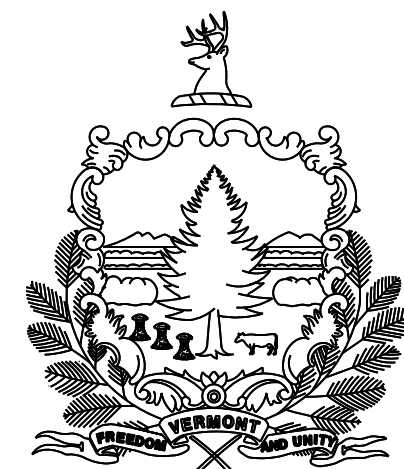


STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF TOPSHAM

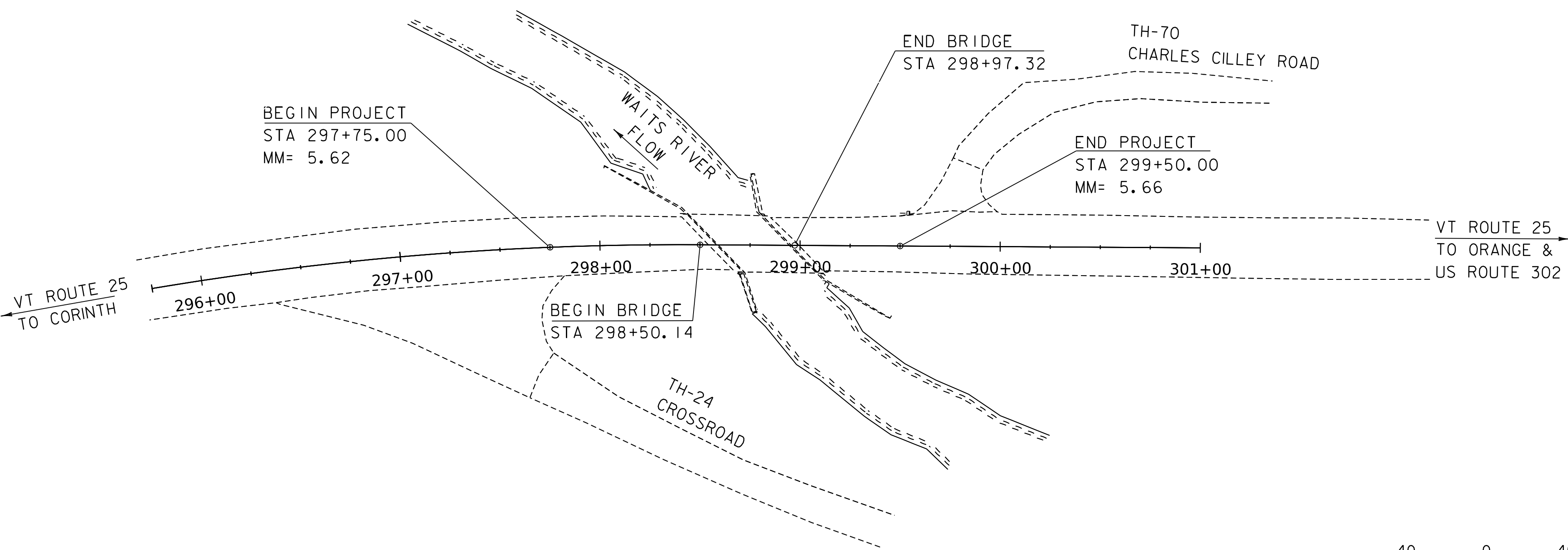
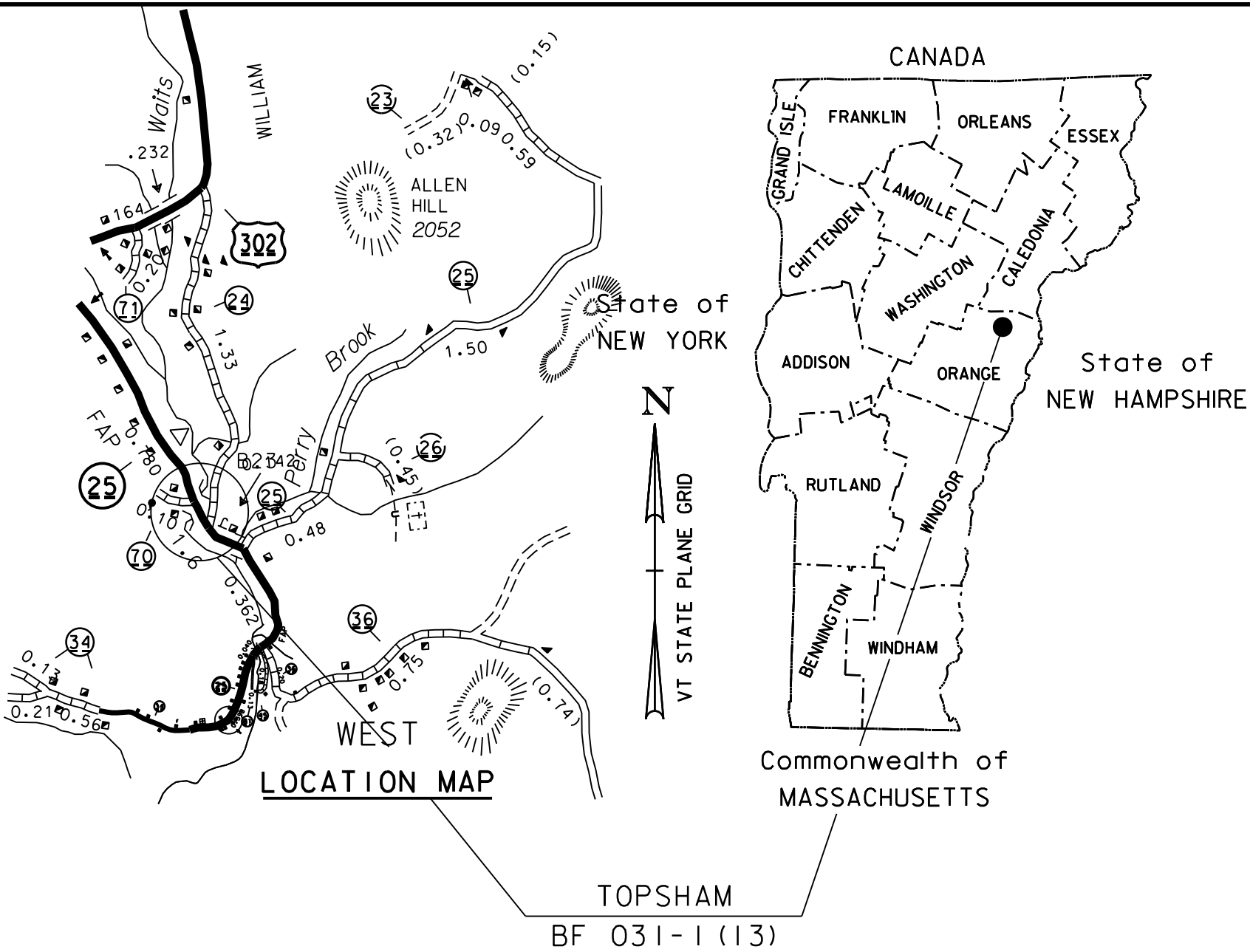
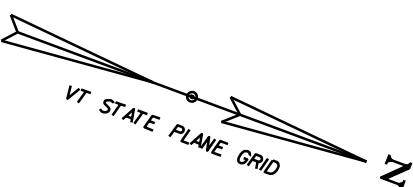
COUNTY OF ORANGE

ROUTE NO : VT 25 (MINOR ARTERIAL) BRIDGE NO : 23

PROJECT LOCATION : BRIDGE 23 IS LOCATED IN THE TOWN OF TOPSHAM ON VT ROUTE 25 OVER WAITS RIVER
LOCATED APPROXIMATELY 1.1 MILES SOUTH OF THE INTERSECTION WITH US ROUTE 302 AND
EXTENDING NORTHERLY .033 MILES

PROJECT DESCRIPTION : REPLACEMENT OF EXISTING BRIDGE WITH A NEW BURIED STRUCTURE ON ALIGNMENT INCLUDING
NECESSARY APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE : 47.18 FEET
LENGTH OF ROADWAY : 127.82 FEET
LENGTH OF PROJECT : 175.00 FEET

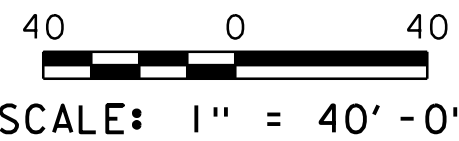


CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	H. MCGOWAN, R. GILMAN, B. HERRING
SURVEYED DATE :	9/30/2019
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)

CONCEPTUAL PLANS
30-JUN-2022

HIGHWAY DIVISION, CHIEF ENGINEER	
APPROVED _____	DATE _____
PROJECT MANAGER : CAROLYN COTA, PE	
PROJECT NAME :	TOPSHAM
PROJECT NUMBER :	BF 031-1 (13)
SHEET 1 OF 18 SHEETS	



STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

Version 2020.09.23.12

INDEX OF SHEETS

FINAL HYDRAULIC REPORT

PLAN SHEETS

STANDARDS LIST

DETAIL SHEETS

TRAFFIC DATA

AS BUILT "REBAR" DETAIL

TRAFFIC MAINTENANCE NOTES

DESIGN VALUES

LRFR LOAD RATING FACTORS

PROJECT NAME: TOPSHAM

PROJECT NUMBER: BF 031-1(13)

FILE NAME: s19b210p1.dgn

PLOT DATE: 30-JUN-2022

PROJECT LEADER: C. BURRALL

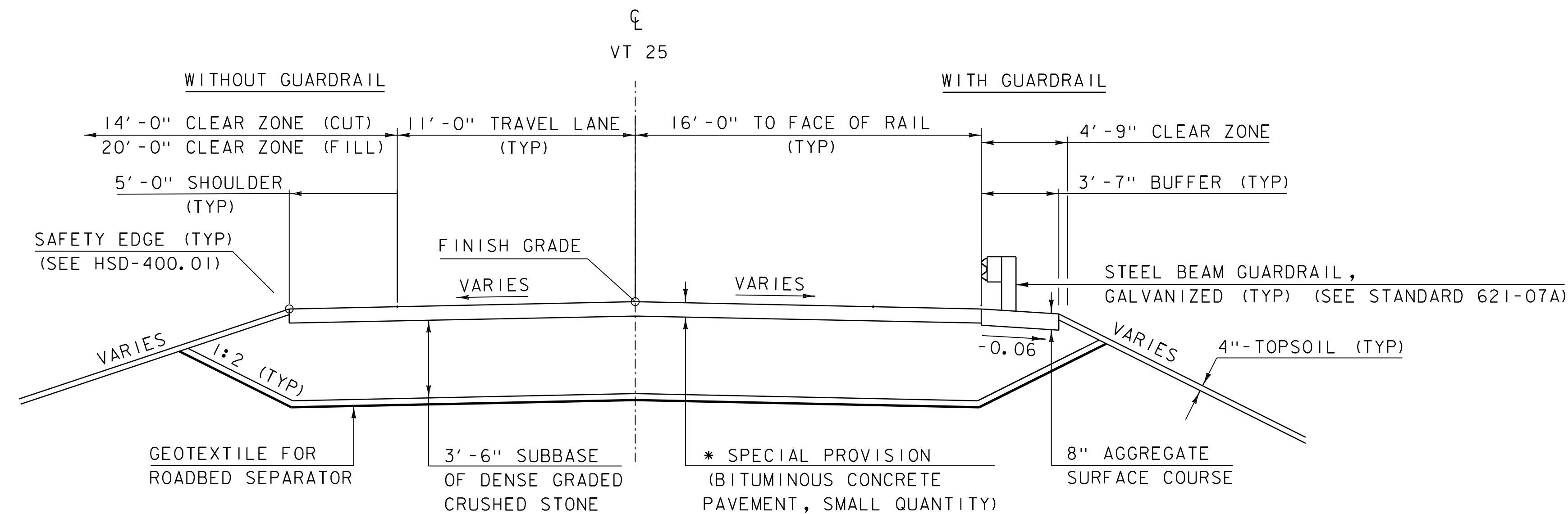
DRAWN BY: A.MANN

DESIGNED BY: A.MANN

CHECKED BY: G. DARGAN

PRELIMINARY INFORMATION SHEET

SHEET 2 OF 18

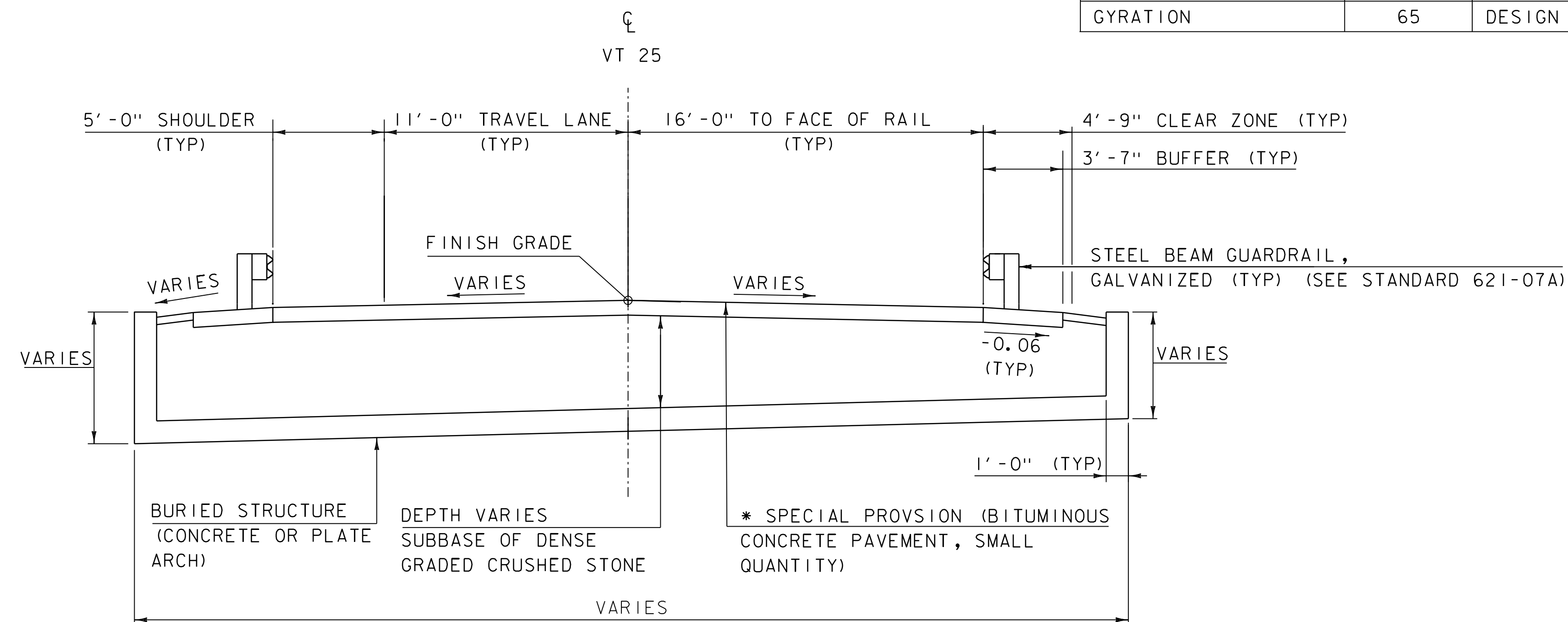


VT 25 ROADWAY TYPICAL SECTION
1/4" = 1' - 0"

- * 1 1/2" BITUMINOUS CONCRETE PAVEMENT, IVS
- 1 1/2" BITUMINOUS CONCRETE PAVEMENT, IVS
- 2 1/2" BITUMINOUS CONCRETE PAVEMENT, IIS
- 2 1/2" BITUMINOUS CONCRETE PAVEMENT, IIS

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) PAVEMENT MATERIAL REQUIREMENTS

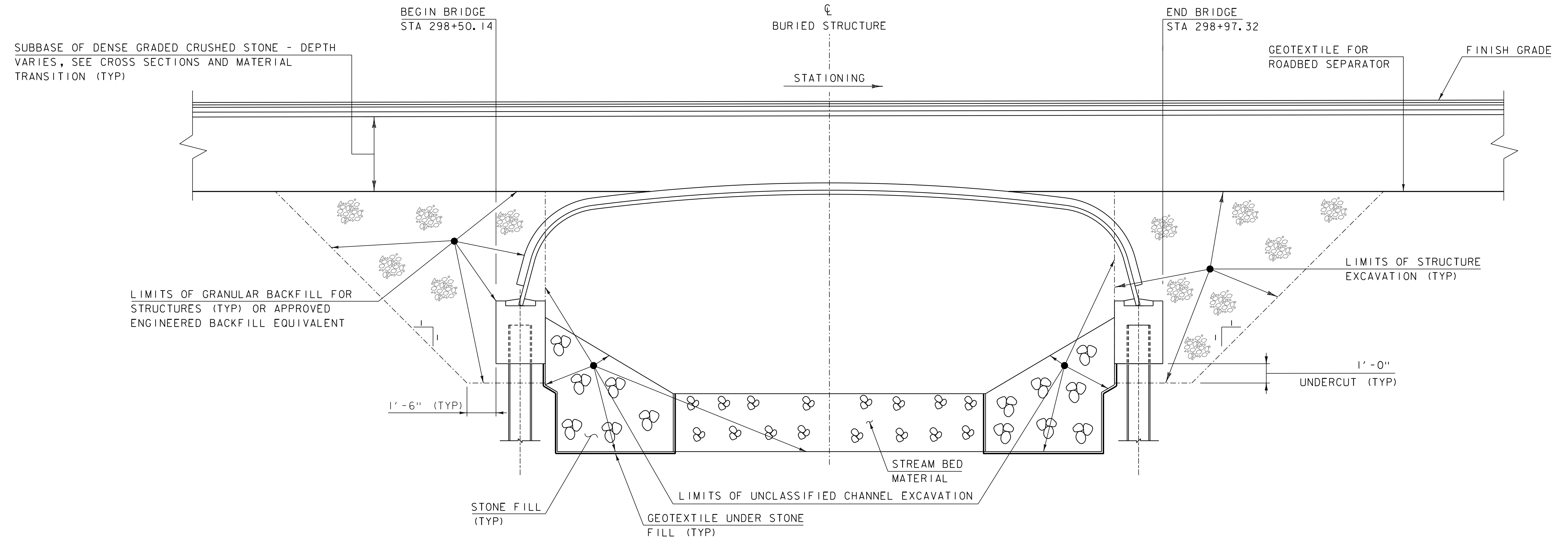
		TYPE
BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS



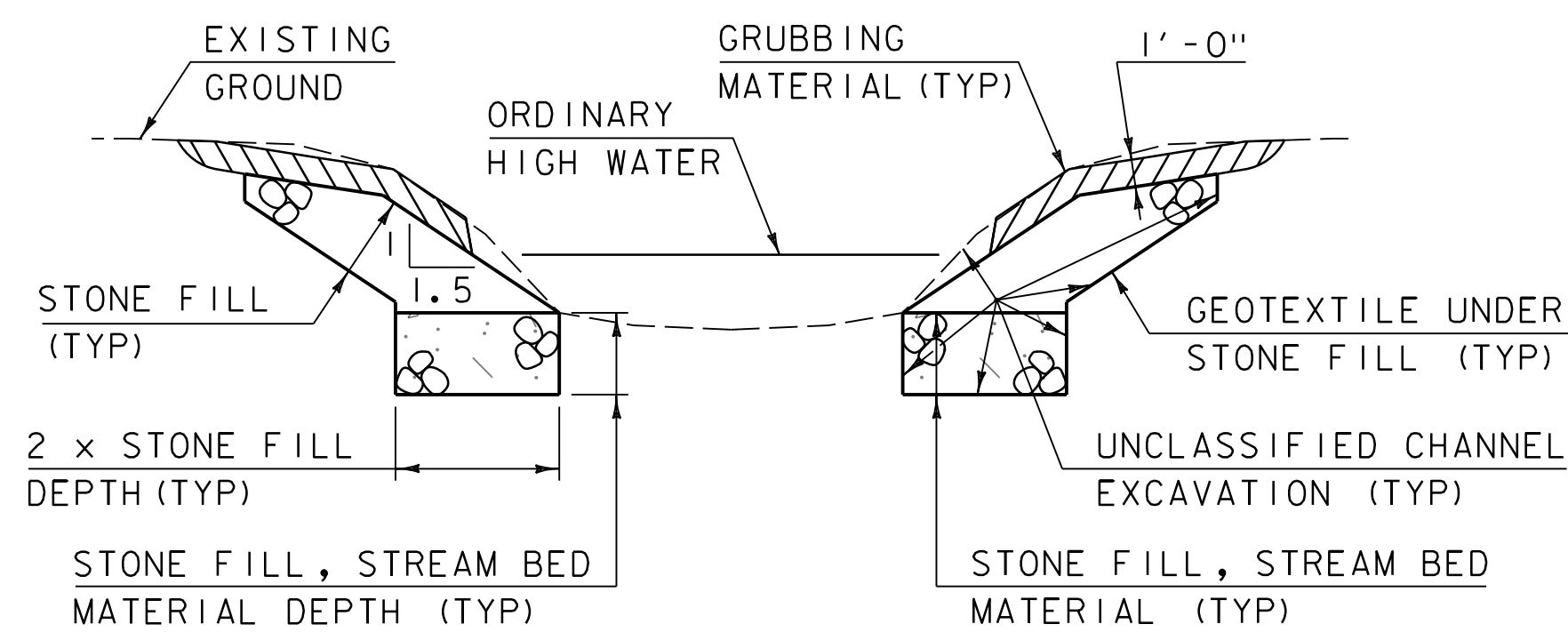
VT 25 BRIDGE TYPICAL SECTION
1/4" = 1' - 0"

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROWS	+/- 1"

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME:	sl9b210+yp.dgn
PROJECT LEADER:	C. BURRALL
DESIGNED BY:	G. DARGAN
TYPICAL SECTIONS	1
PLOT DATE:	30-JUN-2022
DRAWN BY:	A. MANN
CHECKED BY:	G. DARGAN
SHEET	3 OF 18



BURIED STRUCTURE EARTHWORK TYPICAL CHANNEL SECTION
NOT TO SCALE



TYPICAL CHANNEL SECTION
NOT TO SCALE

MATERIAL INFORMATION

	THICKNESS	TYPE
STONE FILL	3' - 0"	STONE FILL, TYPE III
STREAM BED MATERIAL	3' - 0"	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)

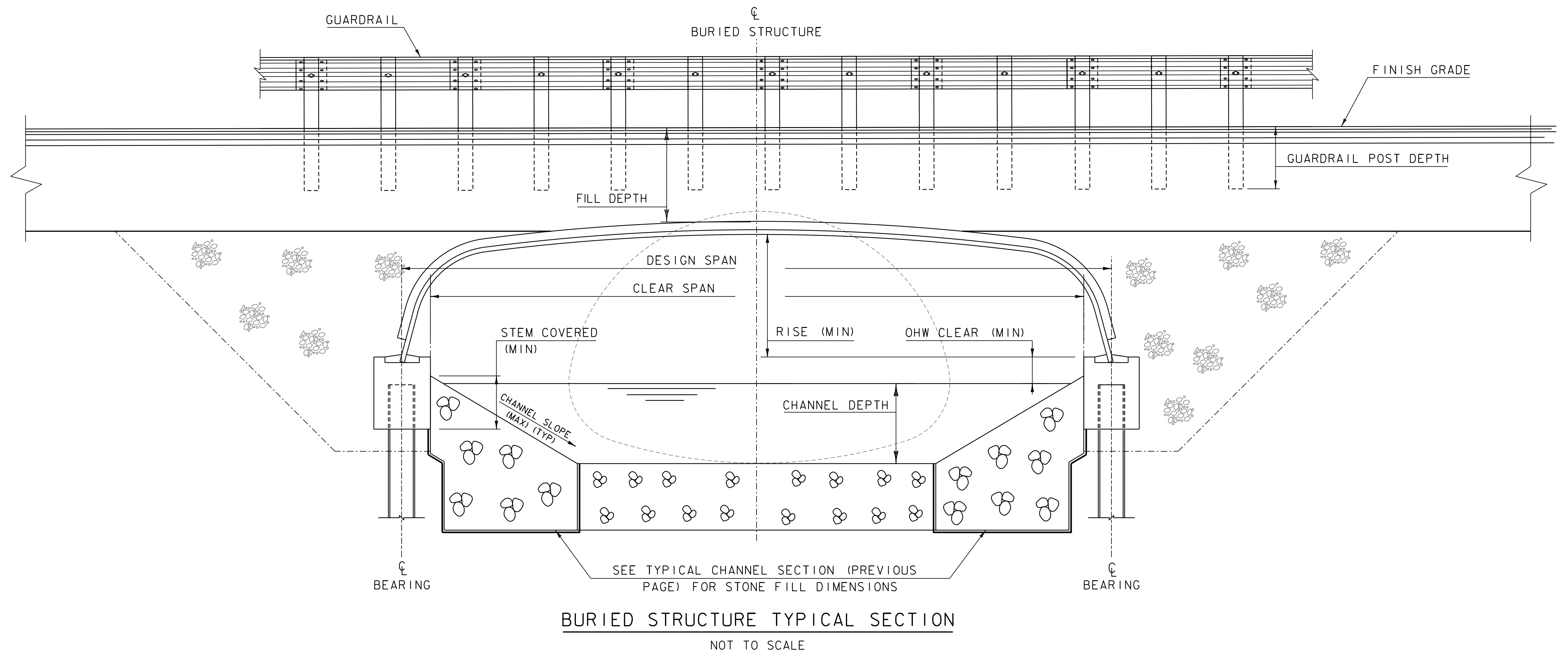
NOTES

- WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.
- THE CONTRACTOR SHALL CREATE A LOW FLOW CHANNEL IN THE STREAM BED MATERIAL AS DIRECTED BY THE ENGINEER.

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b210+yp.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
TYPICAL SECTIONS 2

PLOT DATE: 30-JUN-2022
DRAWN BY: A. MANN
CHECKED BY: G. DARGAN
SHEET 4 OF 18



BURIED STRUCTURE DESIGN PARAMETERS

STRUCTURE	
	DIMENSION
CLEAR SPAN	35' - 0"
RISE (MIN)	10' - 0"
STEM COVERED (MIN)	2' - 0"
MAX/MIN FILL DEPTH	5' - 6" / 4' - 0"
OHW CLEAR (MIN)	0' - 6"
DESIGN SPAN	38' - 0"
CHANNEL	
CHANNEL DEPTH	3' - 0"
CHANNEL SLOPE (MAX)	1:1.5
GUARDRAIL	
POST DEPTH	4' - 0"

* FILL DEPTH SHALL MEET THE COVER REQUIREMENTS FOR THE STRUCTURE DESIGN AND THE REQUIRED CLEARANCE FOR THE GUARDRAIL POSTS.

PILE DRIVING CRITERIA

	VALUE
DRIVING RESISTANCE	TBD
MIN EMBEDMENT (AB #1)	TBD
MIN EMBEDMENT (AB #2)	TBD
TESTING	TBD

PROJECT NAME: TOPSHAM
PROJECT NUMBER: BF-0311(13)

FILE NAME: sl3d6541yp.dgn
PROJECT LEADER: C. BURRALL
DESIGNED BY: G. DARGAN
TYPICAL SECTIONS 3

PLOT DATE: 30-JUN-2022
DRAWN BY: A. MANN
CHECKED BY: G. DARGAN
SHEET 5 OF 18

GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	BF	BARRIER FENCE
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	PDF	PROJECT DEMARCATION FENCE
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	R.T.& I.	RIGHT, TITLE, AND INTEREST
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BDNS	BOUND SET
▣	BDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
⌘	APL	BOUND APPARENT LOCATION
▣	BM	BENCHMARK
▣	BND	BOUND
▣	CB	CATCH BASIN
⌘	COMB	COMBINATION POLE
▣	DITHR	DROP INLET THROATED DNC
⌘	EL	ELECTRIC POWER POLE
⊙	FPOLE	FLAGPOLE
○	GASFIL	GAS FILLER
○	GP	GUIDE POST
⌘	GSO	GAS SHUT OFF
⊙	GUY	GUY POLE
⊙	GUYW	GUY WIRE
⌘	GV	GATE VALVE
⌘	H	TREE HARDWOOD
△	HCTRL	CONTROL HORIZONTAL
△	HVCTRL	CONTROL HORIZ. & VERTICAL
◇	HYD	HYDRANT
⊙	IP	IRON PIN
⊙	IPIPE	IRON PIPE
⌘	LI	LIGHT - STREET OR YARD
⌘	MB	MAILBOX
○	MH	MANHOLE (MH)
▣	MM	MILE MARKER
⊙	PM	PARKING METER
▣	PMK	PROJECT MARKER
⊙	POST	POST STONE/WOOD
⌘	RRSIG	RAILROAD SIGNAL
⌘	RRSL	RAILROAD SWITCH LEVER
⌘	S	TREE SOFTWOOD
⌘	SAT	SATELLITE DISH
⌘	SHRUB	SHRUB
⌘	SIGN	SIGN
⌘	STUMP	STUMP
⌘	TEL	TELEPHONE POLE
⊙	TIE	TIE
⌘	TSIGN	SIGN W/DOUBLE POST
⌘	VCTRL	CONTROL VERTICAL
⊙	WELL	WELL
⌘	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE
CB	CHORD BEARING

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

— UGU —	— · · · · ·	UTILITY (GENERIC-UNKNOWN)
— UT —	— · · · · ·	TELEPHONE
— UE —	— · · · · ·	ELECTRIC
— UC —	— · · · · ·	CABLE (TV)
— UEC —	— · · · · ·	ELECTRIC+CABLE
— UET —	— · · · · ·	ELECTRIC+TELEPHONE
— UCT —	— · · · · ·	CABLE+TELEPHONE
— UECT —	— · · · · ·	ELECTRIC+CABLE+TELEPHONE
— G —	— · · · · ·	GAS LINE
— W —	— · · · · ·	WATER LINE
— S —	— · · · · ·	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU —	— · · · · ·	UTILITY (GENERIC-UNKNOWN)
— T —	— · · · · ·	TELEPHONE
— E —	— · · · · ·	ELECTRIC
— C —	— · · · · ·	CABLE (TV)
— EC —	— · · · · ·	ELECTRIC+CABLE
— ET —	— · · · · ·	ELECTRIC+TELEPHONE
— AER E&T —	— · · · · ·	ELECTRIC+TELEPHONE
— CT —	— · · · · ·	CABLE+TELEPHONE
— ECT —	— · · · · ·	ELECTRIC+CABLE+TELEPHONE
— · · —	— · · · · ·	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— · · · —	CZ — · · · —	CLEAR ZONE
—————		PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△ — △ — △ — △	TOP OF CUT SLOPE
○ — ○ — ○ — ○	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗ ⊗	STONE FILL
-----	BOTTOM OF DITCH
=====	CULVERT PROPOSED
-----	STRUCTURE SUBSURFACE
PDF ——— PDF ———	PROJECT DEMARCATION FENCE
BF — x — x — x — BF — x — x —	BARRIER FENCE
xxxxxxxxxxxxxxxxxxxx	TREE PROTECTION ZONE (TPZ)
//////////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLGY

BOUNDARY LINES

—————	TOWN LINE	TOWN BOUNDARY LINE
—————	COUNTY LINE	COUNTY BOUNDARY LINE
—————	STATE LINE	STATE BOUNDARY LINE
——— / —— / ——		PROPOSED STATE R.O.W. (LIMITED ACCESS)
——— — — —		PROPOSED STATE R.O.W.
——— / ——		STATE ROW (LIMITED ACCESS)
——— — — —		STATE ROW
——— — — —		TOWN ROW
— · · · · ·		PERMANENT EASEMENT LINE (P)
- - - - -		TEMPORARY EASEMENT LINE (T)
+		SURVEY LINE
P ——— P ———		PROPERTY LINE (P/L)
L ——— L ———		
△ — SR — ○ — SR — △ — SR — ○		SLOPE RIGHTS
6f ——— 6f ———		6F PROPERTY BOUNDARY
4f ——— 4f ———		4F PROPERTY BOUNDARY
HAZ ——— HAZ ———		HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLGY

EPSC MEASURES

ONNOONNOONNO	FILTER CURTAIN
▣ — ▣ — ▣ — ▣	SILT FENCE
▣ — x — ▣ — x — ▣	SILT FENCE WOVEN WIRE
▶ —▶ —▶ —	CHECK DAM
▣	DISTURBED AREAS REQUIRING RE-VEGETATION
▣	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

ENVIRONMENTAL RESOURCES

——— ▴ ——— ▴ ———	WETLAND BOUNDARY
-----	RIPARIAN BUFFER ZONE
-----	WETLAND BUFFER ZONE
-----	SOIL TYPE BOUNDARY
——— T&E ———	THREATENED & ENDANGERED SPECIES
HAZ ——— HAZ ———	HAZARDOUS WASTE AREA
——— AG ———	AGRICULTURAL LAND
——— HABITAT ———	FISH & WILDLIFE HABITAT
——— FLOOD PLAIN ———	FLOOD PLAIN
——— OHW ———	ORDINARY HIGH WATER (OHW)
——— ● ——— ● ——— ●	STORM WATER
——— - - - ———	USDA FOREST SERVICE LANDS
——— · · · ———	WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

——— ARCH ———	ARCHEOLOGICAL BOUNDARY
——— HISTORIC DIST ———	HISTORIC DISTRICT BOUNDARY
——— HISTORIC ———	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLGY

EXISTING FEATURES

-----	ROAD EDGE PAVEMENT
-----	ROAD EDGE GRAVEL
-----	DRIVEWAY EDGE
-----	DITCH
———	FOUNDATION
x — x — x — x —	FENCE (EXISTING)
▣ — ▣ — ▣ — ▣ —	FENCE WOOD POST
○ — ○ — ○ — ○ —	FENCE STEEL POST
~~~~~	GARDEN
○ — ○ — ○ — ○ —	ROAD GUARDRAIL
	RAILROAD TRACKS
-----	CULVERT (EXISTING)
○○○○○○○○○○○○○○	STONE WALL
-----	WALL
~~~~~	WOOD LINE
~~~~~	BRUSH LINE
~~~~~	HEDGE
———	BODY OF WATER EDGE
▣ — ▣ — ▣ — ▣ —	LEDGE EXPOSED

PROJECT NAME:	TOPSHAM
PROJECT NUMBER:	BF 031-1(13)
FILE NAME:	sl9b210legend.dgn
PROJECT LEADER:	C. BURRALL
DESIGNED BY:	G. DARGAN
CONVENTIONAL SYMBOLGY LEGEND	
PLOT DATE:	30-JUN-2022
DRAWN BY:	A.MANN
CHECKED BY:	G. DARGAN
SHEET	6 OF 18

SOIL INFORMATION  
CABOT SILT LOAM  
K FACTOR = 0.32  
HYDROLOGICAL GROUP= D

SOIL INFORMATION  
POMFRET STONY LOAMY SAND  
K FACTOR = 0.17  
HYDROLOGICAL GROUP= A

SOIL INFORMATION  
CABOT SILT LOAM  
K FACTOR = 0.32  
HYDROLOGICAL GROUP= D

SOIL INFORMATION  
MERRIMAC FINE SANDY LOAM  
K FACTOR = 0.24  
HYDROLOGICAL GROUP= A

SOIL INFORMATION  
COLRAINE EXTREMELY STONY FINE SANDY LOAM  
K FACTOR = 0.24  
HYDROLOGICAL GROUP= A

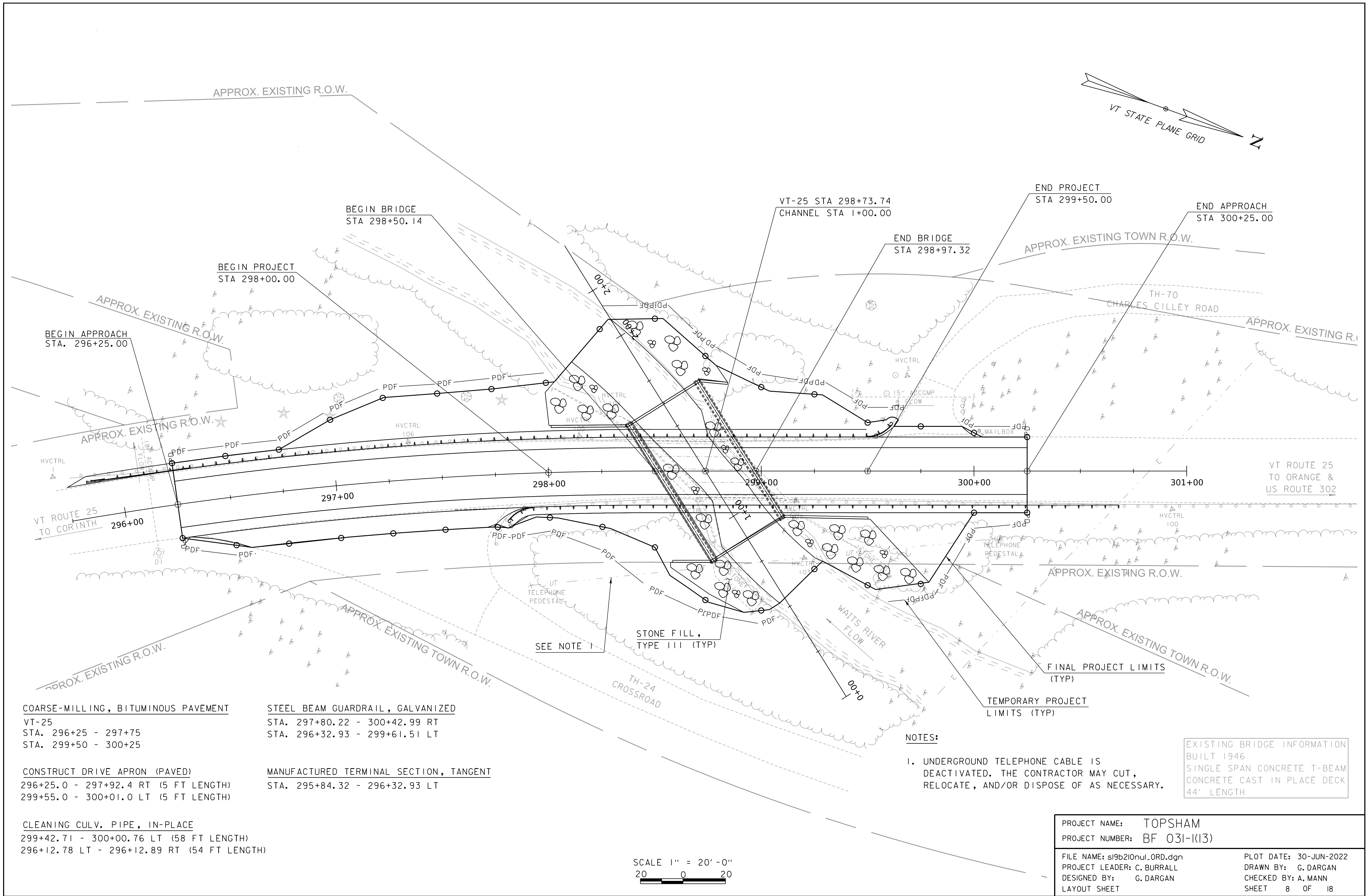
EXISTING BRIDGE INFORMATION  
BUILT 1946  
SINGLE SPAN CONCRETE T-BEAM  
CONCRETE CAST IN PLACE DECK  
44' LENGTH

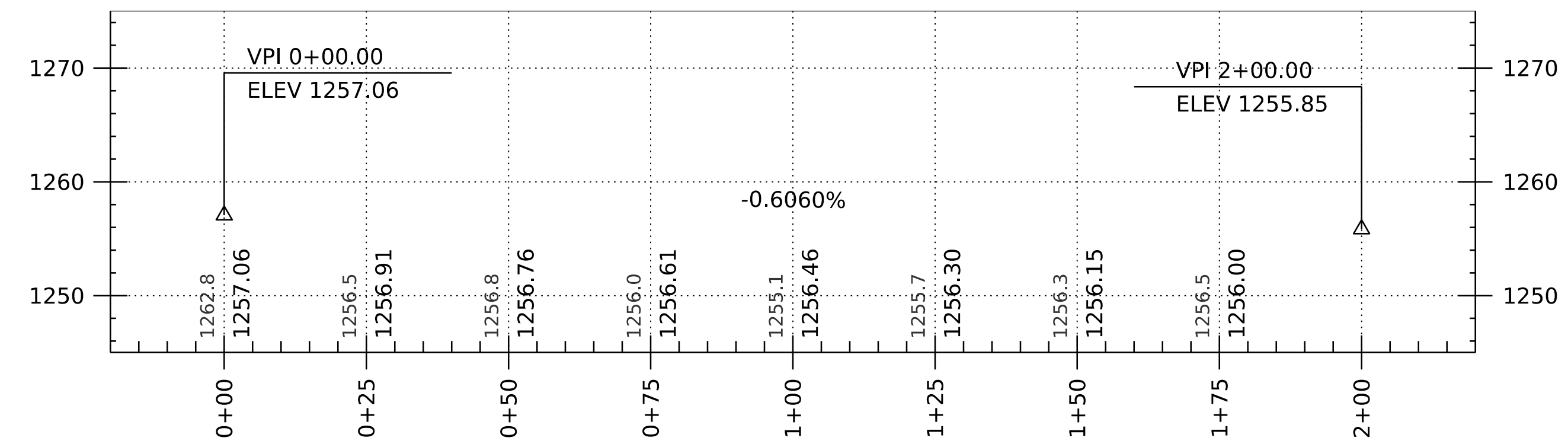
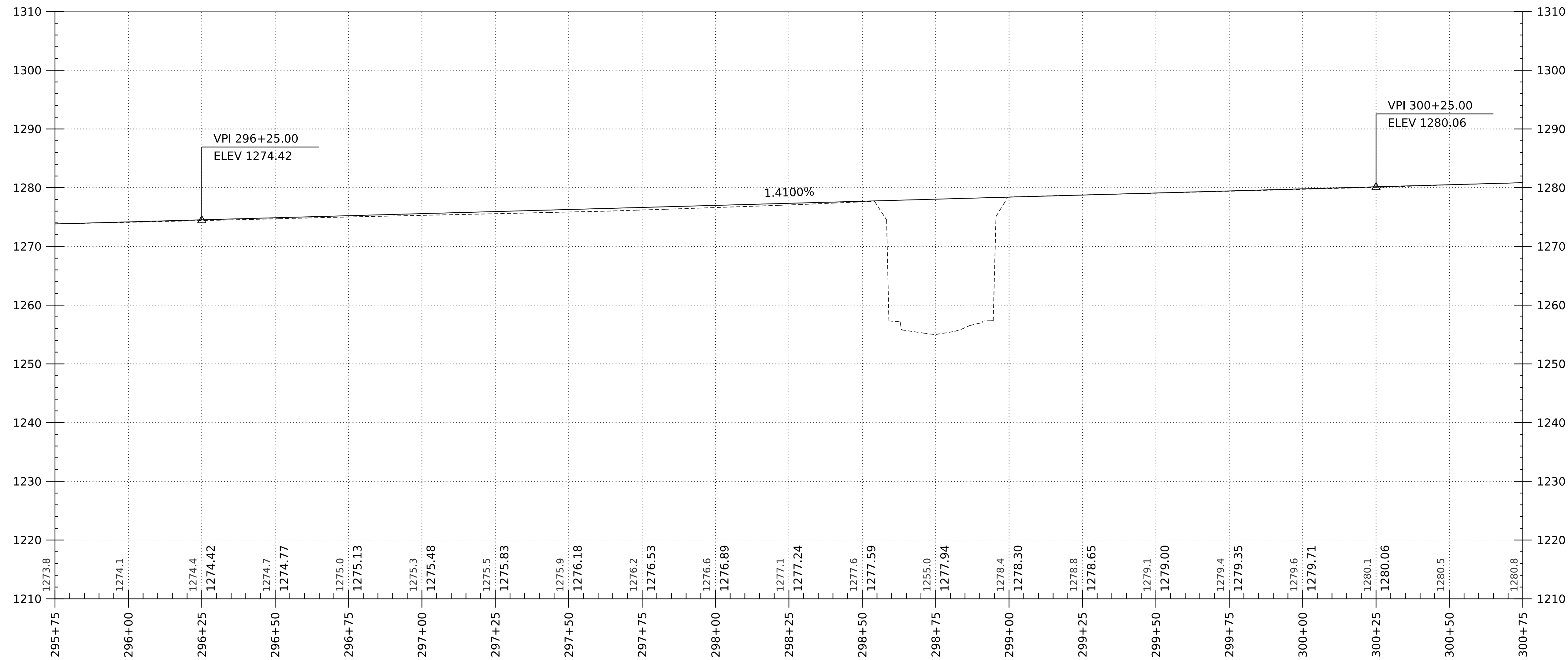
PROJECT NAME: TOPSHAM  
PROJECT NUMBER: BF 031-I(13)

FILE NAME: s19b210_existing.dgn  
PROJECT LEADER: C. BURRALL  
DESIGNED BY: G. DARGAN  
EXISTING CONDITIONS

PLOT DATE: 30-JUN-2022  
DRAWN BY: G. DARGAN  
CHECKED BY: A. MANN  
SHEET 7 OF 18

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

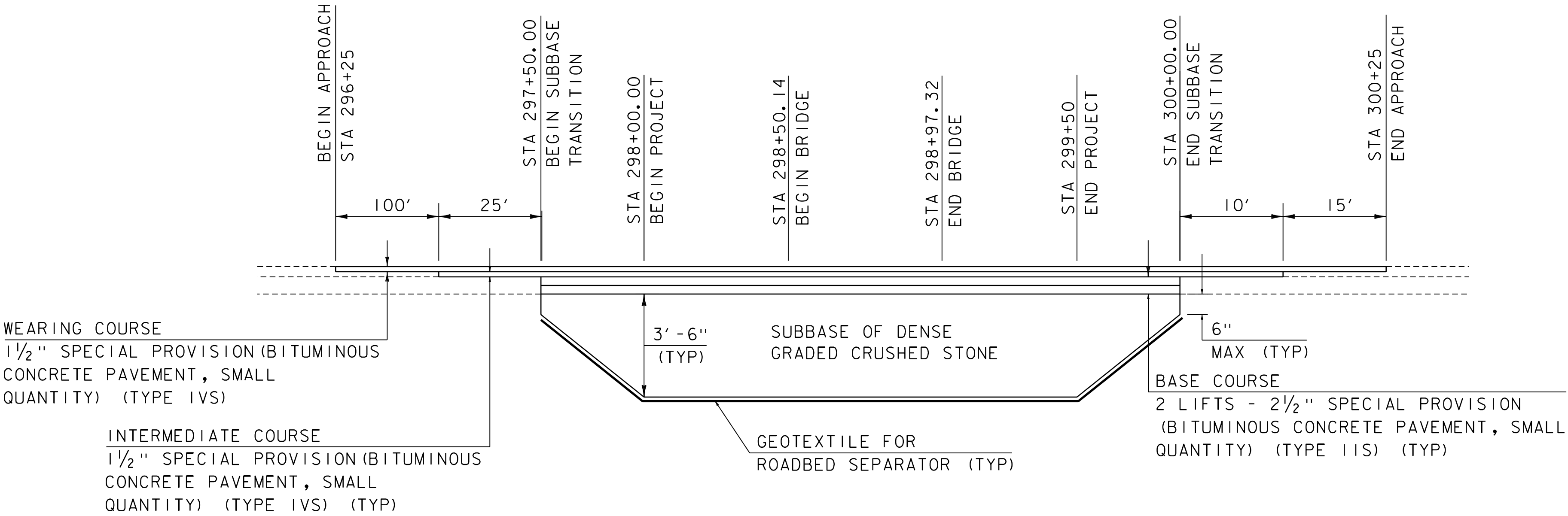




NOTES

- ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
- ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

PROJECT NAME:	TOPSHAM	PLOT DATE:	30-JUN-2022
PROJECT NUMBER:	BF 031-I(13)	DRAWN BY:	G. DARGAN
FILE NAME:	sl9b2l0profile_VT25.dgn	CHECKED BY:	A. MANN
PROJECT LEADER:	C. BURRALL	SHEET	9 OF 18
DESIGNED BY:	G. DARGAN		
PROFILES			



MATERIAL TRANSITION  
NOT TO SCALE

PROJECT NAME: TOPSHAM  
PROJECT NUMBER: BF 031-1(13)

FILE NAME: sl9b2l0profile_VT25.dgn	PLOT DATE: 30-JUN-2022
PROJECT LEADER: C. BURRALL	DRAWN BY: A. MANN
DESIGNED BY: A. MANN	CHECKED BY: G. DARGAN
MATERIAL TRANSITION	SHEET 10 OF 18

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

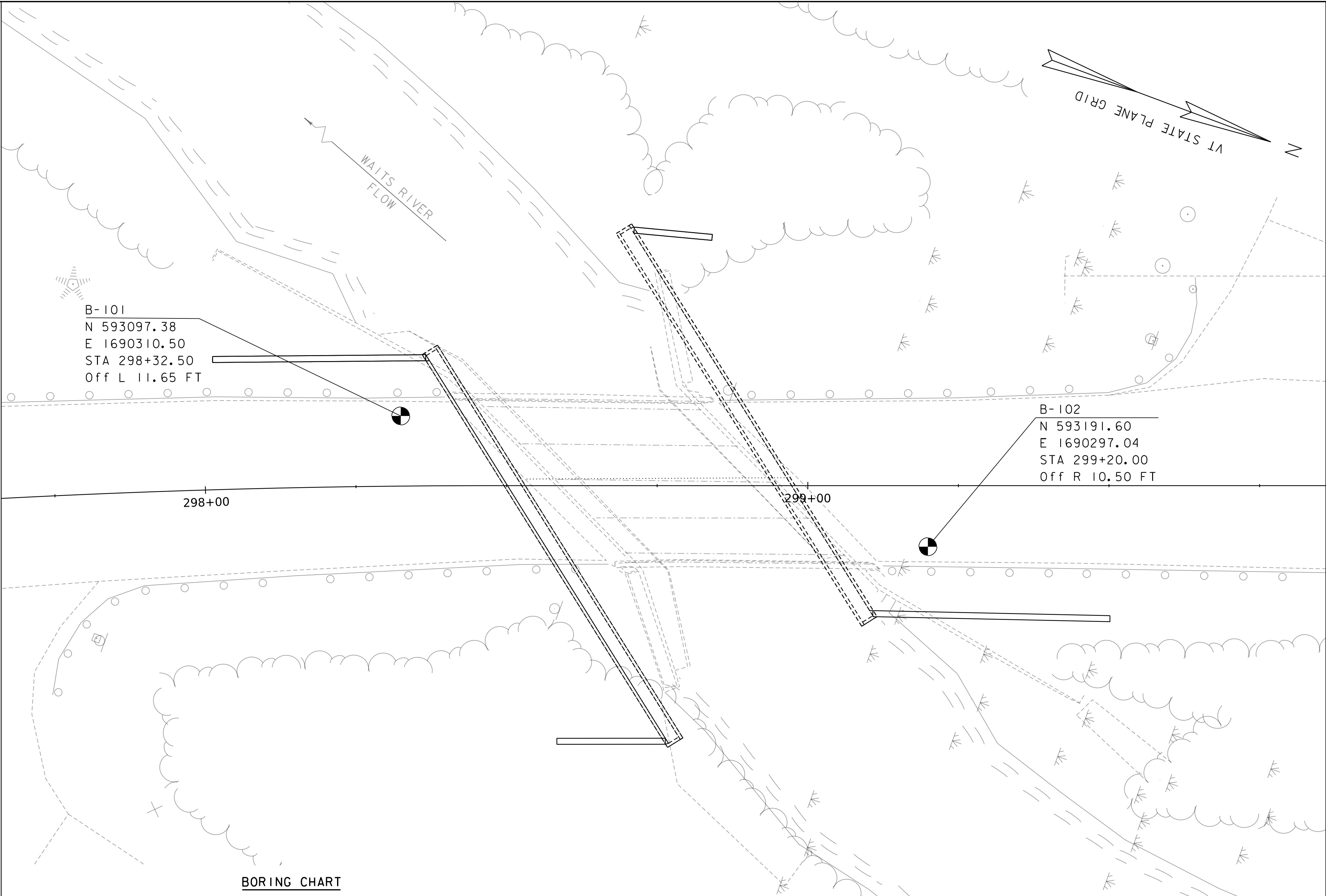
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

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	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

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.	SURV. STATION	OFFSET	NORTHING	EASTING	GROUND ELEV.	ELEV. TLOB
B-101	298+32.50	11.65 LT	593097.38	1690310.50	1277.741	
B-102	299+20.00	10.50 RT	593191.60	1690297.04	1278.314	

SCALE 1" = 10' - 0"  
10 0 10

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 > 0.0787" (#10 sieve).  
**SAND** - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).  
**SILT** - Soil < 0.0029" (#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.

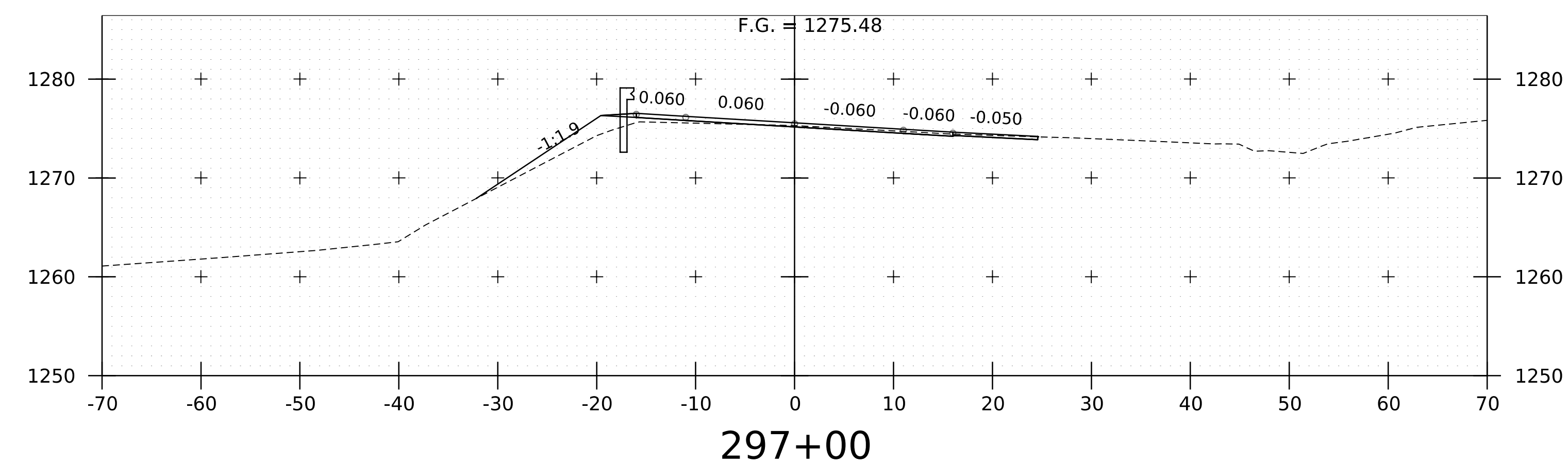
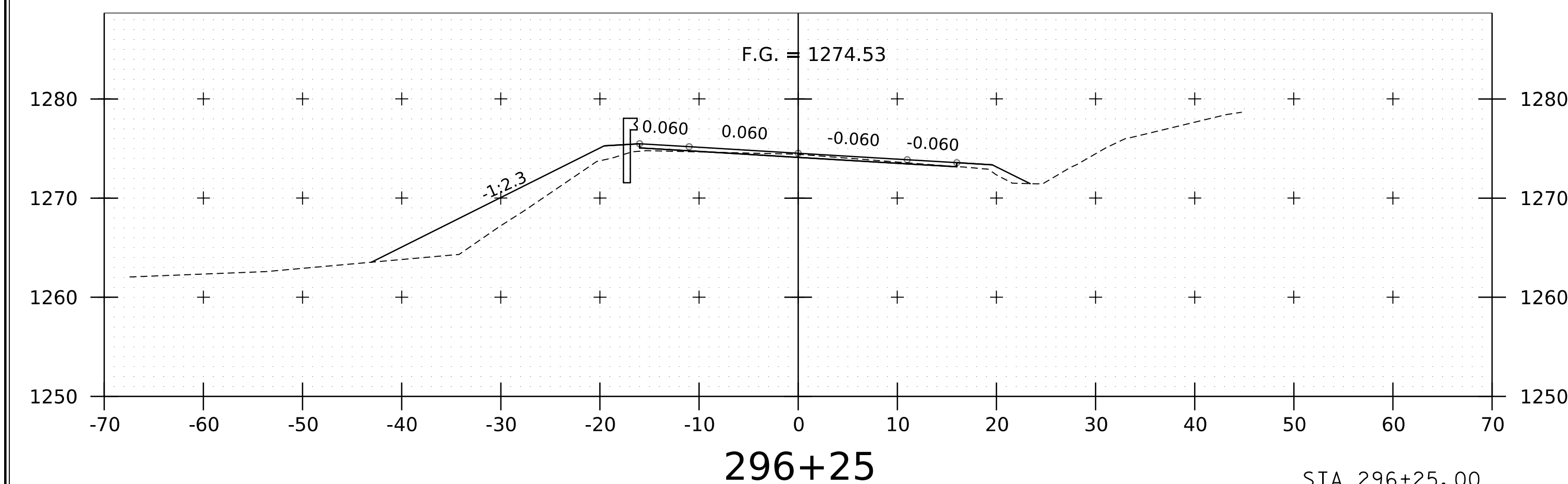
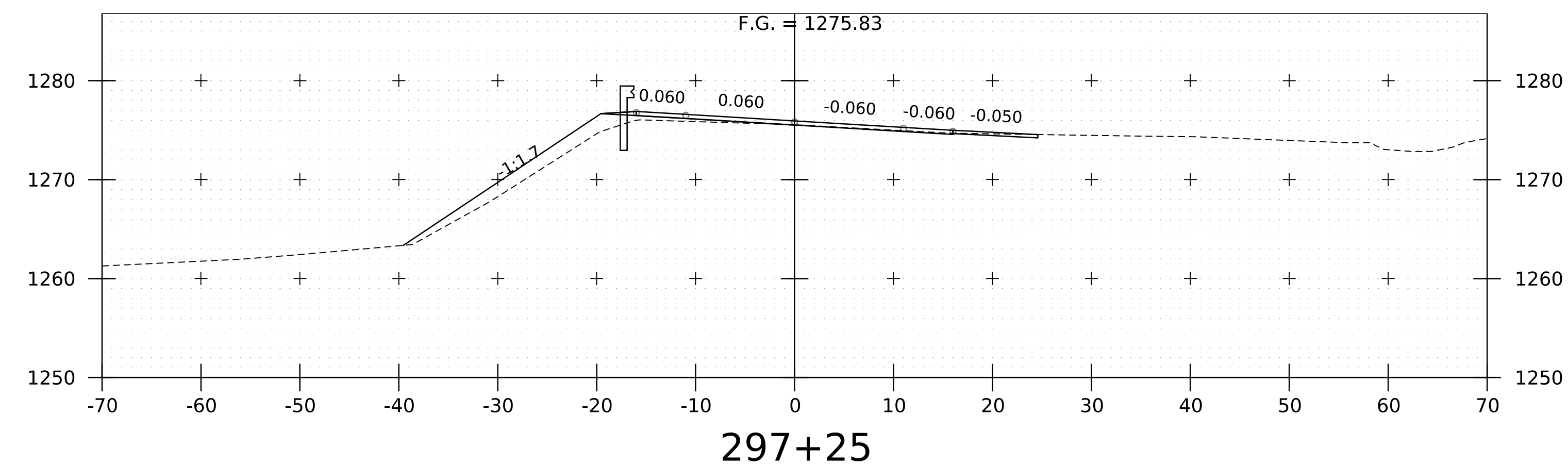
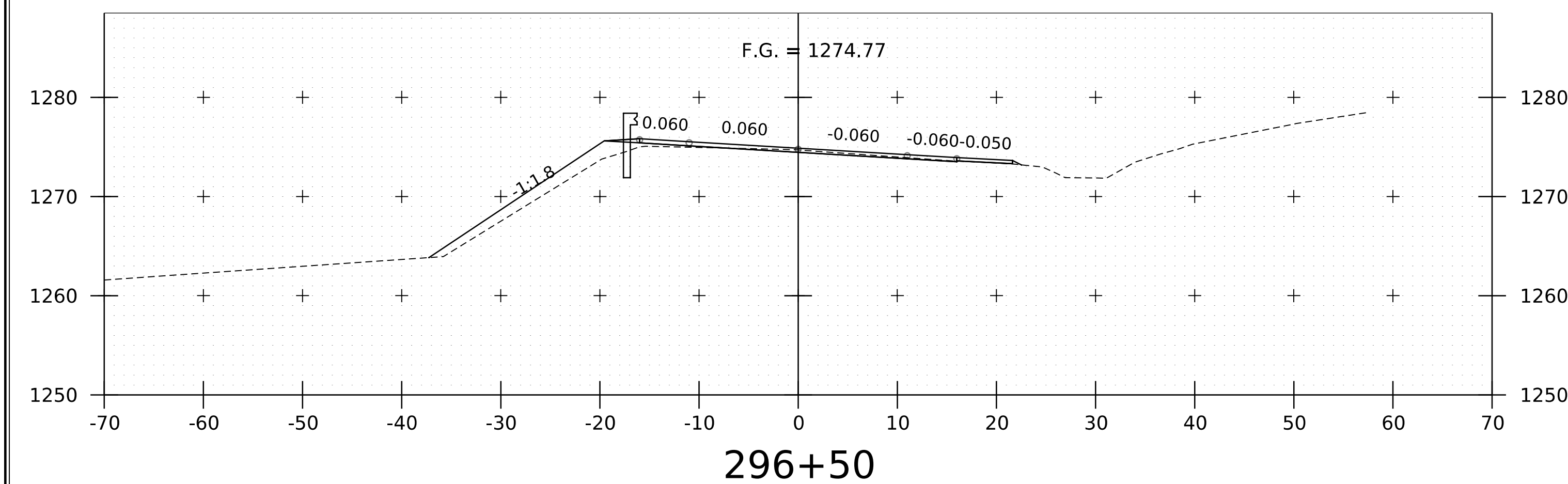
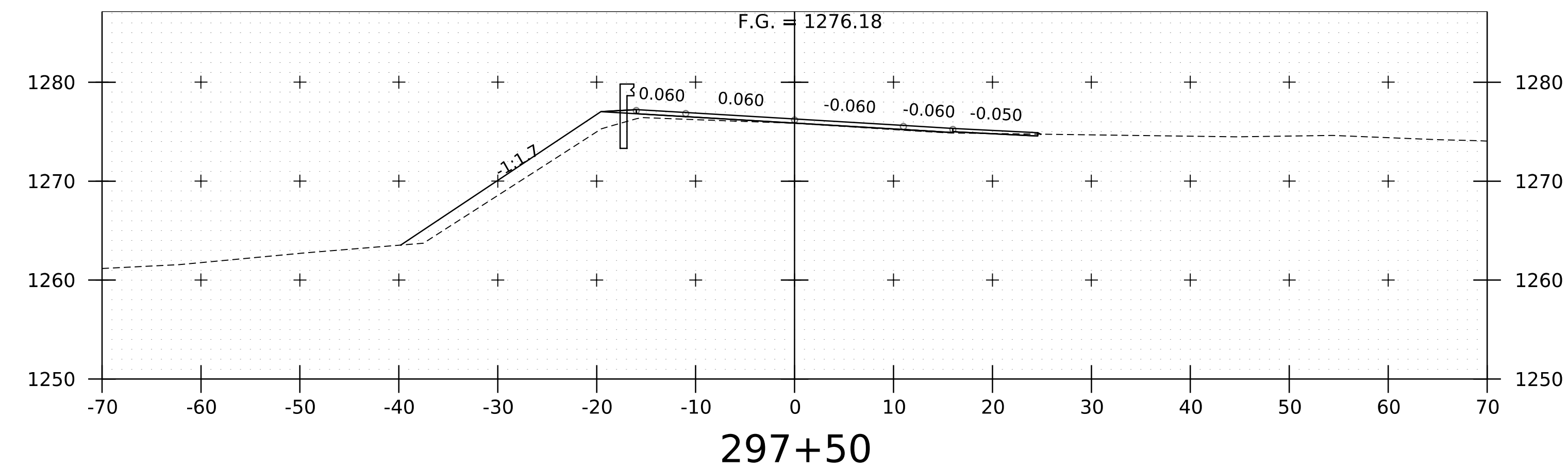
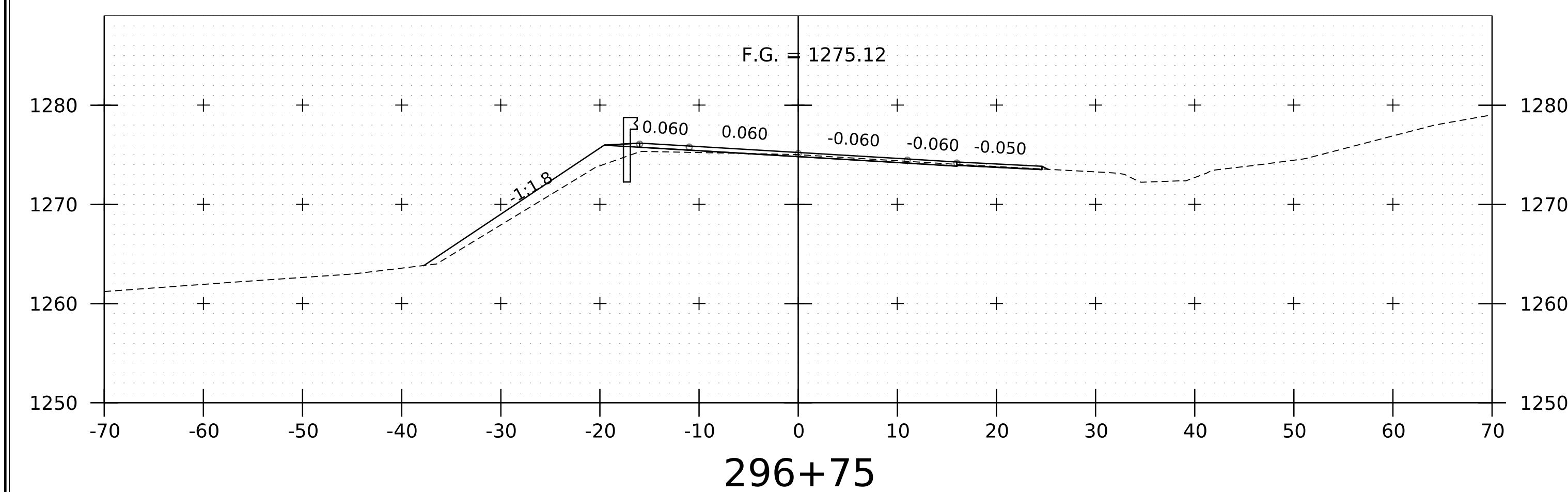
GENERAL NOTES

- The subsurface explorations shown herein were made between 5/19/2016 and 6/14/2016 by the Agency.
- 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.
- 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.
- Engineering judgment 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 judgment by the Contractor.
- 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.
- 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.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: TOPSHAM  
PROJECT NUMBER: BF 031-1(13)

FILE NAME: si9b210.bor.dgn  
PROJECT LEADER: C. BURRALL  
DESIGNED BY: G. DARGAN  
BORING LAYOUT

PLOT DATE: 30-JUN-2022  
DRAWN BY: G. DARGAN  
CHECKED BY: A. MANN  
SHEET 11 OF 18

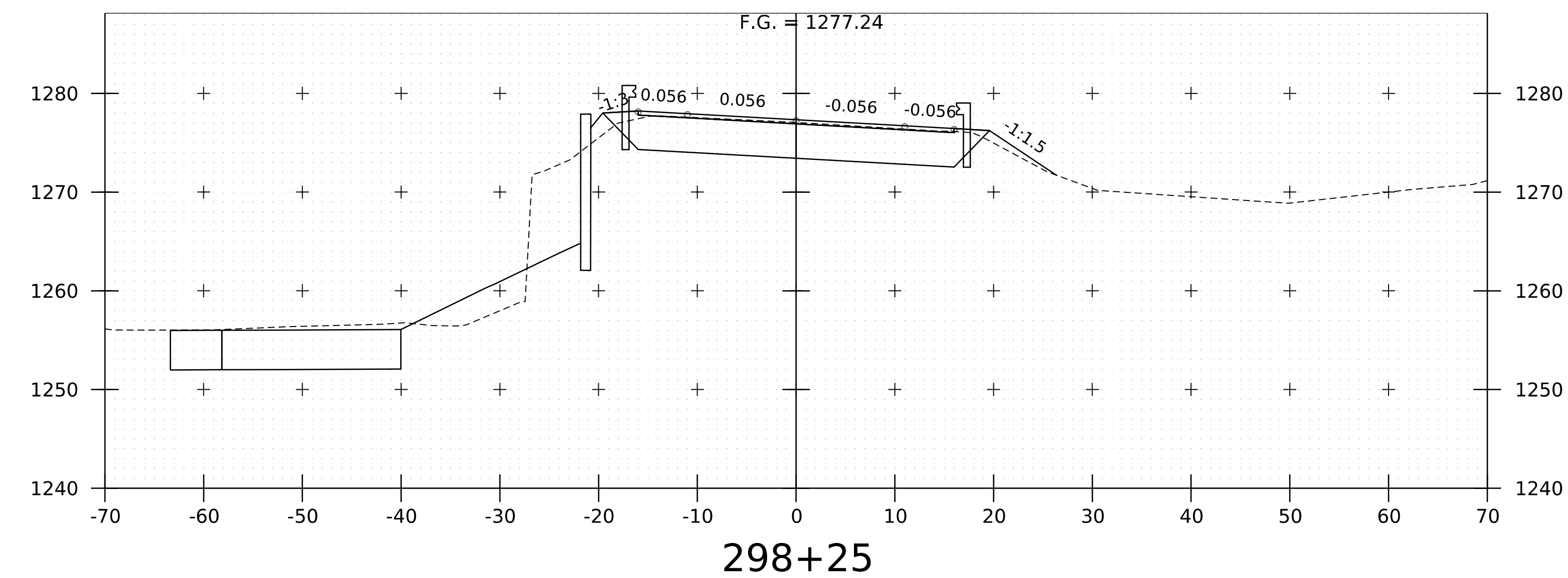
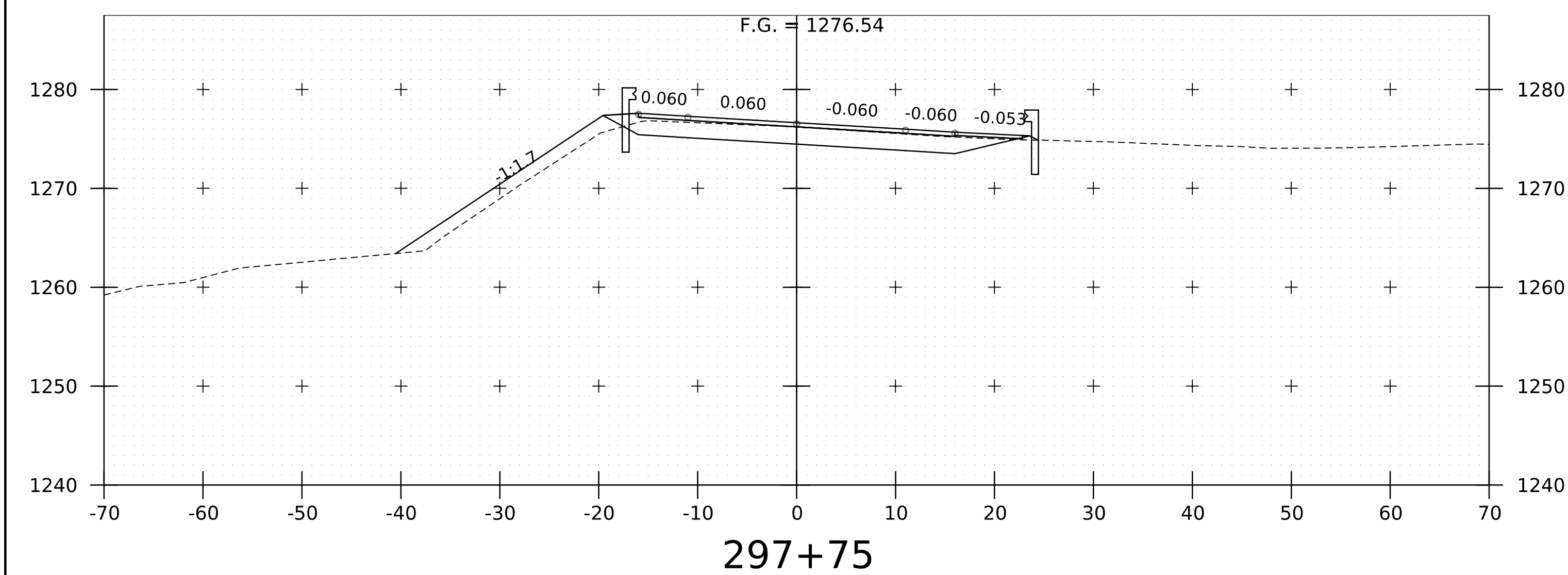
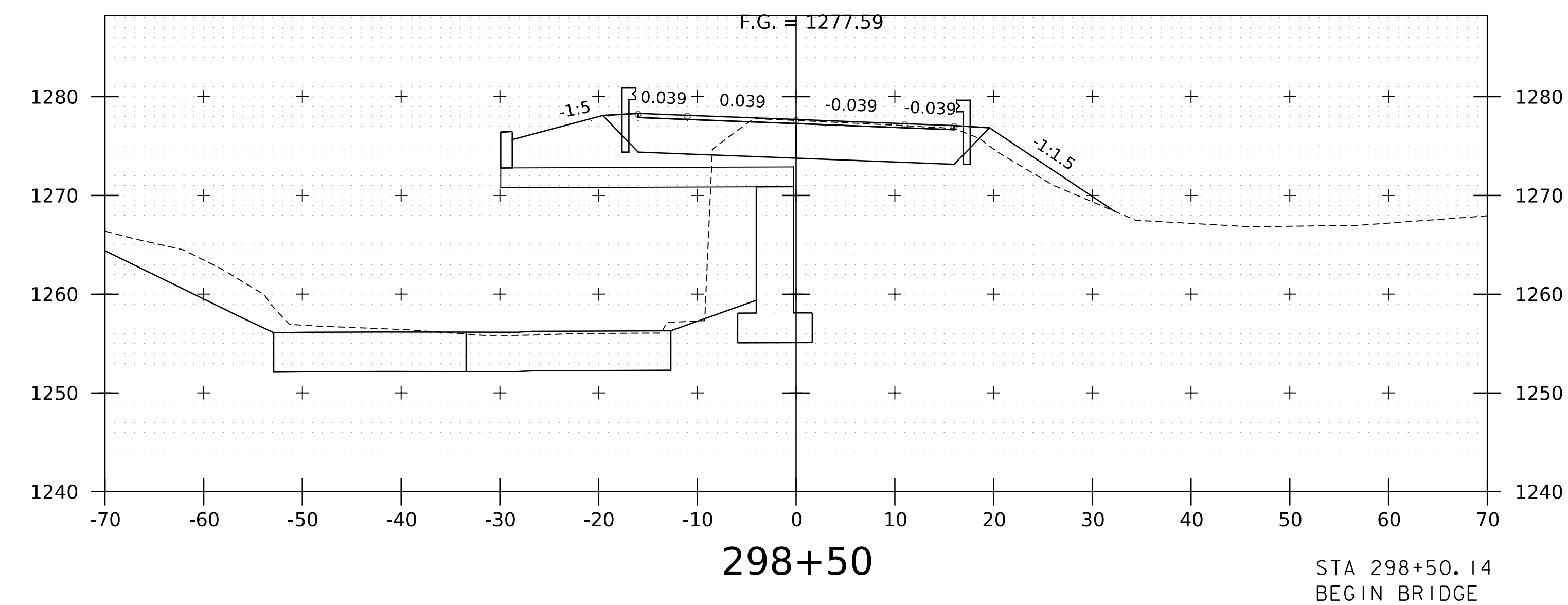
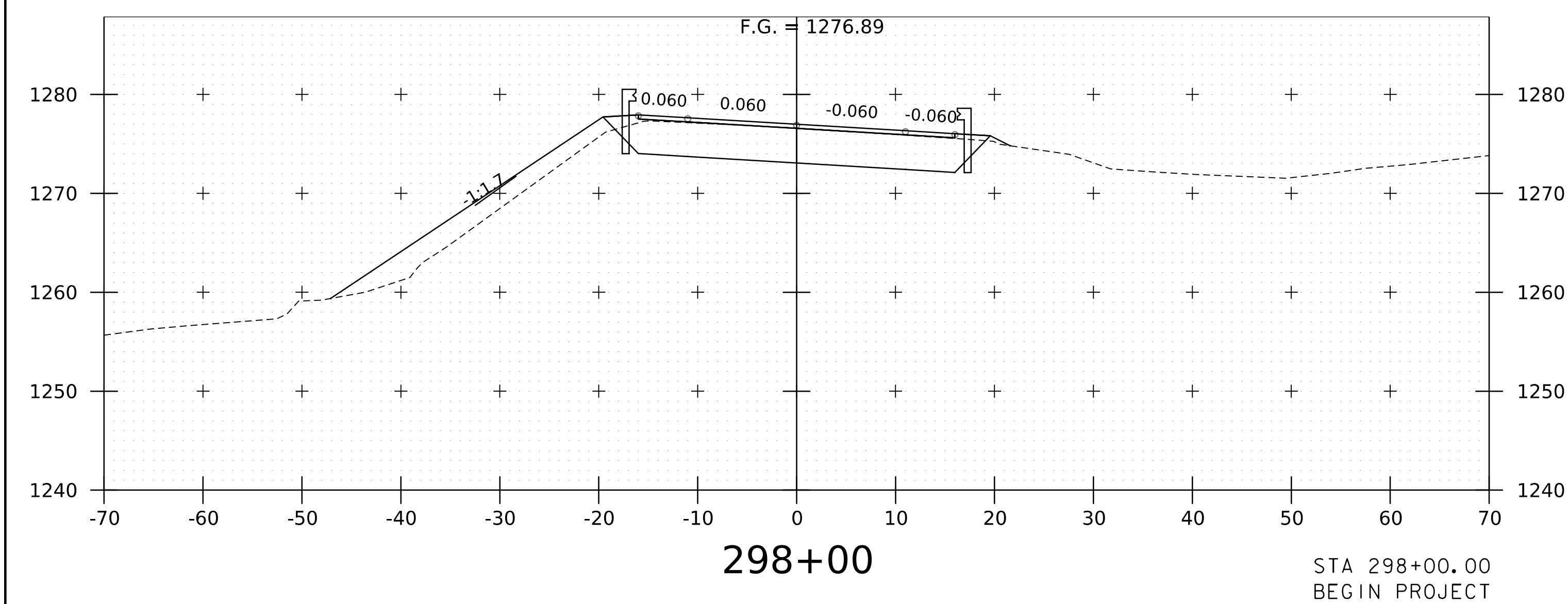


STA 296+25.00  
BEGIN APPROACH  
MATCH EXISTING

PROJECT NAME: TOPSHAM  
PROJECT NUMBER: BF 031-I(13)

FILE NAME: sl9b210.xsvt25.dgn  
PROJECT LEADER: C. BURRALL  
DESIGNED BY: G. DARGAN  
VT 25 CROSS SECTIONS I

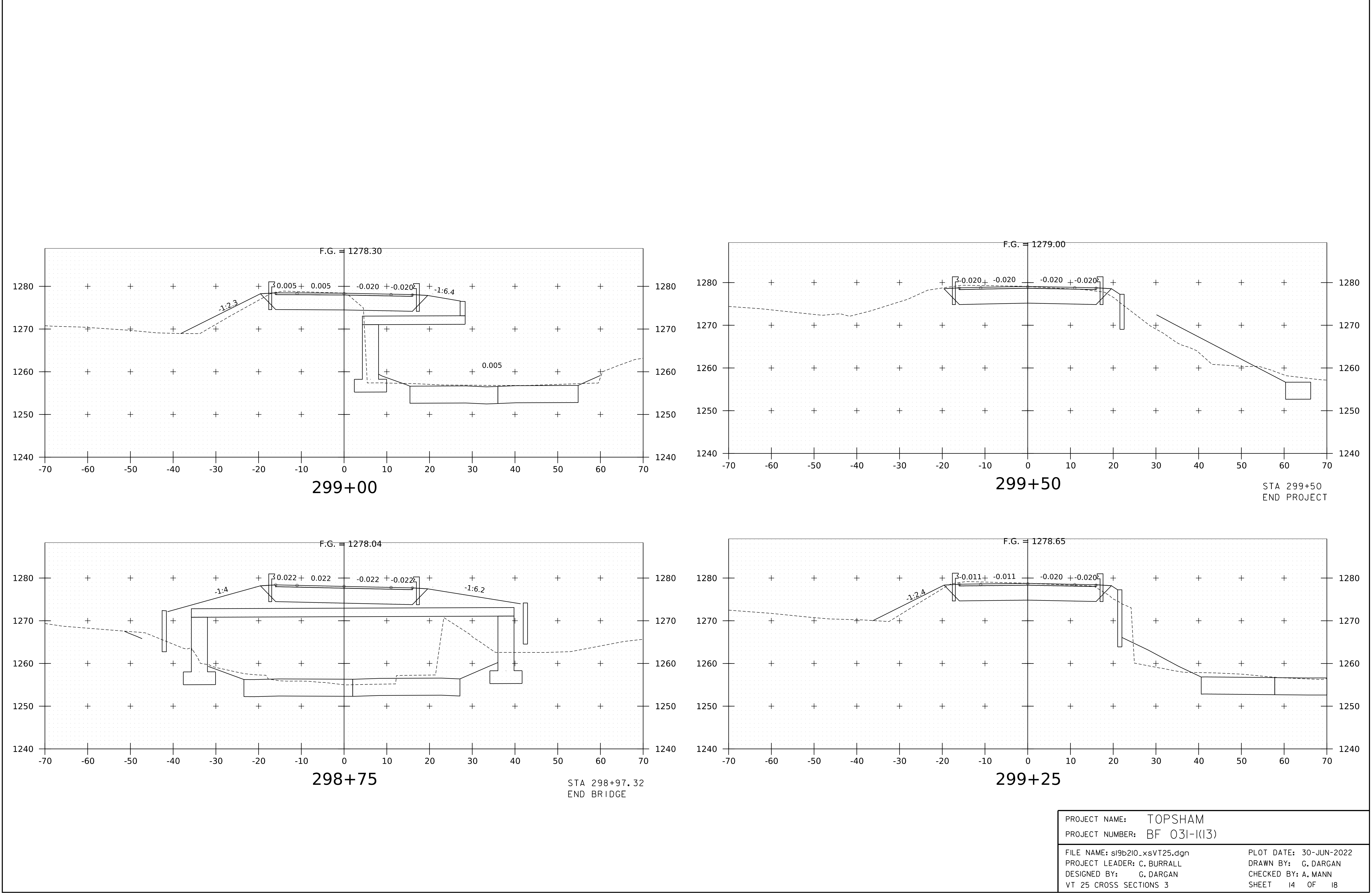
PLOT DATE: 30-JUN-2022  
DRAWN BY: G. DARGAN  
CHECKED BY: A. MANN  
SHEET 12 OF 18



PROJECT NAME: TOPSHAM  
PROJECT NUMBER: BF 031-1(13)

FILE NAME: si9b210_xsVT25.dgn  
PROJECT LEADER: C. BURRALL  
DESIGNED BY: G. DARGAN  
VT 25 CROSS SECTIONS 2

PLOT DATE: 30-JUN-2022  
DRAWN BY: G. DARGAN  
CHECKED BY: A. MANN  
SHEET 13 OF 18



PROJECT NAME: TOPSHAM

PROJECT NUMBER: BF 031-I(13)

FILE NAME: s19b210_xsVT25.dgn

PROJECT LEADER: C. BURRALL

DESIGNED BY: G. DARGAN

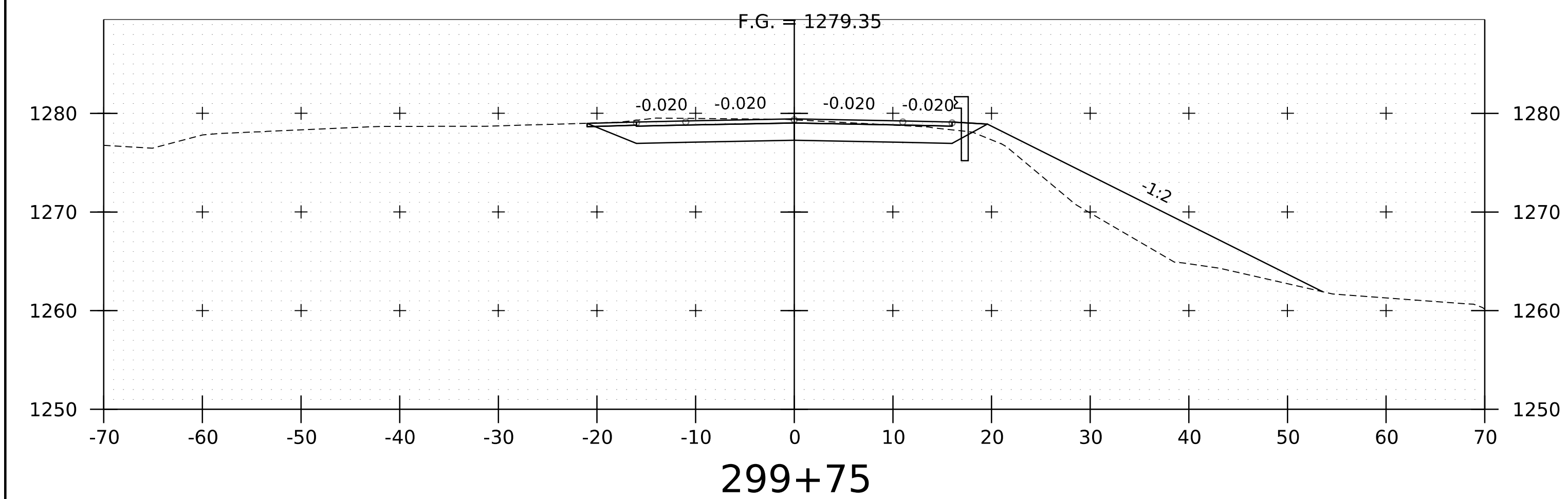
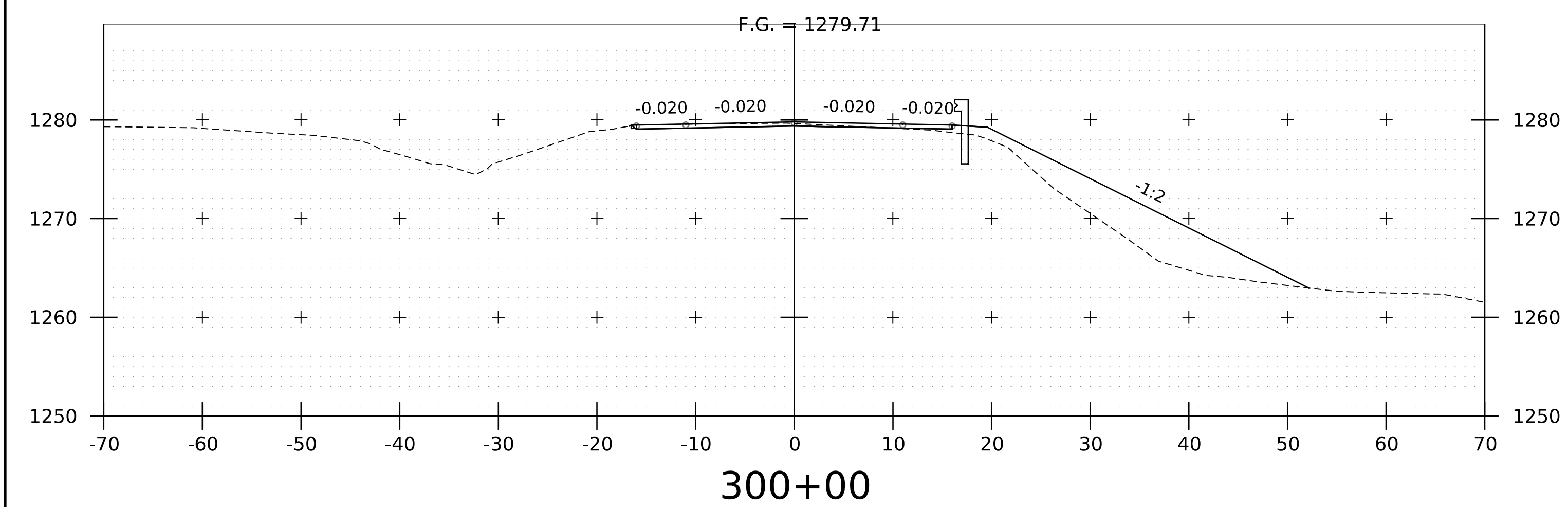
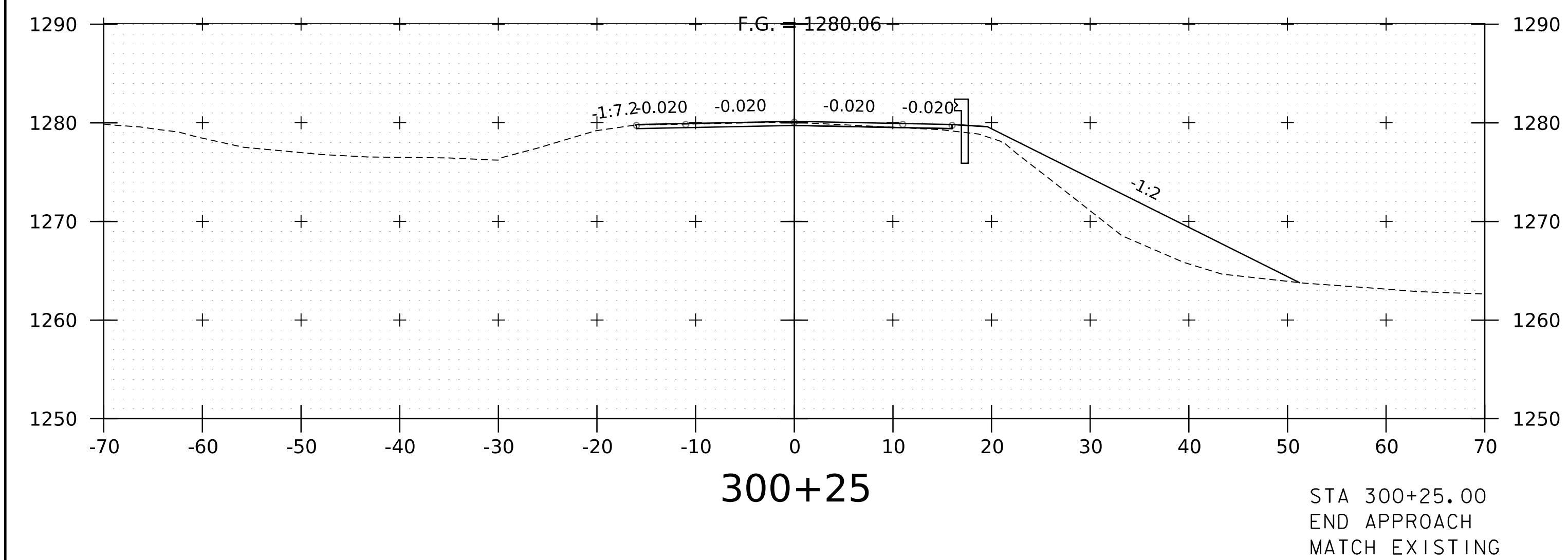
VT 25 CROSS SECTIONS 3

PLOT DATE: 30-JUN-2022

DRAWN BY: G. DARGAN

CHECKED BY: A. MANN

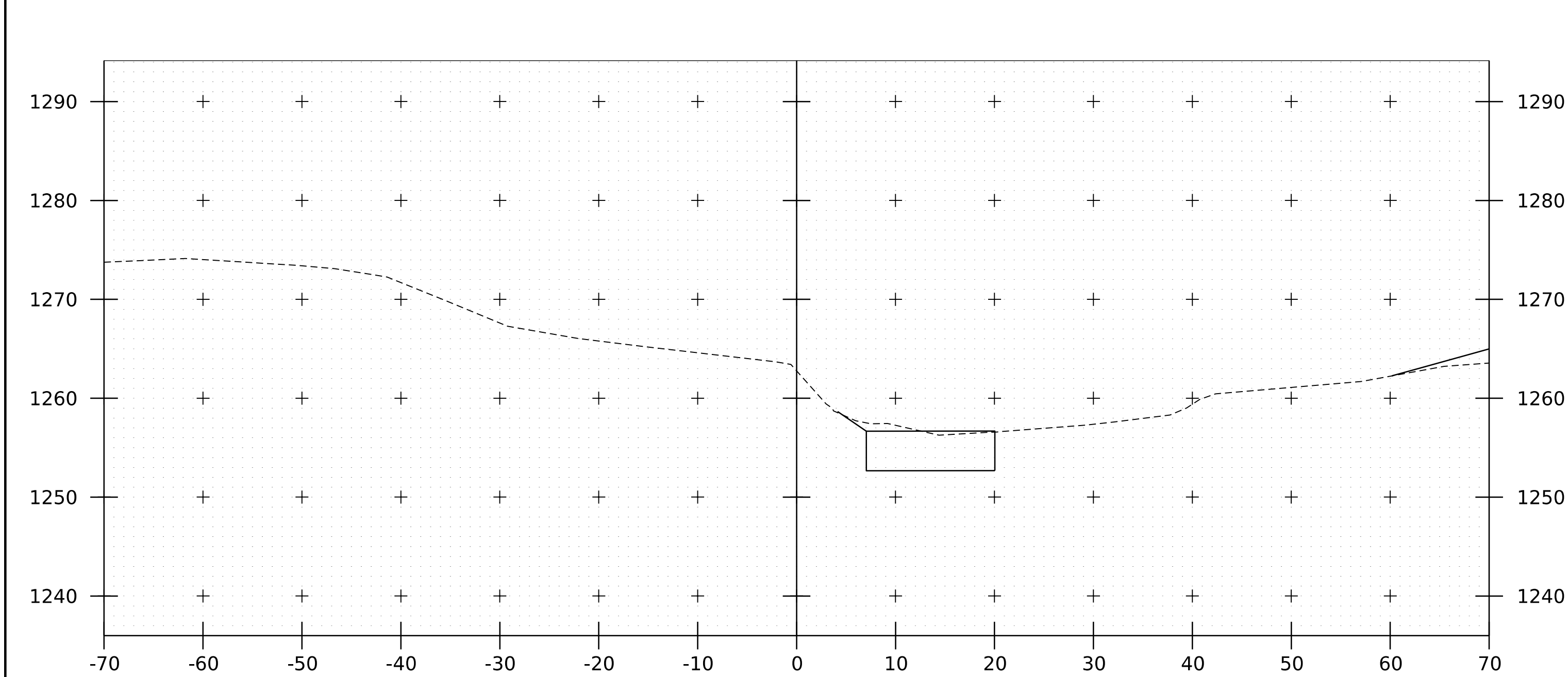
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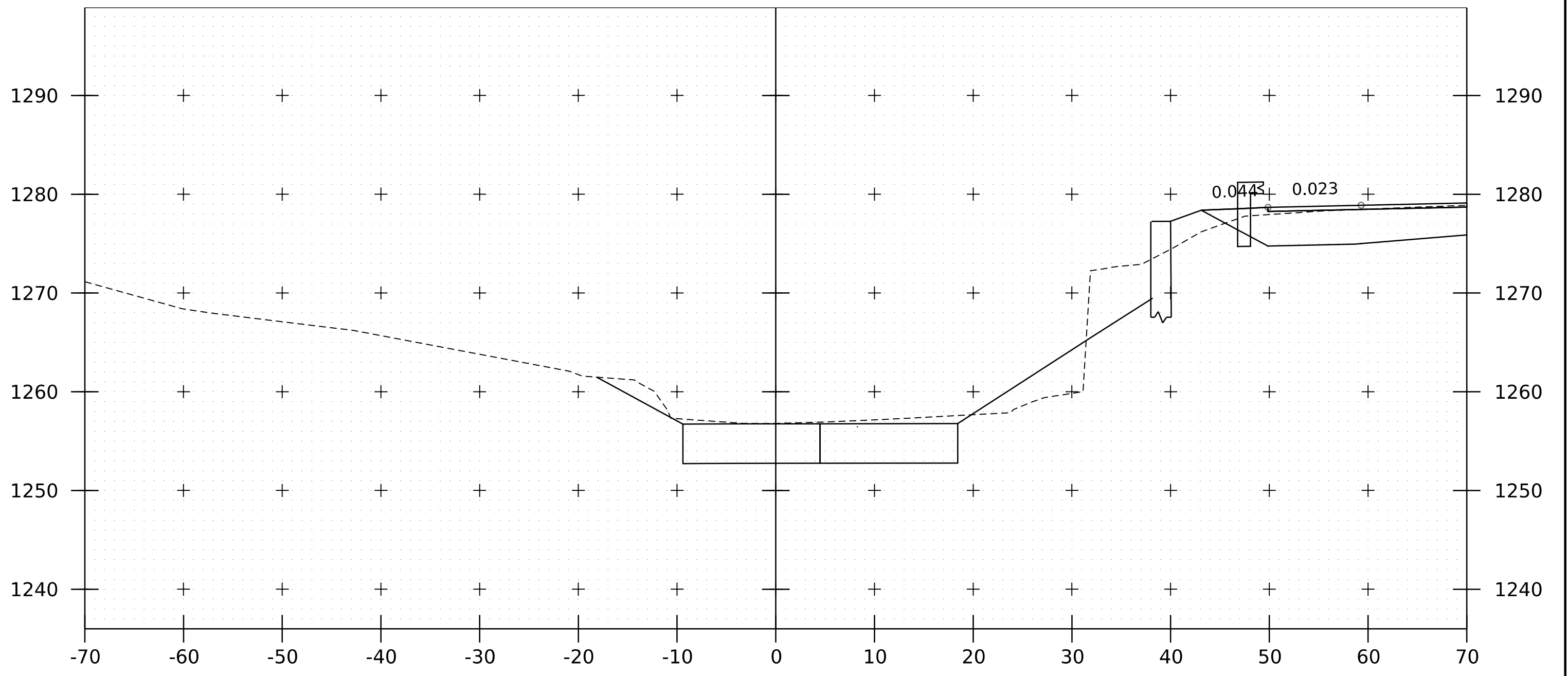
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PROJECT NUMBER: BF 013-1(13)

FILE NAME: sl9b210.xsvt.dgn  
PROJECT LEADER: C. BURRALL  
DESIGNED BY: G. DARGAN  
VT 25 CROSS SECTIONS 4

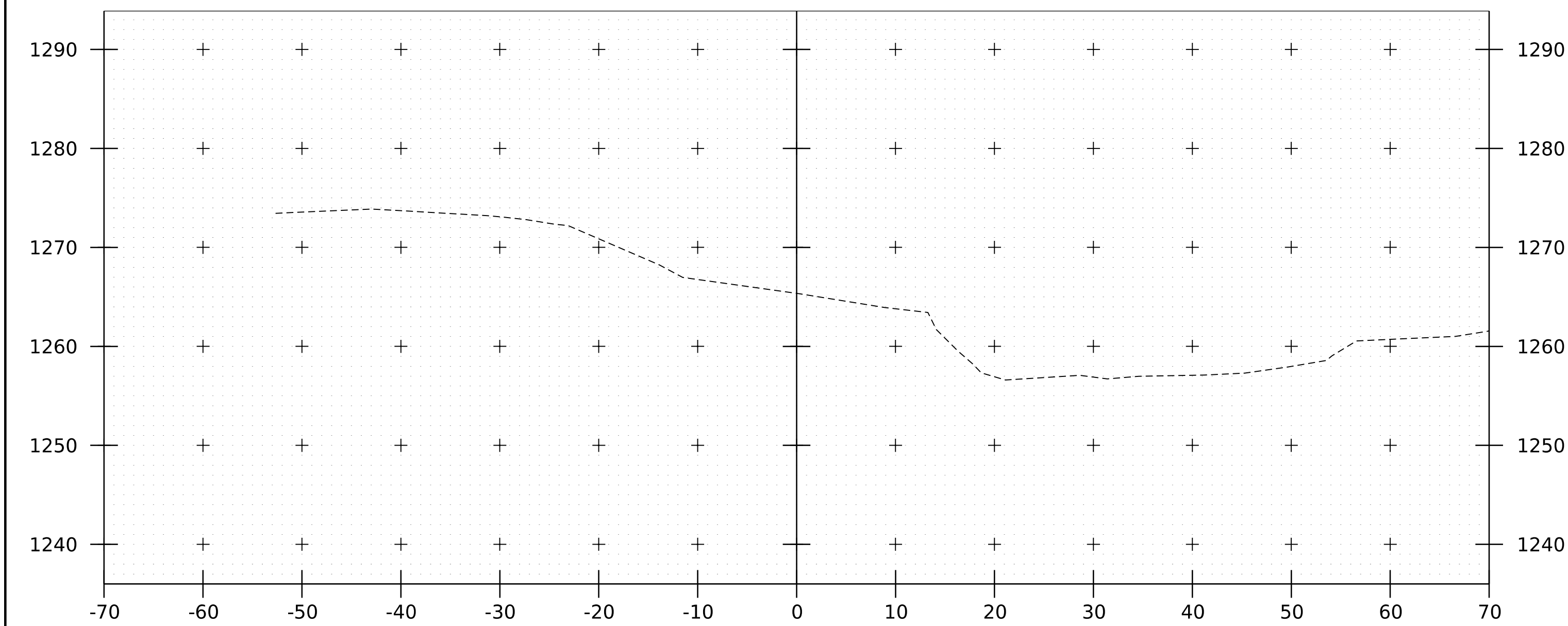
PLOT DATE: 30-JUN-2022  
DRAWN BY: G. DARGAN  
CHECKED BY: A. MANN  
SHEET 15 OF 18



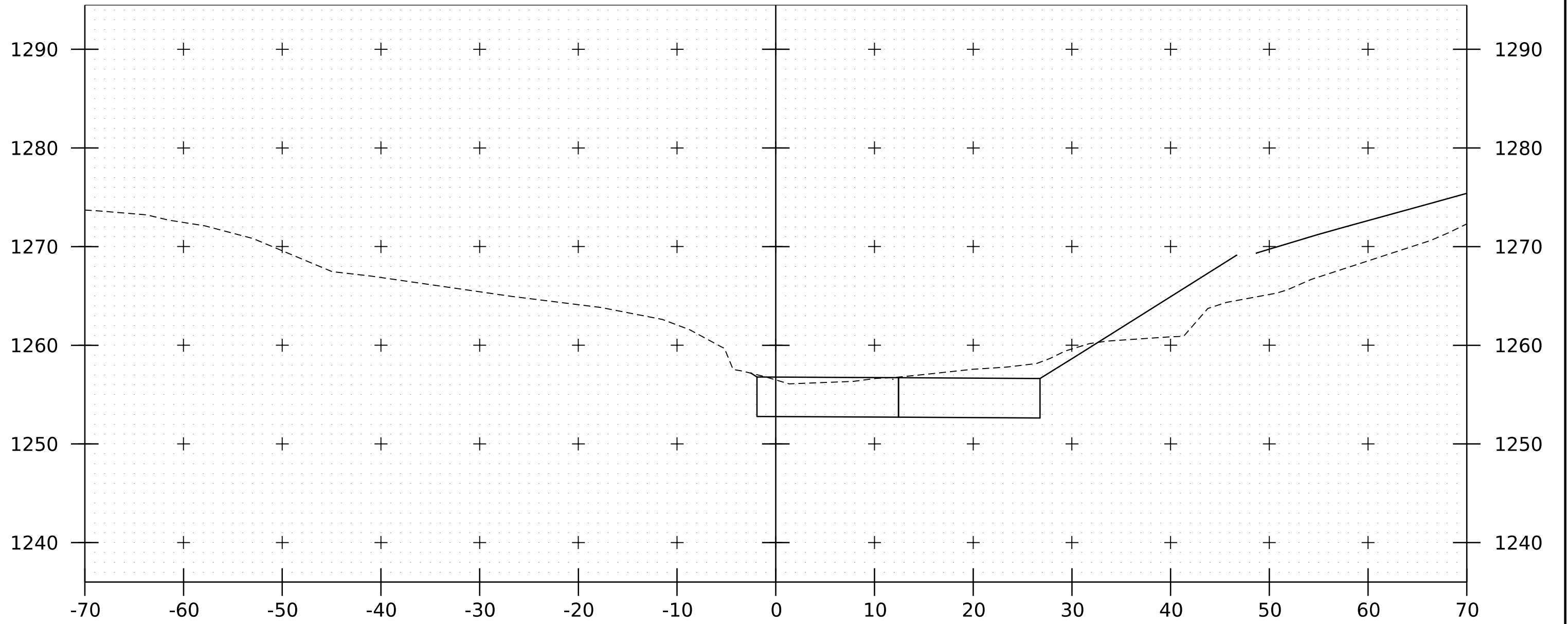
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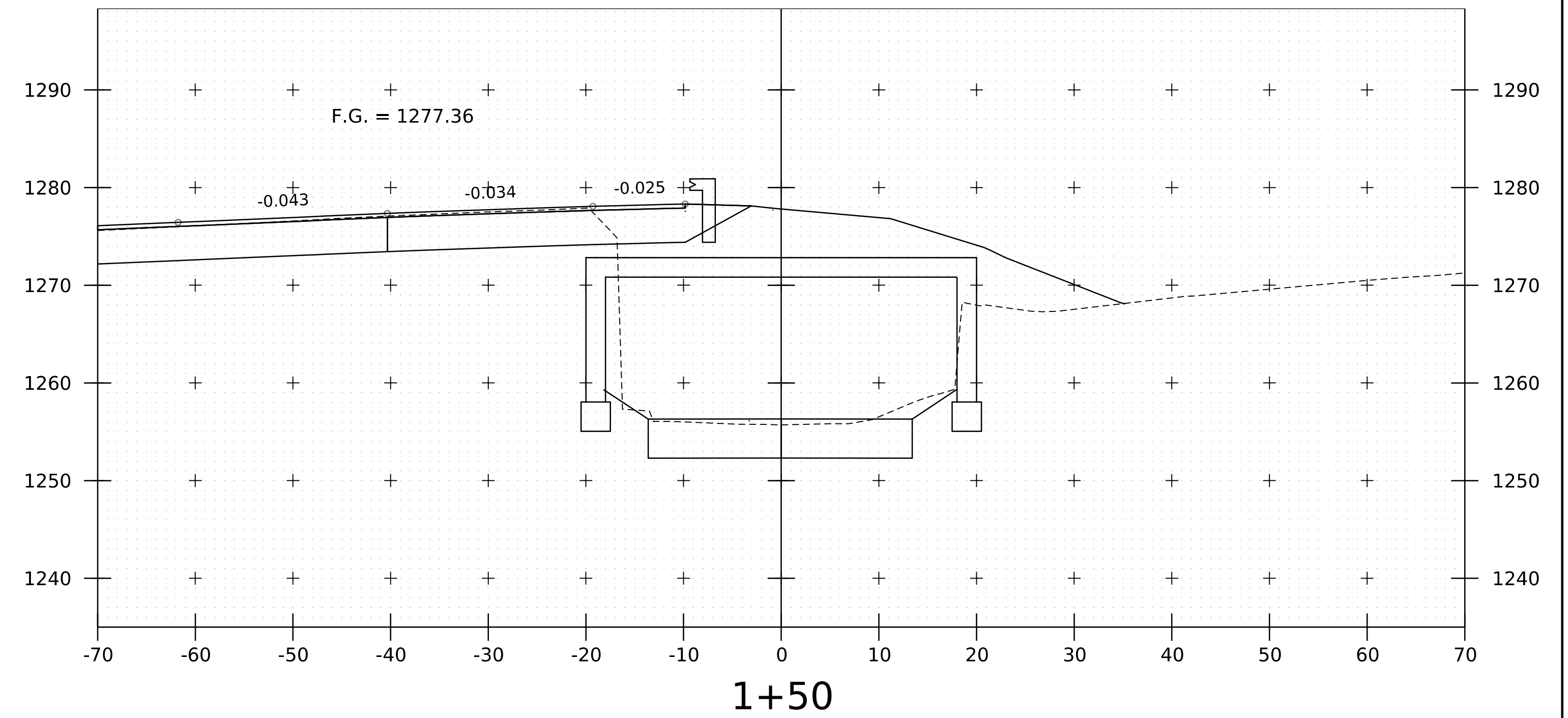
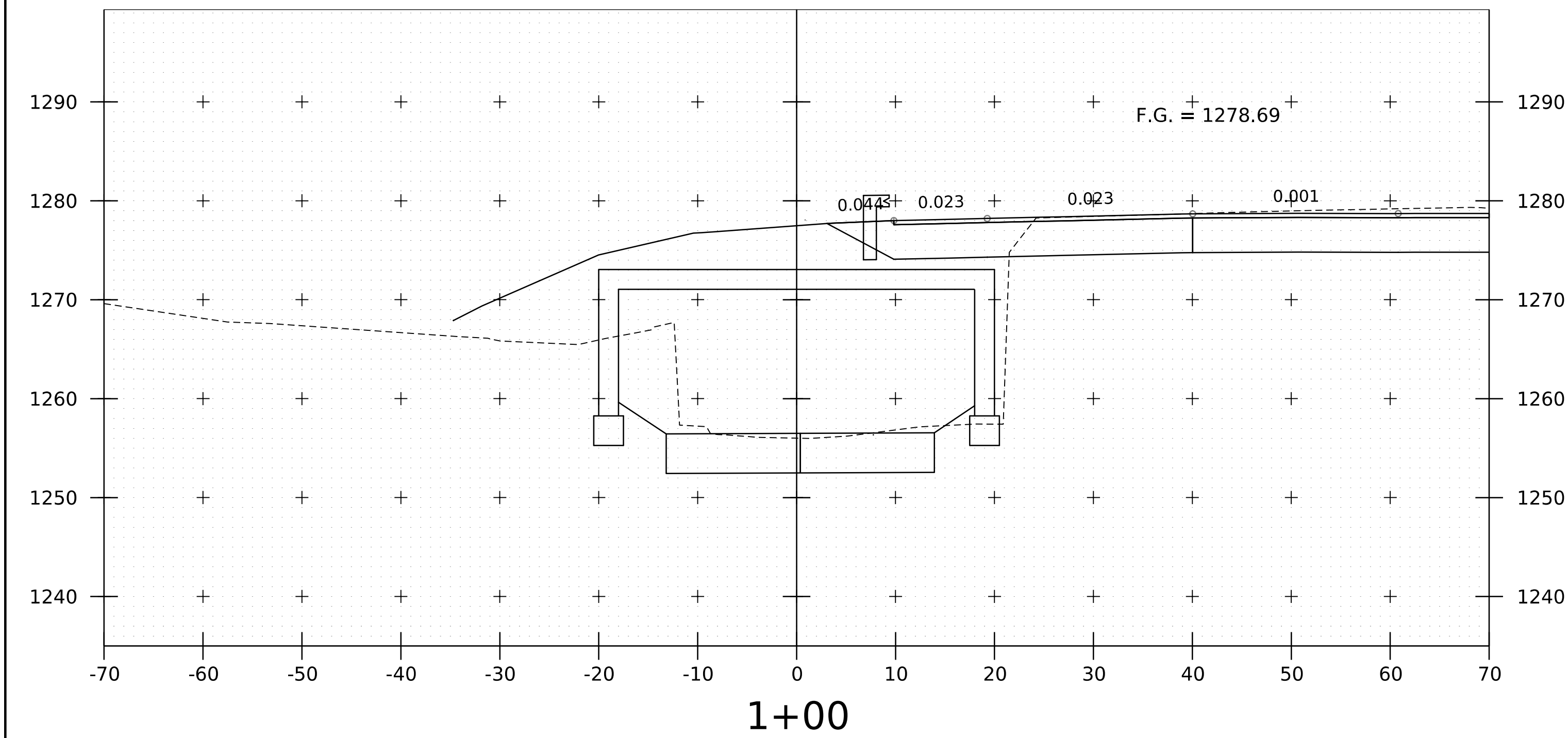
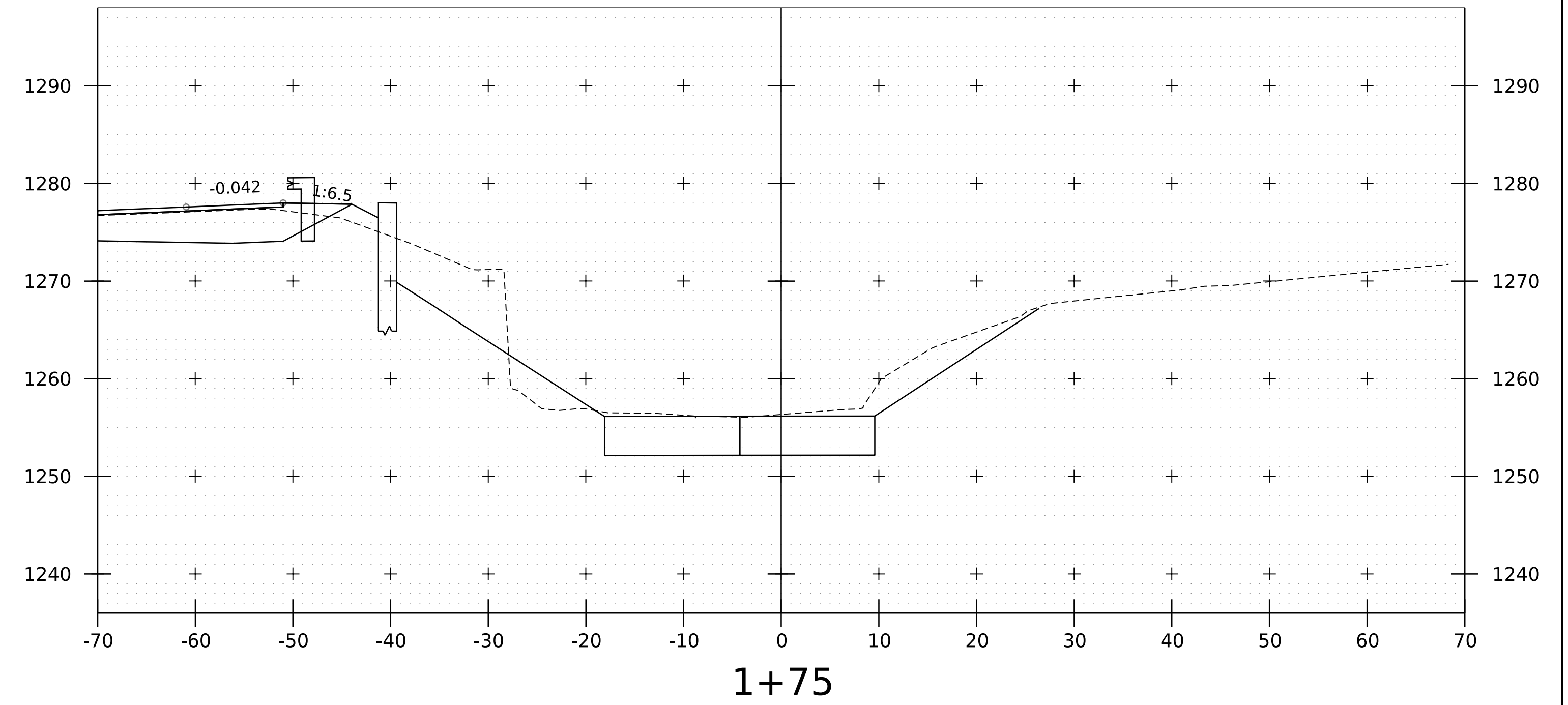
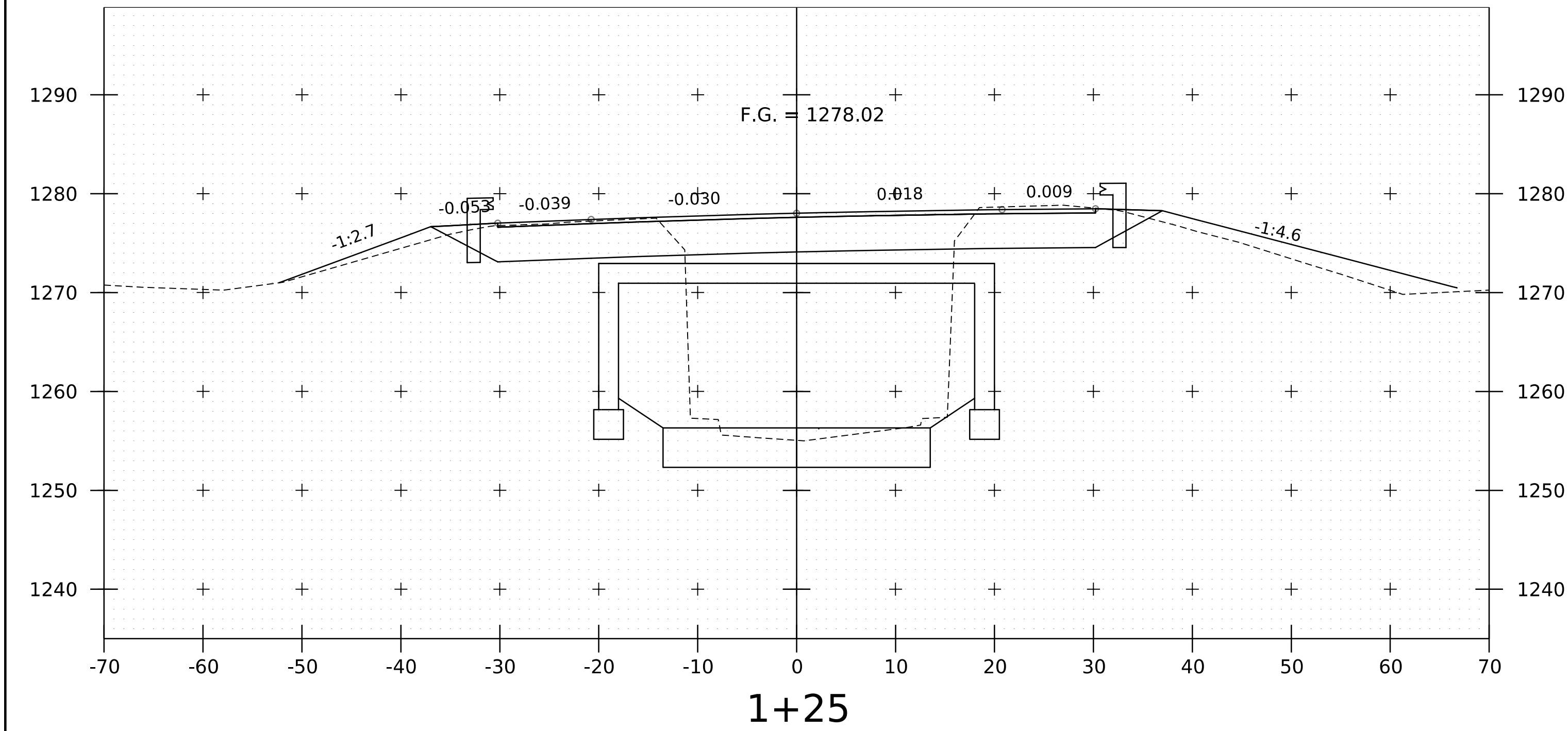


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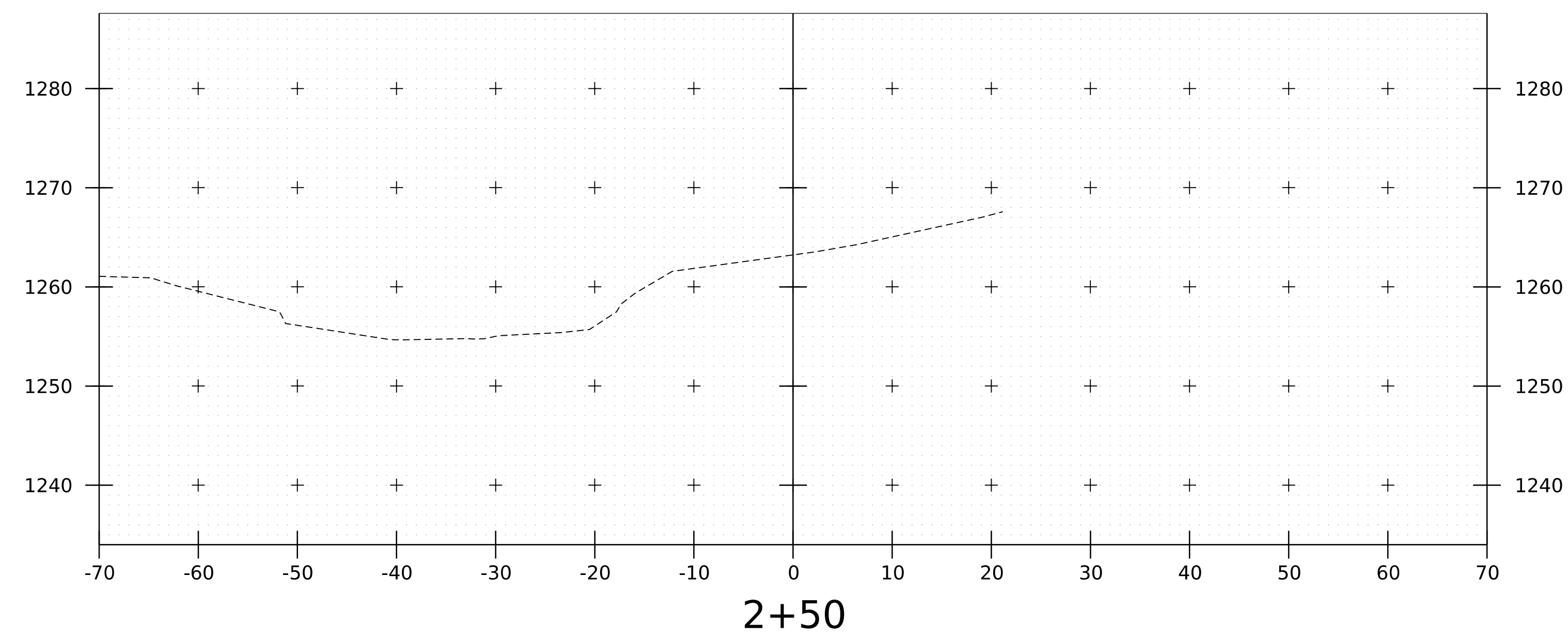
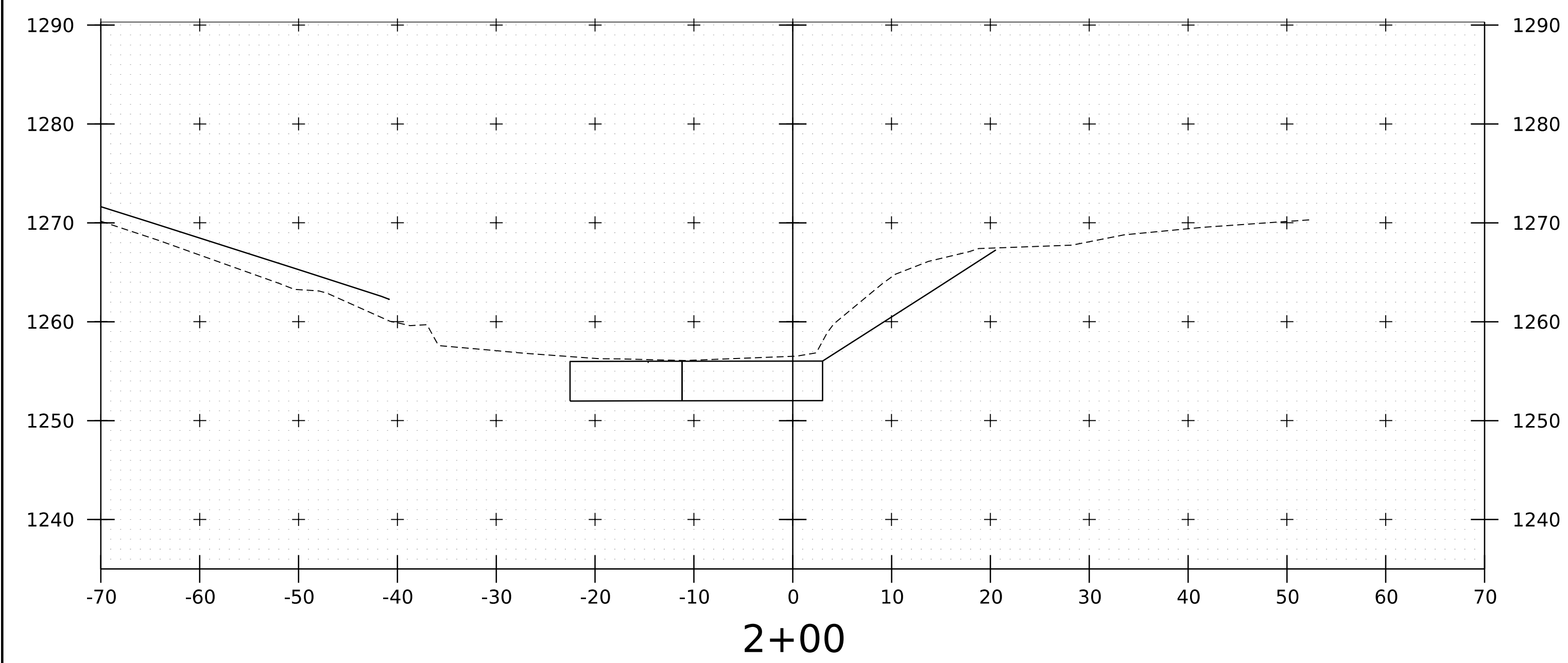
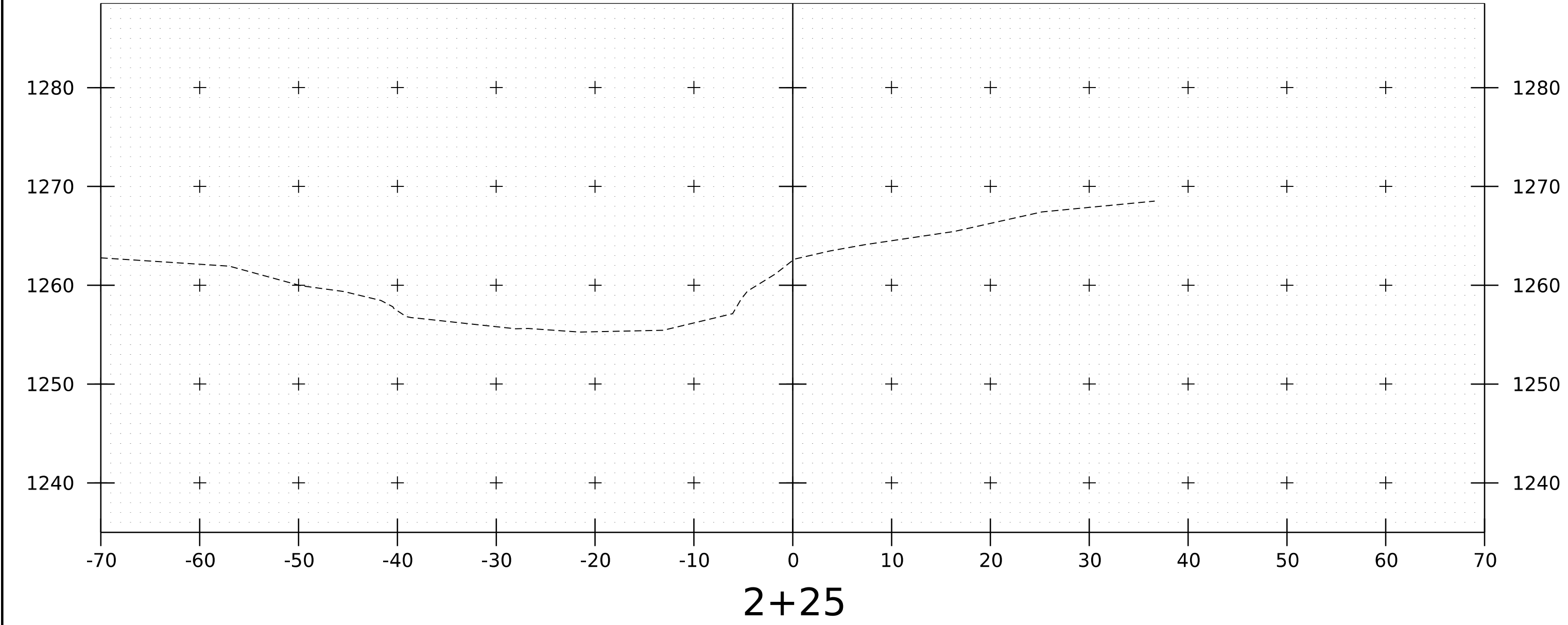


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PROJECT NAME: TOPSHAM	
PROJECT NUMBER: BF 031-I(13)	
FILE NAME: sl9b210_xsChannel	PLOT DATE: 30-JUN-2022
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. MANN
ChannelCross Sections I	SHEET 16 OF 18



PROJECT NAME: TOPSHAM	
PROJECT NUMBER: BF 031-1(13)	
FILE NAME: s19b210_xsChannel.dgn	PLOT DATE: 30-JUN-2022
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. MANN
CHANNEL CROSS SECTIONS 2	SHEET 17 OF 18



PROJECT NAME: TOPSHAM	
PROJECT NUMBER: BF 031-1(13)	
FILE NAME: sl9b210_xsChannel.dgn	PLOT DATE: 30-JUN-2022
PROJECT LEADER: C. BURRALL	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. MANN
CHANNEL CROSS SECTIONS 3	SHEET 18 OF 18