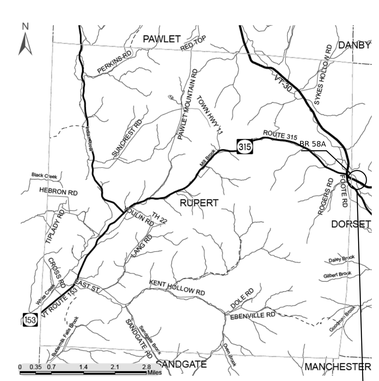
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF DORSET
COUNTY OF BENNINGTON

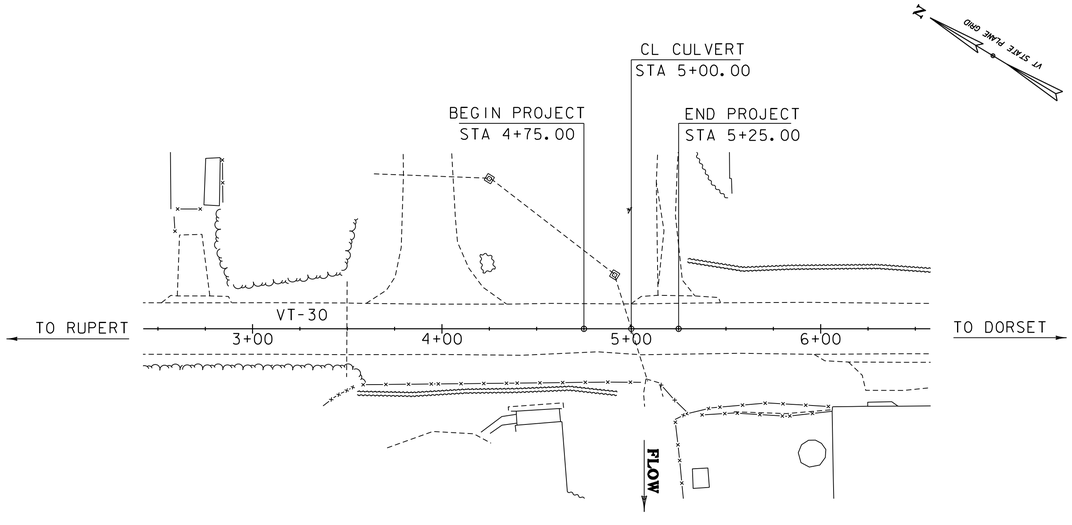
ROUTE NO : VERMONT ROUTE 30, RURAL MINOR ARTERIAL

BRIDGE NO : 58A

PROJECT LOCATION : IN THE TOWN OF DORSET ON VT ROUTE 30 OVER A CATTLE PASS, APPROXIMATELY 7.1 MILES NORTH OF THE JUNCTION WITH VT ROUTE 7A.

PROJECT DESCRIPTION : REMOVAL OF CATTLE PASS AND INSTALLATION OF A DRAINAGE STRUCTURE AND PIPE WITH RELATED APPROACH ROADWAY WORK.

LENGTH OF STRUCTURE:	3.14 FEET
LENGTH OF ROADWAY:	50 FEET
LENGTH OF PROJECT:	46.86 FEET



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

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
SURVEYED DATE :	7/13/2022
DATUM	
VERTICAL	NAD83 (2011)
HORIZONTAL	NAVD88

CONCEPTUAL PLANS
26-MAR-2024

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : ROBERT KLINEFELTER

PROJECT NAME : DORSET
PROJECT NUMBER : STP CULV (91)

SHEET 1 OF 10 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (CULVERT)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

DETAIL SHEETS

NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE
NUMBER	DESCRIPTION	DATE

STANDARDS LIST

FINAL HYDRAULIC REPORT

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN ONE-WAY TRAFFIC ON THE EXISTING STRUCTURE.
2. INSTALL AND MAINTAIN TRAFFIC SIGNALS.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD		---
2. FUTURE PAVEMENT	d_p:	3.0 INCH
3. CULVERT OPENING	D:	3.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5. PRESTRESSING STRAND	f_y:	---
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8. HIGH PERFORMANCE CONCRETE, CLASS PCD	f'_c:	---
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	f'_c:	3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS SCC	f'_c:	---
11. CONCRETE, CLASS C	f'_c:	---
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	---
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	---
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	---
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
18. PILE RESISTANCE FACTOR	ϕ:	NA
19. LATERAL PILE DEFLECTION	Δ:	NA INCH
20. BASIC WIND SPEED	V_{3s}:	---
21. MINIMUM GROUND SNOW LOAD	p_g:	---
22. SEISMIC DATA — PGA: ---	S_s:	---
	S_1:	---
23.		
24.		---
25.		---
26.		---

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:	TABLE TO BE COMPLETED BY CONTRACTOR'S DESIGNER						

CULVERT DESIGN CRITERIA

1. PROPOSED CULVERT IS A STEEL CORRUGATED (3'-0" X 3'-0" X 200'-0" PIPE).
2. CULVERT ENDS ARE NOT SKEWED.
3. CULVERT WILL BE SET AT A SLOPE OF 12.00 IN. ON 48 FT.
4. CULVERT WILL NOT REQUIRE FISH PASSAGE ACCOMODATIONS
5. CULVERT CONSTRUCTION WILL NOT REQUIRE A TEMPORARY PIPE

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2027	3700	440	69	9.4	404
2047	4059	480	69	13.6	643

20 year ESAL for flexible pavement from 2027 to 2047 : 3934000

40 year ESAL for flexible pavement from 2027 to 2067 : 8232000

Design Speed : 40 mph

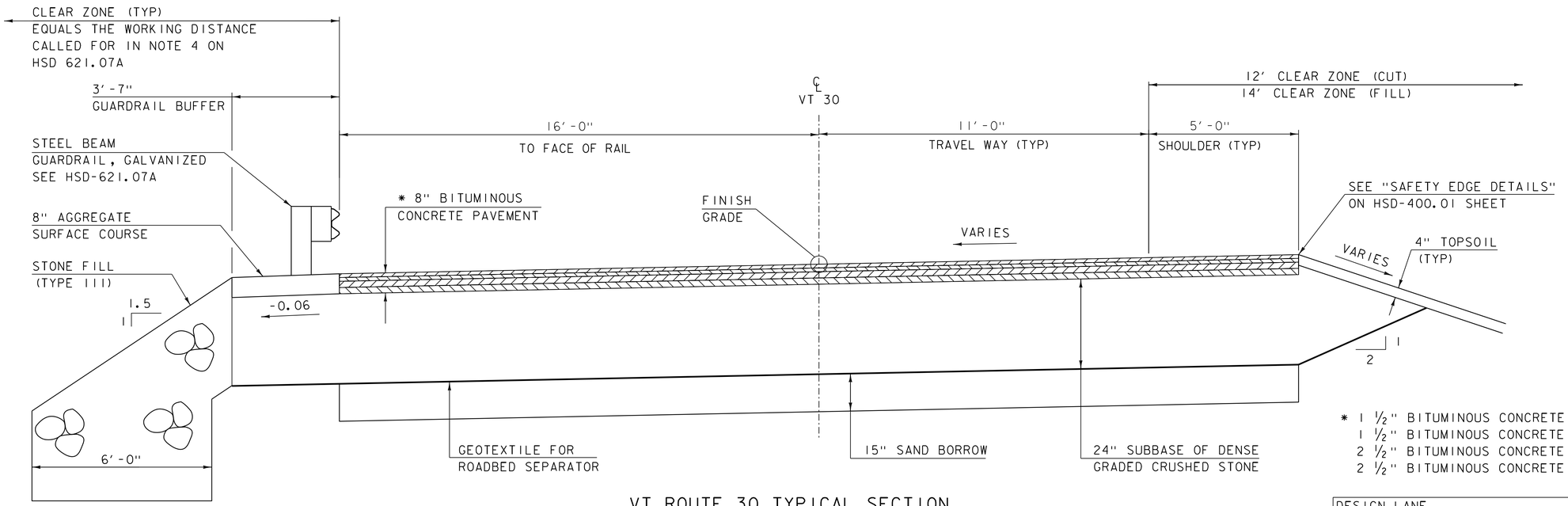
AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

PROJECT NAME: DORSET
PROJECT NUMBER: STP CULV(126)

FILE NAME: s23b031forms.dgn
PROJECT LEADER: R. KLINEFELTER
DESIGNED BY: C. MOONEY
PRELIMINARY INFORMATION SHEET 1

PLOT DATE: 3/22/2024
DRAWN BY: C. MOONEY
CHECKED BY: TBD
SHEET 2 OF 10

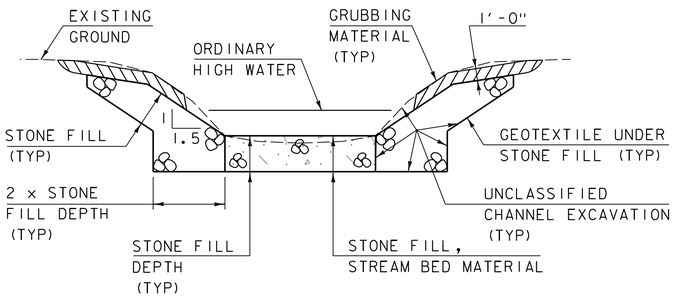


VT ROUTE 30 TYPICAL SECTION

SCALE: ½" = 1'-0"

* 1 ½" BITUMINOUS CONCRETE PAVEMENT, TYPE IVS OVER
1 ½" BITUMINOUS CONCRETE PAVEMENT, TYPE IVS OVER
2 ½" BITUMINOUS CONCRETE PAVEMENT, TYPE IIS OVER
2 ½" BITUMINOUS CONCRETE PAVEMENT, TYPE IIS

DESIGN LANE	4,809,000
PERFORMANCE GRADE ASPHALT BINDER	70-28
DESIGN NUMBER OF GYRATIONS	80



TYPICAL CHANNEL SECTION

(NOT TO SCALE)

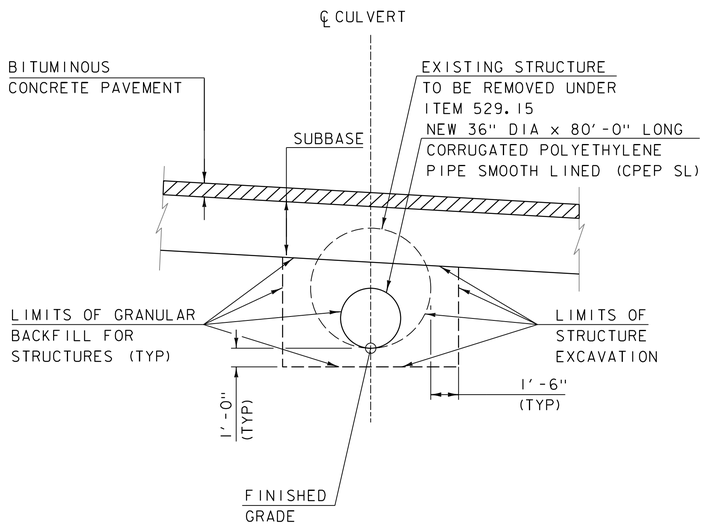
1) WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

2) THE CONTRACTOR SHALL CREATE A LOW FLOW CHANNEL IN THE STREAM BED MATERIAL AS DIRECTED BY THE ENGINEER.

3) 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 UNDERNEATH DOWNSPOUTS. SEE THE CHANNEL SECTIONS FOR ADDITIONAL DETAILING.

MATERIAL INFORMATION

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



CULVERT TYPICAL SECTION

NOT TO SCALE

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

PROJECT NAME: DORSET
PROJECT NUMBER: STP CULV (126)

FILE NAME: s23b031typ.dgn
PROJECT LEADER: R. KLINEFELTER
DESIGNED BY: C. MOONEY
TYPICAL SECTION 1

PLOT DATE: 26-MAR-2024
DRAWN BY: C. MOONEY
CHECKED BY: TBD
SHEET 3 OF 10

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY 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. SYMBOLOGY 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
■	BNDNS	BOUND SET
⧈	BNDNS	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 SYMBOLOGY

UNDERGROUND UTILITIES

- UTILITY (GENERIC-UNKNOWN)
- TELEPHONE
- ELECTRIC
- CABLE (TV)
- ELECTRIC+CABLE
- ELECTRIC+TELEPHONE
- CABLE+TELEPHONE
- ELECTRIC+CABLE+TELEPHONE
- GAS LINE
- WATER LINE
- SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- UTILITY (GENERIC-UNKNOWN)
- TELEPHONE
- ELECTRIC
- CABLE (TV)
- ELECTRIC+CABLE
- ELECTRIC+TELEPHONE
- ELECTRIC+TELEPHONE
- CABLE+TELEPHONE
- ELECTRIC+CABLE+TELEPHONE
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- 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
- PROJECT DEMARCATION FENCE
- BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN BOUNDARY LINE
- COUNTY BOUNDARY 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
- PROPERTY LINE (P/L)
- SLOPE RIGHTS
- 6F PROPERTY BOUNDARY
- 4F PROPERTY BOUNDARY
- HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- SEDIMENT ISOLATION
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- 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
- (H) HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

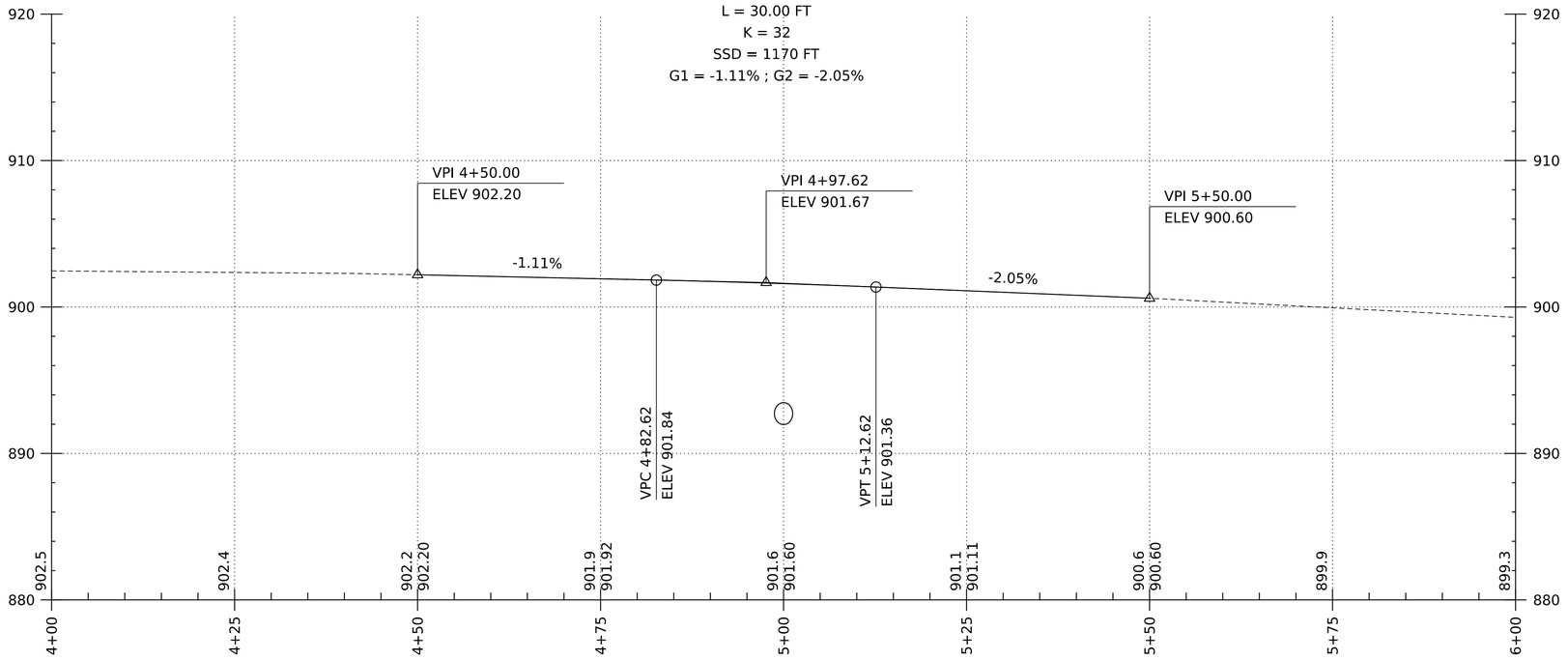
- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

PROJECT NAME:	DORSET
PROJECT NUMBER:	STP CULV(126)
FILE NAME: s23b03legend.dgn	PLOT DATE: 26-MAR-2024
PROJECT LEADER: R. KLINEFELTER	DRAWN BY: S. COLEY
DESIGNED BY: S. COLEY	CHECKED BY: R. KLINEFELTER
LEGEND SHEET	SHEET 4 OF 10

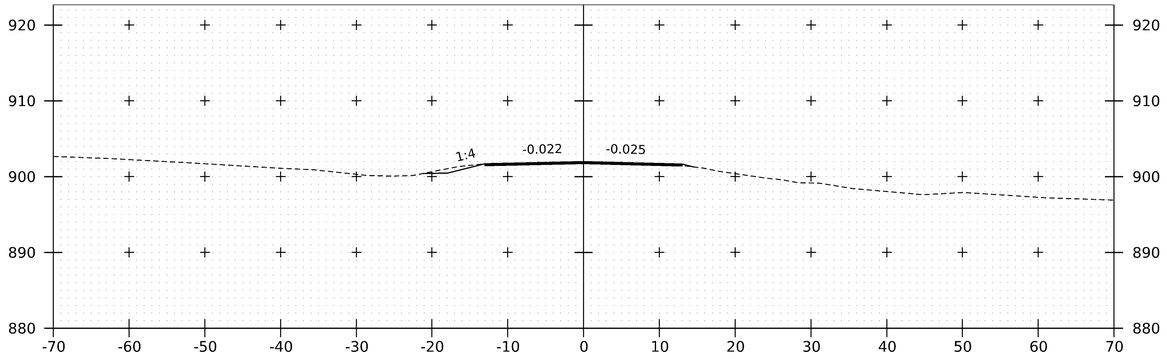
EXISTING BRIDGE DATA:
ASPHALT COATED CORRUGATED GALVANIZED METAL PLATE PIPE (ACCGMPP)
CULVERT SPAN 6 FEET
CULVERT LENGTH 56 FEET
FILL OVER CULVERT 4 FEET
OWNER OF CULVERT STATE OF VERMONT
OWNER OF DIMILTON McWAYNE

SCALE 1" = 20′-0"
20 0 20

PROJECT NAME: DORSET	
PROJECT NUMBER: STP CULV(126)	
FILE NAME: s23b031bdr.dgn	PLOT DATE: 26-MAR-2024
PROJECT LEADER: B. KLINEFELTER	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: ------
LAYOUT SHEET	SHEET 5 OF 10



PROJECT NAME:	DORSET
PROJECT NUMBER:	STP CULV(127)
FILE NAME: s23b031pro.dgn	PLOT DATE: 26-MAR-2024
PROJECT LEADER: B. KLINEFELTER	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: ====
VT-30 - PROFILE SHEET	SHEET 6 OF 10



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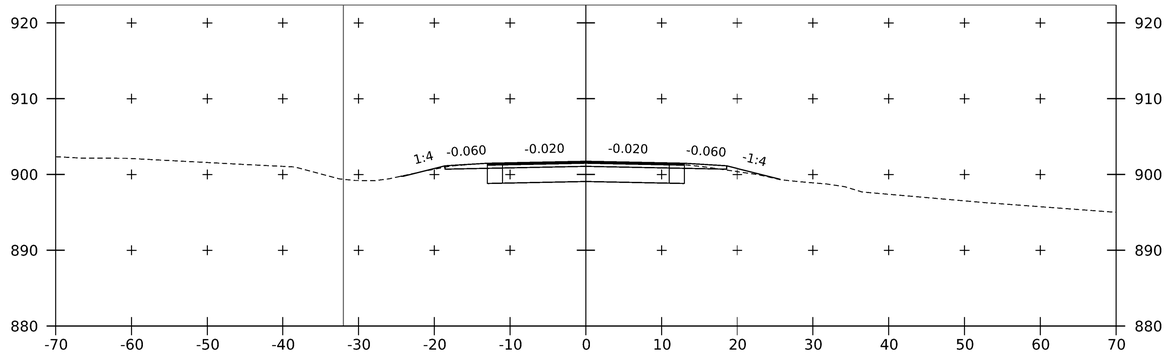

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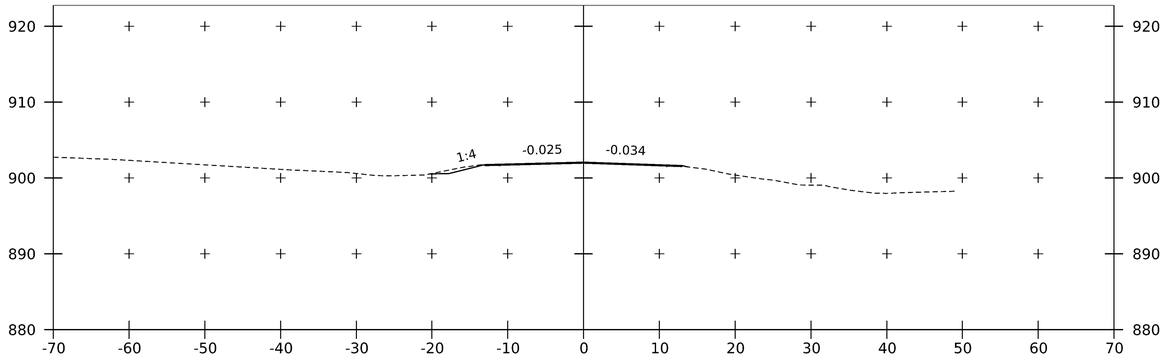

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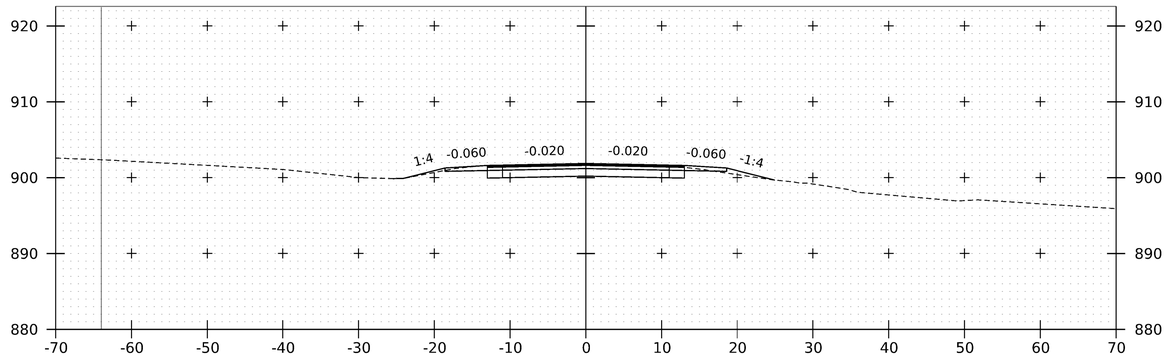

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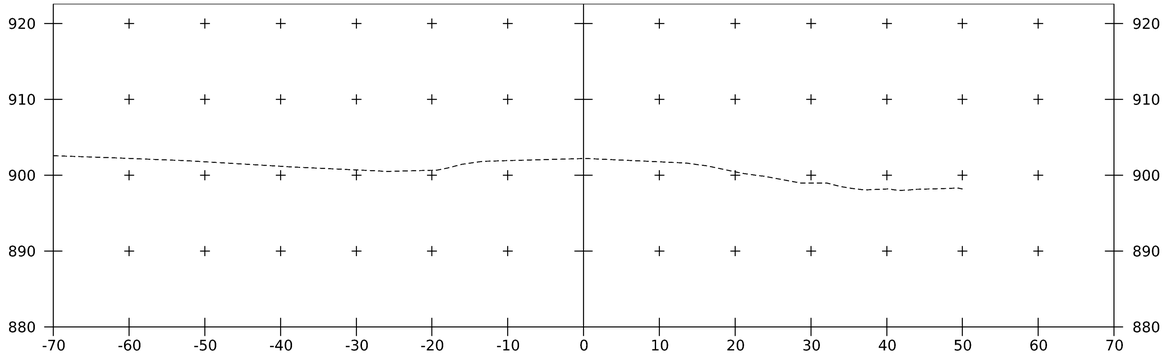

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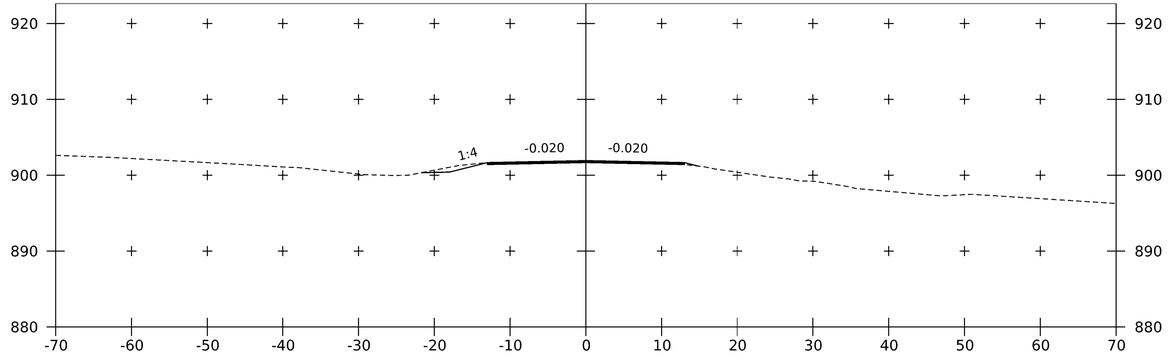

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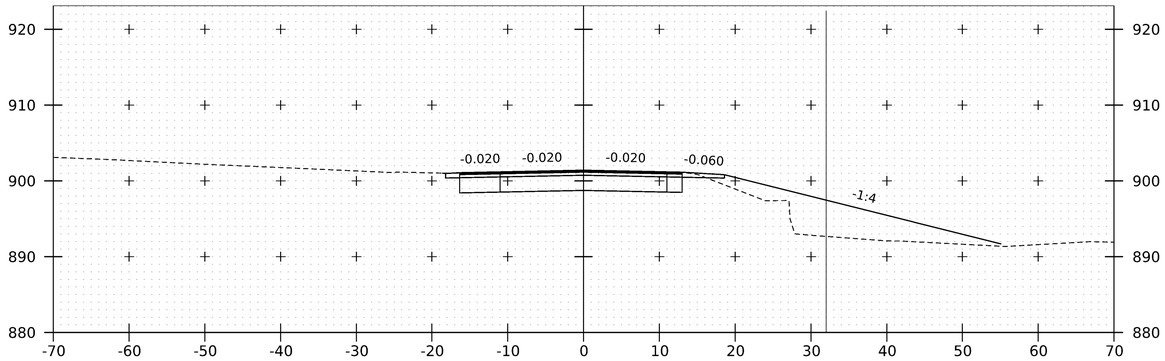
PROJECT NAME:	DORSET
PROJECT NUMBER:	STP CULV (126)
FILE NAME: s23b031xs_VT30.dgn	PLOT DATE: 26-MAR-2024
PROJECT LEADER: R. KLINEFELTER	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: ------
VT-30 CROSS SECTIONS SHEET 1	SHEET 7 OF 10



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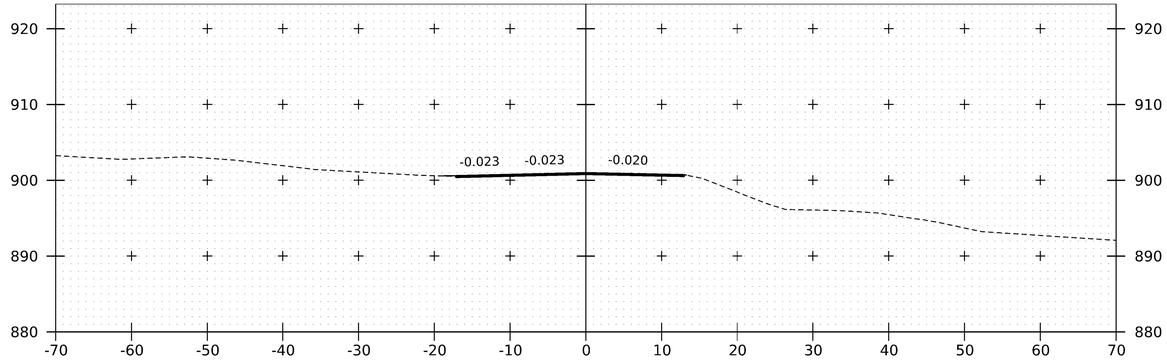

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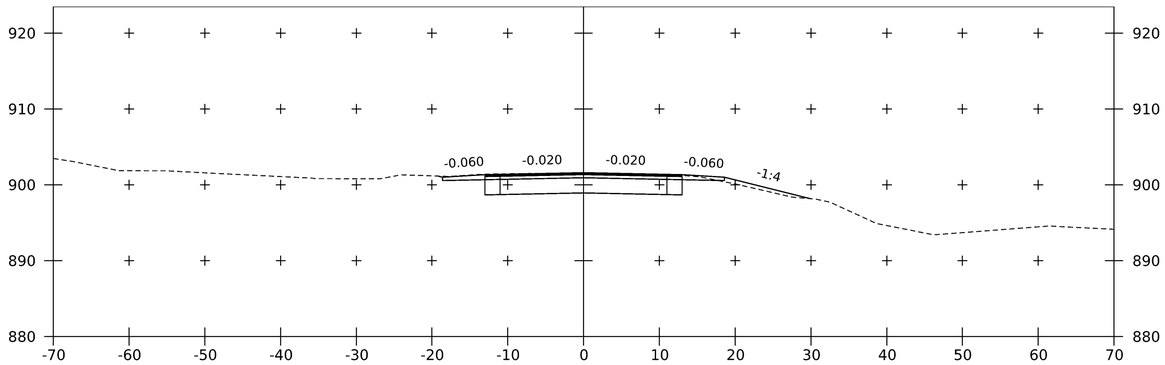

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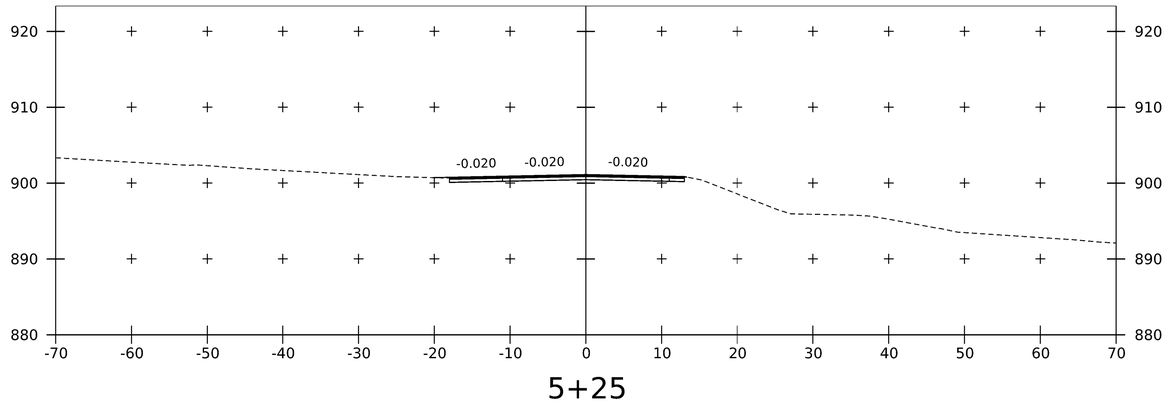

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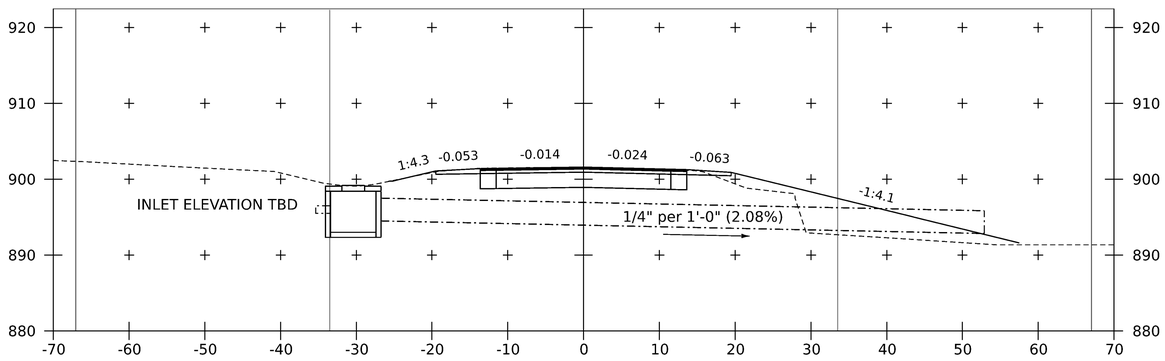

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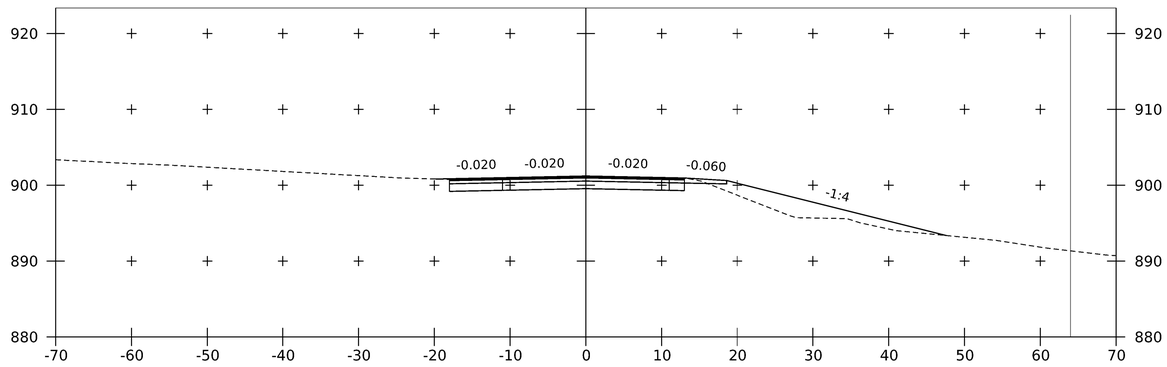
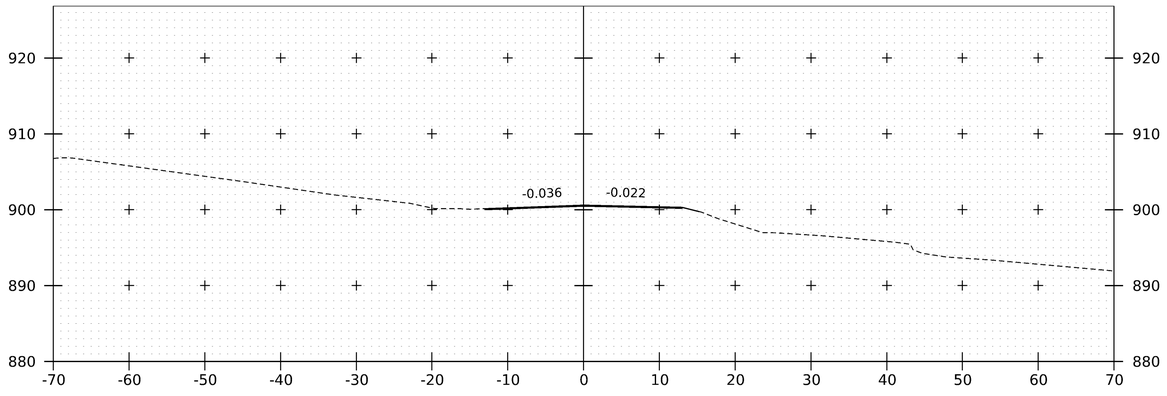


5+20

PROJECT NAME:	DORSET
PROJECT NUMBER:	STP CULV (126)

FILE NAME:	s23b030xs_VT30.dgn	PLOT DATE:	26-MAR-2024
PROJECT LEADER:	R. KLINEFELTER	DRAWN BY:	C. MOONEY
DESIGNED BY:	C. MOONEY	CHECKED BY:	------
VT-30 CROSS SECTION SHEET 2		SHEET	8 OF 10



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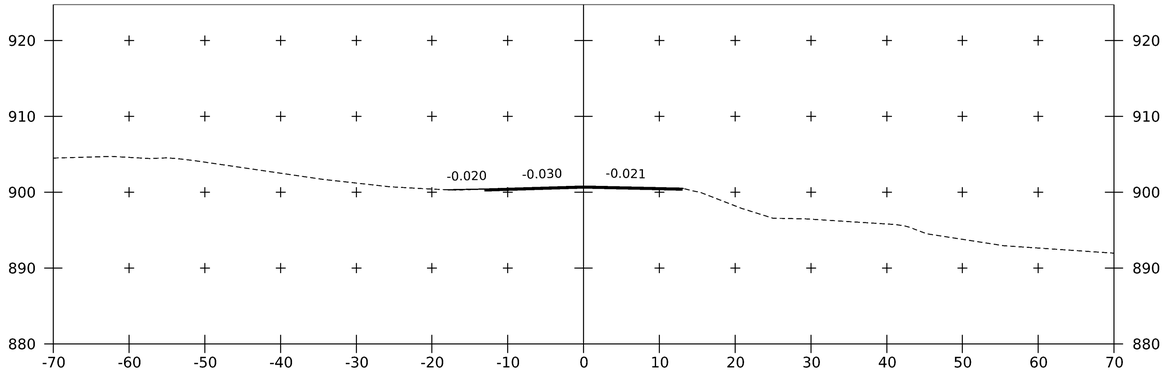

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PROJECT NAME:	DORSET
PROJECT NUMBER:	STP CULV (126)

FILE NAME:	s23b031typ.dgn	PLOT DATE:	26-MAR-2024
PROJECT LEADER:	R. KLINEFELTER	DRAWN BY:	C. MOONEY
DESIGNED BY:	C. MOONEY	CHECKED BY:	------
VT-30 CROSS SECTION SHEET 3		SHEET	9 OF 10

EXISTING BRIDGE DATA:
ASPHALT COATED CORRUGATED GALVANIZED METAL PLATE PIPE (ACCGMPP)
CULVERT SPAN 6 FEET
CULVERT LENGTH 56 FEET
FILL OVER CULVERT 4 FEET
OWNER OF CULVERT STATE OF VERMONT
OWNER OF DIMILTON McWAYNE

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

PROJECT NAME: DORSET	
PROJECT NUMBER: STP CULV(126)	
FILE NAME: s23b031bdr.dgn	PLOT DATE: 26-MAR-2024
PROJECT LEADER: B. KLINEFELTER	DRAWN BY: C. MOONEY
DESIGNED BY: C. MOONEY	CHECKED BY: ------
EPSC Existing Conditions	SHEET 10 OF 10