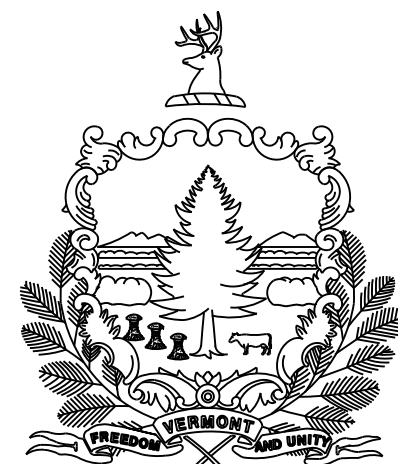


STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF MT. HOLLY

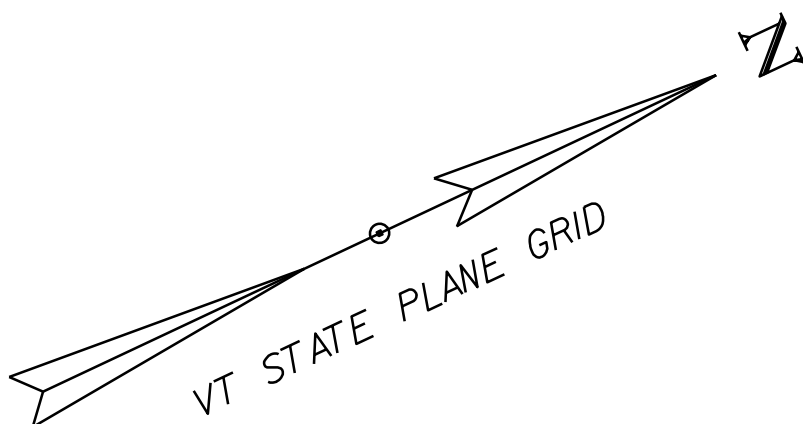
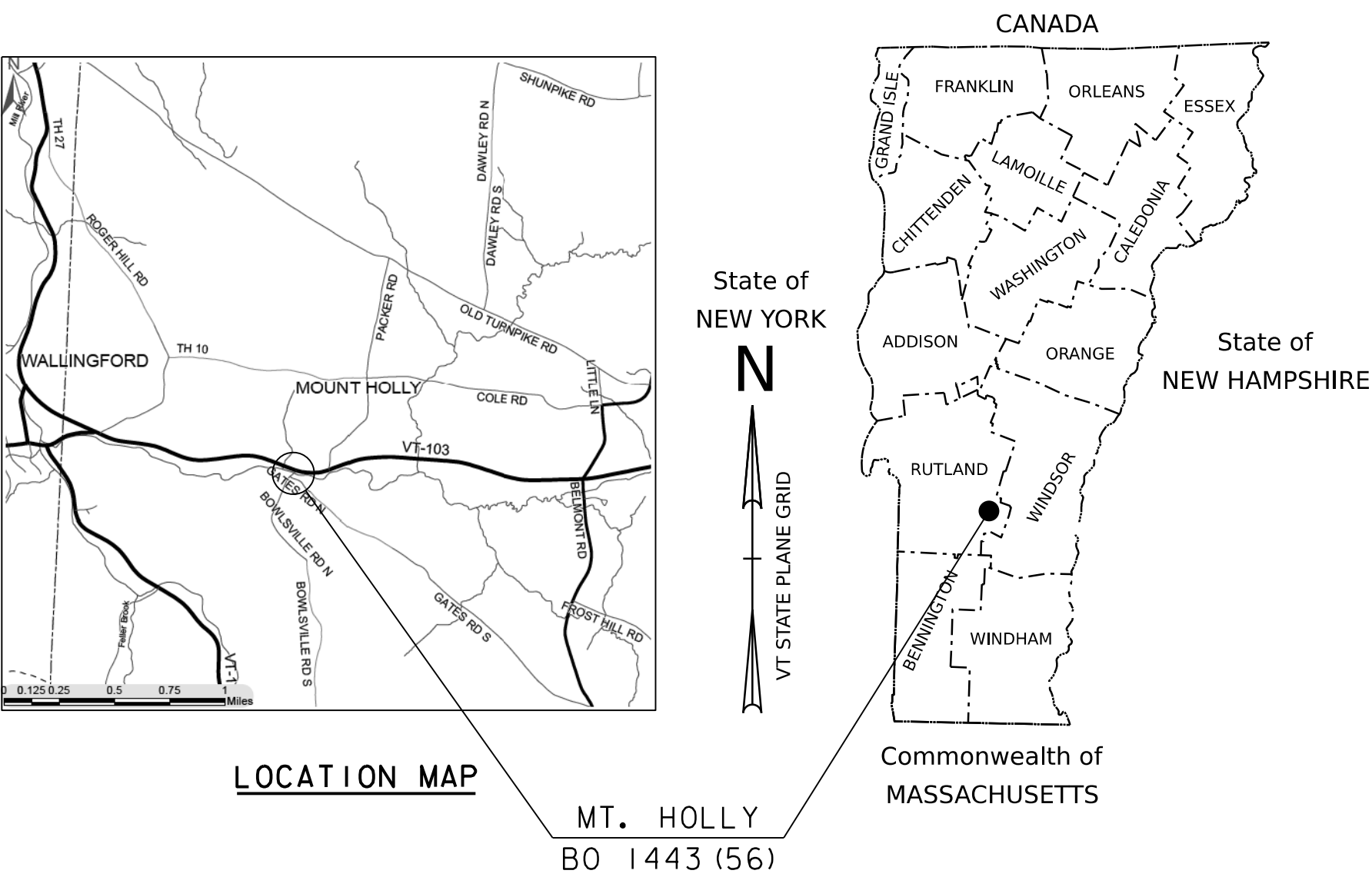
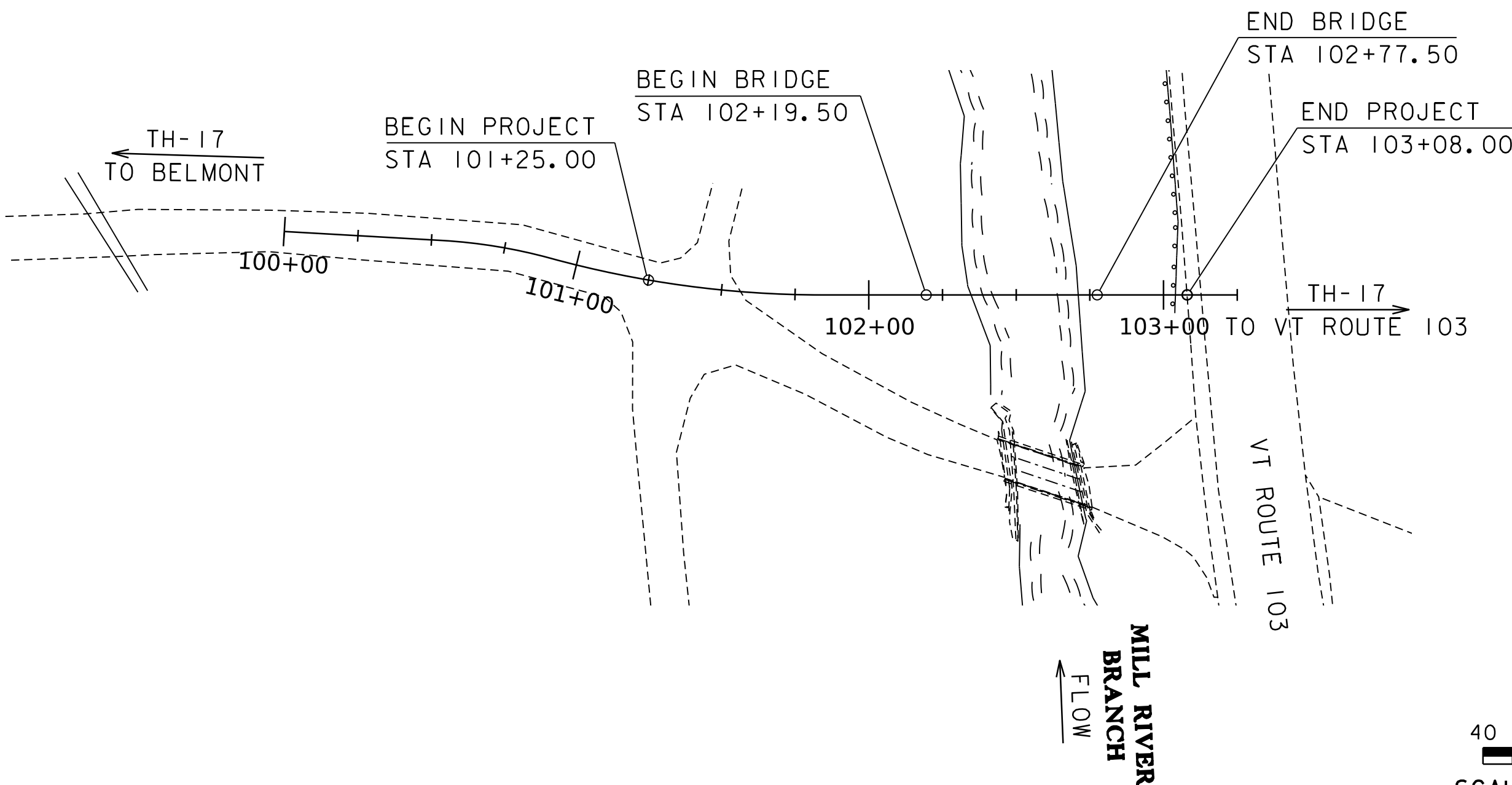
COUNTY OF RUTLAND

ROUTE NO : TOWN HIGHWAY 17 (NORTH BOWLSVILLE ROAD) BRIDGE NO : 64

PROJECT LOCATION : LOCATED ON NORTH BOWLSVILLE ROAD (TOWN HIGHWAY 17) IN MT. HOLLY, OVER THE MILL RIVER BRANCH ABOUT 50 FEET SOUTHWEST FROM THE INTERSECTION OF BOWLSVILLE ROAD AND VT ROUTE 103.

PROJECT DESCRIPTION : NEW ALIGNMENT OF TH-17 INCLUDING THE REALIGNMENT OF TWO SIDE ROADS AND NEW BRIDGE NO. 64 ON TH 17 (NORTH BOWLSVILLE ROAD) IN MT. HOLLY, OVER MILL RIVER BRANCH.

LENGTH OF STRUCTURE : 58.00 FEET.
LENGTH OF ROADWAY : 125.00 FEET.
LENGTH OF PROJECT : 183.00 FEET.

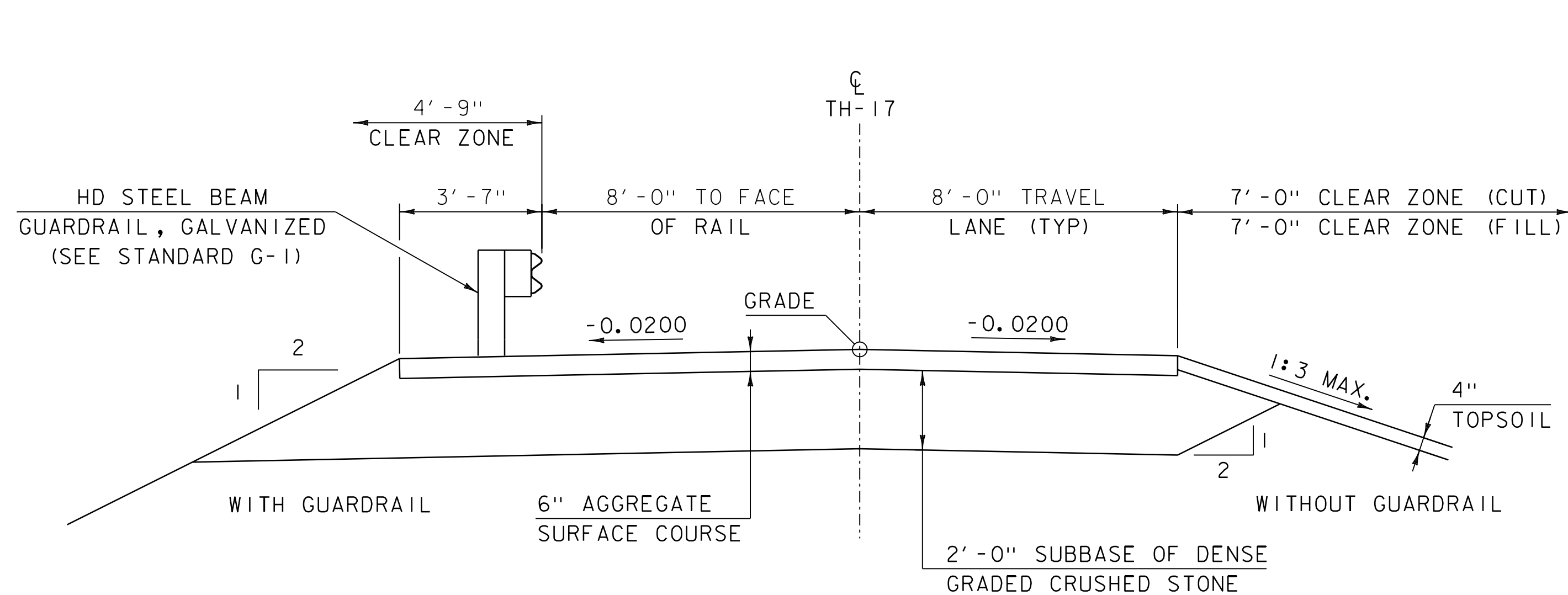


CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2024, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 27, 2023 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL		2
SURVEYED BY :	VTRANS	
SURVEYED DATE :	6. 22. 2021	
DATUM		
VERTICAL	NAVD 88	
HORIZONTAL	NAD 83 (2011)	

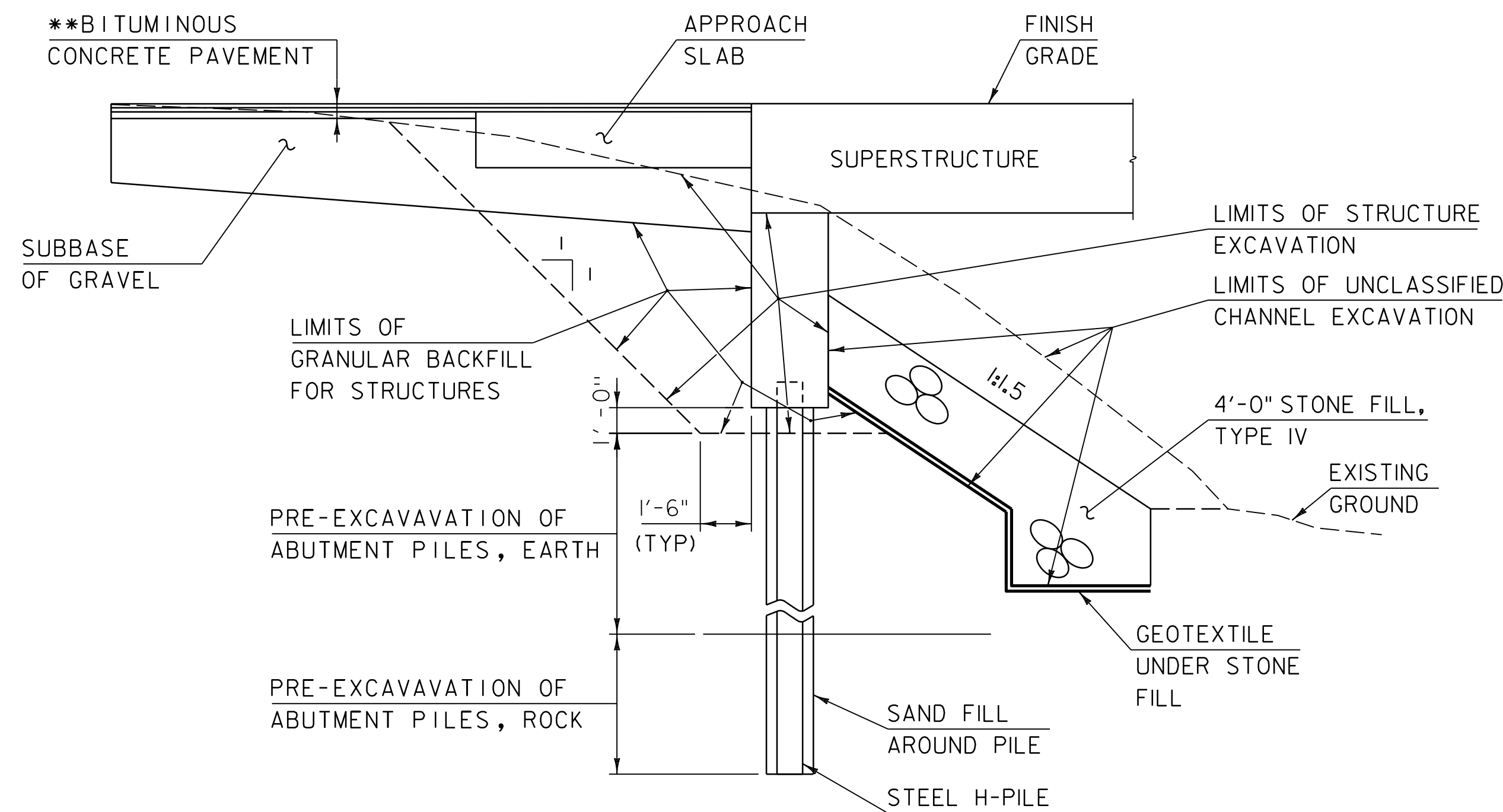
PRELIMINARY PLANS
24-MAY-2024

HIGHWAY DIVISION, CHIEF ENGINEER	
APPROVED _____	DATE _____
PROJECT MANAGER :	DAVID PETERSON, P. E.
PROJECT NAME :	MT. HOLLY
PROJECT NUMBER :	BO 1443 (56)
SHEET 1 OF 27 SHEETS	



TH-17 TYPICAL SECTION

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

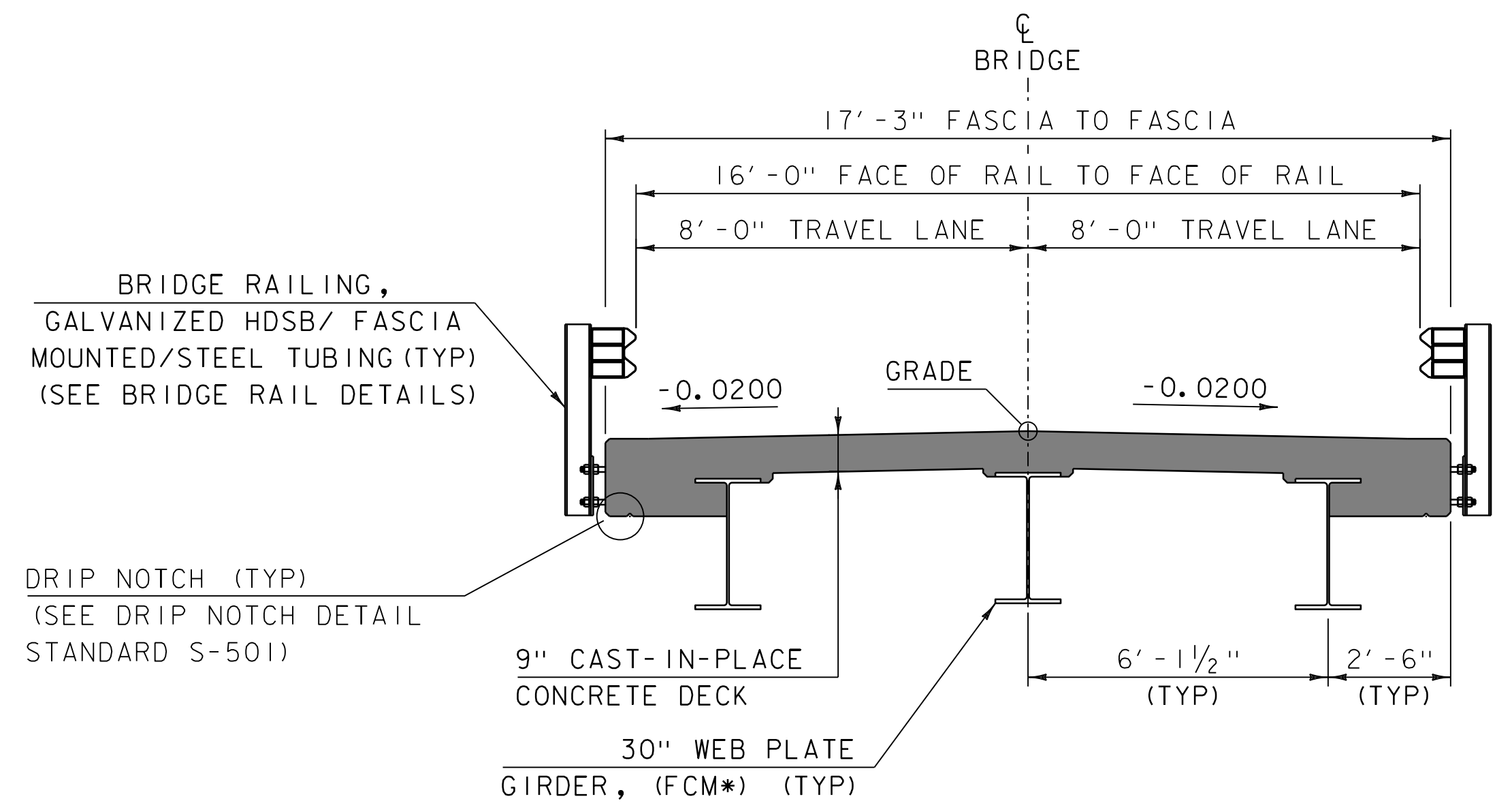


EARTHWORK SECTION ABUTMENT
(NOT TO SCALE)

** (2) LIFTS $1\frac{1}{2}"$ BITUMINOUS CONCRETE PAVEMENT, TYPE IVS, QA TIER III OVER
(1) LIFT 2" BITUMINOUS CONCRETE PAVEMENT, TYPE IIIS, QA TIER III

PAVEMENT SPECIFICATIONS

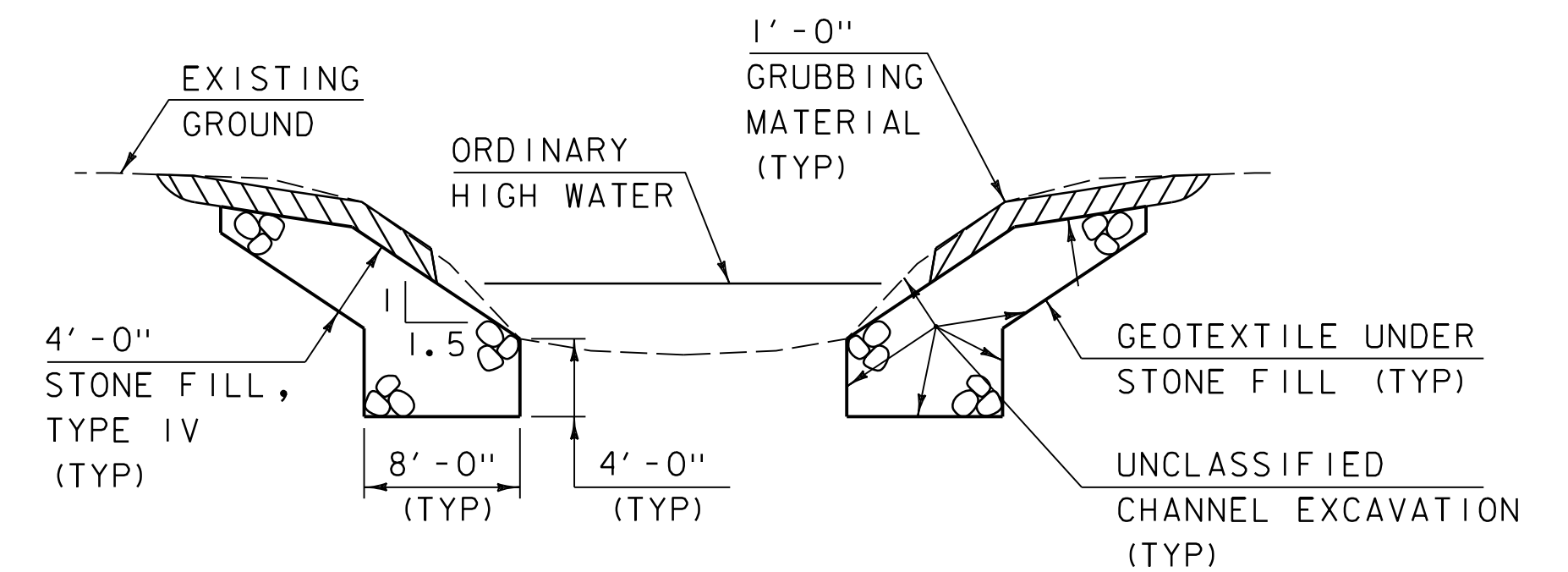
DESIGN LANE/DESIGN LIFE ESALS	4,020
PERFORMANCE GRADE ASPHALT BINDER, PAVER PLACED	58E-28
PERFORMANCE GRADE ASPHALT BINDER, NON-PAVER PLACED	58E-28
DESIGN NUMBER OF GYRATIONS	50



BRIDGE TYPICAL SECTION

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

* FCM = FRACTURE CRITICAL MEMBER



TYPICAL CHANNEL SECTION
(NOT TO SCALE)

- 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.
- GRUBBING MATERIAL SHALL BE PLACED UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. THIS MATERIAL SHALL NOT BE PLACED IN AREAS THAT WILL SEE CONCENTRATED FLOWS RESULTING FROM SURFACE WATER RUNOFF. GRUBBING MATERIAL MAY BE OMITTED IF LESS THAN 3 FEET IN WIDTH BENEATH A STRUCTURE. SEE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.

MATERIAL TOLERANCES
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- $\frac{1}{4}"$
- AGGREGATE SURFACE COURSE	+/- $\frac{1}{2}"$
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: MT. HOLLY
PROJECT NUMBER: BO 1443(56)

FILE NAME: sl2j642typ.dgn
PROJECT LEADER: D. PETERSON
DESIGNED BY: R. HOOD
TYPICAL SECTIONS

PLOT DATE: 20-MAY-2025
DRAWN BY: R. HOOD
CHECKED BY: D. PETERSON
SHEET 3 OF 27

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
xxxxxxxxxxxxxxxxxxxxxxxx	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 ————	L ———— L	PROPERTY LINE (P/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 ▣ 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 — 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: MT. HOLLY

PROJECT NUMBER: BO 1443(56)

FILE NAME: sl2j642legend.dgn

PROJECT LEADER: D. PETERSON

DESIGNED BY: G. ROKES

CONVENTIONAL SYMBOLGY LEGEND

PLOT DATE: 20-MAY-2025

DRAWN BY: G. ROKES

CHECKED BY: D. PETERSON

SHEET 4 OF 27

PRIMARY CONTROL

HVCTRL #1  
NORTH = 347530.1690  
EAST = 1558818.5240  
ELEV. = 1442.5500

MOUNT HOLLY, VT.  
THE MARK IS JUST SOUTHWEST OF THE INTERSECTION OF SUMMIT ROAD AND OLD TURNPIKE ROAD. IT IS SET 10 CM BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT AND IS ABOUT 81 METERS WEST OF MARK F 62. IT IS 10.6 M SOUTH OF AND 1 M LOWER THAN THE CENTERLINE OF VT ROUTE 103, 54.7 M SOUTHWEST OF THE CENTERLINE OF SUMMIT ROAD, 16.1 M NORTH OF THE NORTH RAIL OF THE GREEN MOUNTAIN RAILROAD AND 26.8 M SOUTH OF AND ACROSS THE ROAD FROM THE CENTERLINE OF OLD TURNPIKE ROAD

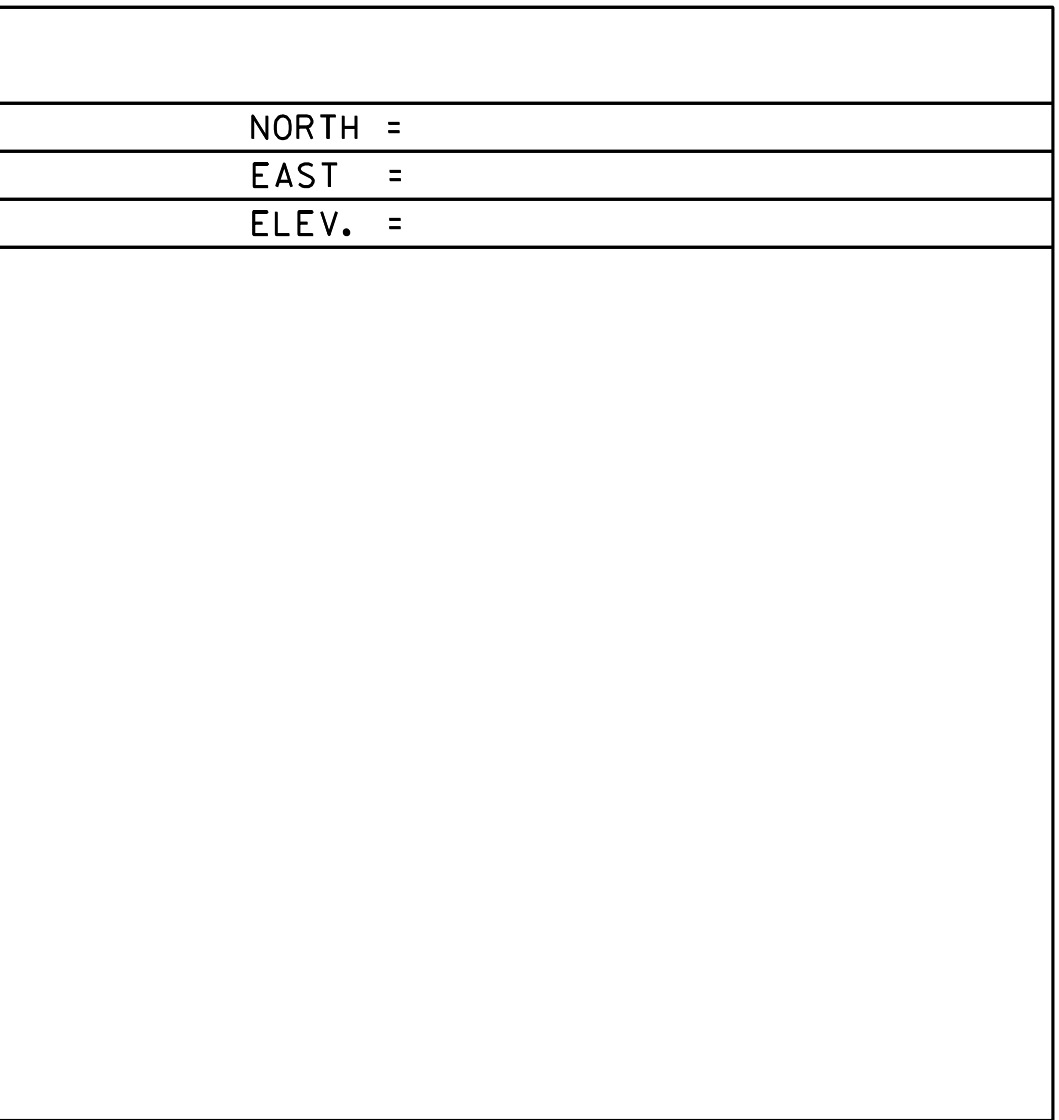
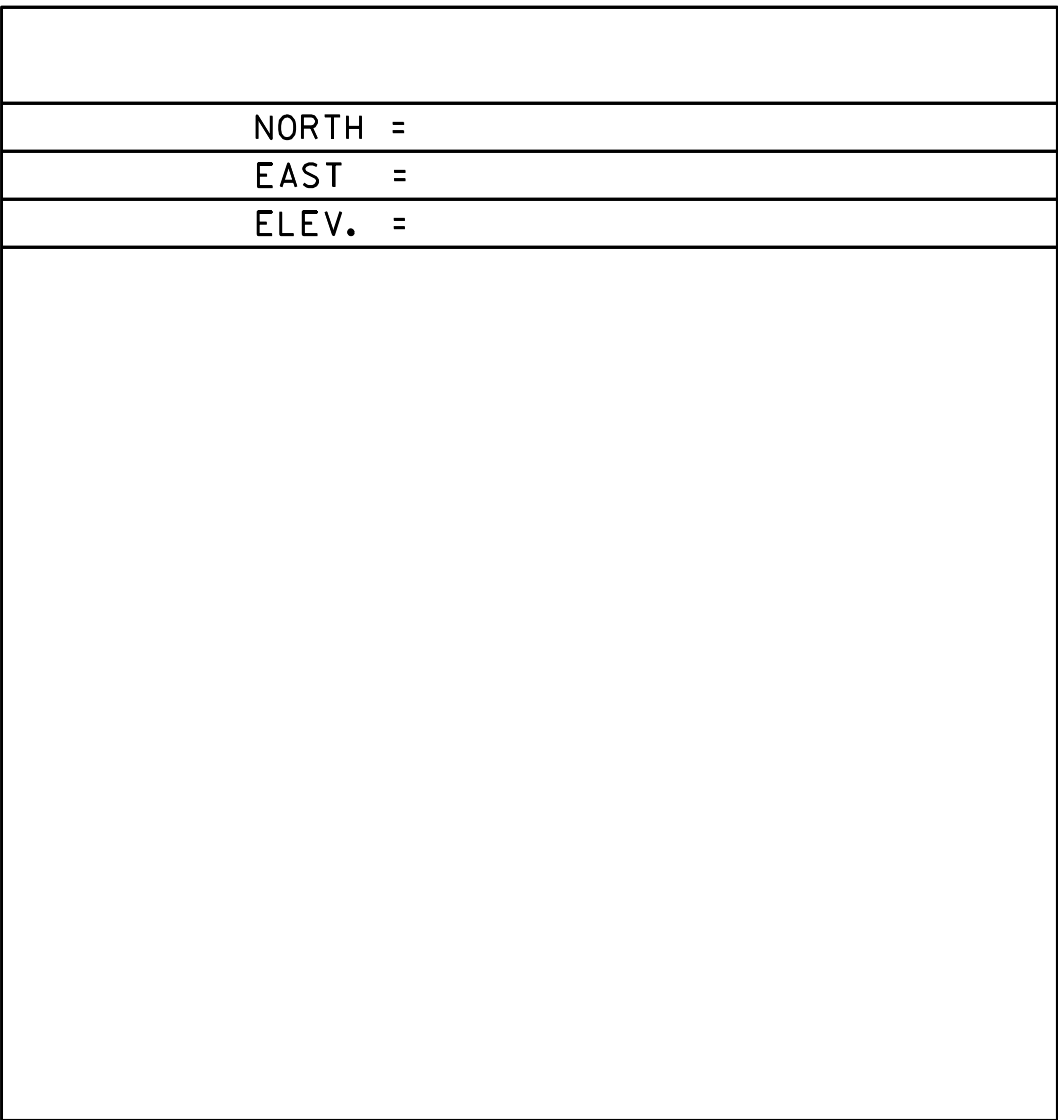
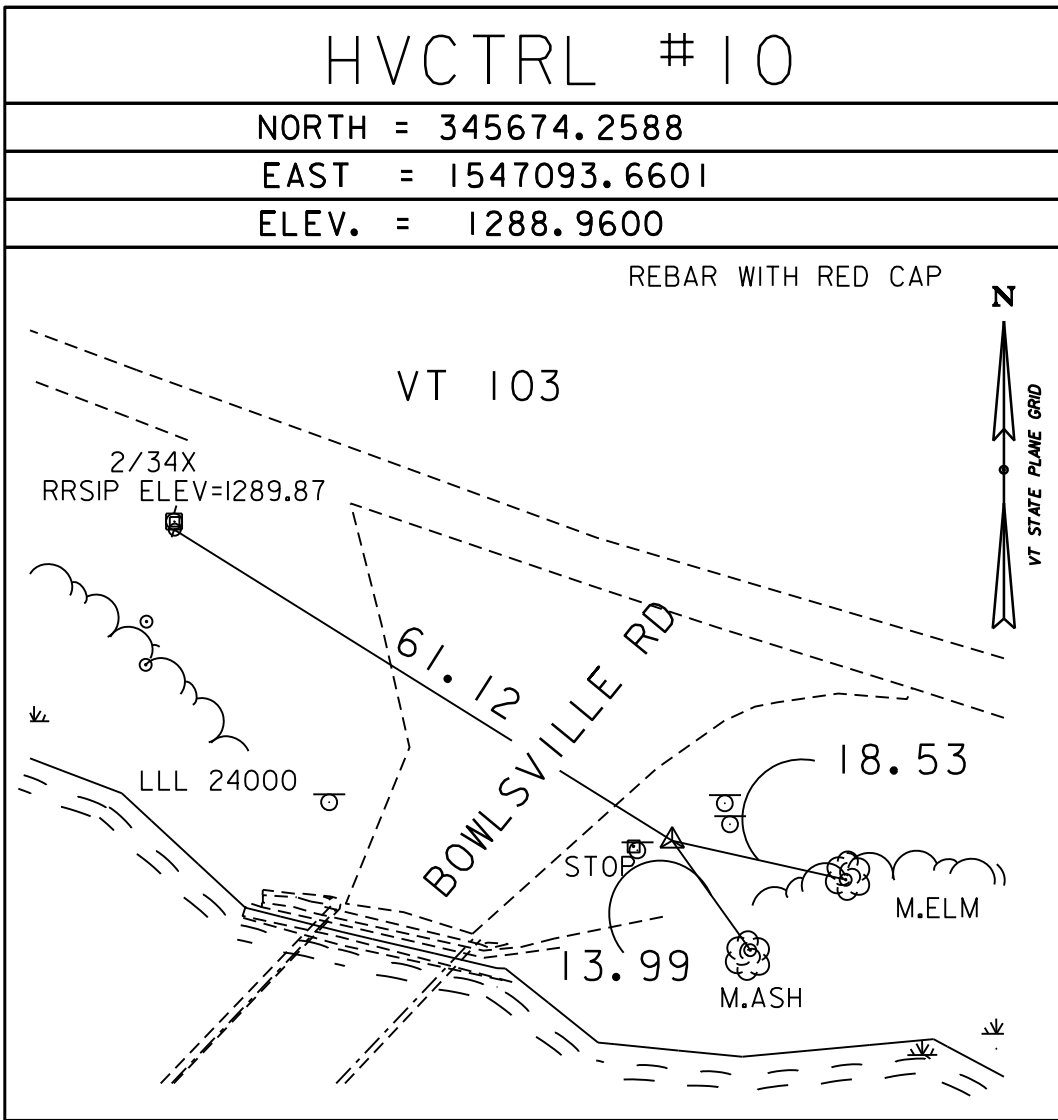
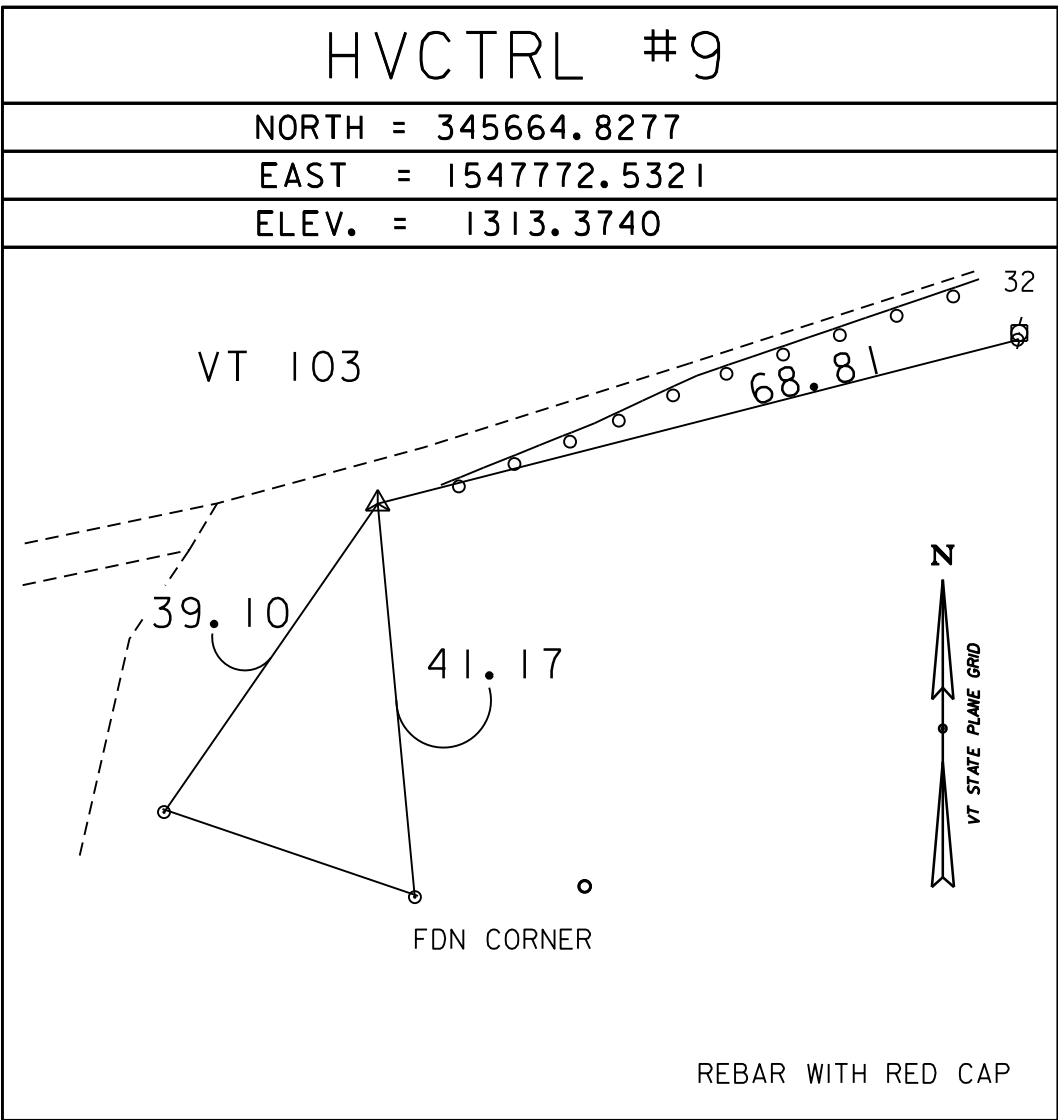
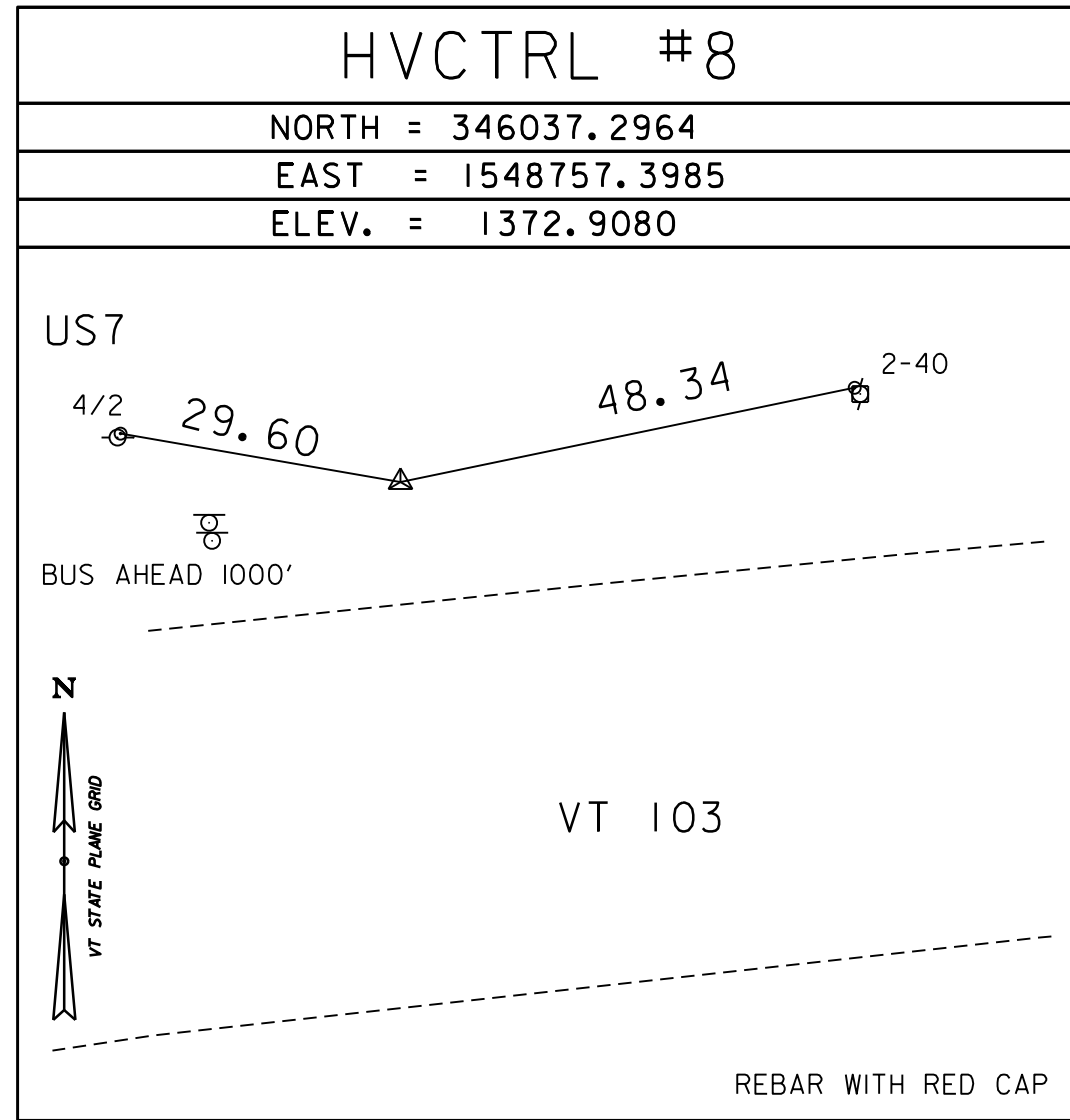
HVCTRL #2  
NORTH = 346349.9670  
EAST = 1556840.1670  
ELEV. = 1434.9500

LOCATION MOUNT HOLLY  
TO REACH FROM THE INTERSECTION OF VT 103 AND VT 140 IN MOUNT HOLLY, GO EAST ALONG VT 103, 2.9 MILES TO THE MARK ON THE RIGHT. IT IS A REBAR WITH A RED CAP. IT IS 0.2 FEET LOWER THEN THE ROAD. IT IS ACROSS FROM A DRIVE LEADING TO HOUSE NUMBER 573.

HVCTRL #20  
NORTH = 345560.7160  
EAST = 1546920.7480  
ELEV. = 1306.4900

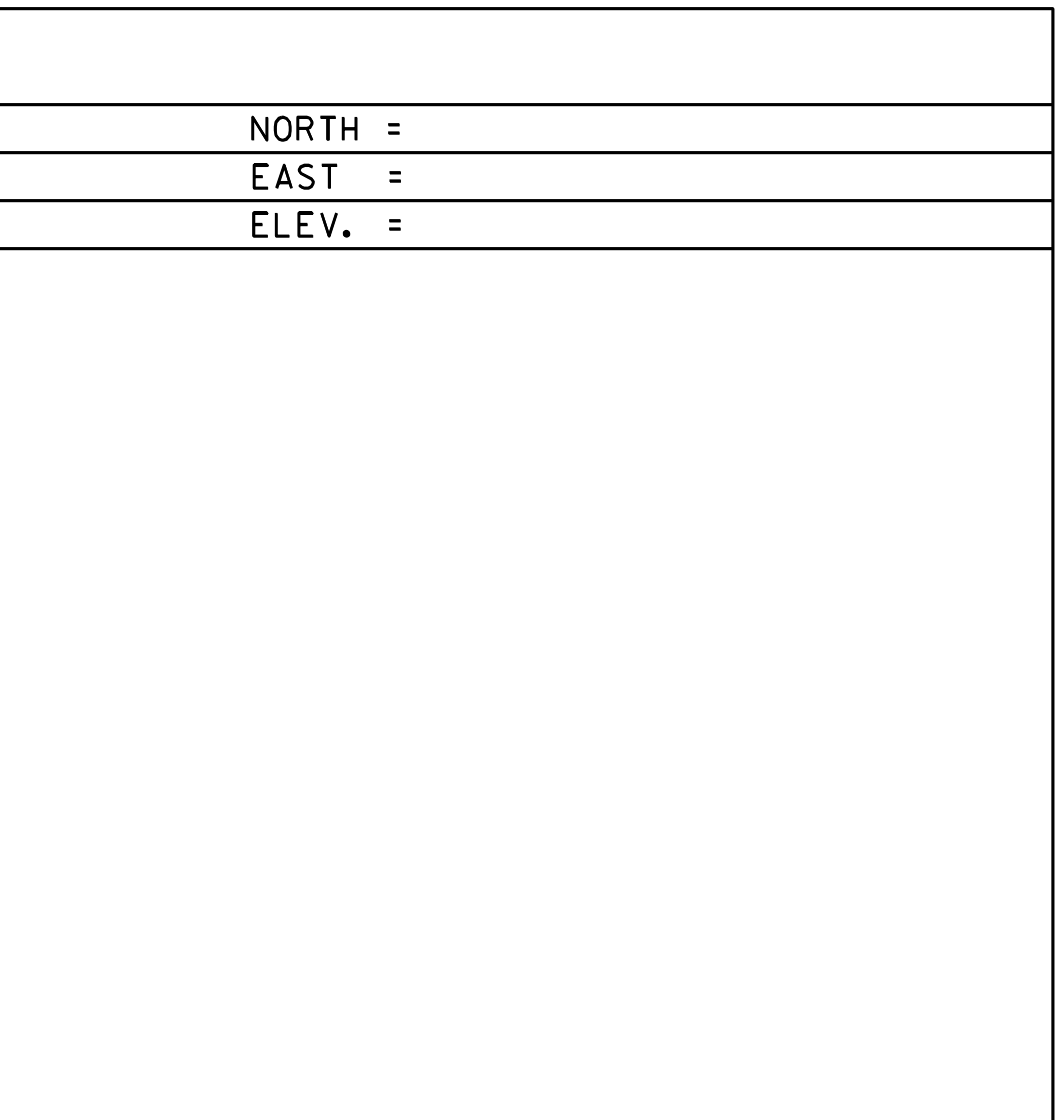
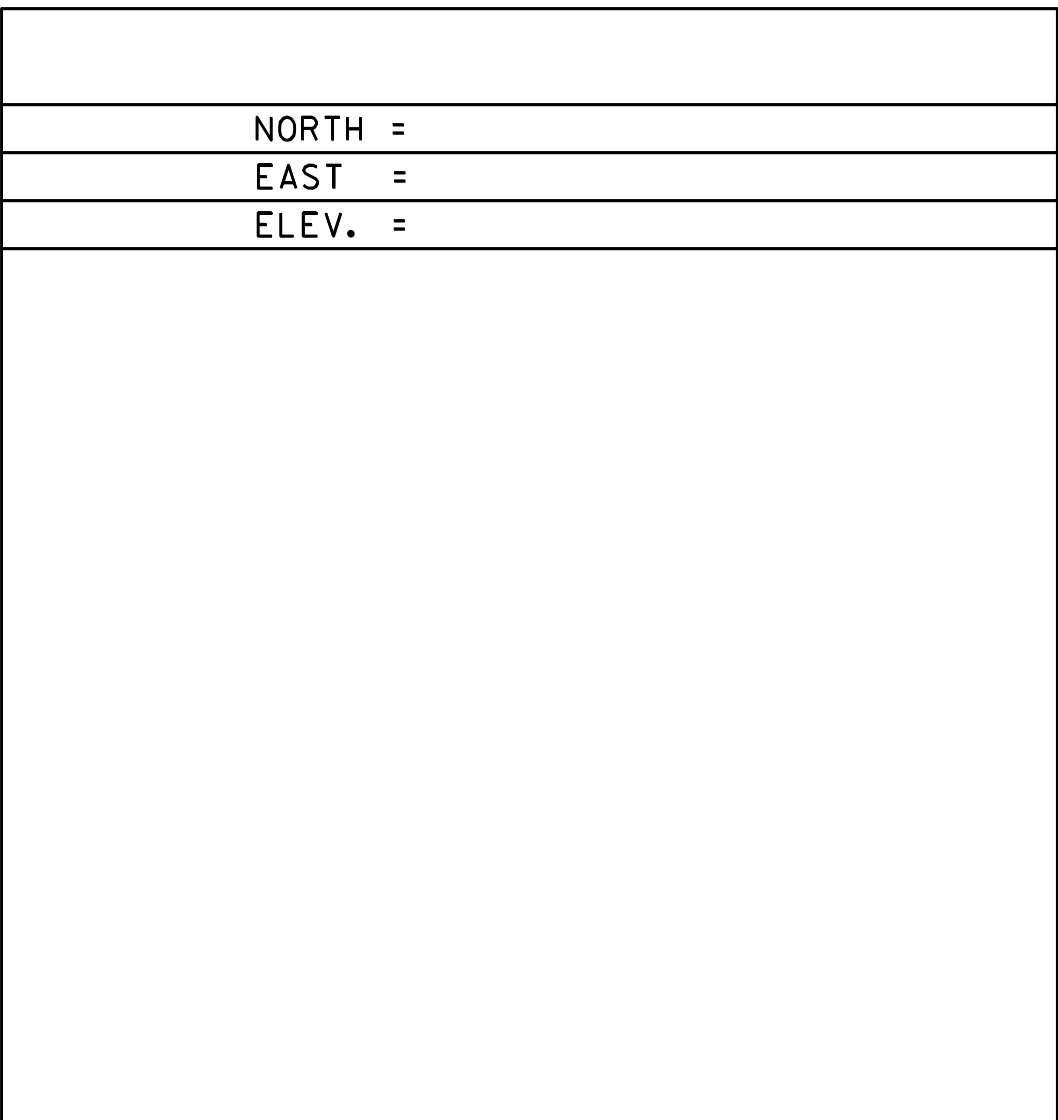
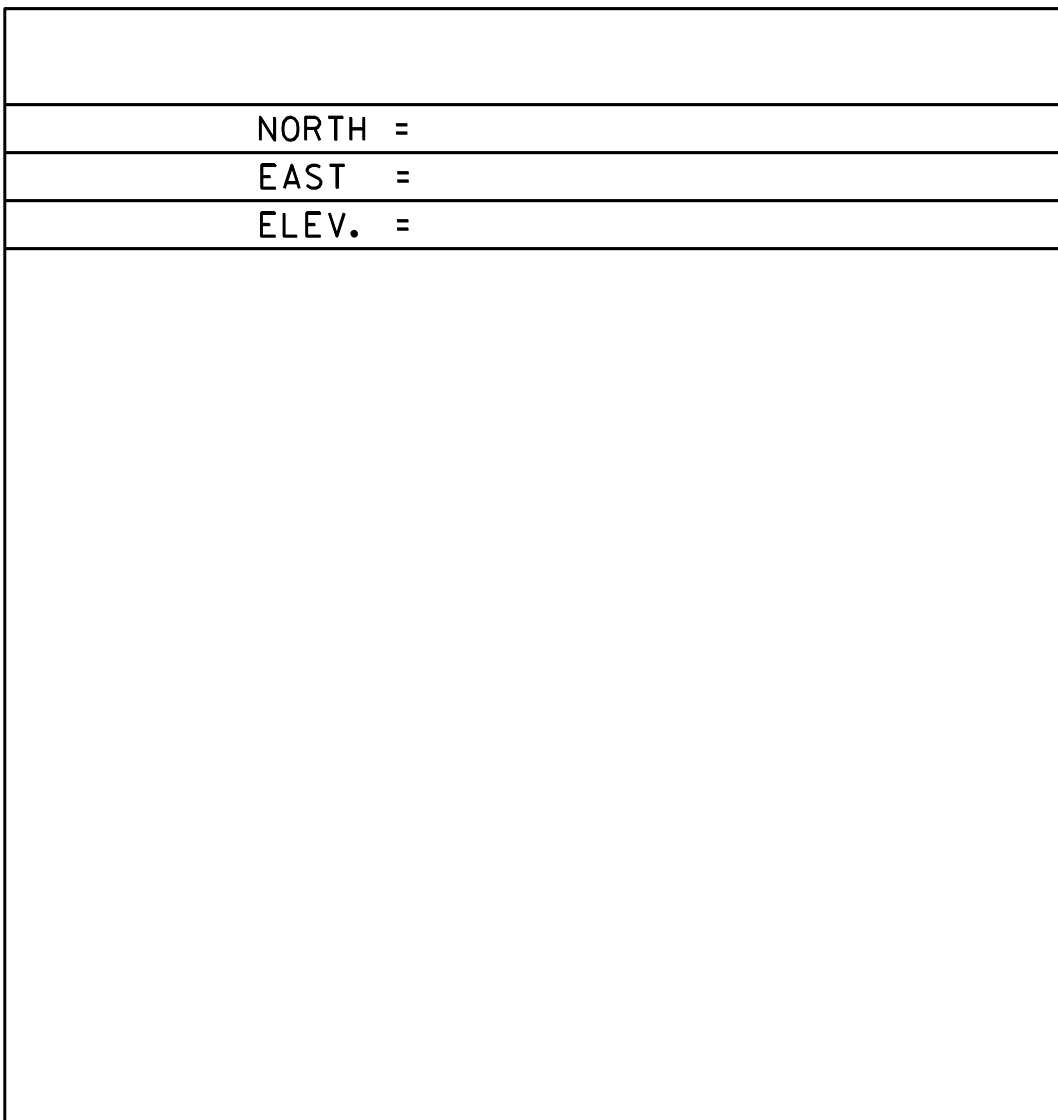
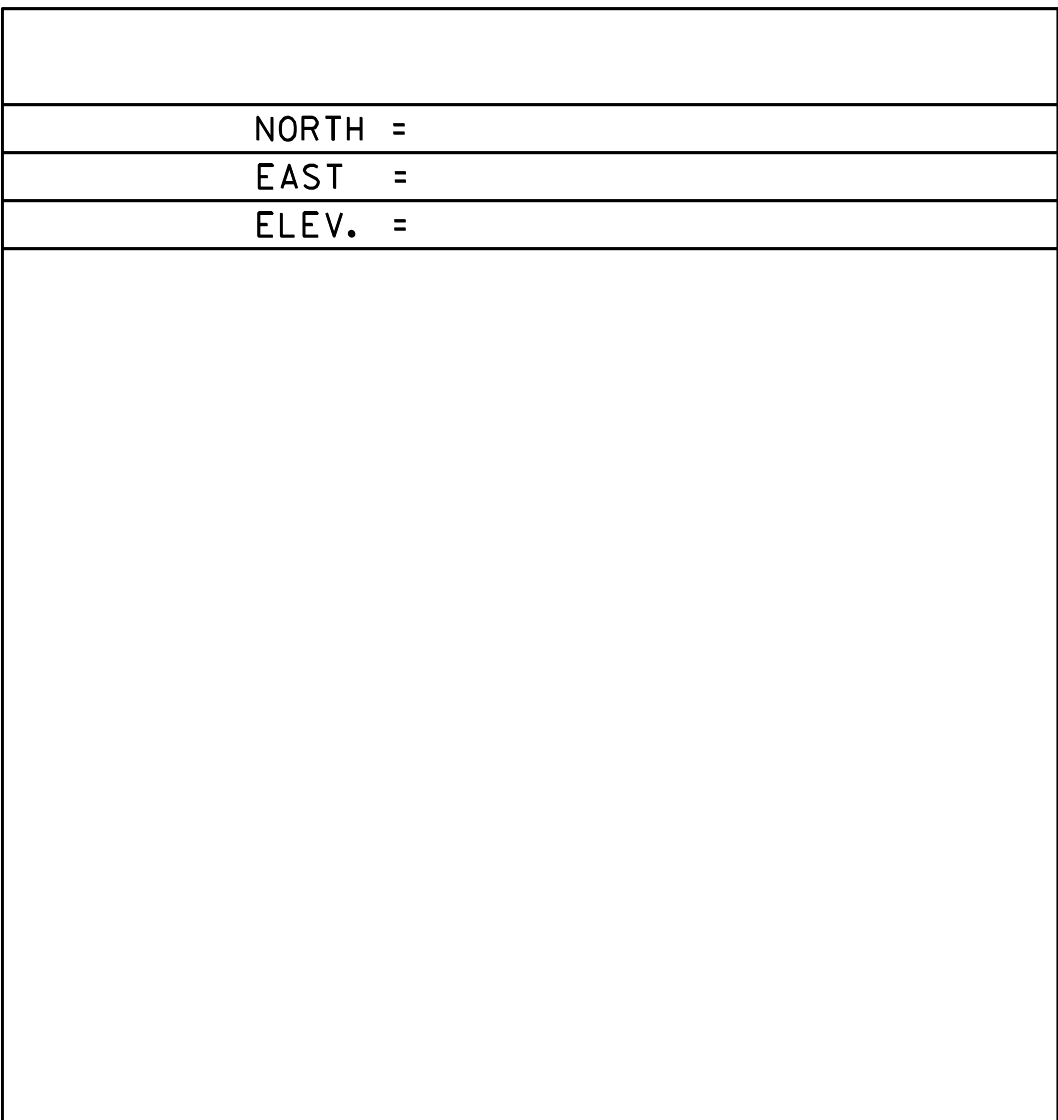
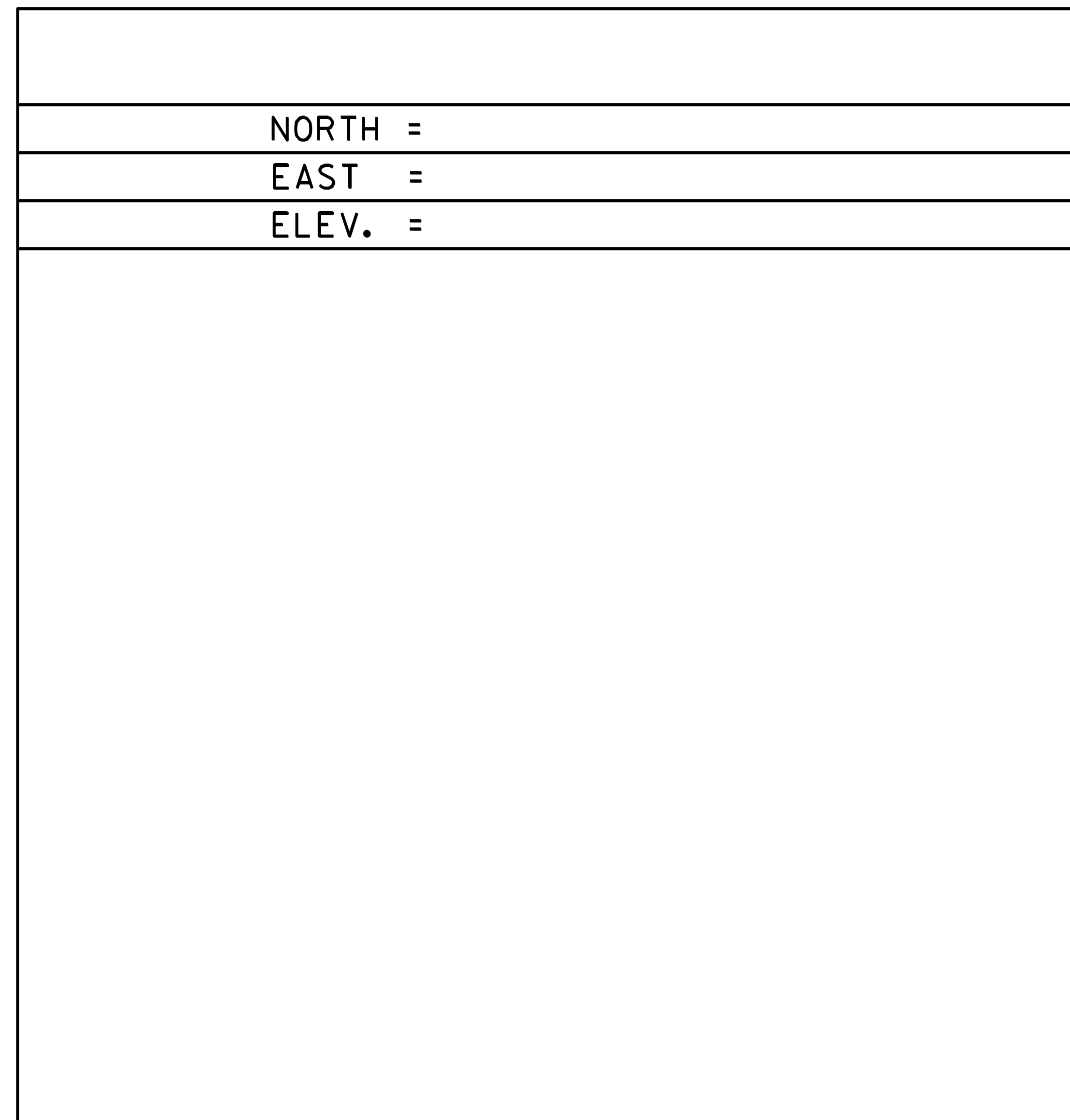
LOCATION MOUNT HOLLY  
TO REACH FROM THE INTERSECTION OF VT 103 AND VT 140 IN MOUNT HOLLY, GO EAST ALONG VT 103 1.0 MILES TO BOWLSVILLE ROAD. ON THE RIGHT TURN ON BOWLSVILLE ROAD FOR 0.05 MILES TO A FOUR WAY INTERSECTION BOWLSVILLE ROAD, LACROSS ROAD, AND GATES ROAD. THE MARK IS ON THE RIGHT IN THE SOUTH WEST QUADRANT. IT IS A REBAR WITH A RED CAP. IT IS 15.5 FEET NORTH NORTHWEST OF THE CENTER LINE OF BOWLSVILLE ROAD, 30.0 FEET WEST OF CENTERLINE OF LACROSS ROAD, 16.5 WEST SOUTHWEST OF SIGN LACROSS RD AND 33.0 FEET SOUTH OF AN EIGHT INCH POPLAR.

SECONDARY CONTROL



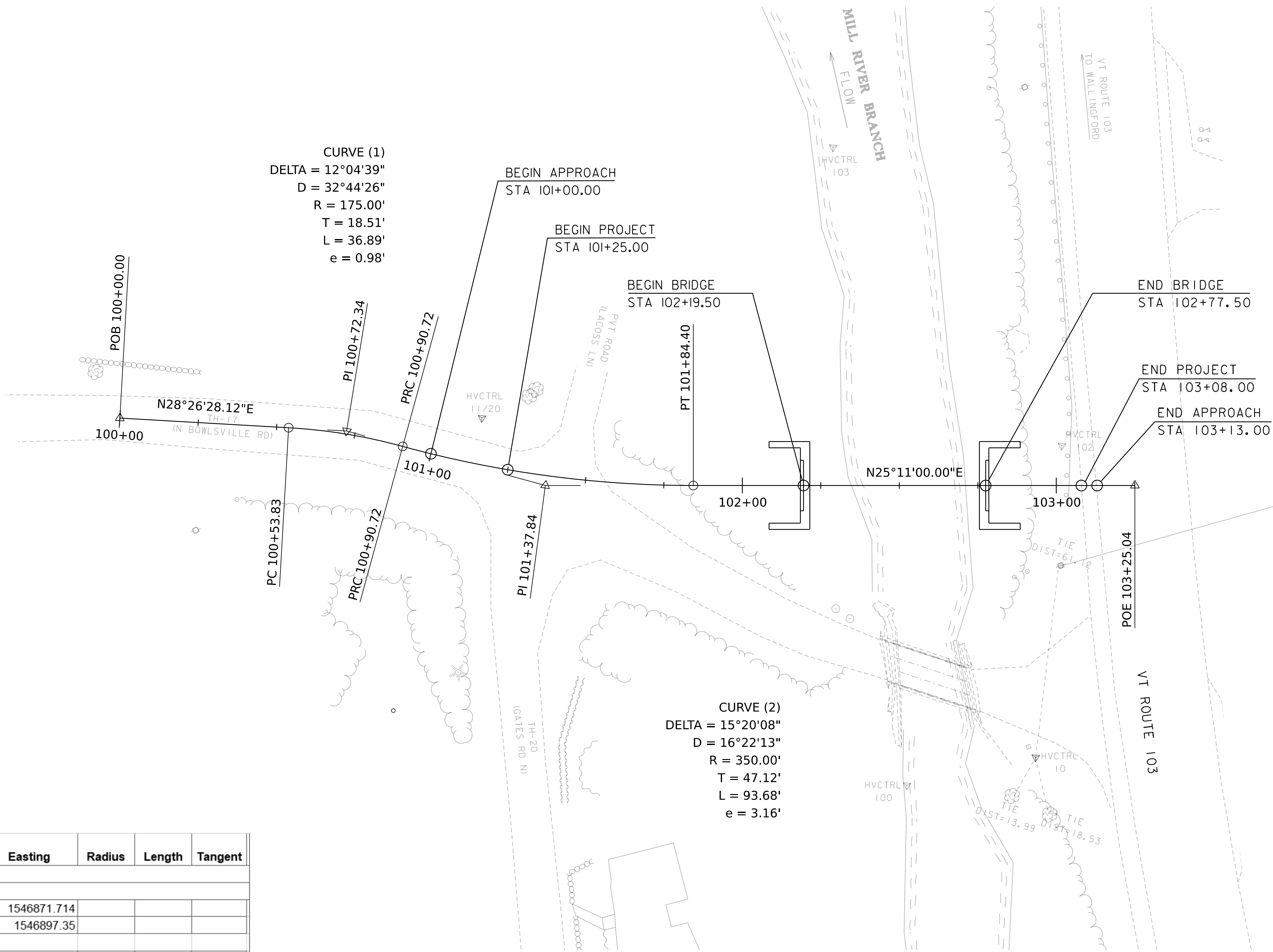
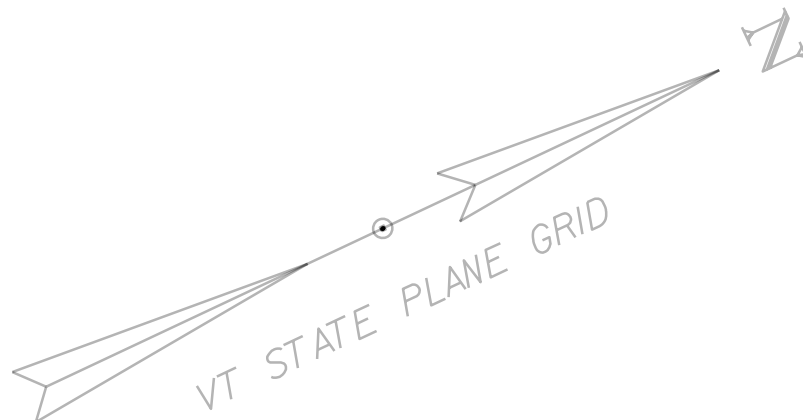
*TRAVERSE COMPLETED ON 6/24/2021BY B.HERRING H.MCGOWAN

ALIGNMENT TIES



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD83 (2011)
ADJUSTMENT	COMPASS

PROJECT NAME:	MT. HOLLY
PROJECT NUMBER:	BO 1443(56)
FILE NAME:	sl2j642+1.dgn
PROJECT LEADER:	D.PETERSON
DESIGNED BY:	VTRANS
TIE SHEET	
PLOT DATE:	20-MAY-2025
DRAWN BY:	R. HOOD
CHECKED BY:	D. PETERSON
SHEET	5 OF 27



CURVE (1)  
DELTA = 12°04'39"  
D = 32°44'26"  
R = 175.00'  
T = 18.51'  
L = 36.89'  
e = 0.98'

CURVE (2)  
DELTA = 15°20'08"  
D = 16°22'13"  
R = 350.00'  
T = 47.12'  
L = 93.68'  
e = 3.16'

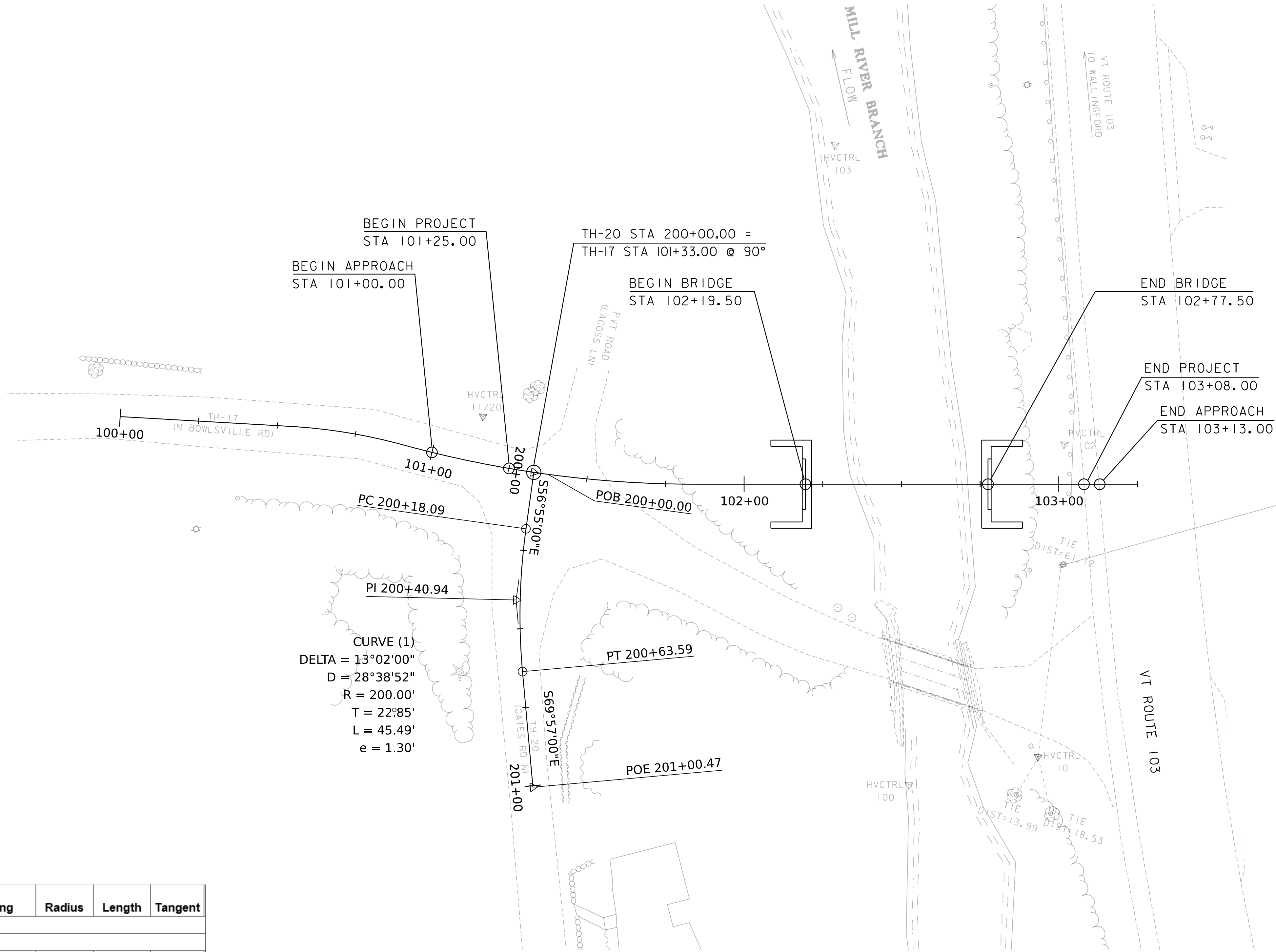
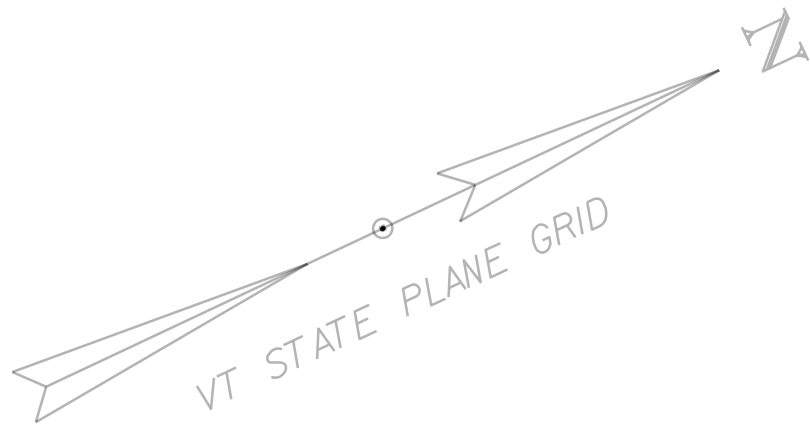
SCALE 1" = 20' - 0"  
20 0 20

Point Type	Station	Northing	Easting	Radius	Length	Tangent
Alignment Name:		TH-17				
Description:						
POB	10000	345456.296	1546871.714			
PC	10053.83	345503.629	1546897.35			
PC	10053.83	345503.629	1546897.35			
PI	10072.343	345519.907	1546906.167	175	36.889	18.513
PRC	10090.719	345533.981	1546918.195			
PRC	10090.719	345533.981	1546918.195			
PI	10137.84	345569.802	1546948.81	350	93.679	47.121
PT	10184.398	345612.444	1546968.86			
PT	10184.398	345612.444	1546968.86			
POE	10325.035	345739.714	1547028.704			

PROJECT NAME: MT. HOLLY  
PROJECT NUMBER: BO 1443(56)

FILE NAME: s12j642TH-17 alg Layout.dgn  
PROJECT LEADER: D. PETERSON  
DESIGNED BY: G. ROKES  
TH-17 ALIGNMENT

PLOT DATE: 20-MAY-2025  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 6 OF 27

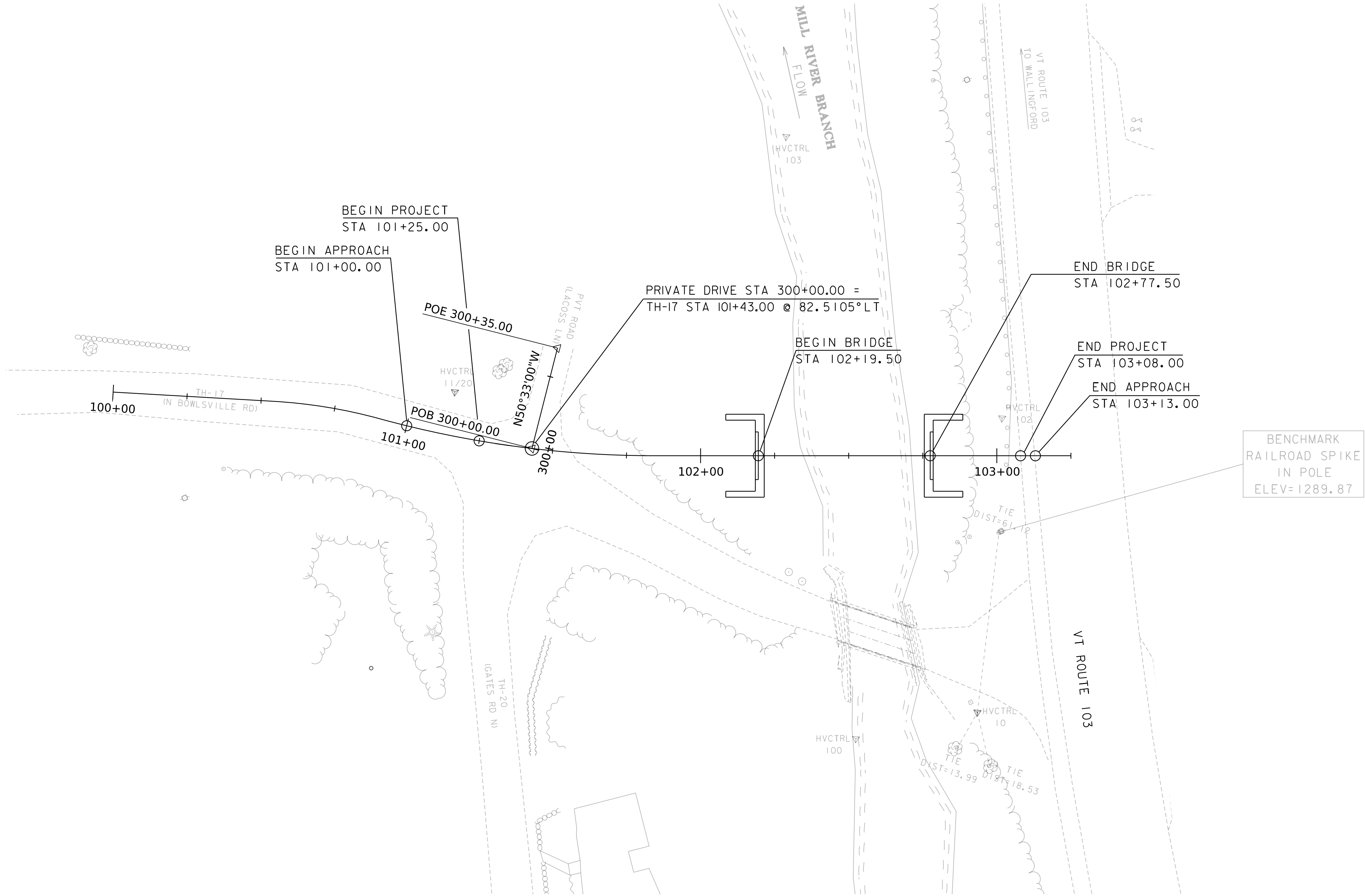
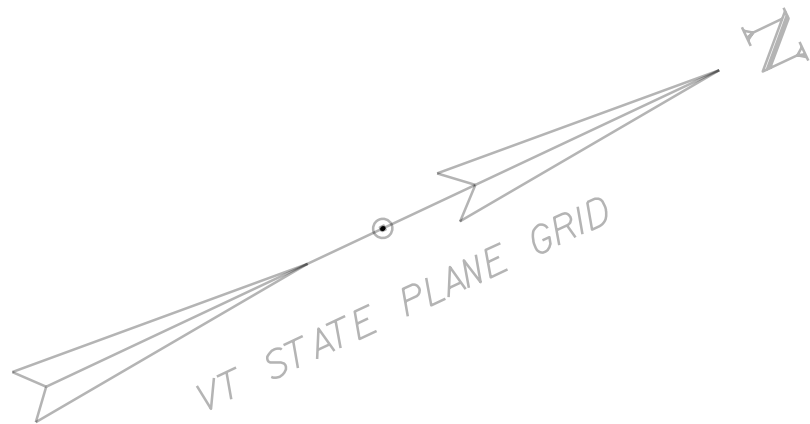


CURVE (1)  
DELTA = 13°02'00"  
D = 28°38'52"  
R = 200.00'  
T = 22°85'  
L = 45.49'  
e = 1.30'

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

Point Type	Station	Northing	Easting	Radius	Length	Tangent
Alignment Name:		TH-20				
Description:						
POB	20000	345567.703	1546943.66			
PC	20018.093	345557.827	1546958.82			
PC	20018.093	345557.827	1546958.82			
PI	20040.94	345545.356	1546977.963	200	45.495	22.846
PT	20063.588	345537.523	1546999.424			
PT	20063.588	345537.523	1546999.424			
POE	20100.467	345524.88	1547034.067			

PROJECT NAME: MT. HOLLY	
PROJECT NUMBER: BO 1443(56)	
FILE NAME: sl2j642TH-20 alg Layout.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: D. PETERSON
TH-20 ALIGNMENT	SHEET 7 OF 27

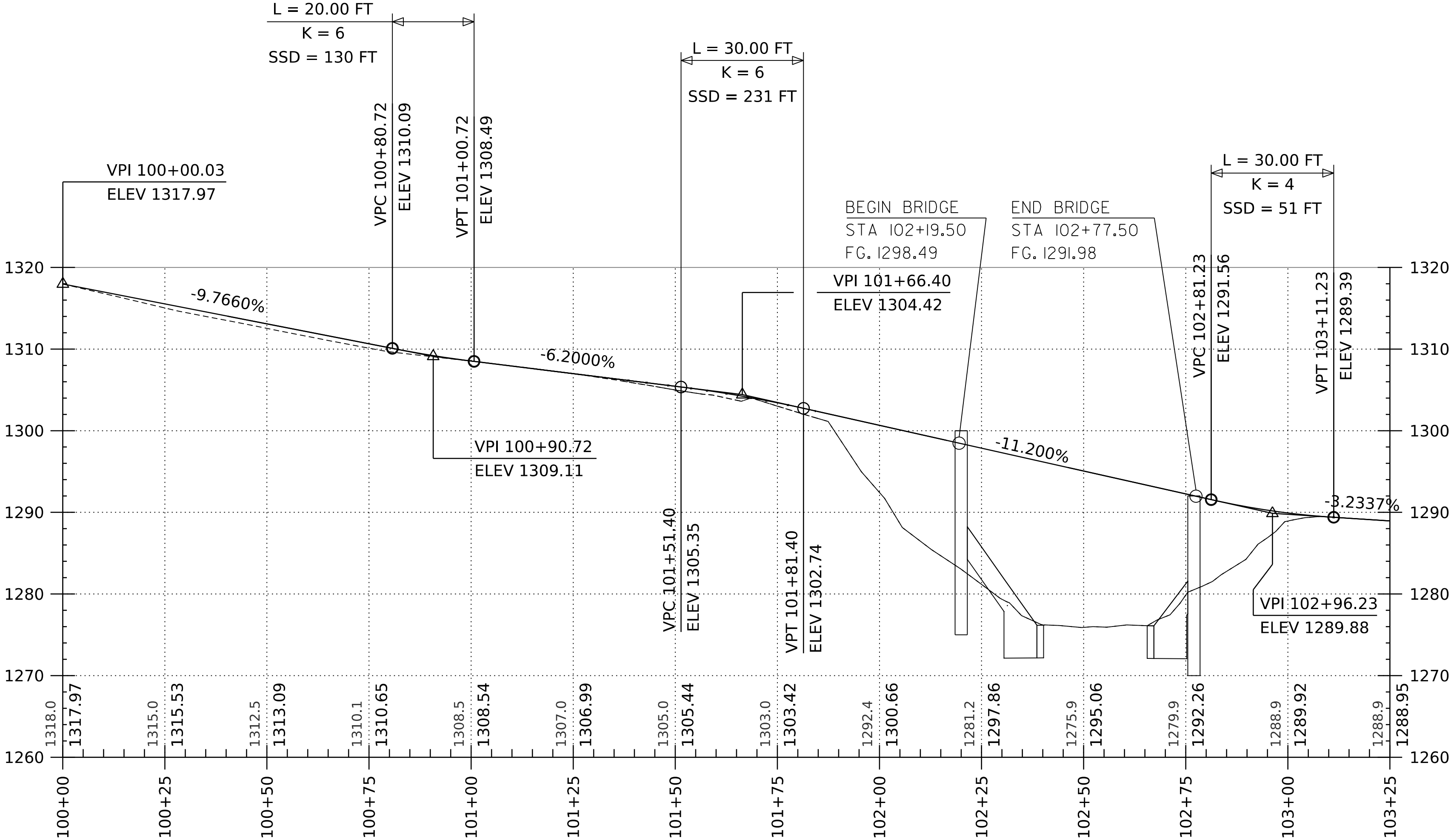


Point Type	Station	Northing	Easting	Radius	Length	Tangent
Alignment Name:		Private Drive				
Description:						
POB	30000	345576.107	1546949.072			
POE	30035	345598.347	1546922.046			

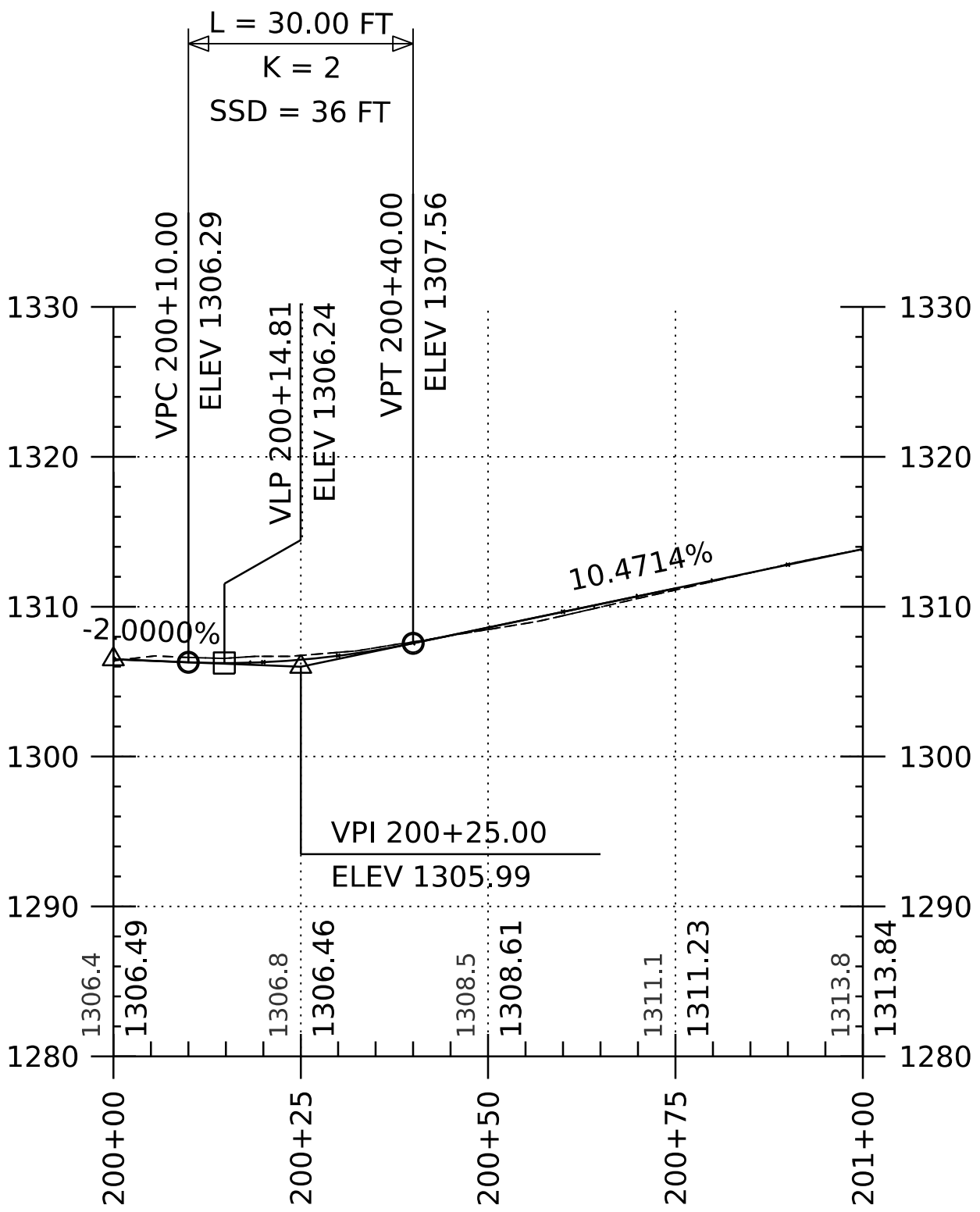
SCALE 1" = 20'-0"  
20 0 20

PROJECT NAME: MT. HOLLY	
PROJECT NUMBER: BO 1443(56)	
FILE NAME: sl2j642Private drive alg.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: D. PETERSON
PRIVATE DRIVE ALIGNMENT	SHEET 8 OF 27

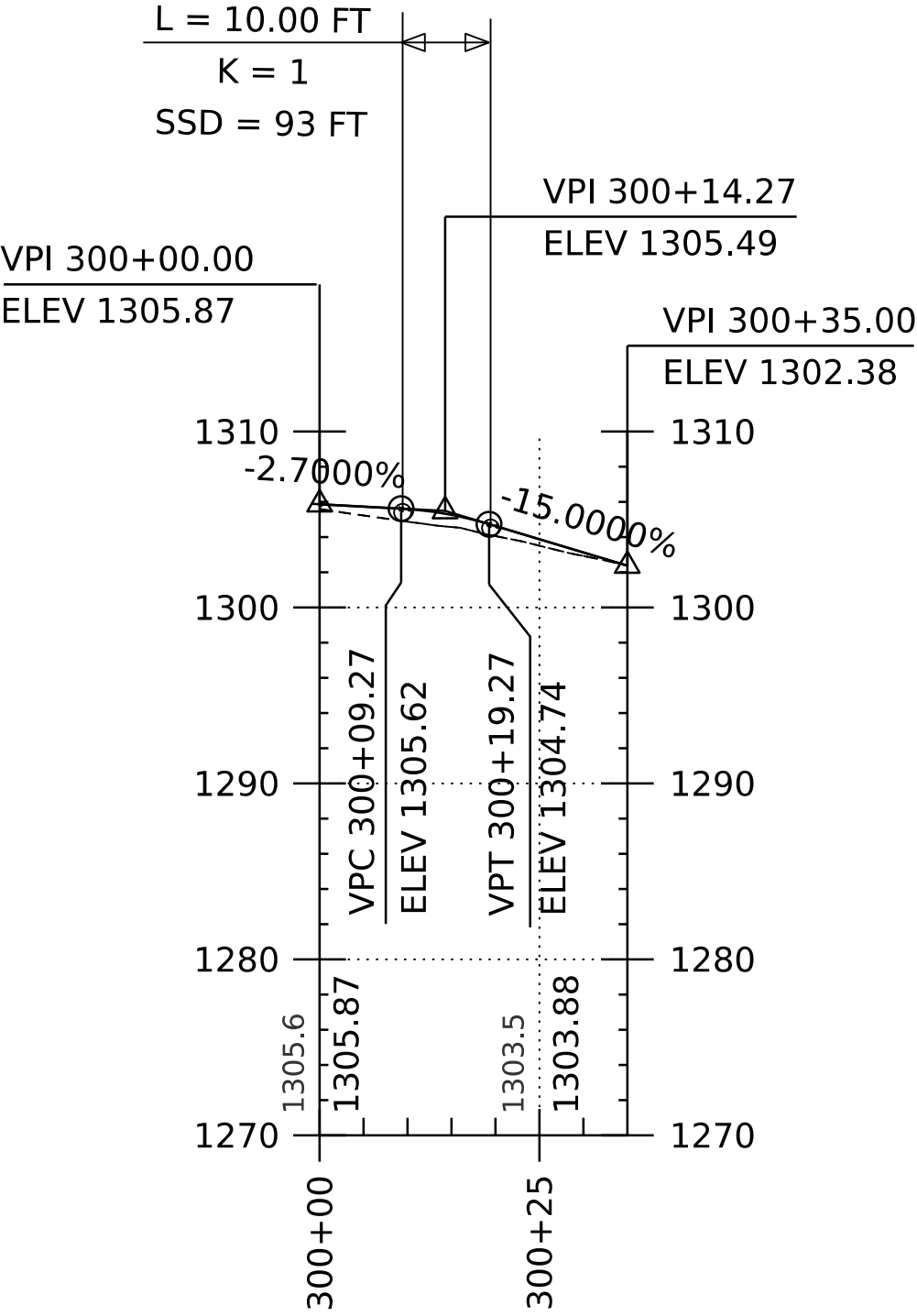




TH-17 MAINLINE PROFILE



TH-20 PROFILE



PRIVATE DRIVE PROFILE

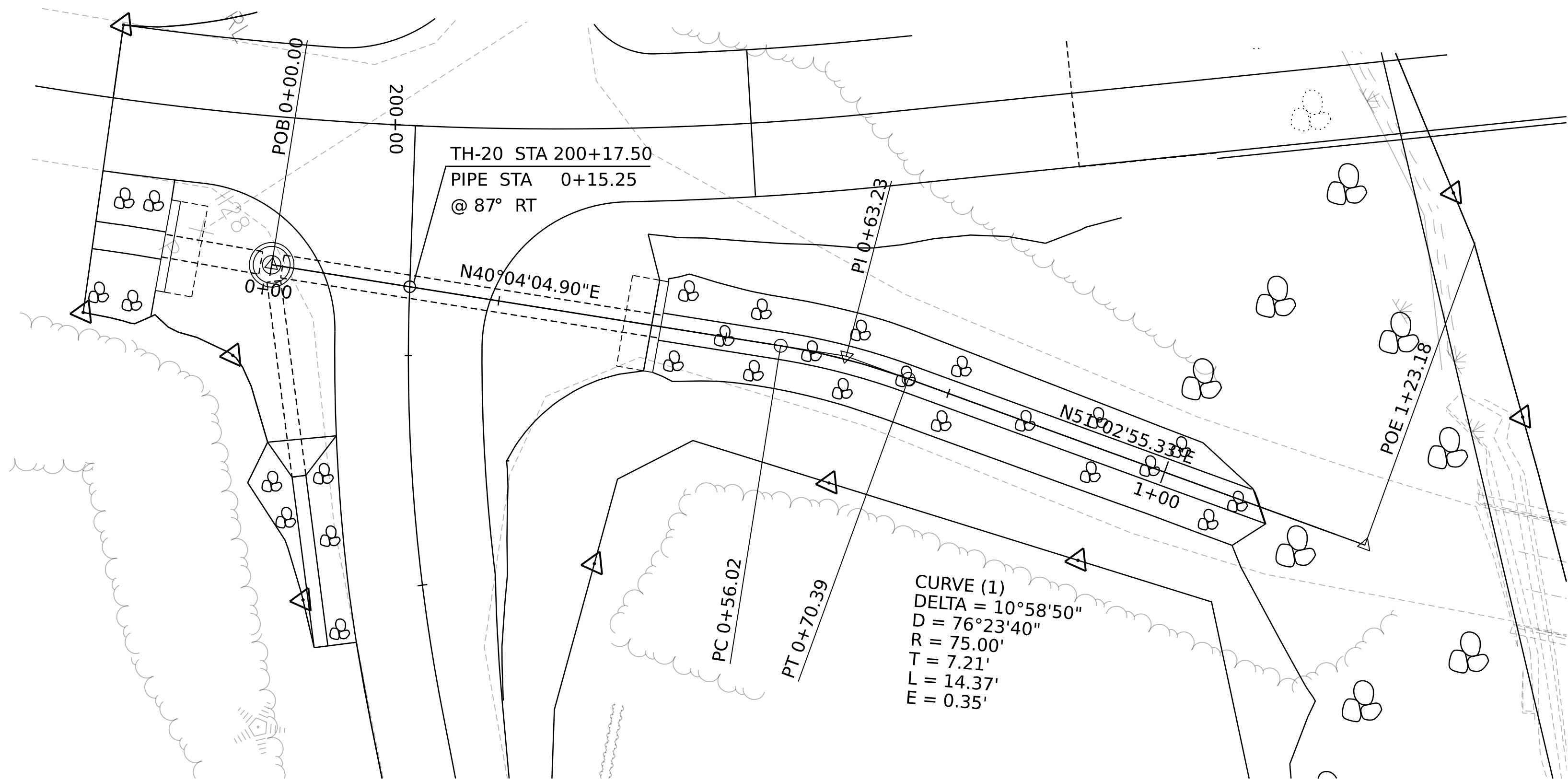
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PROJECT NUMBER: BO 1443 (56)	
FILE NAME: sl2j642profile.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: R. HOOD
PROFILES	SHEET 10 OF 27



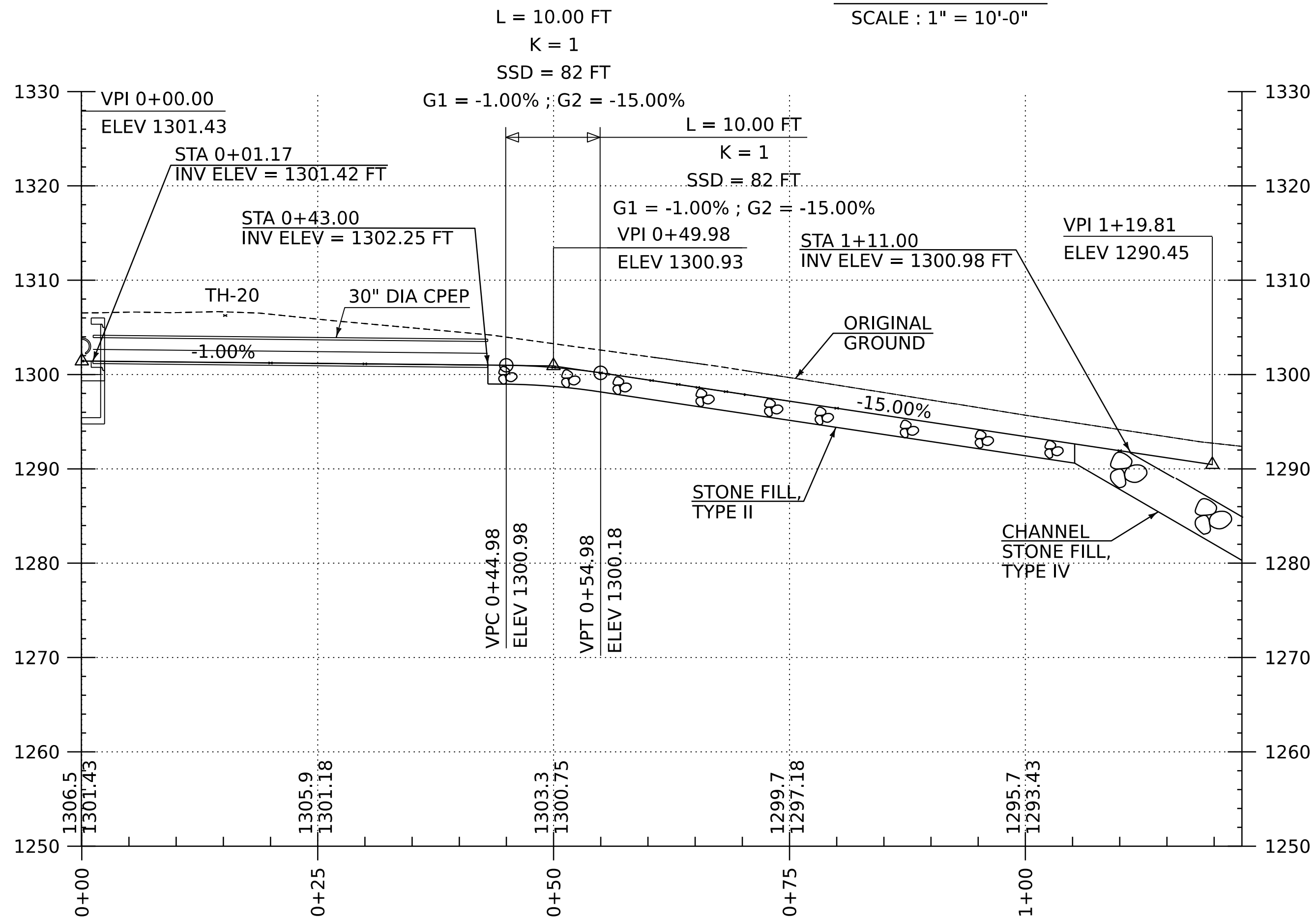
PROJECT NAME: MT. HOLLY  
PROJECT NUMBER: BO 1443(56)

FILE NAME: sl2j642U+ilities.dgn  
PROJECT LEADER: D. PETERSON  
DESIGNED BY: R. HOOD  
UTILITIES LAYOUT

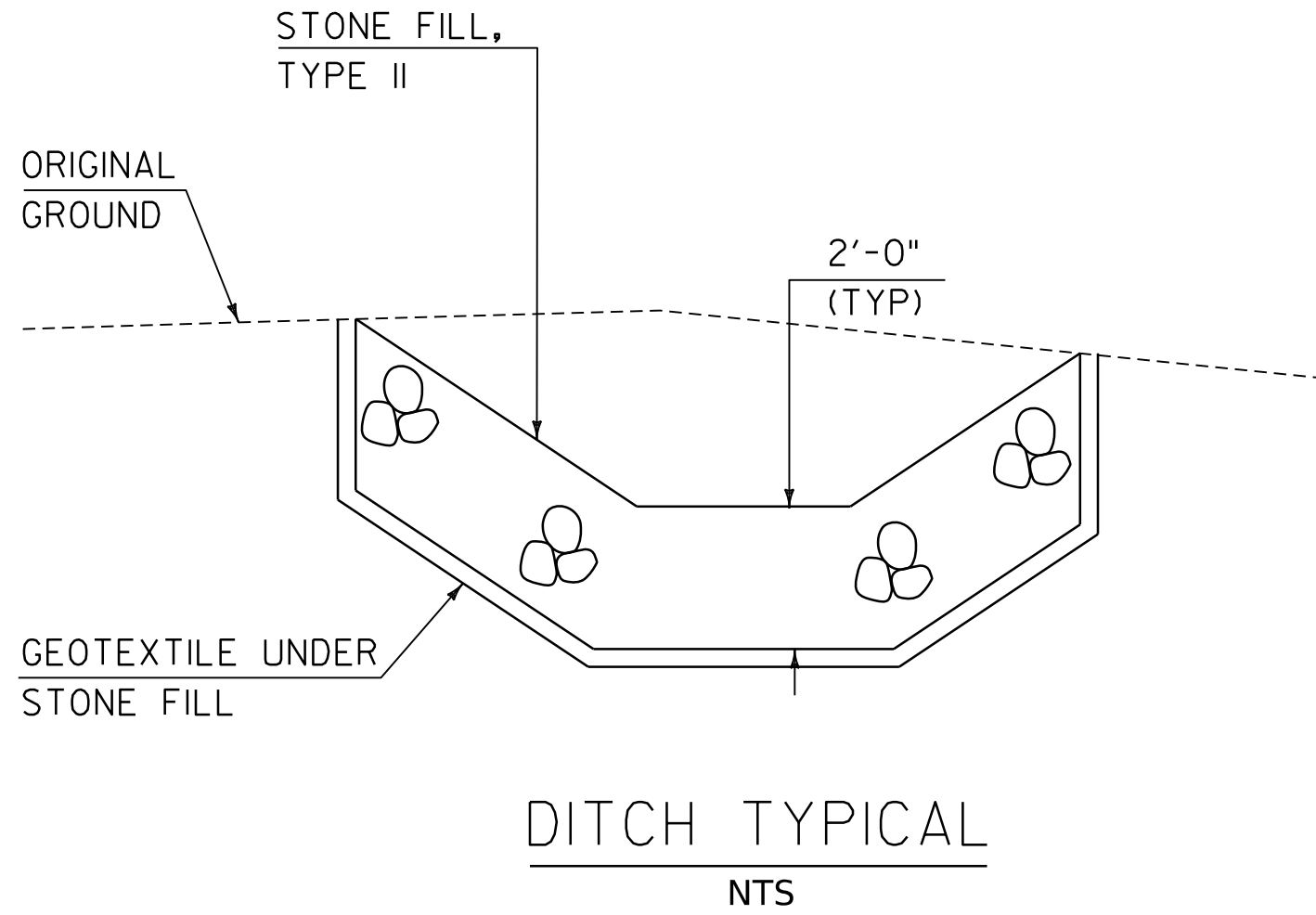
PLOT DATE: 20-MAY-2025  
DRAWN BY: R. HOOD  
CHECKED BY: D. PETERSON  
SHEET 11 OF 27



PIPE LAYOUT  
SCALE : 1" = 10'-0"



PIPE PROFILE



Element	Point Type	Point Number	Station	Northing	Easting	Radius	Length	Delta / Theta	Rotation Direction	K	P
Alignment Name:		Pipe Ditch alg									
Description:											
Style:		Alignment/Align1									
Tangent	POB	POB	0	345546.5	1546949						
Tangent	PC	PC	56.017	345589.4	1546985						
Arc	PC	PC	56.017	345589.4	1546985						
Arc	PI	PI	63.226	345594.9	1546989	75	14.374	10.981	Right		
Arc	CC	CC		345541.1	1547042						
Arc	PT	PT	70.39	345599.4	1546995						
Tangent	PT	PT	70.39	345599.4	1546995						
Tangent	POE	POE	123.181	345632.6	1547036						

PROJECT NAME: MT. HOLLY  
PROJECT NUMBER: BO 1443(56)

FILE NAME: sl2j642pipe_profile.dgn  
PROJECT LEADER: D. PETERSON  
DESIGNED BY: G.ROKES  
PIPE LAYOUT AND PROFILE  
PLOT DATE: 20-MAY-2025  
DRAWN BY: G.ROKES  
CHECKED BY: D.PETERSON  
SHEET 12 OF 27

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

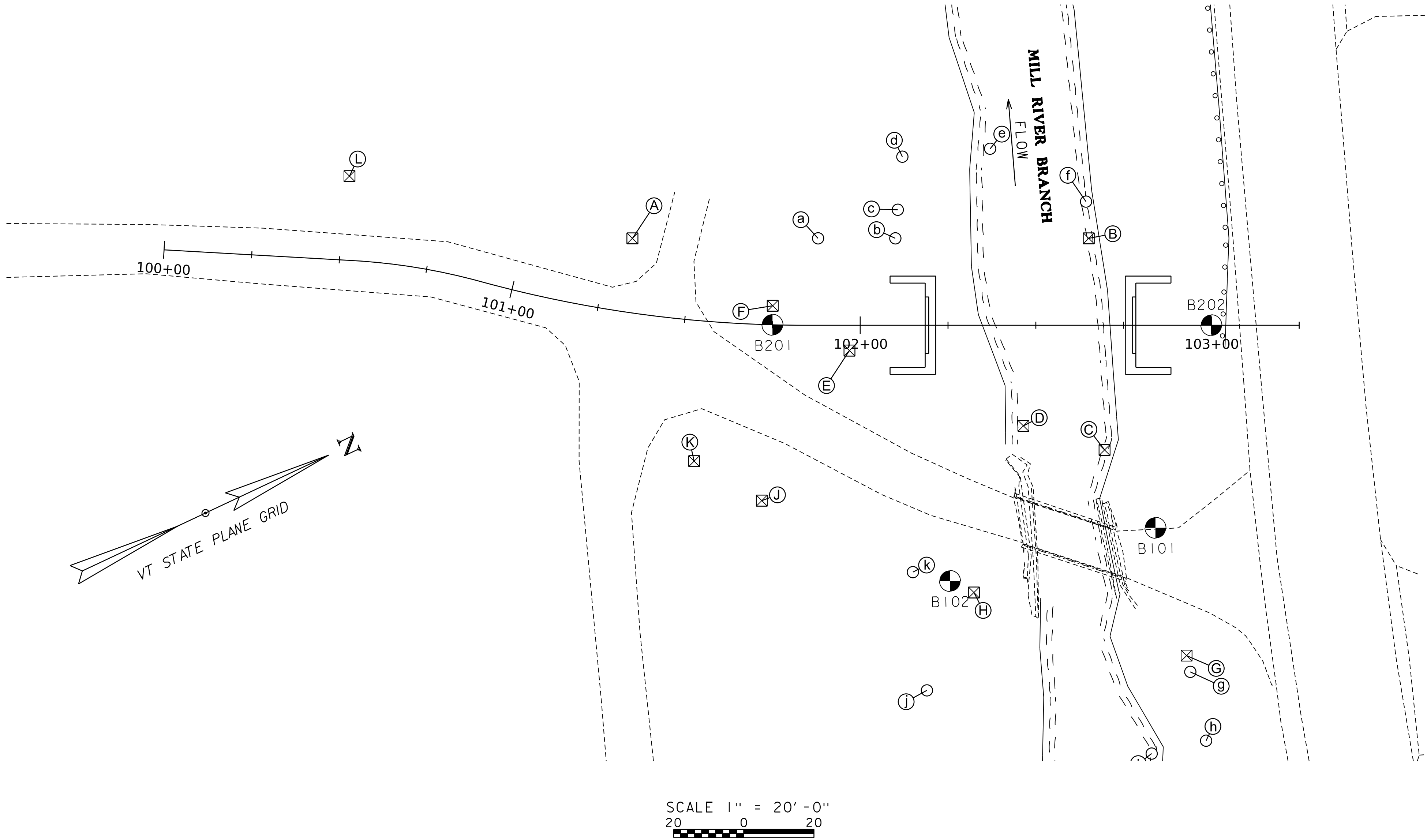
COMMONLY USED SYMBOLS

▼	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 5/8"
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
RQD	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
gr-y	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

BORING CHART

HOLE NO.	STATION	OFFSET	NORTHING	EASTING	GROUND ELEVATION	TLOB ELEVATION
B-101	102+84	57.7' RT	345678.1	1547063.5	1288.9'	1228.9'
B-102	102+26	72.8' RT	345618.7	1547052.3	1290.9'	1226.9'
B-201	101+75	0.00	345604.0	1546964.7	1303.0'	TBD
B-202	103+00	0.00	345717.1	1547018.1	1288.9'	TBD



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

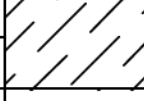
- The subsurface explorations shown herein were made between 7/20/2021 and 8/17/2021 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations 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: MT. HOLLY  
PROJECT NUMBER: BO 1443(56)

FILE NAME: sl2j642bor.dgn  
PROJECT LEADER: D. PETERSON  
DESIGNED BY: R. HOOD  
BORING INFORMATION SHEET

PLOT DATE: 20-MAY-2025  
DRAWN BY: R. HOOD  
CHECKED BY: D. PETERSON  
SHEET 13 OF 27



		STATE OF VERMONT AGENCY OF TRANSPORTATION CONSTRUCTION AND MATERIALS BUREAU CENTRAL LABORATORY		BORING LOG		Boring No.: <b>B-102</b>							
				Mount Holly BF 1443(56) TH 17 Bridge No. 64		Page No.: 1 of 2 Pin No.: 12j642 Checked By: <u>END</u>							
Boring Crew: <u>Brochu, Judkins, Emerson</u>				Casing		Sampler		Groundwater Observations					
Date Started: <u>7/20/21</u> Date Finished: <u>7/22/21</u>				Type: <u>WASH BORE</u> <u>SS</u>				Date	Depth (ft)	Notes			
VTSPG NAD83: <u>N 345618.70 ft E 1547052.30 ft</u>				I.D.: <u>4 in</u> <u>1.5 in</u>				07/20/21	0.0	WT After Drilling			
Station: <u>347+70</u> Offset: <u>-102.30</u>				Hammer Wt: <u>N.A.</u> <u>140 lb.</u>				07/22/21	0.0	WT Before Drilling			
Ground Elevation: <u>1290.9 ft</u>				Hammer/Fall: <u>N.A.</u> <u>30 in.</u>				07/22/21	8.3	WT After Drilling			
				Hammer/Rod Type: <u>Auto/AWJ</u>									
				Rig: <u>CME 55 TRACK</u> <u>C_E = 1.56</u>									
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)				Run (Dip deg.)	Core Rec. % (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		Visual Description:., Sandy Gravel, brn, Moist, Rec. = 1.2 ft, Field Note: rollercone cleanout 4.0'-5.0"							1-2-2-3 (4)				
10		Visual Description:., Sand, brn, Moist, Rec. = 1.0 ft, Field Note: rollercone cleanout 9.1'-10.0'							2-2-5-3 (7)				
15		Field Note:., No Recovery, Field Note: rollercone cleanout 13.9'-15.0'							24-42-R@3" (R)				
20		Visual Description:., Gravelly Sandy Silt, brn, Moist, Rec. = 1.8 ft, Field Note: Cleanout NXDC 19.2'-20.0'							11-14-20-23 (34)				
25		Visual Description:., Gravelly Silt, brn, Moist, Rec. = 1.7 ft, Field Note: Cleanout NXDC 28.9'-30.0'							15-17-30-29 (47)				
30		Visual Description:., Gravelly Silt, brn, Moist, Rec. = 1.6 ft, Field Note: Cleanout NXDC 38.3'-40.0'							20-30-R@4" (R)				
35													
40		Visual Description:., Silt, brn, Moist, Rec. = 0.9 ft, Field Note: Cleanout NXDC 49.1'-50.0'							20-28-30-R@4" (58)				
Notes:	1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C _E is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.												



STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
CONSTRUCTION AND  
MATERIALS BUREAU  
CENTRAL LABORATORY

Boring LOG

Mount Holly  
BF 1443(56)  
TH 17 Bridge No. 64

Boring No.: B-102  
Page No.: 2 of 2  
Pin No.: 12j642  
Checked By: END

Boring Crew: Brochu, Judkins, Emerson  
Date Started: 7/20/21 Date Finished: 7/22/21  
VTSPG NAD83: N 345618.70 ft E 1547052.30 ft  
Station: 347+70 Offset: -102.30  
Ground Elevation: 1290.9 ft

Casing Sampler  
Type: WASH BORE SS  
I.D.: 4 in 1.5 in  
Hammer Wt: N.A. 140 lb.  
Hammer Fall: N.A. 30 in.  
Hammer/Rod Type: Auto/AWJ  
Rig: CME 55 TRACK C_F = 1.56

Groundwater Observations

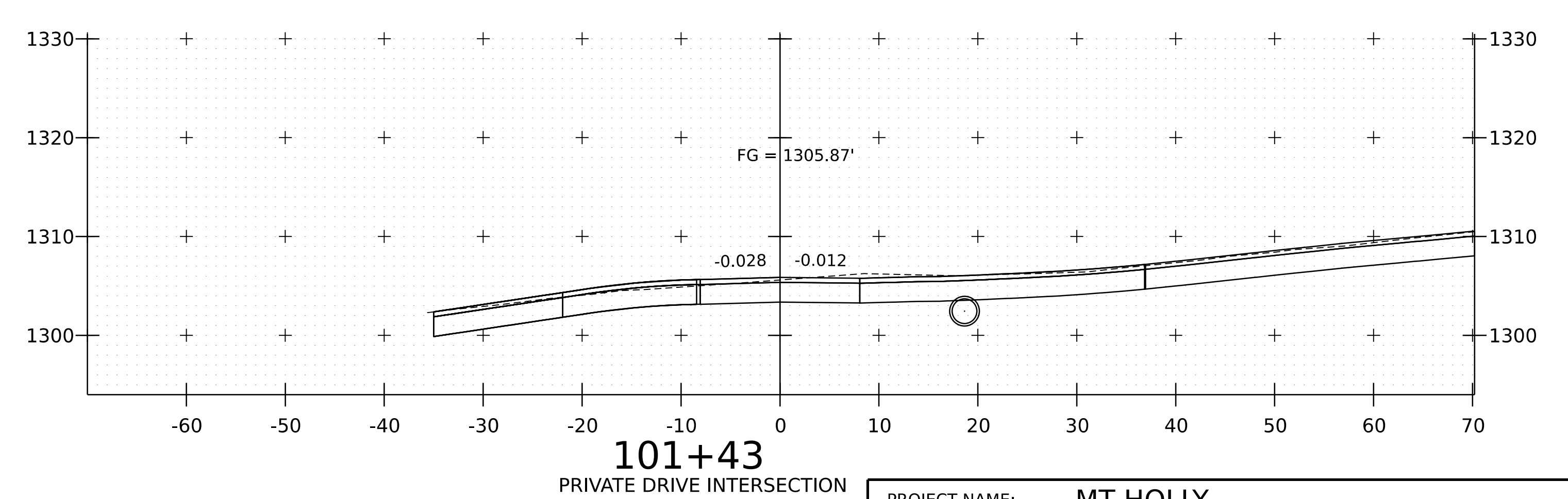
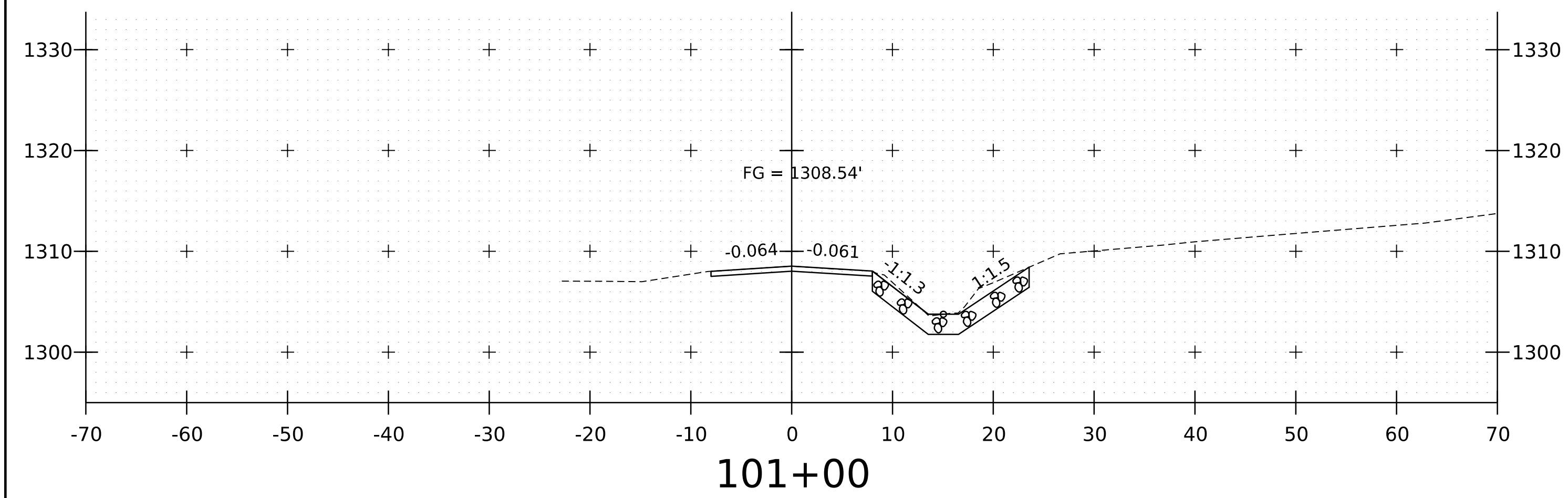
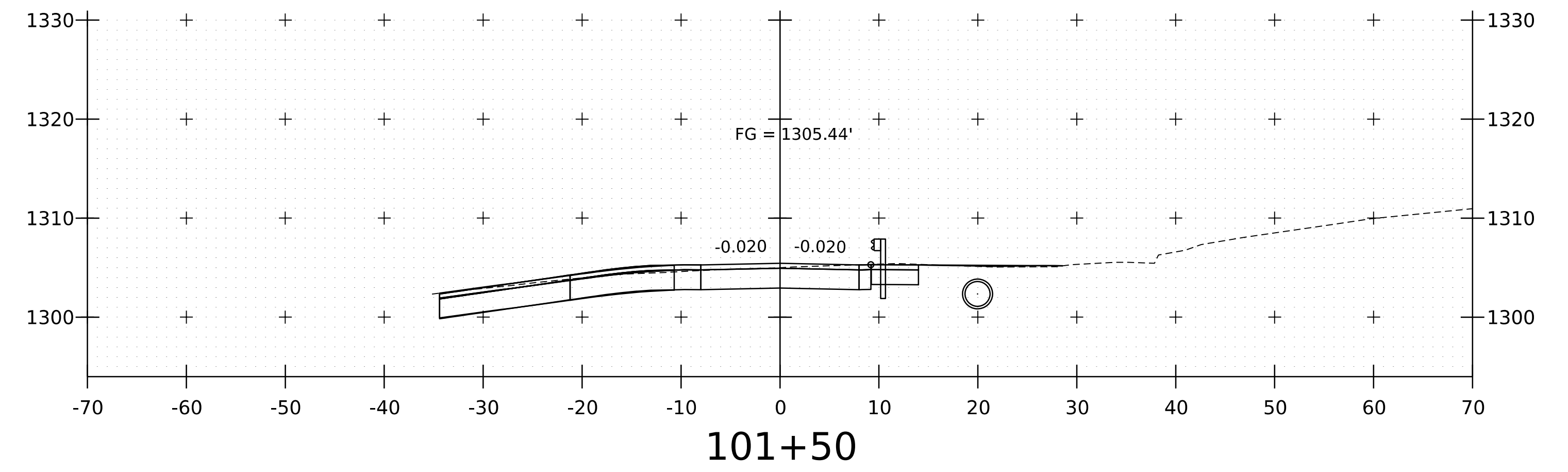
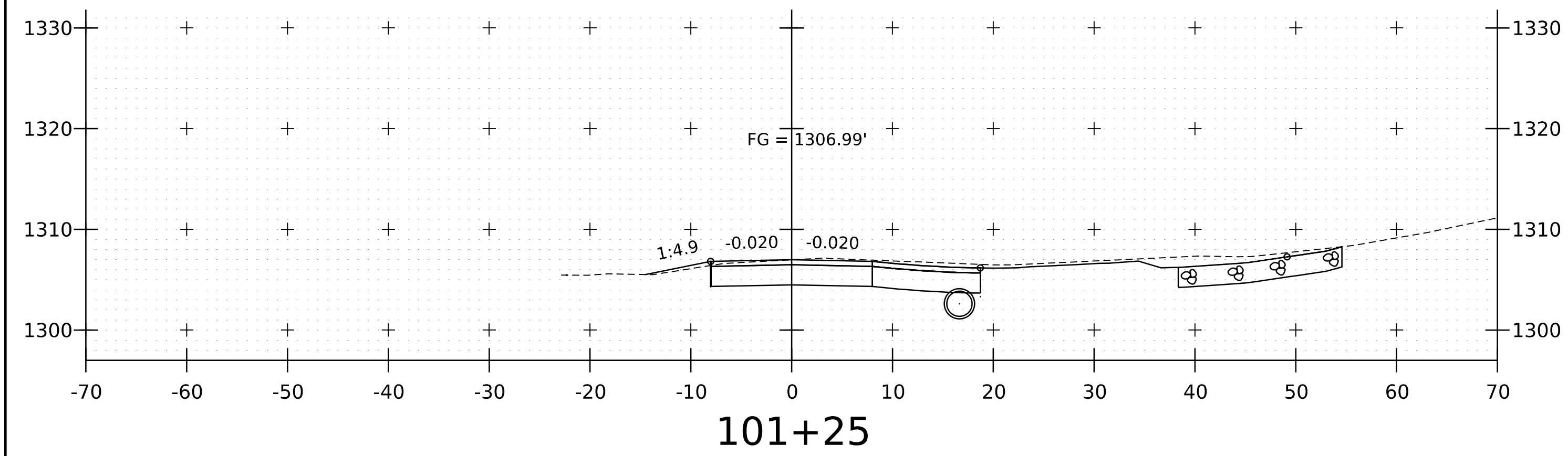
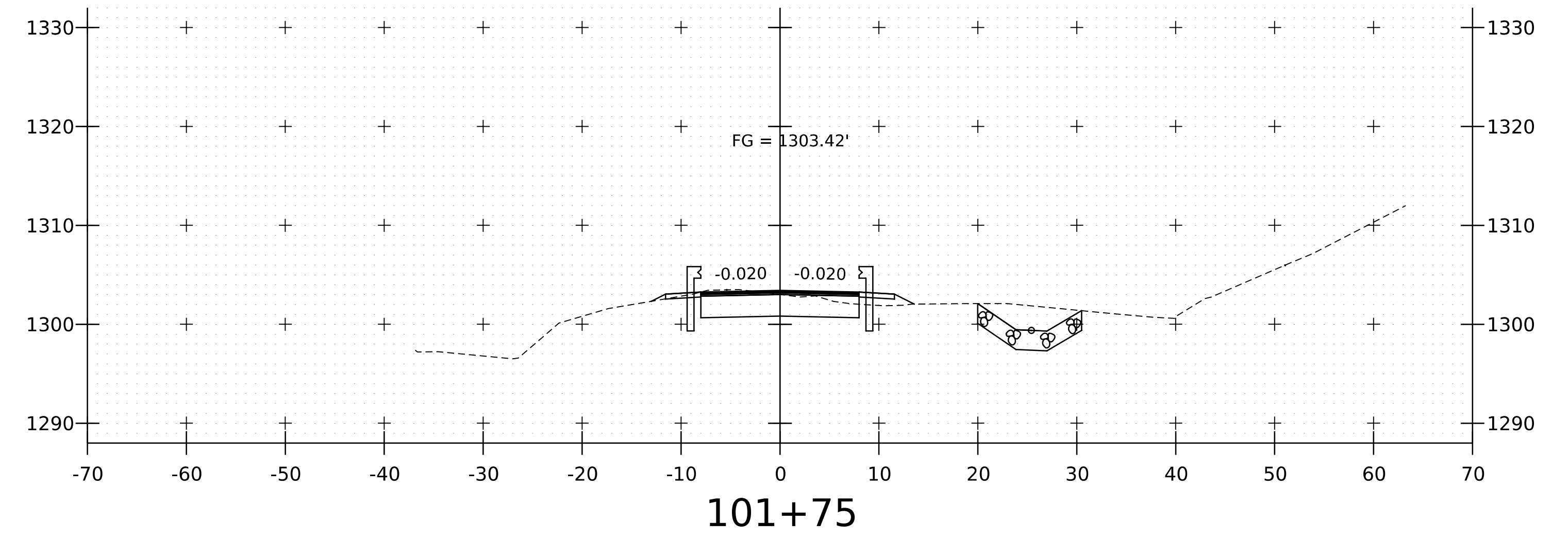
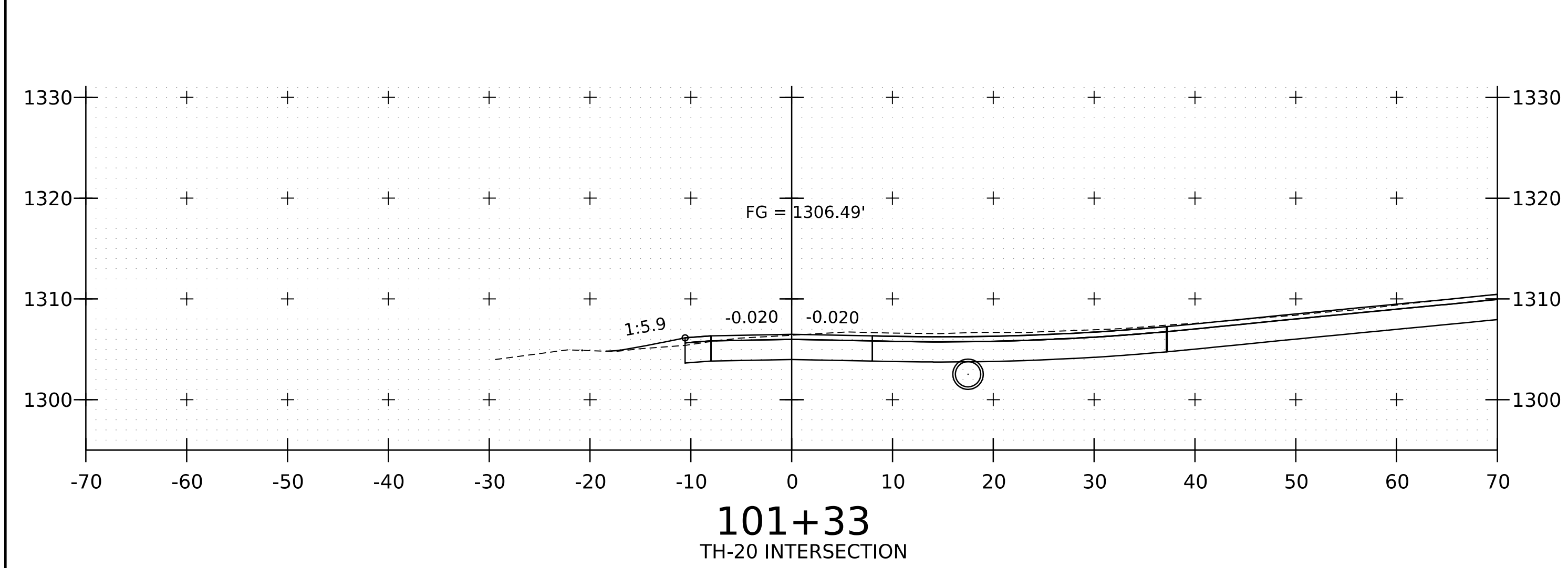
Date	Depth (ft)	Notes
07/20/21	0.0	WT After Drilling
07/22/21	0.0	WT Before Drilling
07/22/21	8.3	WT After Drilling

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	% Core Rec. (RQD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
50		Visual Description: Gravelly Sand, brn, Moist, Rec. = 0.4 ft, Field Note: Cleanout NXDC 57.8'-60.0'				R@5"				
55										
60		Field Note: No Recovery				R@0"				
65		64.0 ft - 69.0 ft, Gray, (black when wet) biotite-muscovite-quartz-plagioclase GNEISS, with few sulfides. Orange staining on some joints and quartz mineralization on joints near end of run. Hard, Slightly weathered, Fair rock, NXMDC, RMR=44	R-1 (50)	100 (24)	7 7 5 4 4	Top of Bedrock @ 64.0 ft				
70		69.0 ft - 74.0 ft, Gray, (black when wet) biotite-muscovite-quartz-plagioclase GNEISS, with few sulfides. Gneissic layering is less distinct than R1, but still strongly foliated. Joints are deep purple/red stained. Hard, Slightly weathered, Good rock, NXMDC, RMR=67	R-2 (50-70)	100 (56)	5 5 4 4 4					
75		Hole stopped @ 74.0 ft								
80		Remarks: Hole Collapsed @ 9.0'								
85										

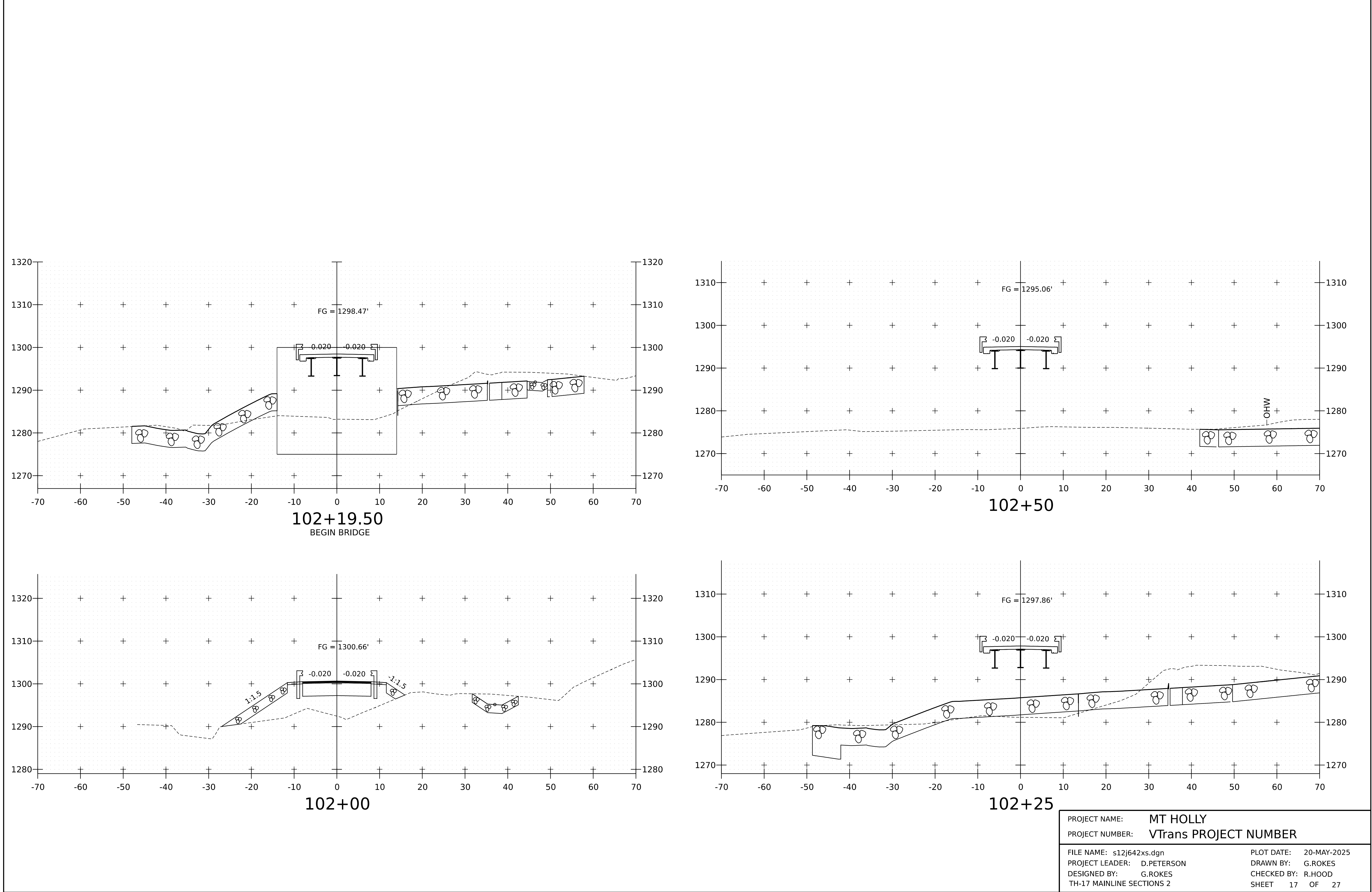
Notes:

- Stratification lines represent approximate boundary between material types. Transition may be gradual.
- N Values have not been corrected for hammer energy. C_F is the hammer energy correction factor.
- Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.

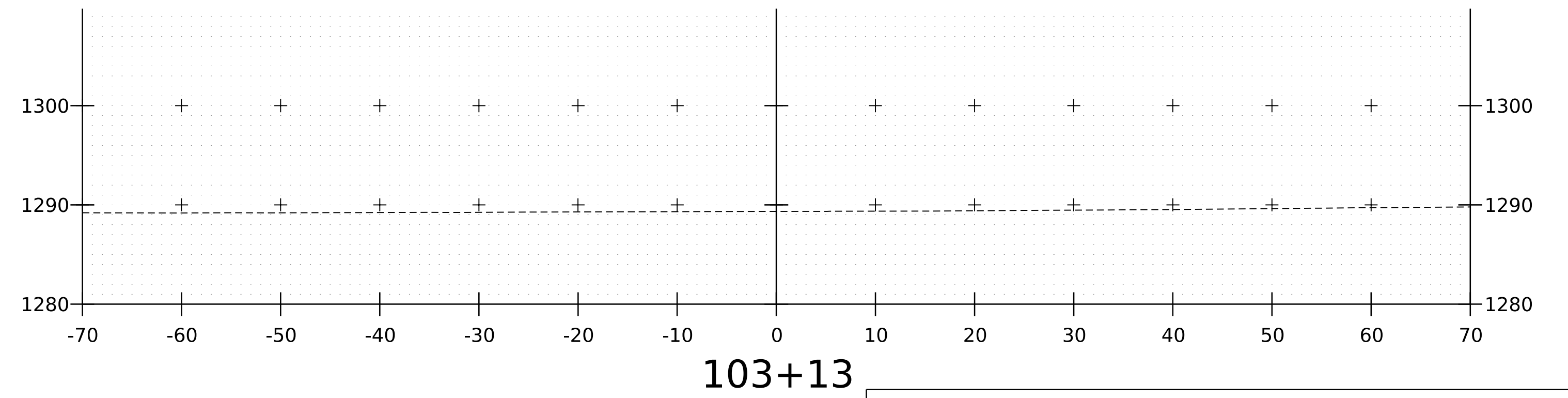
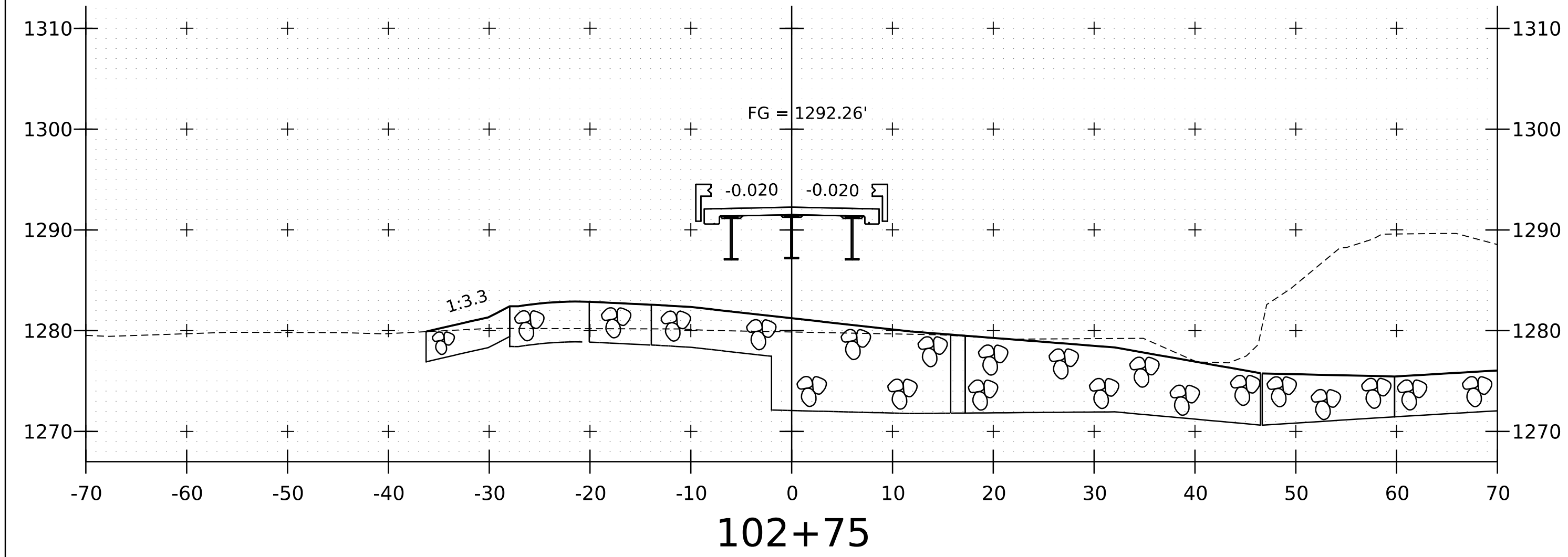
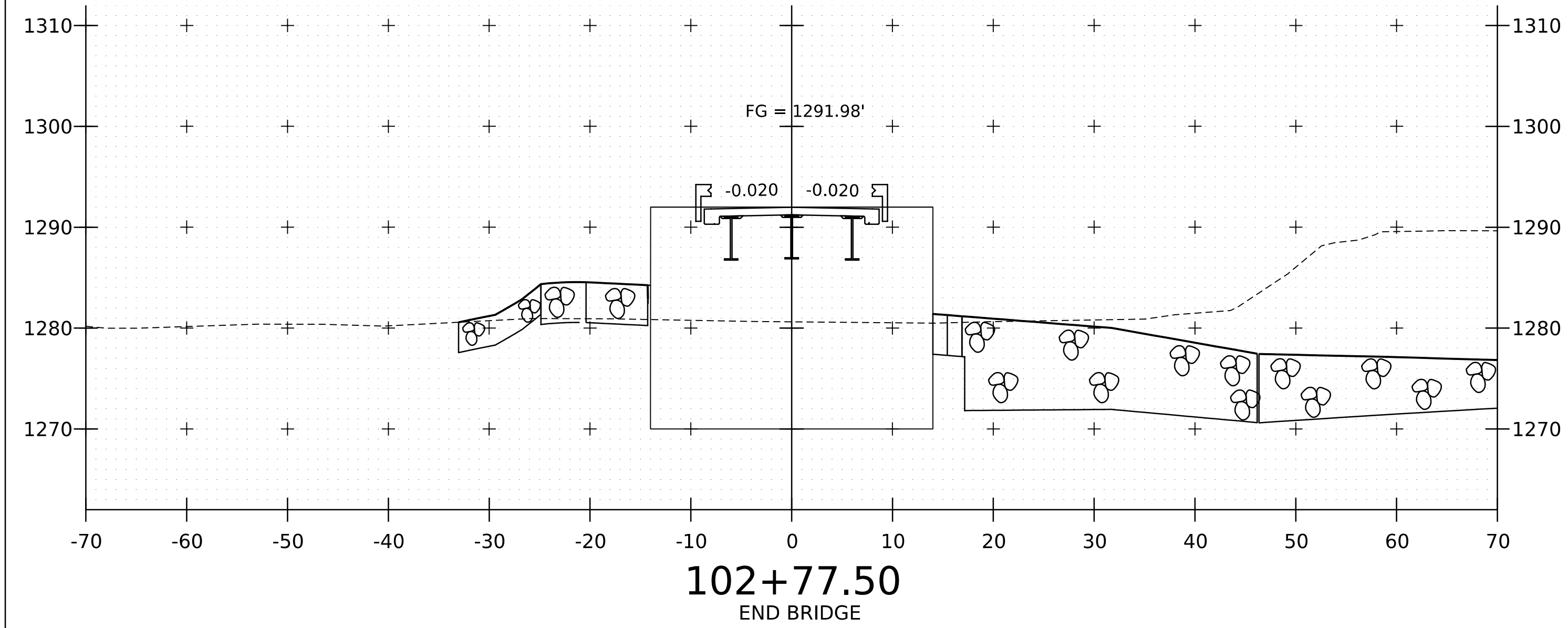
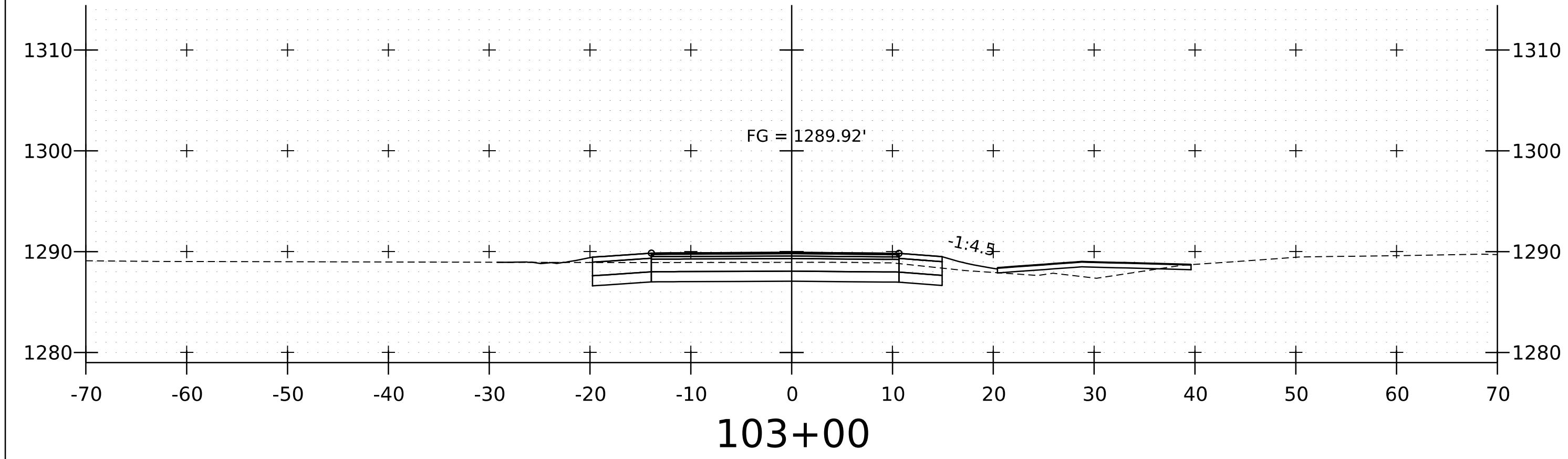
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PROJECT NUMBER: B0 1443(56)	
FILE NAME: si2j642bor.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: R. HOOD
DESIGNED BY: R. HOOD	CHECKED BY: D. PETERSON
BORING LOG SHEET 2	SHEET 15 OF 27



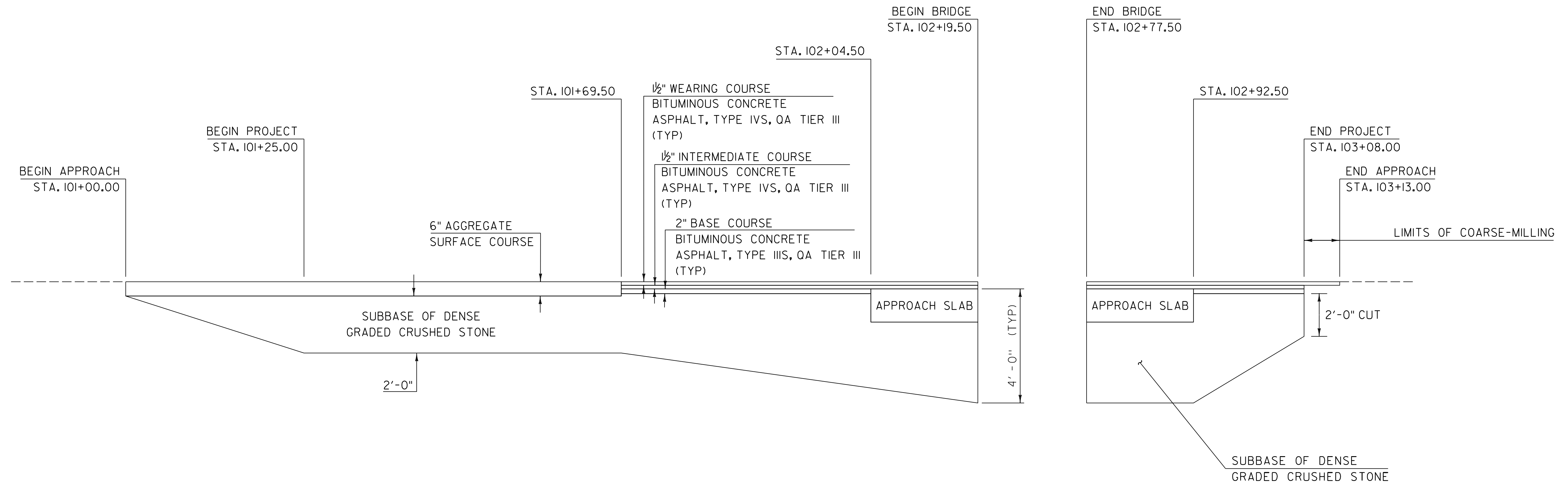
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PROJECT NUMBER:	VTrans PROJECT NUMBER
FILE NAME: s12j642xs.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D.PETERSON	DRAWN BY: G.ROKES
DESIGNED BY: G.ROKES	CHECKED BY: R.HOOD
TH-17 MAINLINE SECTIONS 1	SHEET 16 OF 27



PROJECT NAME:	MT HOLLY
PROJECT NUMBER:	VTrans PROJECT NUMBER
FILE NAME: s12j642xs.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D.PETERSON	DRAWN BY: G.ROKES
DESIGNED BY: G.ROKES	CHECKED BY: R.HOOD
TH-17 MAINLINE SECTIONS 2	SHEET 17 OF 27



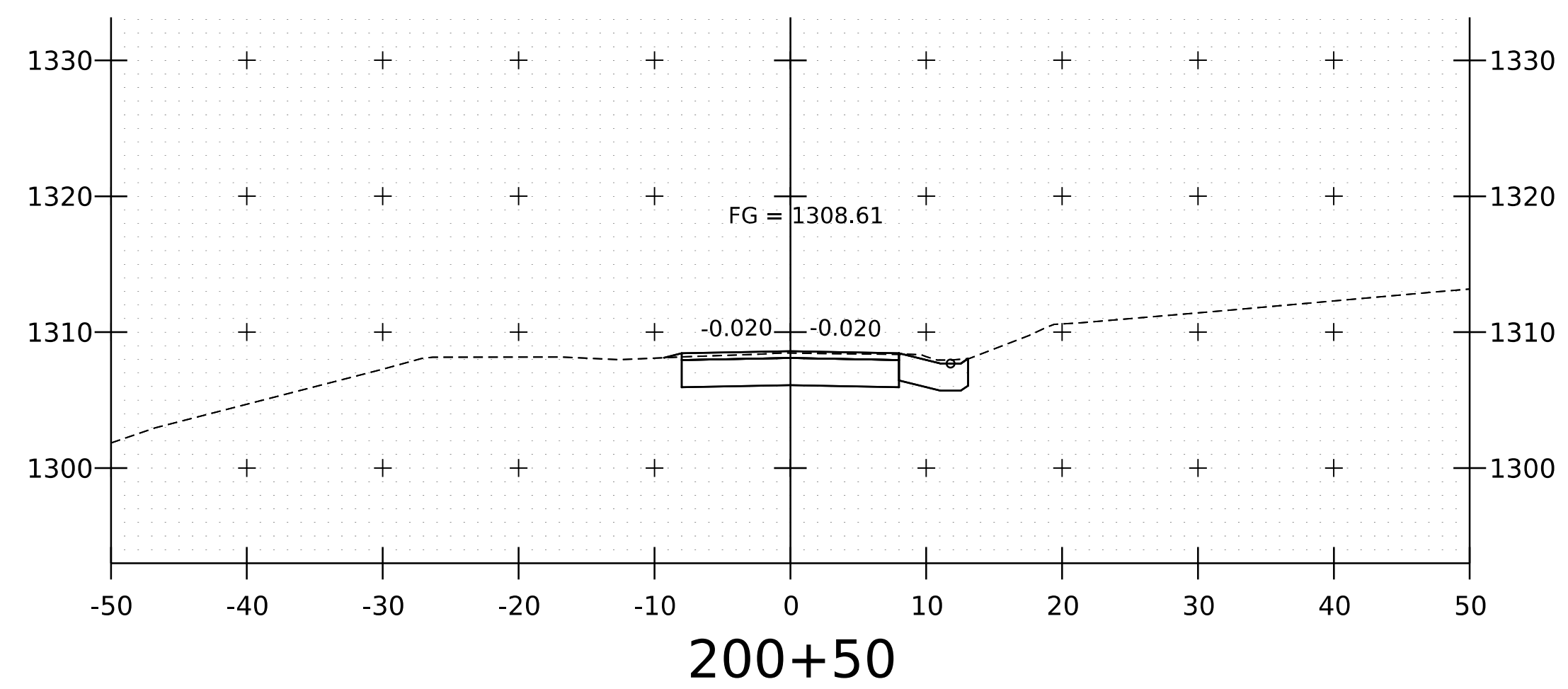
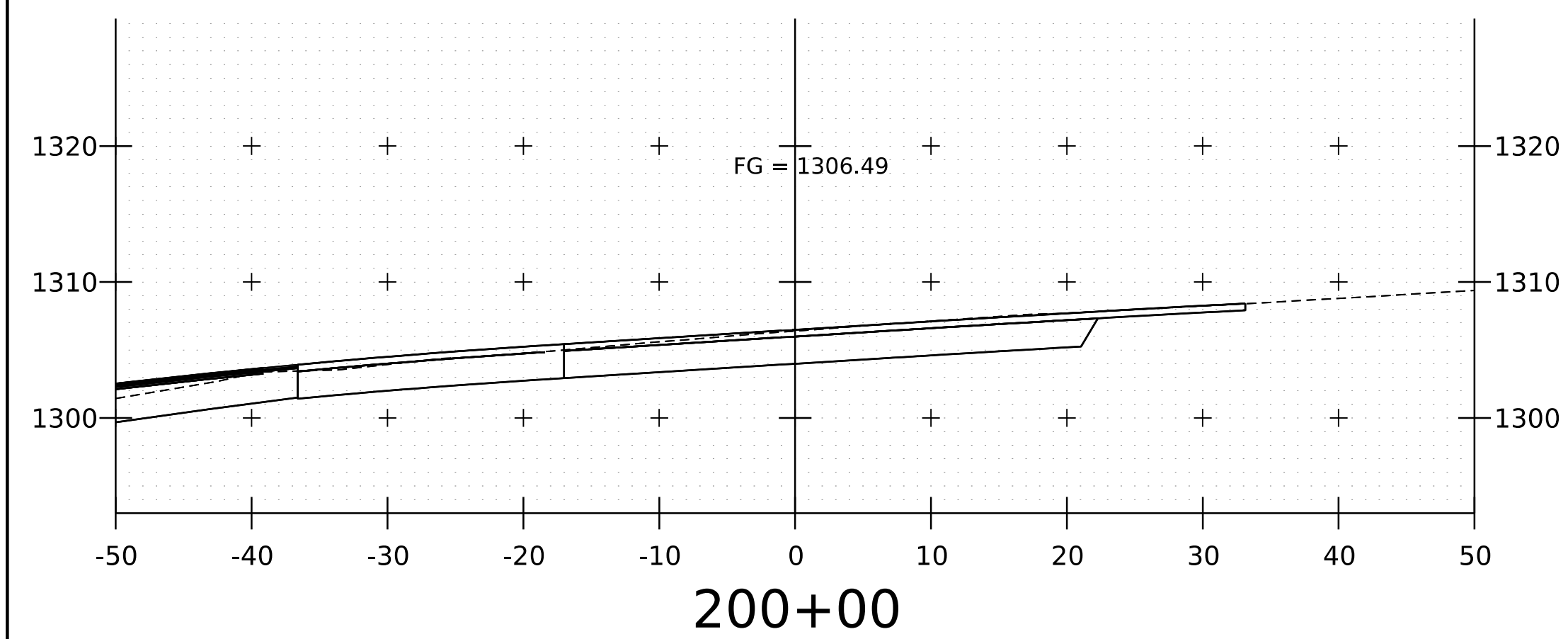
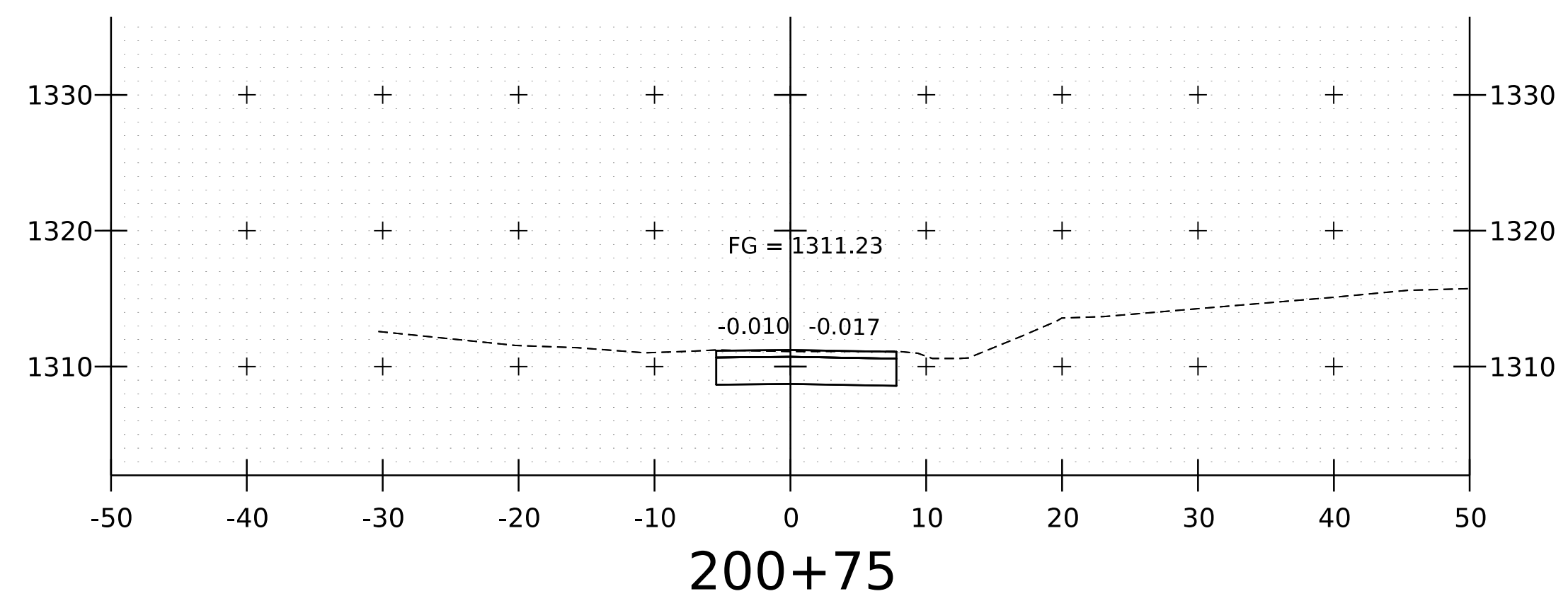
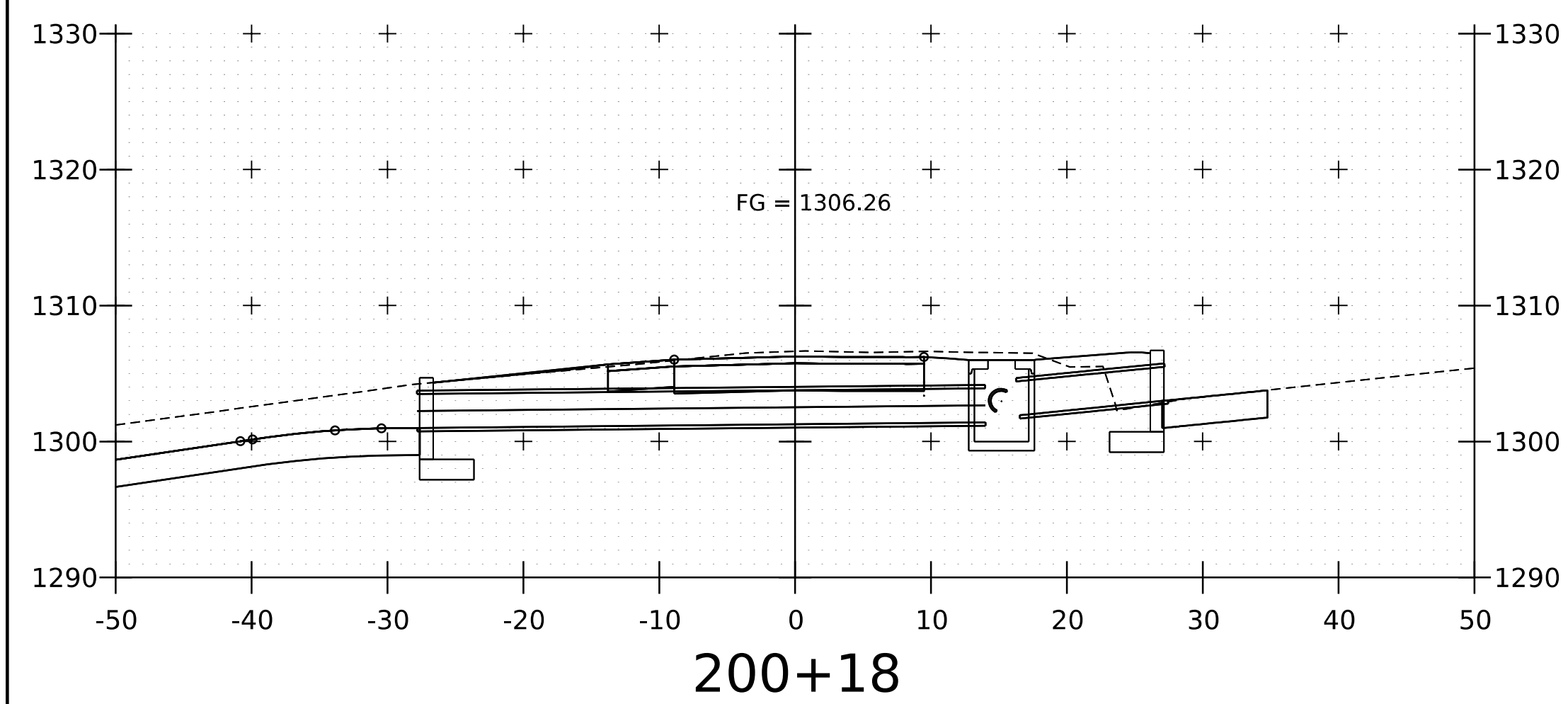
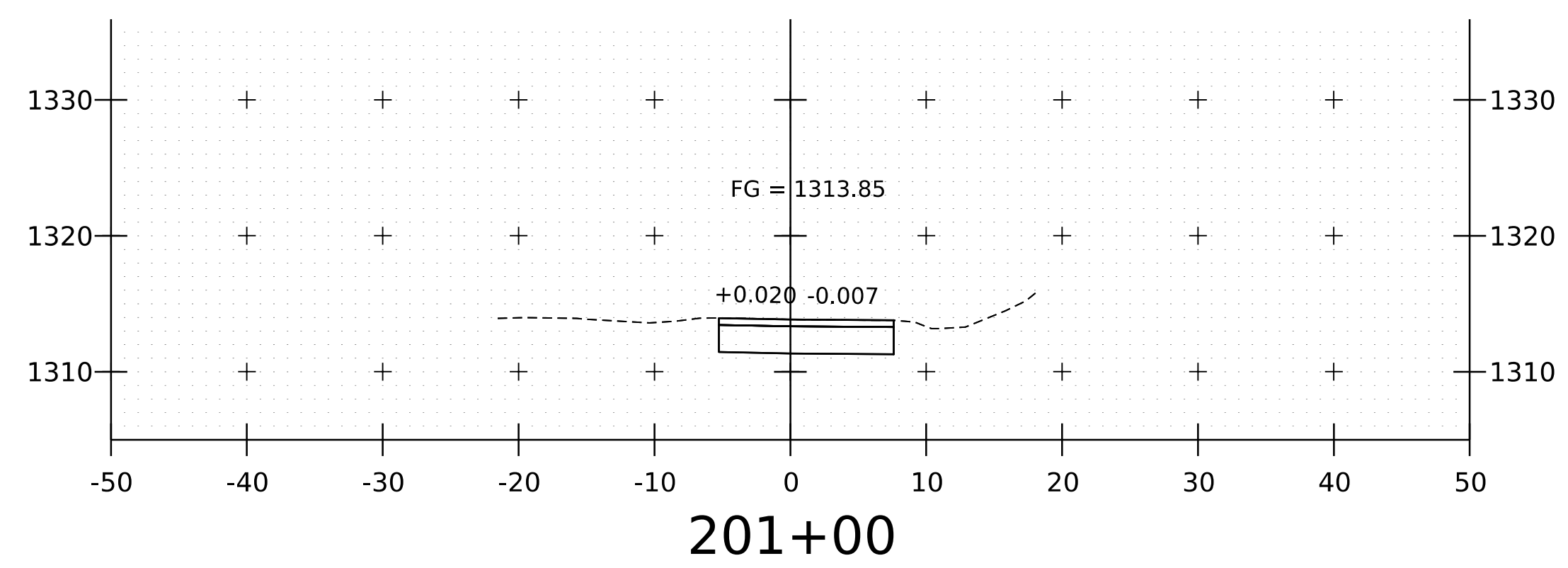
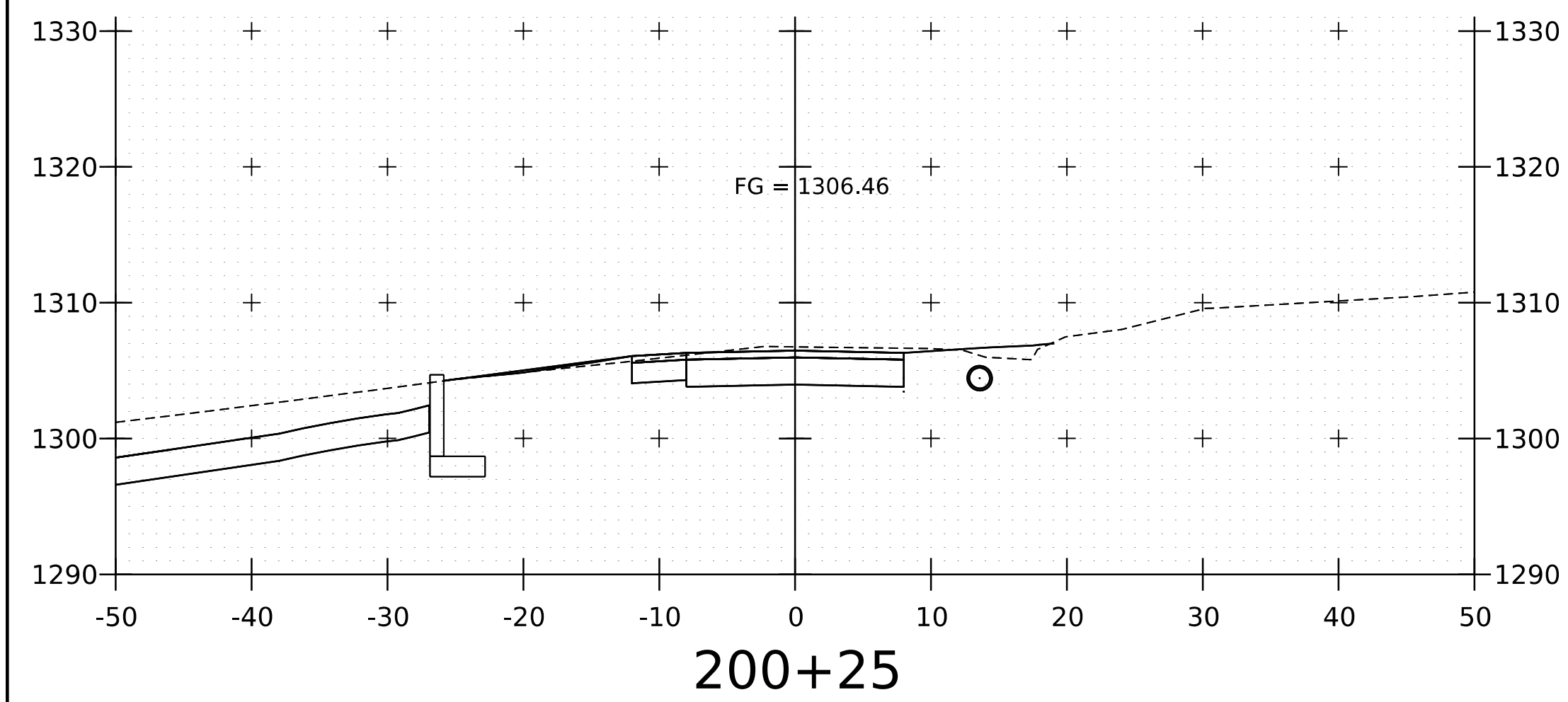
PROJECT NAME:	MT HOLLY
PROJECT NUMBER:	VTrans PROJECT NUMBER
FILE NAME: s12j642xs.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D.PETERSON	DRAWN BY: G.ROKES
DESIGNED BY: G.ROKES	CHECKED BY: R.HOOD
TH-17 MAINLINE SECTIONS 3	SHEET 18 OF 27



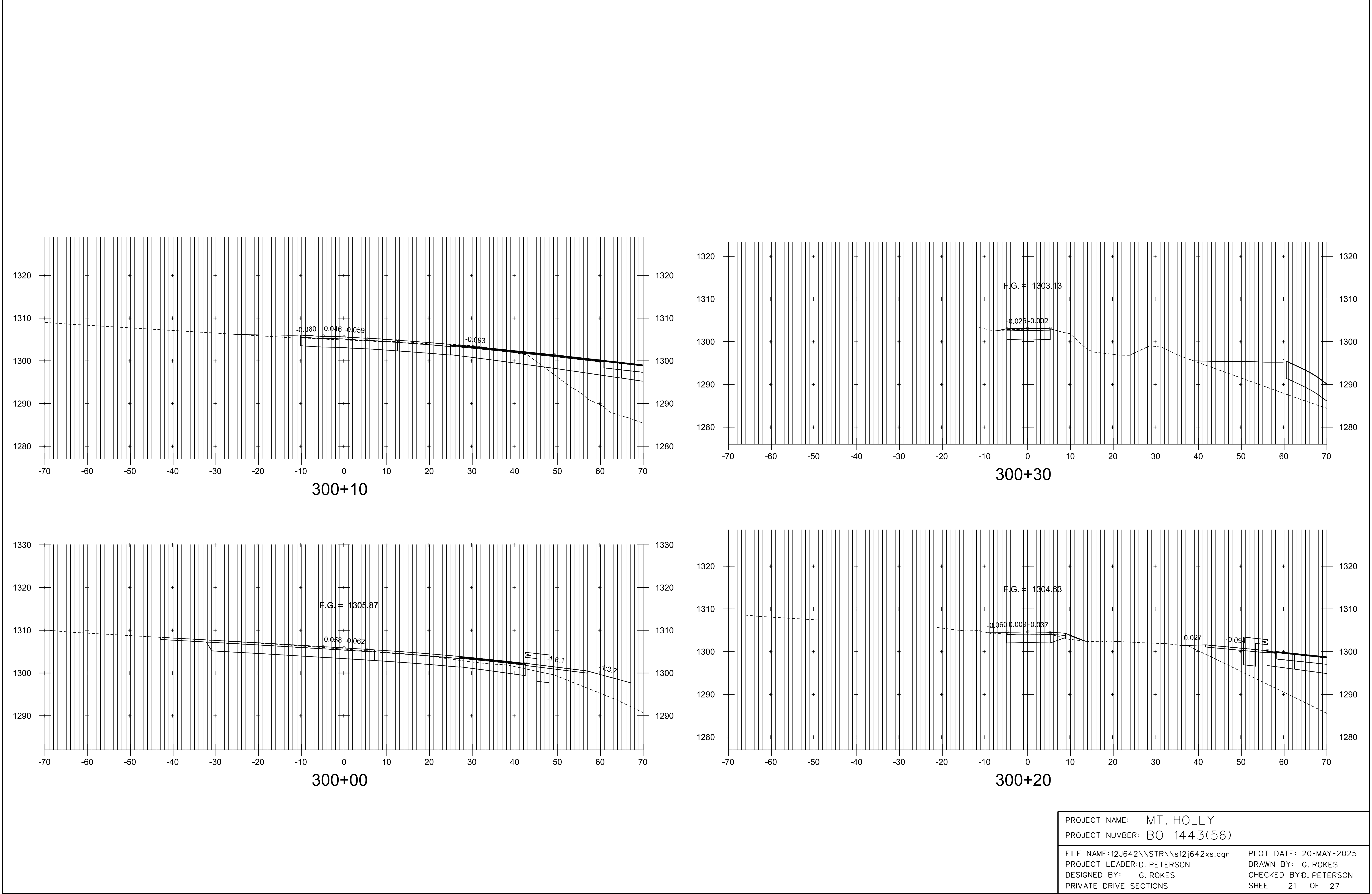
### TH-17 MATERIAL TRANSITION

SCALE: HORIZONTAL 1/8" = 1' - 0"  
VERTICAL 1/32" = 1' - 0"

PROJECT NAME: MT. HOLLY	
PROJECT NUMBER: BO 1443(56)	
FILE NAME: sl2j642mat.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: R. HOOD
DESIGNED BY: R. HOOD	CHECKED BY: D. PETERSON
MATERIAL TRANSITION	SHEET 19 OF 27

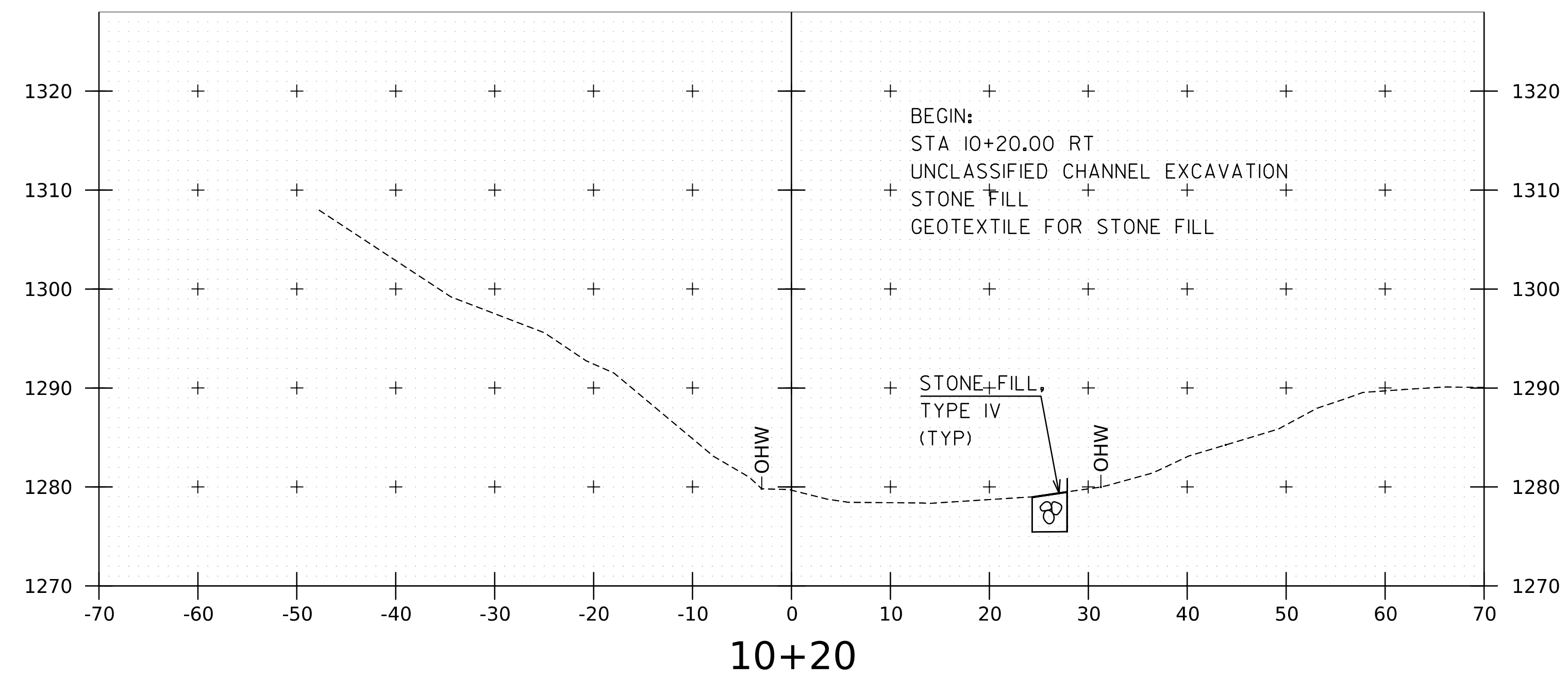
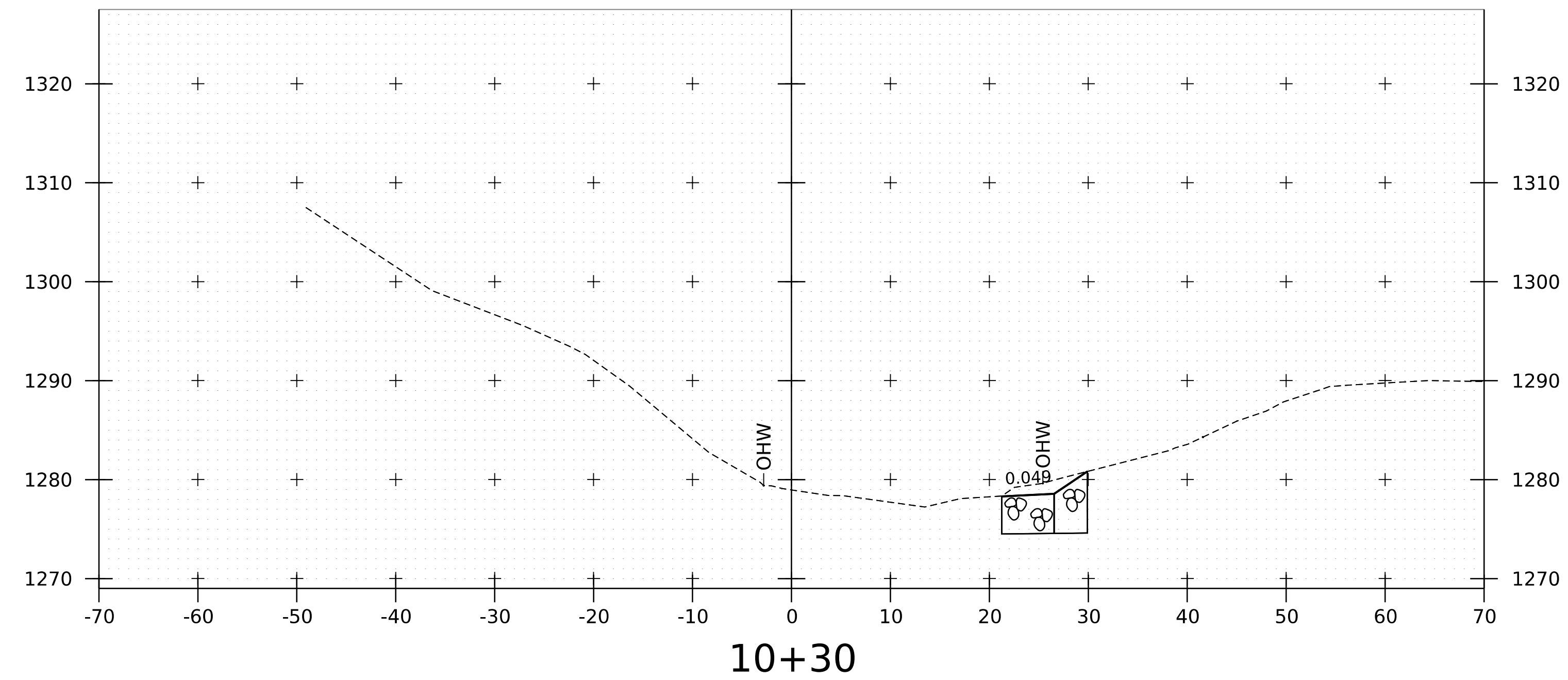
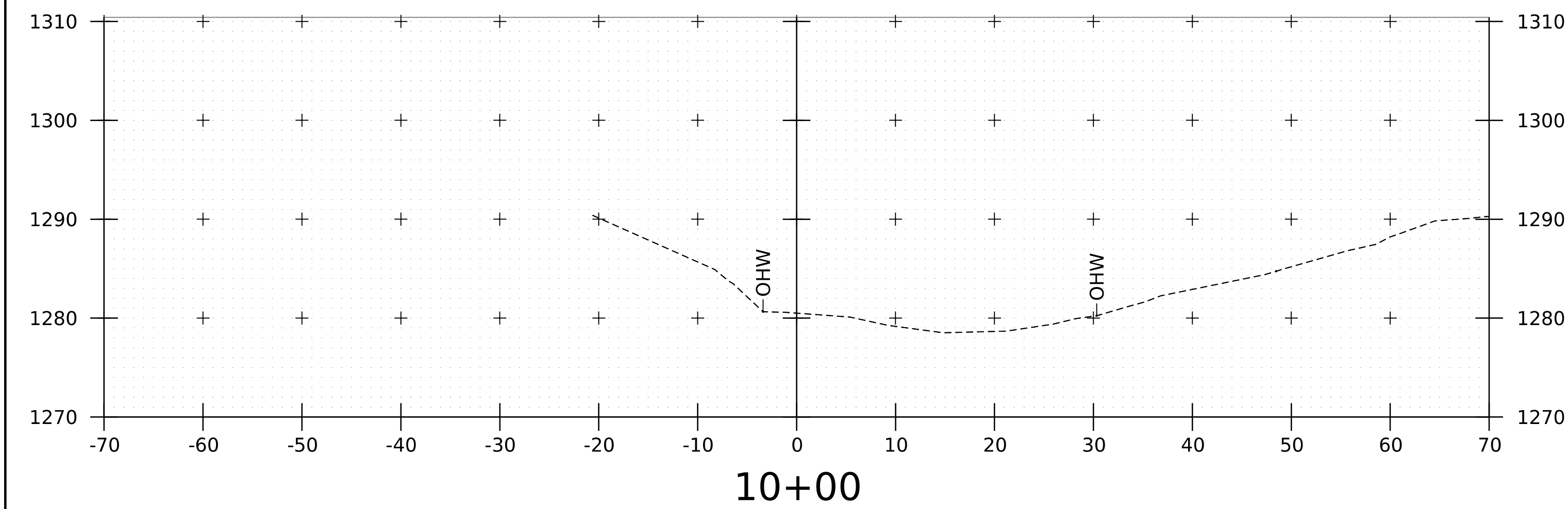
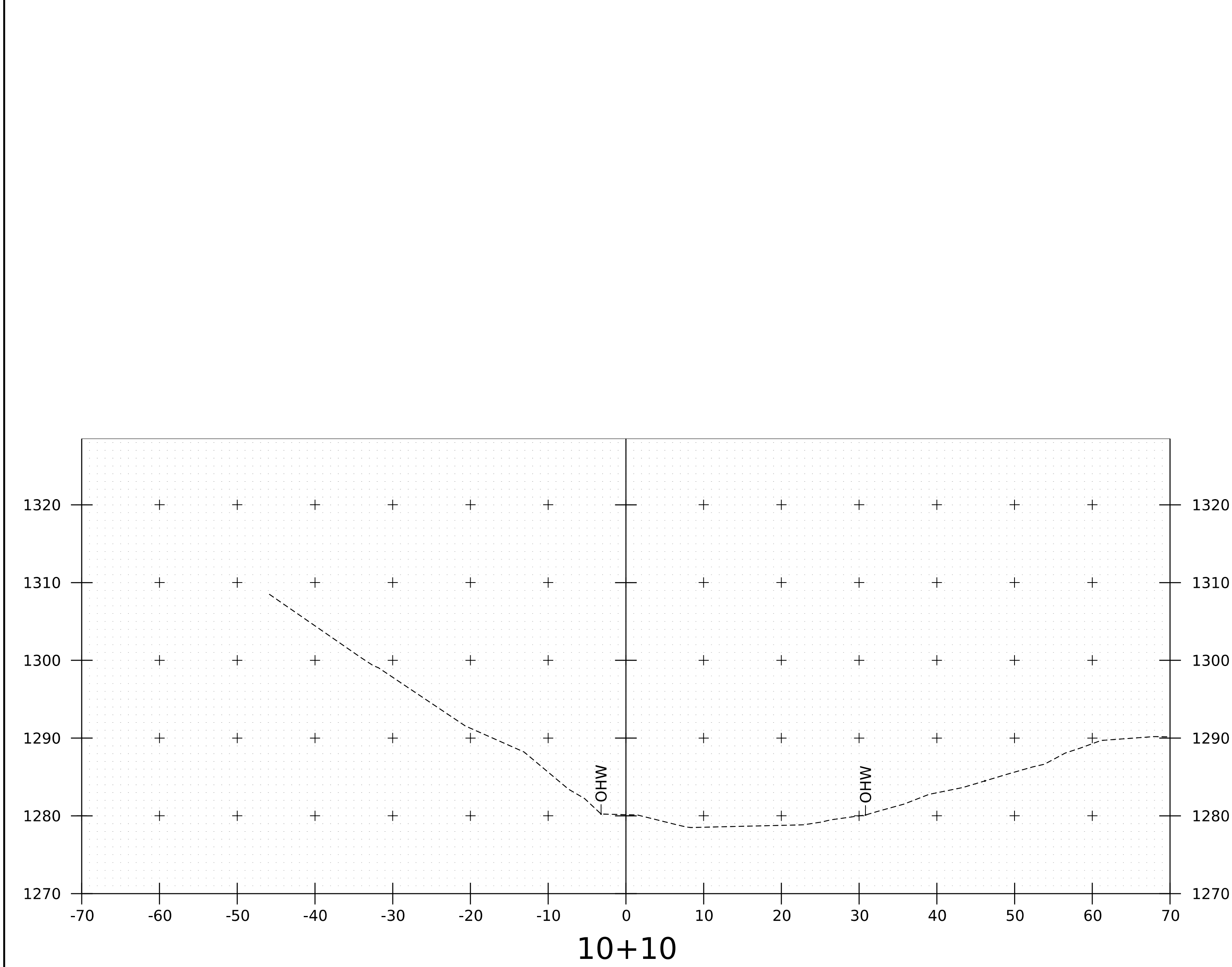


PROJECT NAME:	MT HOLLY
PROJECT NUMBER:	VTrans PROJECT NUMBER
FILE NAME:	s12j642TH20 xs.dgn
PROJECT LEADER:	D.PETERSON
DESIGNED BY:	R.HOOD
TH-20 ROADWAY SECTIONS	
PLOT DATE:	20-MAY-2025
DRAWN BY:	G.ROKES
CHECKED BY:	R.HOOD
SHEET	20 OF 27

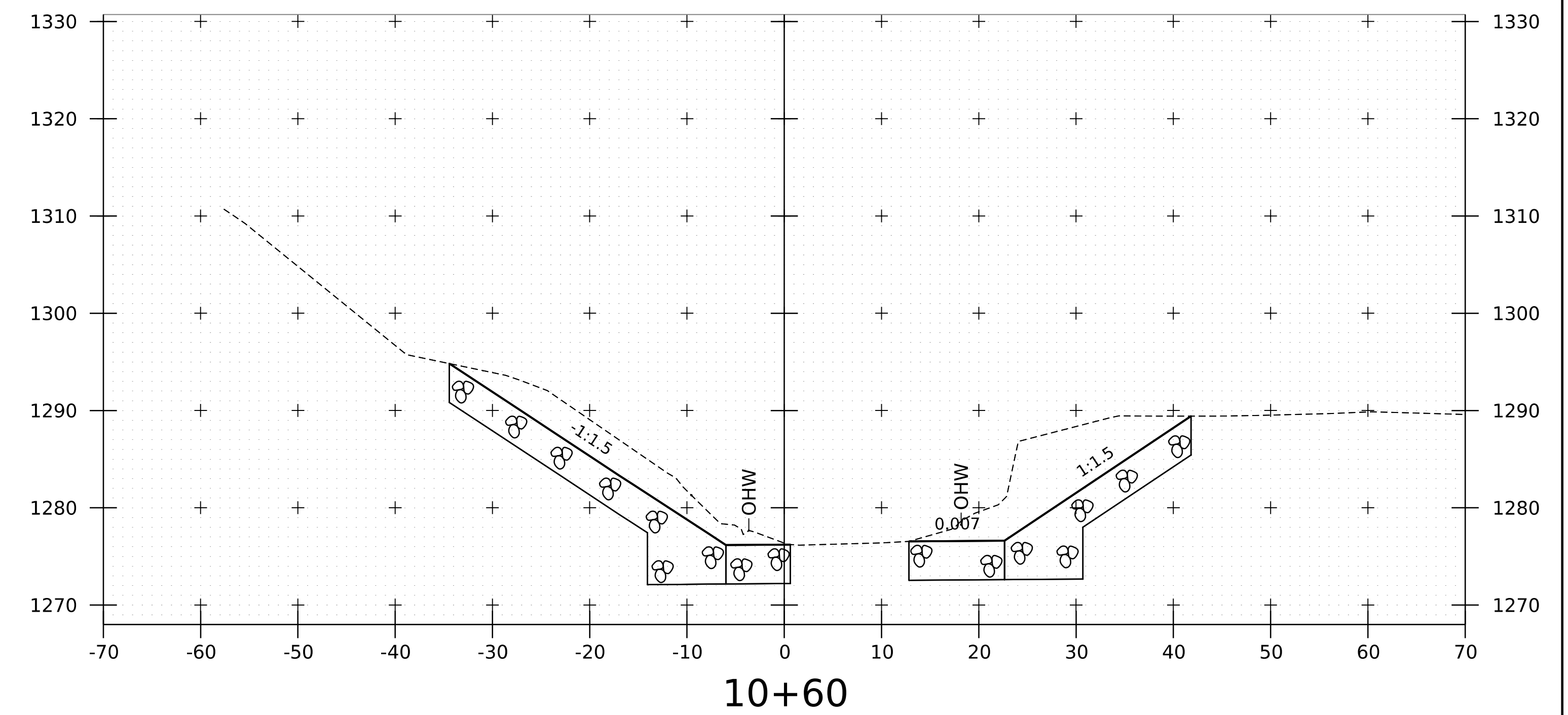
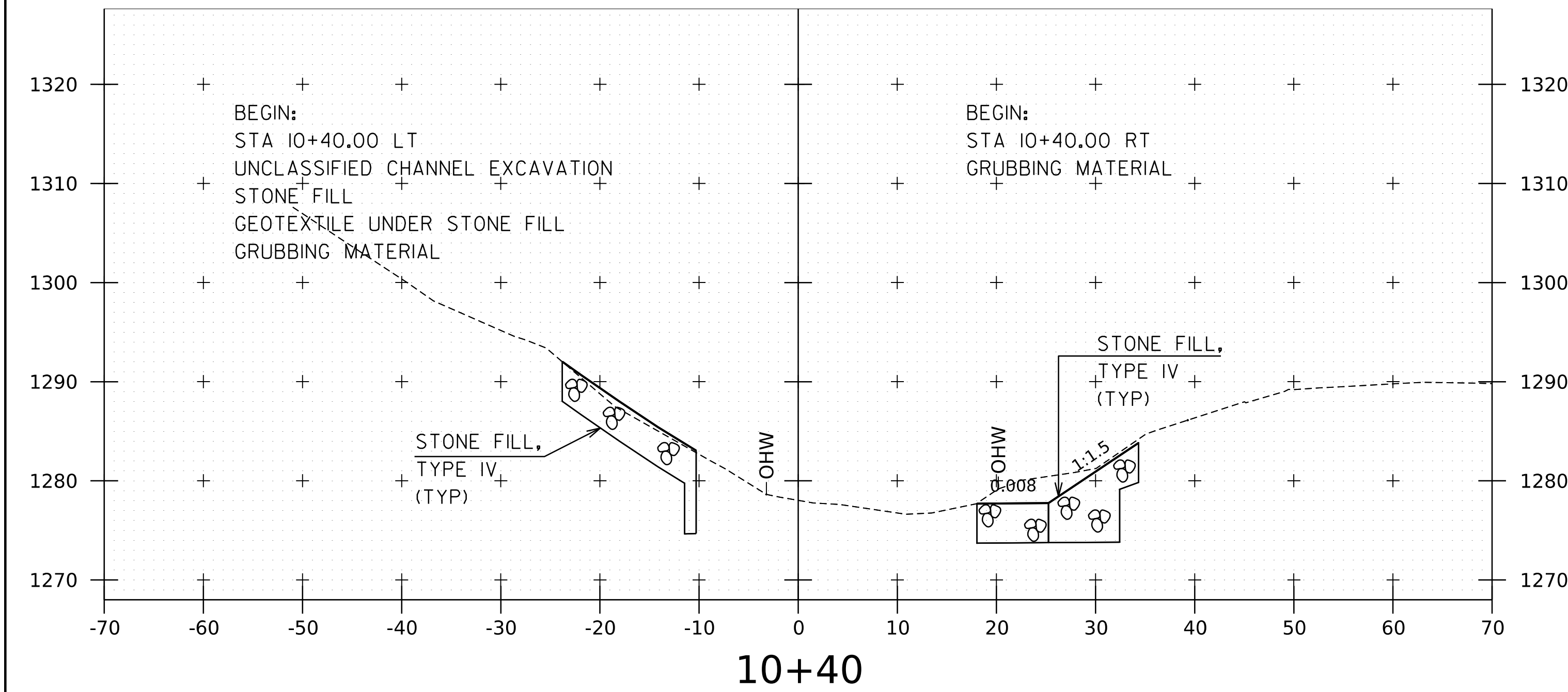
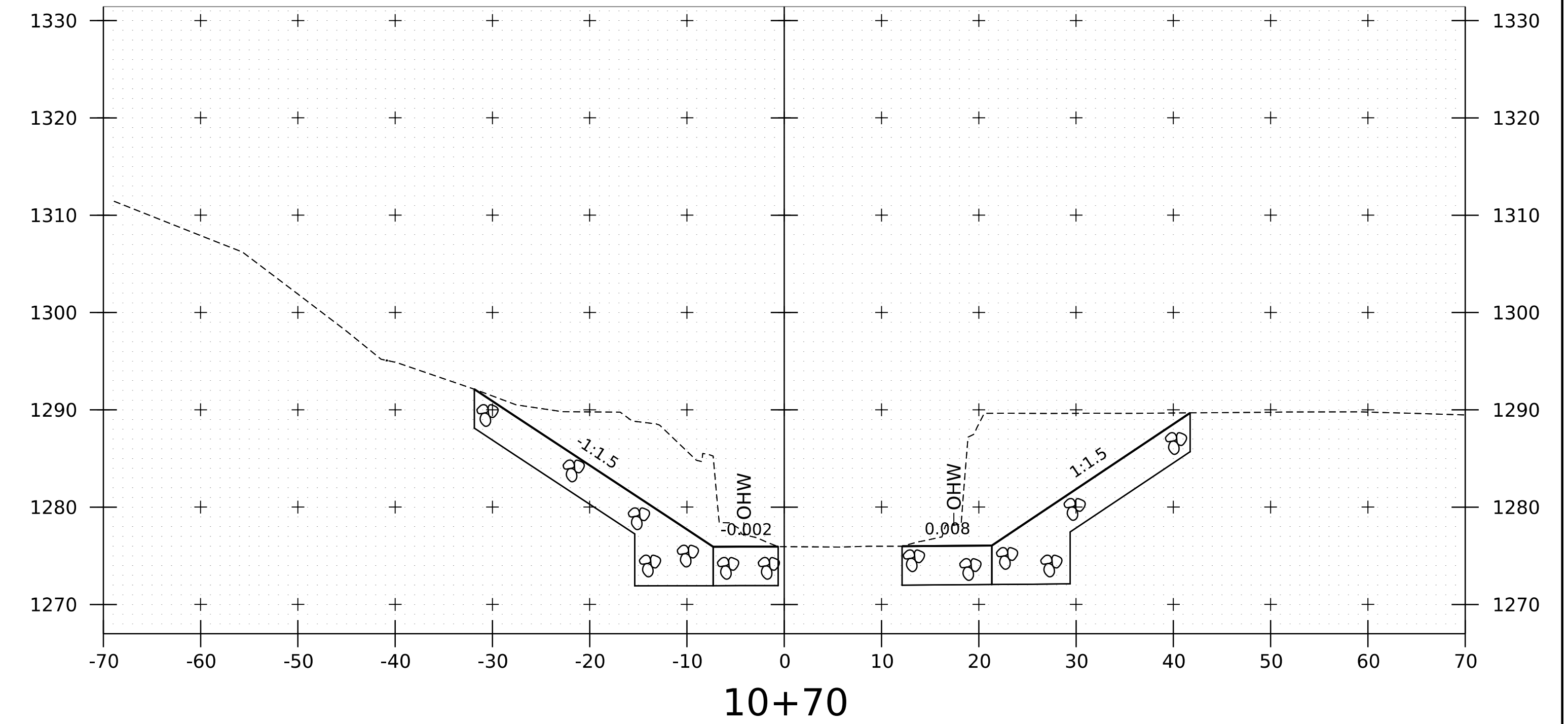
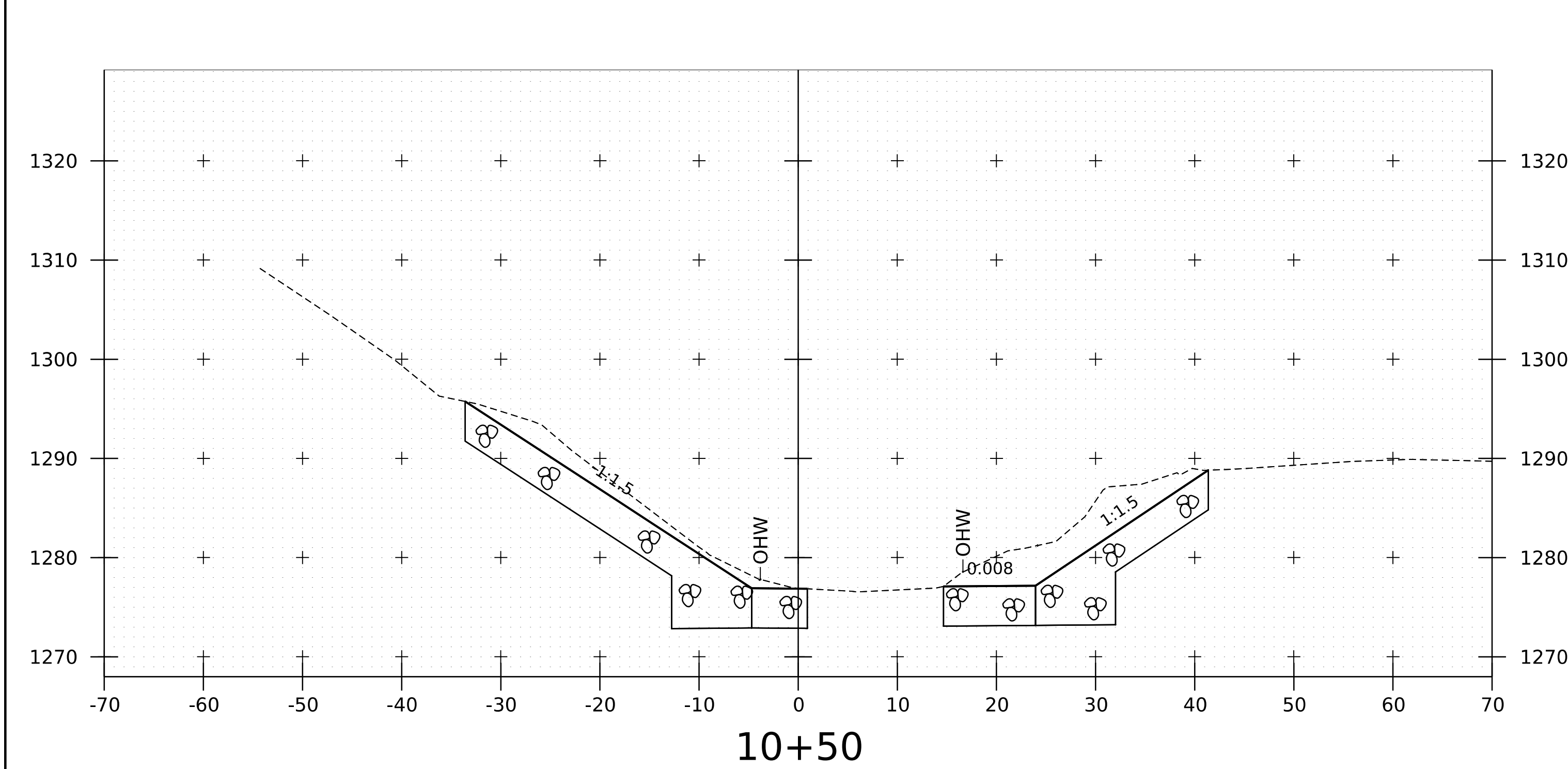


PROJECT NAME: MT. HOLLY  
PROJECT NUMBER: BO 1443(56)

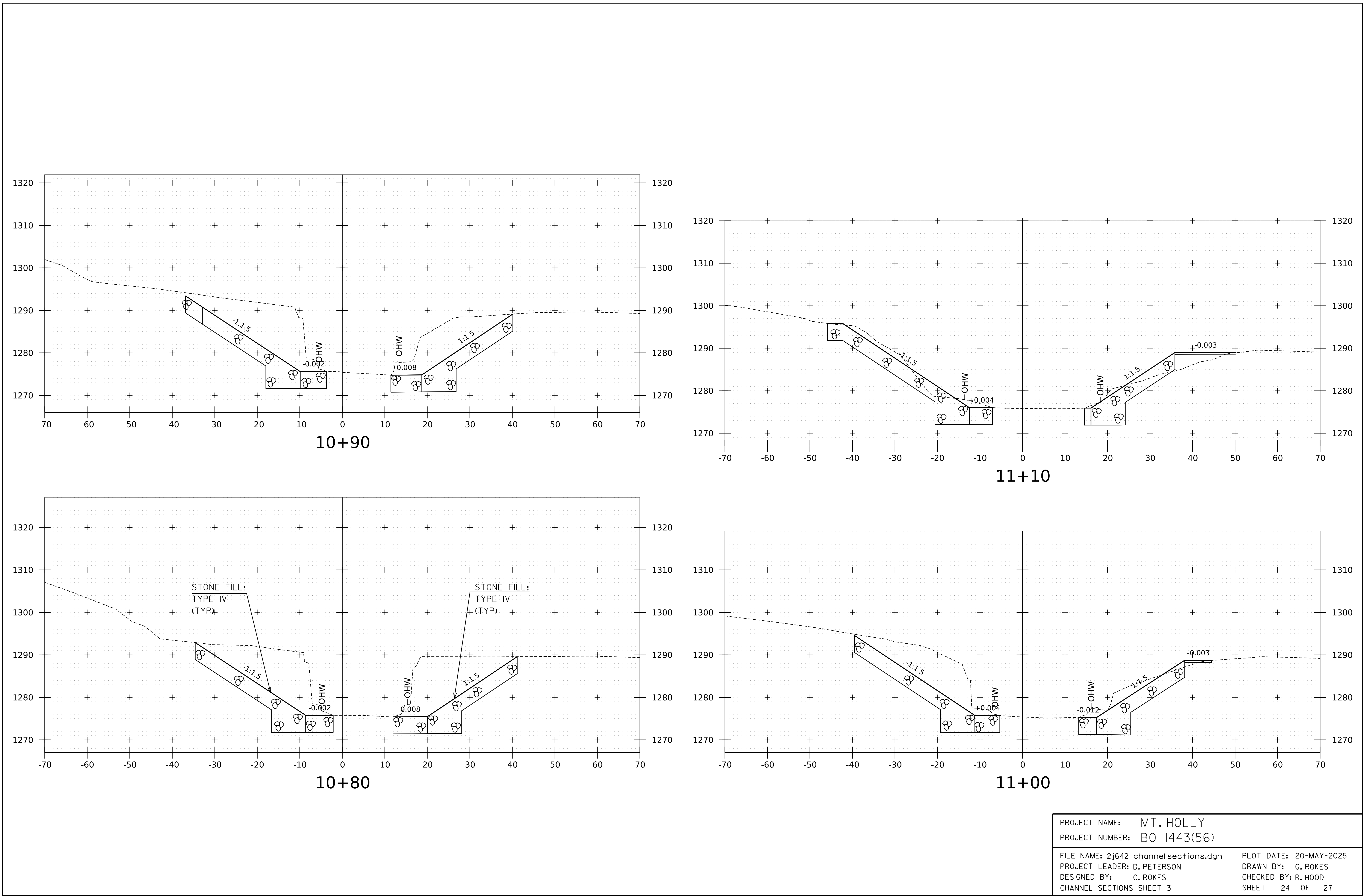
FILE NAME: 12J642\STR\12j642xs.dgn PLOT DATE: 20-MAY-2025  
PROJECT LEADER: D. PETERSON DRAWN BY: G. ROKES  
DESIGNED BY: G. ROKES CHECKED BY: D. PETERSON  
PRIVATE DRIVE SECTIONS SHEET 21 OF 27



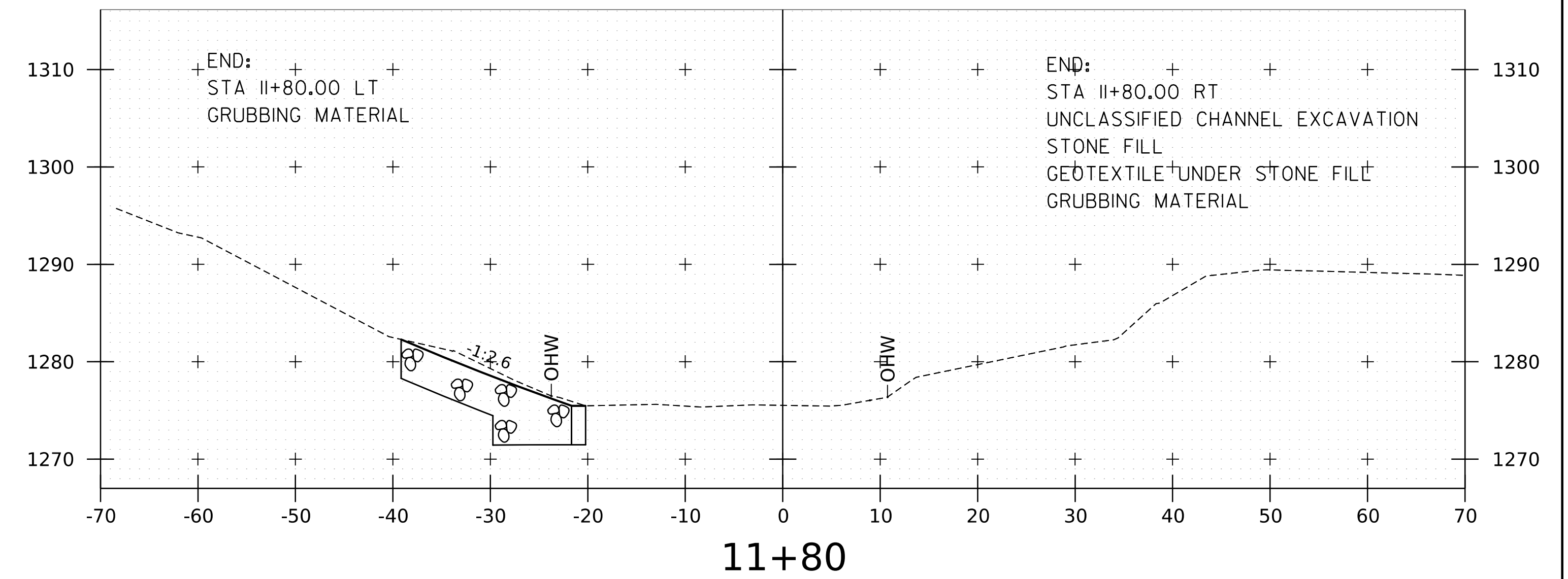
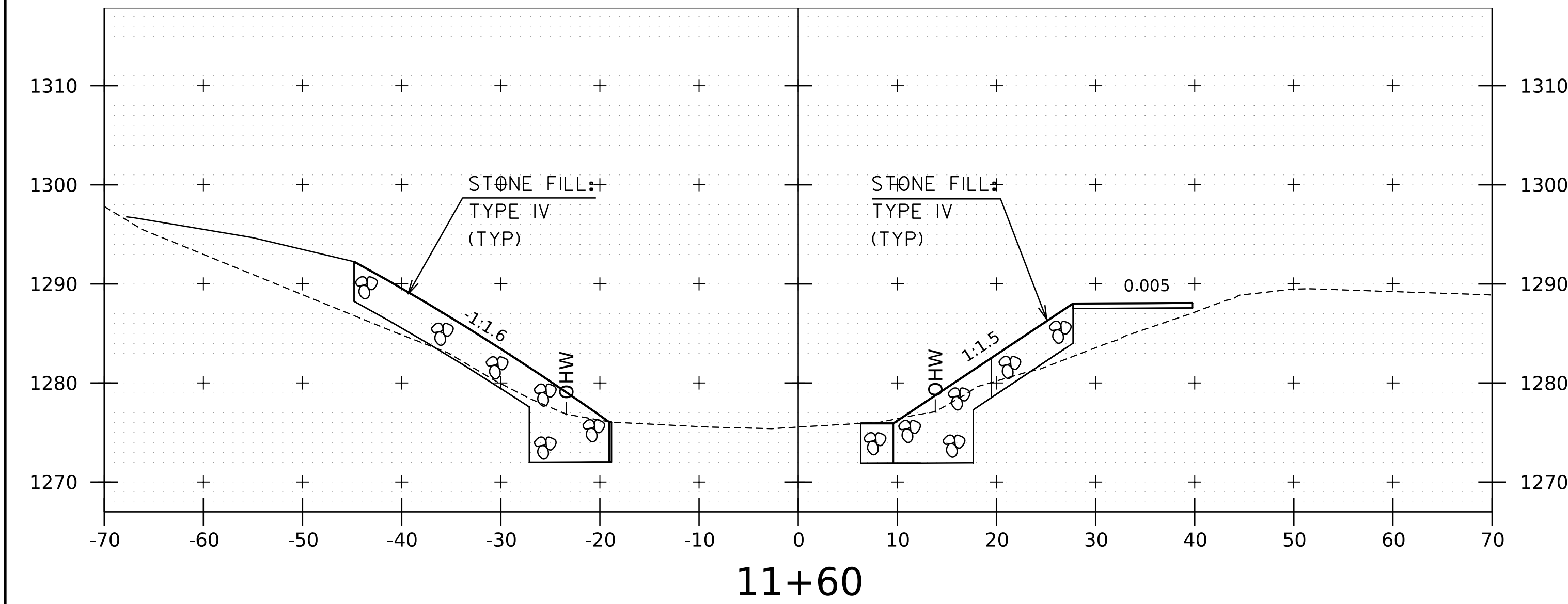
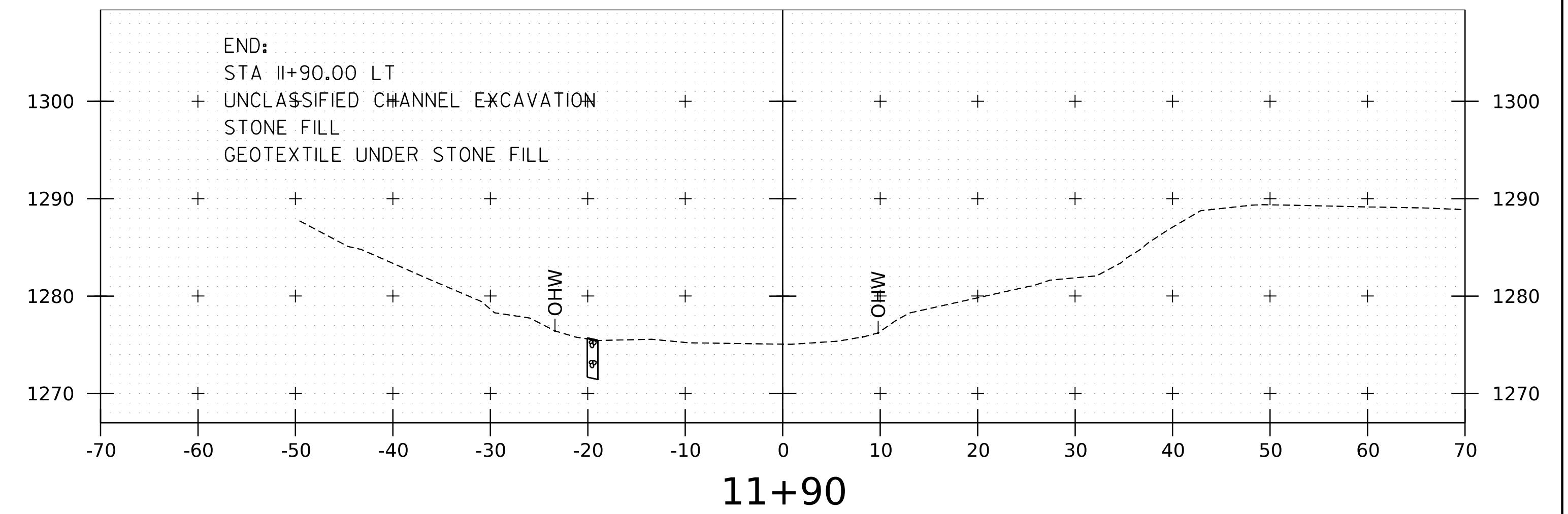
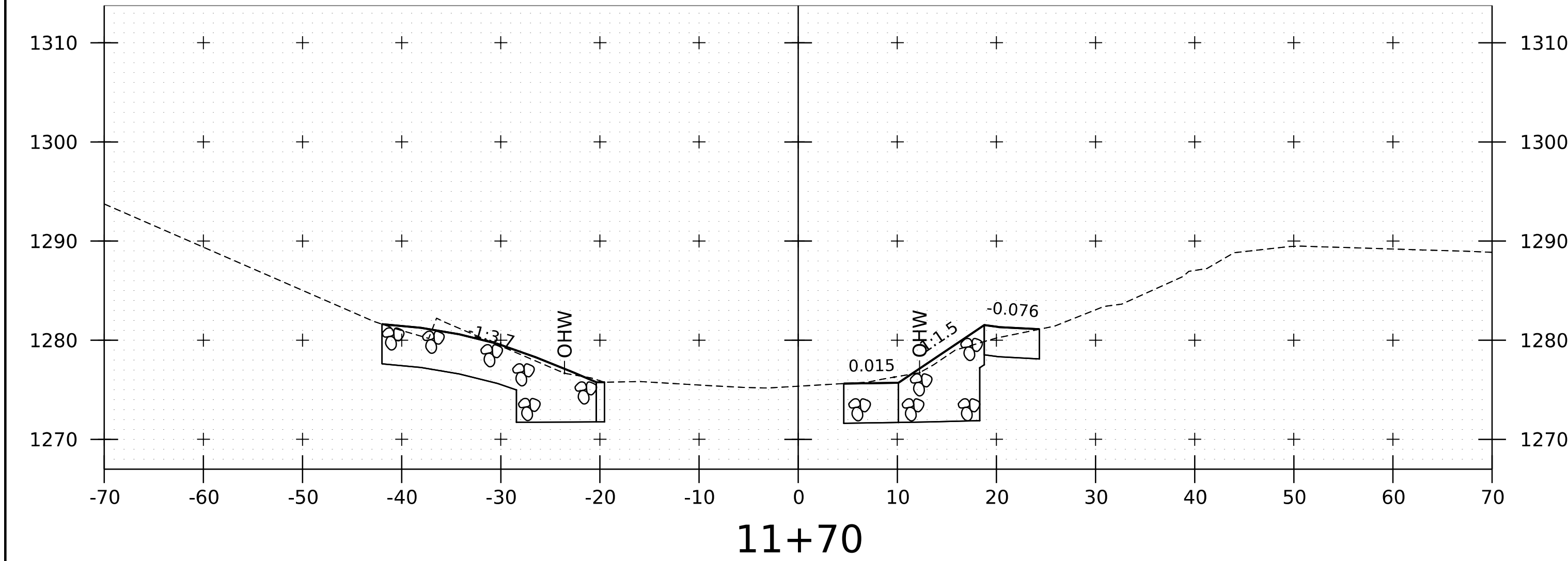
PROJECT NAME: MT. HOLLY	
PROJECT NUMBER: BO 1443(56)	
FILE NAME: I2J642 channel sections.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: R. HOOD
CHANNEL SECTIONS SHEET 1	SHEET 22 OF 27



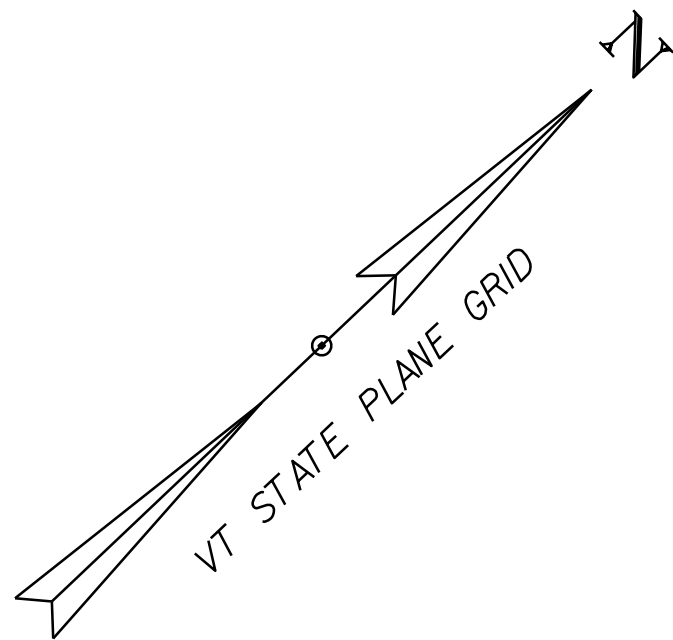
PROJECT NAME:	MT. HOLLY
PROJECT NUMBER:	BO 1443(56)
FILE NAME: I2J642 channel sections.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: R. HOOD
CHANNEL SECTIONS SHEET 2	SHEET 23 OF 27







PROJECT NAME: MT. HOLLY	
PROJECT NUMBER: BO 1443(56)	
FILE NAME: I2J642 channel sections.dgn	PLOT DATE: 20-MAY-2025
PROJECT LEADER: D. PETERSON	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: R. HOOD
CHANNEL SECTIONS SHEET 5	SHEET 26 OF 27



SOIL INFORMATION:  
PERU FINE SANDY LOAM  
MODERATE EROSION POTENTIAL  
K-FACTOR = 0.24, 15%-25%  
HYDROLOGICAL SOIL GROUP: C/D

SOIL INFORMATION:  
TUNBRIDGE-BERKSHIRE COMPLEX  
MODERATE EROSION POTENTIAL  
K-FACTOR = 0.24, 15%-35%  
HYDROLOGICAL SOIL GROUP: C

SOIL INFORMATION:  
LYME FINE SANDY LOAM  
MODERATE EROSION POTENTIAL  
K-FACTOR = 0.28, 0%-8%  
HYDROLOGICAL SOIL GROUP: B/D

SOIL INFORMATION:  
COLTON-DUXBURY COMPLEX  
MODERATE EROSION POTENTIAL  
K-FACTOR = 0.24-0.32, 8%-15%  
HYDROLOGICAL SOIL GROUP: A

SOIL INFORMATION:  
SHEEPSHOT FINE SANDY LOAM  
LOW EROSION POTENTIAL  
K-FACTOR = 0.17, 2%-8%  
HYDROLOGICAL SOIL GROUP: B

SOIL INFORMATION:  
PERU FINE SANDY LOAM  
MODERATE EROSION POTENTIAL  
K-FACTOR = 0.24, 0%-8%  
HYDROLOGICAL SOIL GROUP: C/D

PROJECT NAME: MT. HOLLY  
PROJECT NUMBER: BO 1443(56)

FILE NAME: sl2j642bdr_existing.dgn  
PROJECT LEADER: D. PETERSON  
DESIGNED BY: R. HOOD  
EXISTING CONDITIONS LAYOUT

PLOT DATE: 20-MAY-2025  
DRAWN BY: R. HOOD  
CHECKED BY: D. PETERSON  
SHEET 27 OF 27

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