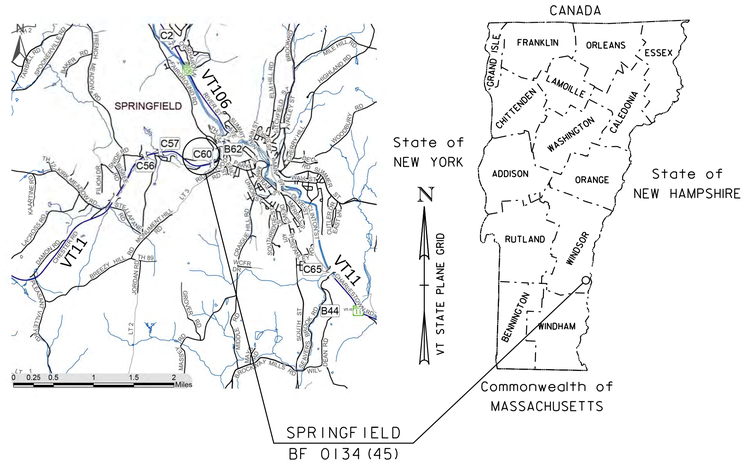
STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SPRINGFIELD
COUNTY OF WINDSOR

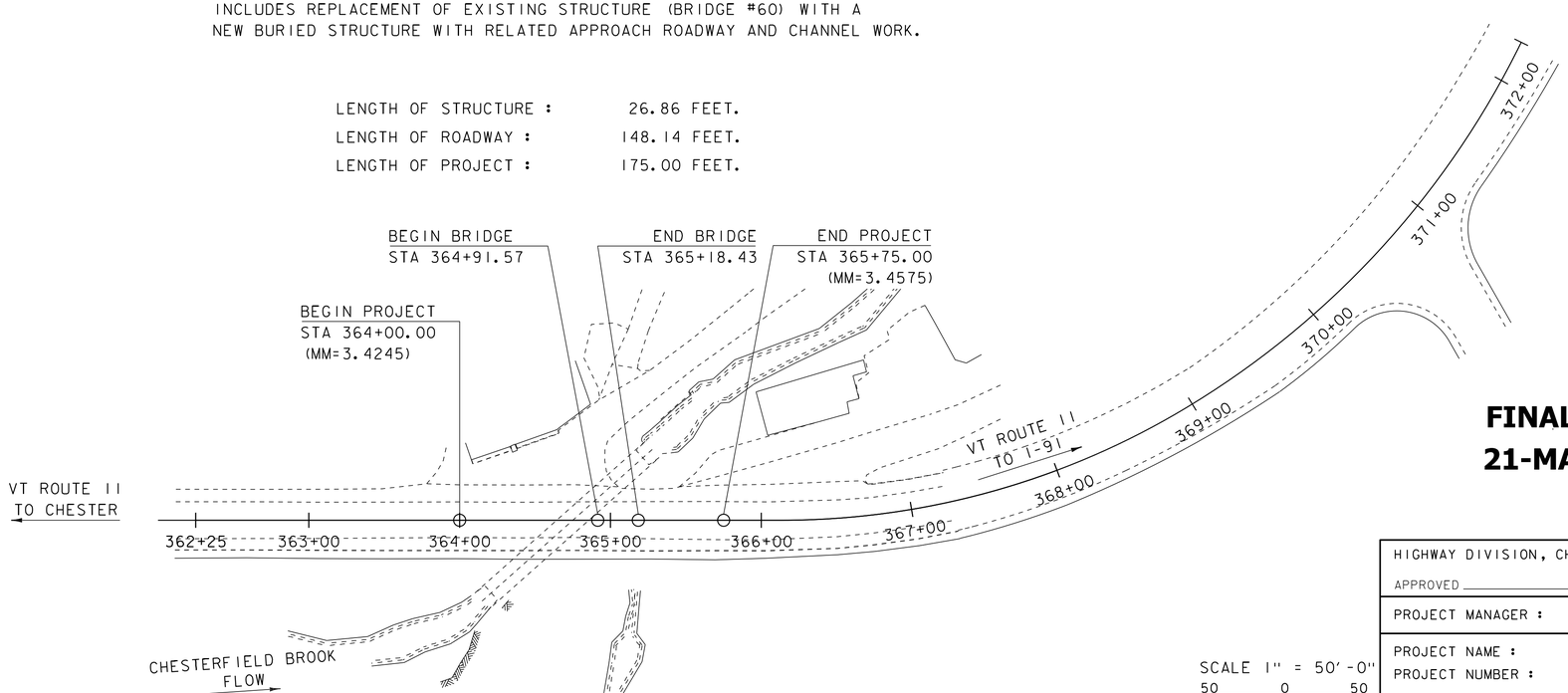


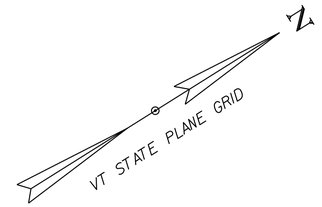
ROUTE NO : VT ROUTE 11 BRIDGE NO : 60

PROJECT LOCATION : 0.54 MILES FROM THE INTERSECTION OF VT11 AND VT106 IN SPRINGFIELD VT, WEST ON VT 11. AT THE CHESTERFIELD BROOK.

PROJECT DESCRIPTION : WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF EXISTING STRUCTURE (BRIDGE #60) WITH A NEW BURIED STRUCTURE WITH RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	26.86 FEET.
LENGTH OF ROADWAY :	148.14 FEET.
LENGTH OF PROJECT :	175.00 FEET.





SCALE 1" = 50'-0"
50 0 50

FINAL PLANS
21-MAY-2020

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 :	R. GILMAN
SURVEYED DATE :	05-25-2016
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83(2011)

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER :	NICK WARK, P.E.
PROJECT NAME :	SPRINGFIELD
PROJECT NUMBER :	BF 0134(45)

SHEET 1 OF 57 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

SEE SHEET 2 FOR INDEX OF SHEETS

STANDARDS LIST

SEE SHEET 2 FOR LIST OF STANDARDS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: June, 2019

DRAINAGE AREA : 4.2 sq. mi.
CHARACTER OF TERRAIN : Residential, hilly and forested
STREAM CHARACTERISTICS : Sinuous river corridor laterally confined by roadway
NATURE OF STREAMBED : Cobbles and gravel

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	170 cfs	2% =	510 cfs
10% =	320 cfs	1% =	610 cfs
4% =	420 cfs	0.2% =	880 cfs

DATE OF FLOOD OF RECORD: Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ 2% AEP = 9.3 fps*
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 2%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: CGMPPA
YEAR BUILT: 1961
CLEAR SPAN(NORMAL TO STREAM): 14 ft. 3 in.
VERTICAL CLEARANCE ABOVE STREAMBED: 8 ft. 11 in.
WATERWAY OF FULL OPENING: 100 sq. ft.
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

43% AEP =	483.4 ft.***	VELOCITY =	9.7 fps**
10% AEP =	485.1 ft.	"	12.1 fps
4% AEP =	486.1 ft.	"	13.2 fps
2% AEP =	486.8 ft.	"	14.0 fps
1% AEP =	487.6 ft.	"	14.8 fps

LONG TERM STREAMBED CHANGES: Lateral confinement has been perpetuated by retaining wall (downstream) and ledge outcropping (upstream).

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: -
RELIEF ELEVATION: 490.0 ft.
DISCHARGE OVER ROAD @ 1% AEP: -

UPSTREAM STRUCTURE

TOWN: Springfield — DISTANCE: 0.64 mi.
HIGHWAY # : TH-98, Walker Rd. — STRUCTURE #: B-70
CLEAR SPAN: 168 in. — CLEAR HEIGHT: 96 in.
YEAR BUILT: Unknown — FULL WATERWAY: 90 sq. ft.
STRUCTURE TYPE: Steel Corrugated Arch

DOWNSTREAM STRUCTURE

TOWN: Springfield — DISTANCE: 0.25 mi.
HIGHWAY # : VT-11 — STRUCTURE #: C-61
CLEAR SPAN: 14 ft. 1 in. — CLEAR HEIGHT: 8 ft. 9 in.
YEAR BUILT: 1960 — FULL WATERWAY: 97 sq. ft.
STRUCTURE TYPE: CGMPPA

PROPOSED STRUCTURE

STRUCTURE TYPE: Buried Structure

CLEAR SPAN(NORMAL TO STREAM): 30 ft.
VERTICAL CLEARANCE ABOVE STREAMBED: 7 ft. 7 in.
WATERWAY OF FULL OPENING: 170 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	482.0 ft.***	VELOCITY=	6.6 fps**
10% AEP =	485.0 ft.	"	8.0 fps
4% AEP =	485.6 ft.	"	8.6 fps
2% AEP =	486.1 ft.	"	9.1 fps
1% AEP =	486.6 ft.	"	9.6 fps

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
FREQUENCY: -
RELIEF ELEVATION: 490.7 ft.
DISCHARGE OVER ROAD @ 1% AEP: -

BRIDGE LOW CHORD ELEVATION: 486.4 ft. (inlet)
FREEBOARD: @ 2% AEP = 0.3 ft.

SCOUR: @ 1% AEP = 0.5 ft.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III; E-stone, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	-	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	-	-
ORDINARY HIGH WATER:	-	-

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: -
CLEAR SPAN (NORMAL TO STREAM): -
VERTICAL CLEARANCE ABOVE STREAMBED: -
WATERWAY AREA OF FULL OPENING: -

ADDITIONAL INFORMATION

* - Largest velocity observed near the crossing in a model with the structure removed.
** - Velocities are reported at the structure outlet.
*** - Water surface elevations for both models are reported about a cross section located approximately one bridge length upstream of the respective model inlet location.

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		1.14					
POSTING							
OPERATING		1.48	2.6	1.26	1.74	1.6	2.45
COMMENTS:	CIP SLAB RATINGS PROVIDED. FABRICATOR TO PROVIDE PRECAST BOX LOAD RATING						

TRAFFIC MAINTENANCE NOTES

1. PHASE 1: MAINTAIN ONE-WAY ALTERNATING TRAFFIC OVER EXISTING STRUCTURE.
2. INSTALL TEMPORARY SIDEWALK TO SOUTH SIDE OF PHASE 1.
3. PHASE 2: MAINTAIN ONE-WAY ALTERNATING TRAFFIC OVER NEW STRUCTURE.
4. MAINTAIN PEDESTRIAN TRAFFIC OVER NEW STRUCTURE

DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0.0 INCH
3. DESIGN SPAN	L:	20.00 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 A	f'_c:	4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS B	f'_c:	3.5 KSI
10. CONCRETE HIGH PERFORMANCE, CLASS PSS	f'_c:	4.0 KSI
11. CONCRETE, CLASS C	f'_c:	3.0 KSI
12. REINFORCING STEEL	f_y:	60 KSI
13. STRUCTURAL STEEL AASHTO M270	f_y:	---
14. NOMINAL BEARING RESISTANCE OF SOIL	q_n:	4.0 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n:	10.0 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	0.55
18. PILE RESISTANCE FACTOR	ϕ:	---
19. LATERAL PILE DEFLECTION	Δ:	---
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.		---

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2017	6900	730	52	4	340
2037	7300	770	52	6.2	550

20 year ESAL for flexible pavement from 2017 to 2037 : 2999000
40 year ESAL for flexible pavement from 2017 to 2057 : 7227000
Design Speed : 40 mph

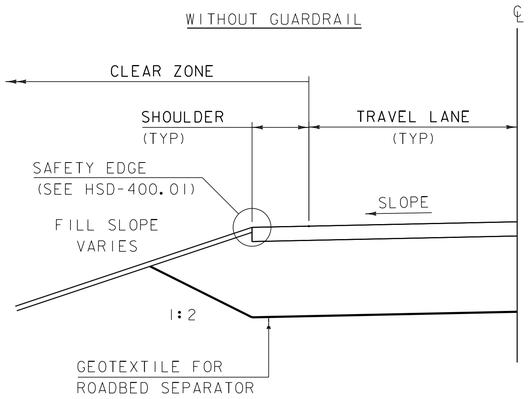
AS BUILT "REBAR" DETAIL

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

PROJECT NAME: **SPRINGFIELD**
PROJECT NUMBER: **BF 0134(45)**

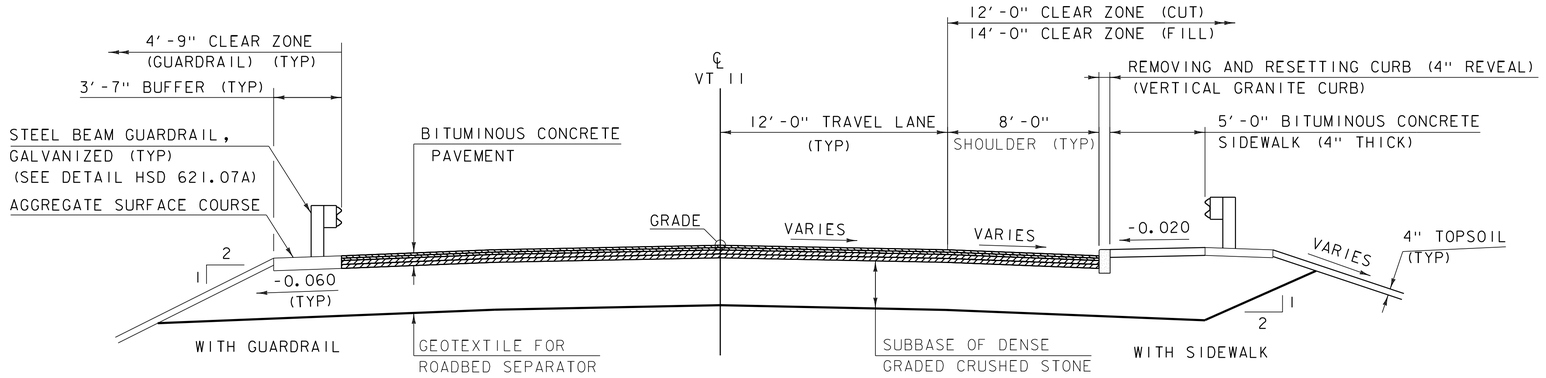
FILE NAME: **s13d336pi.dgn**
PROJECT LEADER: **N. WARK**
DESIGNED BY: **G. LAROCHE**
PRELIMINARY INFORMATION

PLOT DATE: 5/21/2020
DRAWN BY: **G. ROKES**
CHECKED BY: **G. DARGAN**



ROADWAY TYPICAL SECTION

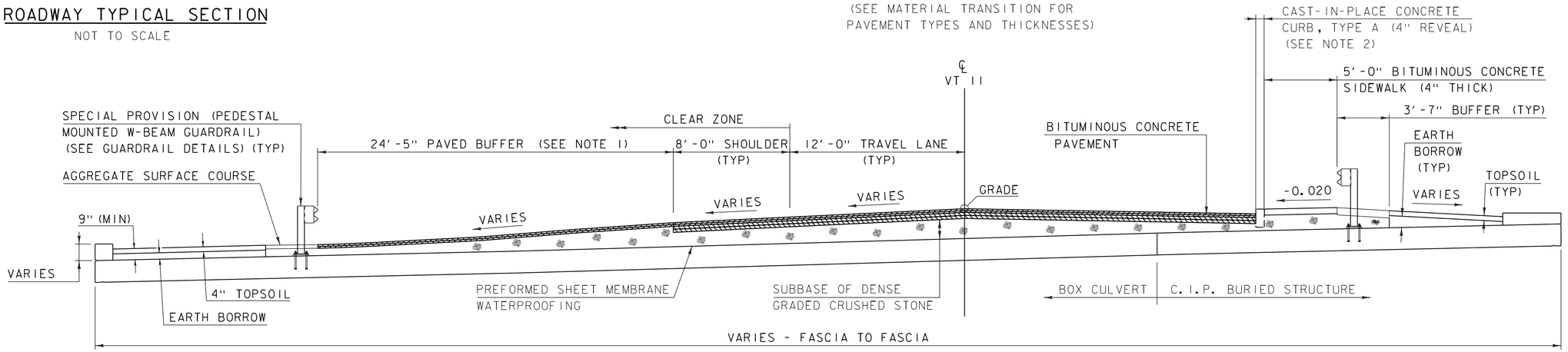
NOT TO SCALE



VT 11 TYPICAL SECTION

NOT TO SCALE

(SEE MATERIAL TRANSITION FOR PAVEMENT TYPES AND THICKNESSES)



BITUMINOUS CONCRETE PAVEMENT MATERIAL REQUIREMENTS

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

VT 11 TYPICAL SECTION AT BURIED STRUCTURE

NOT TO SCALE

MATERIAL TOLERANCES

(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

NOTES:

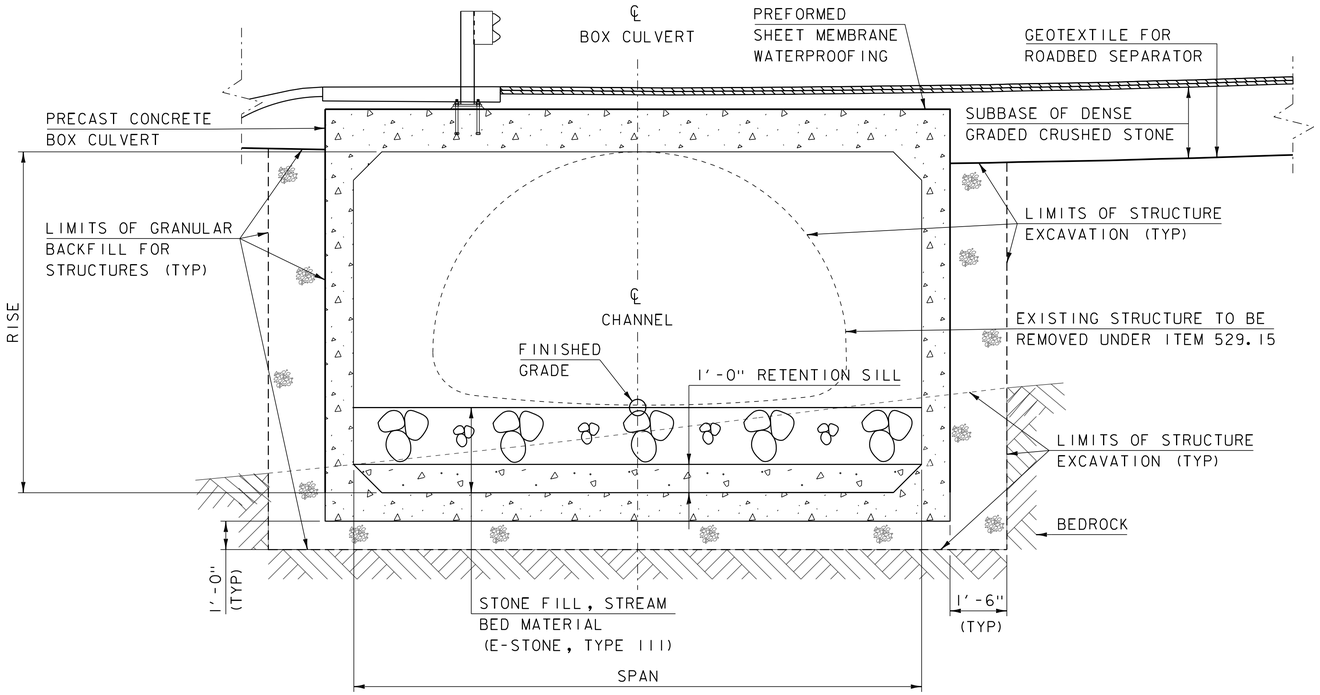
1. PAVED BUFFER WILL ONLY UTILIZE INTERMEDIATE AND WEARING COURSE PAVEMENT LEVELS SPECIFIED IN THE MATERIAL REQUIREMENTS TABLE.

2. MODIFY CAST-IN-PLACE CONCRETE CURB, TYPE A TO MATCH GRANITE CURB. FACE OF CONCRETE CURB SHALL BE VERTICAL. CURB SHALL HAVE A WIDTH OF 7".

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

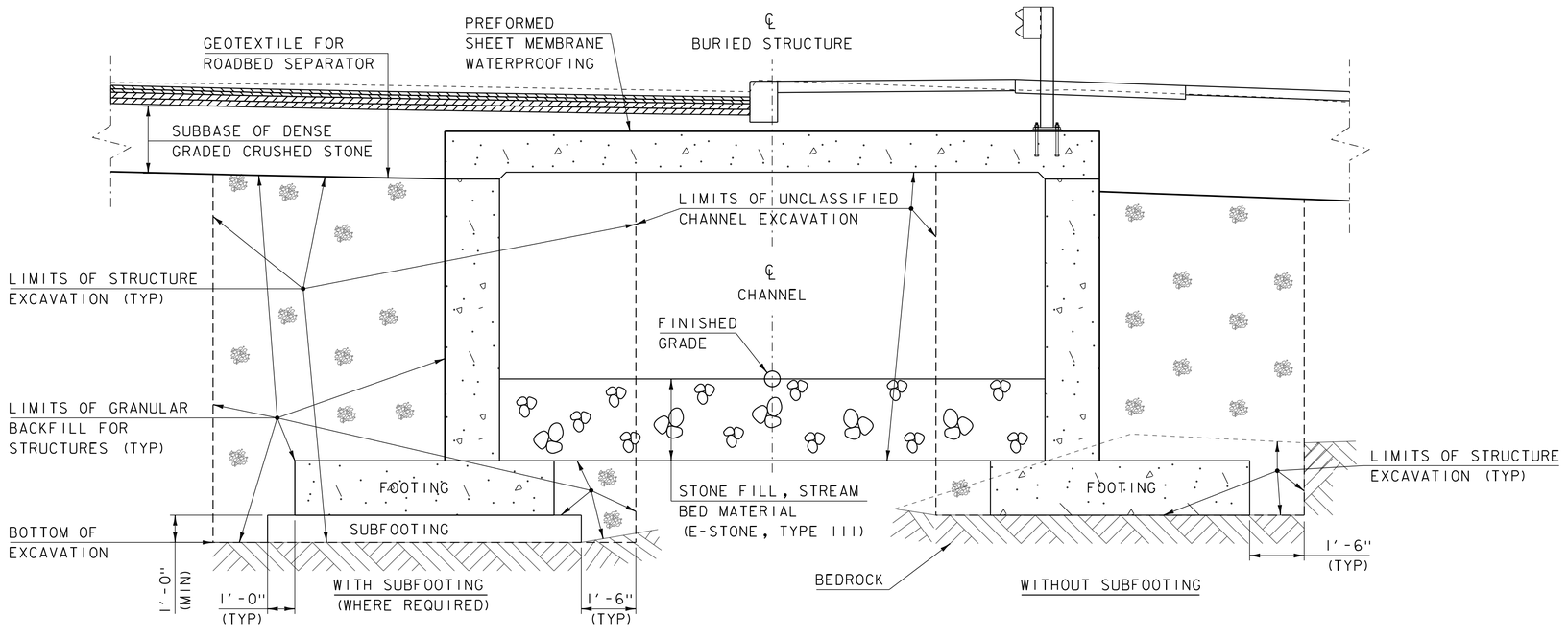
FILE NAME: sl3d336typ.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS 1

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. DARGAN
SHEET 3 OF 57



BURIED STRUCTURE EARTHWORK TYPICAL SECTION - BOX CULVERT

(NOT TO SCALE)



BURIED STRUCTURE EARTHWORK TYPICAL SECTION - C.I.P FRAME

(NOT TO SCALE)

BOX CULVERT REQUIREMENTS

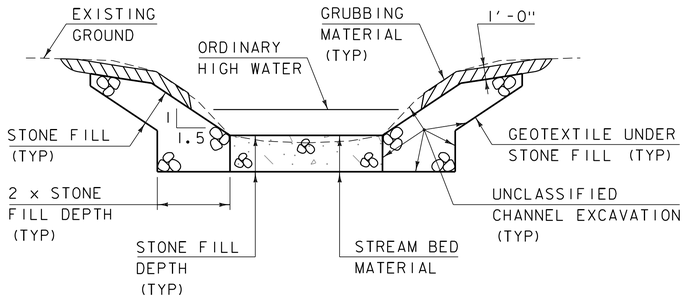
SPAN	20'-0"
RISE	12'-0"
LENGTH	84'-0"

BEDROCK SHOWN IS NOT REPRESENTATIVE OF ACTUAL CONDITIONS, BUT AN EXAMPLE OF HOW SPREAD FOOTINGS CAN BE CONSTRUCTED UPON BEDROCK. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ACTUAL ELEVATIONS.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336typ.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
TYPICAL SECTIONS 2

PLOT DATE: 21-MAY-2020
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 4 OF 57



TYPICAL CHANNEL OUTLET SECTION

(NOT TO SCALE)

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

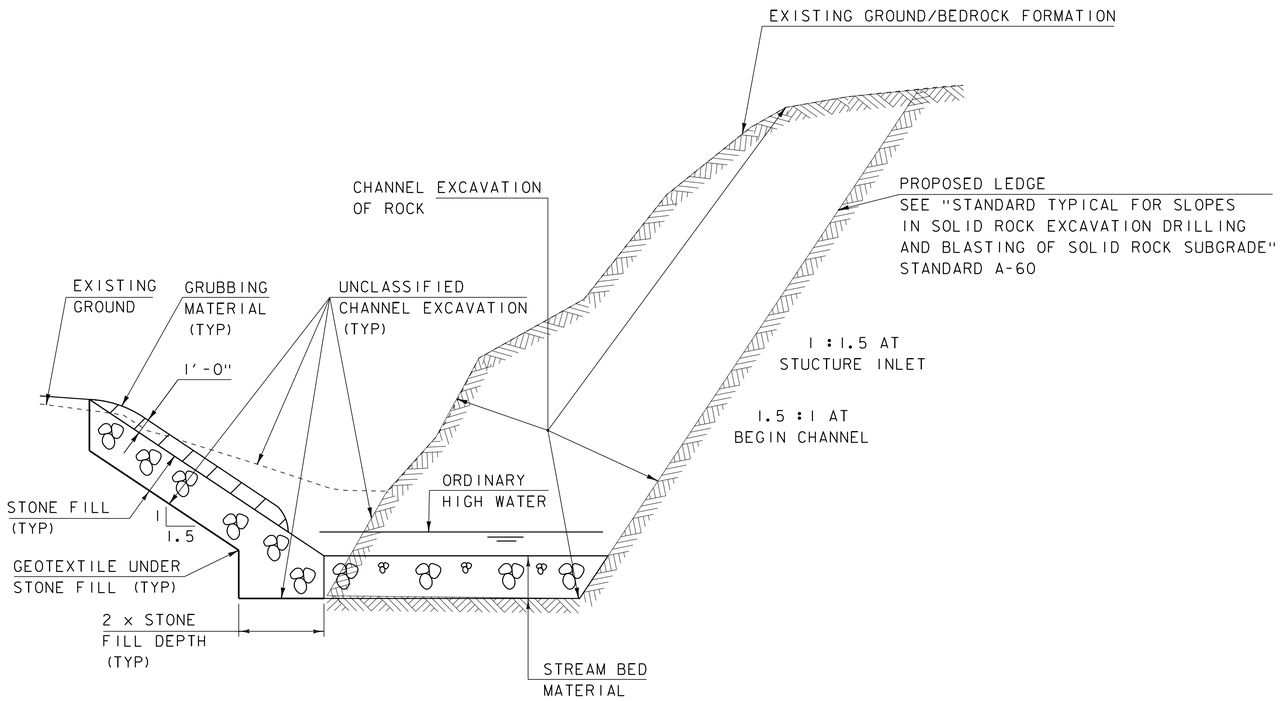
2. THE CONTRACTOR SHALL CREATE A LOW FLOW CHANNEL IN THE STREAM BED MATERIAL AS DIRECTED BY THE ENGINEER.

3. WHENEVER BEDROCK IS ENCOUNTERED DURING EXCAVATION OF THE CHANNEL KEY OR FILL SLOPES, THE ENGINEER WILL COORDINATE WITH THE RIVER MANAGEMENT ENGINEER FOR APPROVAL OF HOW THE CHANNEL SHALL BE CONSTRUCTED.

4. 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 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)



TYPICAL CHANNEL INLET SECTION

(NOT TO SCALE)

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)

FILE NAME: sl3d336typ.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
TYPICAL SECTIONS 3	SHEET 5 OF 57

PRECAST BOX CULVERT/WINGWALLS

1. THE BOX CULVERT, HEADWALLS, AND WINGWALLS SHALL BE DESIGNED BY THE FABRICATOR, INCLUDING THE ANCHORAGE AND CONNECTIONS BETWEEN ELEMENTS. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS AND CALCULATIONS TO THE ENGINEER IN ACCORDANCE WITH SECTION 105. SHOP DRAWINGS MUST DEMONSTRATE COMPATIBILITY BETWEEN THE FRAME AND WINGWALL SYSTEM CHOSEN BY THE CONTRACTOR.

2. THE DESIGN OF THE WALLS SHALL INCORPORATE PROVISIONS FOR ADJACENT OBSTRUCTIONS SUCH AS DRAINAGE FEATURES AND GUARDRAIL POSTS IF NECESSARY. ANY CHANGES TO THE WALL SYSTEM SHALL BE DETAILED IN THE FABRICATION DRAWINGS.

3. WALL DESIGN SHALL INCLUDE DRAINAGE PROVISIONS TO ACCOUNT FOR OR PREVENT HYDROSTATIC PRESSURE BEHIND WALLS.

4. A BRIDGE PLAQUE FURNISHED BY THE AGENCY SHALL BE CAST INTO RETAINING WALL NO. 2. SEE SD-502.00 FOR FURTHER DETAILS.

5. PREFORMED SHEET MEMBRANE – MEETING THE REQUIREMENTS OF 726.11 – SHALL BE APPLIED TO THE ENTIRE BURIED TOP SURFACE OF THE BOX CULVERT AND SLAB BRIDGE AND EXTENDED A FOOT DOWN THE SIDES, AS PER THE MANUFACTURER'S INSTRUCTIONS. OVER THE JOINTS, EXTEND THE SHEET MEMBRANE IN TWO-FOOT STRIPS DOWN THE SIDE OF THE BOX CULVERT. THE SIDES OF THE STRUCTURE SHALL BE COVERED PRIOR TO THE TOP. ANY OVERLAPPING OF MEMBRANE SHALL BE DONE IN A SHINGLED STYLE AND SHALL OVERLAP A MINIMUM OF ONE FOOT. PAYMENT FOR THIS WORK AND MATERIALS IS INCIDENTAL TO THE RESPECTIVE SUPERSTRUCTURE ITEM.

6. THE REQUIRED DESIGN PARAMETERS FOR THIS PROJECT ARE INDICATED BELOW.

   A. DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (8TH EDITION)
   B. DESIGN LIVE LOAD = HL-93
   C. CONCRETE COMPRESSIVE STRENGTH = THE FABRICATOR SHALL SPECIFY THE STRENGTH OF PRECAST ELEMENTS
   D. REQUIRED DESIGN LIFE = 75 YEARS

CONCRETE

7. CONSTRUCTION DRAWINGS INCLUDING FALSEWORK AND FORM WORK PLANS SHALL BE SUBMITTED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 105 BEFORE COMMENCING CONSTRUCTION. PAYMENT FOR PREPARATION AND SUBMITTAL OF CONSTRUCTION DRAWINGS IS INCIDENTAL TO ITEM 900.608, SPECIAL PROVISION (CONCRETE, HIGH PERFORMANCE CLASS A).

8. CHAMFER ALL EXPOSED EDGES OF CONCRETE 1" BY 1".

9. THE DECK SLAB IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

10. ITEM 514.10, "WATER REPELLENT, SILANE", SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE – INCLUDING THE DECK, FASCIAS, AND SUBSTRUCTURE, WITH THE EXCEPTION OF THE BOTTOM OF THE DECK BETWEEN DRIP NOTCHES.

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336notes.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. DARGAN
DESIGNED BY: G. DARGAN	CHECKED BY: A. LEMIEUX
PROJECT NOTES	SHEET 6 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS
1			
2130			
50			
		100	
		1030	
80			
70			
1			
		3000	
		2850	
700			
1540			
96			
30			
		565	
50			
400		130000	
		220	
		15	
		1	
		1	
15		380	
50			
70			
2			
		160	
		30	
		510	
322			
30			
25			
4			
204			
2			
2			
390			
100			
600			
			1
			1

TOTALS

GRAND TOTAL	FINAL
1	
2130	
50	
100	
1030	
80	
70	
1	
3000	
2850	
700	
1540	
96	
30	
565	
50	
130400	
220	
15	
1	
1	
395	
50	
70	
2	
160	
30	
510	
322	
30	
25	
4	
204	
2	
2	
390	
100	
600	
1	
1	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER	ROUND
LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
CY	COMMON EXCAVATION	203.15	
CY	UNCLASSIFIED EXCAVATION	203.17	
CY	CHANNEL EXCAVATION OF ROCK	203.26	
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
CY	TRENCH EXCAVATION OF EARTH	204.20	
CY	TRENCH EXCAVATION OF ROCK	204.21	
CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
CY	STRUCTURE EXCAVATION	204.25	
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
SY	COARSE-MILLING, BITUMINOUS PAVEMENT	210.10	
CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
TON	AGGREGATE SHOULDERS	402.12	
CWT	EMULSIFIED ASPHALT	404.65	
CY	HIGH PERFORMANCE CONCRETE, CLASS PCD	501.37	
CY	HIGH PERFORMANCE CONCRETE, CLASS PCS	501.38	
LB	REINFORCING STEEL, LEVEL II	507.12	
LF	DRILLING AND GROUTING DOWELS	507.16	
GAL	WATER REPELLENT, SILANE	514.10	
EACH	REMOVAL OF STRUCTURE (14'-3" x 8'-11" CGMPPA)	529.15	
LS	PRECAST CONCRETE STRUCTURE (20' X 12' X 85' BOX AND WINGWALLS)	540.10	
CY	CONCRETE, CLASS C	541.30	
LF	18" CPEP	601.0915	
LF	24" CPEP	601.0920	
EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE 48"	604.20	
CY	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)	613.06	
CY	STONE FILL, TYPE I	613.10	
CY	STONE FILL, TYPE IV	613.13	
LF	VERTICAL GRANITE CURB	616.21	
LF	CAST-IN-PLACE CONCRETE CURB, TYPE A	616.27	
TON	BITUMINOUS CONCRETE SIDEWALK	618.15	
EACH	REMOVING AND RESETTING PROPERTY MARKERS	619.20	
LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	
EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51	
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	
LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
HR	UNIFORMED TRAFFIC OFFICERS	630.10	
HR	FLAGGERS	630.15	
LS	FIELD OFFICE, ENGINEERS	631.10	
LS	TESTING EQUIPMENT, CONCRETE	631.16	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORK SUMMARY
		FILL AVAILABLE
2130	CY	COMMON EXCAVATION (750 x 1.0)
15	CY	UNCLASSIFIED CHANNEL EXCAVATION (860 x 0.3)
309	CY	STRUCTURE EXCAVATION (470 x 0.3)
6	CY	ROUNDING
2460	**CY**	**TOTAL FILL AVAILABLE**
		FILL REQUIRED
0	CY	FILL (0 CY EARTH)
0	CY	FACTORED FILL (x1.15)
0	CY	ROUNDING
0	**CY**	**TOTAL FILL REQUIRED**
2460	**CY**	**TOTAL WASTE**
		SPECIAL PROVISION
		(BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
125	TON	BASE COURSE 1
156	TON	BASE COURSE 2
132	TON	INTERMEDIATE
132	TON	WEARING
9	TON	DRIVES
554	**TON**	**TOTAL**

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 1

PLOT DATE: 21-MAY-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 7 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS						GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
			1						1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
			3000						3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26				
1									1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
2									2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
450									450		LF	4 INCH YELLOW LINE, WATERBORNE PAINT	646.2111				
1530									1530		LF	TEMPORARY 4 INCH WHITE LINE	646.600				
770									770		LF	TEMPORARY 4 INCH YELLOW LINE	646.610				
2280									2280		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
		580							580		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	10								10		LB	SEED	651.15				
	10								10		LB	SEED, WINTER RYE	651.17				
	30								30		LB	FERTILIZER	651.18				
	0.2								0.2		TON	AGRICULTURAL LIMESTONE	651.20				
	30								30		CY	TOPSOIL	651.35				
		150							150		SY	GRUBBING MATERIAL (12")	651.40				
	1								1		LS	EPSC PLAN	653.01				
	100								100		HR	MONITORING EPSC PLAN	653.02				
	1								1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.03				
	0.2								0.2		TON	HAY MULCH	653.10				
	210								210		SY	ROLLED EROSION CONTROL PRODUCT, TYPE I	653.20				
	1275								1275		LF	SILT FENCE, TYPE I	653.475				
	380								380		LF	BARRIER FENCE	653.50				
	410								410		LF	PROJECT DEMARCATION FENCE	653.55				
7									7		SF	TRAFFIC SIGN, TYPE A	675.20				
36									36		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
4									4		EACH	REMOVING SIGNS	675.50				
1									1		EACH	RESETTING SIGNS	675.60				
4									4		EACH	DELINEATOR WITH STEEL POST	676.10				
1									1		LS	SPECIAL PROVISION (TEMPORARY ROADWAY AND TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
		1							1		LS	SPECIAL PROVISION TEMPORARY RELOCATION OF STREAM	900.645				
1									1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I)	900.650				
1									1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
736									736		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
QUANTITY SHEET 2

PLOT DATE: 21-MAY-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 8 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES			
FRAME	ABUTMENT #1	ABUTMENT #2	CHANNEL
			100
			1030
	1500	1500	
	1425	1425	
	282.5	282.5	
	65000	65000	
	110	110	
15			
1			
1			
	190	190	
			160
			30
	255	255	
	290	290	
	75	75	
			1

TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
100	CY	CHANNEL EXCAVATION OF ROCK	203.26			
1030	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
3000	CY	STRUCTURE EXCAVATION	204.25			
2850	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
565	CY	HIGH PERFORMANCE CONCRETE, CLASS PCD	501.37			
130000	LB	REINFORCING STEEL, LEVEL II	507.12			
220	LF	DRILLING AND GROUTING DOWELS	507.16			
15	GAL	WATER REPELLENT, SILANE	514.10			
1	EACH	REMOVAL OF STRUCTURE (14'-3" x 8'-11" CGMPPA)	529.15			
1	LS	PRECAST CONCRETE STRUCTURE (20' X 12' X 85' BOX AND WINGWALLS)	540.10			
380	CY	CONCRETE, CLASS C	541.30			
160	CY	STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)	613.06			
30	CY	STONE FILL, TYPE I	613.10			
510	CY	STONE FILL, TYPE IV	613.13			
580	SY	GEOTEXTILE UNDER STONE FILL	649.31			
150	SY	GRUBBING MATERIAL (12")	651.40			
1	LS	SPECIAL PROVISION TEMPORARY RELOCATION OF STREAM	900.645			

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336qs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: R. HOOD
BRIDGE QUANTITY SHEET

PLOT DATE: 21-MAY-2020
DRAWN BY: G. DARGAN
CHECKED BY: G. DARGAN
SHEET 9 OF 57

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

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

CONVENTIONAL BOUNDARY SYMBOLOGY

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/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 SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- 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
- 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
- (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: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336leg.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
PLAN SYMBOLOGY LEGEND

PLOT DATE: 21-MAY-2020
DRAWN BY: M. LONGSTREET
CHECKED BY: G. LAROCHE
SHEET 10 OF 57

GPS CONTROL POINTS

PT #1 SPRING 57 AZ MK

NORTH = 291633.6750
EAST = 1636877.4610
ELEV. = 593.789

GENERAL LOCATION, SPRINGFIELD, VT.
THE MARK IS SET 15 CM (6 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 7.9 M (25.9 FT) NORTH OF AND ABOUT LEVEL WITH THE CENTERLINE OF VT ROUTE 11, 20.7 M (67.9 FT) EAST OF THE CENTERLINE OF BELLOWS ROAD, 4.9 M (16.1 FT) SOUTH OF POLE NO 7/91/91/6, 7.6 M (24.9 FT) NORTHWEST OF THE SOUTHWEST CORNER OF A CONCRETE BASE FO R A STEEL TELEPHONE JUNCTION BOX, 32.5 M (106.6 FT) WEST OF THE CENTER OF THE NORTH (INLET) END OF BRIDGE 56.

PT #2 SPRING 57

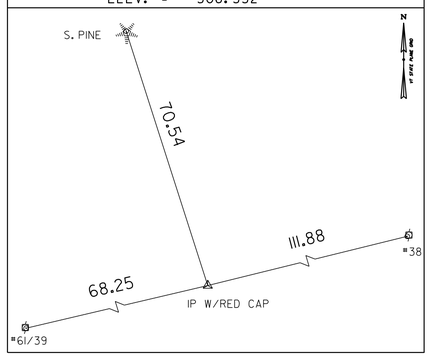
NORTH = 291938.9420
EAST = 1638030.0990
ELEV. = 567.043

SRINGFIELD, VT.
THE MARK IS SET 15 CM BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 7.5 M NORTH OF AND ABOUT 40 CM LOWER THAN THE CENTERLINE OF VT ROUTE 11, 8.8 M WEST OF THE CENTERLINE OF THE DRIVEWAY LEADING TO HOUSE NO 117, 12.2 M SOUTH-SOUTHEAST OF THE SOUTHWEST CORNER OF THE HOUSE, 11.5 M SOUTH-SOUTHWEST OF THE SOUTHEAST CORNER OF THE HOUSE AND 25.7 M SOUTHEAST OF THE CENTER OF BRIDGE NO 57.

TRAVERSE TIES

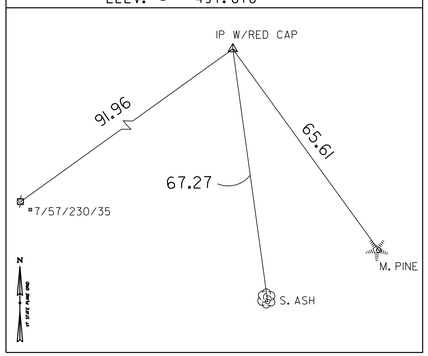
HVCTRL #5

NORTH = 291074.8459
EAST = 1640935.0322
ELEV. = 506.332



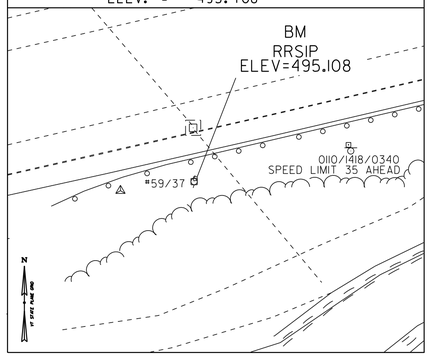
HVCTRL #6

NORTH = 291334.3637
EAST = 1641653.0069
ELEV. = 491.678



BM #1035

NORTH = 291133.4449
EAST = 1641206.9830
ELEV. = 495.108



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

ALIGNMENT TIES

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

DATUM

VERTICAL NAVD88

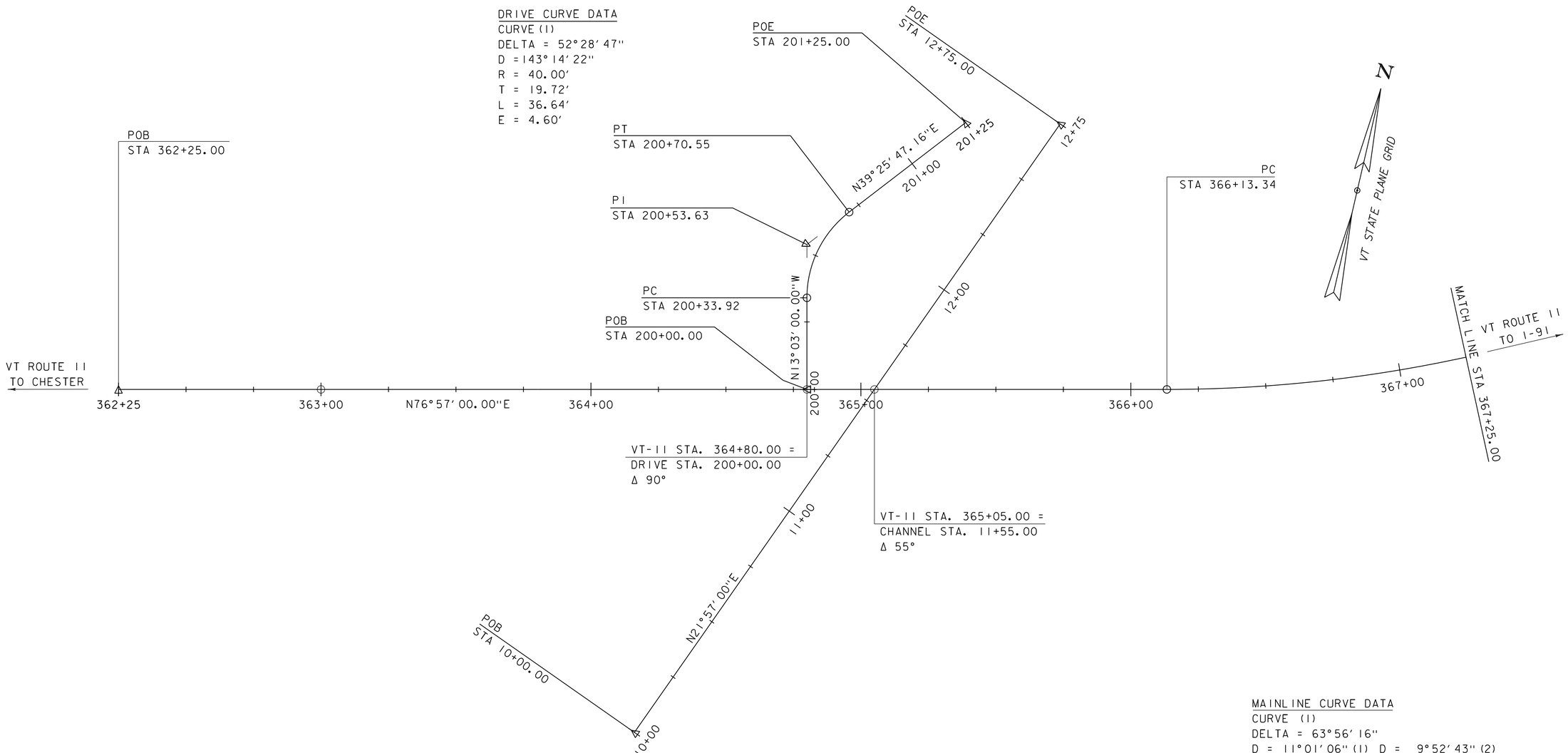
HORIZONTAL NAD83(2011)

ADJUSTMENT COMPASS

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: X13D336T1.DGN
PROJECT LEADER: C. WILLIAMS
DESIGNED BY: VTRANS
TIE SHEET

PLOT DATE: 21-MAY-2020
DRAWN BY: C. CYR
CHECKED BY: P. BEYOR
SHEET 11 OF 57



MAINLINE CURVE DATA
CURVE (1)
DELTA = 63°56'16"
D = 11°01'06" (1) D = 9°52'43" (2)
R = 520.00' (1) R = 580.00' (2)
T = 335.52' (1) T = 352.67' (2)
L = 277.93' (1) L = 337.23' (2)
E = 98.85'

CONTROL LINE DATA - VT11Pro_HSD

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
3	N 76°57'00.00" E	388.34 '	291141.3399	1641099.487		362+25.00					
	N 46°19'34.04" E	479.61 '	291261.176	1641616.495	366+13.34		368+91.28	30°37'25.96"	-520.00 '	277.93 '	142.37 '
	N 13°00'44.01" E	'	291479.3256	1641844.984	368+91.28		372+28.51	33°18'50.03"	-580.00 '	337.23 '	173.53 '

CONTROL LINE DATA - Channel Prop 8.13.2019

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
11	N 21°57'00.00" E	275.00 '	291060.8002	1641314.317		10+00.00					
12			291315.8655	1641417.111		12+75.00					

CONTROL LINE DATA - Left Drive

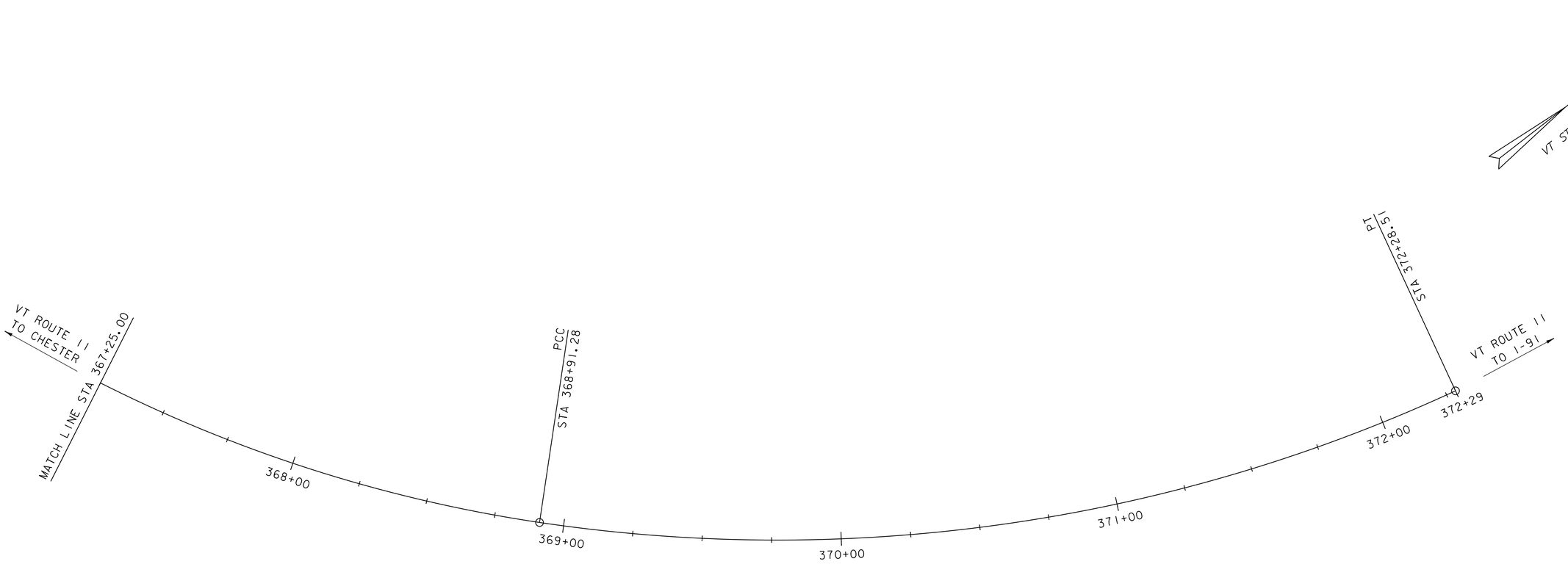
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
37	N 13°03'00.00" W	33.92 '	291198.9192	1641347.901		200+00.00					
	N 39°25'47.16" E	74.16 '	291251.1675	1641335.79	200+33.92		200+70.55	52°28'47.16"	40.00 '	36.64 '	19.72 '
39			291308.4512	1641382.894		201+25.00					

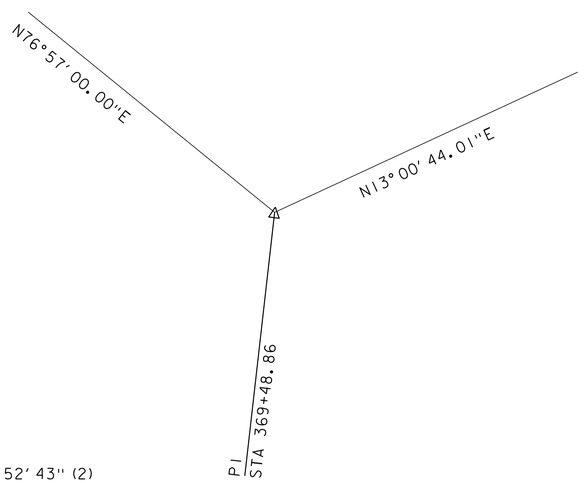
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336alingbdr.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
ALIGNMENT LAYOUT 1

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 12 OF 57





MAINLINE CURVE DATA
CURVE (1)
DELTA = 63°56'16"
D = 11°01'06" (1) D = 9°52'43" (2)
R = 520.00' (1) R = 580.00' (2)
T = 335.52' (1) T = 352.67' (2)
L = 277.93' (1) L = 337.23' (2)
E = 98.85'

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

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(45)	
FILE NAME: sl3d336alingbdr.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
ALIGNMENT LAYOUT 2	SHEET 13 OF 57

SOIL INFORMATION:
WINDSOR LOAMY FINE SAND
HIGHLY ERODIBLE
K-FACTOR = 0.17, 25%-60% SLOPES
HYDROLOGICAL SOIL GROUP: A

SOIL INFORMATION:
URBAN LAND-WINDSOR-AGAWAM COMPLEX
NOT HIGHLY ERODIBLE
K-FACTOR = 0.17/0.28, 0%-8% SLOPES
HYDROLOGICAL SOIL GROUP: UNRATED

SOIL INFORMATION:
BUCKLAND LOAM, VERY STONY
HIGHLY ERODIBLE
K-FACTOR = 0.43, 35%-60% SLOPES
HYDROLOGICAL SOIL GROUP: C

EXISTING 152' CGMPPA
BUILT 1961
SPAN 14'-3", RISE 8'-11"
AVERAGE COVER 3'
WATERWAY AREA = 101 SF

N
VT STATE PLANE GRID

EXISTING ROW
EXISTING ROW
TH-338 (OLD CHESTER RD)
VT ROUTE 11 TO CHESTER
VT ROUTE 11 TO I-91
362+25
363+00
364+00
365+00
366+00
367+00
368
1+00
12+00
12+15
14'-3"X8'-11" CGMPPA
15" CGMP
18" RCP
24" CGMP
8" A.C. SEWER
FLOW
CHESTERFIELD BROOK
FLOW
RIPARIAN BUFFER
SIDEWALK
PAVED DRIVE
SEWER MANIFOLD
2 MAILBOX #41
BOUND APPARENT LOCATION STRONG SIGNAL UNDER PAVEMENT
SUBTERRAIN TELEPHONE
ELECTRIC POLE
GUY
STONE FILL
HVCTRL 100
HVCTRL 101
HVCTRL 102
HVCTRL 103
HVCTRL 104
COMB 3-1-32-1
COMB 58A 35B
COMB 58A-E 58A/35A
COMB 7 58 36
COMB 59 37
COMB 57A/35-1
COMB 7 57 230 35
MM 0110 1418 0340
ECT
D1
S
W
E
480
490
500
510
520

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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336exist.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: G. DARGAN
EXISTING CONDITIONS	SHEET 14 OF 57

REMOVING AND RESETTING CURB
(VERTICAL GRANITE CURB)
STA 362+50.0 - 364+75.7 RT
STA 365+02.3 - 366+75.0 RT

CAST-IN-PLACE CONCRETE CURB, TYPE A
STA 364+75.7 - 365+02.3 RT

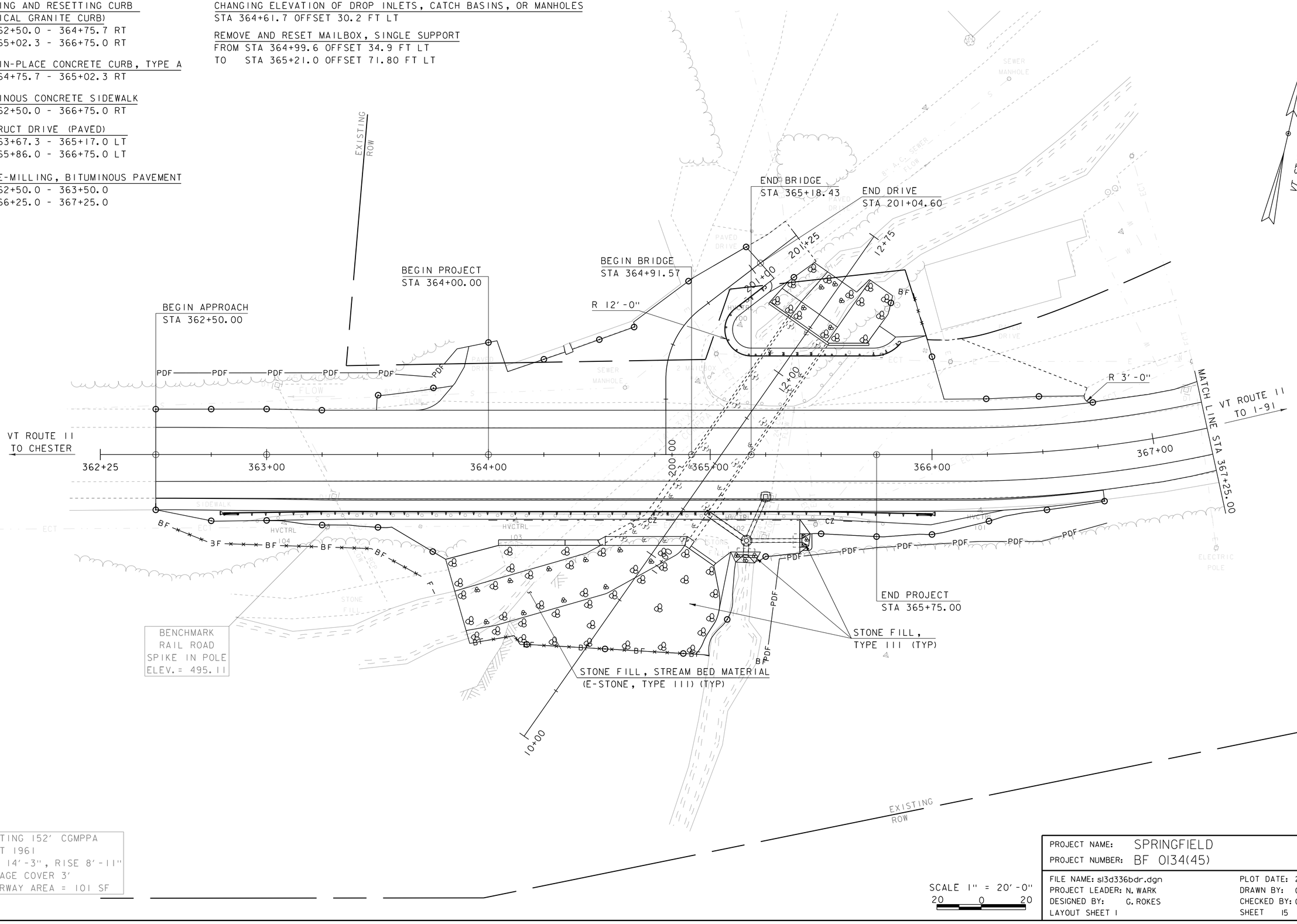
BITUMINOUS CONCRETE SIDEWALK
STA 362+50.0 - 366+75.0 RT

CONSTRUCT DRIVE (PAVED)
STA 363+67.3 - 365+17.0 LT
STA 365+86.0 - 366+75.0 LT

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 362+50.0 - 363+50.0
STA 366+25.0 - 367+25.0

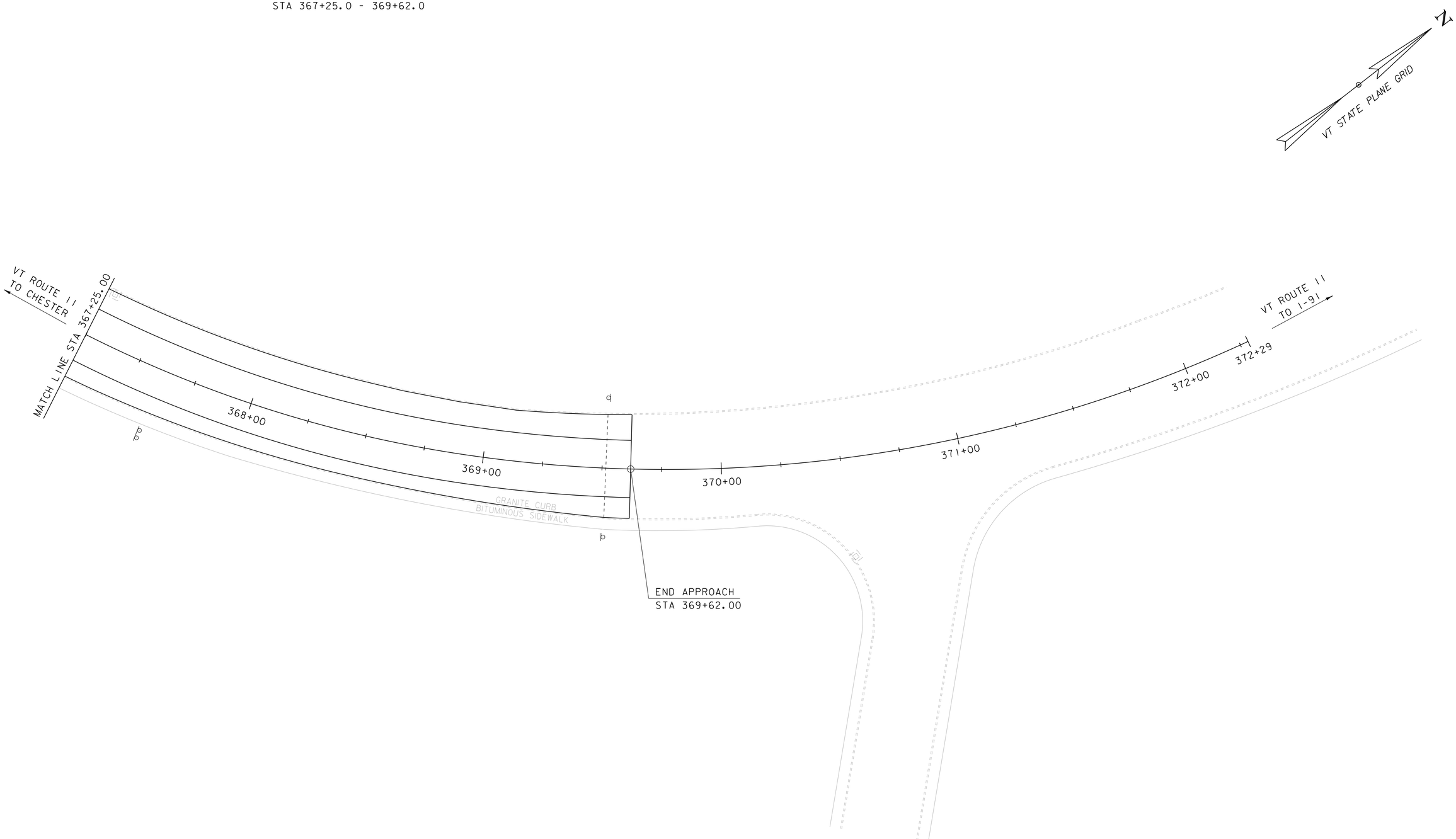
CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES
STA 364+61.7 OFFSET 30.2 FT LT

REMOVE AND RESET MAILBOX, SINGLE SUPPORT
FROM STA 364+99.6 OFFSET 34.9 FT LT
TO STA 365+21.0 OFFSET 71.80 FT LT



PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: s13d336bdr.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
LAYOUT SHEET 1	SHEET 15 OF 57

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 367+25.0 - 369+62.0



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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336alingbdr.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
LAYOUT SHEET 2	SHEET 16 OF 57

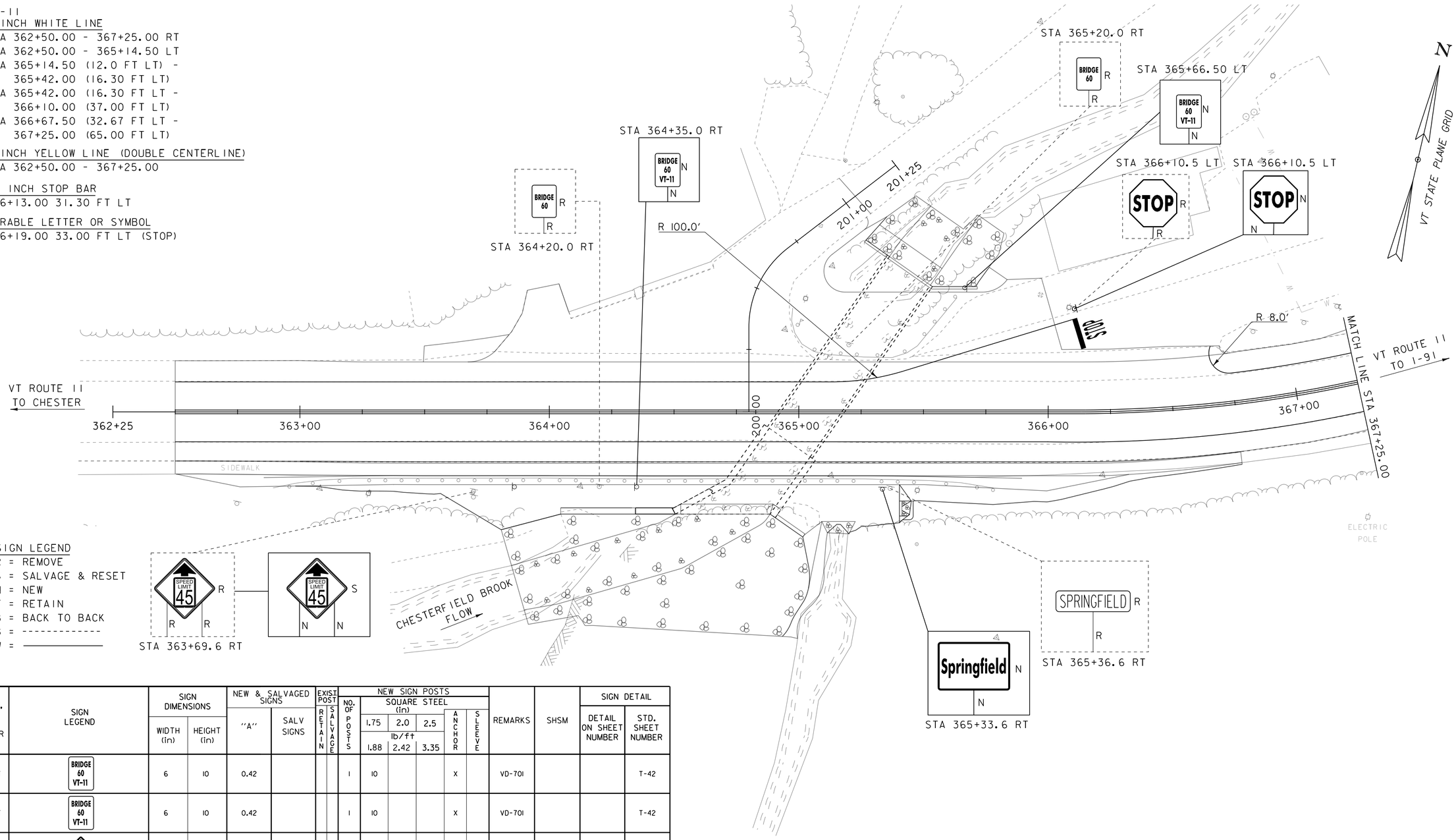
VT-11

4 INCH WHITE LINE
STA 362+50.00 - 367+25.00 RT
STA 362+50.00 - 365+14.50 LT
STA 365+14.50 (12.0 FT LT) -
365+42.00 (16.30 FT LT)
STA 365+42.00 (16.30 FT LT -
366+10.00 (37.00 FT LT)
STA 366+67.50 (32.67 FT LT -
367+25.00 (65.00 FT LT)

4 INCH YELLOW LINE (DOUBLE CENTERLINE)
STA 362+50.00 - 367+25.00

24 INCH STOP BAR
366+13.00 31.30 FT LT

DURABLE LETTER OR SYMBOL
366+19.00 33.00 FT LT (STOP)



SIGN LEGEND
R = REMOVE
S = SALVAGE & RESET
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = ----------
NEW = ——————

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW & SALVAGED SIGNS "A"	NEW & SALVAGED SIGNS SALV SIGNS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	REMARKS	SHSM	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
364+35.0 RT	BRIDGE 60 VT-11	6	10	0.42				1	10			X		VD-701			T-42
365+66.5 LT	BRIDGE 60 VT-11	6	10	0.42				1	10			X		VD-701			T-42
363+69.6 RT	SPEED LIMIT 45				X			2		30		X		W3-5			
365+33.6 RT	Springfield	36	24	2.50				1		10		X		VD-018			T-95
366+10.5 LT	STOP	30	30	6.30				1		15		X		RI-1			
									FT 20	FT 55	FT		EA				
TOTALS				SF 13.14	EACH 1				FT 75								

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

SHSM = STANDARD HIGHWAY SIGNS (MUTCD)

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

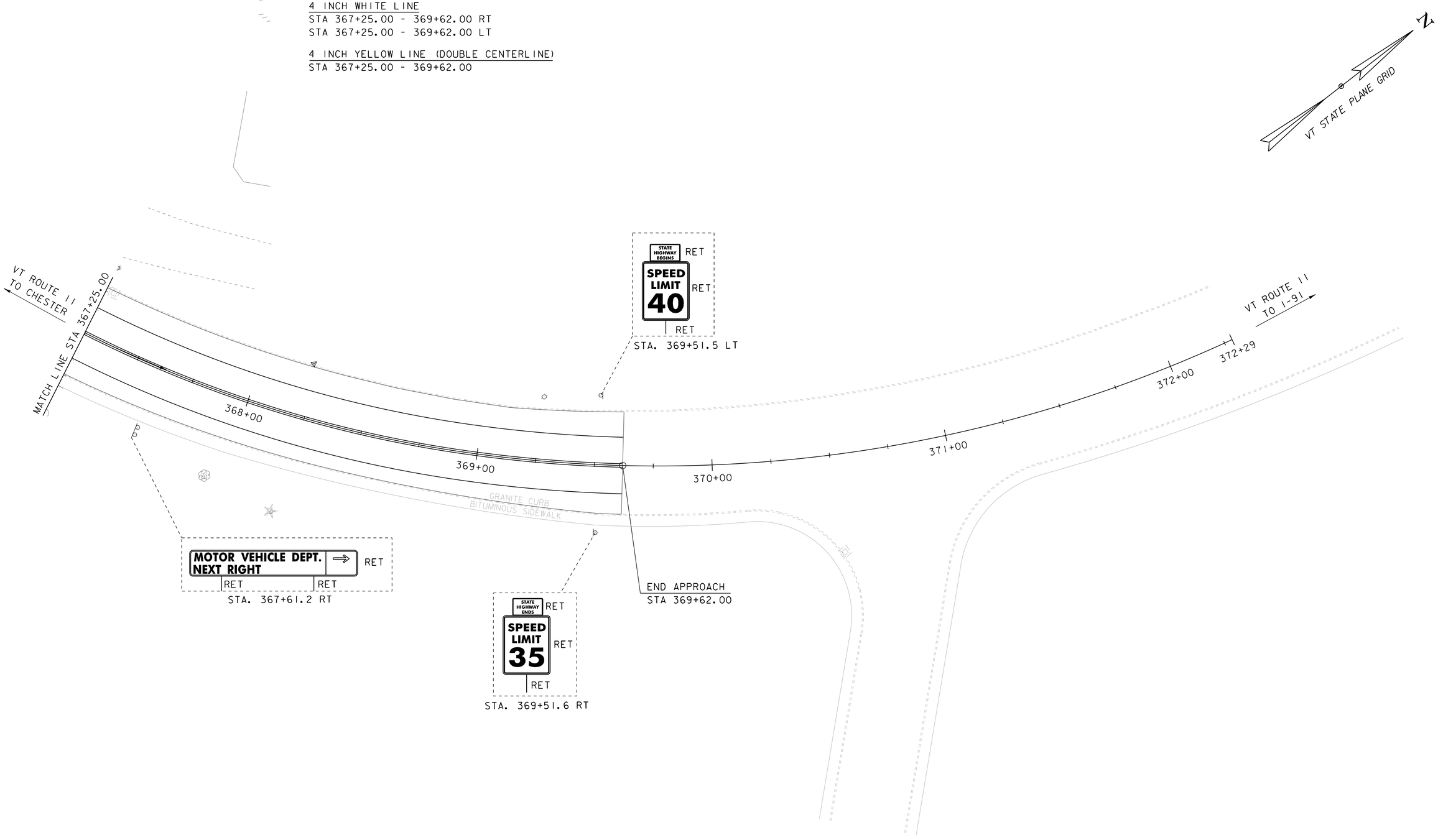
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336sign.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
SIGN AND PAVEMENT MARKINGS SHEET 1
PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 17 OF 57

VT-11

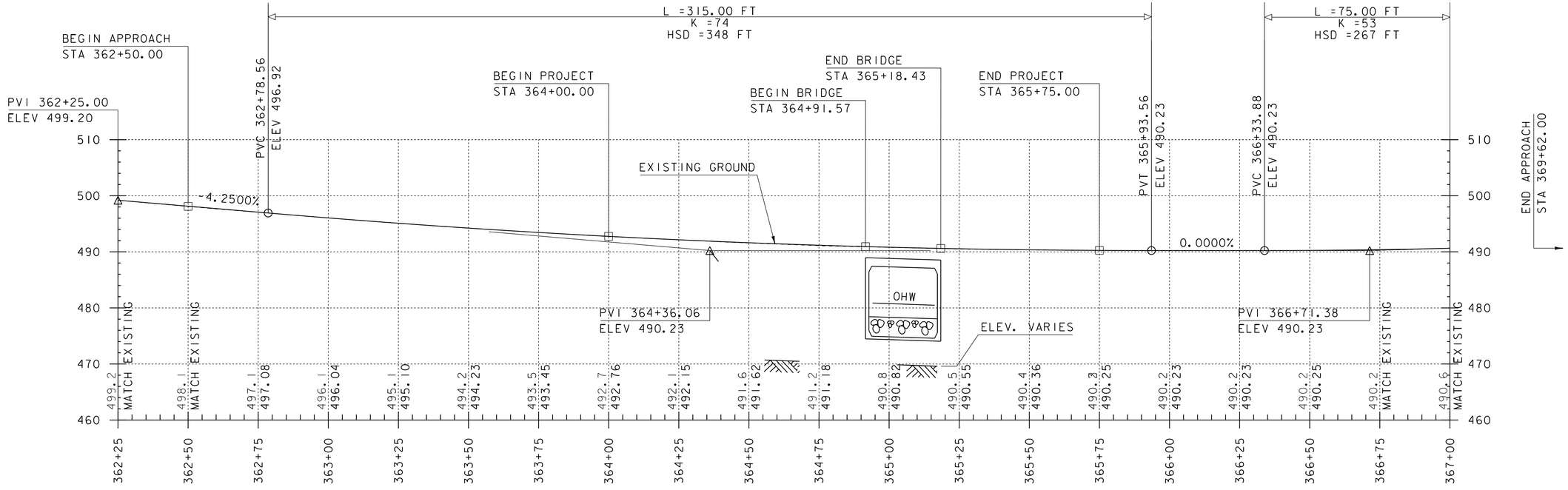
4 INCH WHITE LINE
STA 367+25.00 - 369+62.00 RT
STA 367+25.00 - 369+62.00 LT

4 INCH YELLOW LINE (DOUBLE CENTERLINE)
STA 367+25.00 - 369+62.00



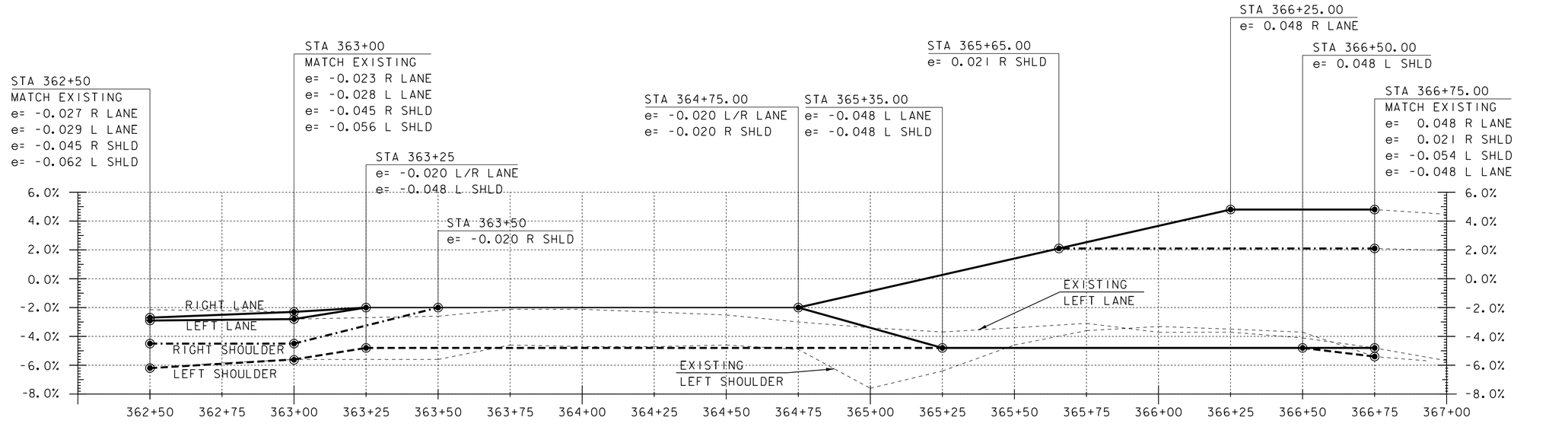
SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(45)	
FILE NAME: sl3d336alingbdr.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
SIGN AND PAVEMENT MARKINGS SHEET 2	SHEET 18 OF 57



MAINLINE PROFILE

SCALE: HORIZONTAL 1"=20'-0
VERTICAL 1"=10'-0"



BANKING DIAGRAM

SCALE: HORIZONTAL 1"=20'-0"
VERTICAL 1"=2%

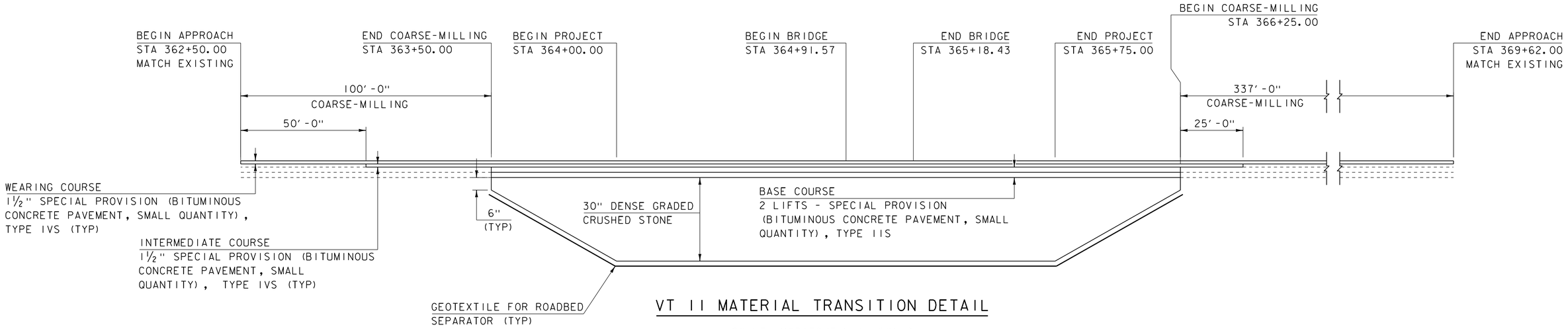
THE GRADES SHOWN TO THE TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG PROPOSED ALIGNMENT.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

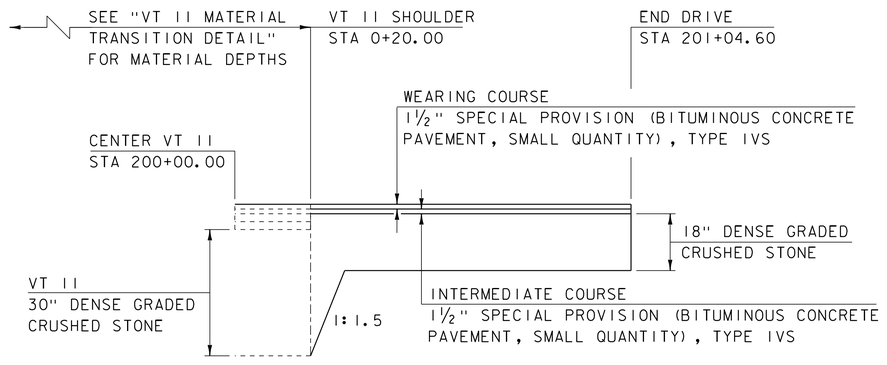
FILE NAME: sl0c216pro.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VT 11 PROFILE & BANKING DIAGRAM

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 19 OF 57



VT II MATERIAL TRANSITION DETAIL

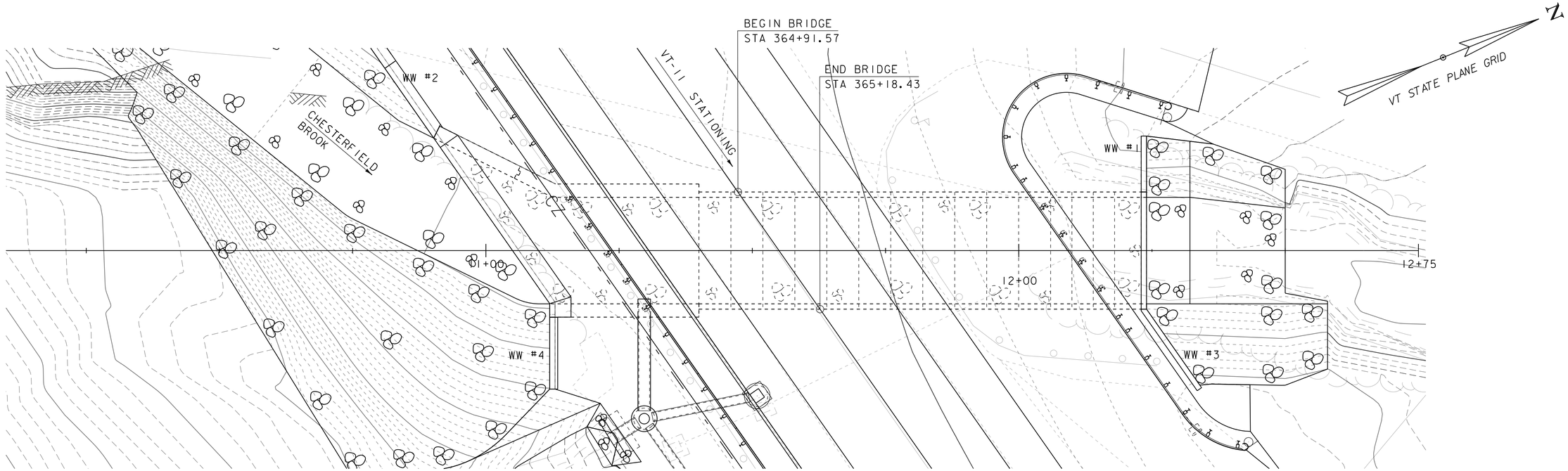
SCALE: HORIZONTAL 1"=20'-0"
VERTICAL NTS



DRIVE MATERIAL TRANSITION DETAIL

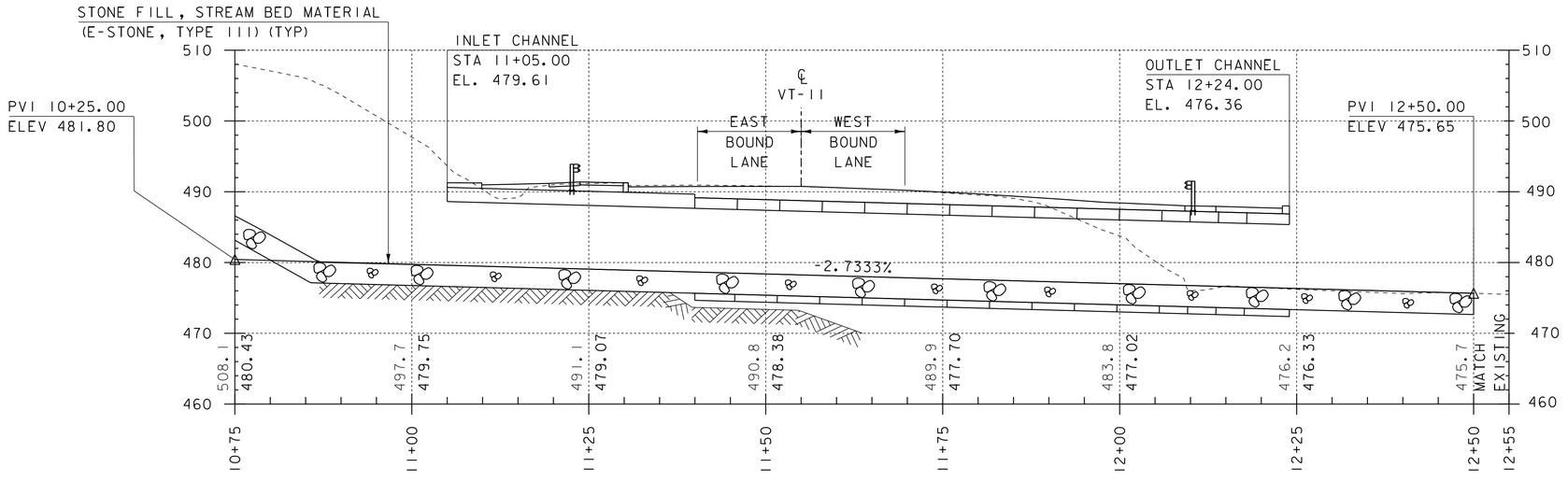
SCALE: HORIZONTAL 1"=20'-0"
VERTICAL NTS

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336pro.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
MATERIAL TRANSITION	SHEET 20 OF 57



STRUCTURE PLAN

SCALE 1" = 10'-0"



STRUCTURE CHANNEL PROFILE

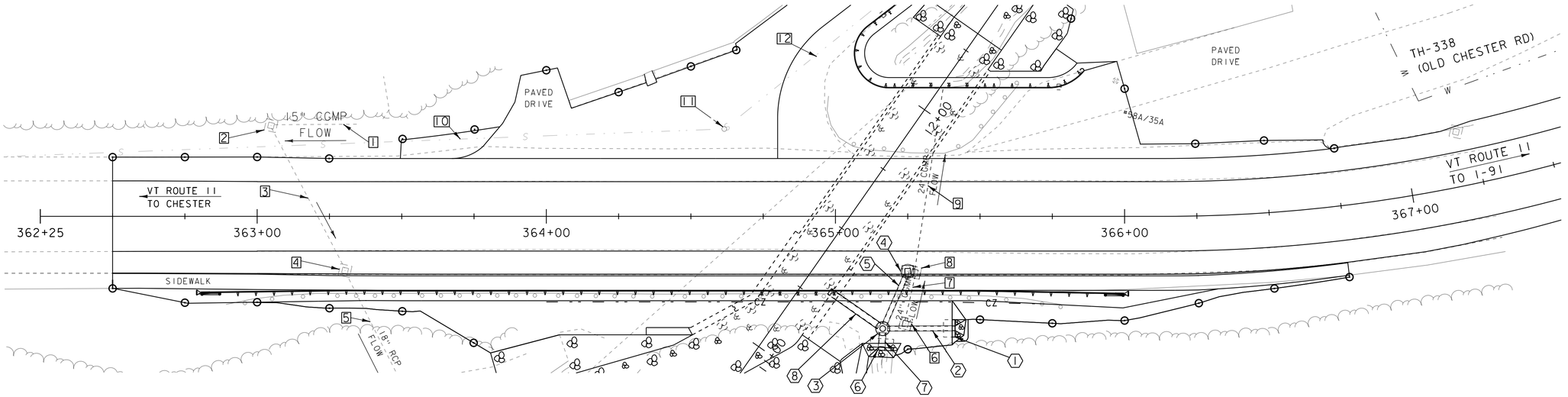
SCALE 1" = 10'-0"

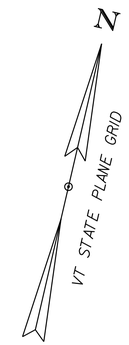
NOTE:

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:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336pro.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
PLAN AND STRUCTURE PROFILE	SHEET 21 OF 57





DRAINAGE LAYOUT

SCALE 1" = 20'-0"

[1] STA 363+05.84 LT - 363+34.43 LT
EXISTING 15" CGMP (RETAIN)

[2] STA 363+04.80 LT
EXISTING DI (RETAIN)

[3] STA 363+05.00 LT - 363+30.25 RT
EXISTING 18" RCP (RETAIN)

[4] STA 363+30.40 RT
EXISTING DI (RETAIN AND AJUST GRATE ELEV.)

[5] STA 363+30.61 RT - 363+54.25 RT
EXISTING 18" RCP (RETAIN)

[6] STA 365+24.25 RT
EXISTING DI (REMOVE)

[7] STA 365+24.02 RT - 365+27.65 RT
EXISTING 24" CGMP (REMOVE)

[8] STA 365+27.42 RT
EXISTING DI (REMOVE)

[9] STA 365+27.48 RT - 365+37.36 LT
EXISTING 24" CGMP (REMOVE)

[10] RETAIN 8" A.C. SEWER
SEE UTILITY LAYOUT SHEET

[11] RETAIN SEWER MANHOLE
SEE UTILITY LAYOUT SHEET

[12] RETAIN 8" A.C. SEWER
SEE UTILITY LAYOUT SHEET

⟨1⟩ NEW HEADWALL
STA 365+40.75 OFFSET 38.75' RT
SEE STANDARD "D-33" REINFORCED CONCRETE
STRAIGHT HEADWALL, USE TABLE FOR 18" PIPE.

⟨2⟩ NEW 18 INCH PIPE
FROM STA 365+17.80 OFFSET 38.75 RT
TO STA 365+41.35 OFFSET 38.75 RT

⟨3⟩ NEW 48 INCH DIA. PRECAST REINFORCED
CONCRETE MANHOLE WITH CAST IRON COVER
STA 365+16.35 OFFSET 38.80' RT

⟨4⟩ NEW 48 INCH DIA. PRECAST REINFORCED
CONCRETE CATCH BASIN WITH CAST IRON
GRATE, TYPE D
STA 365+25.00 OFFSET 19.00' RT

⟨5⟩ NEW 18 INCH PIPE
FROM STA 365+17.00 OFFSET 37.40 RT
TO STA 365+25.00 OFFSET 20.00 RT

⟨6⟩ NEW HEADWALL
STA 365+16.00 OFFSET 46.30' RT
SEE STANDARD "D-33" REINFORCED CONCRETE
STRAIGHT HEADWALL, USE TABLE FOR 24" PIPE.

⟨7⟩ NEW 24 INCH PIPE
FROM STA 365+16.00 OFFSET 46.30 RT
TO STA 365+16.40 OFFSET 40.20 RT

⟨8⟩ NEW 24 INCH PIPE
FROM STA 364+98.00 OFFSET 25.93 RT
TO STA 365+15.00 OFFSET 37.97 RT

NOTES:

1. ELEVATION AND LOCATION OF THE EXISTING DRAINAGE SYSTEM IS APPROXIMATE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE EXISTING DRAINAGE AND MAKING ANY CORRECTIONS AS NECESSARY.

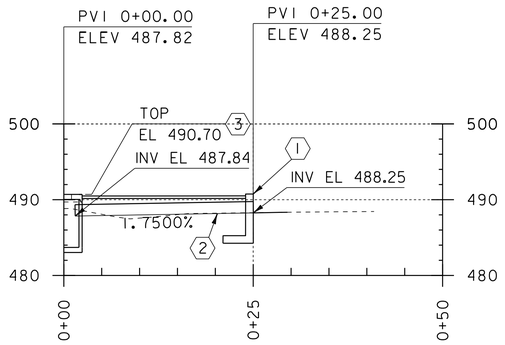
3. SEE "DRIVE AND DRAINAGE PROFILE" SHEET FOR PIPE DRAINAGE PROFILES.

4. FOR INFORMATION ON SEWER PIPES [10], [12] AND MANHOLE [11] SEE "UTILITIES LAYOUT SHEET"

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

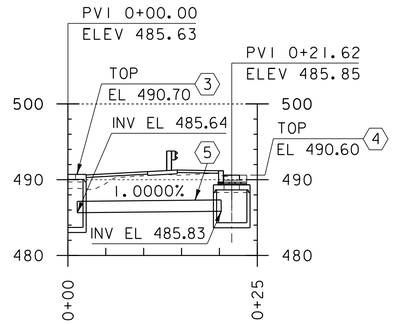
FILE NAME: sl3d336drain.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRAINAGE LAYOUT

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 22 OF 57



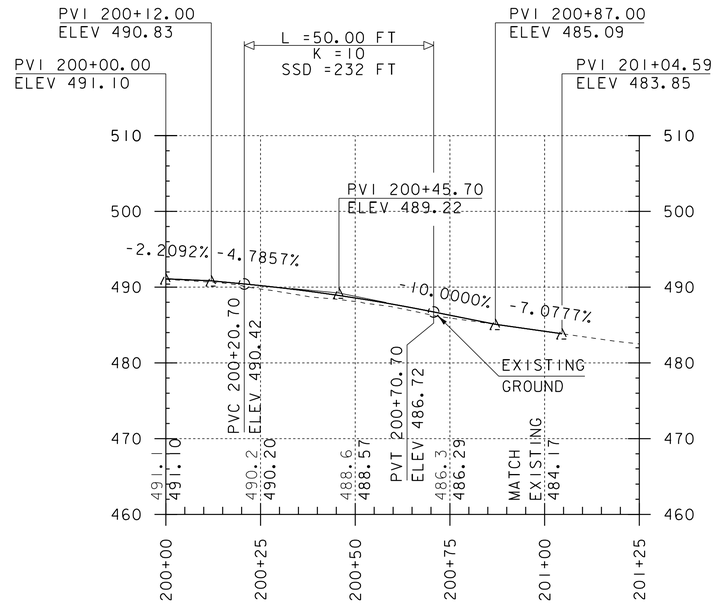
PIPE 2 PROFILE

SCALE: HORIZONTAL 1"=10'-0"
VERTICAL 1"=10'-0"



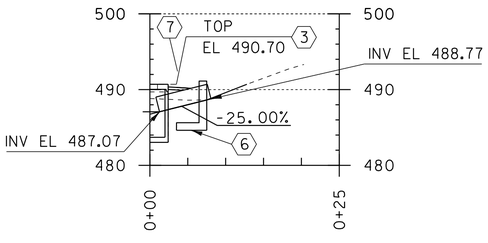
PIPE 5 PROFILE

SCALE: HORIZONTAL 1"=10'-0"
VERTICAL 1"=10'-0"



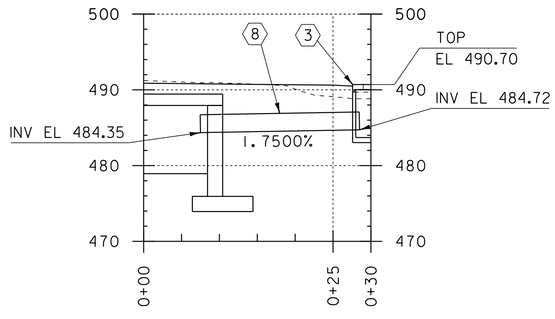
DRIVEWAY PROFILE

SCALE: HORIZONTAL 1"=10'-0"
VERTICAL 1"=20'-0"



PIPE 7 PROFILE

SCALE: HORIZONTAL 1"=10'-0"
VERTICAL 1"=10'-0"



PIPE 8 PROFILE

SCALE: HORIZONTAL 1"=10'-0"
VERTICAL 1"=10'-0"

NOTE:

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

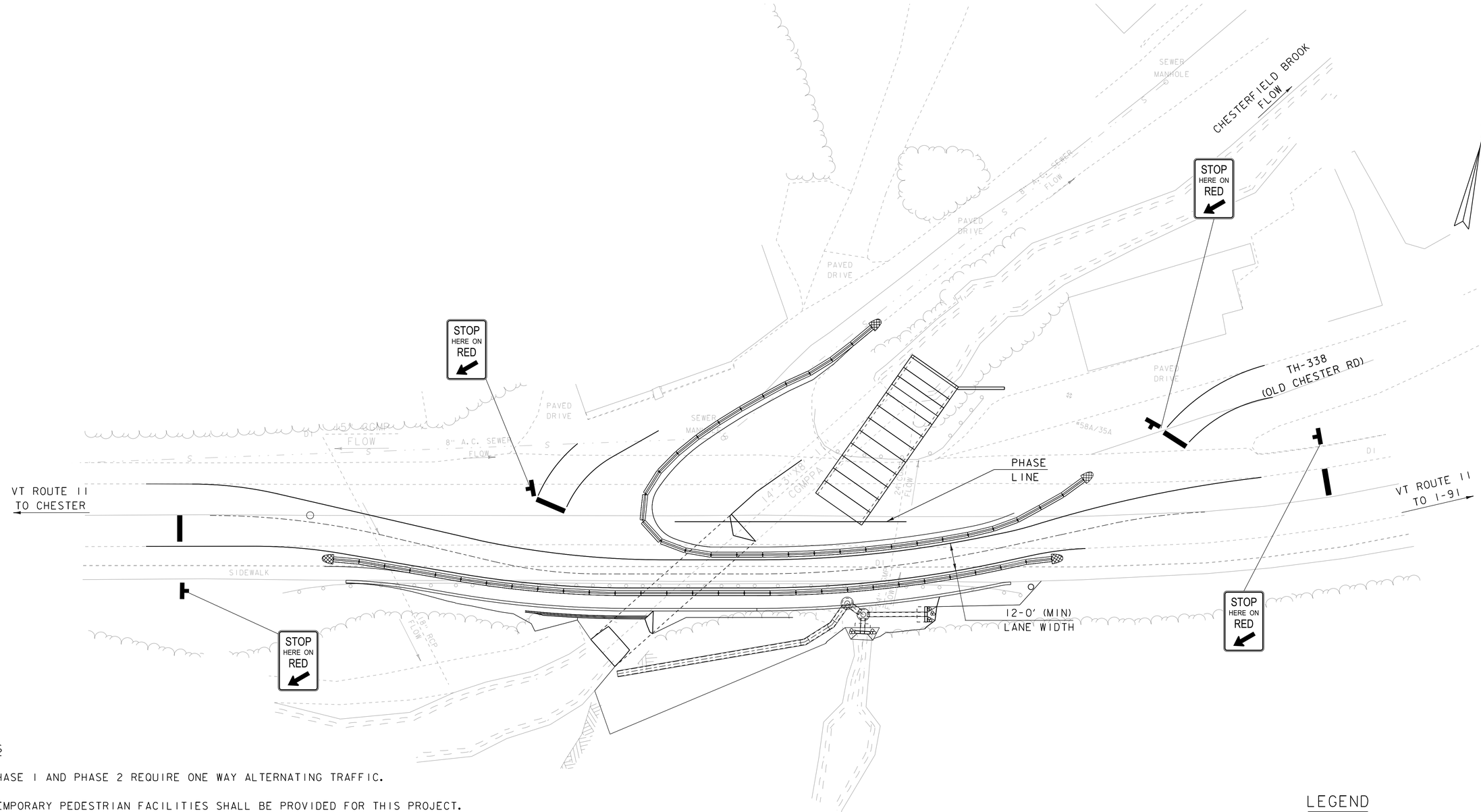
ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

1. NEW REINFORCED CONCRETE STRAIGHT HEADWALL, SEE STANDARD "D-33" REINFORCED CONCRETE STRAIGHT HEADWALL, USE TABLE FOR 18" PIPE.
2. NEW 18 INCH DIA PIPE (LENGTH 23'-6")
3. NEW 48 INCH DIA PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER
4. NEW 48 INCH DIA PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE, TYPE D
5. NEW 18 INCH DIA PIPE (LENGTH 19'-0")
6. NEW REINFORCED CONCRETE STRAIGHT HEADWALL, SEE STANDARD "D-33" REINFORCED CONCRETE STRAIGHT HEADWALL, USE TABLE FOR 24" PIPE.
7. NEW 24 INCH DIA PIPE (LENGTH 6'-4")
8. NEW 24 INCH DIA PIPE (LENGTH 21'-0")

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336pro.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRIVE AND DRAINAGE PROFILE

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 23 OF 57



NOTES

1. PHASE 1 AND PHASE 2 REQUIRE ONE WAY ALTERNATING TRAFFIC.

2. TEMPORARY PEDESTRIAN FACILITIES SHALL BE PROVIDED FOR THIS PROJECT.

3. THE PHASING LAYOUT, INCLUDING PEDESTRIAN ACCOMMODATIONS, ARE CONCEPTUAL ONLY.

4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES THAT ACCESS VT-11 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED FOR SHORT PERIODS OF TIME, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.

5. PHASED CONSTRUCTION WILL IMPACT THE 24" DIAMETER CGMP CROSSING VT-11, DENOTED AS [9] ABOVE. THE PHASING PLAN SHALL ACCOMMODATE THE WATERSHED AREA THIS CULVERT SERVICES AND REDIRECT FLOW AWAY FROM CONSTRUCTION ACTIVITIES. REFERENCE DRAINAGE LAYOUT SHEET FOR FINAL DRAINAGE CONDITIONS.

6. THE CONTRACTOR MAY CONSIDER PLACING PROPOSED PERMANENT DRAINAGE STRUCTURES, ①, ②, ③, ⑥, ⑦ AND TEMPORARY PIPE AND STRUCTURE PRIOR TO CONSTRUCTING PHASE 1.

7. BEDROCK MAY BE ENCOUNTERED DURING THE INSTALLATION OF TEMPORARY DRAINAGE STRUCTURES. THE CONTRACTOR MAY CONSIDER REMOVING BEDROCK UPSTREAM OF THE PROPOSED STRUCTURE PRIOR TO PHASING OPERATIONS.

LEGEND

- CRASH ATTENUATOR
- TEMPORARY STOP BAR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE

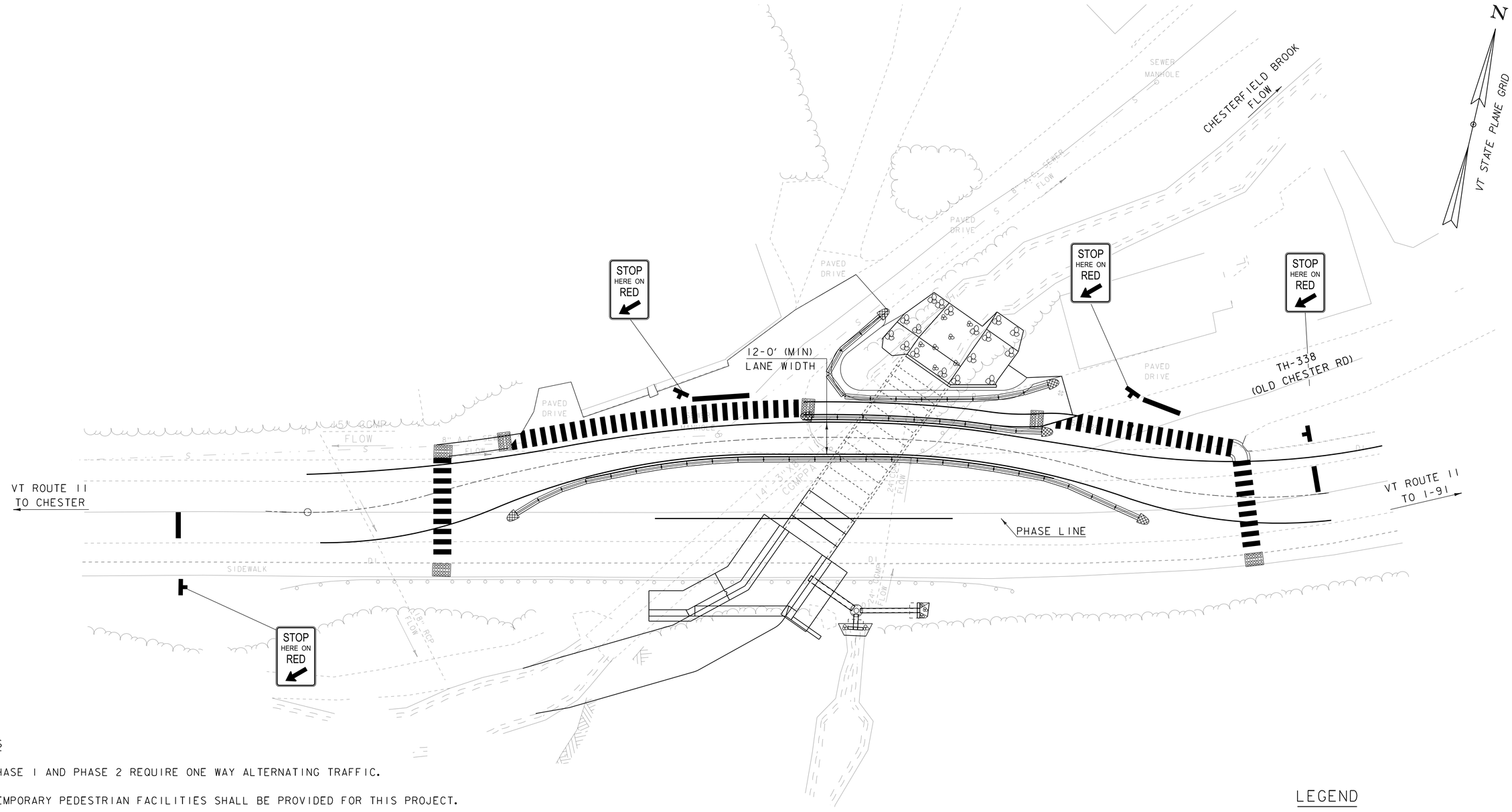
PHASE 1 LAYOUT

NOT TO SCALE

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336phase.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
PHASE 1 LAYOUT

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 24 OF 57



NOTES

1. PHASE 1 AND PHASE 2 REQUIRE ONE WAY ALTERNATING TRAFFIC.

2. TEMPORARY PEDESTRIAN FACILITIES SHALL BE PROVIDED FOR THIS PROJECT.

3. THE PHASING LAYOUT, INCLUDING PEDESTRIAN ACCOMMODATIONS, ARE CONCEPTUAL ONLY.

4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES THAT ACCESS VT-11 WITHIN THE PROJECT LIMITS AT ALL TIMES, FOR ALL PHASES OF CONSTRUCTION. IF ACCESS CANNOT BE MAINTAINED FOR SHORT PERIODS OF TIME, THE CONTRACTOR SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER AND OBTAIN APPROVAL OF THE ENGINEER.

5. PHASED CONSTRUCTION WILL IMPACT THE 24" DIAMETER CGMP CROSSING VT-11, DENOTED AS [9] ABOVE. THE PHASING PLAN SHALL ACCOMMODATE THE WATERSHED AREA THIS CULVERT SERVICES AND REDIRECT FLOW AWAY FROM CONSTRUCTION ACTIVITIES. REFERENCE DRAINAGE LAYOUT SHEET FOR FINAL DRAINAGE CONDITIONS.

6. THE CONTRACTOR MAY CONSIDER PLACING PROPOSED PERMANENT DRAINAGE STRUCTURES, ①, ②, ③, ⑥, ⑦ AND TEMPORARY PIPE AND STRUCTURE PRIOR TO CONSTRUCTING PHASE 1.

7. BEDROCK MAY BE ENCOUNTERED DURING THE INSTALLATION OF TEMPORARY DRAINAGE STRUCTURES. THE CONTRACTOR MAY CONSIDER REMOVING BEDROCK UPSTREAM OF THE PROPOSED STRUCTURE PRIOR TO PHASING OPERATIONS.

LEGEND

- CRASH ATTENUATOR
- TEMPORARY STOP BAR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE

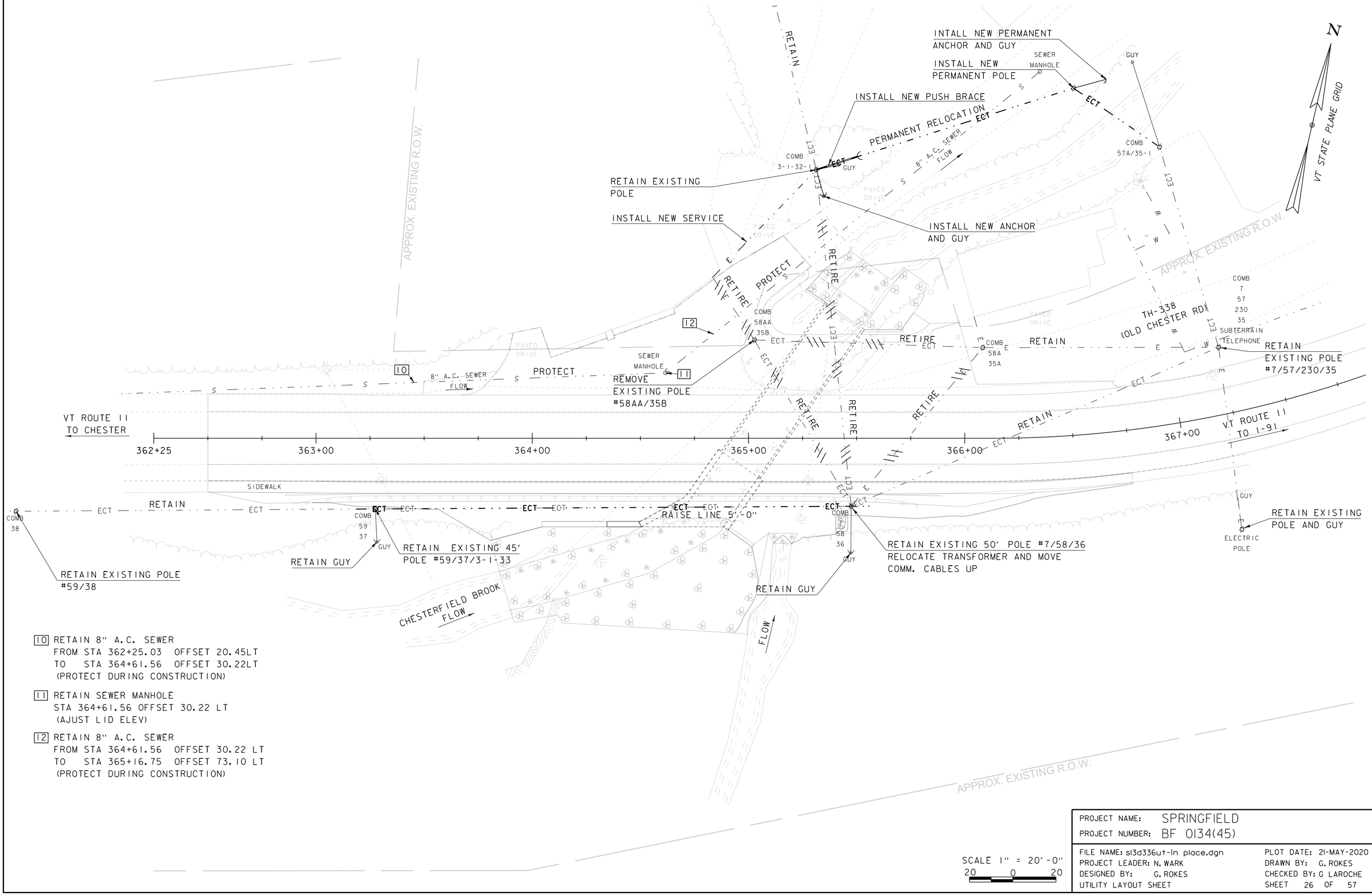
PHASE 2 LAYOUT

NOT TO SCALE

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: s13d336phase.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
PHASE 2 LAYOUT

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 25 OF 57



10 RETAIN 8" A.C. SEWER
FROM STA 362+25.03 OFFSET 20.45LT
TO STA 364+61.56 OFFSET 30.22LT
(PROTECT DURING CONSTRUCTION)

11 RETAIN SEWER MANHOLE
STA 364+61.56 OFFSET 30.22 LT
(AJUST LID ELEV)

12 RETAIN 8" A.C. SEWER
FROM STA 364+61.56 OFFSET 30.22 LT
TO STA 365+16.75 OFFSET 73.10 LT
(PROTECT DURING CONSTRUCTION)

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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336ut-in place.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
UTILITY LAYOUT SHEET	SHEET 26 OF 57

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
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

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.

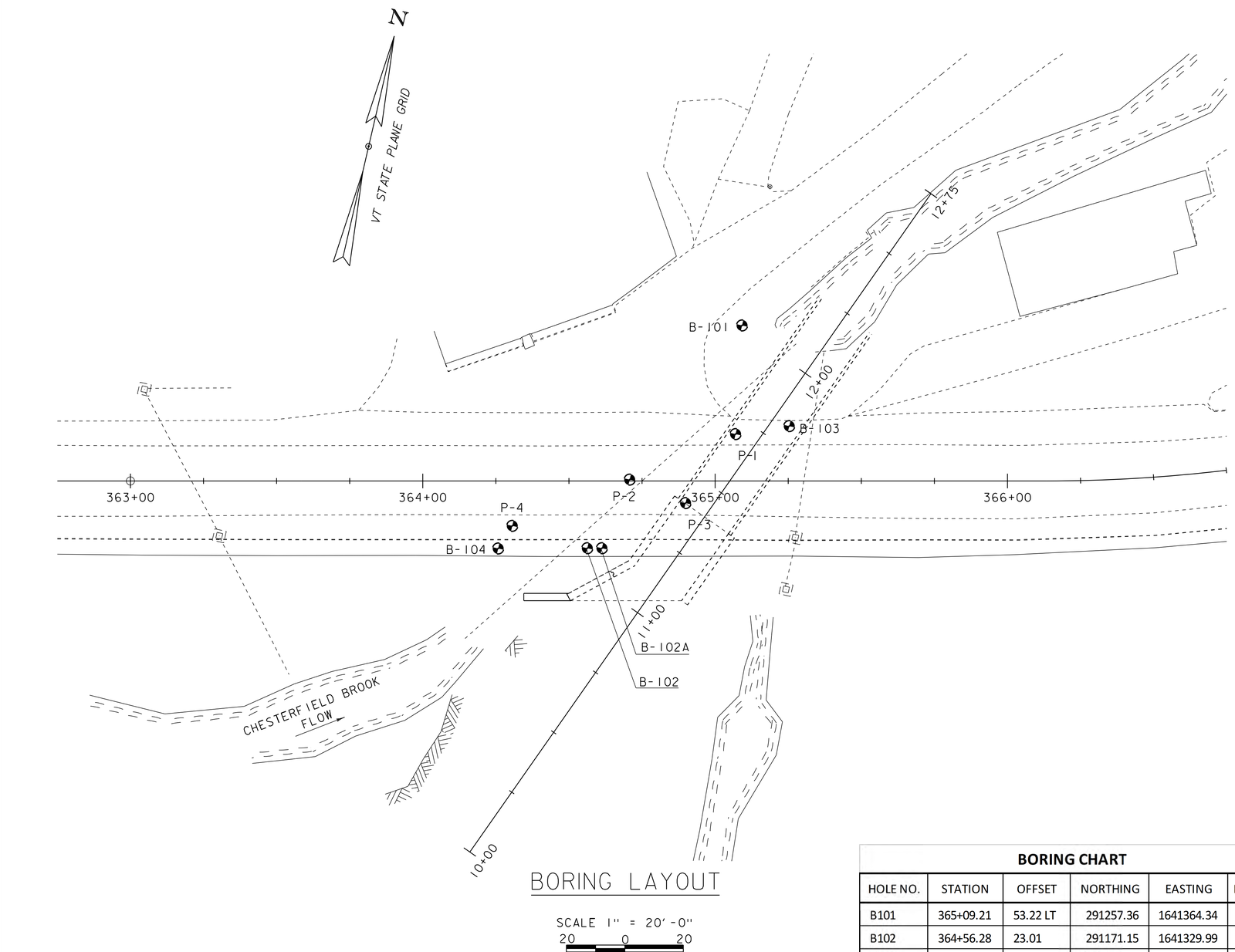
MUCK - Soft organic soil (containing > 10% organic material.

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.



BORING LAYOUT

SCALE 1" = 20'-0"

20 0 20

GENERAL NOTES

1. The subsurface explorations shown herein were made between 7/28/2016 and 8/2/2016 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 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.

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.

7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

BORING CHART

HOLE NO.	STATION	OFFSET	NORTHING	EASTING	EL. LOBR
B101	365+09.21	53.22 LT	291257.36	1641364.34	464.5
B102	364+56.28	23.01	291171.15	1641329.99	N/A
B102A	364+61.28	23.01	291172.28	1641334.86	478.6
B103	365+25.35	18.78 LT	291227.45	1641387.84	458
B104	364+25.79	23.1	291164.18	1641300.31	475.4
P1	365+07.00	16.04 LT	291220.64	1641370.58	477.3
P2	364+70.78	0.47 LT	291197.29	1641338.81	470.3
P3	364+89.89	7.57	291193.78	1641359.24	478.9
P4	364+30.62	15.35	291172.81	1641303.26	477.8

PROJECT NAME: SPRINGFIELD

PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
BORING INFORMATION

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-101**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Emerson, Judkins, Gomes
Date Started: 7/28/16 Date Finished: 7/29/16
VTSPG NAD83: N 291257.36 ft E 1641364.34 ft
Station: 365+09 Offset: -52.96
Ground Elevation: 485.4 ft

	Casing	Sampler
Type:	WB	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 45C SKID <<SUB>><<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
07/29/16	8.6	W.T. before 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 %
		A-1-b, GrSa, brn, Moist, Rec. = 0.9 ft				2-4-3-2 (7)	10.6	36.8	45.3	17.9
		A-1-b, SiGrSa, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken rock was within sample				34-27-3-4 (30)	10.6	35.9	42.4	21.7
		Field Note:, NXDC, Cleaned out casing								
5		Field Note:, No Recovery				4-2-2-6 (4)				
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 0.5 ft				4-4-6-3 (10)	13.9	37.7	44.4	17.9
		Field Note:, NXDC, Cleaned out casing								
		A-1-a, SaGr, gry, Moist, Rec. = 0.2 ft, Lab Note: Broken rock was within sample				R@3.5" (R)	9.2	69.6	25.0	5.4
10		Field Note:, NXDC, Cleaned out casing								
		A-2-4, SiSaGr, gry, Moist, Rec. = 1.0 ft				12-21-10-14 (31)	11.6	41.5	29.5	29.0
		Field Note:, NXDC, Cleaned out casing								
		A-4, GrSaSi, gry, Moist, Rec. = 1.4 ft				10-12-22-20 (34)	11.4	25.3	35.0	39.7
15		A-4, SaSi, gry, Moist, Rec. = 13.0 ft				12-16-20-30 (36)	12.7	12.7	40.0	47.3
		Field Note:, NXDC, Cleaned out casing								
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft, Lab Note: A very small amount of clay was within sample. Sample tested non-plastic				10-12-16-26 (28)	11.2	13.8	40.4	45.8
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, SaGr, brn, MTW, Rec. = 1.0 ft				4-9-R@2.5" (R)	11.7	48.1	36.7	15.2
20		Field Note:, NXDC, Cleaned out casing								
		A-2-4, GrSiSa, brn-gry, Moist, Rec. = 0.1 ft, Lab Note: Broken rock was within sample				R@1" (R)	8.8	29.2	36.3	34.5
		Top of Bedrock @ 20.9 ft								
		20.9 ft - 25.9 ft, Brown and tan, Rusty weathering, biotite-muscovite-quartz-plagioclase schist and Meta-Andesite, with hornblend. Penetrative rust staining and fine sandy silt coating along joints and broken rock. Schist is soft, moderately weathered. Moderately hard, Moderately weathered, Poor rock, NX, RMR=26	1 (70)	44 (0)	4 4 2 2 2					
25		25.9 ft - 30.9 ft, Tan to white, Rusty weathering Meta-Andesite, with hornblende. Persistant rust and orange staining along Meta-Andesite. Hard, Slightly weathered, Poor rock, NX, RMR=34	2 (65-70)	56 (0)	1 2 1 2 1					
30		30.9 ft - 35.9 ft, White, Gneiss with brown to tan weathering and green/gray SCHIST, Gneiss is moderately hard. Soft, Moderately weathered, Poor rock, NX, RMR=25	3 (60)	14 (14)	1 2 2 2 2					
35		Hole stopped @ 35.9 ft								
40		Remarks: Hole collapsed at 6.4 feet.								

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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.

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-102**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Emerson, Judkins, Gomes
Date Started: 7/28/16 Date Finished: 7/28/16
VTSPG NAD83: N 291171.15 ft E 1641329.99 ft
Station: 364+56 Offset: 23.22
Ground Elevation: 491.7 ft

	Casing	Sampler
Type:	WB	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 45C SKID <<SUB>><<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
07/28/16		No W.T. observed

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Asphalt Pavement, 0.0 ft - 0.45 ft					
		A-1-b, GrSa, brn, Moist, Rec. = 1.3 ft	4-3-3-3 (6)	9.2	40.0	46.8	13.2
2.5		A-2-4, SiGrSa, brn, Moist, Rec. = 1.1 ft	4-6-22-14 (28)	11.0	30.4	46.5	23.1
		Field Note:, Rollercone, Cleaned out casing					
5.0		Field Note:, No Recovery	R@3.5" (R)				
		Hole stopped @ 5.3 ft					
7.5		Remarks: Hole collapsed at 2.5 feet. 1.) Hit culvert at 5.3 feet. Aborted drilling operations.					

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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.

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: S. COLEY
BORING LOGS 1

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 28 OF 57

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-102A**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Emerson, Judkins, Gomes
Date Started: 7/28/16 Date Finished: 7/28/16
VTSPG NAD83: N 291172.28 ft E 1641334.86 ft
Station: 364+61 Offset: 23.22
Ground Elevation: 491.6 ft

	Casing	Sampler
Type:	WB	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 45C SK<<SUB>>3<<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
07/28/16	10.4	W.T. during 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 %
		Asphalt Pavement, 0.0 ft - 0.45 ft								
5										
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 0.9 ft				5-4-6-15 (10)	11.7	37.6	48.7	13.7
10		A-1-b, GrSa, brn, Moist, Rec. = 0.3 ft				5-7-10-10 (17)	12.7	37.5	45.7	16.8
		Field Note:, NXDC, Cleaned out casing								
		A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft				9-18-R@5" (R)	12.6	29.4	57.2	13.4
		Field Note:, NXDC, Cleaned out casing								
		13.0 ft - 14.3 ft, White, Biotite-muscovite-quartz-plagioclase-hornblend GNEISS, Brown and orange staining along joints. Hard, Slightly weathered, NX	1 (70)	76 (32)	2 3 4	Top of Bedrock @ 13.0 ft				
15		14.3 ft - 18.0 ft, Gray to black, Biotite-muscovite-quartz-plagioclase SCHIST, Rust staining along joints. Moderately hard, Slightly weathered, Fair rock, RMR=43			7 6					
		18.0 ft - 23.0 ft, Gray, Interlayed biotite-quartz-plagioclase SCHIST, and white, biotite-muscovite-quartz-plagioclase-garnet GNEISS. Slightly vuggy. Light brown, yellow, and orange staining along joints. Gneiss is hard.. Moderately hard, Slightly weathered, Fair rock, NX, RMR=49	2 (70)	100 (64)	3 2 3 3 4					
20										
		Hole stopped @ 23.0 ft								
25		Remarks: Hole collapsed at 8.2 feet.								

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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.

TOP OF FOOTING #1 AND 2# EL = 476.4

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-103**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Gomes, Judkins, Emerson
Date Started: 8/02/16 Date Finished: 8/02/16
VTSPG NAD83: N 291227.45 ft E 1641387.84 ft
Station: 365+25.10 Offset: -18.50
Ground Elevation: 489.5 ft

	Casing	Sampler
Type:	WB	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 45C SK<<SUB>>3<<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
08/02/16	9.9	W.T. during 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 %
		Asphalt Pavement, 0.0 ft - 0.68 ft								
		A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken rock was within sample				7-6-7-6 (13)	8.9	46.5	43.8	9.7
5		A-1-b, GrSa, brn, Moist, Rec. = 0.6 ft				7-7-8-6 (15)	9.5	35.3	49.9	14.8
		A-1-b, GrSa, brn, Moist, Rec. = 0.4 ft				9-7-5-7 (12)	13.8	30.0	53.4	16.6
		A-2-4, SiSa, brn, Moist, Rec. = 0.3 ft				7-4-5-3 (9)	13.0	18.8	56.8	24.4
10		A-2-4, SiSa, brn, Moist, Rec. = 0.9 ft Field Note:, Rollercone, cleaned out casing				3-1-2-1 (3)	17.6	15.8	60.9	23.3
		A-1-b, GrSa, gry-brn, Moist, Rec. = 0.2 ft				1-1-W.H.-8 (1)	13.4	41.0	45.9	13.1
		A-1-a, SaGr, gry-brn, Moist, Rec. = 0.9 ft, Lab Note: Pieces of wood and a lot of broken rock was within sample Field Note:, Rollercone, cleaned out casing				5-7-28-19 (35)	11.9	68.4	23.3	8.3
15		A-4, SaSi, gry, Moist, Rec. = 1.2 ft, Lab Note: Some clay was within sample. Sample tested non-plastic				8-2-5-8 (7)	13.3	14.4	35.7	49.9
		Field Note:, No Recovery				22-R@2.5"				
		A-4, SiSa, gry-brn, Moist, Rec. = 1.5 ft				8-16-27-R@5" (43)	18.5	2.1	51.5	46.4
20										
		Field Note:, NXDC, cleaned out casing								
25		A-4, SiSa, white-brn, Moist, Rec. = 0.1 ft, Lab Note: Sample consisted of weathered rock				R@1"	11.8	1.7	56.4	41.9
		31.5 ft - 36.5 ft, Light green & gray, To white biotite-quartz-plagioclase-pyrite gneiss Meta-Andesite, with hornblende. Slight brown and rust staining along joints. Rare vugs. Hard, Very slightly weathered, Good rock, NX, RMR=69	1 (50)	98 (93)	7 7 6 5 6	Top of Bedrock @ 31.5 ft				
30										
35		Hole stopped @ 36.5 ft								
		Remarks: Hole collapsed at 8.7 feet.								
40										

Notes:
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<<SUB>><<SUB>> is the hammer energy correction factor.
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BOTTOM OF BOX EL = 472.5

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: S. COLEY
BORING LOGS 2

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 29 OF 57

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

BORING LOG

Springfield
BF 0134(45)
VT 11 Culv. 60

Boring No.: **B-104**
Page No.: 1 of 1
Pin No.: 13d336
Checked By: END

Boring Crew: Gomes, Judkins, Emerson
Date Started: 8/01/16 Date Finished: 8/02/16
VTSPG NAD83: N 291164.18 ft E 1641300.31 ft
Station: 364+25.51 Offset: 23.28
Ground Elevation: 492.1 ft

	Casing	Sampler
Type:	WB	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 45C SK<<SUB>><<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
08/02/16	11.2	W.T. before 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 %
		Asphalt Pavement, 0.0 ft - 0.25 ft								
		A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft Field Note:, NXDC, Cleaned out casing				--4-4-3 (8)	11.3	32.6	51.1	16.3
		A-1-b, SaGr, brn, Moist, Rec. = 0.9 ft Field Note:, NXDC, Cleaned out casing				4-5-7-14 (12)	10.2	51.5	34.5	14.0
5		A-1-b, SaGr, brn, Moist, Rec. = 1.2 ft, Lab Note: Broken rock was within sample				16-16-44-15 (60)	10.2	50.0	36.3	13.7
		A-2-4, SiGrSa, gry, Moist, Rec. = 1.0 ft, Lab Note: Broken rock was within sample Field Note:, NXDC, Cleaned out casing				12-11-11-19 (22)	10.3	27.1	47.6	25.3
		Field Note:, No Recovery				R@2.5" (R)				
		Field Note:, NXDC, Cleaned out casing								
10		A-2-4, GrSiSa, gry, Moist, Rec. = 0.7 ft				11-11-11-29 (22)	12.0	21.2	56.4	22.4
		Field Note:, No Recovery				R@5" (R)				
		Field Note:, NXDC, Cleaned out casing								
		A-4, SiSa, brn, Moist, Rec. = 1.1 ft				21-25-R@5" (R)	15.0	4.1	52.4	43.5
15										
		A-1-b, SaGr, brn, Moist, Rec. = 0.4 ft, Lab Note: Broken rock was within sample				R@5" (R)	10.0	53.1	30.5	16.4
		16.7 ft - 19.7 ft, Gray, Biotite-quartz-plagioclase SCHIST, Brown and rust staining along joints. Vugs forming along plagioclase foliations at 16.9 feet to 17.05 feet. Moderately hard, Very slightly weathered, Fair rock, NX, RMR=46	1 (50)	60 (60)	5 5 3	Top of Bedrock @ 16.7 ft				
20		19.7 ft - 21.7 ft, Gray, Biotite-muscovite-quartz-plagioclase SCHIST, Brown and orange staining along slickensided joints. Slightly vuggy. Moderately hard, Slightly weathered, Fair rock, NX, RMR=41	2 (50)	20 (55)	5 5					
		Hole stopped @ 21.7 ft								
		Remarks: Hole collapsed at 6.4 feet.								
25										

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
<<SUB>><<SUB>> 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.

BORING LOG 2 SPRINGFIELD BF 0134(45).GPJ VERMONT AOT.GDT 9/9/16

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336bor.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: S. COLEY
BORING LOGS 3

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 30 OF 57

MANUFACTURED TERMINAL SECTION, TANGENT
STA 362+79.0 - 363+29.0 RT
STA 365+52.7 - 366+02.7 RT

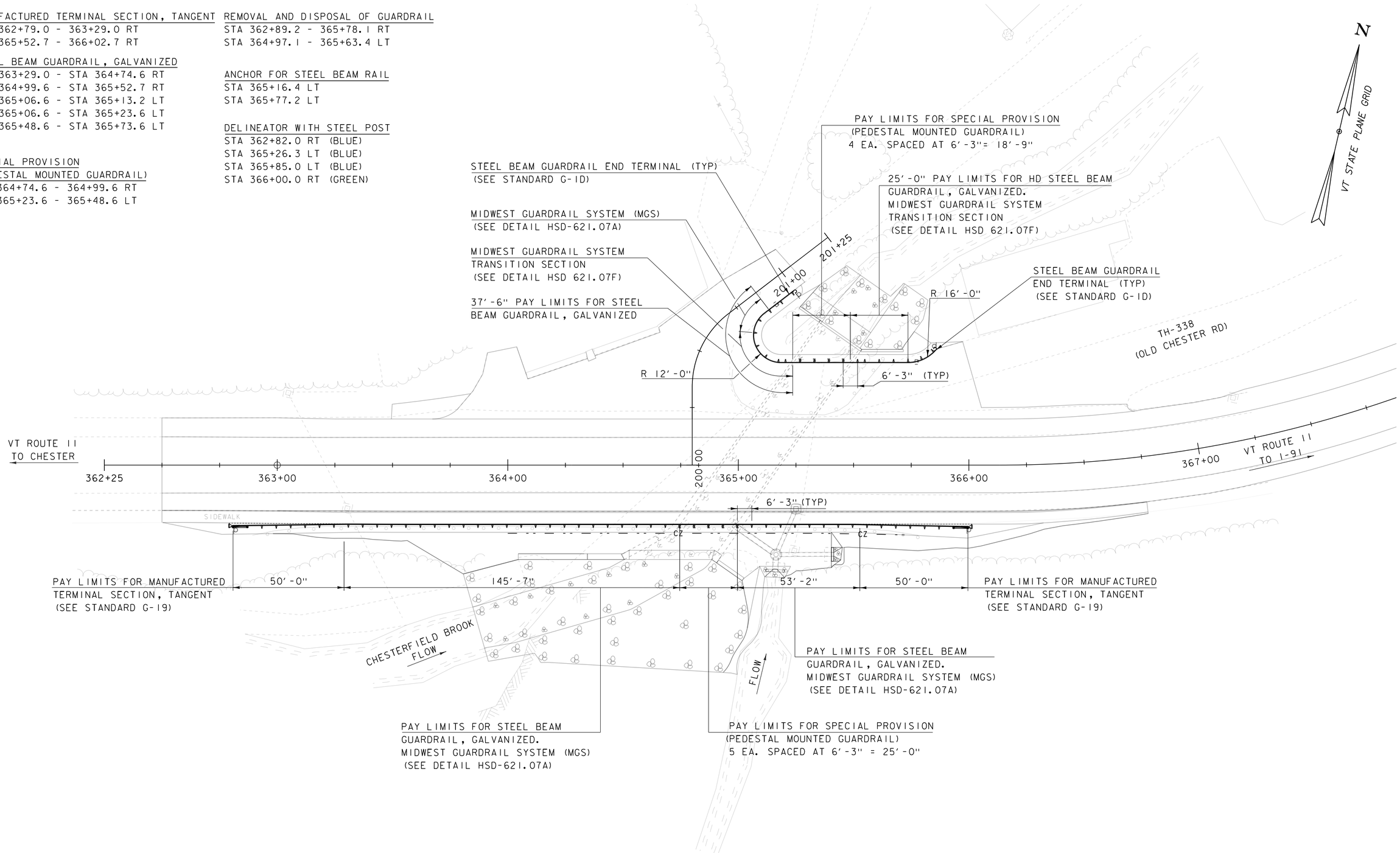
STEEL BEAM GUARDRAIL, GALVANIZED
STA 363+29.0 - STA 364+74.6 RT
STA 364+99.6 - STA 365+52.7 RT
STA 365+06.6 - STA 365+13.2 LT
STA 365+06.6 - STA 365+23.6 LT
STA 365+48.6 - STA 365+73.6 LT

SPECIAL PROVISION
(PEDESTAL MOUNTED GUARDRAIL)
STA 364+74.6 - 364+99.6 RT
STA 365+23.6 - 365+48.6 LT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 362+89.2 - 365+78.1 RT
STA 364+97.1 - 365+63.4 LT

ANCHOR FOR STEEL BEAM RAIL
STA 365+16.4 LT
STA 365+77.2 LT

DELINEATOR WITH STEEL POST
STA 362+82.0 RT (BLUE)
STA 365+26.3 LT (BLUE)
STA 365+85.0 LT (BLUE)
STA 366+00.0 RT (GREEN)

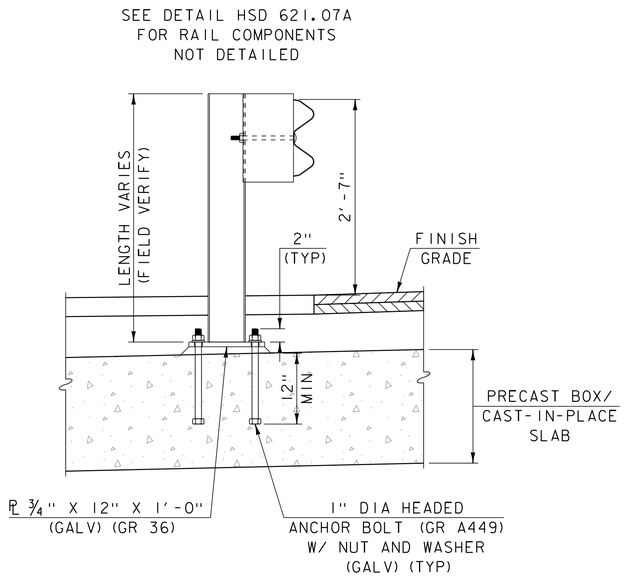


SCALE 1" = 20'-0"
20 0 20

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

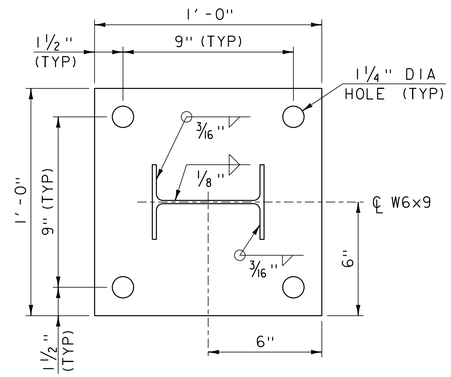
FILE NAME: sl3d336rail.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
GUARDRAIL LAYOUT SHEET

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 31 OF 57



PEDESTAL MOUNTED W-BEAM GUARDRAIL SECTION

NOT TO SCALE



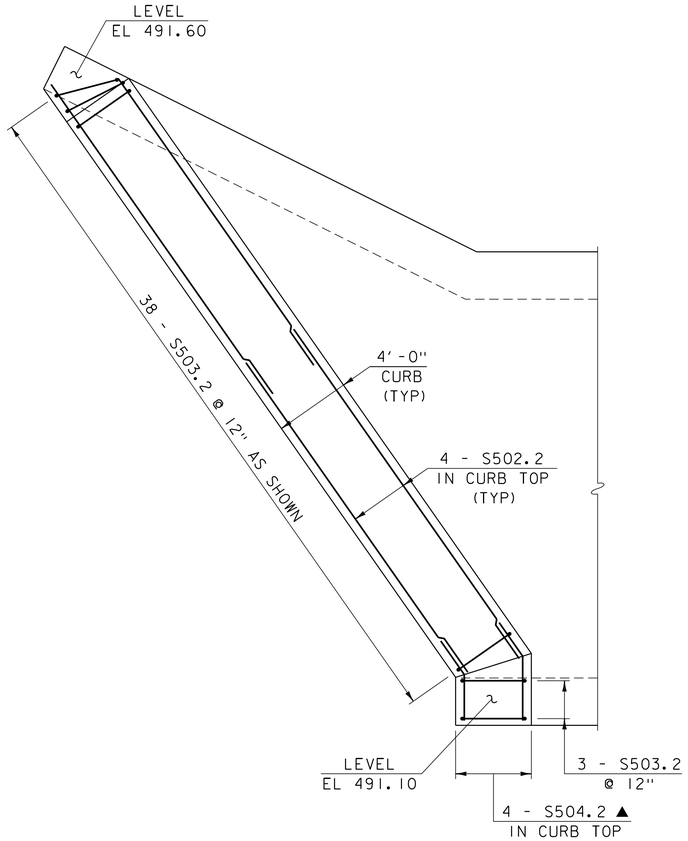
BASE PLATE DETAIL

NOT TO SCALE

NOTES

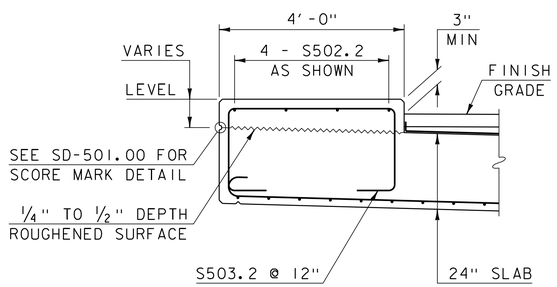
1. INDIVIDUAL POST ASSEMBLY SHALL NOT BE INSTALLED SPLITTING OVER TWO PRECAST BOX UNITS. MAINTAIN MINIMUM OF 7½" EDGE DISTANCE FROM CENTER OF ANCHOR BOLT TO EDGE OF PRECAST BOX UNIT.
2. POST ASSEMBLIES SHALL BE INSTALLED PLUMB AS SHOWN. CONTRACTOR SHALL DETERMINE FINAL LENGTH OF POSTS PRIOR TO FABRICATION.

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336rail_details.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROY
DESIGNED BY: A. LEMIEUX	CHECKED BY: A. LEMIEUX
GUARDRAIL DETAILS	SHEET 32 OF 57



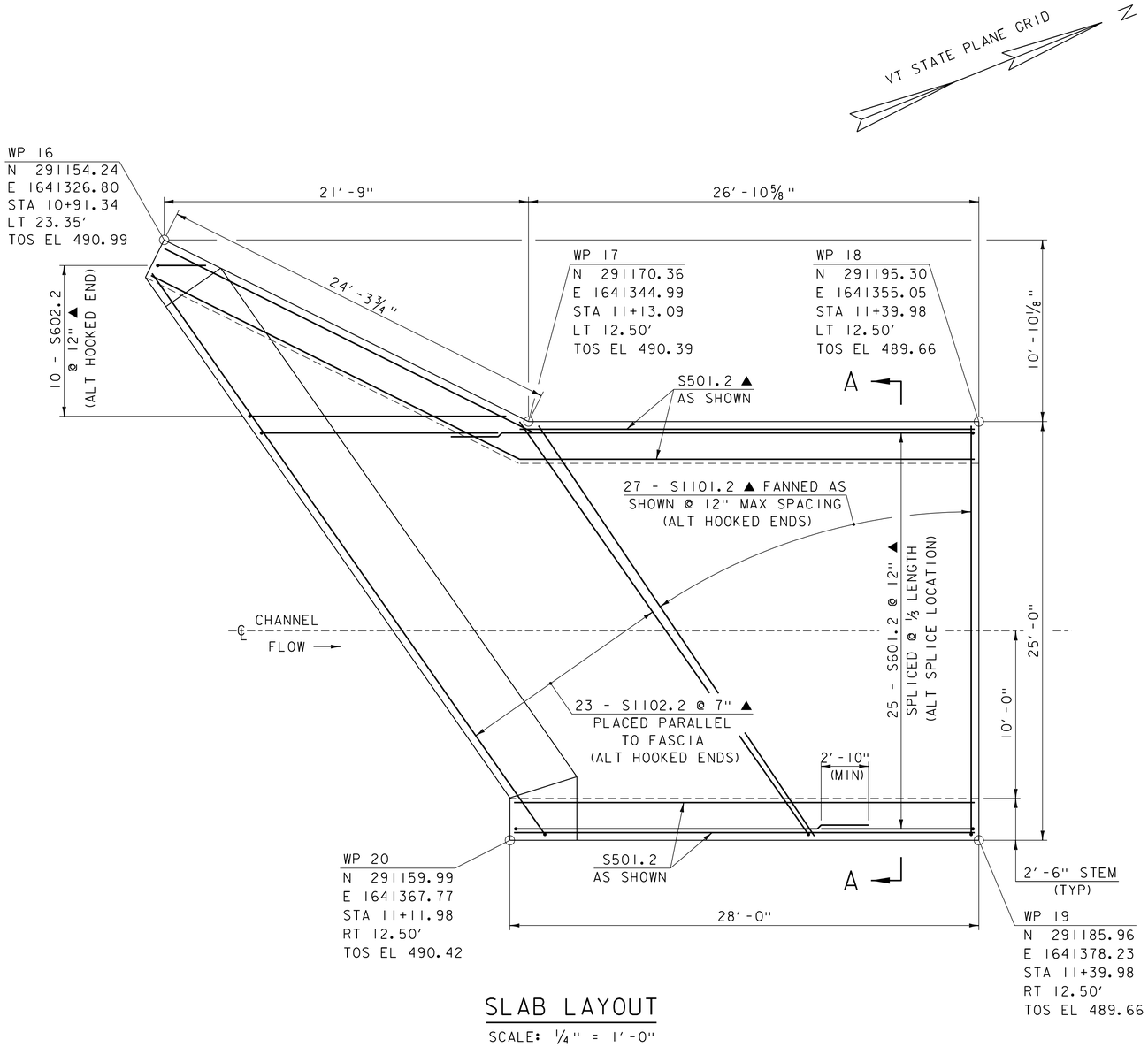
CURB LAYOUT

SCALE: ½" = 1'-0"



CURB DETAIL

SCALE: ½" = 1'-0"



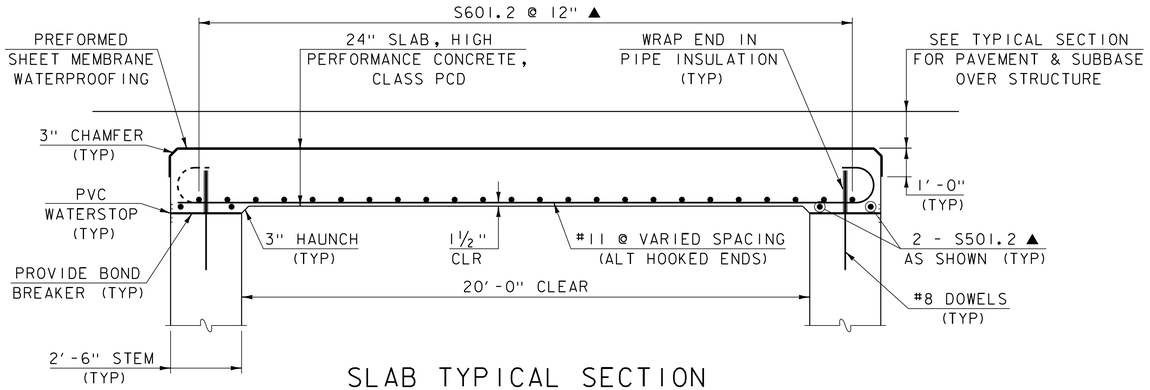
SLAB LAYOUT

SCALE: ¼" = 1'-0"

NOTE:

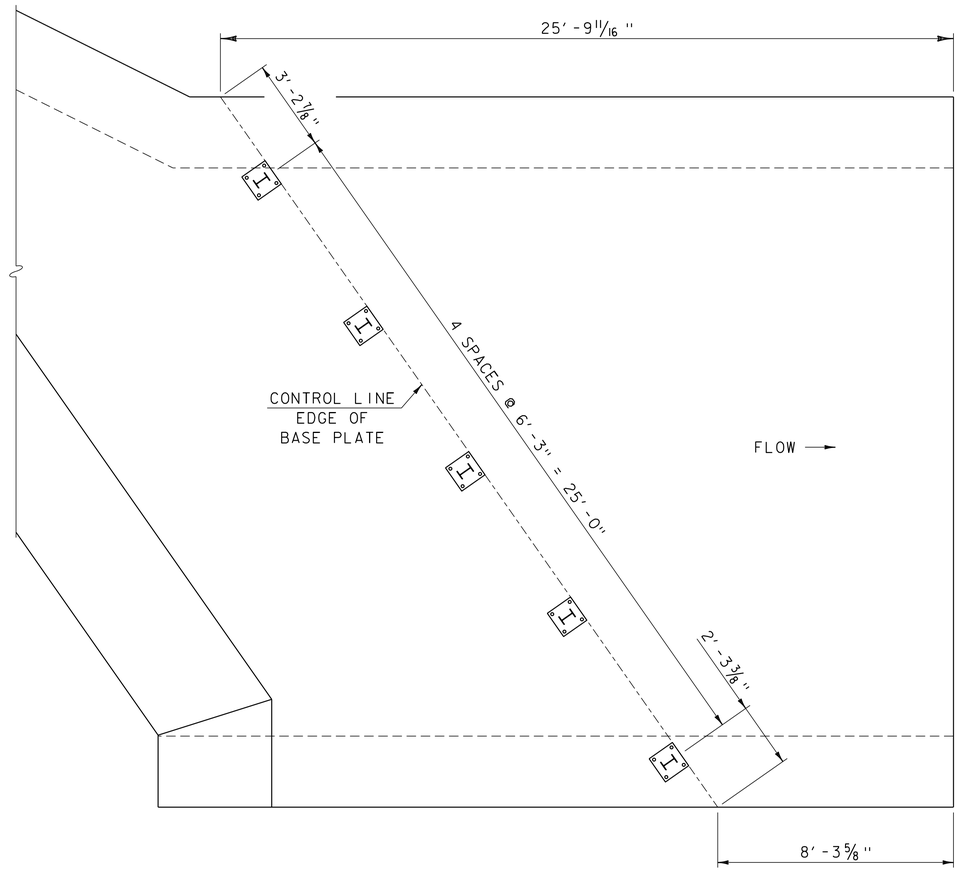
TOS = TOP OF SLAB
▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336sup.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROY
DESIGNED BY: A. LEMIEUX	CHECKED BY: A. LEMIEUX
SLAB LAYOUT	SHEET 33 OF 57



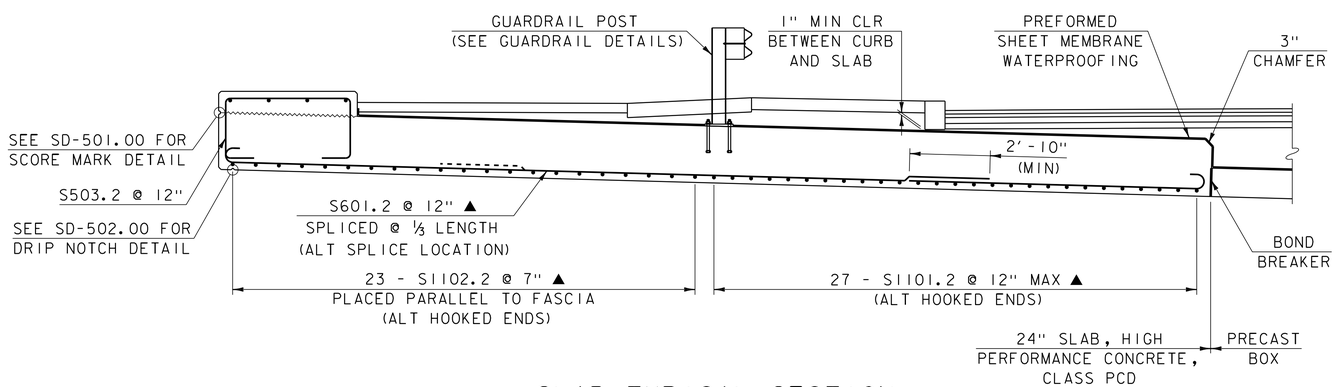
SLAB TYPICAL SECTION

SCALE: 3/8" = 1'-0"



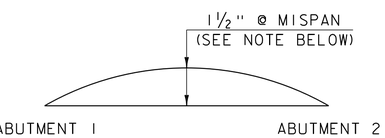
RAIL POST LAYOUT

SCALE: 3/8" = 1'-0"



SLAB TYPICAL SECTION

SCALE: 3/8" = 1'-0"



CAMBER DIAGRAM

NOT TO SCALE

THE SLAB SHALL BE CAMBERED A TOTAL OF 1½" AT MIDSPAN.
THIS INITIAL CAMBER SHALL APPROXIMATE A CIRCULAR CURVE.

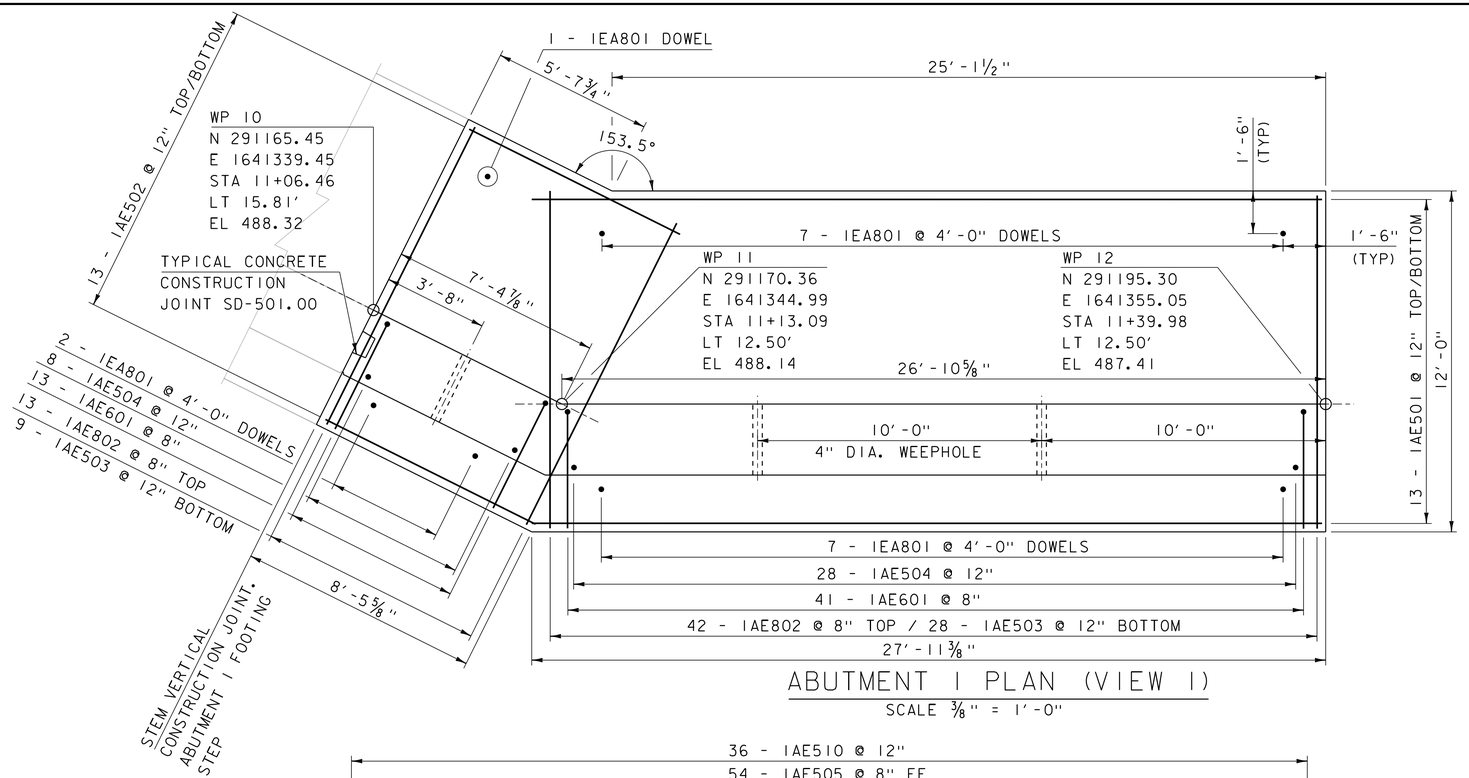
NOTE:

▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE NOTED
2'-2" BAR LAP UNLESS OTHERWISE NOTED

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

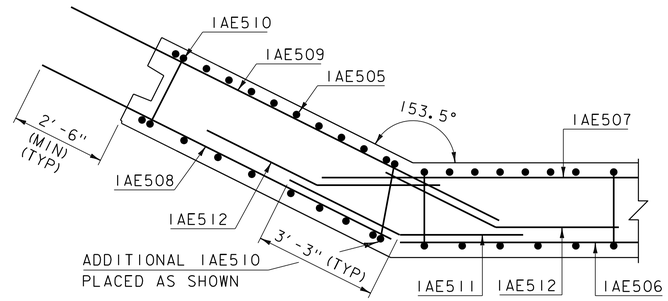
FILE NAME: sl3d336sup.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
SLAB SECTIONS

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROY
CHECKED BY: A. LEMIEUX
SHEET 34 OF 57



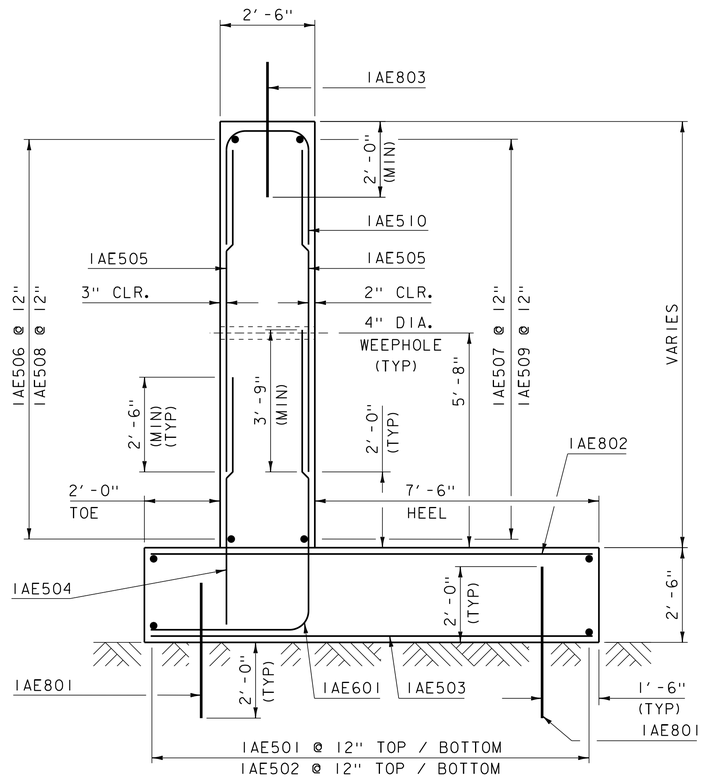
ABUTMENT 1 PLAN (VIEW 1)

SCALE ⅜" = 1'-0"



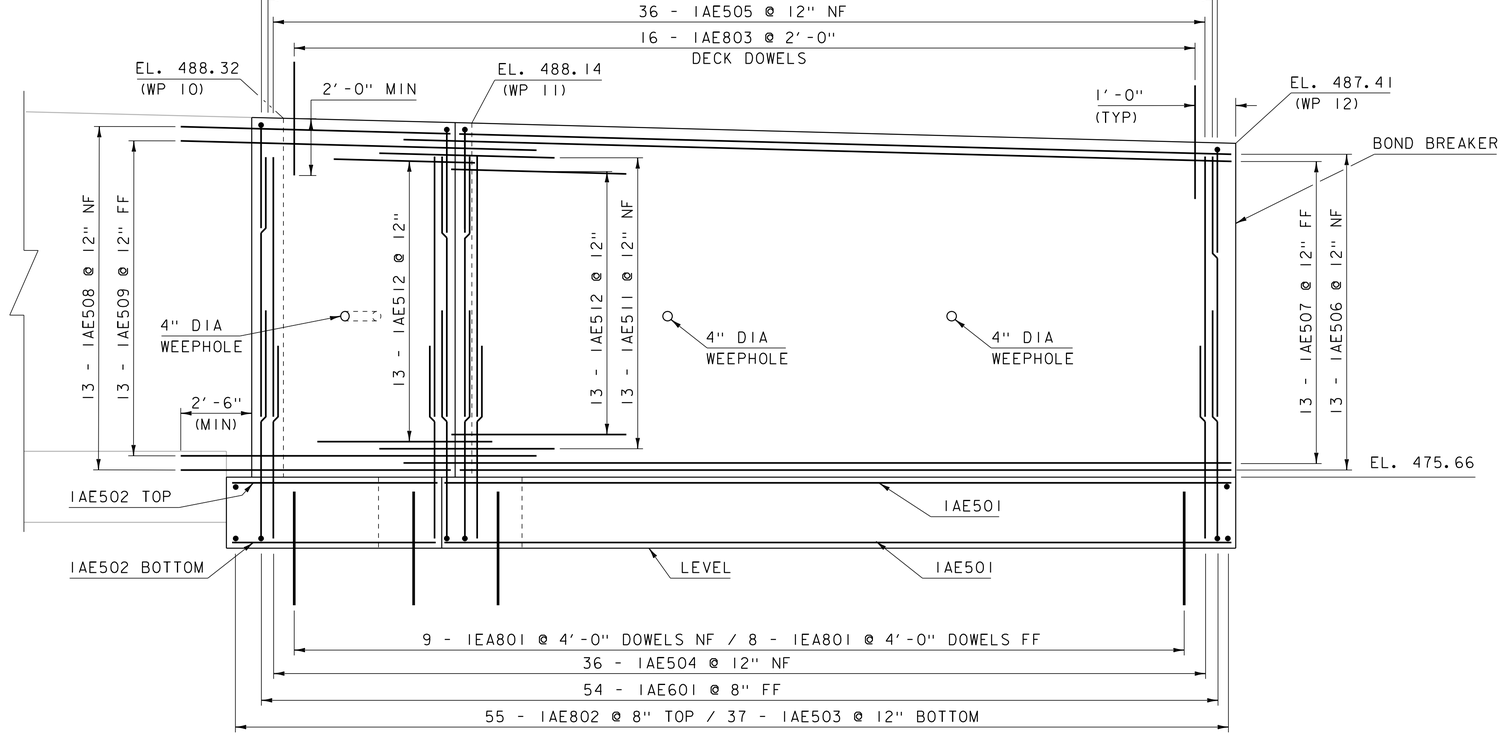
ABUTMENT 1 STEM CORNER DETAIL 1

SCALE ½" = 1'-0"



ABUTMENT 1 TYPICAL (VIEW 1)

SCALE ½" = 1'-0"



ABUTMENT 1 ELEVATION (VIEW 1)

SCALE ⅜" = 1'-0"

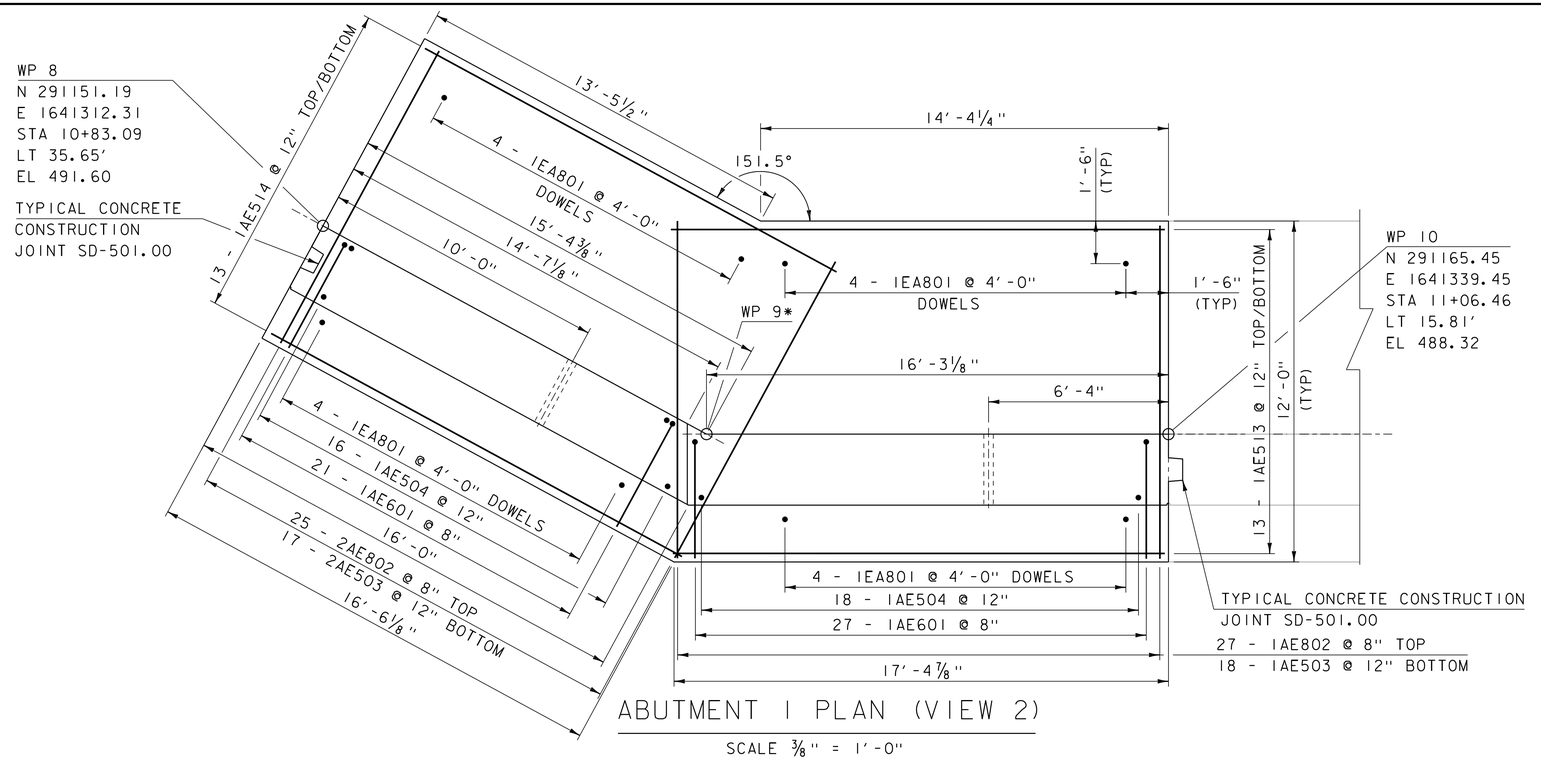
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
3" CLEAR COVER UNLESS NOTED OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

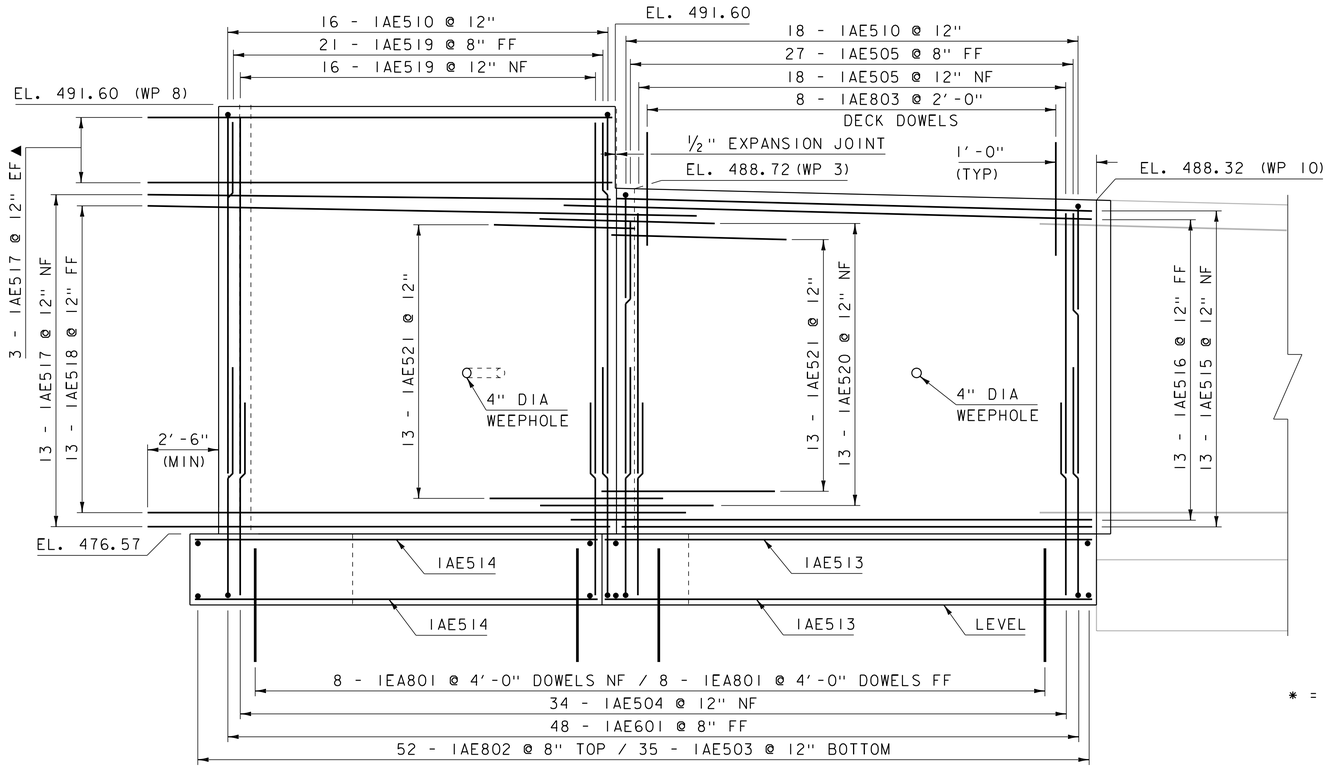
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
ABUTMENT 1SHEET 1

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 35 OF 57



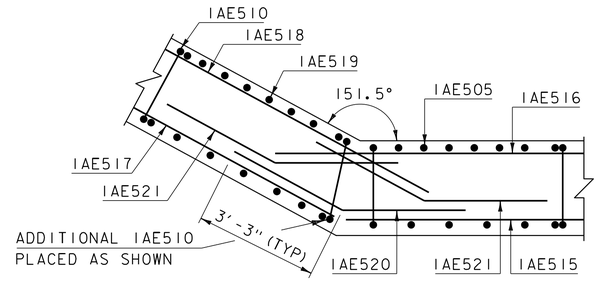
ABUTMENT 1 PLAN (VIEW 2)

SCALE ⅜" = 1'-0"



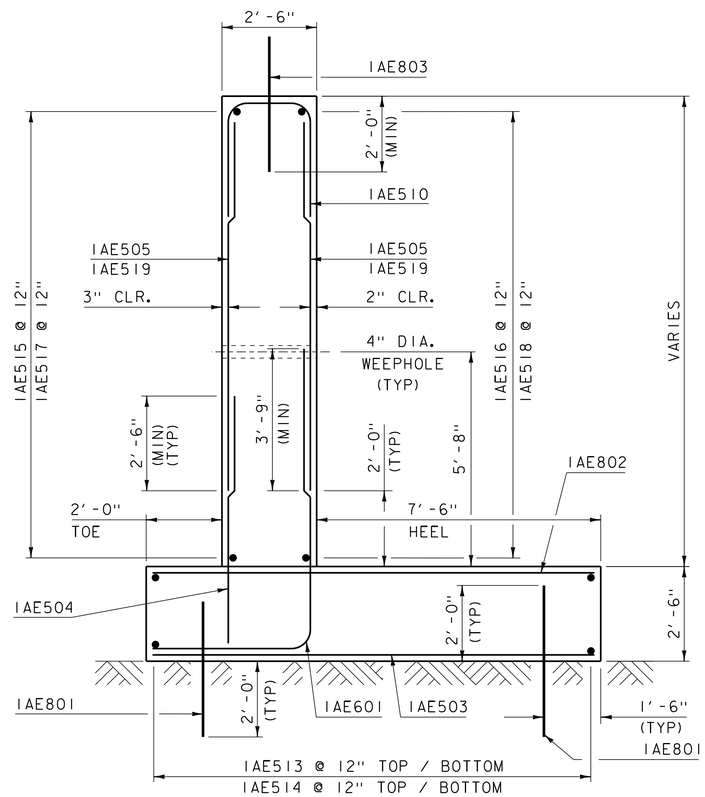
ABUTMENT 1 ELEVATION (VIEW 2)

SCALE ⅜" = 1'-0"



ABUTMENT 1 STEM CORNER DETAIL 2

SCALE ½" = 1'-0"



ABUTMENT 1 TYPICAL (VIEW 2)

SCALE ½" = 1'-0"

* = WP 9
N 291154.66
E 1641327.28
STA 10+91.90
LT 23.06'
EL 488.72

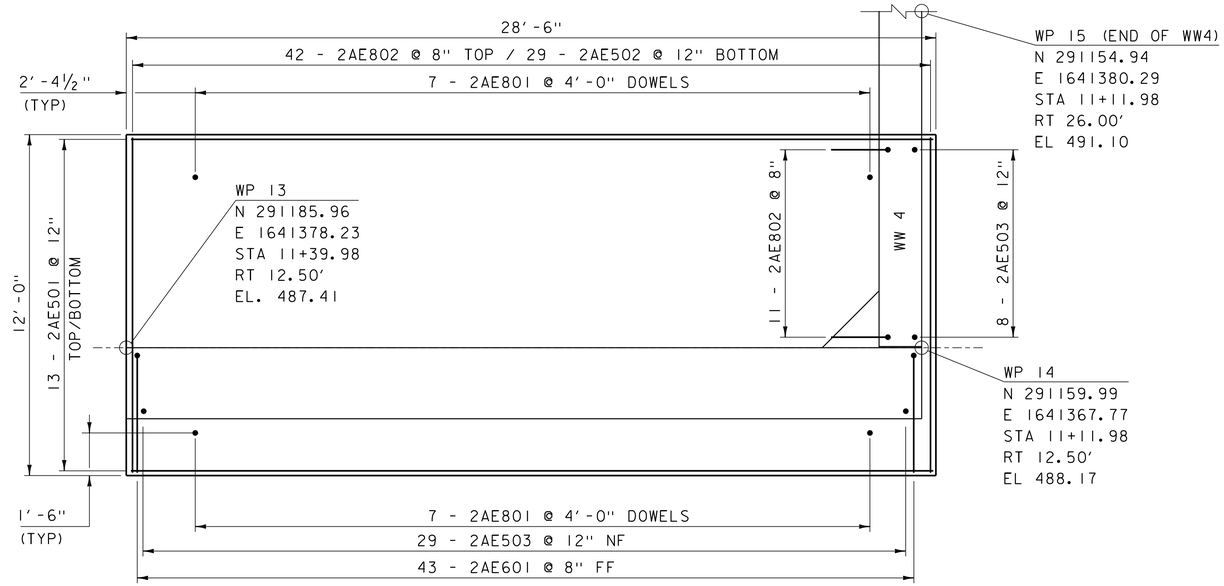
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT
3" CLEAR COVER UNLESS NOTED OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

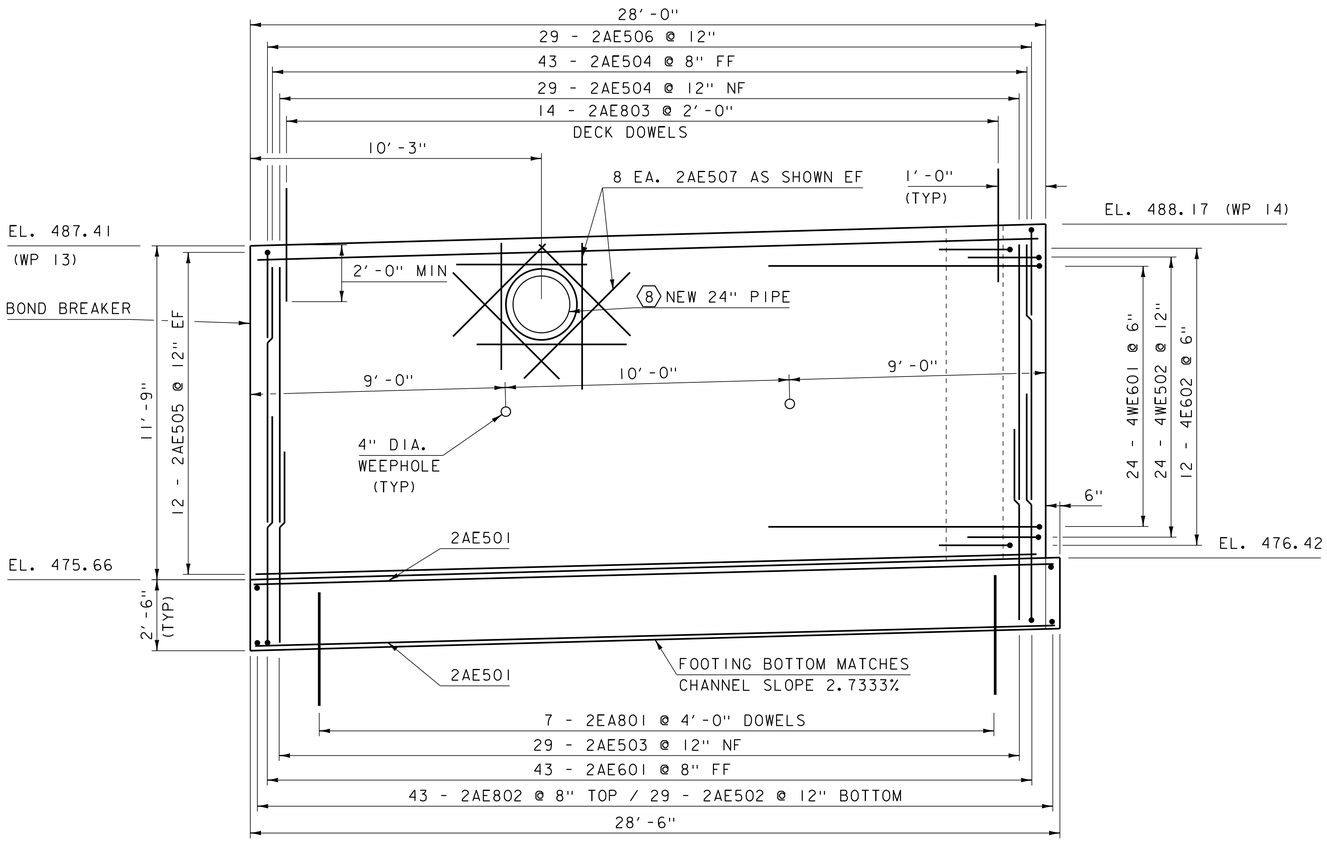
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
ABUTMENT 1SHEET 2

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 36 OF 57



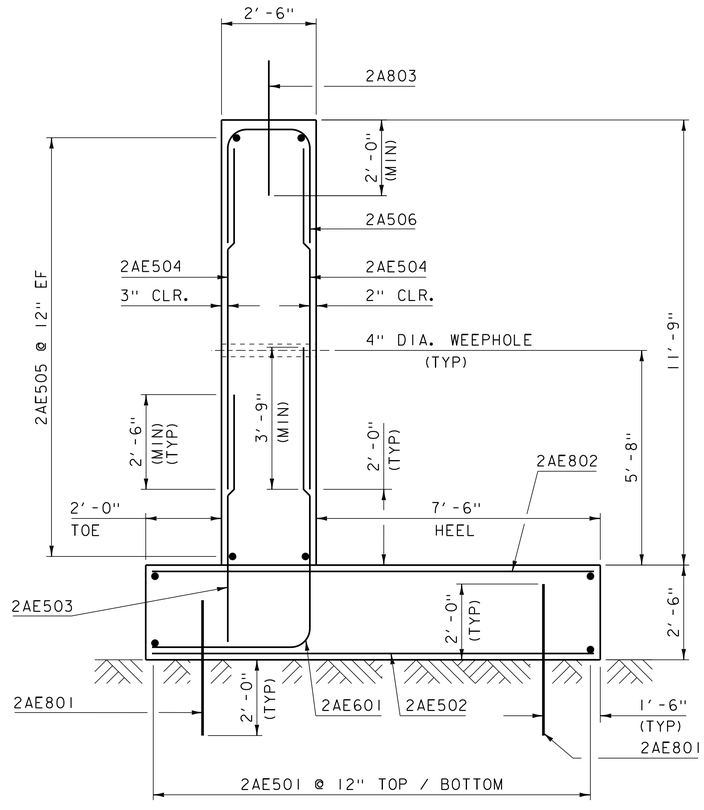
ABUTMENT 2 PLAN

SCALE ⅜" = 1'-0"



ABUTMENT 2 ELEVATION

SCALE ⅜" = 1'-0"



ABUTMENT 2 TYPICAL

SCALE ½" = 1'-0"

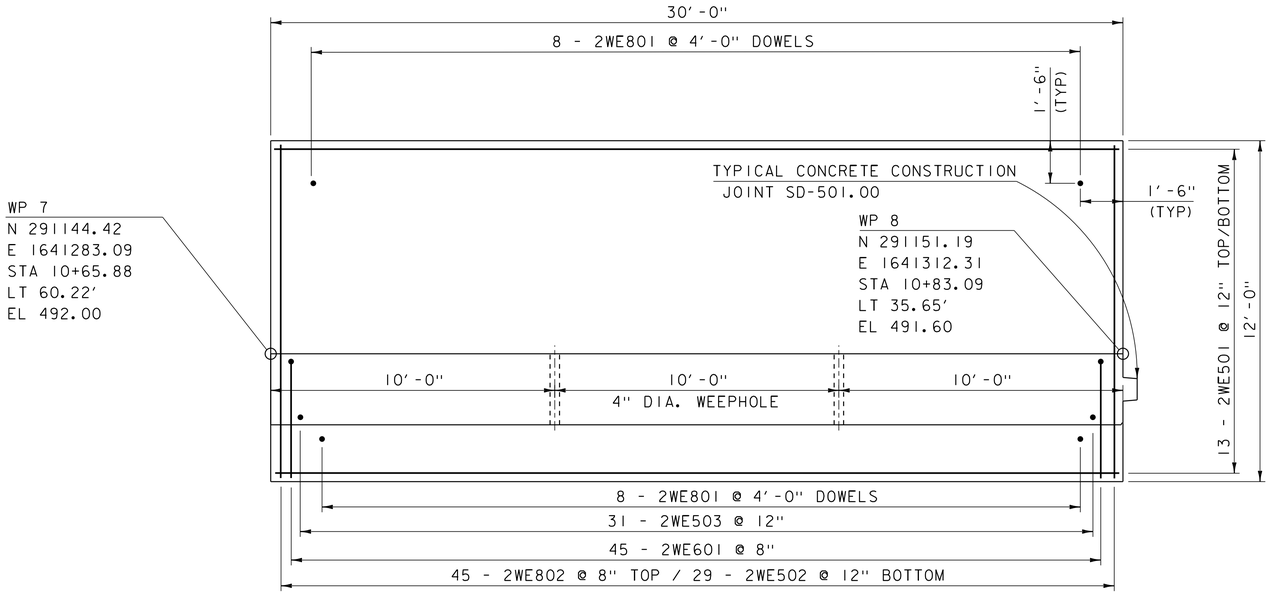
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

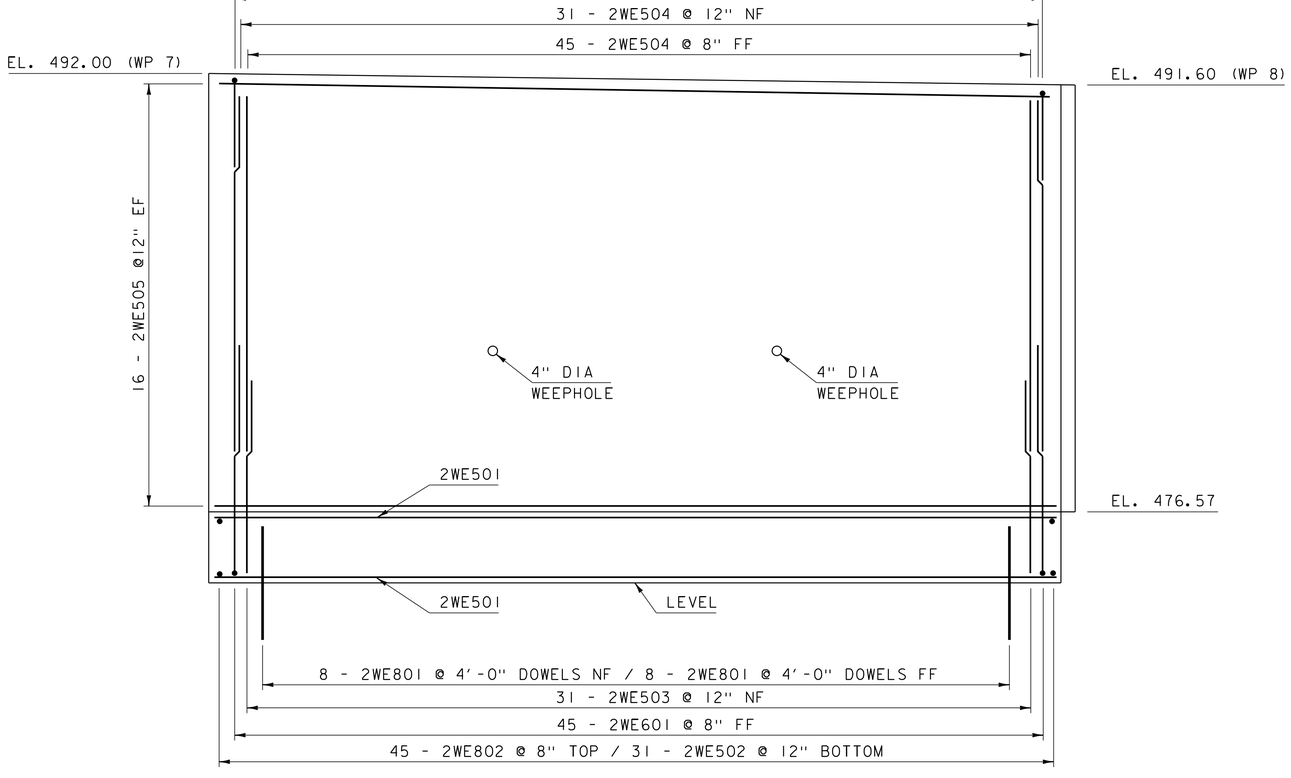
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
ABUTMENT 2 DETAILS

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 37 OF 57



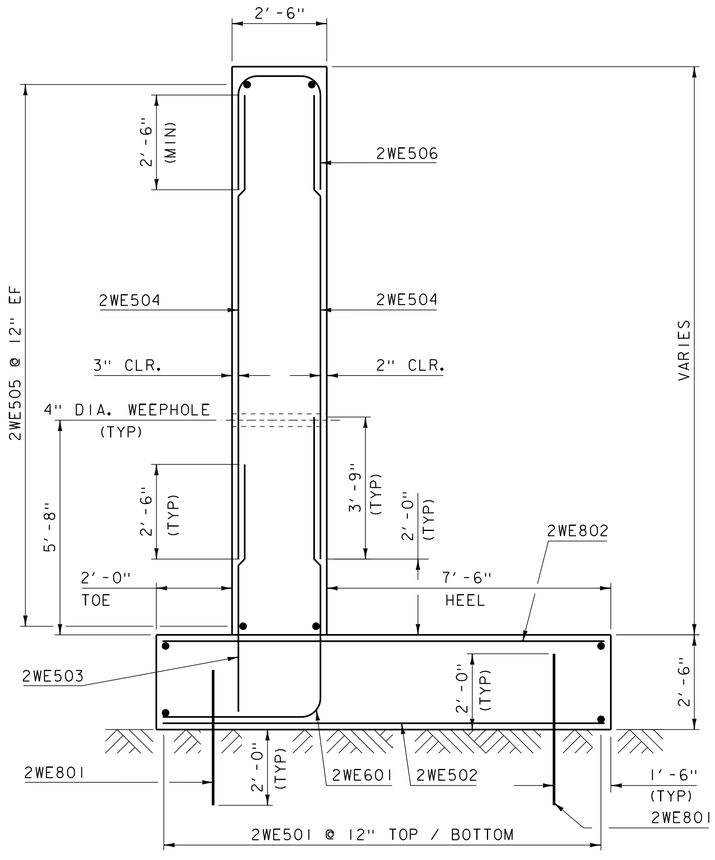
WINGWALL 2 PLAN

SCALE 3/8" = 1'-0"



WINGWALL 2 ELEVATION

SCALE 3/8" = 1'-0"

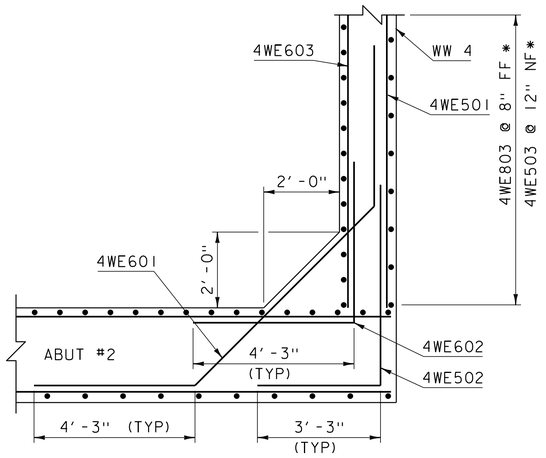


WINGWALL 2 TYPICAL

SCALE 1/2" = 1'-0"

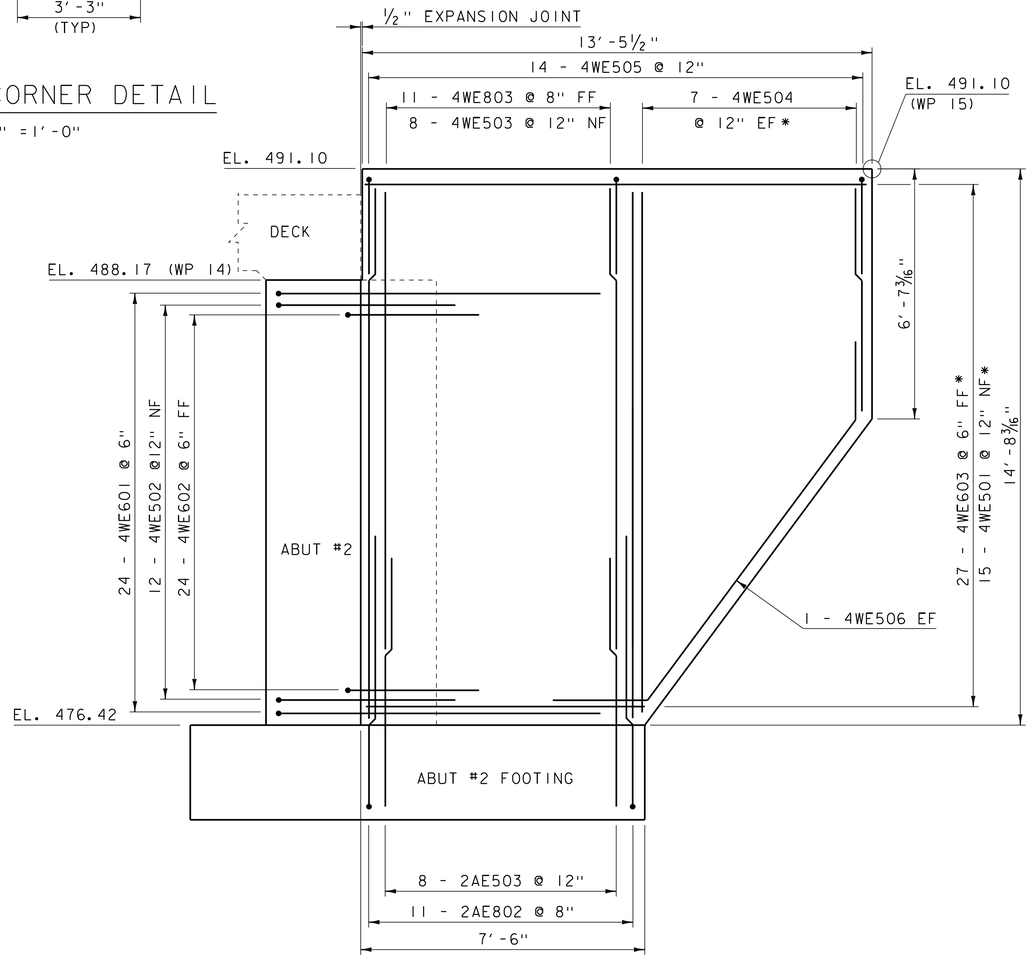
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)

FILE NAME: sl3c336sub.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: A. LEMIEUX	CHECKED BY: A. LEMIEUX
WINGWALL 2 DETAILS	SHEET 38 OF 57



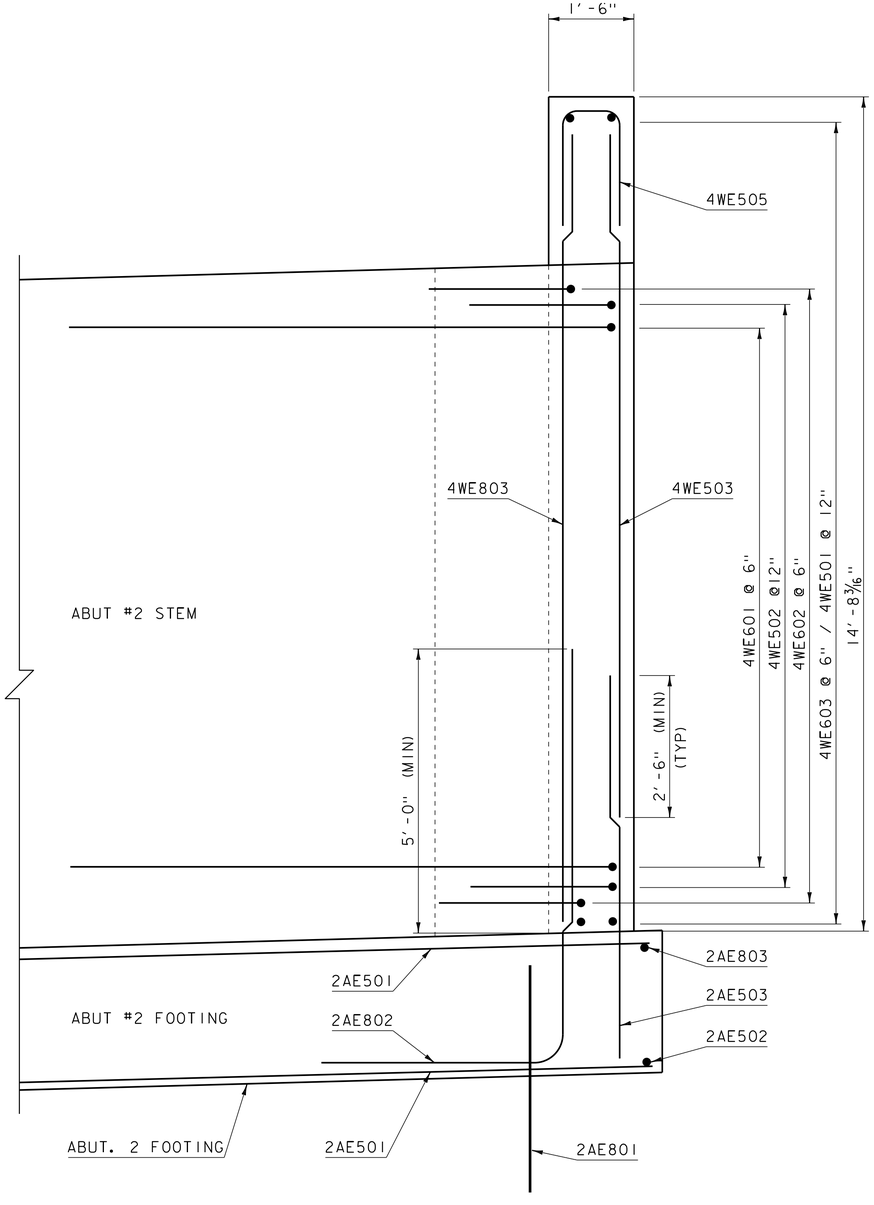
WINGWALL 4 CORNER DETAIL

SCALE ½" = 1'-0"



WINGWALL 4 ELEVATION

SCALE ½" = 1'-0"



WINGWALL 4 TYPICAL

SCALE ¾" = 1'-0"

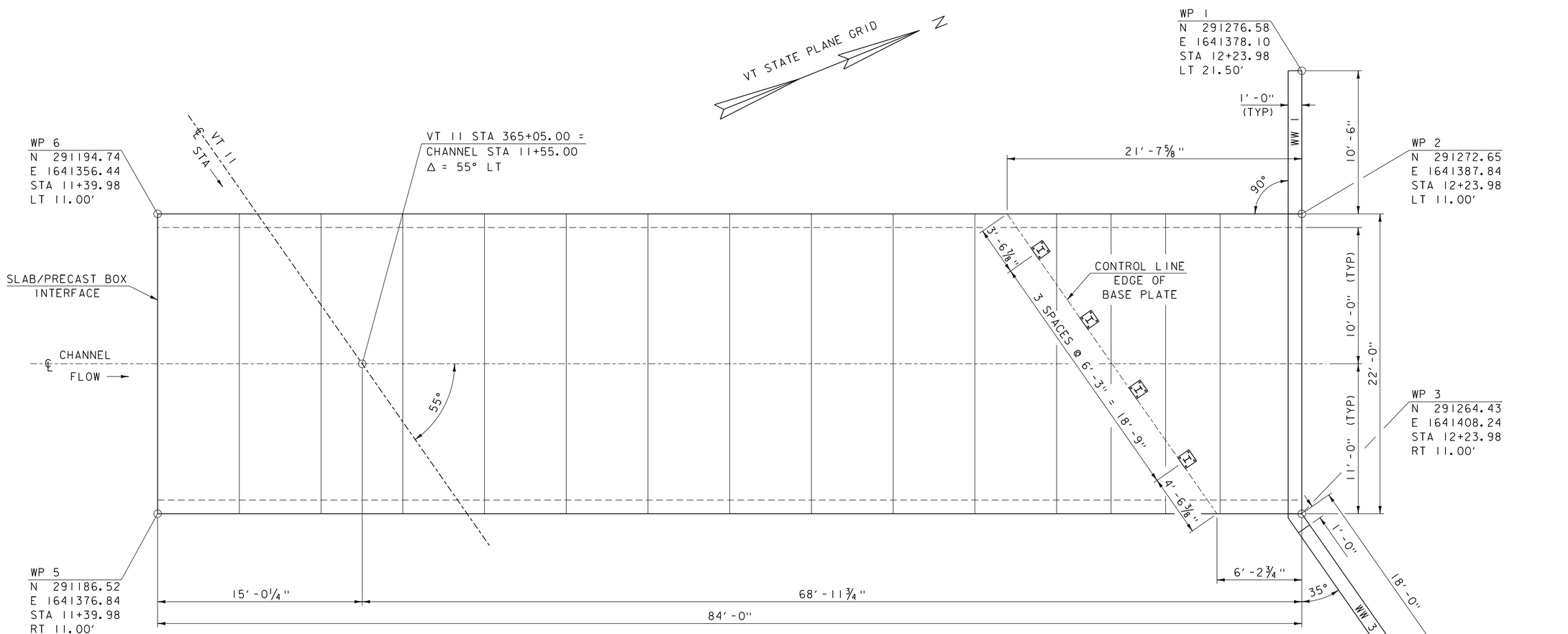
LEGEND

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
* = CUT TO FIT

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

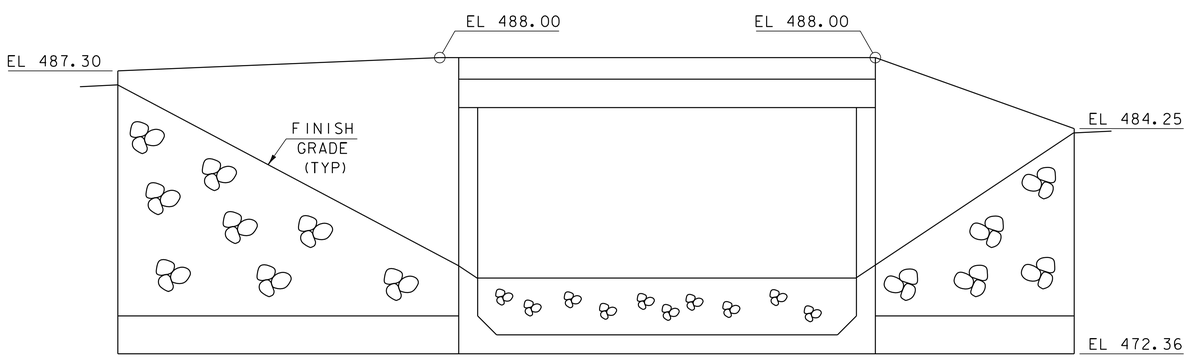
FILE NAME: sl3c336sub.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
WINGWALL 4 DETAILS

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: A. LEMIEUX
SHEET 39 OF 57



PRECAST BOX LAYOUT

SCALE: 1/4" = 1'-0"



OUTLET ELEVATION

SCALE: 1/4" = 1'-0"
(FLATTENED TO REFLECT TRUE LENGTHS)

NOTES:

1. DIMENSIONS MEASURED ALONG EXPOSED FACE OF RETAINING WALLS.
2. BOX CULVERT SECTION LENGTHS ARE CONCEPTUAL ONLY. THE CONTRACTOR AND FABRICATOR SHALL DETERMINE FINAL SECTION LENGTHS.
3. CONNECTIONS BETWEEN BOX/HEADWALL AND RETAINING WALLS SHALL MATCH HORIZONTALLY AND VERTICALLY. MINIMIZE OR ELIMINATE WALL BATTER AS MUCH AS POSSIBLE.
4. UNIT-BLOCK RETAINING WALL FOUNDATIONS MUST BE PLACED AT A MINIMUM DEPTH OF 48" BELOW FINISH GRADE, MEASURED PERPENDICULAR TO FINISH GRADE SURFACE, IF FOUNDED UPON SOIL. ANY FREE-DRAINING LEVELING PAD BASE COURSE (UP TO 1' IN DEPTH) IS INCLUDED IN THIS DIMENSION.

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336sup.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROY
DESIGNED BY: G. ROKES	CHECKED BY: G. DARGAN
PRECAST BOX LAYOUT	SHEET 40 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

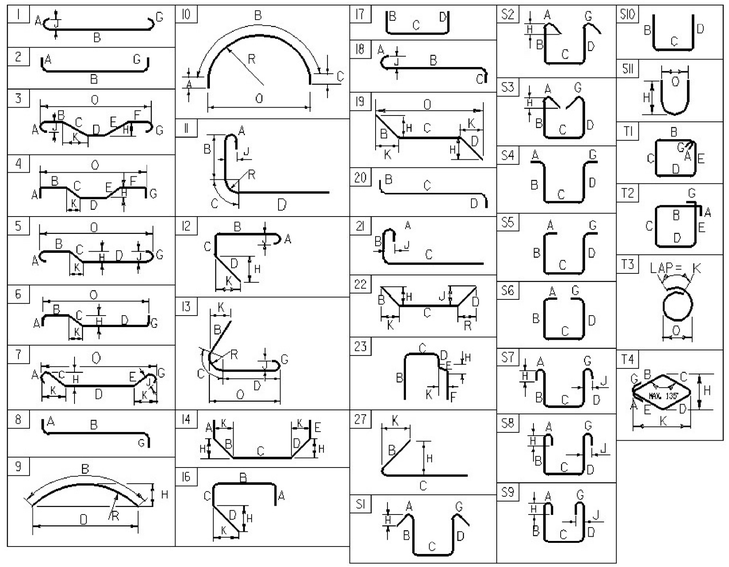
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ 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 OF ROUND SECTION		
		DIAMETER INCHES	AREA INCHES²	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	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

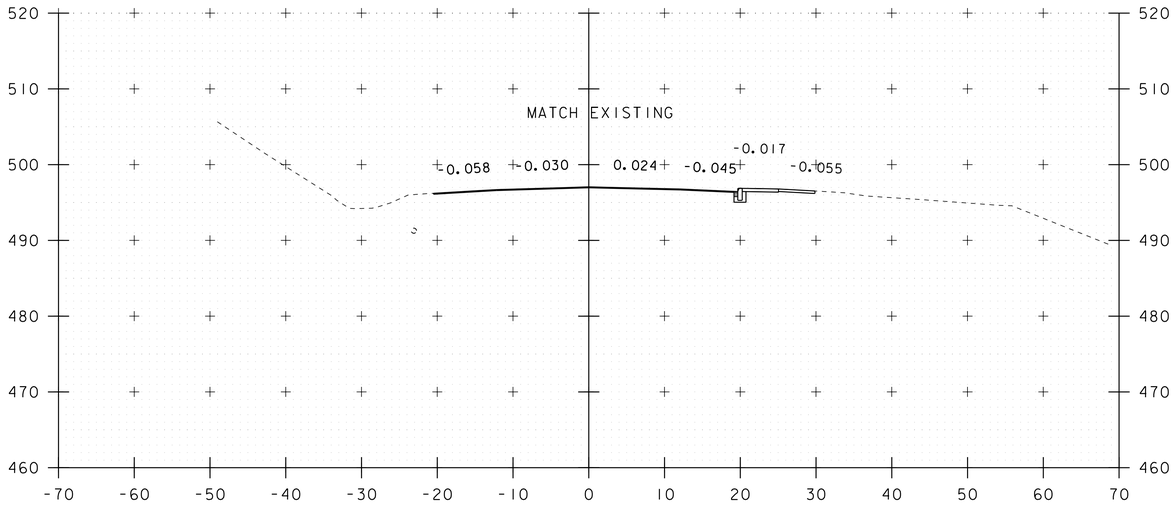
~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX, .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

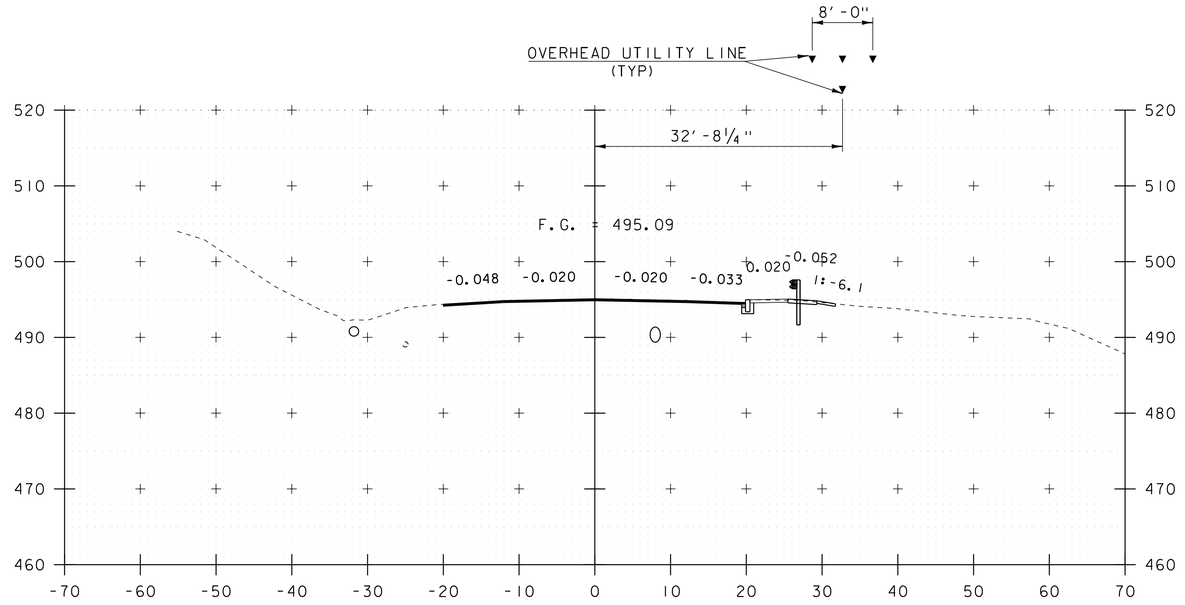
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336rss.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: A. LEMIEUX
REINFORCING STEEL SCHEDULE

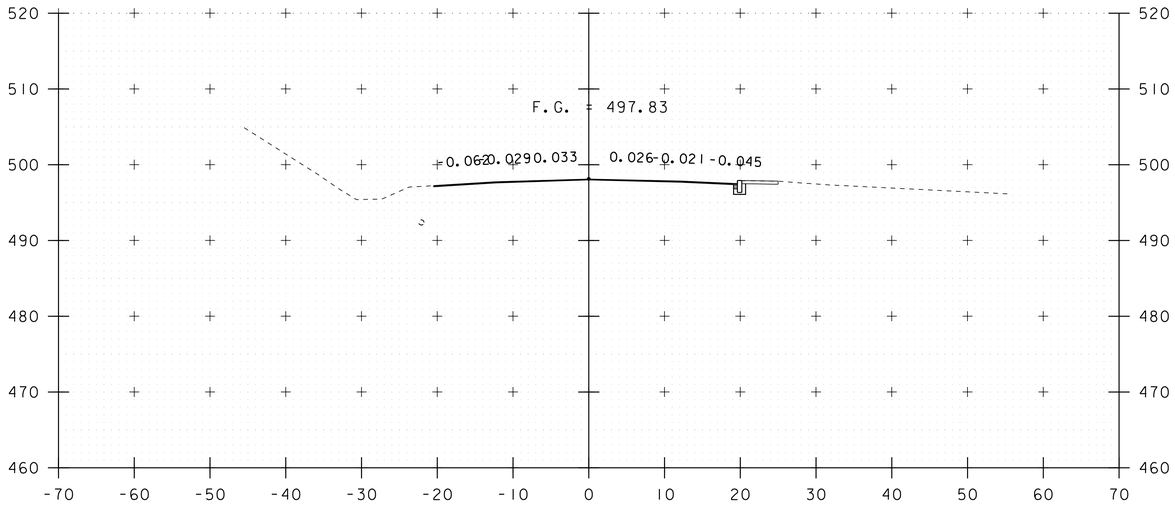
PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 41 OF 57



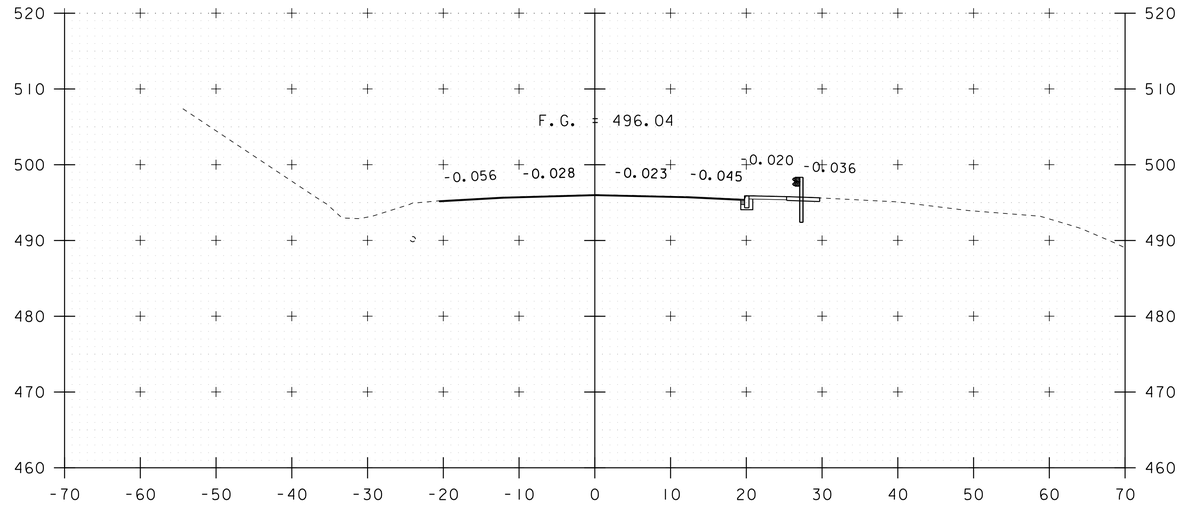
362+75



363+25



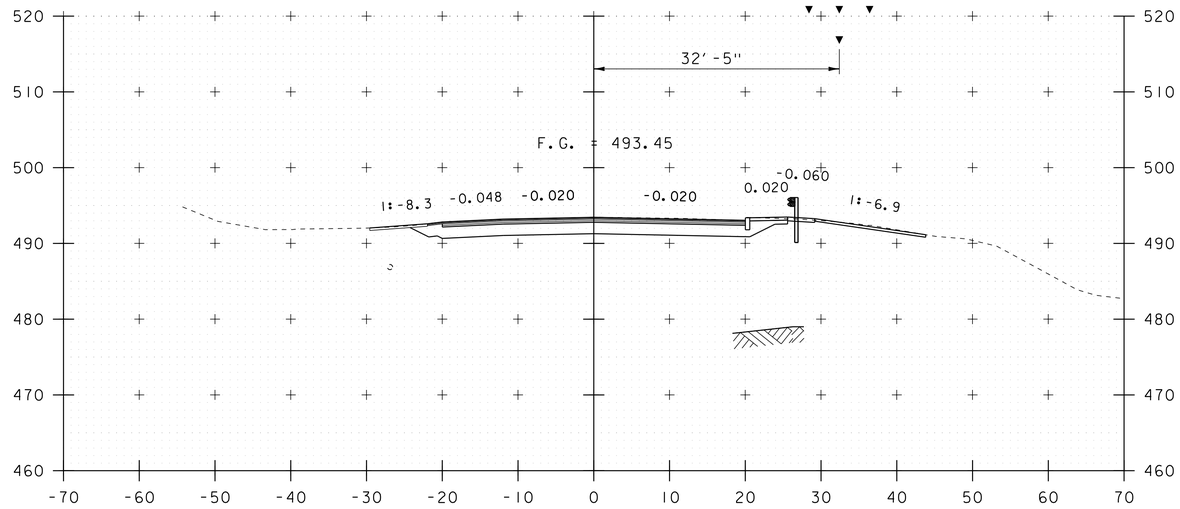
362+50
BEGIN APPROACH



363+00

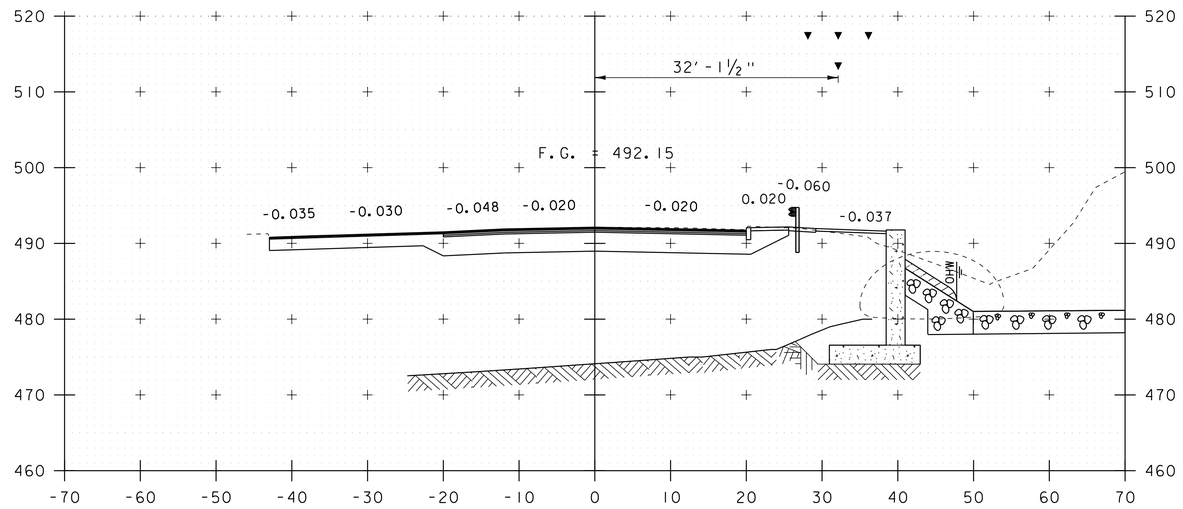
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VT 11 SECTIONS 1	SHEET 42 OF 57

STA. 362+50 TO STA. 363+25

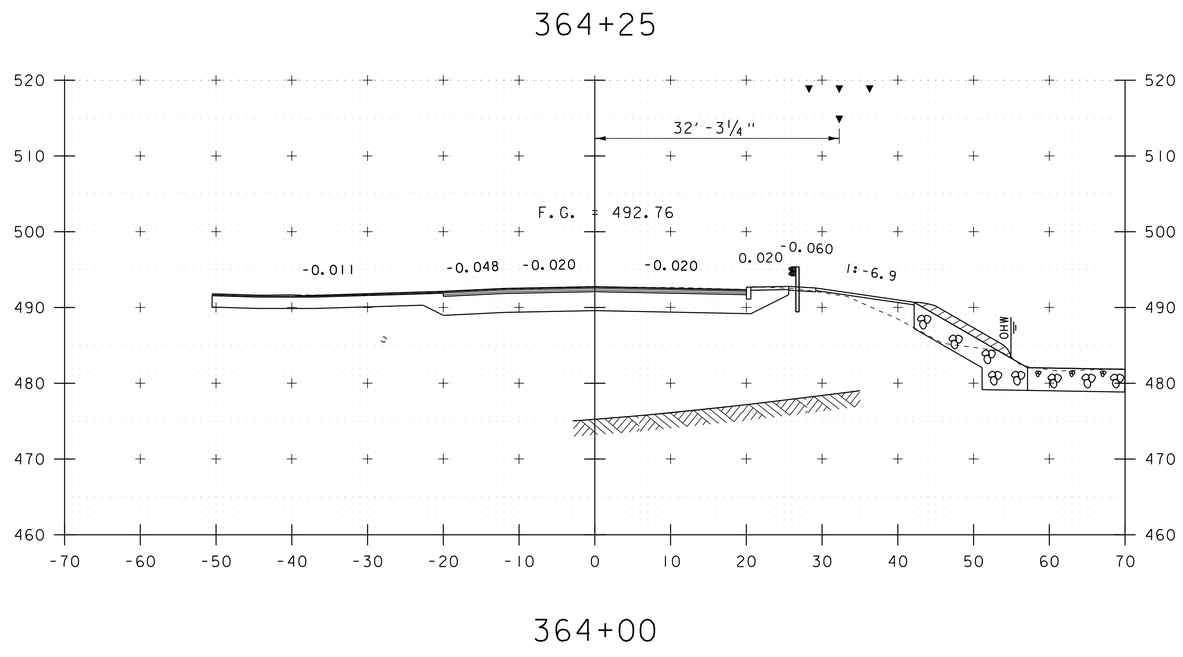


363+75

363+50



364+25



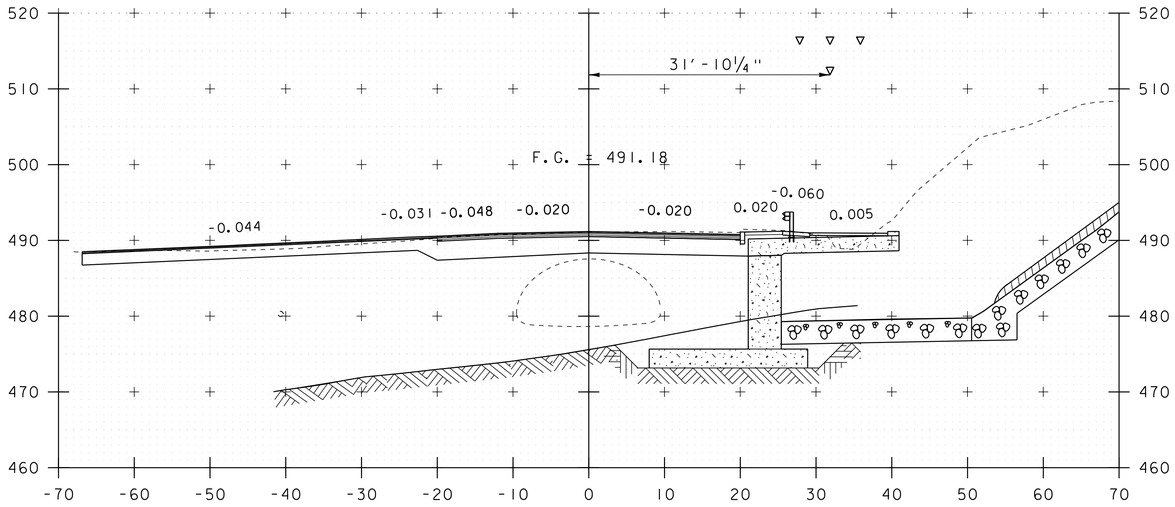
364+00
BEGIN PROJECT

STA. 363+50 TO STA. 364+25

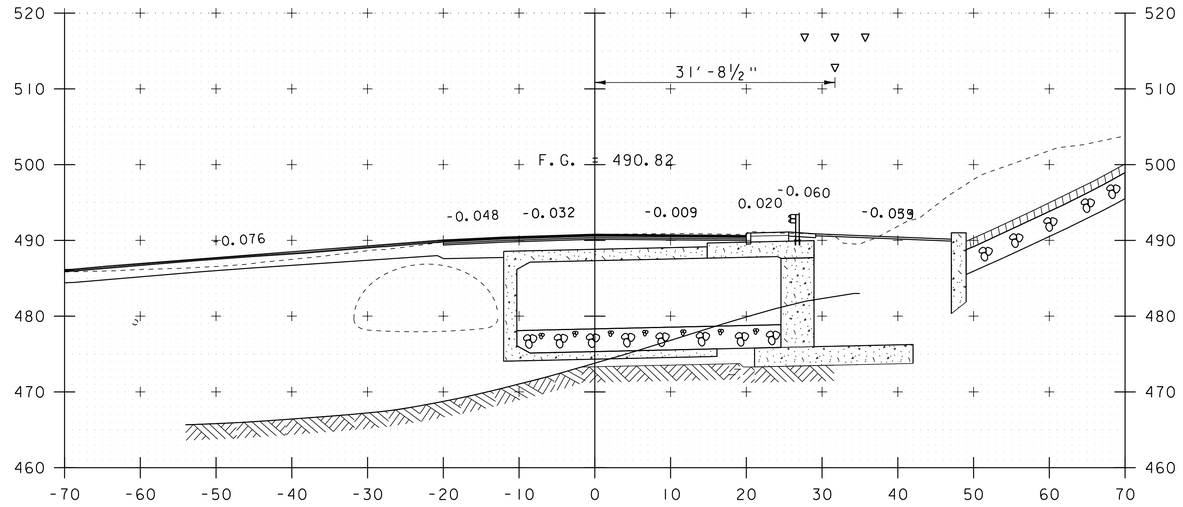
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VT 11 SECTIONS 2

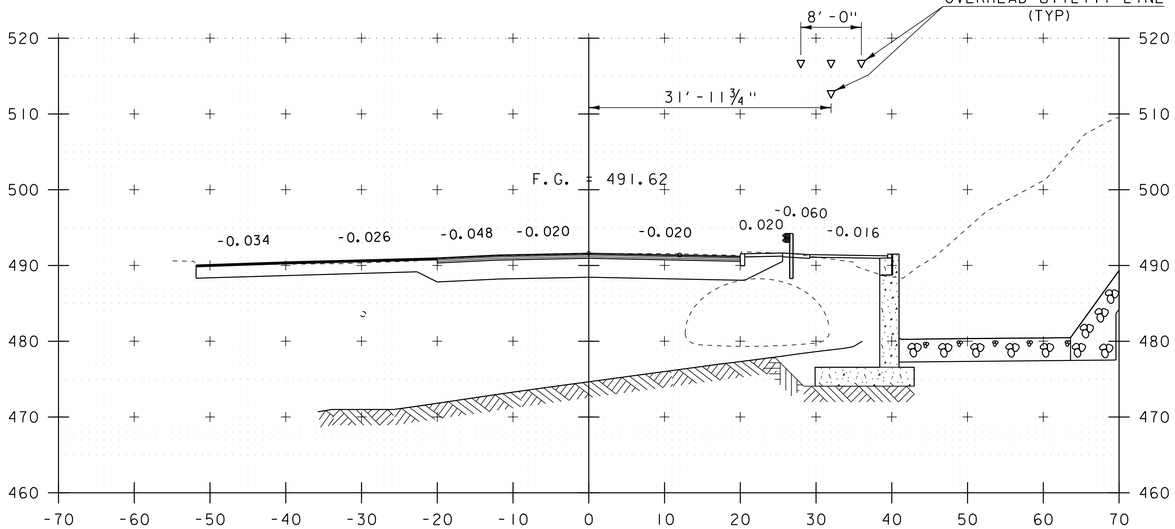
PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 43 OF 57



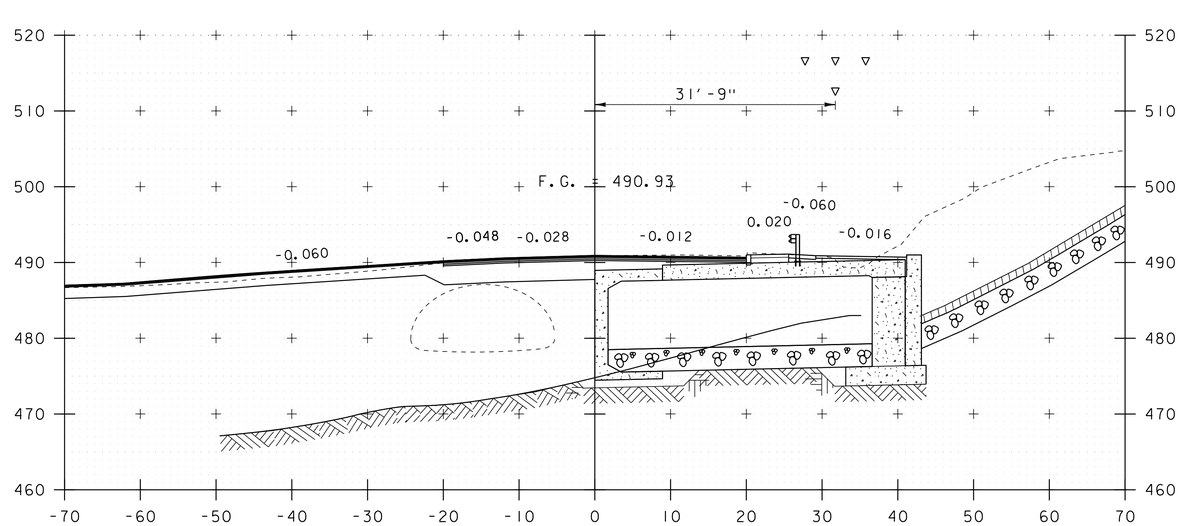
364+50



365+00



364+75



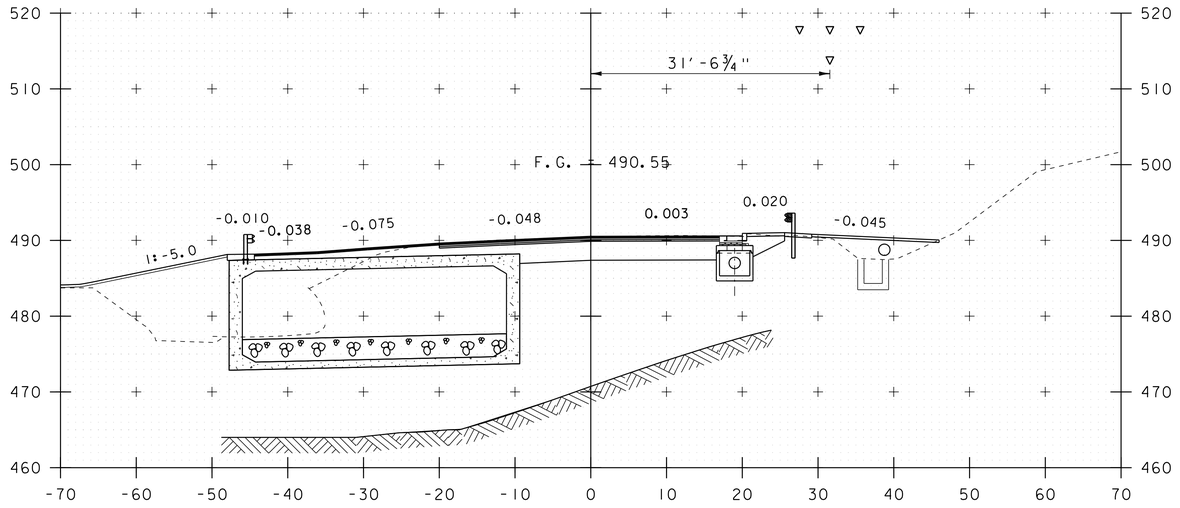
364+92
BEGIN BRIDGE

STA. 364+25 TO STA. 365+00

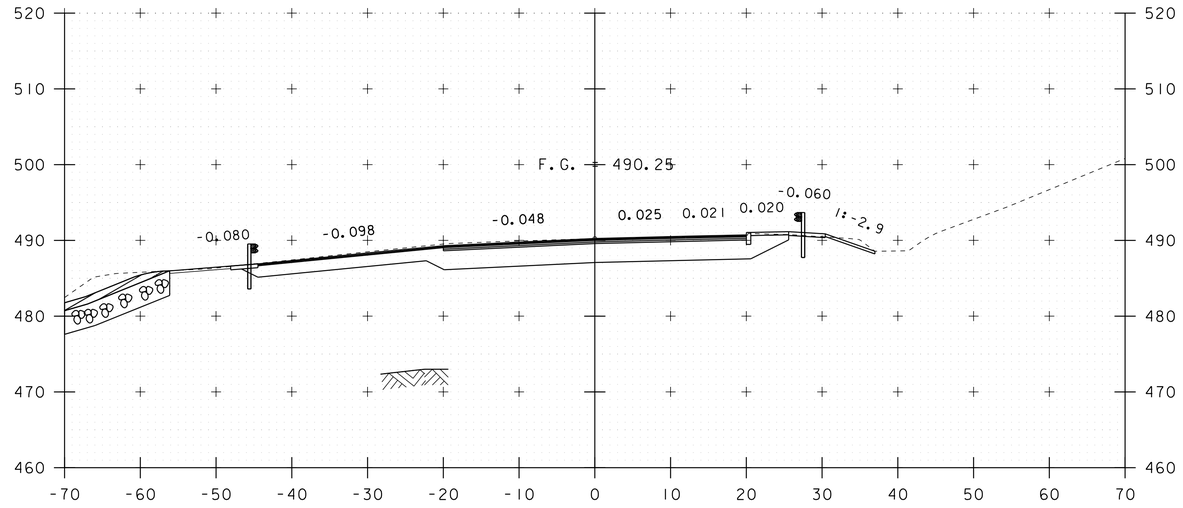
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VT 11 SECTIONS 3

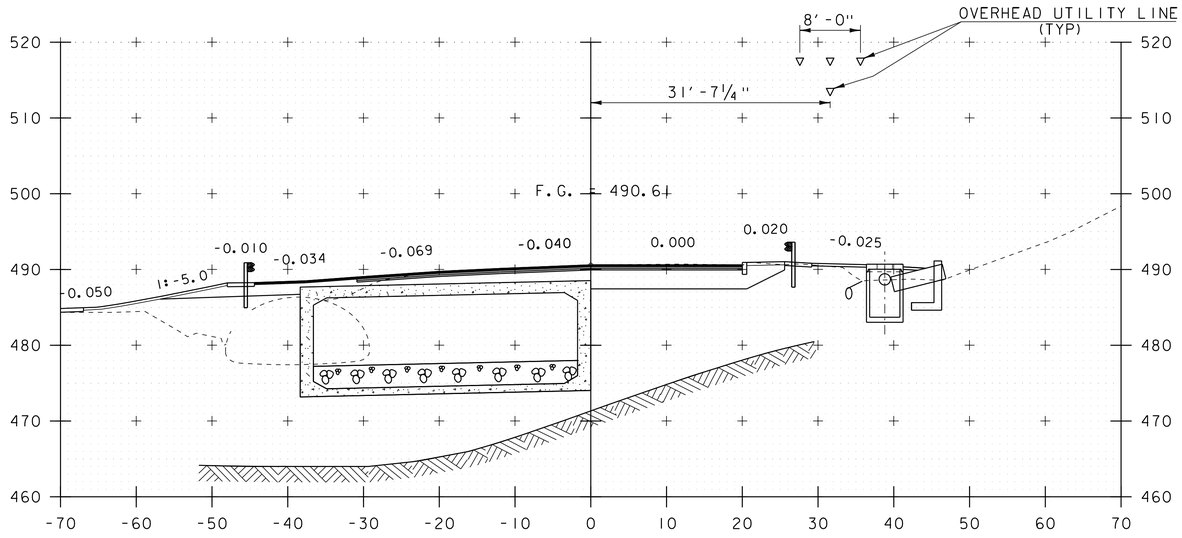
PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 44 OF 57



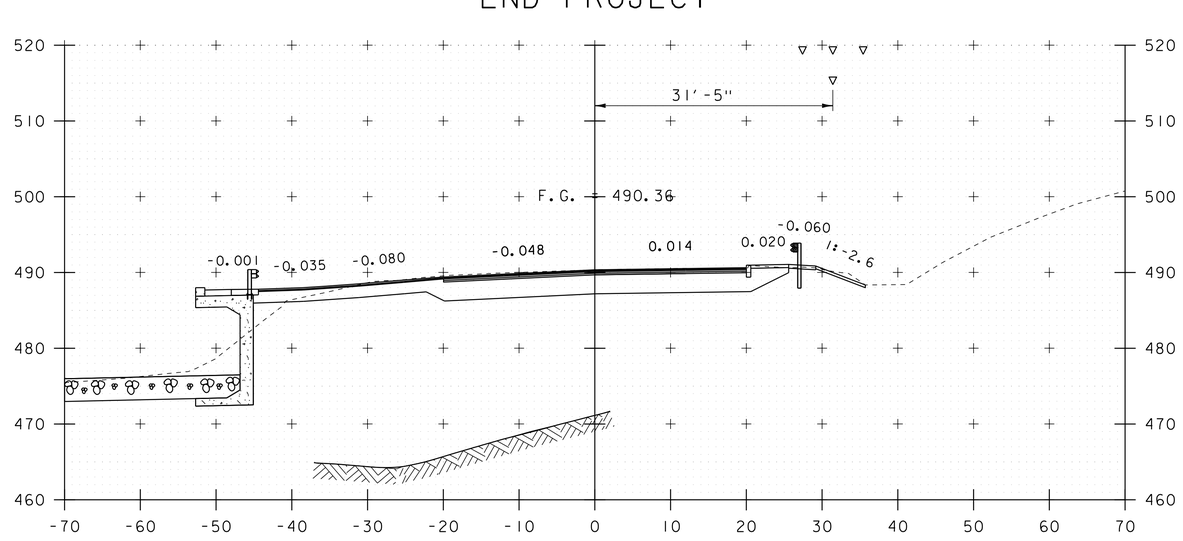
365+25



365+75
END PROJECT



365+18
END BRIDGE

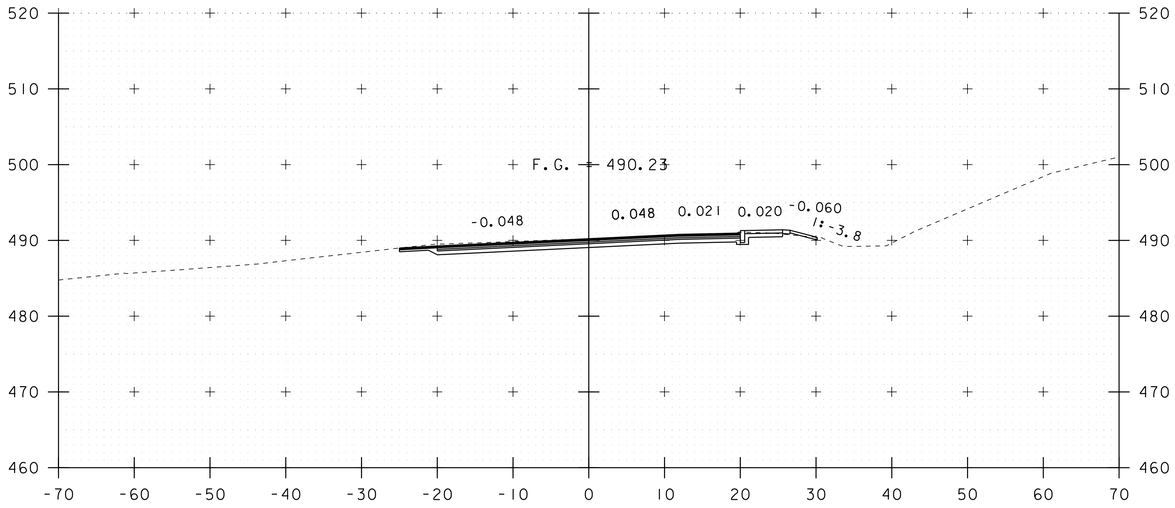


365+50

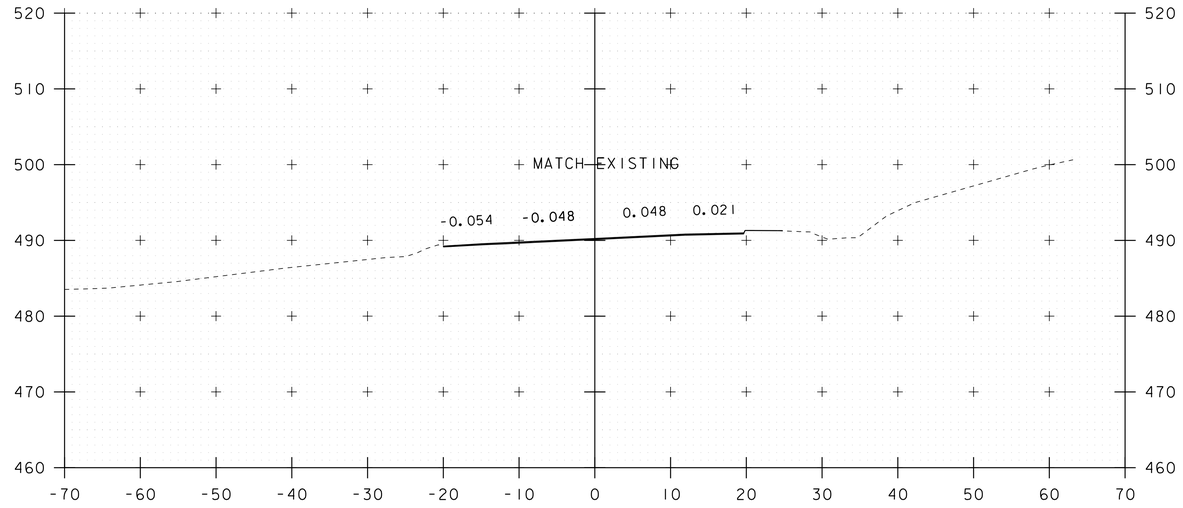
STA. 365+18 TO STA. 365+75

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)

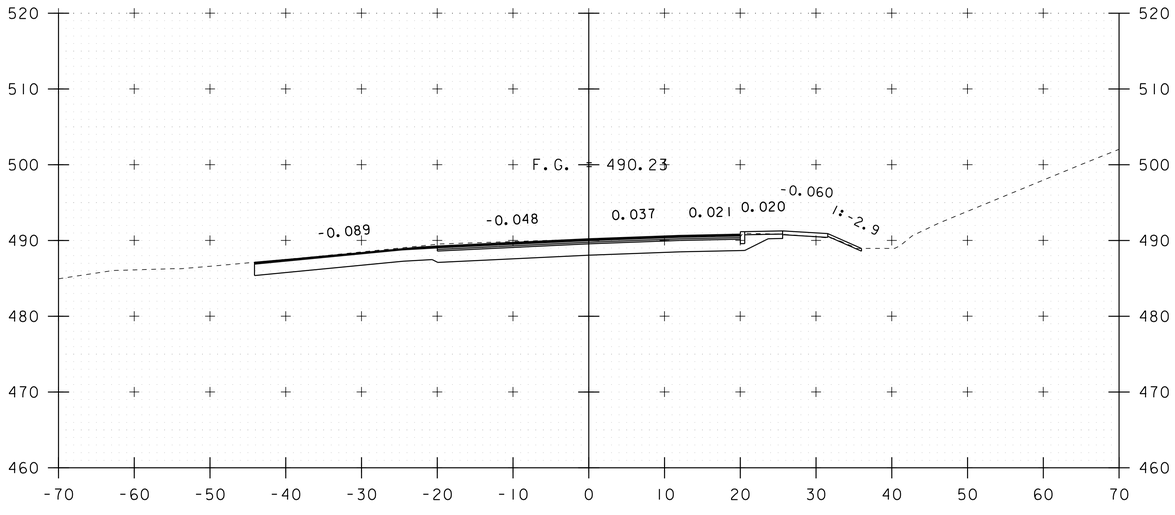
FILE NAME: sl3d336xs.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VT 11 SECTIONS 4	SHEET 45 OF 57



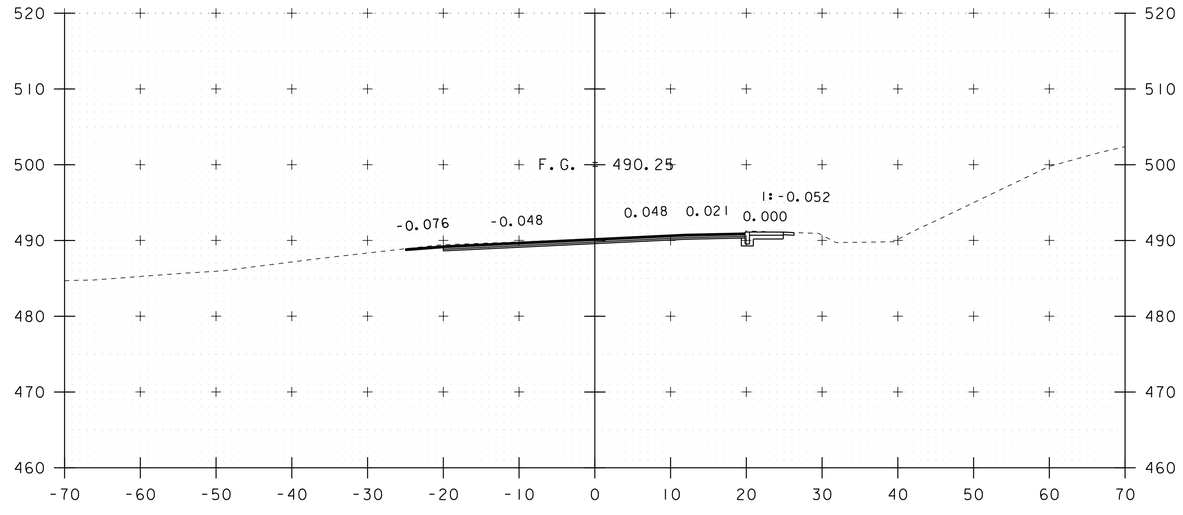
366+25



366+75



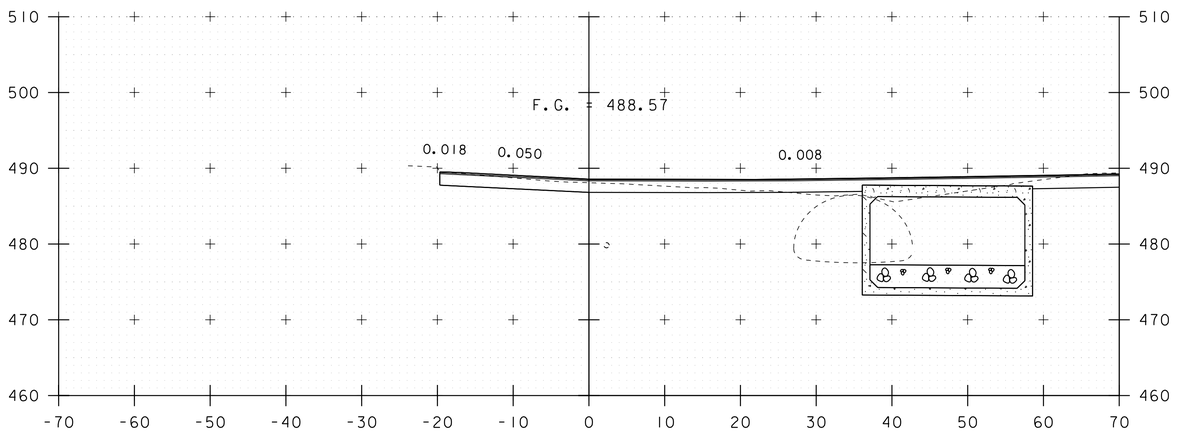
366+00



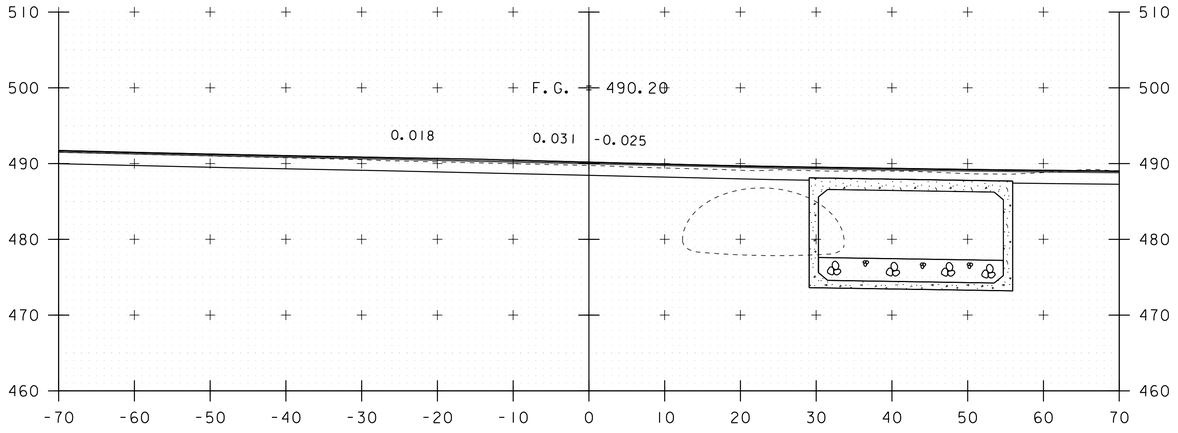
366+50

STA. 366+00 TO STA. 366+75

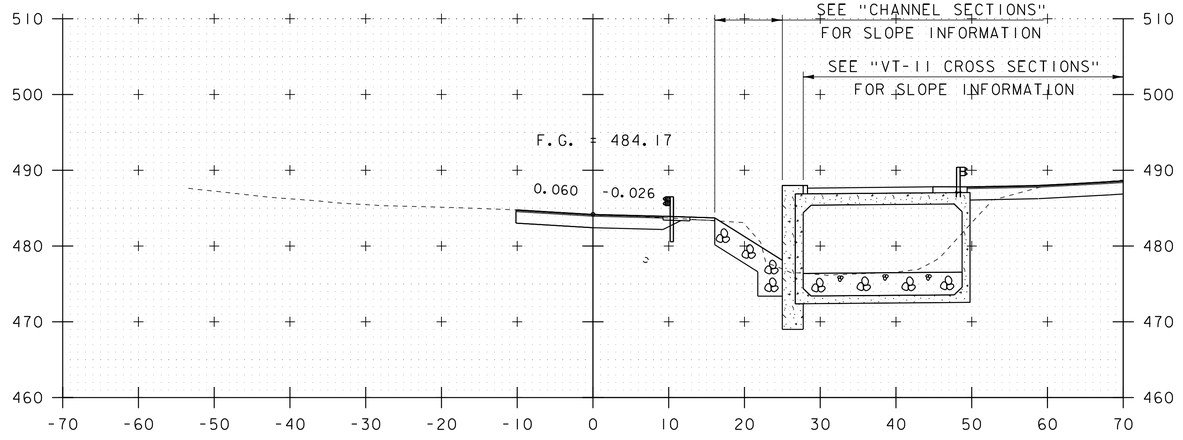
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VT 11 SECTIONS 5	SHEET 46 OF 57



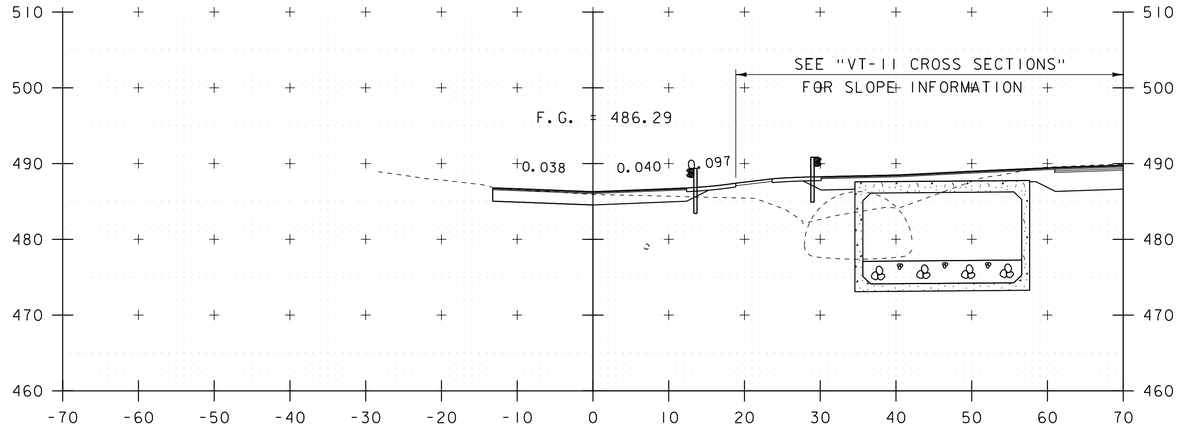
200+50



200+25



201+00



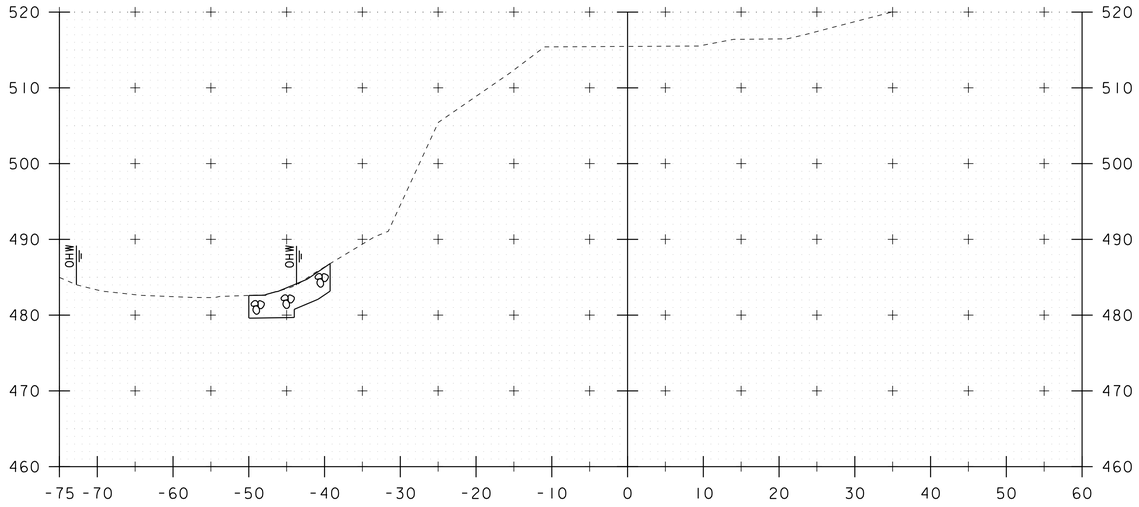
200+75

STA. 200+25 TO STA. 201+00

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

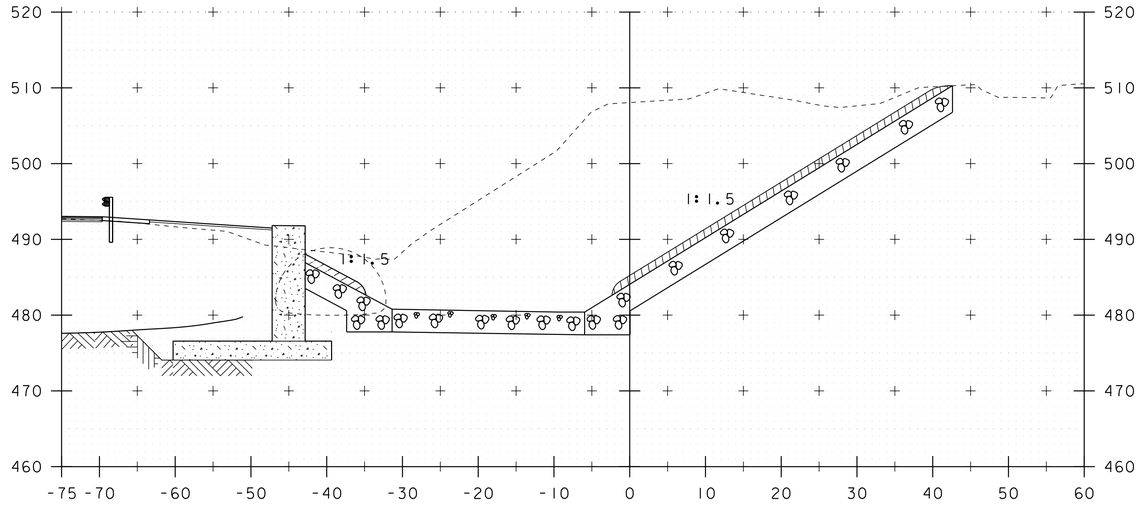
FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRIVE SECTIONS

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 47 OF 57



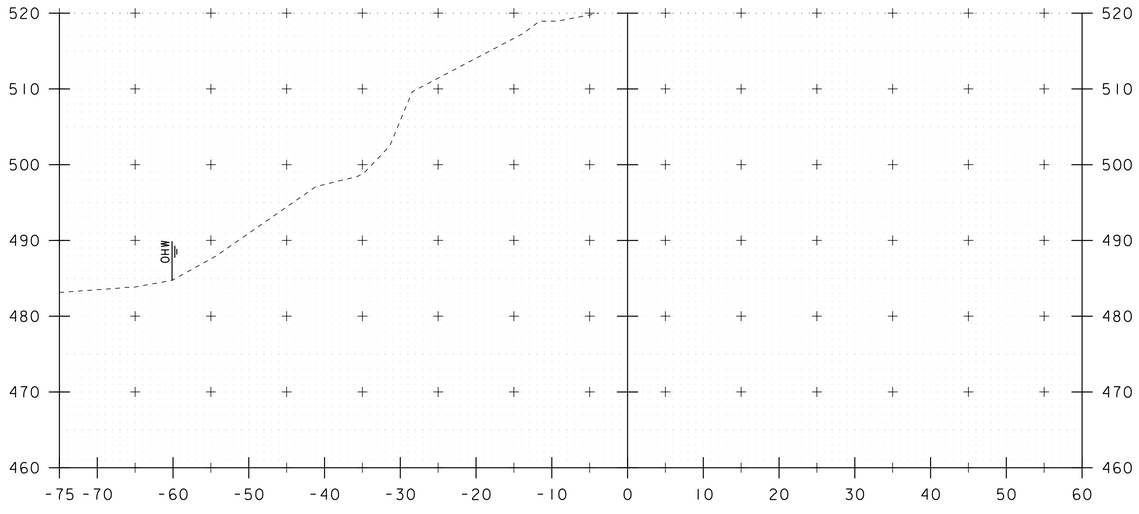
10+25

STA 10+25.00 RT
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION

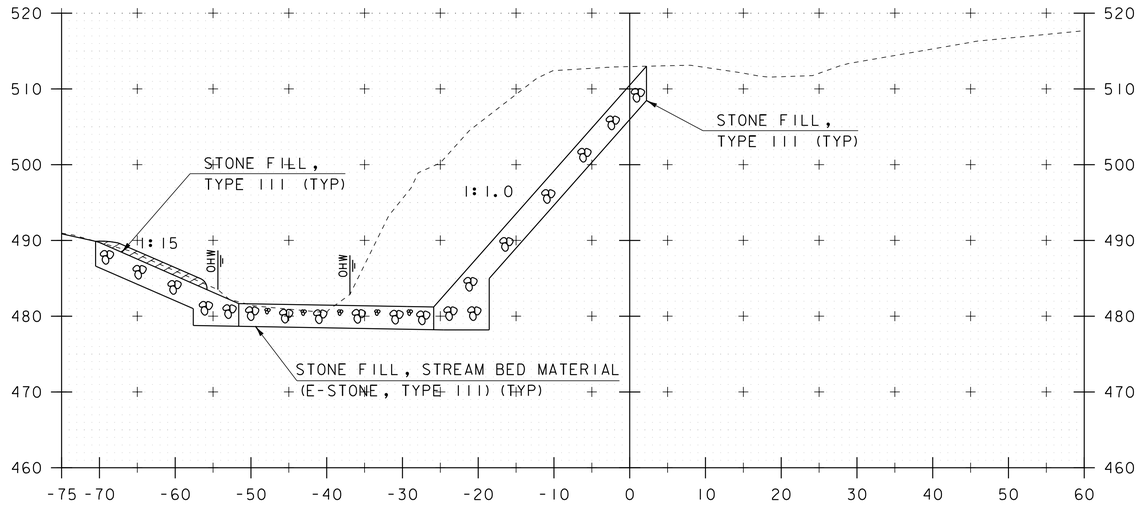


10+75

STA 10+60.00 RT
BEGIN GRUBBING MATERIAL



10+00



STA 10+35.00 LT
BEGIN STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION

10+50

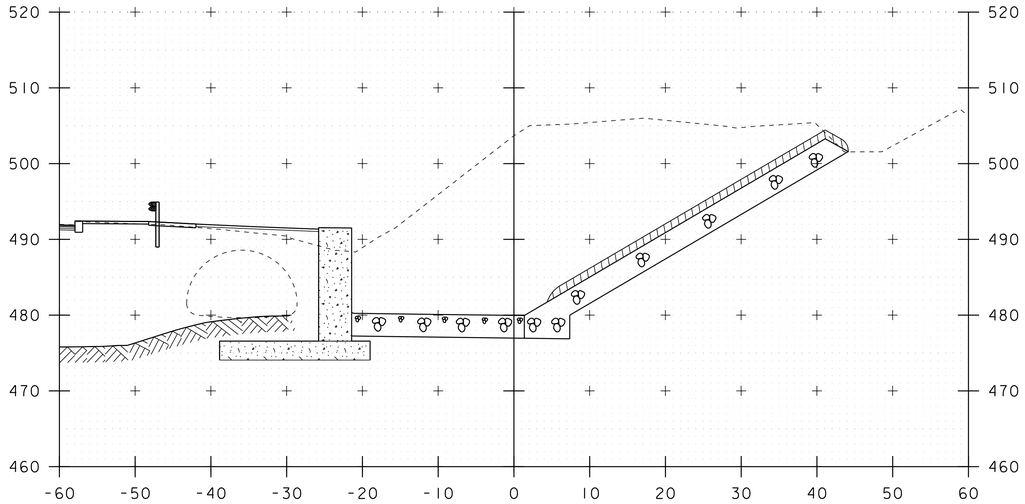
STA 10+30.00 LT/RT
BEGIN STONE FILL, STREAM BED MATERIAL

STA. 10+00 TO STA. 10+75

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

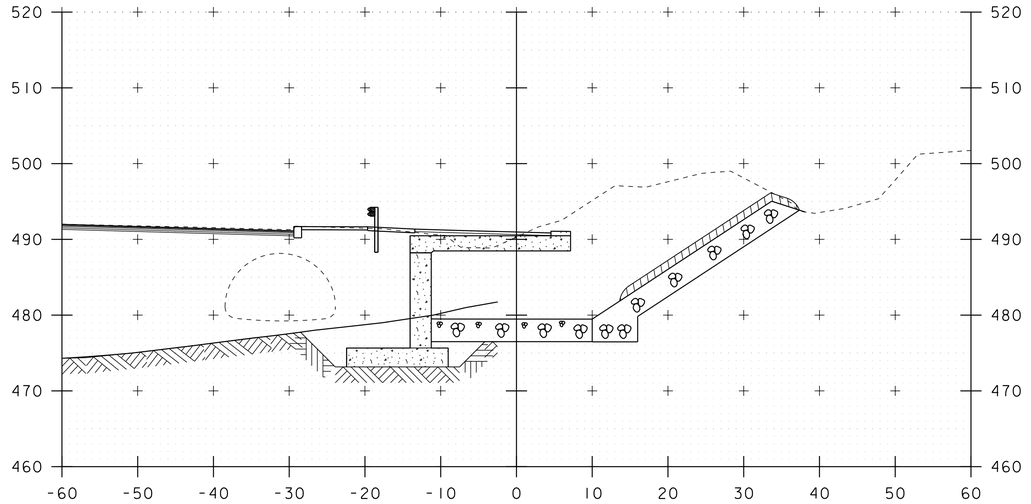
FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 1

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 48 OF 57



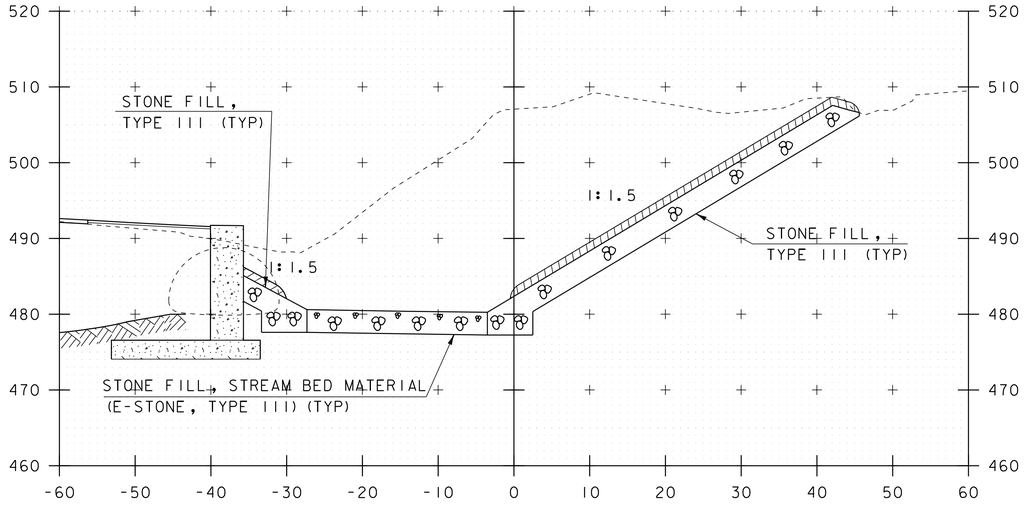
STA 10+90.00 LT
END STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL

10+90

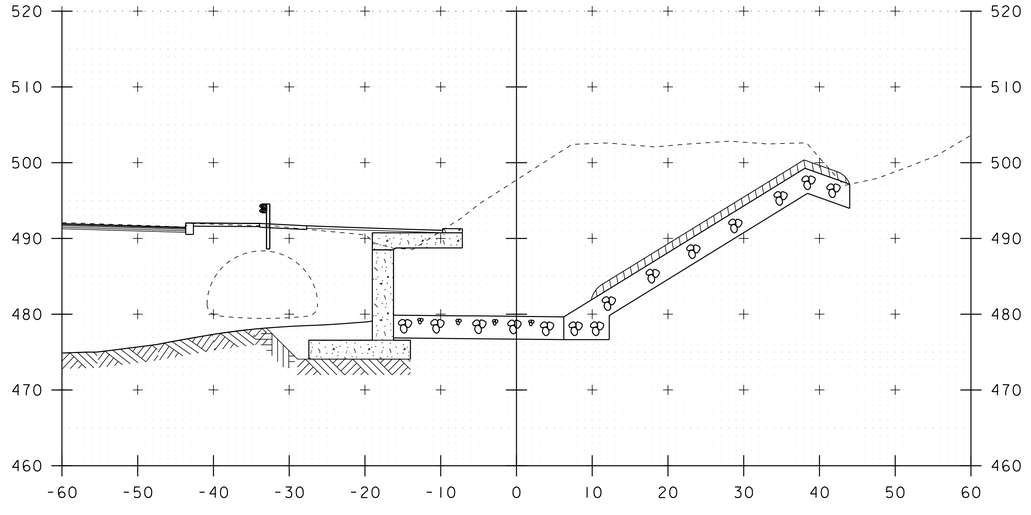


STA 11+10.00 RT
END STONE FILL, TYPE III
ENDGRUBBING MATERIAL
END GEOTEXTILE UNDER STONE FILL

11+10



10+80



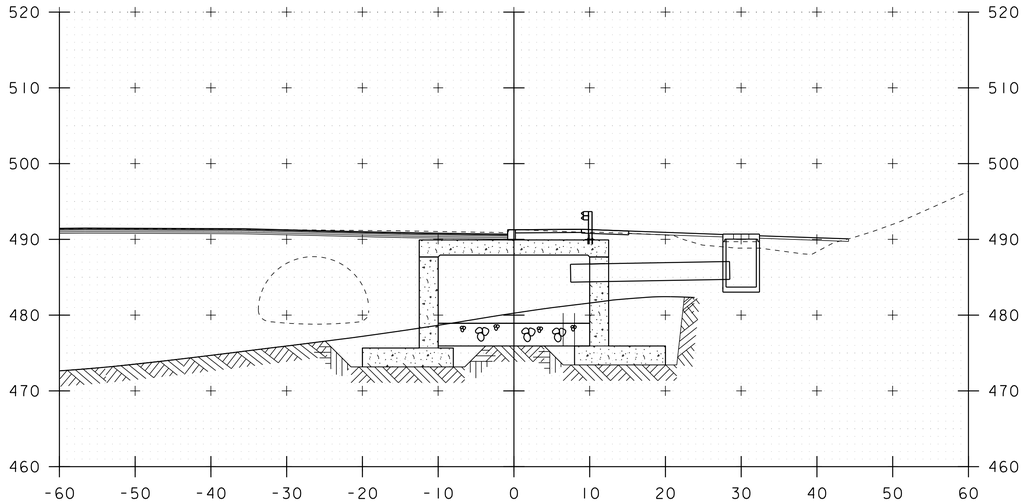
11+00

STA. 10+80 TO STA. 11+10

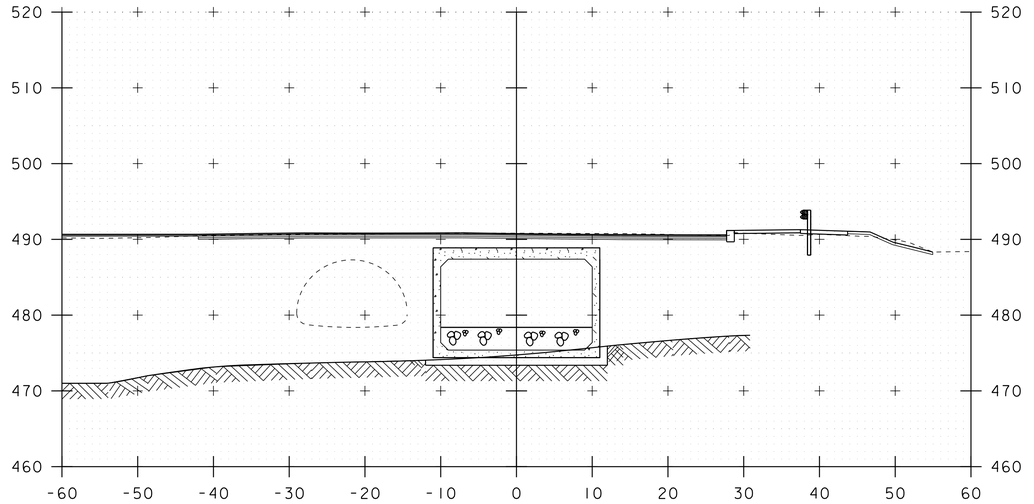
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 2

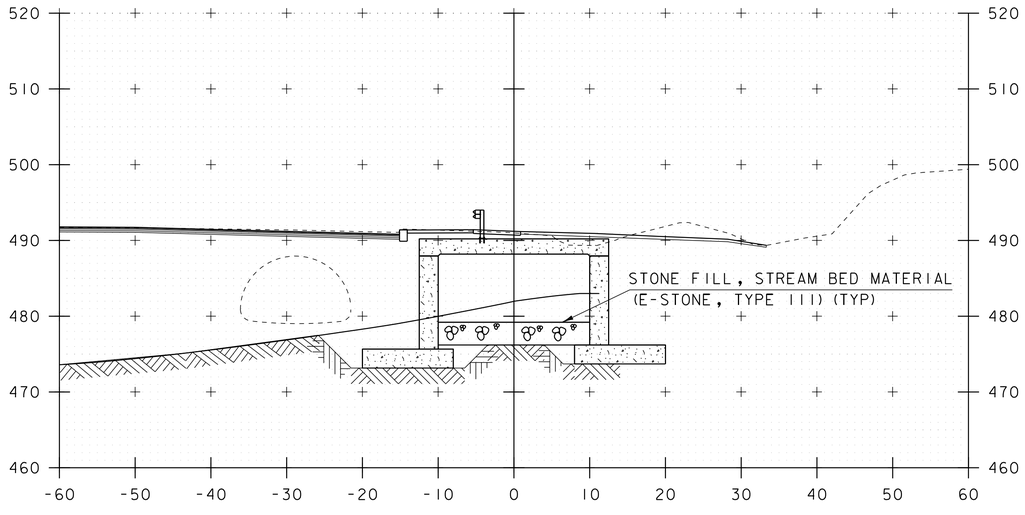
PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 49 OF 57



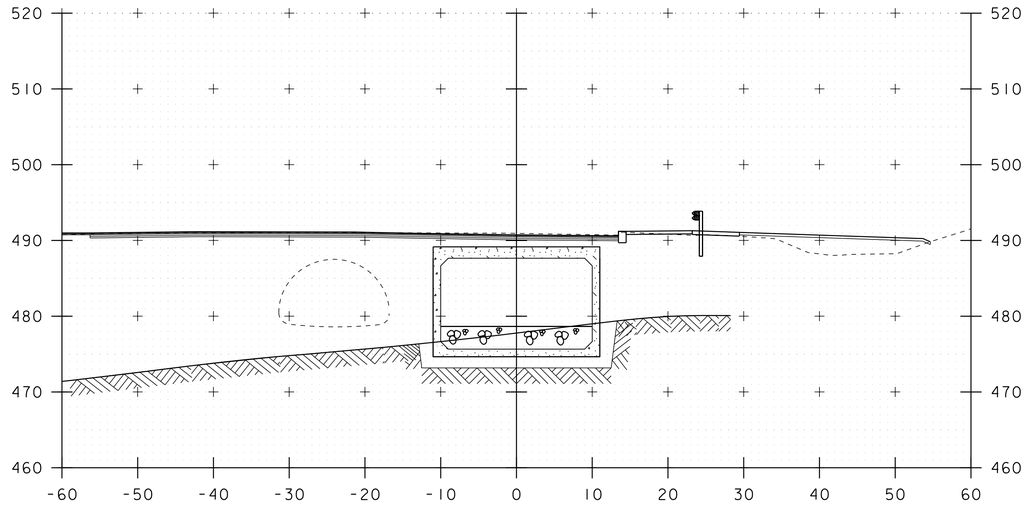
11+30



11+50



11+20



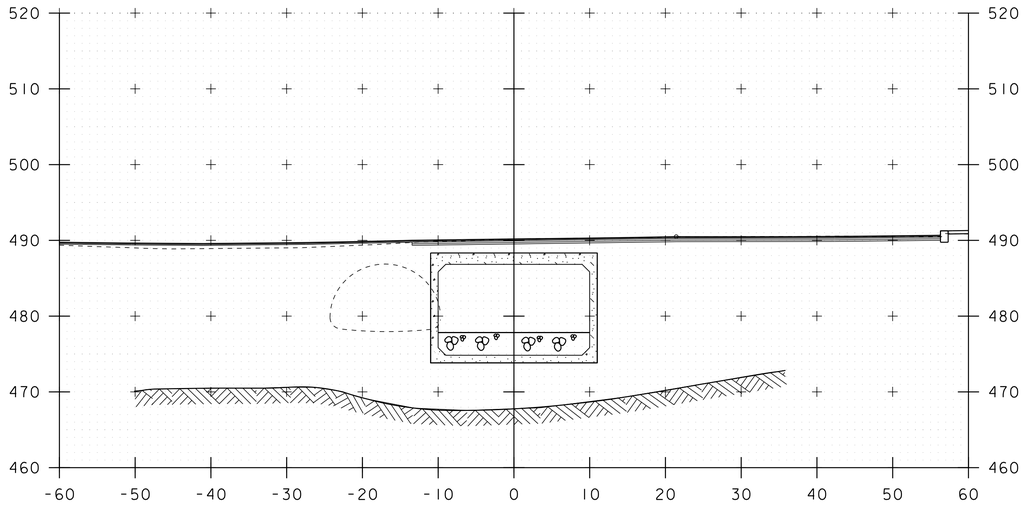
11+40

STA. 11+20 TO STA. 11+50

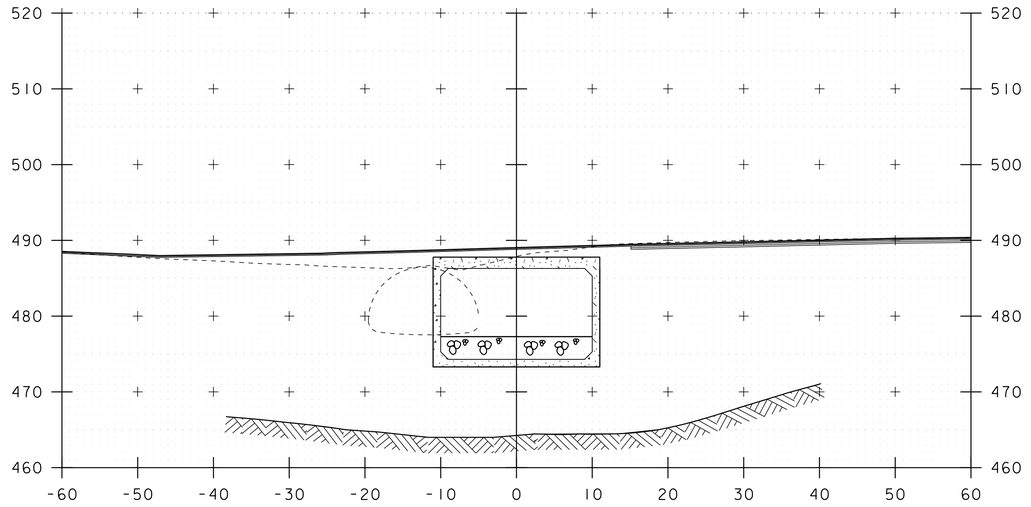
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 3

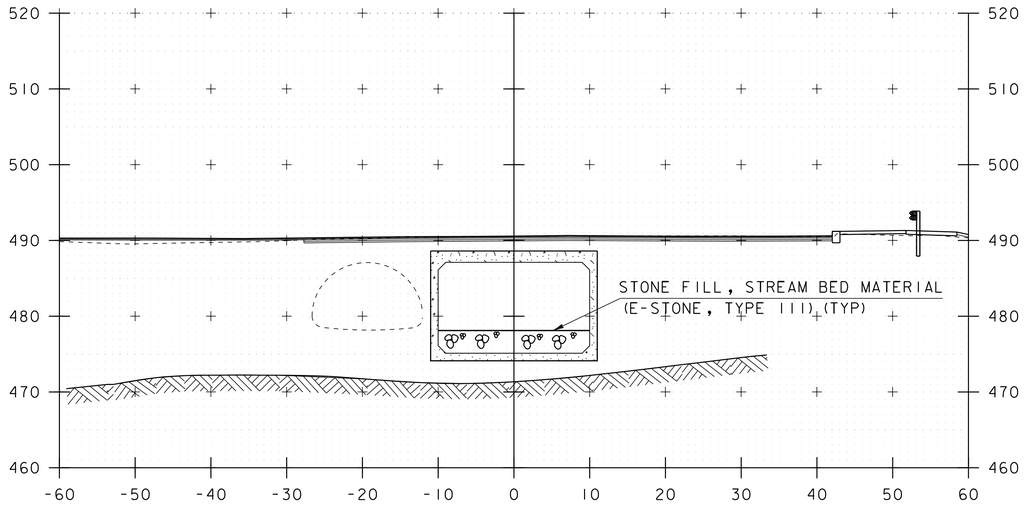
PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 50 OF 57



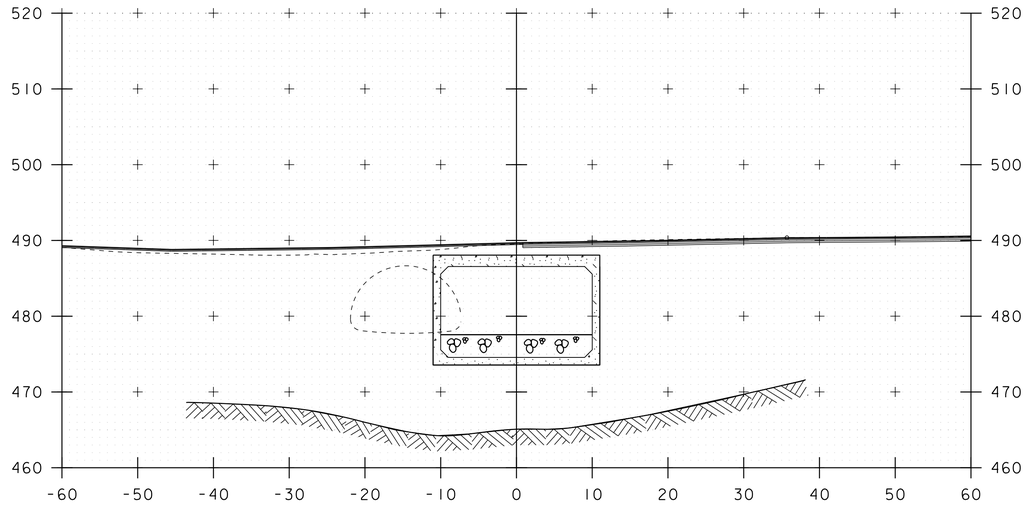
11+70



11+90



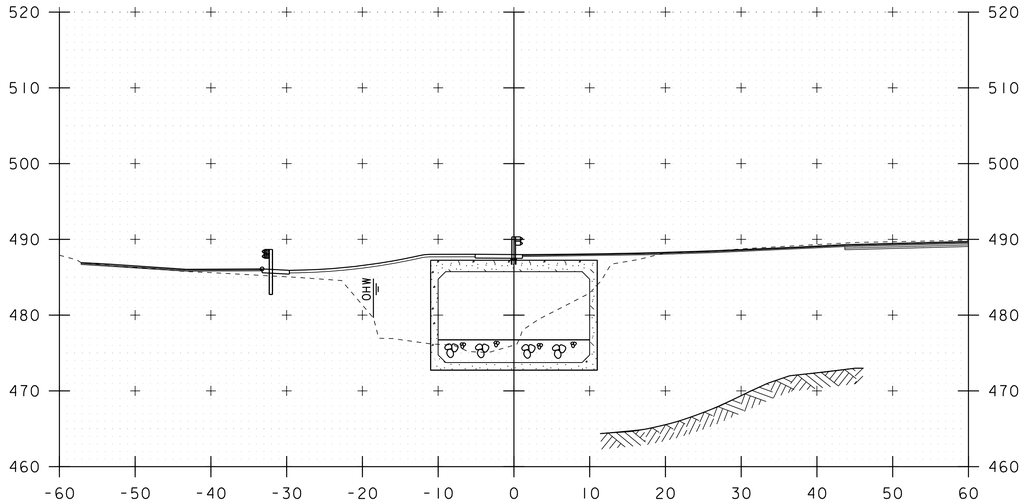
11+60



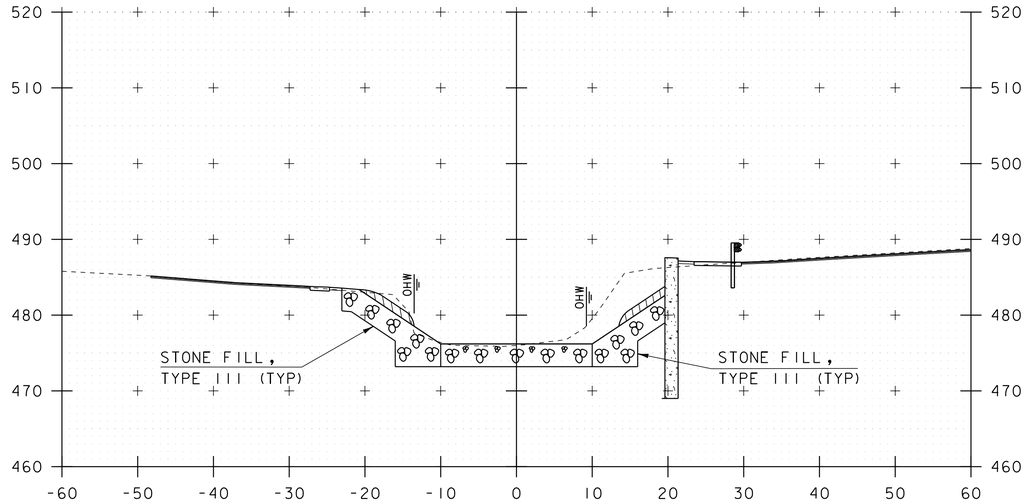
11+80

STA. 11+60 TO STA. 11+90

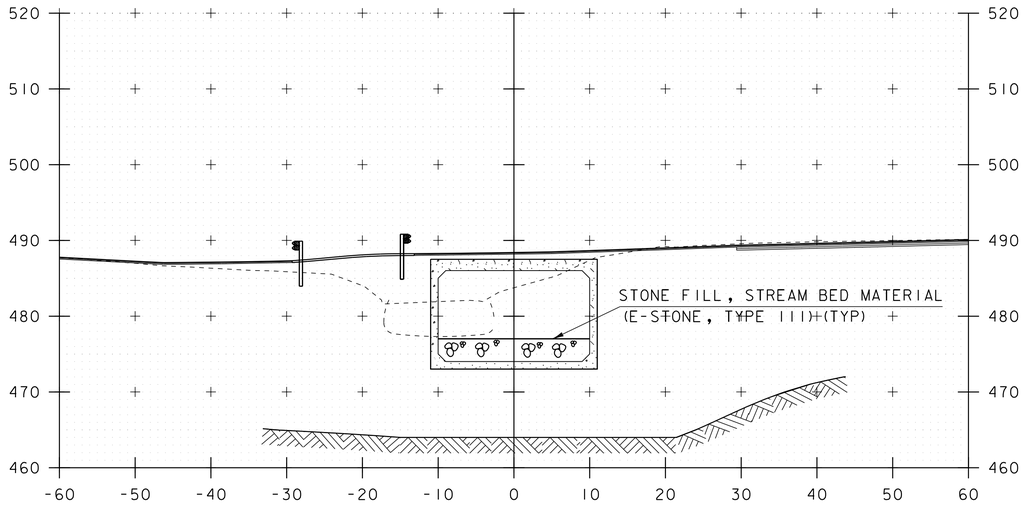
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 21-MAY-2020
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
CHANNEL SECTIONS 4	SHEET 51 OF 57



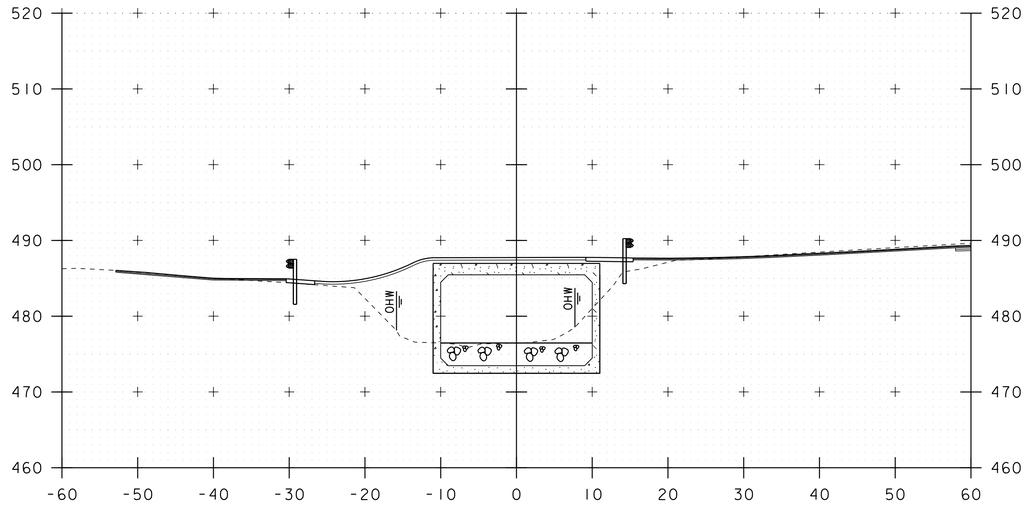
12+10



12+30



12+00



12+20

STA 12+24.00 LT
BEGIN STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL

STA 12+24.00 RT
BEGIN STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION

STA. 12+00 TO STA. 12+30

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

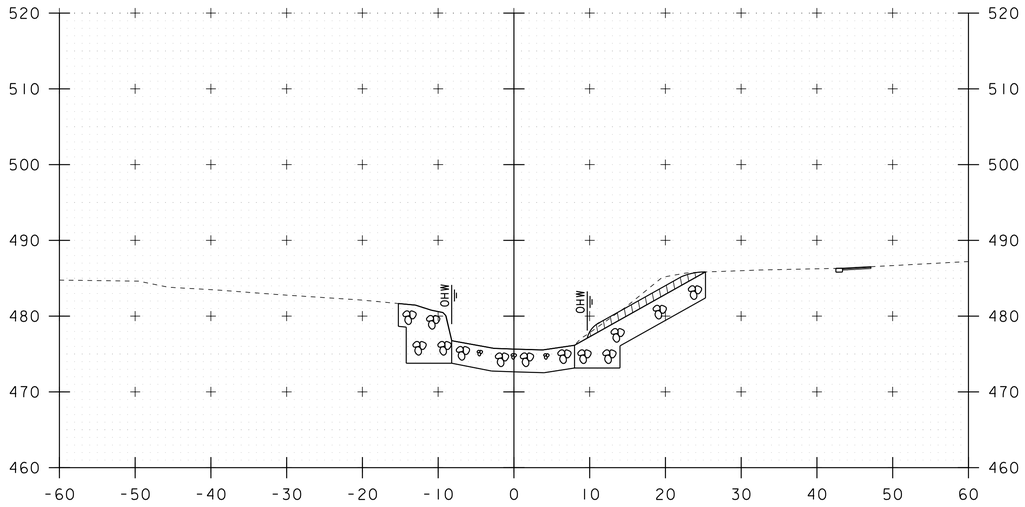
FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 5

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 52 OF 57

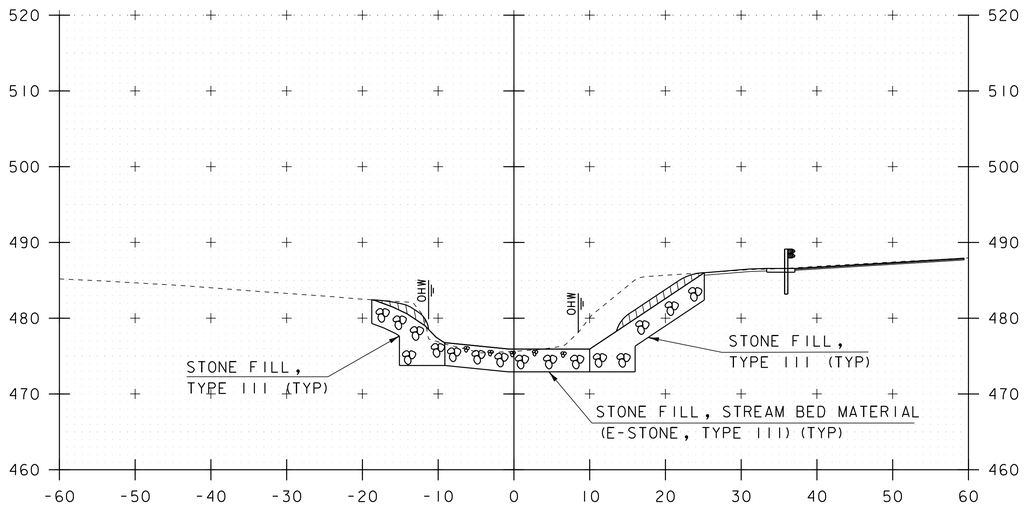
STA 12+50.00 LT
END STONE FILL, TYPE III
GRUBBING MATERIAL
GEOTEXTILE UNDER STONE FILL

STA 12+50.00 LT/RT
END STONE FILL, STREAM BED MATERIAL

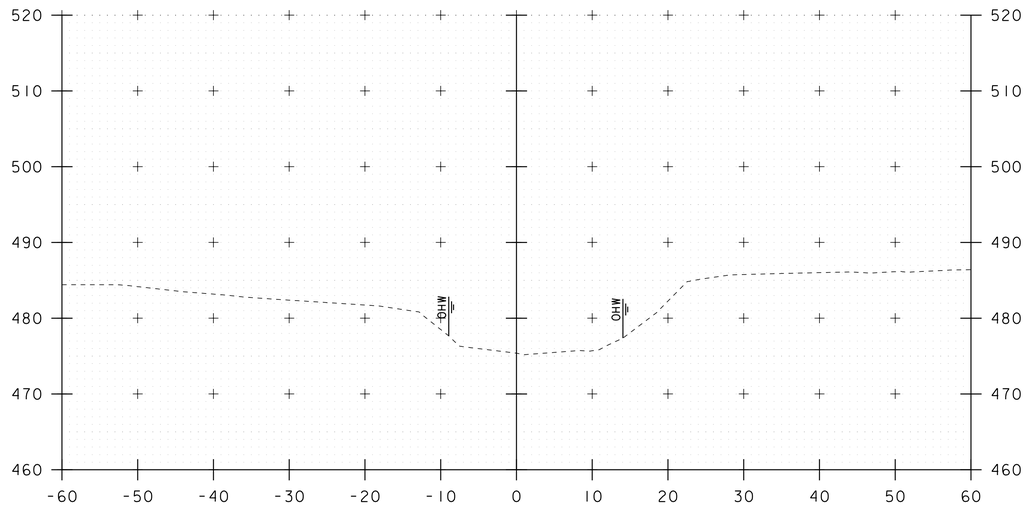
STA 12+50.00 RT
END STONE FILL, TYPE III
GEOTEXTILE UNDER STONE FILL
UNCLASSIFIED CHANNEL EXCAVATION



12+50



12+40



12+60

STA. 12+40 TO STA. 12+60

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
CHANNEL SECTIONS 6

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 53 OF 57

VAOT LOW GROW/FINE FESCUE MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
38%	57	95	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

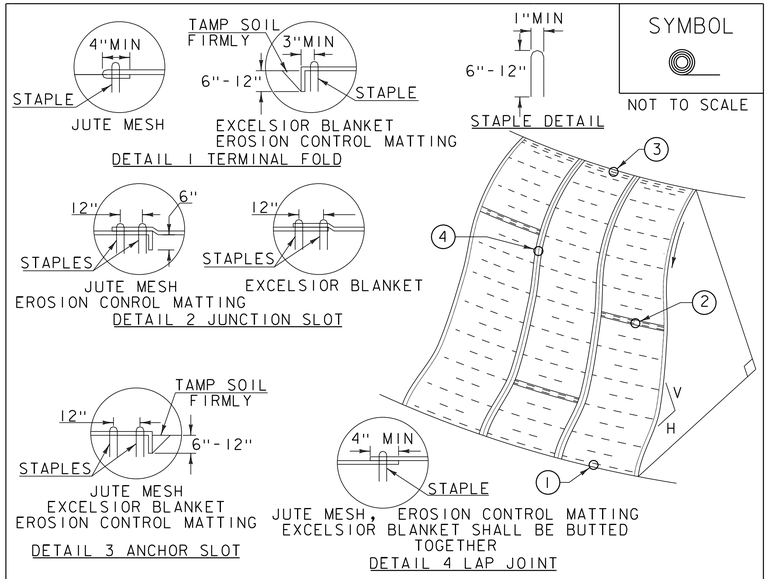
VAOT RURAL AREA MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREEPING RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE		
FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)	REVISIONS JANUARY 12, 2015 WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

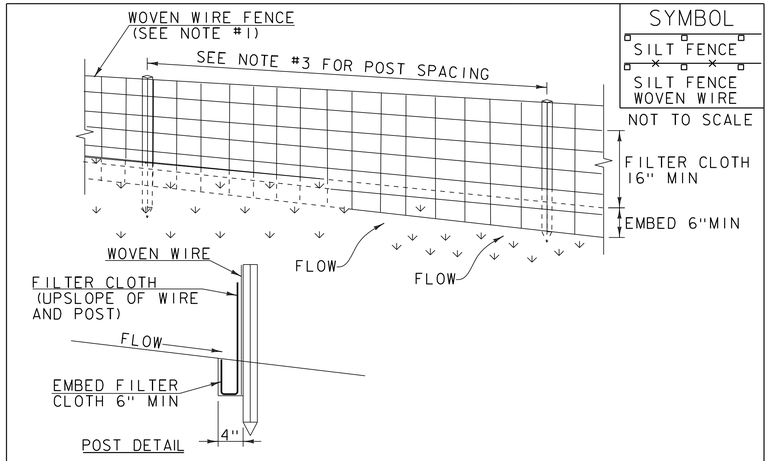
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION	ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE
NOTES: REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR ROLLED EROSION CONTROL PRODUCT, TYPE I (PAY ITEM 653.20) OR ROLLED EROSION CONTROL PRODUCT, TYPE II (PAY ITEM 653.21).	REVISIONS APRIL 16, 2007 JMF JANUARY 13, 2009 WHF

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. DARGAN
EROSION CONTROL DETAILS I

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 54 OF 57



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

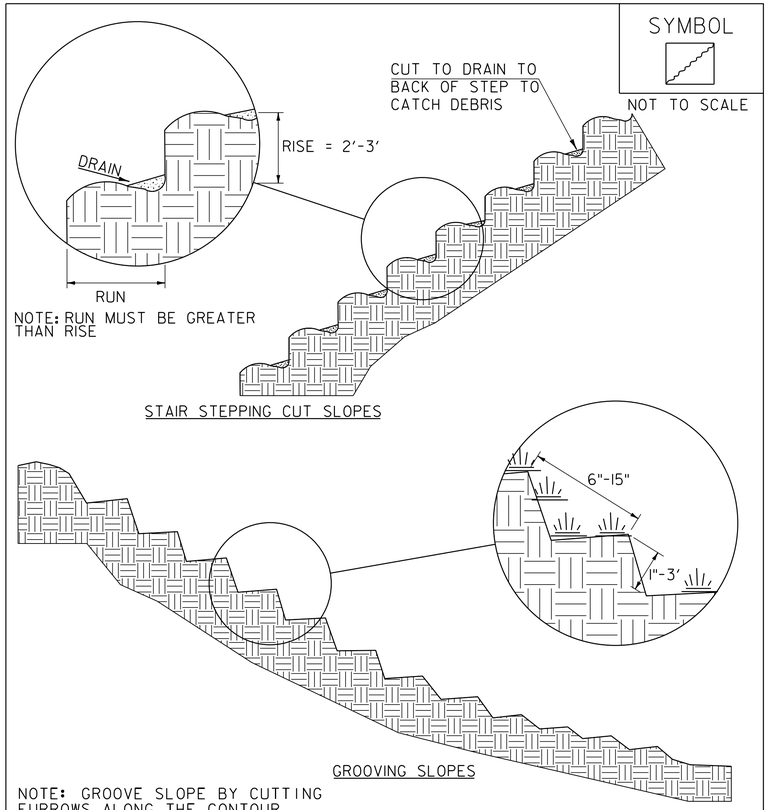
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR SILT FENCE, TYPE I (PAY ITEM 653.475) OR SILT FENCE, TYPE II (PAY ITEM 653.476).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

NOTE: RUN MUST BE GREATER THAN RISE

STAIR STEPPING CUT SLOPES

GROOVING SLOPES

NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SURFACE ROUGHENING

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336ero_details.dgn
PROJECT LEADER: G. LAROCHE
DESIGNED BY: G. DARGAN
EROSION CONTROL DETAILS 2

PLOT DATE: 21-MAY-2020
DRAWN BY: G. ROY
CHECKED BY: G. DARGAN
SHEET 55 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	ROW LAYOUT NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	T / P	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	BLUE WOODCHUCK, LLC.	1	363+80 LT	363+92 LT			CONSTRUCTION	T	52 SF						INCL. PDF
			363+89 LT	364+08 LT			DRIVE	T	137 SF						
			364+21 LT	365+08.84 LT			DRIVE	T	1,483 SF						INCL. TRAFFIC CONTROL DEVICES
			364+99.6 LT	365+21 LT			REMOVE & RESET	T							MAILBOX
2	JONES, RALPH D. & MARIANNE	1	364+97± LT	367+12± LT			UTILITY	P	.12 A						5,387 SF±
			365+04± LT	365+29 LT			DRIVE	T	287 SF						INCL. PEDESTRIAN ACCESS, TRAFFIC CONTROL DEVICES & EC
			365+16 LT	365+48 LT			CONSTRUCTION	T	467 SF						
			364+89 LT	365+02 LT			CHANNEL	P	87 SF						INCL. STONE FILL
			364+99.6 LT	365+21 LT			REMOVE & RESET	T							MAILBOX
3	THE MAGIC MUSHROOM, LLC	1	366+77± LT	366+98± LT			UTILITY	P	107 SF						
4	35 CHESTER ROAD, LLC	1	366+88± LT	367+35.03 LT			UTILITY	P	586 SF						
5	GREEN MOUNTAIN POWER CORPORATION		363+80 LT	367+35.03 LT											UTILITY
6	VERMONT TELEPHONE COMPANY, INC.		363+80 LT	367+35.03 LT											UTILITY
7	COMCAST OF CONNECTICUT/GEORGIA/ MASSACHUSETTS/NEW HAMPSHIRE/ NEW YORK/NORTH CAROLINA/VIRGINA/ VERMONT, LLC		363+80 LT	367+35.03 LT											UTILITY
8	TOWN OF SPRINGFIELD, VERMONT		363+80 LT	367+35.03 LT											UTILITY

TABLE OF REVISIONS

REVISION NO.	ROW SET SHEET #	DESCRIPTION	DATE

PROJECT NAME: **SPRINGFIELD**
PROJECT NUMBER: **BF 0134(45)**

FILE NAME: **r13d336detail.xls**
PROJECT LEADER: **N. WARK**
DESIGNED BY: **E. WILDER**
R.O.W. DETAIL SHEET #1

PLOT DATE: 21-MAY-2020
DRAWN BY: **M. TROTTIER**
CHECKED BY: **T. POLK**
SHEET 56 OF 57

REMOVING AND RESETTING CURB
(VERTICAL GRANITE CURB)
STA 362+50.0 - 364+75.7 RT
STA 365+02.3 - 366+75.0 RT

CAST-IN-PLACE CONCRETE CURB, TYPE 4
STA 364+75.7 - 365+02.3 RT

BITUMINOUS CONCRETE SIDEWALK
STA 362+50.0 - 366+75.0 RT

CONSTRUCT DRIVE (PAVED)
STA 363+67.3 - 365+17.0 LT
STA 365+86.0 - 366+75.0 LT

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 362+50.0 - 363+50.0
STA 366+25.0 - 367+25.0

CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES
STA 364+61.7 OFFSET 30.2 FT LT

REMOVE AND RESET MAILBOX, SINGLE SUPPORT
FROM STA 364+99.6 OFFSET 34.9 FT LT
TO STA 365+21.0 OFFSET 71.80 FT LT

N/F
FRAZIER, IRENE D.
REVOCABLE TRUST

APPROX. EXISTING R.O.W.

BEGIN R.O.W. PROJECT
SPRINGFIELD BF 0134(45)
STA. 363+80, 40.87' LT

BEGIN APPROACH
STA 362+50.00

N= 291205.45 FT
E= 1641198.44 FT

BEGIN PROJECT
STA 364+00.00

DRIVE(T)
CONST(T)
DRIVE(T)
R&RES(T)

1
BLUE WOODCHUCK, LLC.

BEGIN BRIDGE
STA 364+91.57

FOUND BOUNDARY MARKER REBAR ONLY IN PAVEMENT

R 12'-0"

364+97±
102.63' LT

365+05±
82.73' LT

365+34.68
77.46' LT

365+33.22
140.45' LT

CONST(T)
DRIVE(T)

END BRIDGE
STA 365+18.43

END DRIVE
STA 201+04.60

365+29.53
107.81' LT

CH(P)
365+56.55
79.87' LT
365+46.99
86.57' LT

2
JONES, RALPH D.
& MARIANNE

366+73.04
176.07' LT
367+12±
151.30' LT
366+88±
139.80 LT
366+77±
134.00' LT
366+61.14
143.73' LT
366+98±
120.14' LT
367+35.03
133.48' LT

3
THE MAGIC MUSHROOM, LLC

4
35 CHESTER ROAD, LLC

EXISTING GMP, VTEL. UTILITY EASEMENT
BK: 464 PG: 124

APPROX. EXISTING R.O.W.

N= 291276.03 FT
E= 1641451.01 FT

TH-338
(OLD CHESTER RD)

R 3'-0"

MATCH LINE STA 367+25.00

N
VT STATE PLANE GRID

VT ROUTE 11
TO CHESTER

362+25 363+00 364+00 365+00 366+00 367+00

PHASE LINE

CHESTERFIELD BROOK FLOW

STONE FILL

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 495.11

END PROJECT
STA 365+75.00

STONE FILL,
TYPE III (TYP)

STONE FILL, STREAM BED MATERIAL
(E-STONE, TYPE III) (TYP)

END R.O.W. PROJECT
SPRINGFIELD BF 0134(45)
STA. 367+35.03, 133.48' LT

N= 291147.53 FT
E= 1641667.50 FT

APPROX. EXISTING R.O.W.

N= 290985.69 FT
E= 1641312.98 FT

N/F
SPRINGFIELD MEDICAL CARE SYSTEMS, INC.

EXISTING 152' CGMPPA
BUILT 1961
SPAN 14'-3", RISE 8'-11"
AVERAGE COVER 3'
WATERWAY AREA = 101 SF

FOR R.O.W. USE ONLY

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

R.O.W. POINTS		
A	362+25.00	165.04' LT
B	363+47.75	180.12' LT
C	363+35.87	40.11' LT
D	364+97.86	42.91' LT
E	365+08.84	74.61' LT
F	365+87.83	83.33' LT
G	365+97.86	51.84' LT
H	366+27.55	54.81' LT
I	366+73.28	65.67' LT
J	367+62.19	83.24' LT
K	367+45.18	143.43' RT
L	363+97.83	199.84' RT
L	362+25.02	200.00' RT

R.O.W. TABLE		
A-B	N69°56'49"E	123.67'
B-C	S08°12'04"E	140.52'
C-D	N75°57'39"E	162.01'
D-E	S06°03'36"W	33.55'
E-F	N70°38'52"E	79.47'
F-G	S30°42'46"E	33.05'
G-H	R= 84.48'	28.50'
H-I	R= 389.60'	41.87'
I-J	R= 982.81'	78.09'
J-K	S23°58'27"E	227.35' TIE LINE
K-L	N65°27'47"E	389.72'
L-M	N76°53'46"E	172.82'
M-A	N13-°03'10"W	365.04' TIE LINE

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

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME:	r13d336lay.dgn
PROJECT LEADER:	N. WARK
DESIGNED BY:	G. ROKES
R.O.W. LAYOUT SHEET 1OF 1	
PLOT DATE:	21-MAY-2020
DRAWN BY:	E. WILDER
CHECKED BY:	T. POLK
SHEET	57 OF 57

Estimate 13D336

Estimated Cost:$2,117,263.54

Contingency: 0.00%

Estimated Total: $2,117,263.54

Base Date: 05/14/20

Spec Year: 18

Unit System: E

Work Type: BRIDGE CONSTRUCTION

Highway Type: MAJOR COLLECTOR

Urban/Rural Type: URBAN

Season: CONSTRUCTION (APRIL 15th - OCTOBER 15th)

County: SPRINGFIELD

Latitude of Midpoint: 431756

Longitude of Midpoint: 722947

District: SE

Federal Project Number: Springfield BF 0134(45)

State Project Number:

Estimate Type: FINAL

Prepared by R. HOOD on 05/14/20
Checked by G. DARGAN on 05/14/20
Approved by N. WARK on 05/14/20

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
Group 1011: Roadway					
0005	201.10 CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	1.000	LS	$10,000.00000	$10,000.00
0010	203.15 COMMON EXCAVATION	2,130.000	CY	$15.38590	$32,771.97
0015	203.17 UNCLASSIFIED EXCAVATION	50.000	CY	$21.31695	$1,065.85
0020	204.20 TRENCH EXCAVATION OF EARTH	80.000	CY	$42.61806	$3,409.44
0025	204.21 TRENCH EXCAVATION OF ROCK	70.000	CY	$111.70355	$7,819.25
0027	204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	1.000	CY	$75.00000	$75.00
0030	210.10 COARSE-MILLING, BITUMINOUS PAVEMENT	700.000	SY	$14.12236	$9,885.65
0035	301.35 SUBBASE OF DENSE GRADED CRUSHED STONE	1,540.000	CY	$44.78991	$68,976.46
0040	402.12 AGGREGATE SHOULDERS	96.000	TON	$47.59837	$4,569.44
0045	404.65 EMULSIFIED ASPHALT	30.000	CWT	$102.21050	$3,066.32
0055	507.12 REINFORCING STEEL, LEVEL II	400.000	LB	$1.87715	$750.86
0060	501.38 HIGH PERFORMANCE CONCRETE, CLASS PCS	50.000	CY	$300.00000	$15,000.00
0062	541.30 CONCRETE, CLASS C	15.000	CY	$276.71622	$4,150.74
0065	601.0915 18" CPEP	50.000	LF	$78.93548	$3,946.77
0070	601.0920 24" CPEP	70.000	LF	$83.29319	$5,830.52
0075	604.20 PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE 48"	2.000	EACH	$4,517.95111	$9,035.90
0080	616.21 VERTICAL GRANITE CURB	322.000	LF	$45.22340	$14,561.93
0082	616.27 CAST-IN-PLACE CONCRETE CURB, TYPE A	30.000	LF	$100.00000	$3,000.00
0085	618.15 BITUMINOUS CONCRETE SIDEWALK	25.000	TON	$356.70468	$8,917.62
0090	619.20 REMOVING AND RESETTING PROPERTY MARKERS	4.000	EACH	$212.50000	$850.00
0095	621.20 STEEL BEAM GUARDRAIL, GALVANIZED	204.000	LF	$26.77906	$5,462.93

Line #	Item Number Description *Supplemental Description*	Quantity	Units	Unit Price	Extension
0100	621.51 MANUFACTURED TERMINAL SECTION, TANGENT	2.000	EACH	$3,181.87500	$6,363.75
0105	621.60 ANCHOR FOR STEEL BEAM RAIL	2.000	EACH	$893.66667	$1,787.33
0110	621.80 REMOVAL AND DISPOSAL OF GUARDRAIL	390.000	LF	$2.87988	$1,123.15
0115	630.10 UNIFORMED TRAFFIC OFFICERS	100.000	HR	$65.20097	$6,520.10
0120	630.15 FLAGGERS	600.000	HR	$33.71649	$20,229.89
0125	635.11 MOBILIZATION/DEMOBILIZATION	1.000	LS	$90,000.00000	$90,000.00
0130	641.15 PORTABLE CHANGEABLE MESSAGE SIGN	2.000	EACH	$5,862.57143	$11,725.14
0135	646.600 TEMPORARY 4 INCH WHITE LINE	1,530.000	LF	$0.14312	$218.97
0140	646.610 TEMPORARY 4 INCH YELLOW LINE	770.000	LF	$0.14499	$111.64
0145	646.2111 4 INCH YELLOW LINE, WATERBORNE PAINT	450.000	LF	$0.66521	$299.34
0150	649.11 GEOTEXTILE FOR ROADBED SEPARATOR	2,280.000	SY	$3.01887	$6,883.02
0152	675.20 TRAFFIC SIGN, TYPE A	7.000	SF	$29.04537	$203.32
0155	675.341 SQUARE TUBE SIGN POST AND ANCHOR	36.000	LF	$18.03598	$649.30
0157	675.50 REMOVING SIGNS	4.000	EACH	$26.44202	$105.77
0160	675.60 RESETTING SIGNS	1.000	EACH	$41.95972	$41.96
0161	676.10 DELINEATOR WITH STEEL POST	4.000	EACH	$79.36479	$317.46
0162	900.645 SPECIAL PROVISION (TEMPORARY ROADWAY AND TRAFFIC CONTROL, ALL-INCLUSIVE)	1.000	LS	$200,000.00000	$200,000.00
0164	900.650 SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	1.000	LU	$0.00000	$0.00
0165	900.650 SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	1.000	LU	$1.00000	$1.00
0166	900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	736.000	TON	$110.00000	$80,960.00

Total for Group 1011:$640,687.79

Group 1051: EPSC

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
0236	651.15 SEED	10.000	LB	$14.77432	$147.74
0237	651.17 SEED, WINTER RYE	10.000	LB	$22.97179	$229.72
0242	651.18 FERTILIZER	30.000	LB	$7.51707	$225.51
0247	651.20 AGRICULTURAL LIMESTONE	0.200	TON	$756.07587	$151.22
0252	651.35 TOPSOIL	30.000	CY	$92.76310	$2,782.89
0257	653.01 EPSC PLAN	1.000	LS	$5,000.00000	$5,000.00
0262	653.02 MONITORING EPSC PLAN	100.000	HR	$50.00000	$5,000.00
0267	653.03 MAINTENANCE OF EPSC PLAN (N.A.B.I.)	1.000	LU	$1.00000	$1.00
0272	653.10 HAY MULCH	0.200	TON	$0.00000	$0.00
0277	653.20 ROLLED EROSION CONTROL PRODUCT, TYPE I	210.000	SY	$3.67907	$772.60
0282	653.475 SILT FENCE, TYPE I	1,275.000	LF	$2.50000	$3,187.50
0287	653.50 BARRIER FENCE	380.000	LF	$2.91329	$1,107.05
0292	653.55 PROJECT DEMARCATION FENCE	410.000	LF	$1.78185	$730.56

Total for Group 1051:$19,335.79

Group 1211: Bridge

0167	203.26 CHANNEL EXCAVATION OF ROCK	100.000	CY	$100.00000	$10,000.00
0168	203.27 UNCLASSIFIED CHANNEL EXCAVATION	1,030.000	CY	$22.81617	$23,500.66
0169	204.25 STRUCTURE EXCAVATION	3,000.000	CY	$23.83824	$71,514.72
0170	204.30 GRANULAR BACKFILL FOR STRUCTURES	2,850.000	CY	$43.76736	$124,736.98
0171	501.37 HIGH PERFORMANCE CONCRETE, CLASS PCD	565.000	CY	$825.00000	$466,125.00
0179	507.12 REINFORCING STEEL, LEVEL II	130,000.000	LB	$1.87715	$244,029.50
0188	507.16 DRILLING AND GROUTING DOWELS	220.000	LF	$46.07093	$10,135.60

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
0190	514.10 WATER REPELLENT, SILANE	15.000	GAL	$86.00897	$1,290.13
0197	529.15 REMOVAL OF STRUCTURE (14'-3" x 8'-11" CGMPPA)	1.000	EACH	$15,000.00000	$15,000.00
0200	540.10 PRECAST CONCRETE STRUCTURE *(20' X 12' X 84' BOX AND WINGWALLS)*	1.000	LS	$300,000.00000	$300,000.00
0204	541.30 CONCRETE, CLASS C	380.000	CY	$276.71622	$105,152.16
0205	613.06 STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)	160.000	CY	$75.00000	$12,000.00
0207	613.13 STONE FILL, TYPE IV	510.000	CY	$50.40088	$25,704.45
0210	613.10 STONE FILL, TYPE I	30.000	CY	$72.05012	$2,161.50
0220	649.31 GEOTEXTILE UNDER STONE FILL	580.000	SY	$2.83333	$1,643.33
0225	651.40 GRUBBING MATERIAL (12")	150.000	SY	$16.30619	$2,445.93
0230	900.645 SPECIAL PROVISION TEMPORARY RELOCATION OF STREAM	1.000	LS	$30,000.00000	$30,000.00

Total for Group 1211:$1,445,439.96

Group 1999: Full C.E. Items

Line #	Item Number / Description	Quantity	Units	Unit Price	Extension
0302	631.10 FIELD OFFICE, ENGINEERS	1.000	LS	$7,500.00000	$7,500.00
0307	631.16 TESTING EQUIPMENT, CONCRETE	1.000	LS	$600.00000	$600.00
0308	631.17 TESTING EQUIPMENT, BITUMINOUS	1.000	LS	$700.00000	$700.00
0309	631.26 FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	3,000.000	DL	$1.00000	$3,000.00

Total for Group 1999:$11,800.00