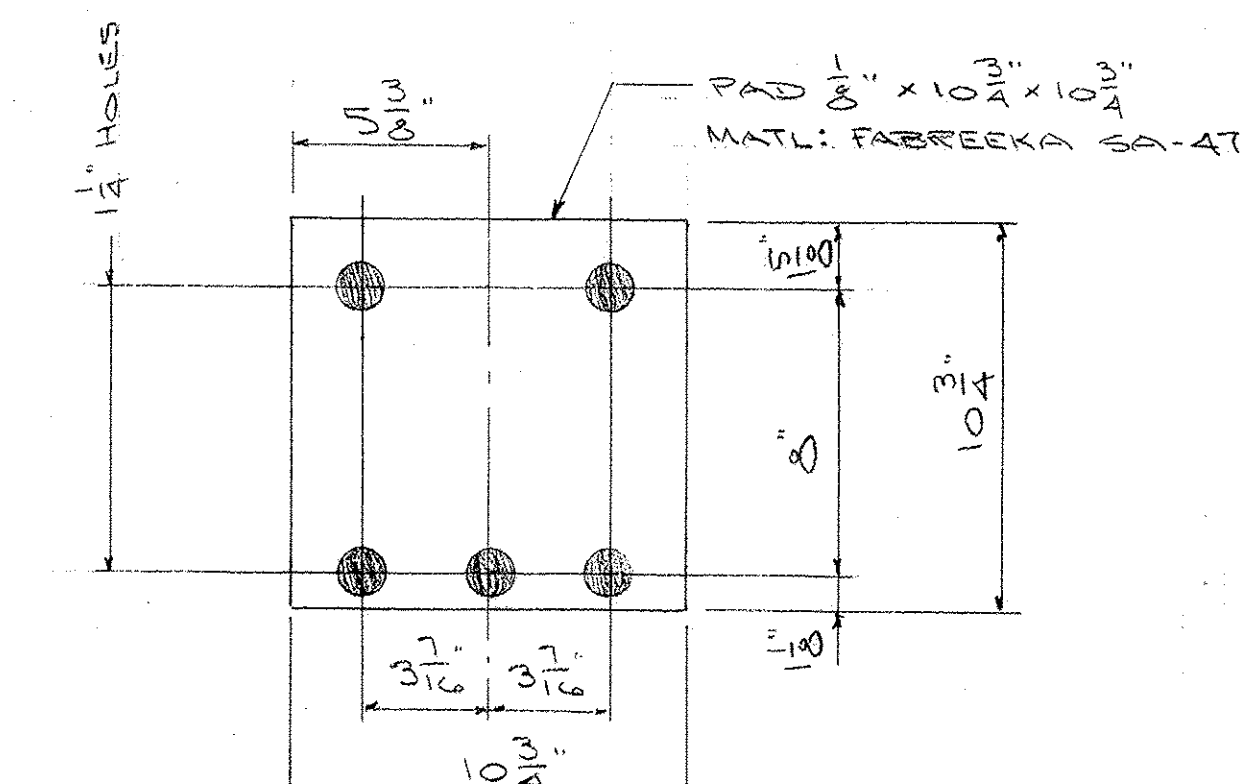
(12) ANCHOR FL
(PLAIN FINISH)



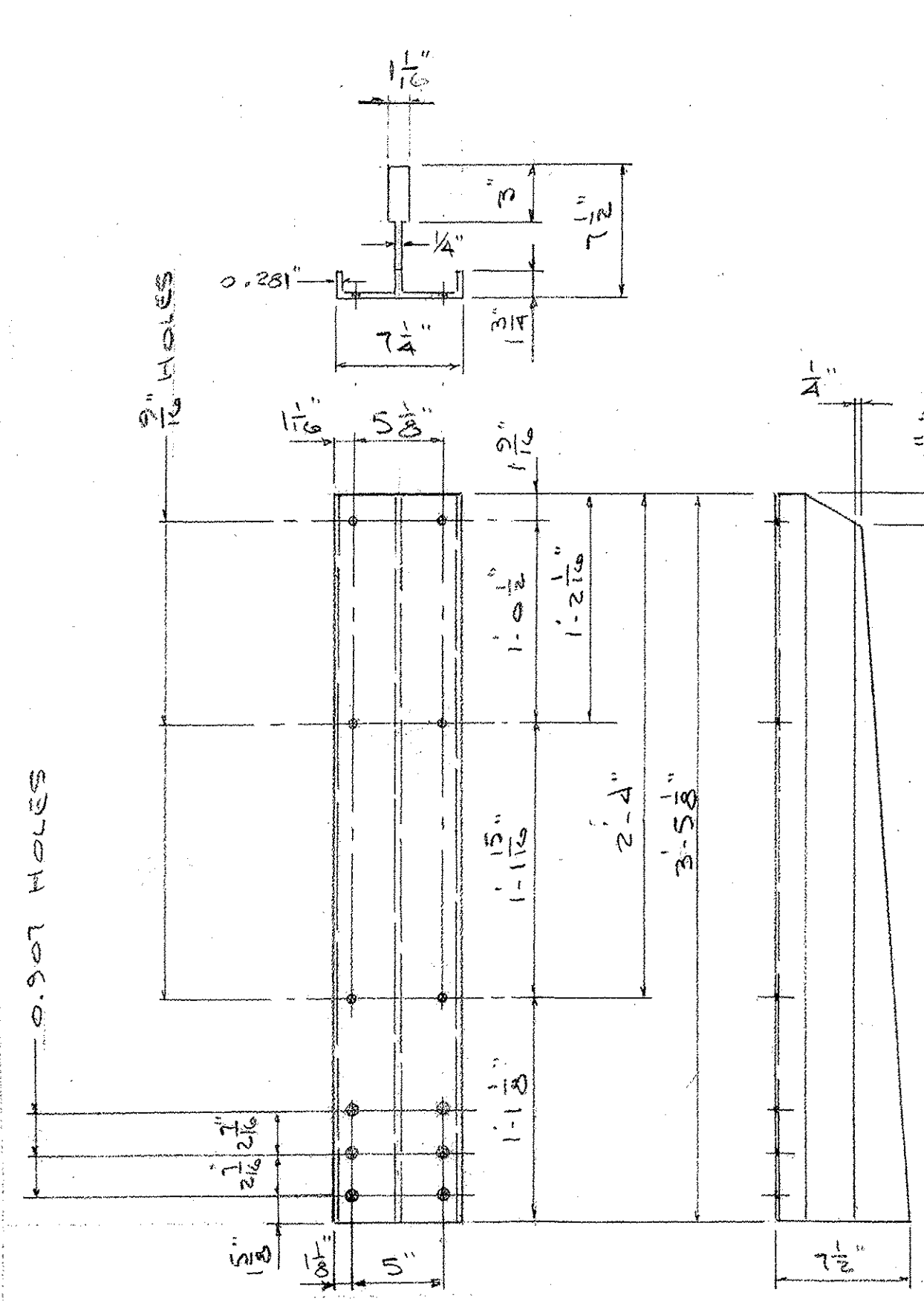
(12) ANCHOR BOLT ASSY



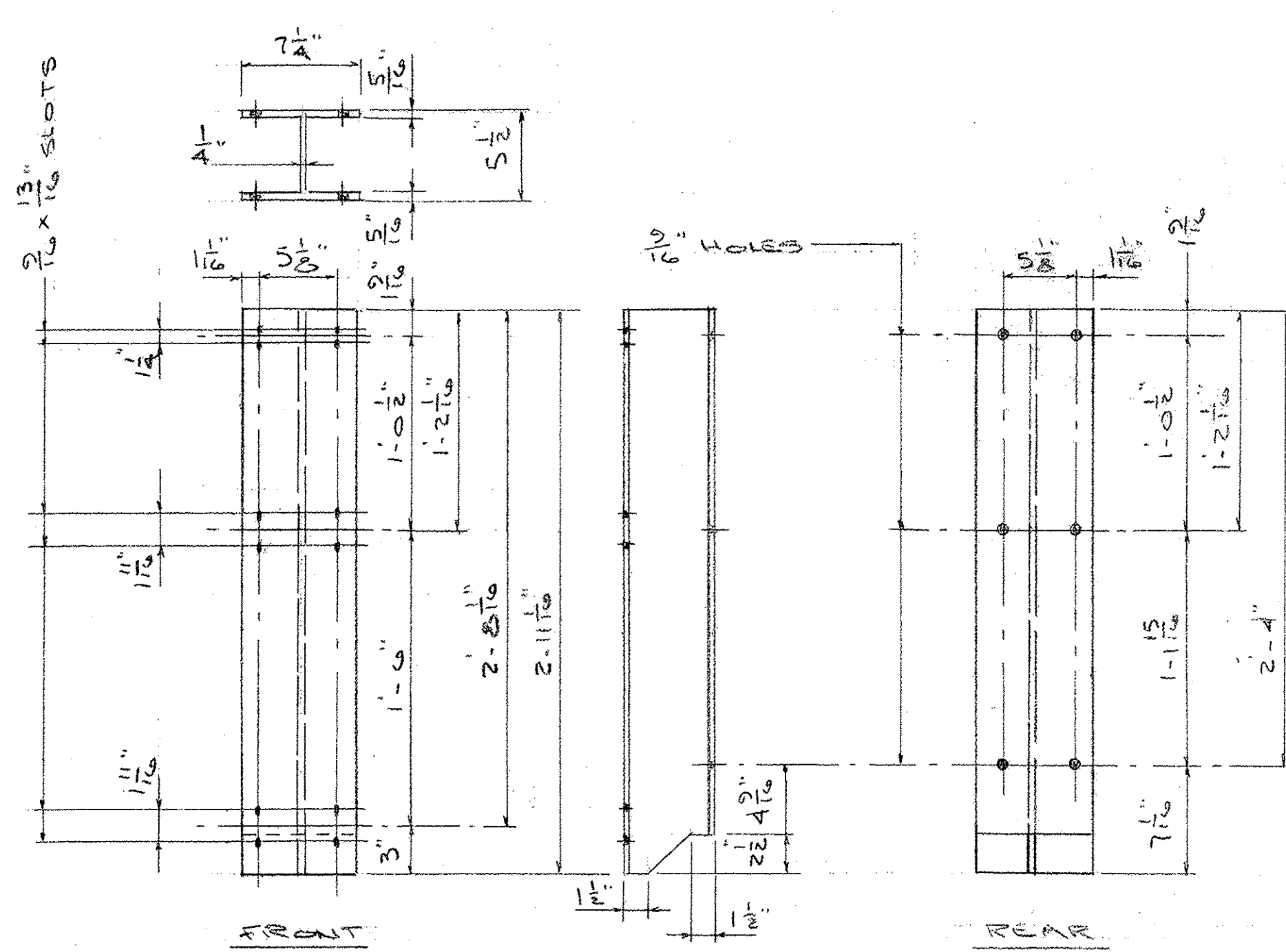
POST ASSY.



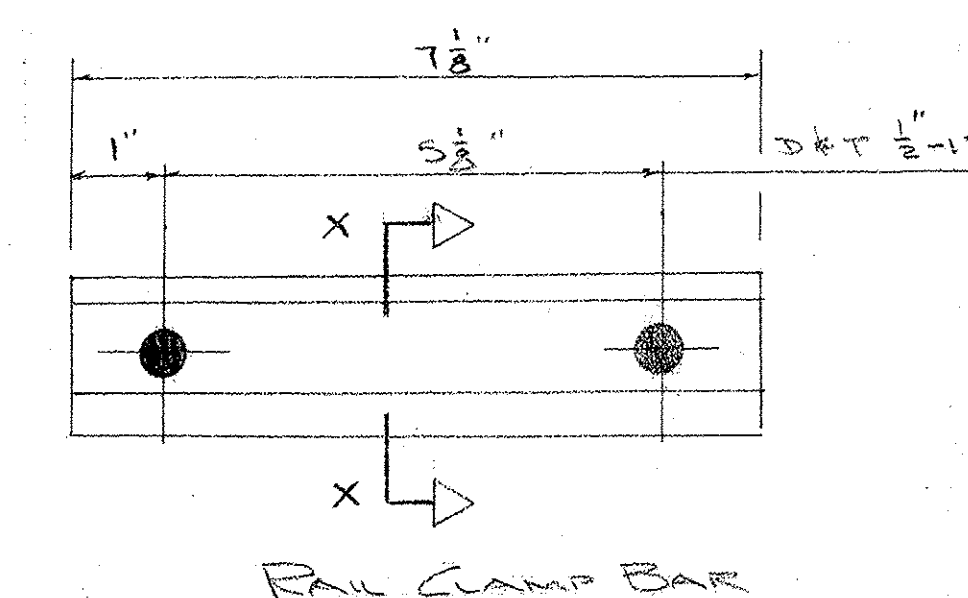
(12) POST PAD



(6) POST STEM P2
ALLOY 6061-T6

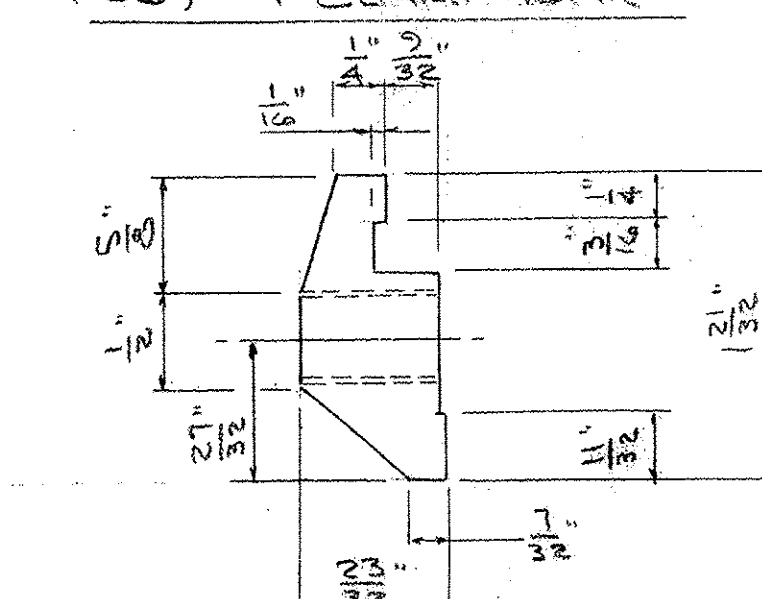


(6) STANDOFF SP-2
ALLOY 6061-T6



RAIL CLAMP BAR

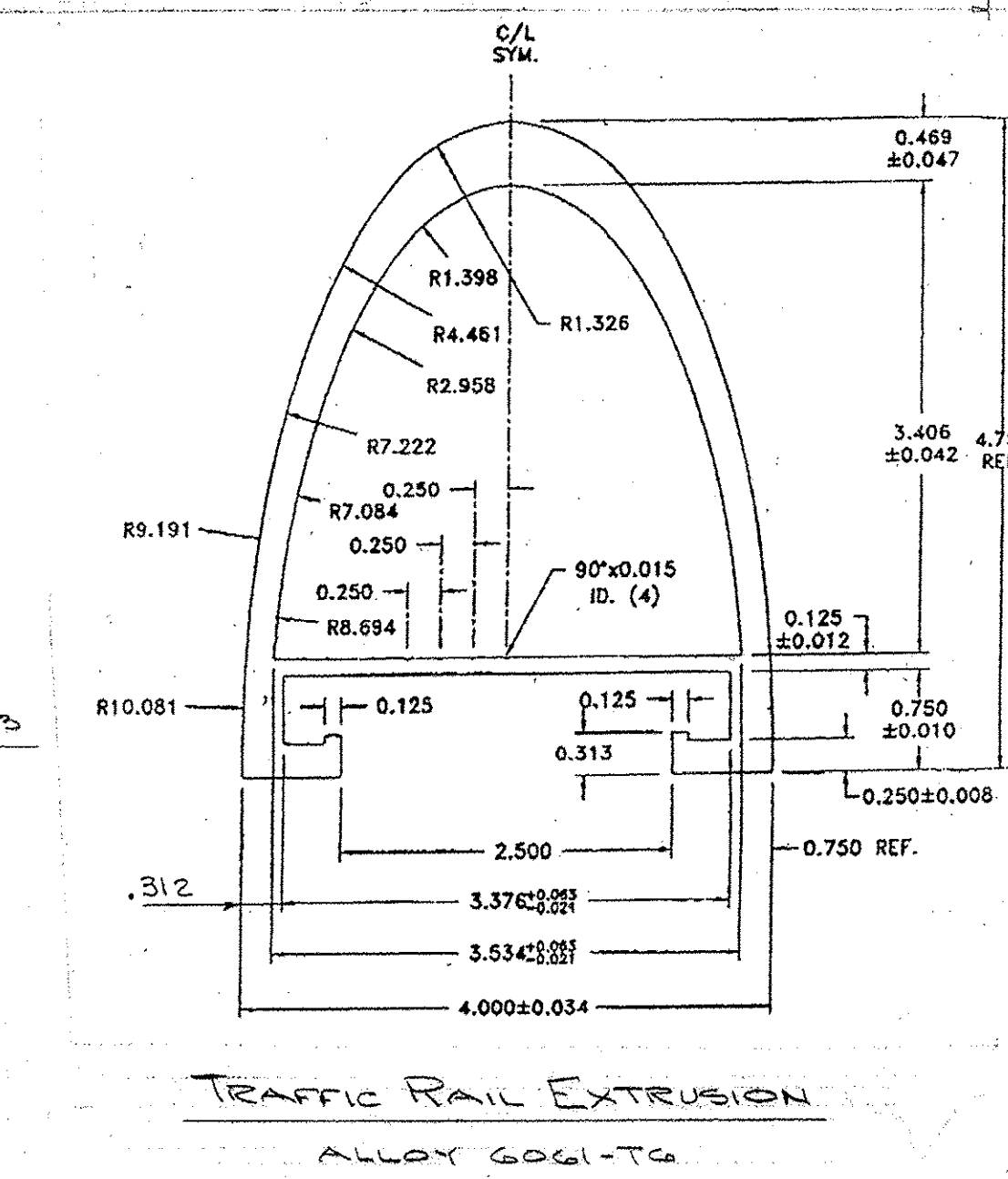
SECT X-X
(56) #4 CLAMP BAR



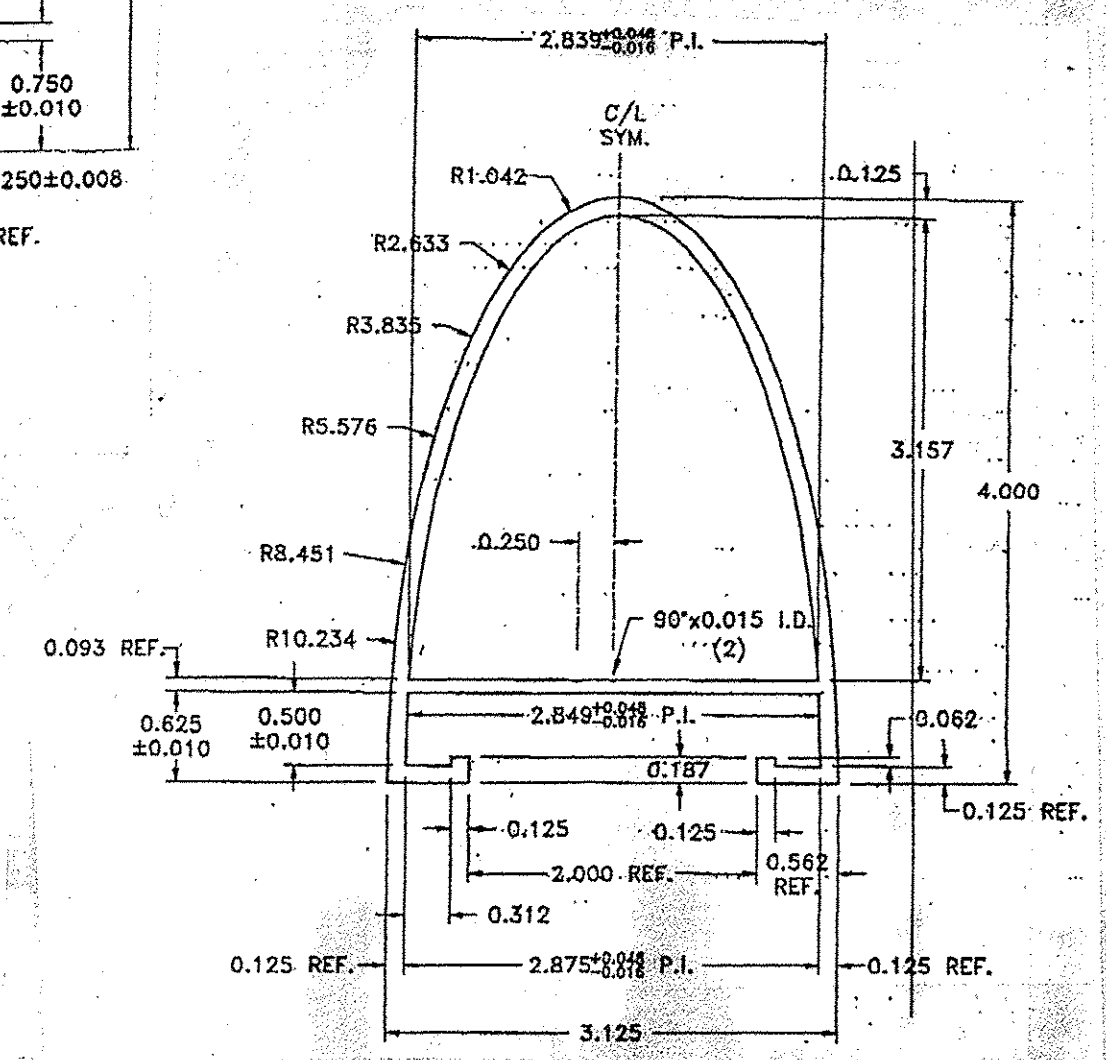
SECT X-X
(160) #1 CLAMP BAR

19-7 5/16"	(1) H1
20-7 5/16"	(1) H2
18-7 5/16"	(1) H3
11-8 1/2"	(2) H4
19-11 1/4"	(1) H5
11-9 7/8"	(2) H6

NOTE
RAIL LENGTHS
ADJUSTED FOR SLOPE

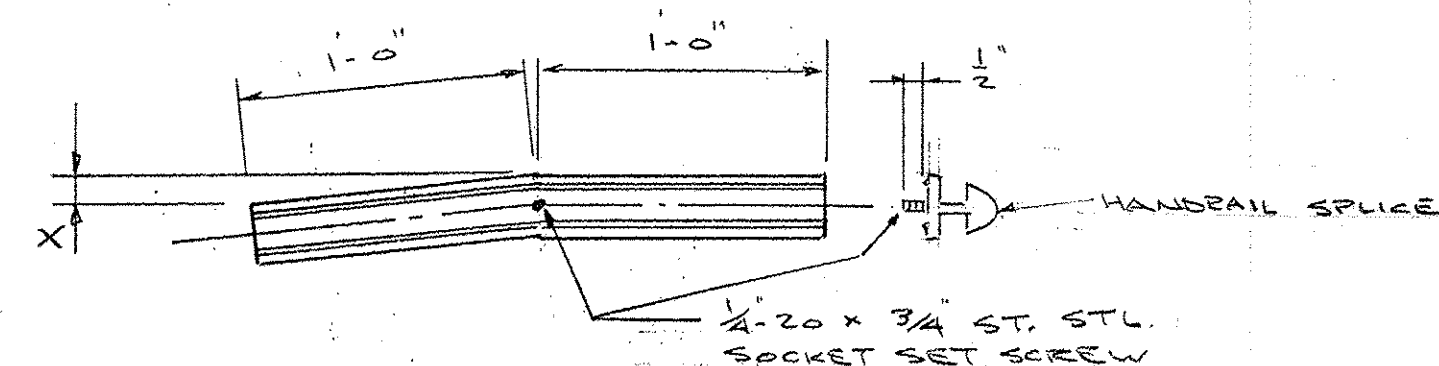
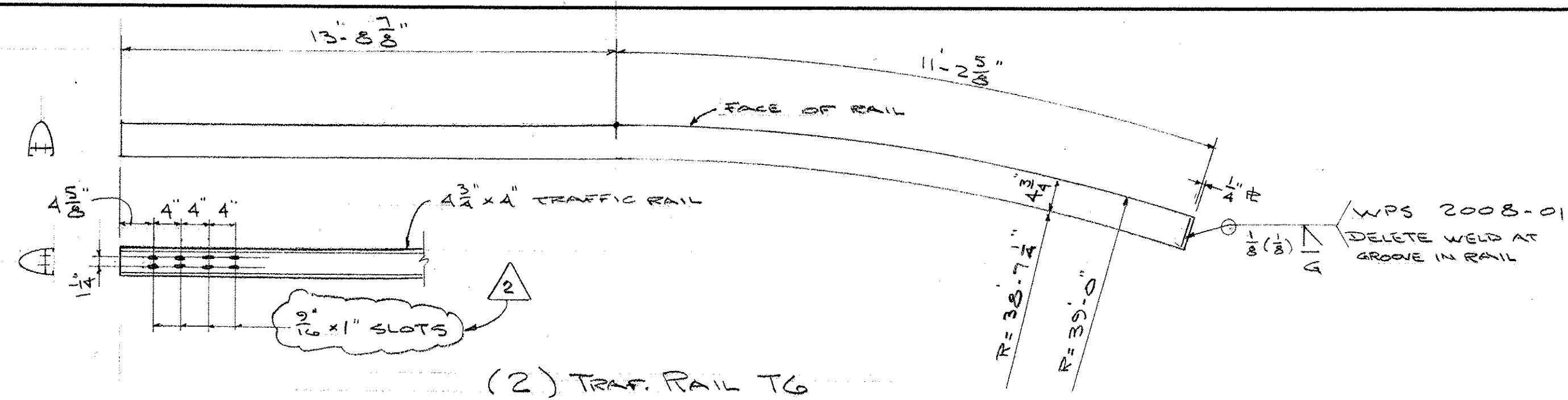
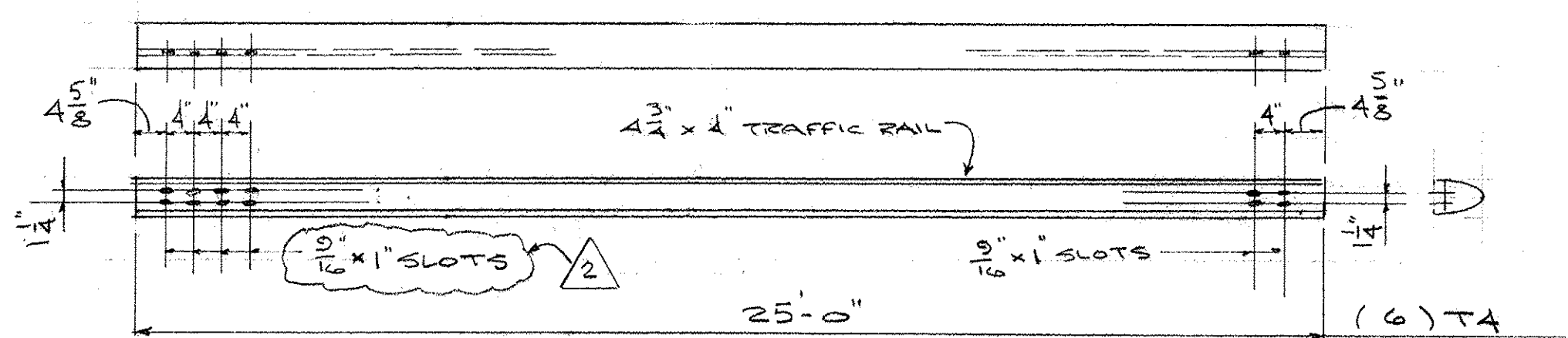
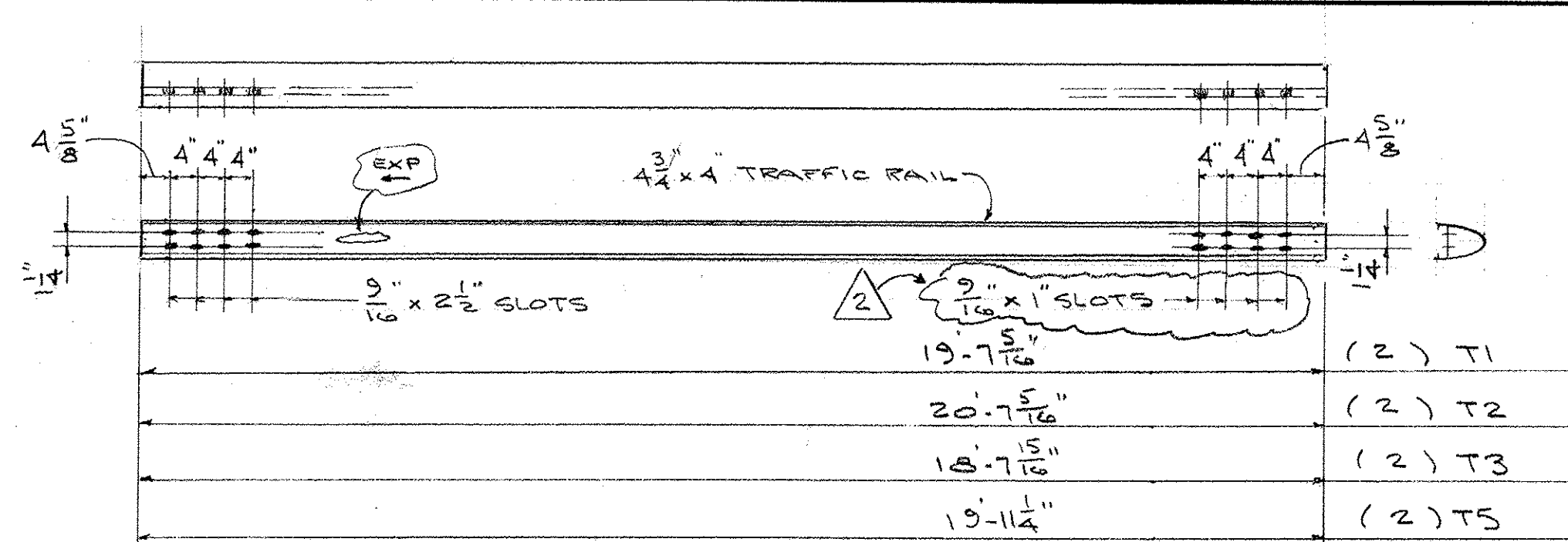


TRAFFIC RAIL EXTENSION
ALLOY 6061-T6

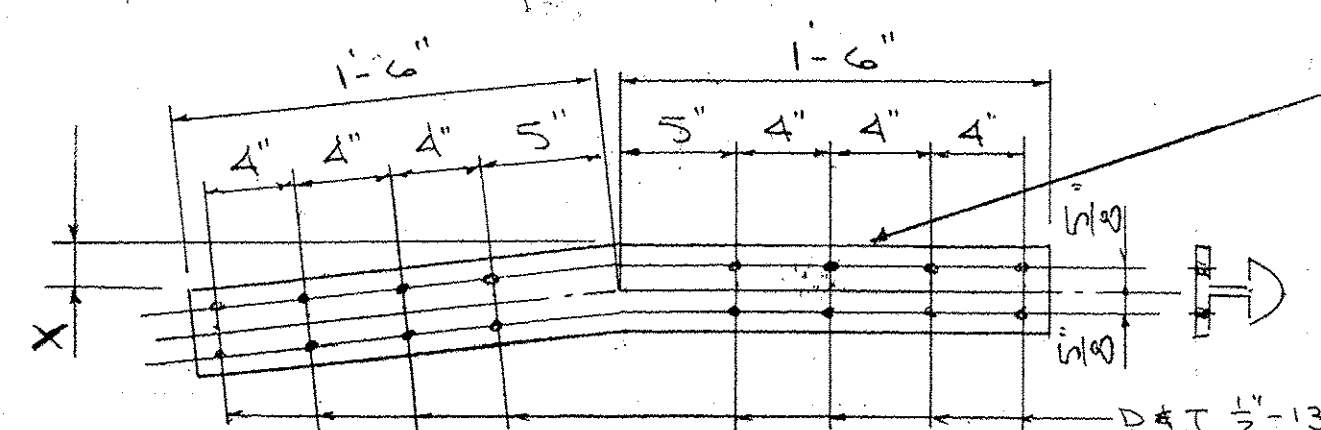


HANDRAIL EXTENSION
ALLOY 6061-T6

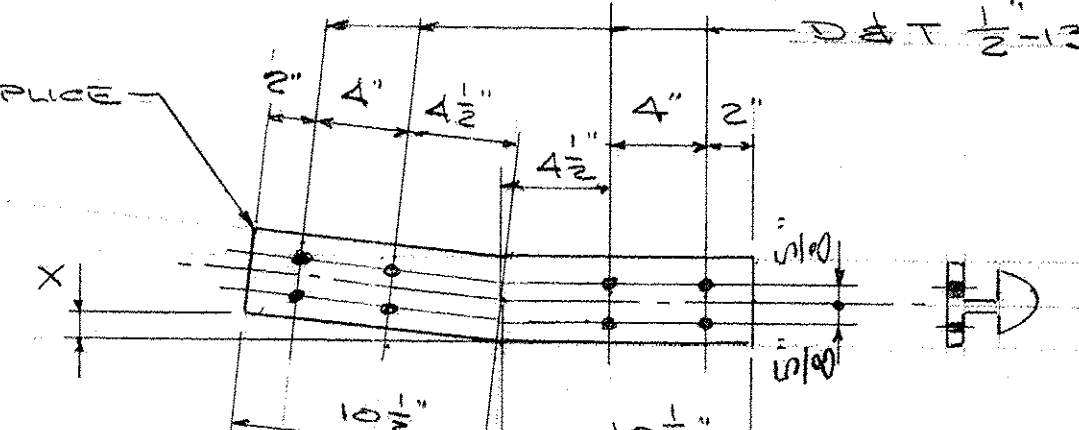
RECEIVED CHK'D BY: <i>UBS</i> OK'D BY: <i>mem</i> JUN 13 2009 BY: <i>mem</i> DATE: 6-16-09		AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382 VT. AGENCY OF TRANSPORTATION WILLIAMSTOWN # BR5 0204 (4) ROUTE 6A OVER BROOK AL BRIDGE & APPROACH RAILING SURFACE PREP: NONE FINISH: NONE FOR: FR. LAFAYETTE, INC. DR: WM 01-19-09 CHK: <i>400</i> 1-22-09 JOB NO: <i>AB07003-1001</i> DWG. NO: <i>BR-2950</i> SHEET 6 OF 8	
1	1-29-03	FOR APPROVAL	3
ISSUE	DATE	DESCRIPTION	BY



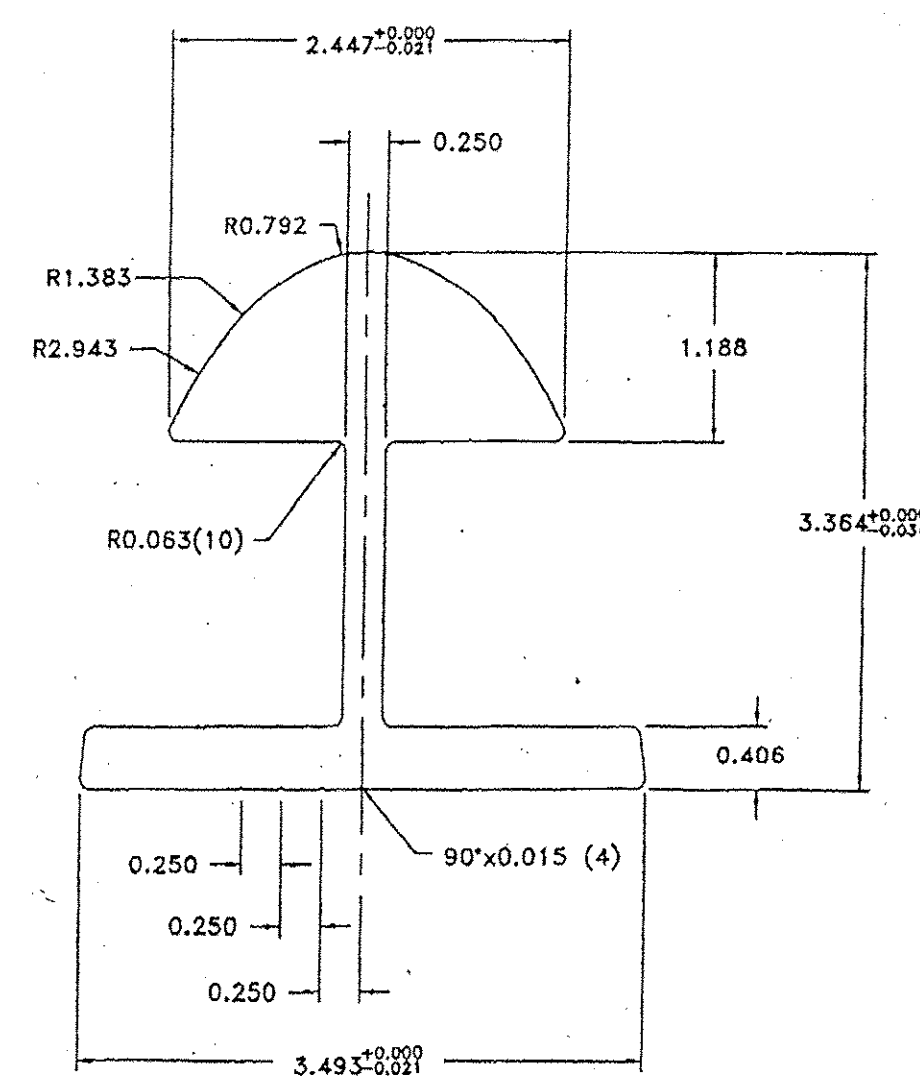
QUAN	MK	X
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2	H32	11/16
2	H33	1 1/16



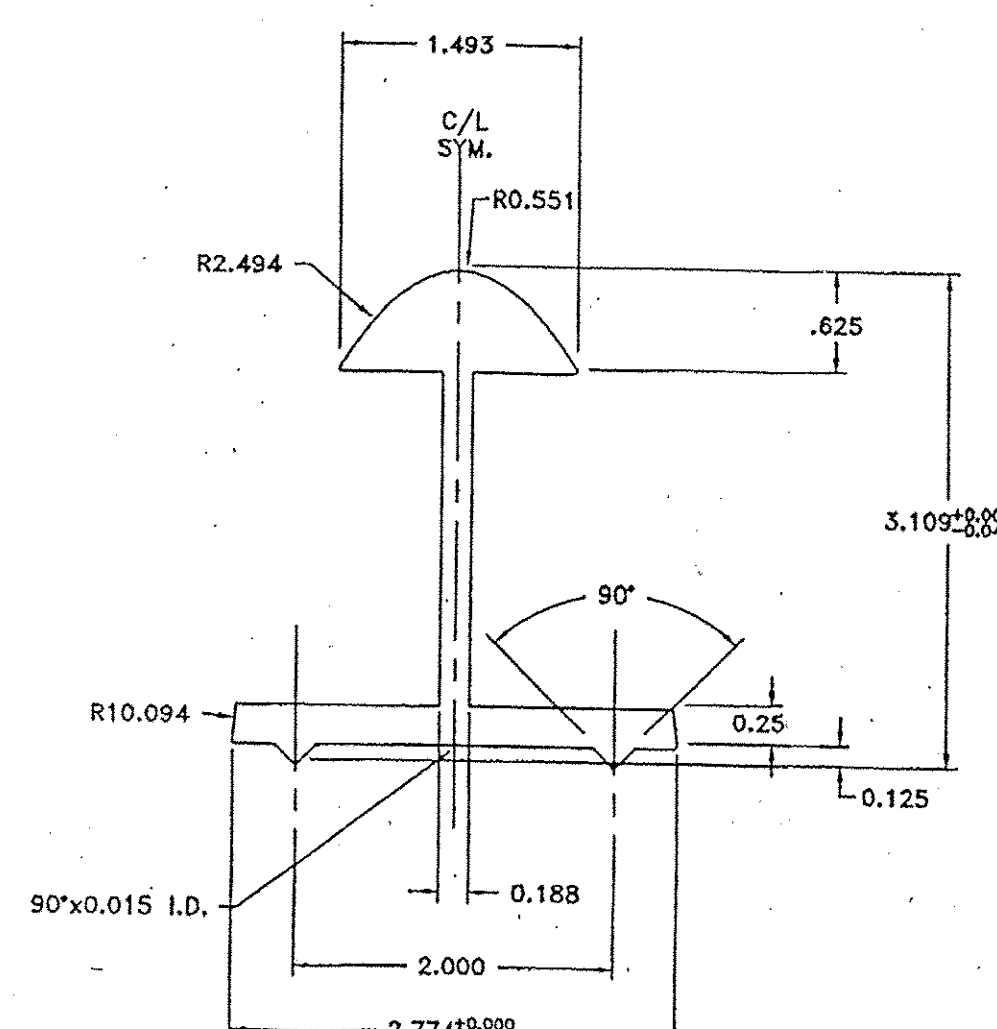
QUAN	MK	X
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4	TS2	3/16
2	TS3	5/32
2	TS8	3/16



QUAN	MK	X
2	TS4	7/16
4	TS5	3/32

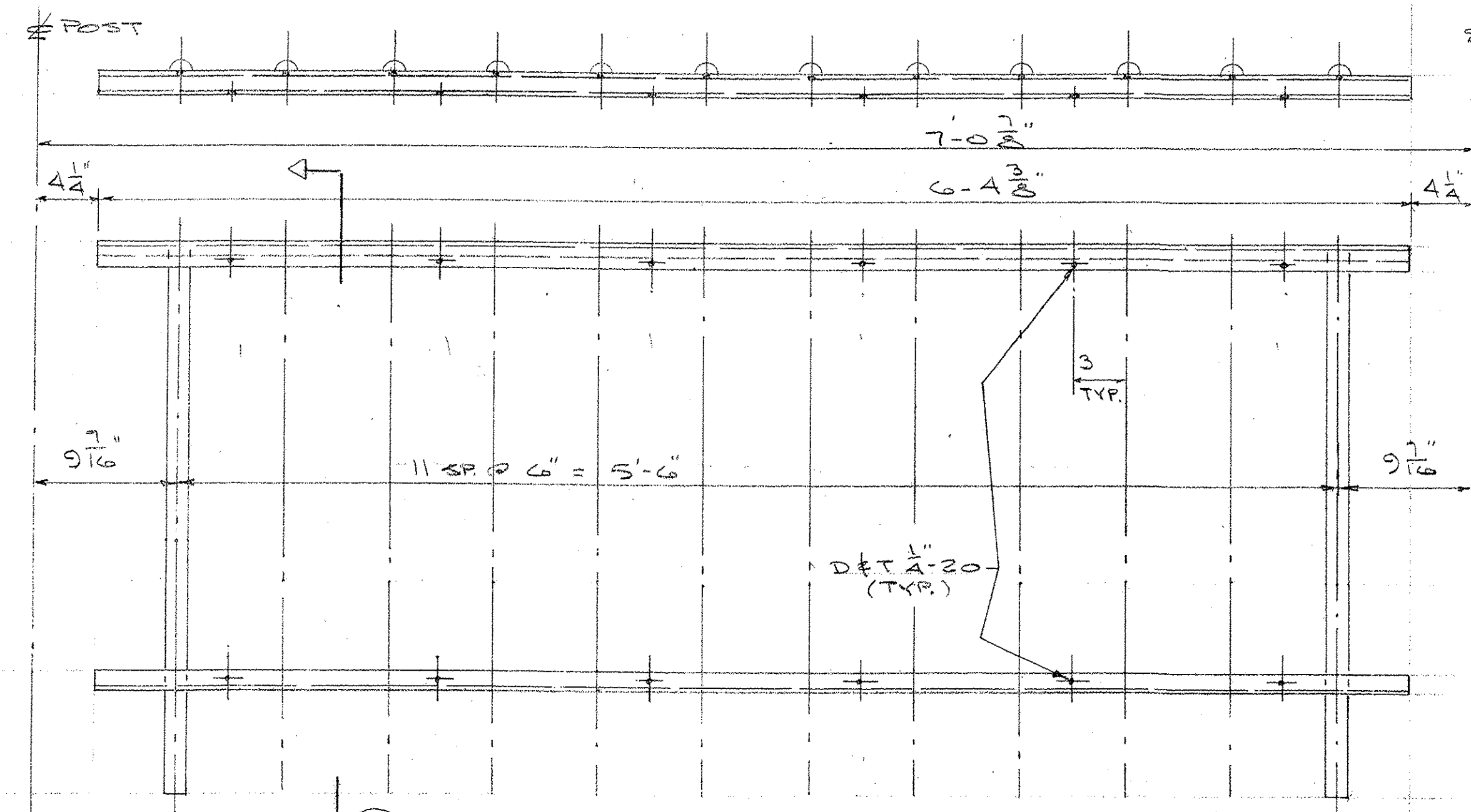


TRAFFIC RAIL SPICE
EXTRUSION
ALLOY 6061-T6

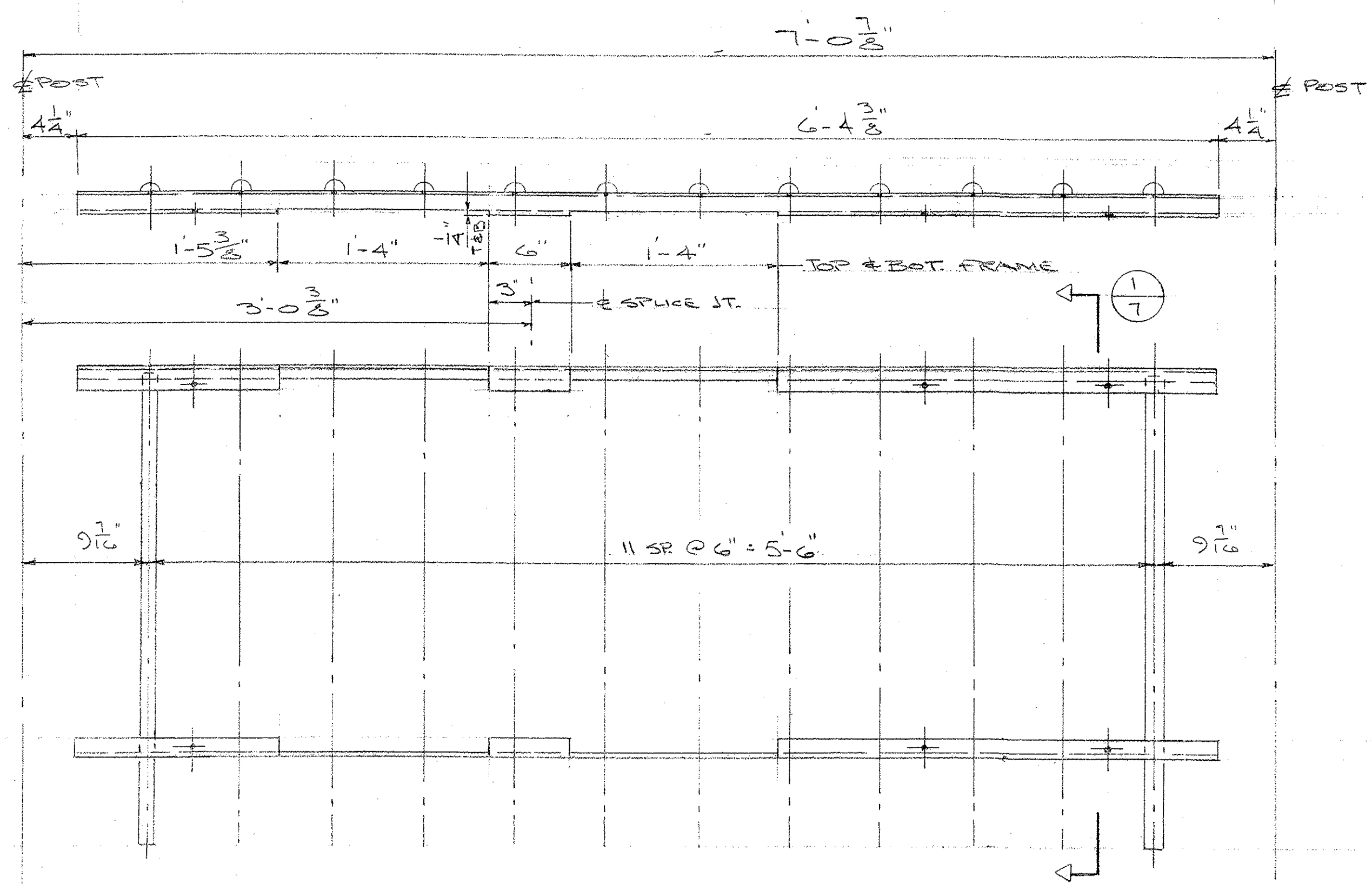


HANDRAIL SPICE
EXTRUSION
ALLOY 6061-T6

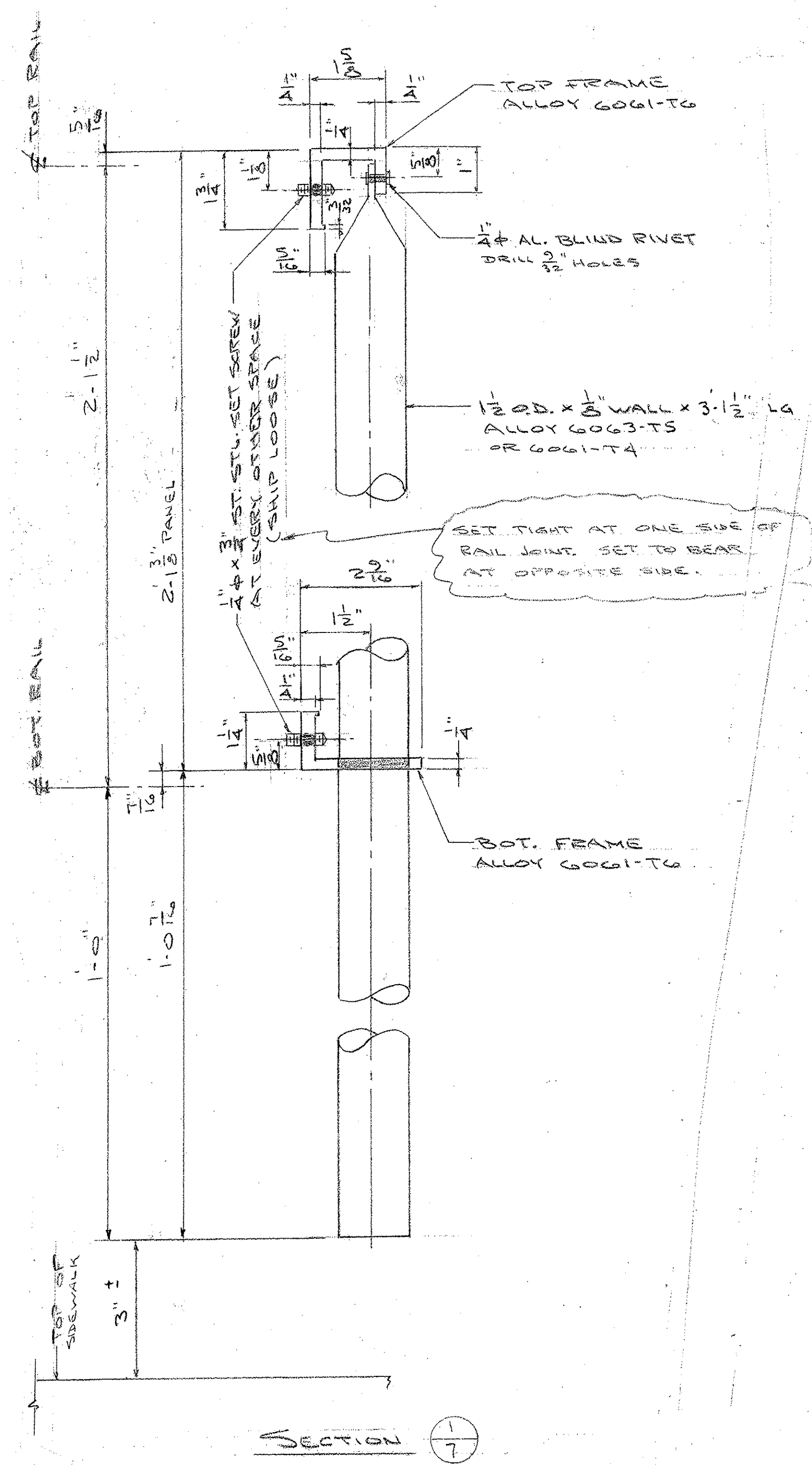
RECEIVED OK'D BY: VBS OK'D BY: [Signature] JUN 3 3 2009 RESIDENT: [Signature] APPROVED: [Signature] BY: [Signature] DATE: 6-16-09		AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382 VT AGENCY OF TRANSPORTATION WILLIAMSTOWN *BRS 0204 (H) ROUTE 44 OVER BROOK AL. BRIDGE & APPROACH RAILINGS SURFACE PREP: NONE FINISH: MILL FINISH FOR: F.R. LAPAYETTE, INC. DR: [Signature] DWG. NO. BR-2950 CHK: [Signature] 1-22-09 JOB NO. A031005-1001 SHEET 1 OF 3	
2	430-09	FOR APPROVAL	B
1	1-28-09	FOR APPROVAL	D
ISSUE	DATE	DESCRIPTION	BY



(4) PANEL PP1



(1) PANEL PP2



SECTION 1-7

RECEIVED CK'D BY <u>033</u> CK'D BY <u>mem</u> JUN 3 3 2009 RESIDENT <u>✓</u> APPROVED <u>✓</u> BY <u>DATE 6-16-09</u>		AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382 VT AGENCY OF TRANSPORTATION WILLIAMSTOWN *BRS 0204 (4) ROUTE 64 OVER BROOK AL. BRIDGE & APPROACH RAILING SURFACE PREP: NONE FINISH: MILL FINISH FOR F.R. LAFAYETTE, INC. DR: <u>01-19-09</u> DWG. NO. <u>BR-2950</u> CHK: <u>499</u> 1-22-09 JOB NO. <u>1005-1001</u> SHEET <u>8</u> OF <u>8</u>	
2	4/24/09	FOR FABRICATION	B
1	1-28-09	FOR APPROVAL	B
ISSUE	DATE	DESCRIPTION	BY