REVIEWER NOTES:

1. THIS PROJECT IS INTENDED TO BE CONSTRUCTED ALONG WITH THREE OTHER PROJECTS ON THE VT 11 CORRIDOR.

2. OTHER VTRANS CORRIDOR PROJECTS HAVE BEEN IDENTIFIED THAT WILL CAUSE ADDITIONAL IMPACTS IN THE AREA OF THIS PROJECT. SEE TMP SECTION ONE FOR DISCUSSION OF REGIONAL PROJECT IMPACTS. PROJECT MANAGERS WILL WORK TO RESOLVE THESE CONFLICTS.

3. THIS PROJECT WILL UTILIZE PHASED CONSTRUCTION. PHASE ONE WILL MAINTAIN ONE-WAY ALTERNATING TRAFFIC CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL. TRAFFIC FOR PHASE ONE WILL BE SHIFTED SOUTH OVER THE EXISTING STRUCTURE. DURING PHASE TWO, TWO-WAY TRAFFIC WILL MAINTAINED BY SHIFTING TRAFFIC NORTH OVER THE PROPOSED STRUCTURE.

4. PEDESTRIAN TRAFFIC WILL BE ACCOMMODATED FOR ALL PHASES OF CONSTRUCTION.

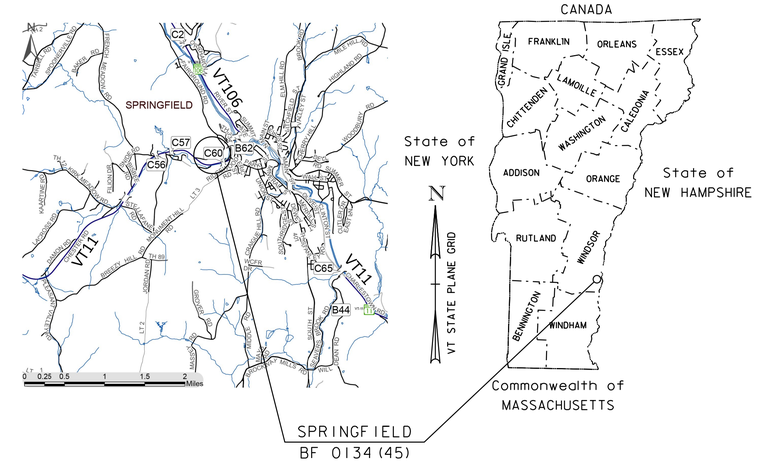
5. SUBSURFACE SEWER UTILITY TO THE SOUTH OF THE PROPOSED STRUCTURE WILL NEED TO BE PROTECTED DURING CONSTRUCTION.

6. TEMPORARY RELOCATION OF STREAM IS ANTICIPATED TO BE NORTH OF THE EXISTING STRUCTURE. PROJECT LIMITS HAVE BEEN CONSIDERED TO ACCOMMODATE FOR THE TEMPORARY RELOCATION OF STREAM.

7. THE CONTRACTOR SHALL PROVIDE A SITE-SPECIFIC EROSION PREVENTION AND SEDIMENT CONTROL PLAN (EPSC) IN ACCORDANCE WITH SECTION 653 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. ESTIMATED QUANTITIES FOR EPSC WORK HAVE BEEN INCLUDED IN THE CONTRACT FOR BIDDING PURPOSES. IF THE CONTRACTOR'S EPSC PLAN REQUIRES ITEMS OF WORK THAT ARE NOT INCLUDED IN THE CONTRACT, THE ITEMS WILL BE INCLUDED IN THE PAYMENT OF ITEM 653.03 MAINTENANCE OF EPSC PLAN.

8. BEDROCK ELEVATIONS OBSERVED DURING BORING OPERATIONS WERE HIGHLY VARIABLE AND DID NOT PROVIDE ADEQUATE INFORMATION TO ESTABLISH FOOTING ELEVATIONS. A GEOTECHNICAL SERVICE REQUEST HAS BEEN SUBMITTED TO UTILIZE GEOPHYSICAL METHODS TO DETERMINE AN ACCURATE BEDROCK PROFILE FOR THIS PROJECT.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

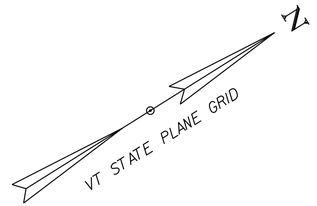


PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF SPRINGFIELD
COUNTY OF WINDSOR

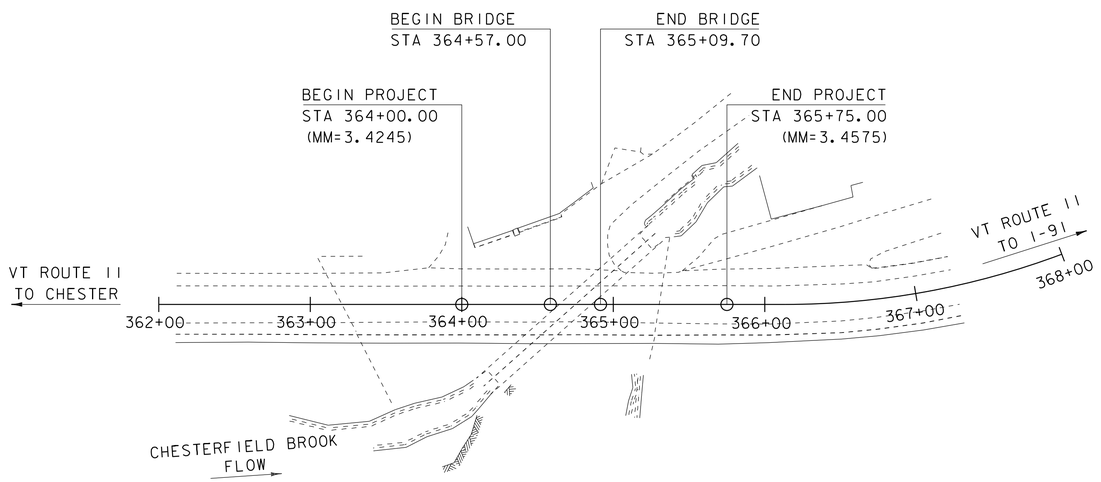
ROUTE NO : VT ROUTE 11 CULVERT NO : 60

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 :	52.70 FEET.
LENGTH OF ROADWAY :	122.30 FEET.
LENGTH OF PROJECT :	175.00 FEET.



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

QUALITY ASSURANCE PROGRAM : LEVEL	2
SURVEYED BY :	R.GILMAN
SURVEYED DATE :	05-25-2016
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83(2011)

PRELIMINARY PLANS
22-APR-2019

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

HIGHWAY DIVISION, CHIEF ENGINEER	
APPROVED _____ DATE _____	
PROJECT MANAGER :	NICK WARK, P.E.
PROJECT NAME :	SPRINGFIELD
PROJECT NUMBER :	BF 0134(45)
SHEET 1 OF 37 SHEETS	

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

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STANDARDS LIST

B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
C-3A	SIDEWALK RAMPS	03-10-2008
C-10	CURBING	02-11-2008
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	03-12-2007
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	03-10-2017
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-25-2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-29	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-31	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-95	VILLAGE SIGNS	05-25-2016

DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	1/5/2018
HSD-621.01	POST AND BLOCKOUT DETAILS FOR STEEL BEAM GUARDRAIL,GAL	6/9/2015
HSD-621.06	GUARDRAIL TERMINAL LABEL DETAIL	2/27/2017
SD-501.00	CONCRETE DETAILS AND NOTES	5/7/2010
SD-502.00	CONCRETE DETAILS AND NOTES	5/7/2010

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 : 2.999.000
40 year ESAL for flexible pavement from 2017 to 2057 : 7.227.000
Design Speed : 40 mph

AS BUILT "REBAR" DETAIL

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

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: March, 2019

DRAINAGE AREA : 4.4 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% =	180 cfs	2% =	530 cfs
10% =	330 cfs	1% =	630 cfs
4% =	440 cfs	0.2% =	920 cfs

DATE OF FLOOD OF RECORD Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ 2% AEP = 9.7 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 =	9.9 fps**
10% AEP =	485.1 ft.	"	12.2 fps
4% AEP =	486.2 ft.	"	13.5 fps
2% AEP =	486.9 ft.	"	14.1 fps
1% AEP =	487.7 ft.	"	14.9 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

DOWNSTRUCTURE 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

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	**20**	**36**	**36**	**66**	**30**	**34.5**	**38**
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

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 =	483.5 ft.***	VELOCITY=	7.6 fps**
10% AEP =	484.7 ft.	"	9.0 fps
4% AEP =	485.3 ft.	"	9.9 fps
2% AEP =	485.9 ft.	"	10.5 fps
1% AEP =	486.3 ft.	"	11.1 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 = 0.5 ft.

SCOUR: @ 1% AEP = 0.5 ft.

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

PERMIT INFORMATION

		DEPTH OR ELEVATION:
AVERAGE DAILY FLOW:	-	
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 in natural channel configuration with the structure removed.
** - Velocities are reported at the structure outlet.
*** - Water surface elevations for both models are reported about a cross section that is located approximately one bridge length upstream of the respective model inlet location.

TRAFFIC MAINTENANCE NOTES

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

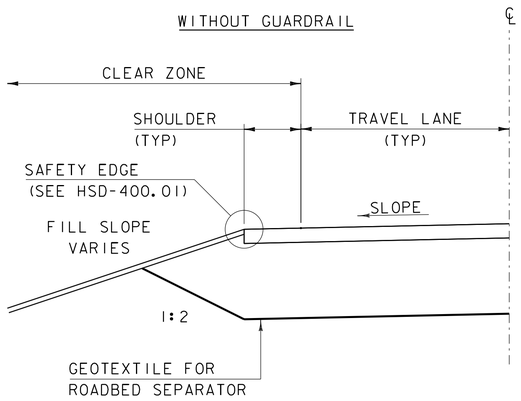
DESIGN VALUES

1. DESIGN LIVE LOAD		HL-93
2. FUTURE PAVEMENT	d_p:	0.0 INCH
3. DESIGN SPAN	L:	52.70 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	- - -
5. PRESTRESSING STRAND	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. HIGH PERFORMANCE CONCRETE, CLASS PCD	f'_c:	4.0 KSI
9. HIGH PERFORMANCE CONCRETE, CLASS PCS	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:	- - -
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.		- - -

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

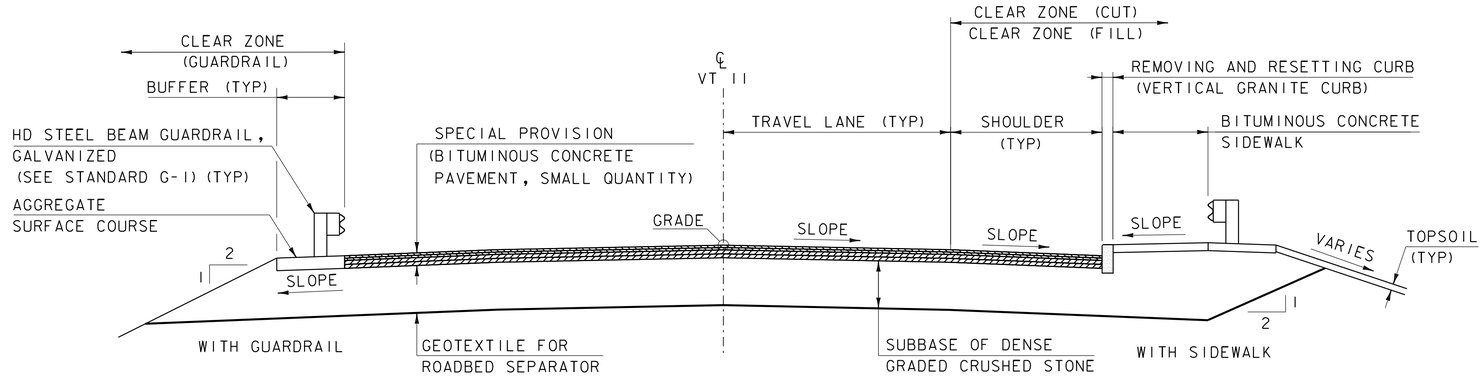
FILE NAME: **s13d336pi.xls**
PROJECT LEADER: **N. WARK**
DESIGNED BY: **G. LAROCHE**
PRELIMINARY INFORMATION SHEET

PLOT DATE: 4/22/2019
DRAWN BY: **G. ROKES**
CHECKED BY: **G. DARGAN**
SHEET 2 OF 37



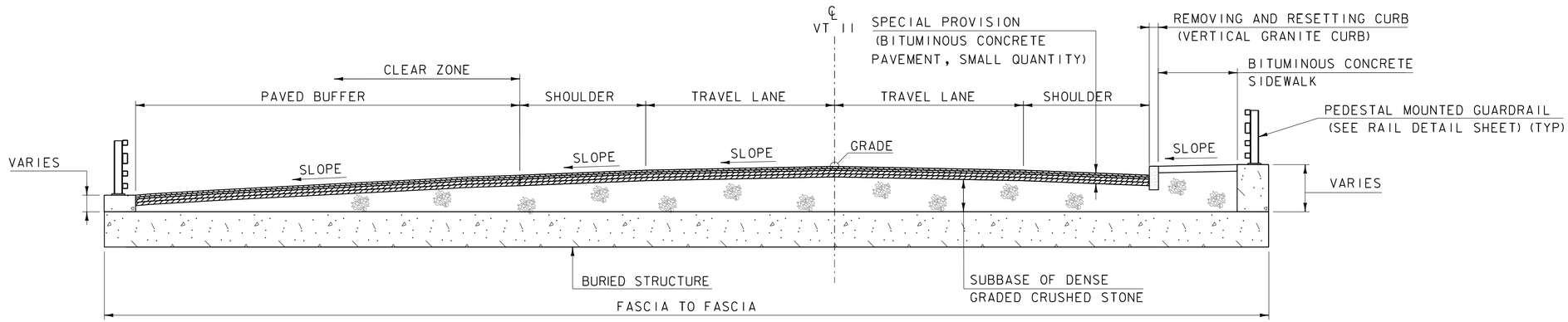
ROADWAY TYPICAL SECTION

NOT TO SCALE



VTII TYPICAL SECTION

NOT TO SCALE



VTII TYPICAL SECTION AT BURIED STRUCTURE

NOT TO SCALE

ROAD TYPICAL REQUIREMENTS

	LEFT		RIGHT	
	WIDTH	SLOPE	WIDTH	SLOPE
TRAVEL LANE	12'-0"	VARIES	12'-0"	VARIES
SHOULDER	8'-0"	VARIES	8'-0"	VARIES
CURB	---	---	0'-6"	0.000
SIDEWALK	---	---	5'-0"	-0.021
BUFFER	3'-7"	-0.060	3'-7"	-0.060
PAVED BUFFER	24'-5"	VARIES	---	---
FILL SLOPE	---	VARIES	---	VARIES
CLEAR ZONE (CUT)	12'-0"	---	12'-0"	---
CLEAR ZONE (FILL)	14'-0"	---	14'-0"	---
CLEAR ZONE (GUARDRAIL)	4'-9"	---	4'-9"	---

BURIED STRUCTURE TYPICAL REQUIREMENTS

	DIMENSION	DESCRIPTION
FASCIA-FASCIA	74'-0"	BURIED STRUCTURE WIDTH

MATERIAL REQUIREMENTS

	THICKNESS	DESCRIPTION
BINDER	70-28	PERFORMANCE GRADE ASPHALT BINDER
GYRATION	65	DESIGN NUMBER OF GYRATIONS
WEARING COURSE	1½"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE IVS)
INTERMEDIATE COURSE	1½"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE IVS)
BASE COURSE #2	2½"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE IIS)
BASE COURSE #1	2½"	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (TYPE IIS)
EMULSIFIED ASPHALT	---	STANDARD SPECIFICATIONS TABLE 406.12A
SIDEWALK	2"	BITUMINOUS CONCRETE SIDEWALK (TYPE IVS)
BUFFER	VARIES	AGGREGATE SURFACE COURSE (MATCH PAVE THICK)
SUBBASE	30"	SUBBASE OF DENSE GRADED CRUSHED STONE
TOPSOIL	4"	TOPSOIL

MATERIAL TOLERANCES

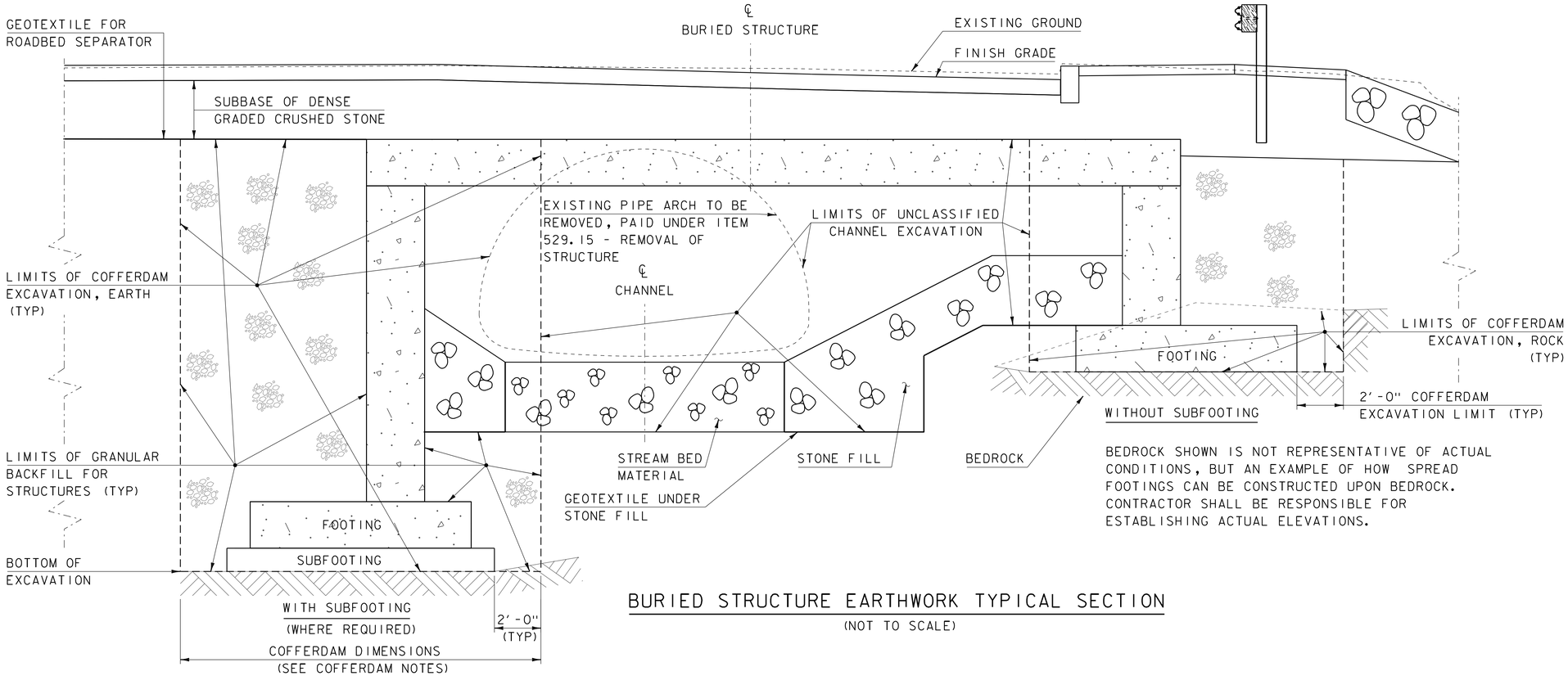
(IF USED ON PROJECT)

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

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

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

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. DARGAN
SHEET 3 OF 37



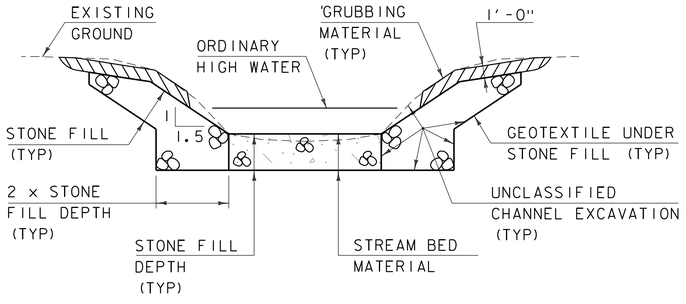
BEDROCK SHOWN IS NOT REPRESENTATIVE OF ACTUAL CONDITIONS, BUT AN EXAMPLE OF HOW SPREAD FOOTINGS CAN BE CONSTRUCTED UPON BEDROCK. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ACTUAL ELEVATIONS.

BURIED STRUCTURE EARTHWORK TYPICAL SECTION

(NOT TO SCALE)

COFFERDAM NOTES

1. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" OR "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.



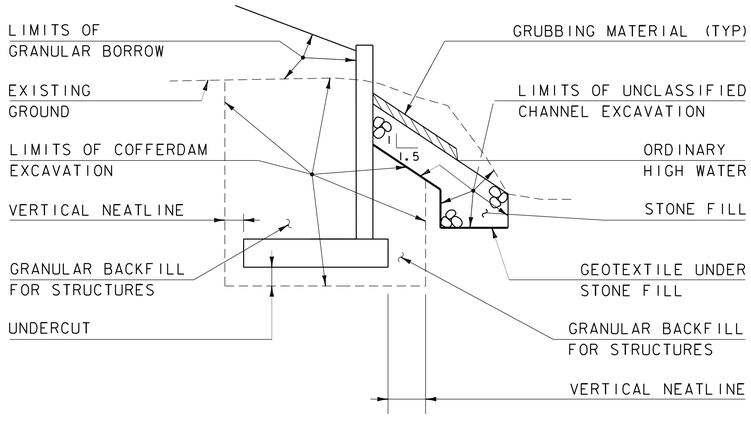
TYPICAL CHANNEL SECTION

(NOT TO SCALE)

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

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

3. GRUBBING MATERIAL SHALL BE PLACED UNDERNEATH STRUCTURES WHERE THERE IS MORE THAN 6 FEET VERTICALLY FROM ORDINARY HIGH WATER (OHW) TO THE BOTTOM OF SUPERSTRUCTURE AND MORE THAN 6 FEET HORIZONTALLY FROM OHW LINE TO FRONT FACE OF ABUTMENT. THIS MATERIAL SHALL START JUST ABOVE THE OHW ELEVATION AND TERMINATE 3 FEET HORIZONTALLY FROM THE FRONT FACE OF THE ABUTMENT. THIS MATERIAL SHALL NOT BE PLACED 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.



WINGWALL EARTHWORK TYPICAL SECTION

NOT TO SCALE

MATERIAL INFORMATION

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

STONE FILL NOTES

1. 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.

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

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

PLOT DATE: 22-APR-2019
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 4 OF 37

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
	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
	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
LEGEND SHEET

PLOT DATE: 22-APR-2019
DRAWN BY: M. LONGSTREET
CHECKED BY: G. LAROCHE
SHEET 5 OF 37

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

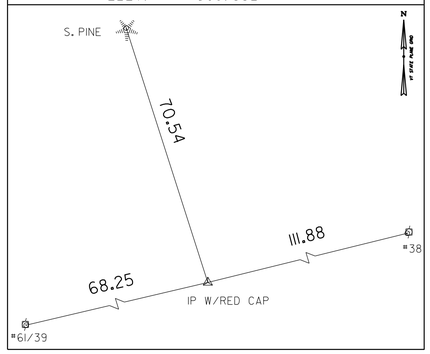
NORTH = 291938.9420
EAST = 1638030.0990
ELEV. = 567.043

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

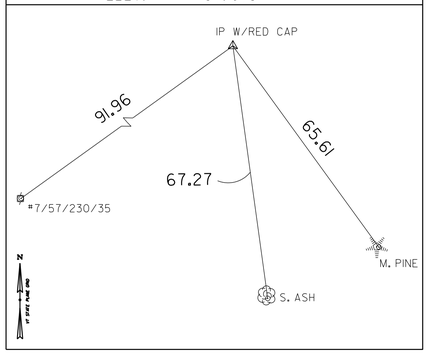
HVCTRL #5

NORTH = 291074.8459
EAST = 1640935.0322
ELEV. = 506.332



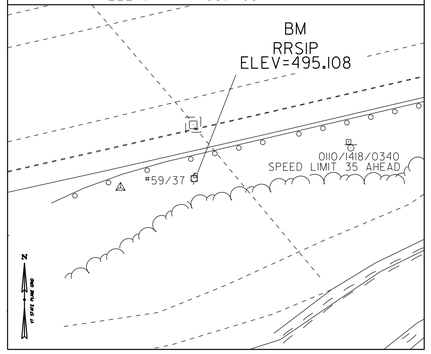
HVCTRL #6

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

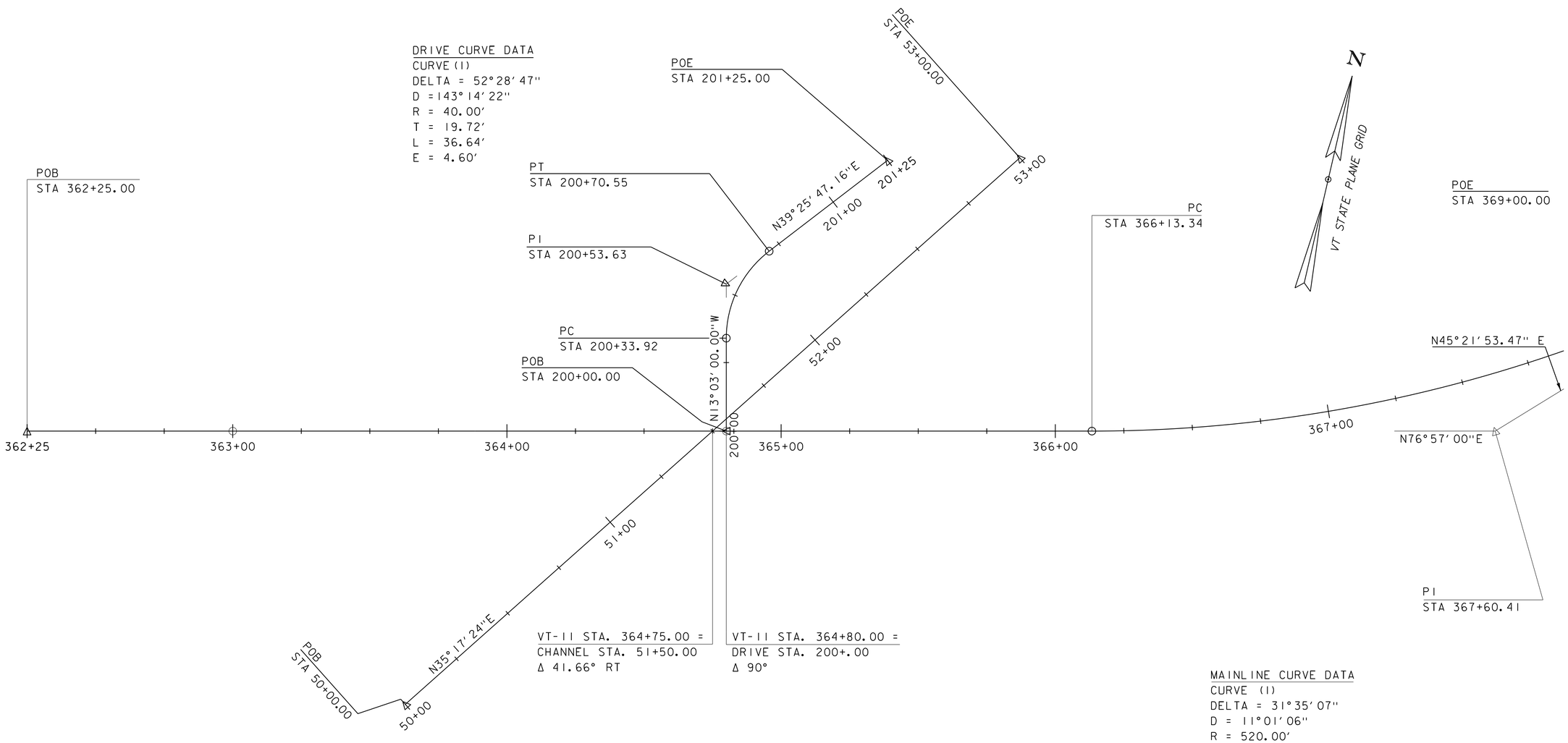
HORIZONTAL NAD83(2011)

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: 22-APR-2019
DRAWN BY: C. CYR
CHECKED BY: P. BEYOR
SHEET 6 OF 37



MAINLINE CURVE DATA
CURVE (1)
DELTA = 31°35'07"
D = 11°01'06"
R = 520.00'
T = 147.07'
L = 286.66'
E = 20.40'

CONTROL LINE DATA - VT11prop

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 45°21'53.47" E	'	291262.2372	1641621.073	366+13.34		369+00.00	31°35'06.53"	-520.00 '	286.66 '	147.07 '

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					

CONTROL LINE DATA - CH_C60

POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
1	N 35°17'24.00" E	300.00 '	291075.3545	1641256.373		50+00.00					
2			291320.226	1641429.687		53+00.00					

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

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 7 OF 37

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

N

VT STATE PLANE GRID

EXISTING ROW

RIPARIAN BUFFER

PAVED DRIVE

PAVED DRIVE

PAVED DRIVE

8" A.C. SEWER FLOW

HYCTRL 100

COMB 58AA 58B

ECT

SEWER MANHOLE

2 MAILBOX #41

BOUND APPARENT LOCATION STRONG SIGNAL UNDER PAVEMENT

COMB 58A 59A

PAVED DRIVE

TH-338 (OLD CHESTER RD)

COMB 7 57 230 35

SUBTERRAIN TELEPHONE

15" CGMP FLOW

8" A.C. SEWER FLOW

VT ROUTE 11 TO CHESTER

362+25

363+00

364+00

365+00

366+00

367+00

VT ROUTE 11 TO I-91

368

14'-3" X 8'-11" CGMPPA

24" CGMP FLOW

SIDEWALK

ECT

HVCTRL 104

COMB 59 37

GUY

18" RCP FLOW

MM 0110 1418 0340

HVCTRL 103

STONE FILL

HVCTRL 102

COMB 7 58 36

HVCTRL 101

GUY

GUY

ELECTRIC POLE

53+00

52+00

51+00

50+00

CHESTERFIELD BROOK FLOW

BENCHMARK
RAIL ROAD
SPIKE IN POLE
ELEV. = 495.11

RIPARIAN BUFFER

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

EXISTING ROW

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

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

FILE NAME: sl3d336exist.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
EXISTING CONDITIONS

PLOT DATE: 22-APR-2019
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 8 OF 37

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

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

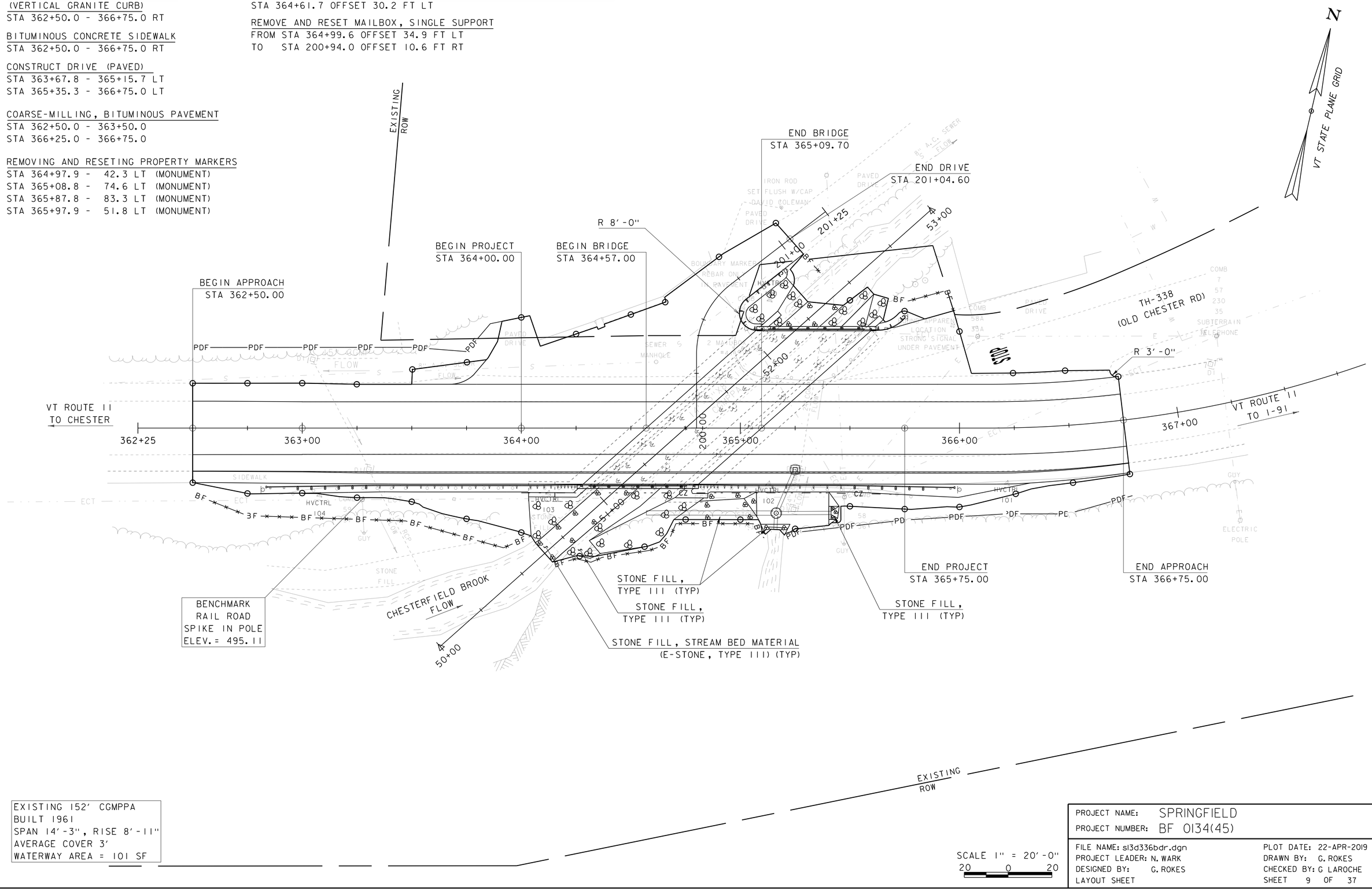
CONSTRUCT DRIVE (PAVED)
STA 363+67.8 - 365+15.7 LT
STA 365+35.3 - 366+75.0 LT

COARSE-MILLING, BITUMINOUS PAVEMENT
STA 362+50.0 - 363+50.0
STA 366+25.0 - 366+75.0

REMOVING AND RESETING PROPERTY MARKERS
STA 364+97.9 - 42.3 LT (MONUMENT)
STA 365+08.8 - 74.6 LT (MONUMENT)
STA 365+87.8 - 83.3 LT (MONUMENT)
STA 365+97.9 - 51.8 LT (MONUMENT)

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 200+94.0 OFFSET 10.6 FT RT



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

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

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

FILE NAME: sl3d336bdr.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
LAYOUT SHEET

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 9 OF 37

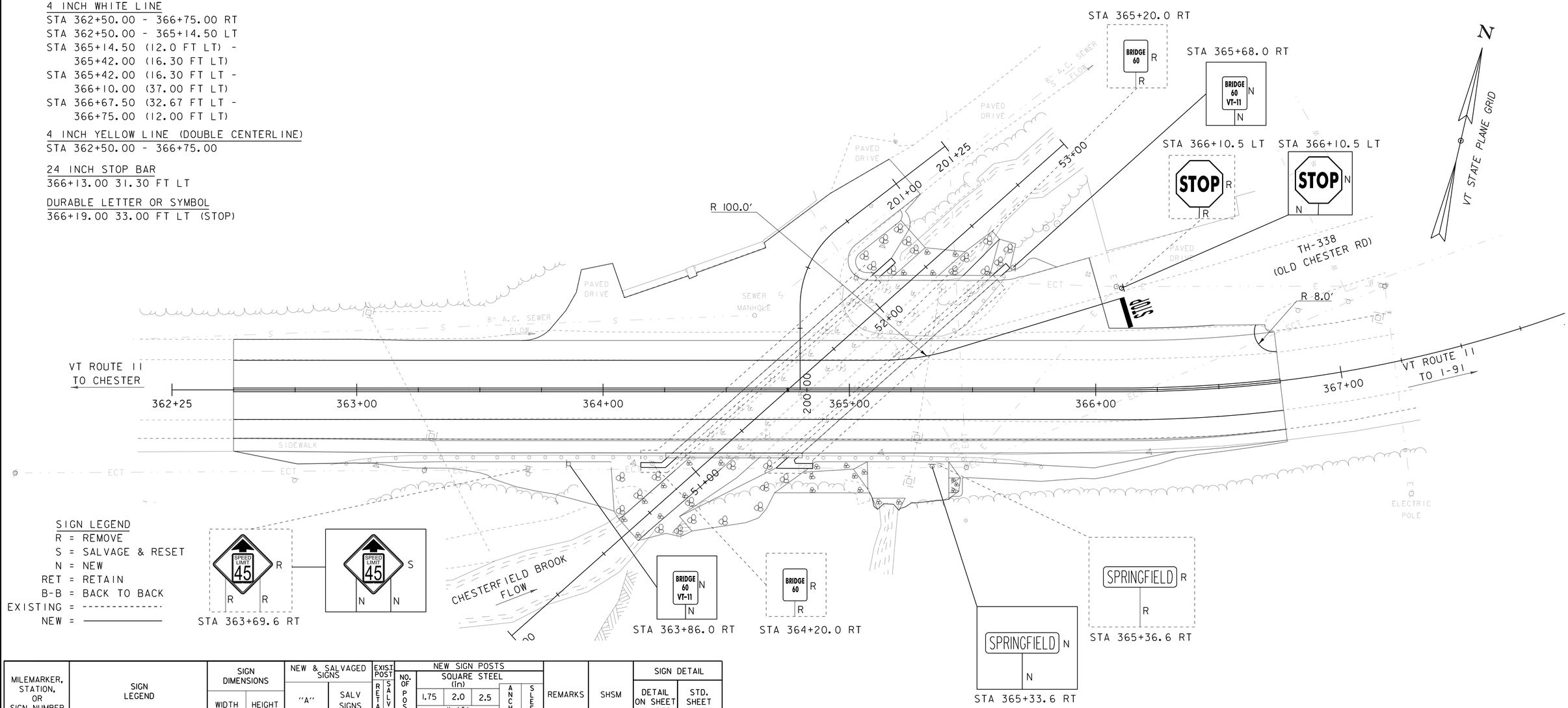
VT-11

4 INCH WHITE LINE
STA 362+50.00 - 366+75.00 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 -
366+75.00 (12.00 FT LT)

4 INCH YELLOW LINE (DOUBLE CENTERLINE)
STA 362+50.00 - 366+75.00

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 = ——————

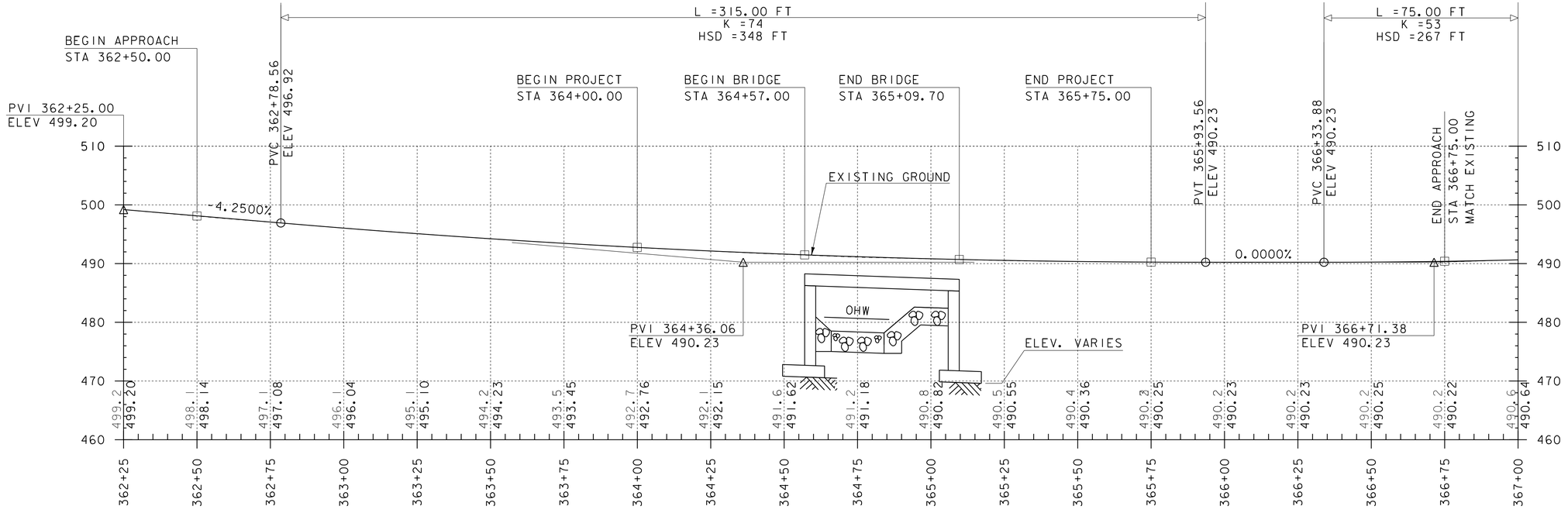
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (in)	SIGN DIMENSIONS HEIGHT (in)	NEW & SALVAGED SIGNS "A"	NEW & SALVAGED SIGNS SALV SIGNS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	REMARKS	SHSM	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
363+86.0 RT	BRIDGE 60 VT-11	6	10	0.42				1	10			X		VD-701			T-42
365+20.0 RT	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	10	2.50				1		10		X		VD-018			
366+10.5 LT	STOP	30	30	6.30				1		15		X		R1-1			
									FT 20	FT 55	FT		EA				
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."	TOTALS			SF 9.64	EACH 1				FT 75					SHSM = STANDARD HIGHWAY SIGNS (MUTCD)			

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

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

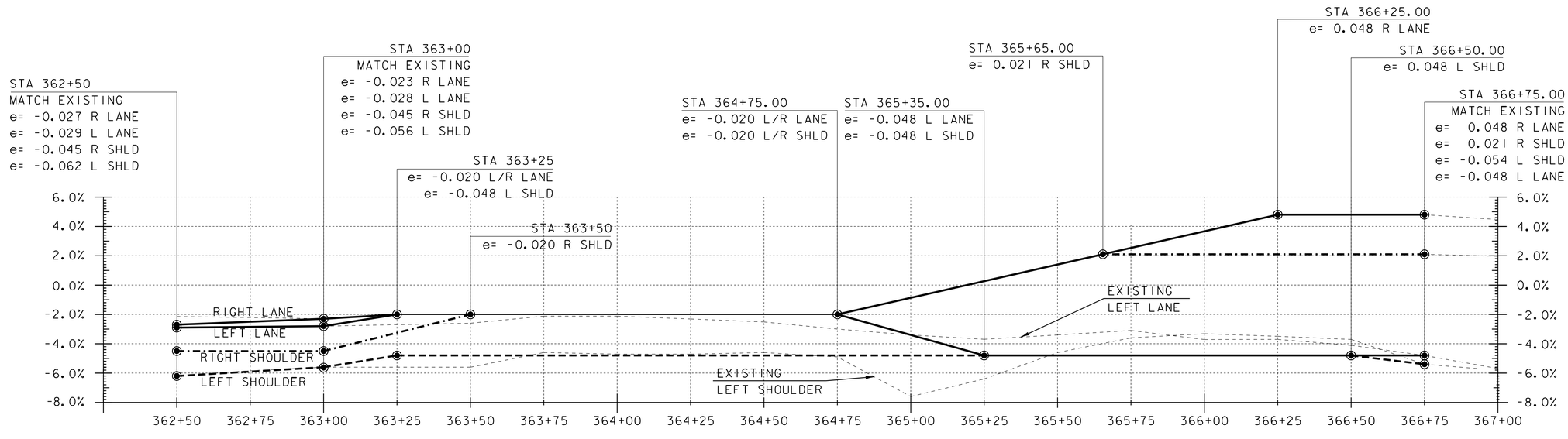
FILE NAME: sl3d336sign.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
SIGN AND PAVEMENT MARKINGS SHEET

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 10 OF 37



MAINLINE PROFILE

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



BANKING DIAGRAM

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

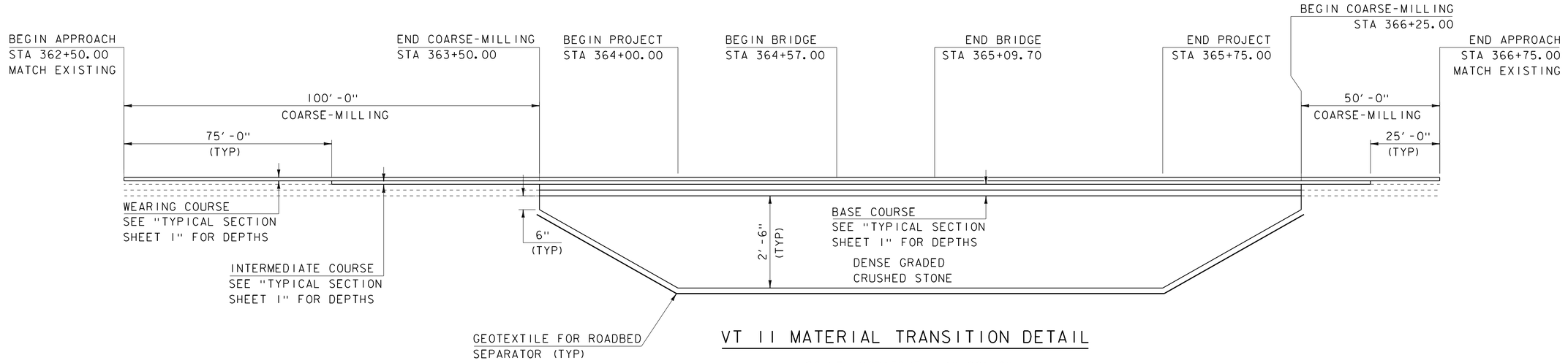
THE GRADES SHOWN TO THE TENTH ARE THE EXISTING GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

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

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

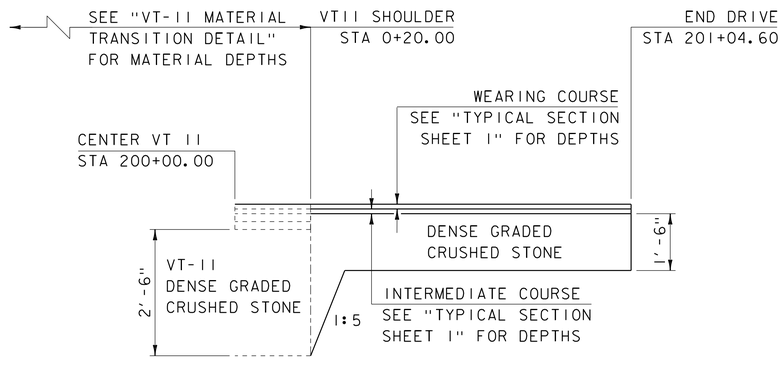
FILE NAME: sl0c216pro.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VTII PROFILE & BANKING DIAGRAM

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G DARGAN
SHEET 11 OF 37



VT II MATERIAL TRANSITION DETAIL

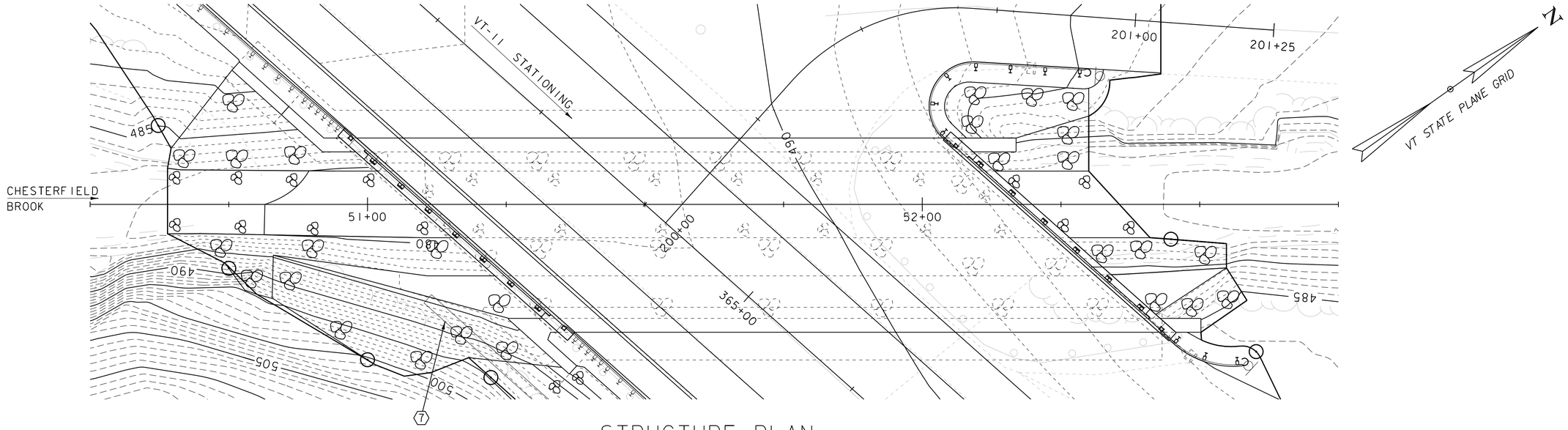
SCALE: HORIZONTAL 1"=20'-0"
VERTICAL NTS



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: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. DARGAN
MATERIAL TRANSITION	SHEET 12 OF 37

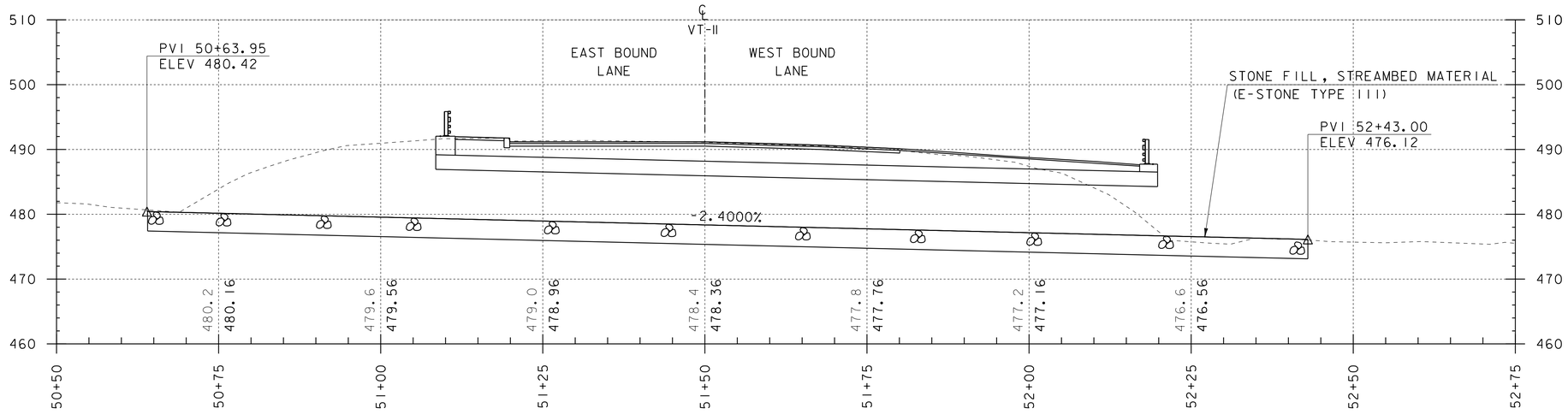


STRUCTURE PLAN

SCALE 1" = 10'-0"

NOTE:

SEE "DRAINAGE LAYOUT" SHEET FOR INFORMATION ON PIPE ⟨7⟩



STRUCTURE CHANNEL PROFILE

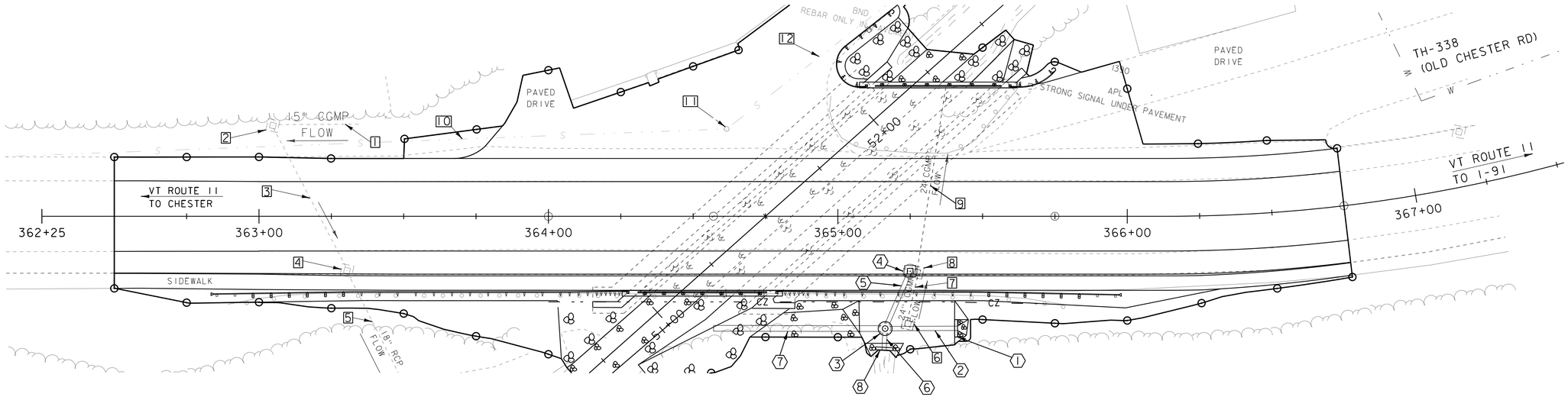
SCALE 1" = 10'-0"

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: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. DARGAN
PLAN AND STRUCTURE PROFILE	SHEET 13 OF 37



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 38.73' RT
SEE STANDARD "D-33" REINFORCED CONCRETE
STRAIGHT HEADWALL, USE TABLE FOR 18" PIPE.

⟨2⟩ NEW 18 INCH PIPE
FROM STA 365+17.87 OFFSET 38.75 RT
TO STA 365+41.36 OFFSET 38.75 RT

⟨3⟩ NEW 48 INCH DIA. PRECAST REINFORCED
CONCRETE MANHOLE WITH CAST IRON COVER
STA 365+16.36 OFFSET 38.82' 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 24 INCH PIPE
FROM STA 365+16.00 OFFSET 46.30 RT
TO STA 365+16.40 OFFSET 40.20 RT

⟨7⟩ NEW 24 INCH PIPE
FROM STA 364+45.00 OFFSET 38.82 RT
TO STA 365+15.00 OFFSET 38.82 RT

⟨8⟩ NEW HEADWALL
STA 365+16.00 OFFSET 46.30' RT
SEE STANDARD "D-33" REINFORCED CONCRETE
STRAIGHT HEADWALL, USE TABLE FOR 18" PIPE.

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.

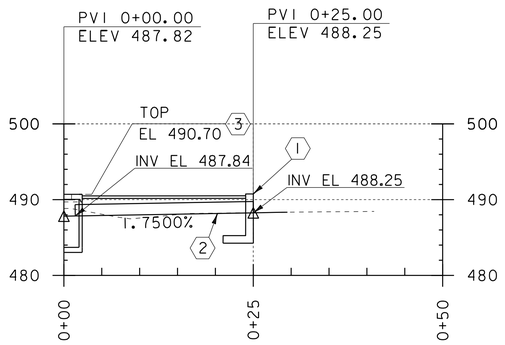
3. SEE "DRIVE AND DRAINAGE PROFILE" SHEET FOR PIPE DRAINAGE PROFILES.

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

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

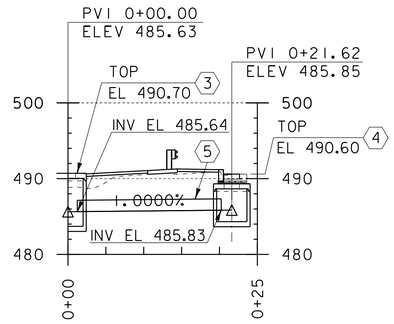
FILE NAME: sl3d336drain.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRAINAGE LAYOUT

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 14 OF 37



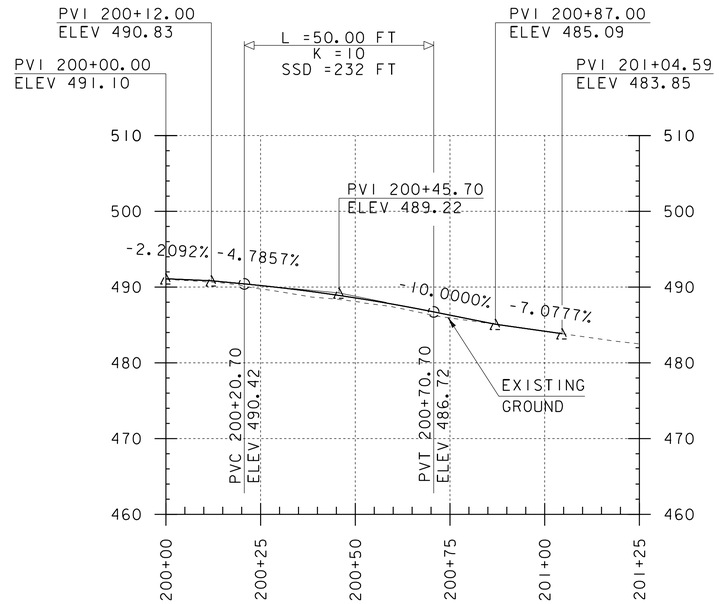
PIPE 2 PROFILE

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



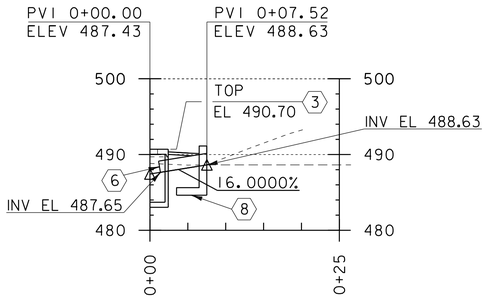
PIPE 5 PROFILE

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



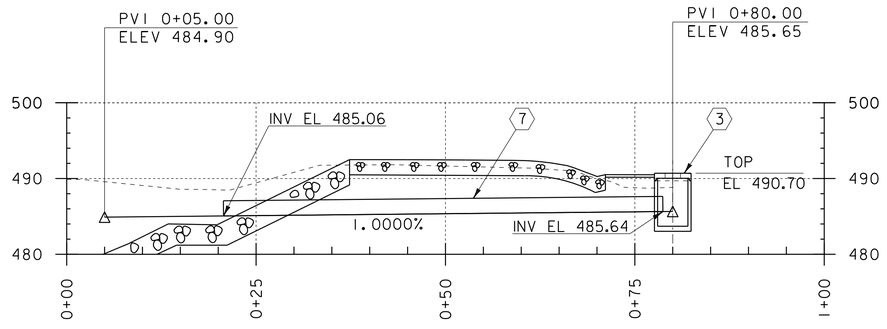
DRIVEWAY PROFILE

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



PIPE 6 PROFILE

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



PIPE 7 PROFILE

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

NOTE:

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

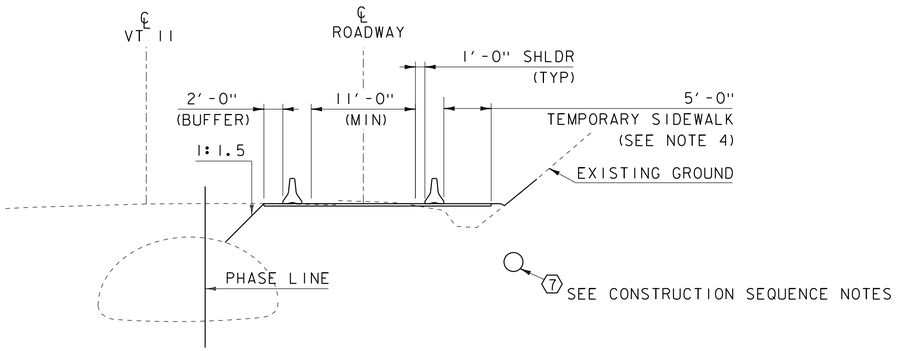
ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG PROPOSED CENTERLINE.

1. NEW REINFORCED CONCRETE STRAIGHT HEADWALL
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 24 INCH DIA PIPE (LENGTH 6'-4")
7. NEW 24 INCH DIA PIPE (LENGTH 70'-0")
8. NEW REINFORCED CONCRETE STRAIGHT HEADWALL

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

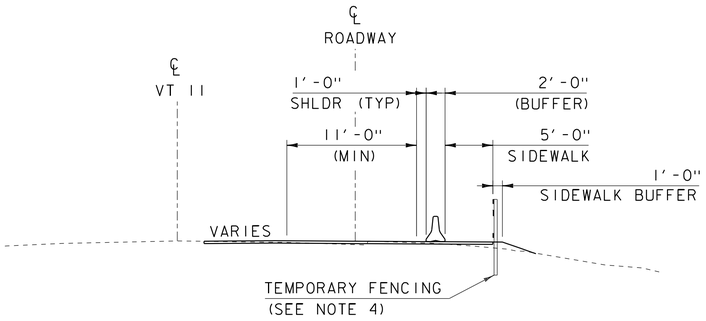
FILE NAME: sl3d336pro.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
DRIVE AND DRAINAGE PROFILE

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 15 OF 37



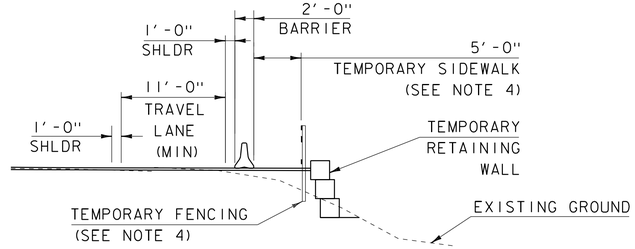
PHASE I AT STRUCTURE TYPICAL

NOT TO SCALE



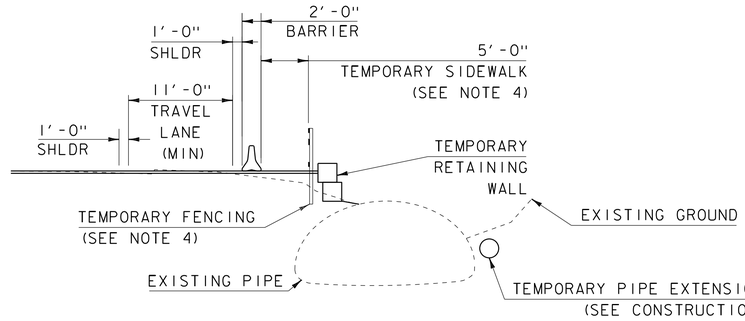
PHASE I APPROACH TYPICAL

NOT TO SCALE



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

NOTES

1. PHASE I REFLECTS ONE-WAY, ALTERNATING TRAFFIC CONTROLLED BY TEMPORARY TRAFFIC SIGNALS.

2. PHASING TYPICAL SECTIONS ARE CONCEPTUAL ONLY. THE CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN THAT IS COMPATIBLE WITH THEIR MEANS AND METHODS WHILE MEETING THE SPECIFIED DIMENSIONS HEREIN AND RETAIN THE TEMPORARY ROADWAY WITH A DESIGN OF THEIR CHOICE. PAYMENT FOR THE PHASING PLAN WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

3. PHASING TYPICAL SECTIONS ARE INTENDED TO COMMUNICATE BASIC SITE CONDITIONS THAT INCLUDE LANE WIDTHS, SHOULDER WIDTHS, FILL SLOPES, AND ANTICIPATED LOCATIONS WHERE EARTH MAY NEED TO BE RETAINED.

4. THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN FACILITIES. SEE PEDESTRIAN FACILITY DETAILS SHEET FOR ADDITONAL DETAILS AND REQUIREMENTS.

5. CONCRETE BARRIER EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC.

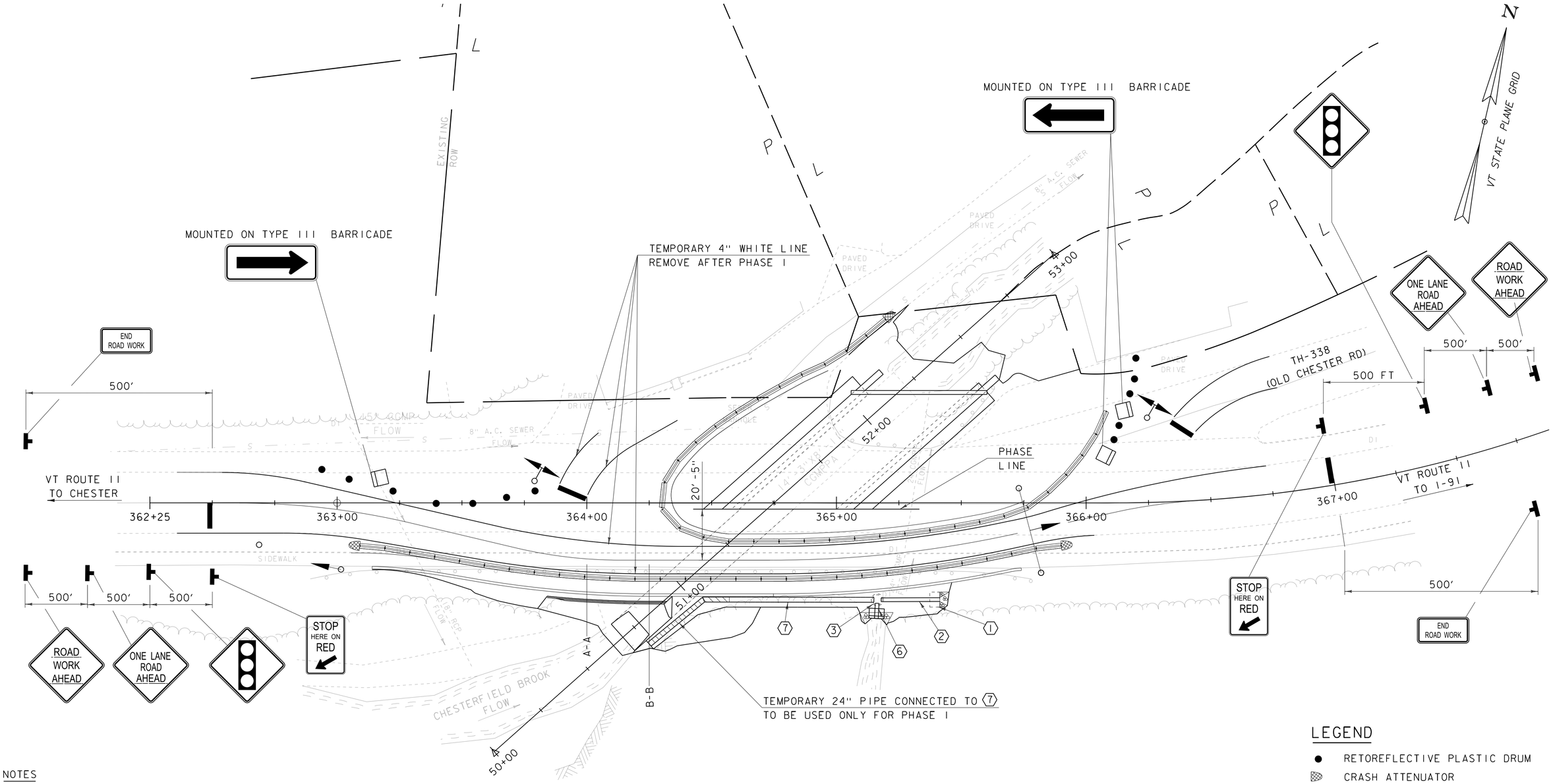
6. SEE "DRAINAGE LAYOUT" SHEET FOR ADDITIONAL DRAINAGE INFORMATION.

PHASE I CONSTRUCTION SEQUENCE NOTES

1. PLACE PROPOSED PERMANENT DRAINAGE STRUCTURES, 1, 2, 3, 6 AND TEMPORARY PIPE 7, PRIOR TO CONSTRUCTING PHASE I, AS SHOWN ON PHASE I LAYOUT SHEET.

2. PAYMENT FOR ALL WORK, MATERIALS, AND INCIDENTALS TO INSTALL, MAINTAIN, AND REMOVE TEMPORARY DRAINAGE WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(43)
FILE NAME: sl3c334phasing.dgn	PLOT DATE: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
PHASE ITYPICAL	SHEET 16 OF 37



NOTES

1. PEDESTRIAN FACILITIES SHALL BE PROVIDED FOR THIS PROJECT. SEE PEDESTRIAN FACILITY DETAILS SHEET FOR ADDITONAL DETAILS AND REQUIREMENTS.

2. THE PHASING LAYOUT, INCLUDING PEDESTRIAN ACCOMMODATIONS, ARE CONCEPTUAL ONLY. THE CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN THAT IS COMPATIBLE WITH THEIR MEANS AND METHODS WHILE MEETING THE SPECIFIED DIMENSIONS HERIN AND RETAIN THE TEMPORARY ROADWAY WITH A DESIGN OF THEIR CHOICE. THE PHASING PLAN WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

3. 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.

4. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES OR COORDINATE EMERGENCY ROUTES PRIOR TO THE START OF CONSTRUCTION.

5. SEE "PHASE I TYPICAL" FOR SECTIONS A-A AND B-B.

LEGEND

- RETOREFLECTIVE PLASTIC DRUM
- CRASH ATTENUATOR
- TYPE III BARRICADE
- TEMPORARY STOP BAR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE
- TRAFFIC SIGNAL
- DRIVEWAY ASSIST DEVICE

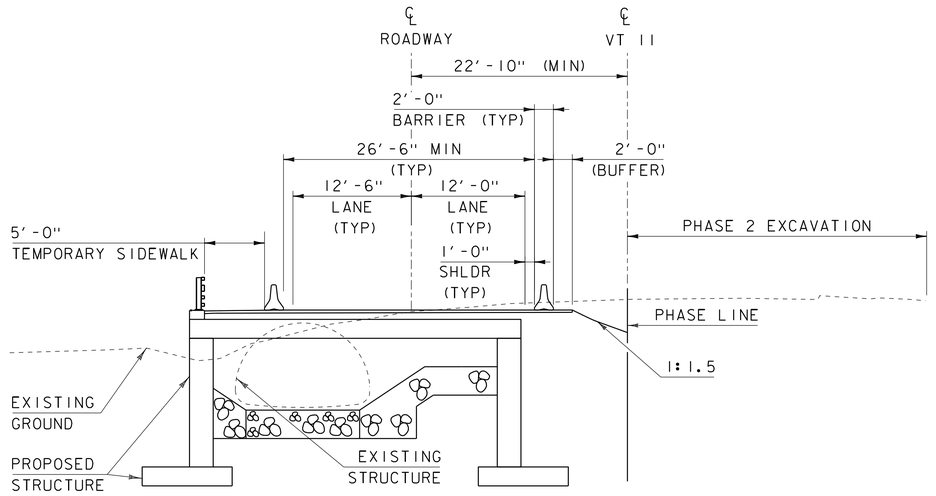
PHASE I LAYOUT

NOT TO SCALE

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

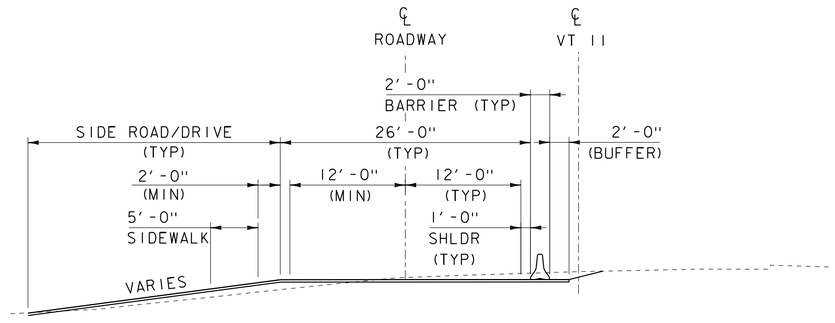
FILE NAME: sl3d336phase.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
PHASE I LAYOUT

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 17 OF 37



PHASE 2 AT STRUCTURE
TYPICAL

SCALE 1/8" = 1′-0"



PHASE 2 APPROACH TYPICAL

SCALE 1/8" = 1′-0"

NOTES

1. PHASE 2 REFLECTS TWO-WAY TRAFFIC OVER THE NEW STRUCTURE.

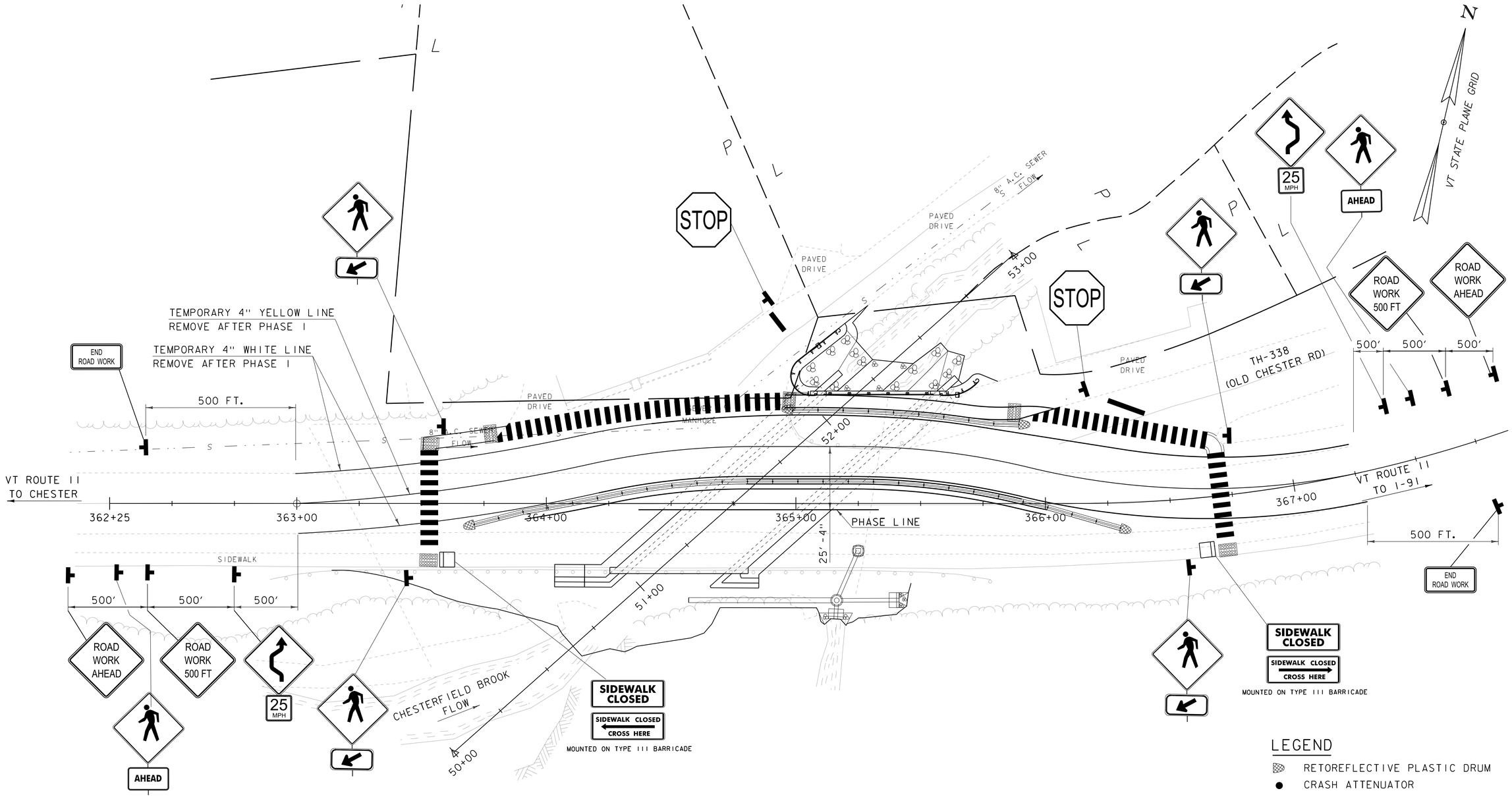
2. PHASING TYPICAL SECTIONS ARE CONCEPTUAL ONLY. THE CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN THAT IS COMPATIBLE WITH THEIR MEANS AND METHODS WHILE MEETING THE SPECIFIED DIMENSIONS HEREIN AND RETAIN THE TEMPORARY ROADWAY WITH A DESIGN OF THEIR CHOICE. PAYMENT FOR THE PHASING PLAN WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

3. PHASING TYPICAL SECTIONS ARE INTENDED TO COMMUNICATE BASIC SITE CONDITIONS THAT INCLUDE LANE WIDTHS, SHOULDER WIDTHS, FILL SLOPES, AND ANTICIPATED LOCATIONS WHERE EARTH MAY NEED TO BE RETAINED.

4. PEDESTRIAN FACILITIES SHALL BE PROVIDED FOR THIS PROJECT. SEE PEDESTRIAN FACILITY DETAILS SHEET FOR ADDITONAL DETAILS AND REQUIREMENTS.

5. CONCRETE BARRIER EXPOSED TO TRAFFIC SHALL BE DELINEATED TO MATCH THE CORRESPONDING TEMPORARY PAVEMENT MARKING. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC.

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(43)	
FILE NAME: sl3c334phasing.dgn	PLOT DATE: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G. LAROCHE
PHASE 2 TYPICAL	SHEET 18 OF 37



NOTES

1. PEDESTRIAN FACILITIES SHALL BE PROVIDED FOR THIS PROJECT. SEE PEDESTRIAN FACILITY DETAILS SHEET FOR ADDITONAL DETAILS AND REQUIREMENTS.

2. THE PHASING LAYOUT, INCLUDING PEDESTRIAN ACCOMMODATIONS, ARE CONCEPTUAL ONLY. THE CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN THAT IS COMPATIBLE WITH THEIR MEANS AND METHODS WHILE MEETING THE SPECIFIED DIMENSIONS HERIN AND RETAIN THE TEMPORARY ROADWAY WITH A DESIGN OF THEIR CHOICE. THE PHASING PLAN WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

3. 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.

4. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES OR COORDINATE EMERGENCY ROUTES PRIOR TO THE START OF CONSTRUCTION.

LEGEND

- RETOREFLECTIVE PLASTIC DRUM
- CRASH ATTENUATOR
- TYPE III BARRICADE
- TEMPORARY STOP BAR
- CONSTRUCTION SIGN
- CONCRETE BARRICADE
- TEMPORARY DETECTABLE WARNING SURFACE

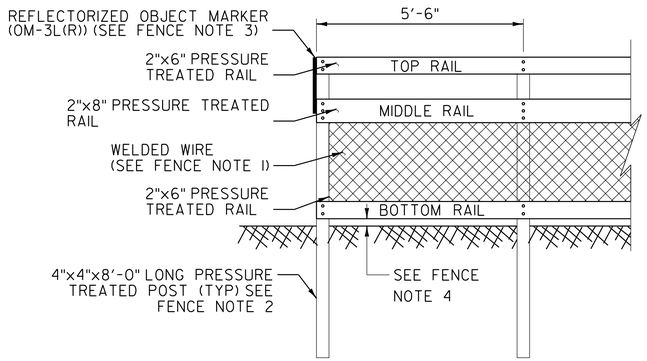
PHASE 2 LAYOUT

NOT TO SCALE

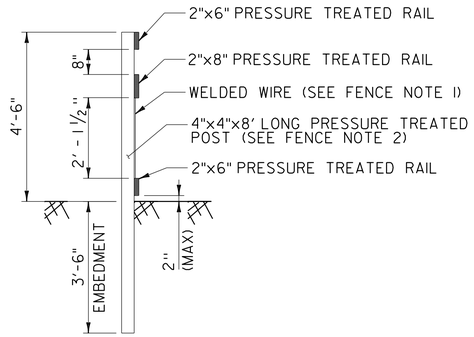
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE



TEMPORARY SIDEWALK
ELEVATION
NTS



TEMPORARY SIDEWALK
SECTION
NTS

FENCE NOTES

1. THE WELDED WIRE SHALL BE VINYL PVC COATED, 2"X4", 11 GAUGE, BLACK.

2. WOODEN POSTS AND PRESSURE TREATED BOARDS SHALL MEET THE REQUIREMENTS OF SECTION 522 FOR STRUCTURAL LUMBER AND TIMBER, TREATED.

3. REFLECTORIZED OBJECT MARKERS WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

4. THE TOP, MIDDLE, AND BOTTOM RAIL ARE TO BE SET AT THE SAME SLOPE AS THE TRAIL PROFILE GRADE AT THE EDGE OF THE TRAIL. THE BOTTOM RAIL WILL BE SET AT MAXIMUM OF 2INCHES FROM THE TRAIL SURFACE.

5. THE TOP AND BOTTOM RAILS ARE TO BE ATTACHED TO THE POSTS WITH TWO 1/2" DIA. GALVANIZED CARRIAGE BOLTS WITH A 3/4" WASHER UNDER THE NUT. THREE 1/2" DIA. GALVANIZED CARRAIGE BOLTS WITH A 3/4" WASHER UNDER THE NUT SHALL BE USED FOR CONNECTIONG THE MIDDLE RAIL TO THE POST. ALL CARRAIGE BOLTS SHALL BE ASTM A307.

6. ALL COSTS ASSOCIATED WITH FABRICATING AND INSTALLING THE APPROACH/GUARD RAIL WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

PROJECT NOTES

1. PEDESTRIAN FACILITIES SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.

2. THE CONTRACTOR SHALL DESIGN A SITE-SPECIFIC TRAFFIC CONTROL PLAN THAT INCLUDES SAFE PEDESTRIAN AND BICYCLIST ACCESS THROUGH THE WORK ZONE FOR ALL PHASES OF CONSTRUCTION. THE PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THE VERMONT BICYCLE AND PEDESTRIAN WORK ZONE TRAFFIC CONTROL GUIDE - ISSUED JULY 2018 AND THE LATEST EDITION OF THE MUTCD. PAYMENT FOR DEVELOPMENT OF THE SITE-SPECIFIC TRAFFIC CONTROL PLAN TO INCLUDE BIKE/PED FACILITIES WILL BE INCLUDED IN THE PAYMENT OF ITEM 641.11 TRAFFIC CONTROL, ALL-INCLUSIVE.

3. ALL WORK AND MATERIALS, INCLUDING RETAINING WALLS, REQUIRED TO INSTALL, RESET, REMOVE, AND MAINTAIN THE PEDESTRIAN FACILITY DURING ALL PHASES OF CONSTRUCTION WILL BE INCLUDED IN THE PAYMENT OF ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ROADWAY).

4. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR BICYCLE TRAFFIC. THE CONTRACTOR SHALL MAINTAIN A SAFE RIDING SURFACE FOR BICYCLES AND KEEP THE DESIGNATED PATH OF TRAVEL FREE OF OBSTACLES.

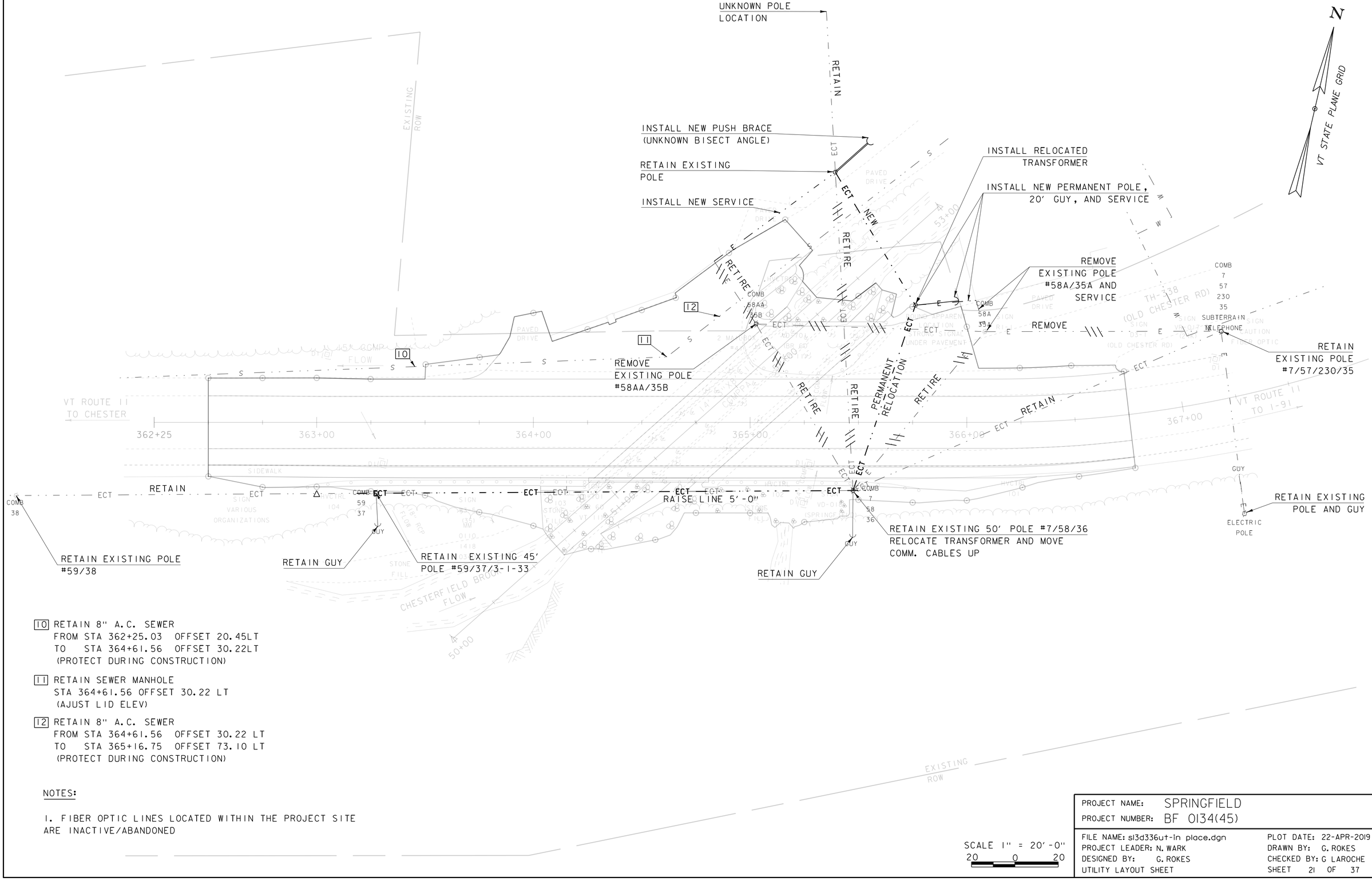
TEMPORARY SIDEWALK GRADATION REQUIREMENTS

SIEVE DESIGNATION REQUIREMENTS	PERCENTAGE BY WEIGHT PASSING SQUARE MESH SIEVES
3/8 INCH (9.50 mm)	100
No. 4 (4.75 mm)	90-100
No. 8 (2.36 mm)	55-80
No. 16 (1.18 mm)	40-70
No. 30 (0.600 mm)	25-50
No. 200 (0.75 mm)	6-15

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(43)

FILE NAME: sl3c334phasing.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. LAROCHE
PEDESTRIAN FACILITY DETAILS

PLOT DATE: 22-APR-2019
DRAWN BY: G. LAROCHE
CHECKED BY: G. DARGAN
SHEET 20 OF 37



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)

NOTES:

1. FIBER OPTIC LINES LOCATED WITHIN THE PROJECT SITE ARE INACTIVE/ABANDONED

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

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BF 0134(45)	
FILE NAME: sl3d336ut-in place.dgn	PLOT DATE: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
UTILITY LAYOUT SHEET	SHEET 21 OF 37

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.

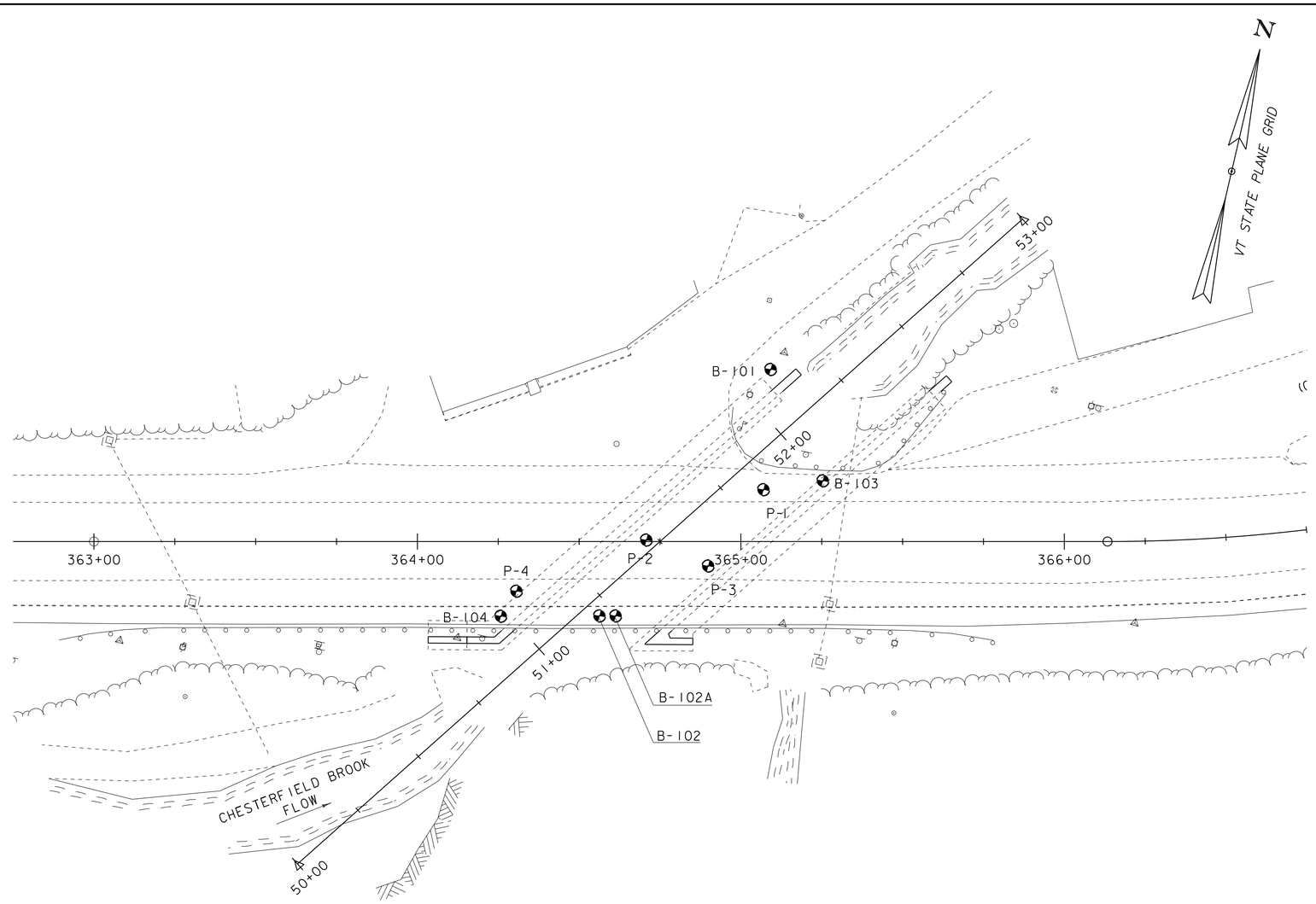
MUCK - Soft organic soil (containing > 10% organic material.

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: sl3d336bdr.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
BORING INFORMATION SHEET

PLOT DATE: 22-APR-2019
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 SK<<SUB>>3<<SUB>> = 1.42	

Groundwater Observations

Date	Depth (ft)	Notes
07/29/16	8.6	W.T. before drilling

TOP OF FOOTING # 1 EL = 470.9

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				4-9-R@2.5" (R)	11.7	48.1	36.7	15.2
		A-1-b, SaGr, brn, MTW, Rec. = 1.0 ft								
20		Field Note:, NXDC, Cleaned out casing				R@1" (R)	8.8	29.2	36.3	34.5
		A-2-4, GrSiSa, brn-gry, Moist, Rec. = 0.1 ft, Lab Note: Broken rock was within sample								
		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 SK<<SUB>>3<<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 LOG SHEET 1

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 23 OF 37

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								
15		13.0 ft - 14.3 ft, White, Biotite-muscovite-quartz-plagioclase-hornblend GNEISS, Brown and orange staining along joints. Hard, Slightly weathered, NX 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	1 (70)	76 (32)	2 3 4 7 6	Top of Bedrock @ 13.0 ft				
20		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					
		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 #2 EL = 481.2
TOP OF FOOTING #1 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								
5		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
		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				3-1-2-1 (3)	17.6	15.8	60.9	23.3
		Field Note:, Rollercone, cleaned out casing								
		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
15		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
		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"				
20		A-4, SiSa, gry-brn, Moist, Rec. = 1.5 ft				8-16-27-R@5" (43)	18.5	2.1	51.5	46.4
25		Field Note:, NXDC, cleaned out casing								
		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
30		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				
35		Hole stopped @ 36.5 ft								
40		Remarks: Hole collapsed at 8.7 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 = 471.2
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 LOG SHEET 2

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 24 OF 37

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.

TOP OF FOOTING # 1 EL = 479.2

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 LOG SHEET 3

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 25 OF 37

MANUFACTURED TERMINAL SECTION, TANGENT
STA 362+82.3 - 363+32.3 RT
STA 365+49.1 - 365+99.1 RT

HEAVY DUTY STEEL BEAM GUARDRAIL, GALVANIZED

VT-11
STA 363+32.3 - STA 364+07.3 RT
STA 364+99.1 - STA 365+49.1 RT
STA 365+61.3 - STA 365+73.4 LT

DRIVE
STA 200+61.0 - STA 200+89.9 RT

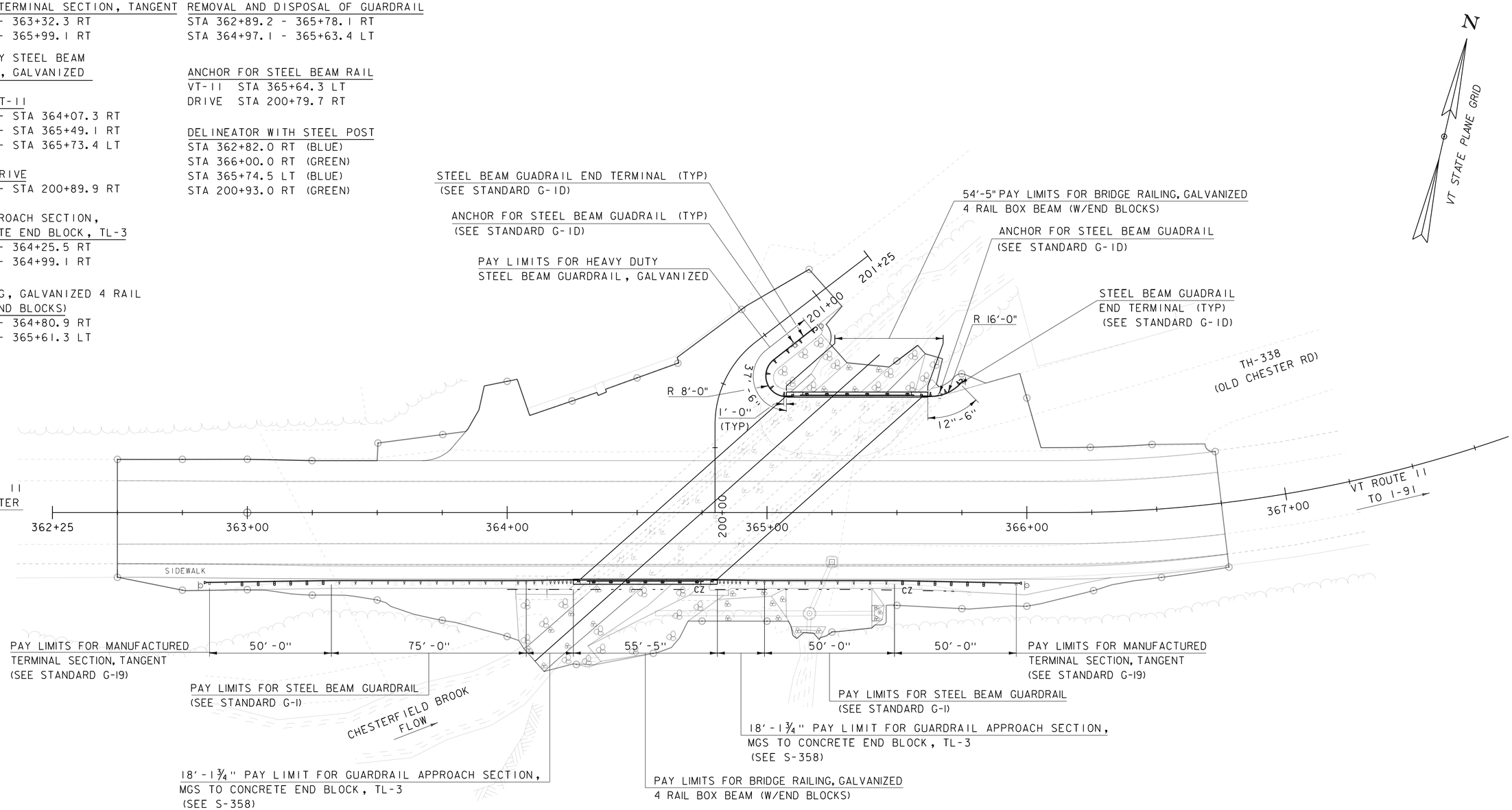
GUARDRAIL APPROACH SECTION, MGS TO CONCRETE END BLOCK, TL-3
STA 364+07.3 - 364+25.5 RT
STA 364+80.9 - 364+99.1 RT

BRIDGE RAILING, GALVANIZED 4 RAIL BOX BEAM (W/END BLOCKS)
STA 364+25.5 - 364+80.9 RT
STA 365+06.9 - 365+61.3 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
VT-11 STA 365+64.3 LT
DRIVE STA 200+79.7 RT

DELINEATOR WITH STEEL POST
STA 362+82.0 RT (BLUE)
STA 366+00.0 RT (GREEN)
STA 365+74.5 LT (BLUE)
STA 200+93.0 RT (GREEN)

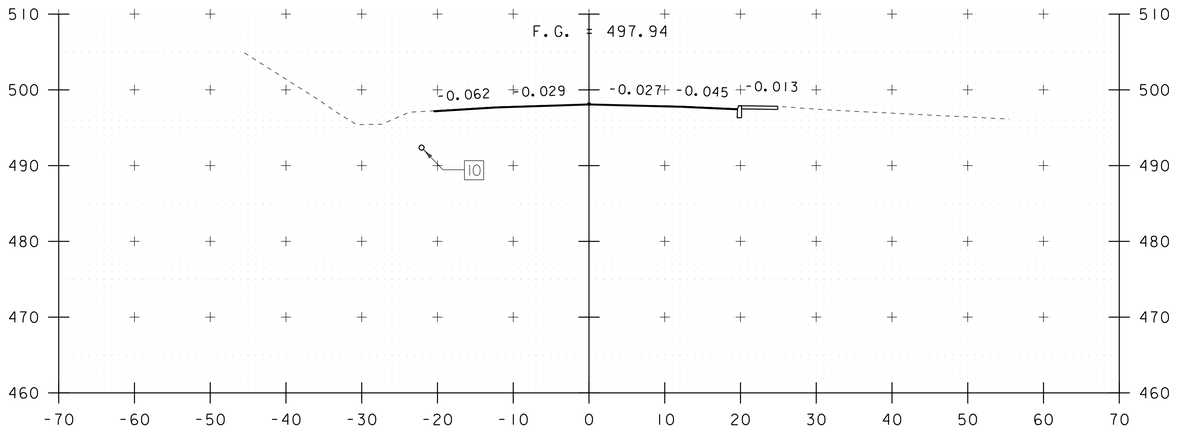


SCALE 1" = 20'-0"
20 0 20

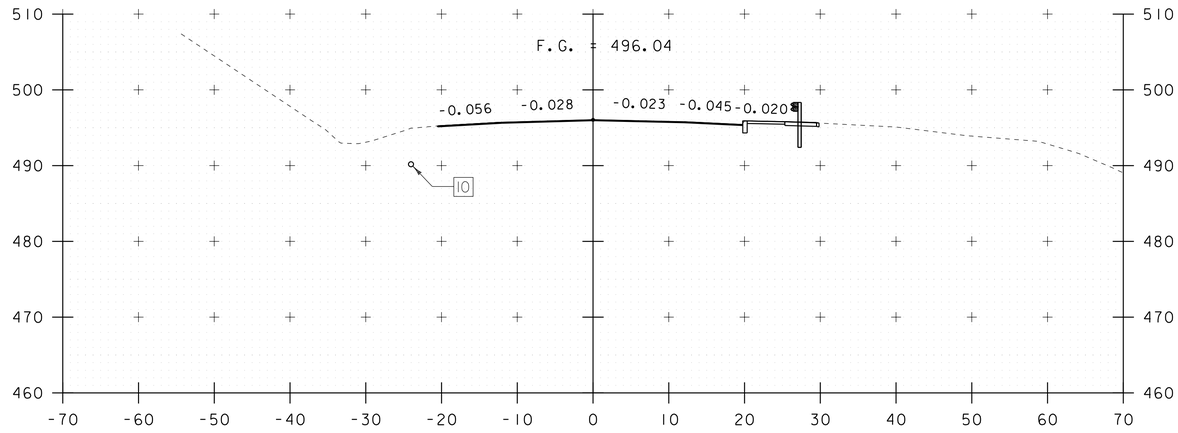
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

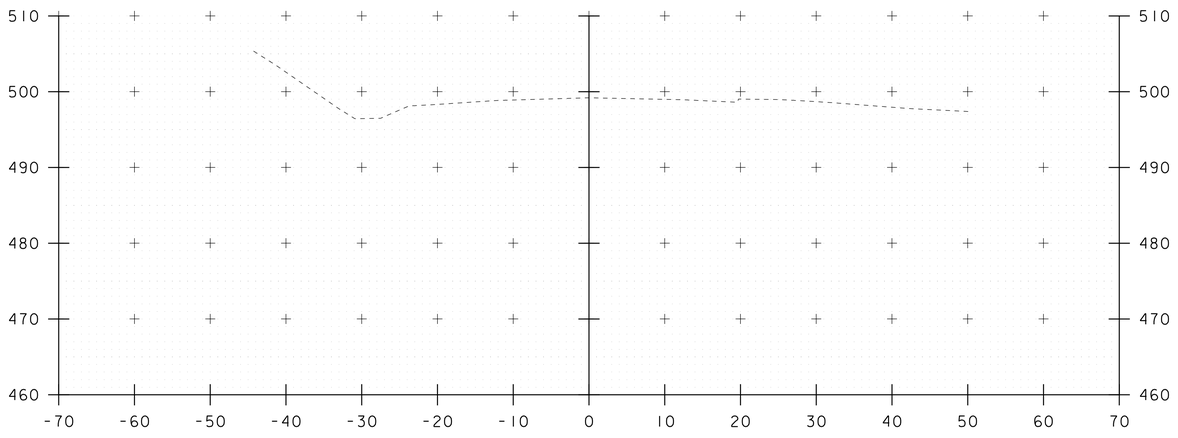
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G. LAROCHE
SHEET 26 OF 37



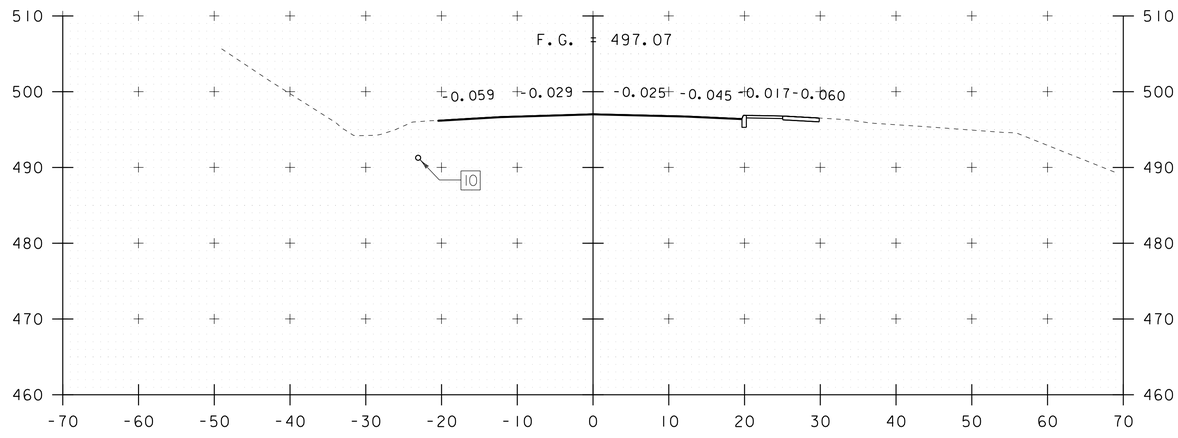
362+50
BEGIN APPROACH



363+00



362+25

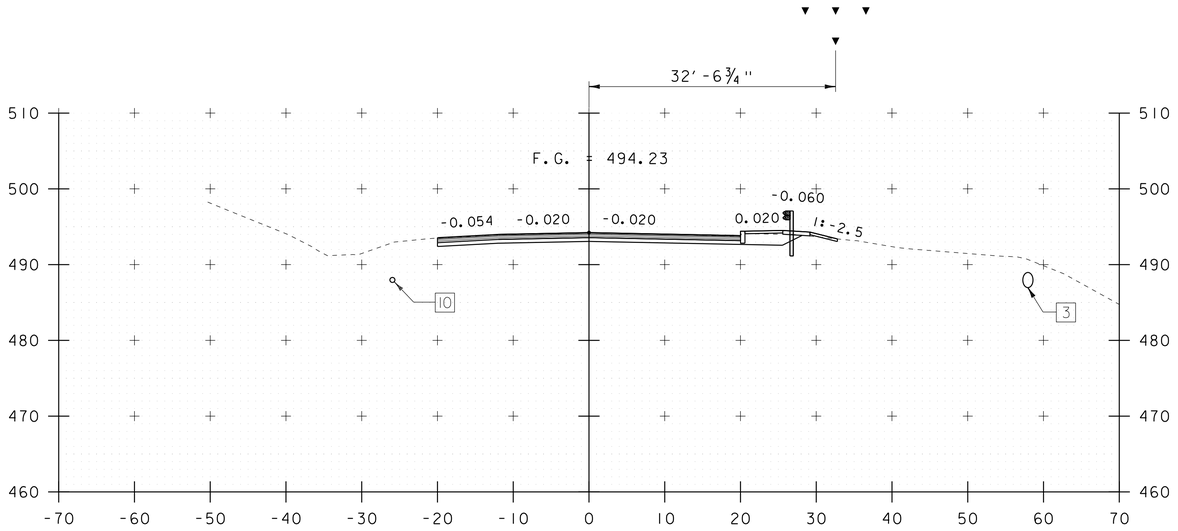


362+75

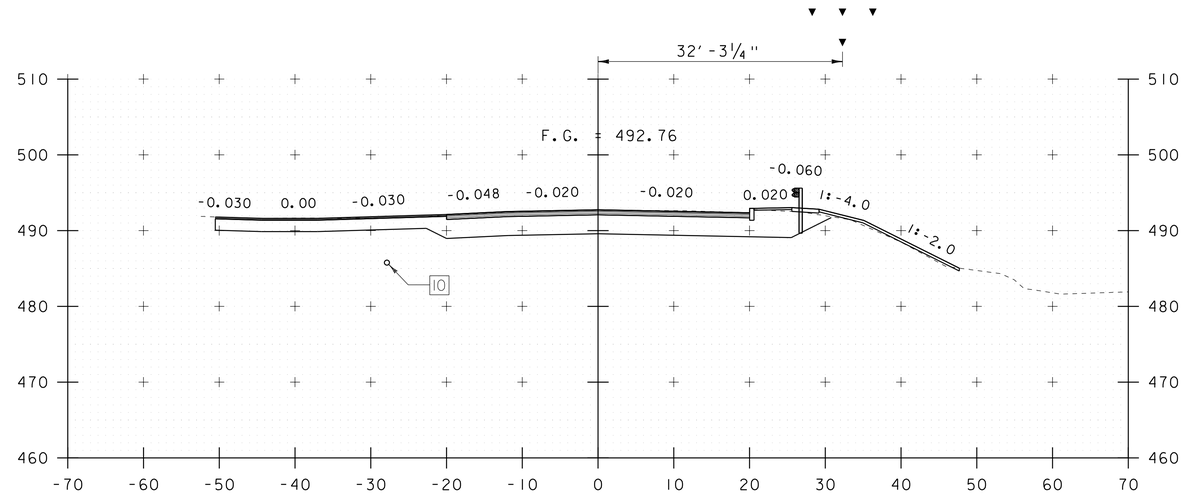
10 8" SEWER PIPE (RETAIN)

STA. 362+25 TO STA. 363+00

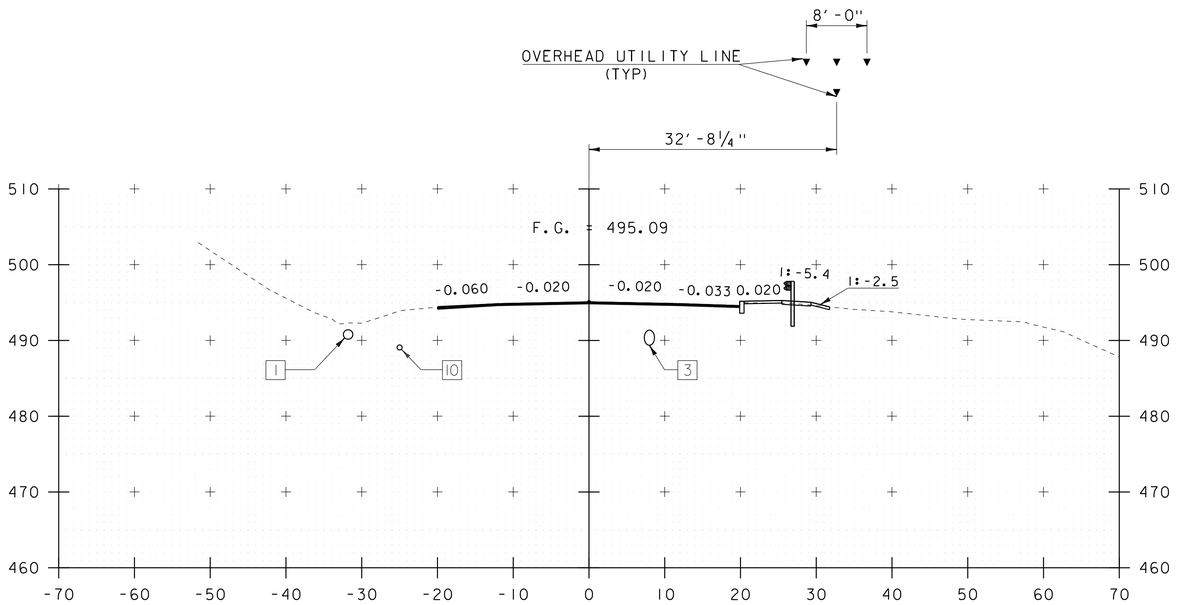
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
VTII CROSS SECTIONS I	SHEET 27 OF 37



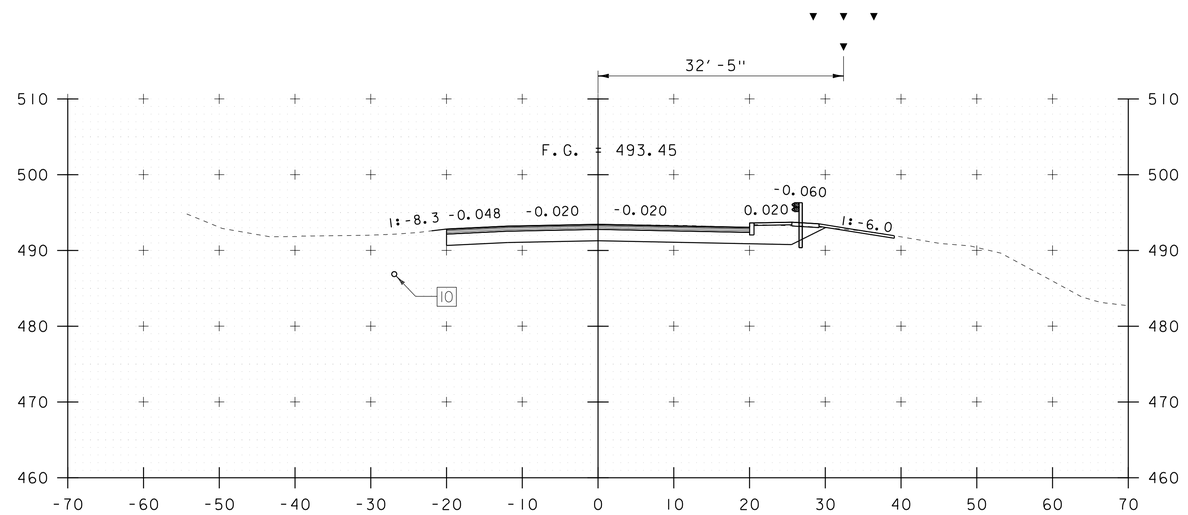
363+50



364+00
BEGIN PROJECT



363+25



363+75

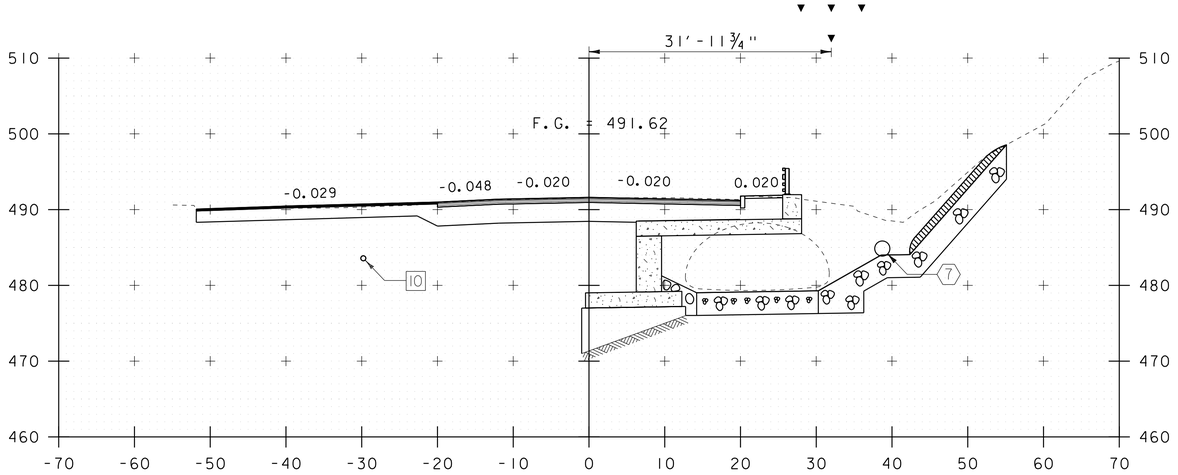
1 15″ CGMP (RETAIN)
3 18″ CGMP (RETAIN)
10 8″ SEWER PIPE (RETAIN)

STA. 363+25 TO STA. 364+00

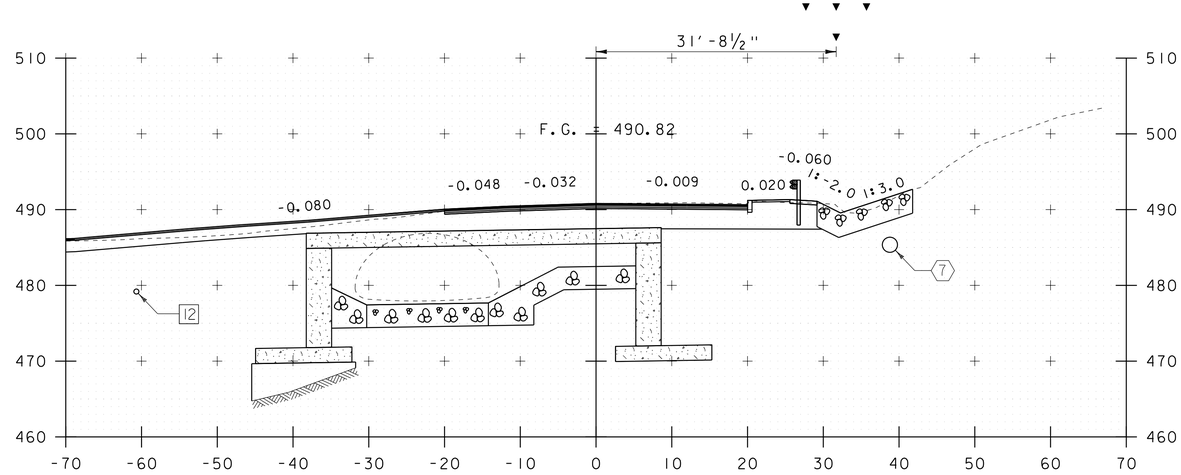
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

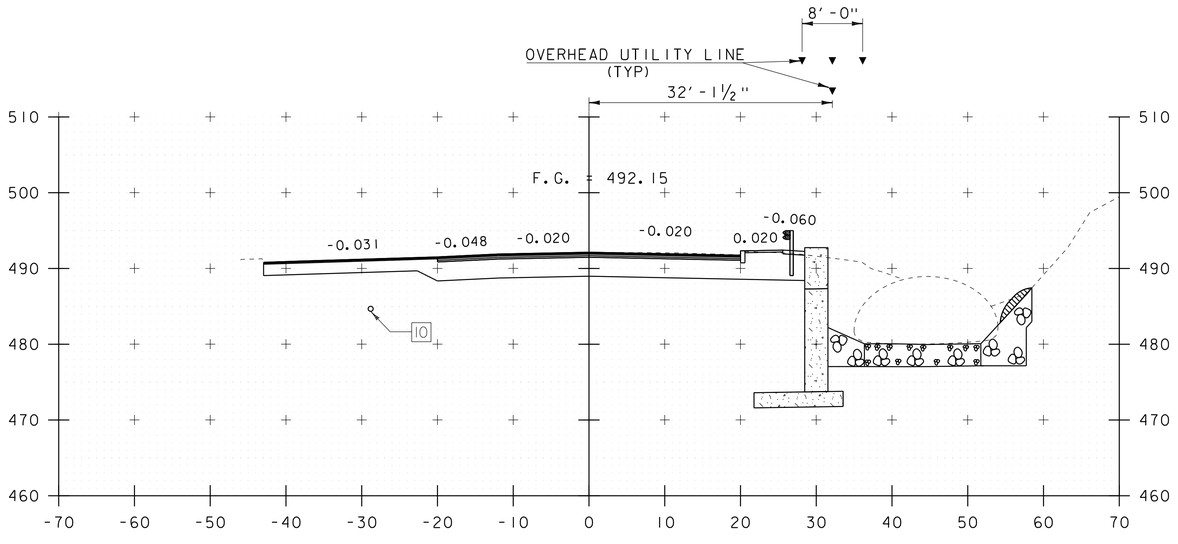
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 28 OF 37



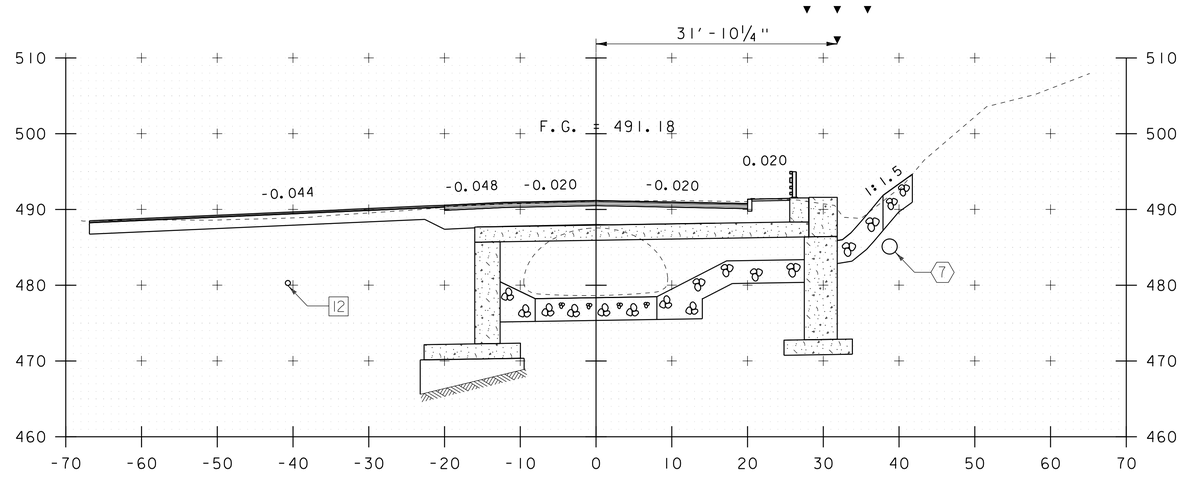
364+50



365+00



364+25



364+75

10 8" SEWER PIPE (RETAIN)

12 8" SEWER PIPE (RETAIN)

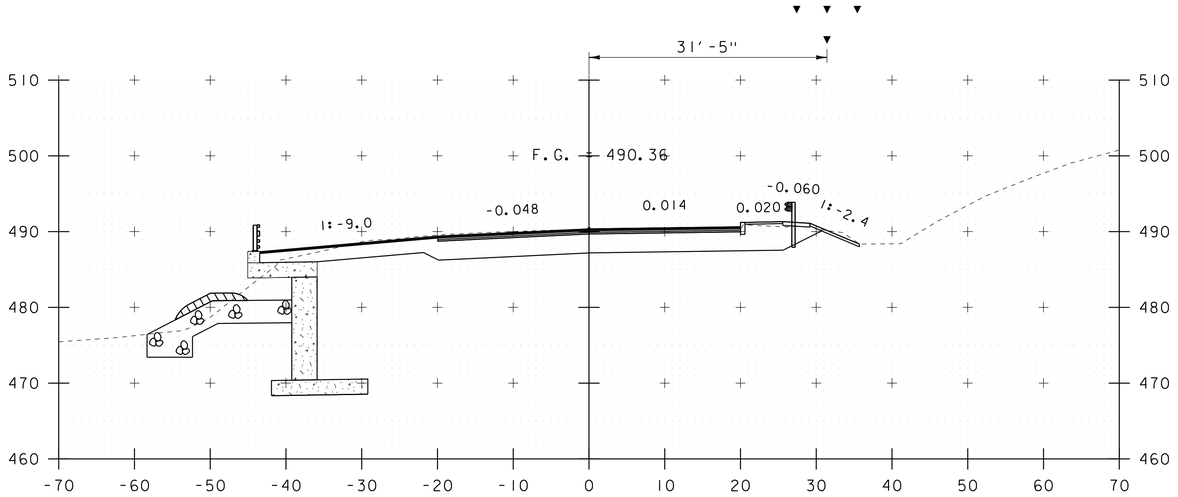
7 24" PIPE (NEW)

STA. 364+25 TO STA. 365+00

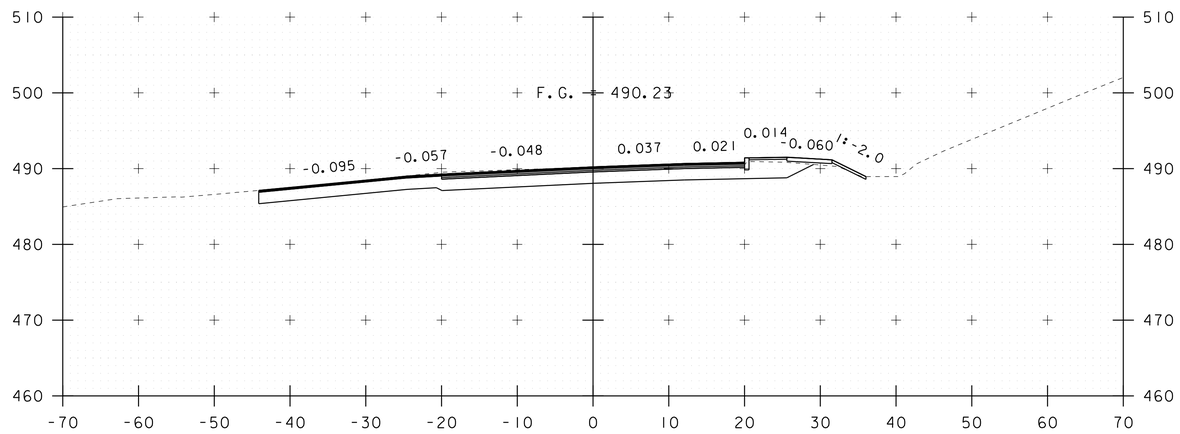
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

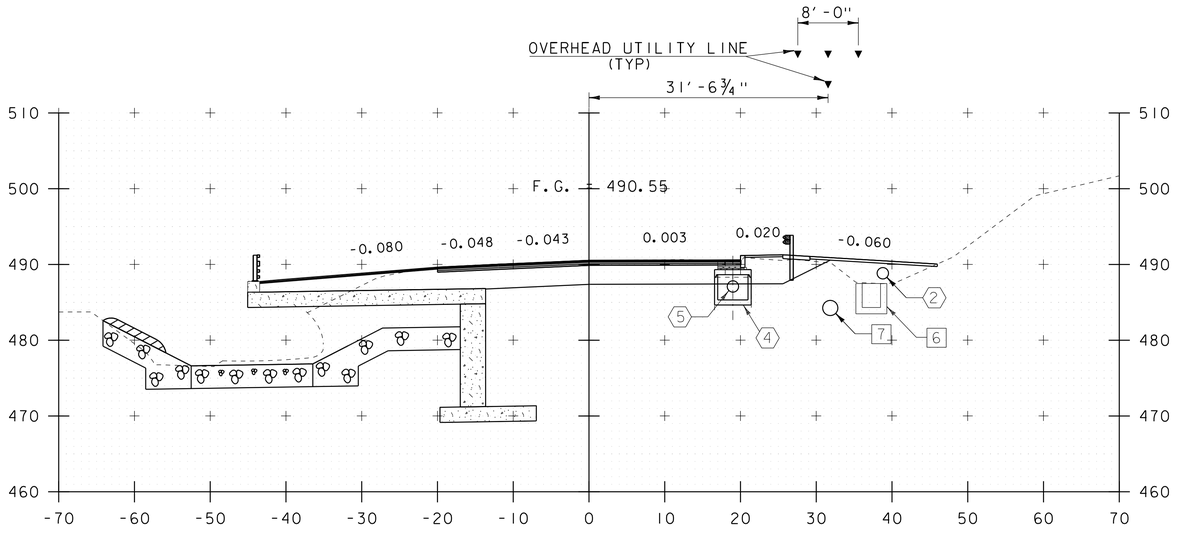
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 29 OF 37



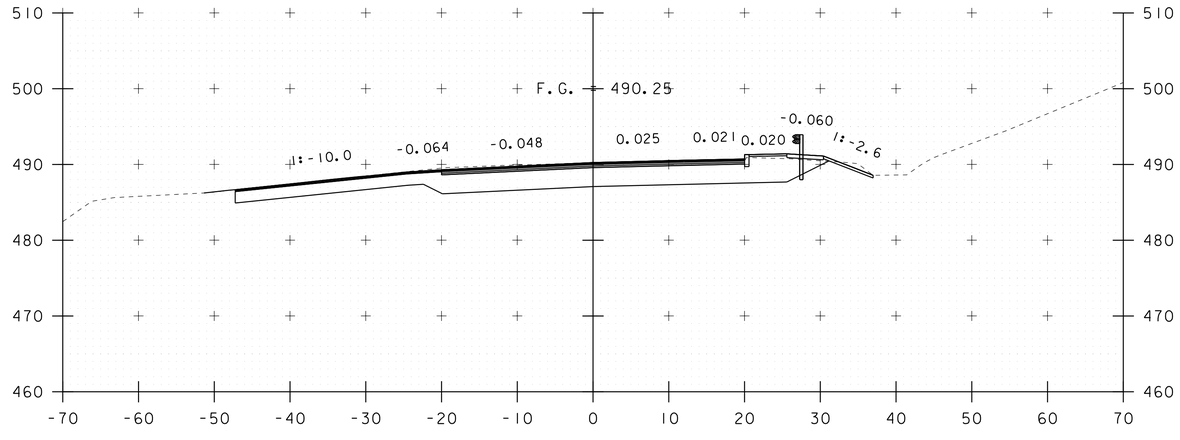
365+50



366+00



365+25



365+75
END PROJECT

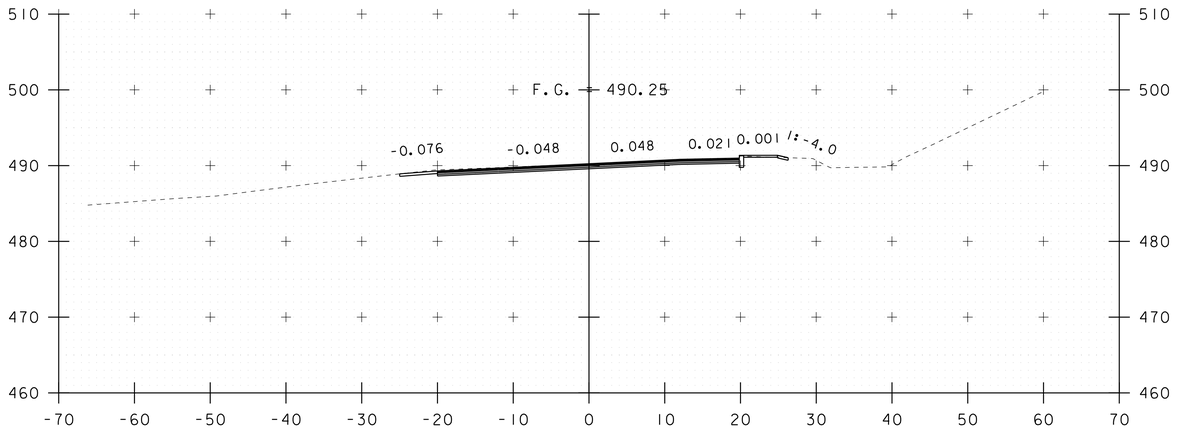
2 18" PIPE (NEW)
4 CATCH BASIN (NEW)
5 18" PIPE (NEW)
6 EXISTING DROP INLET (REMOVE)
7 18" PIPE (REMOVE)

STA. 365+25 TO STA. 366+00

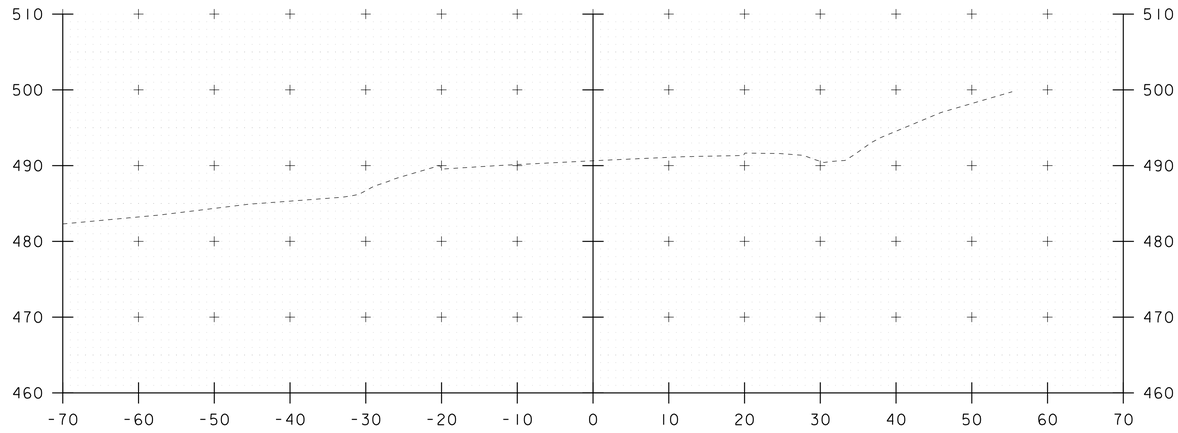
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

FILE NAME: sl3d336xs.dgn
PROJECT LEADER: N. WARK
DESIGNED BY: G. ROKES
VTII CROSS SECTIONS 4

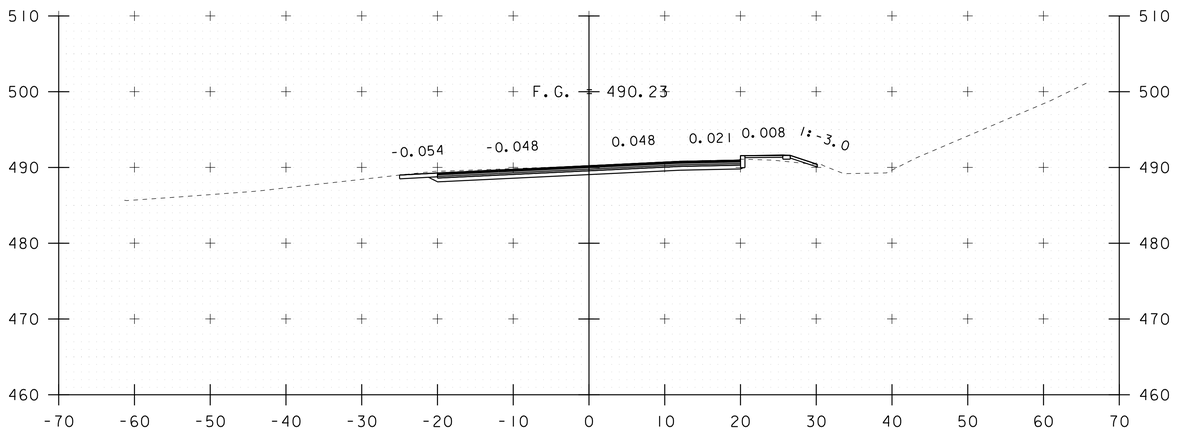
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 30 OF 37



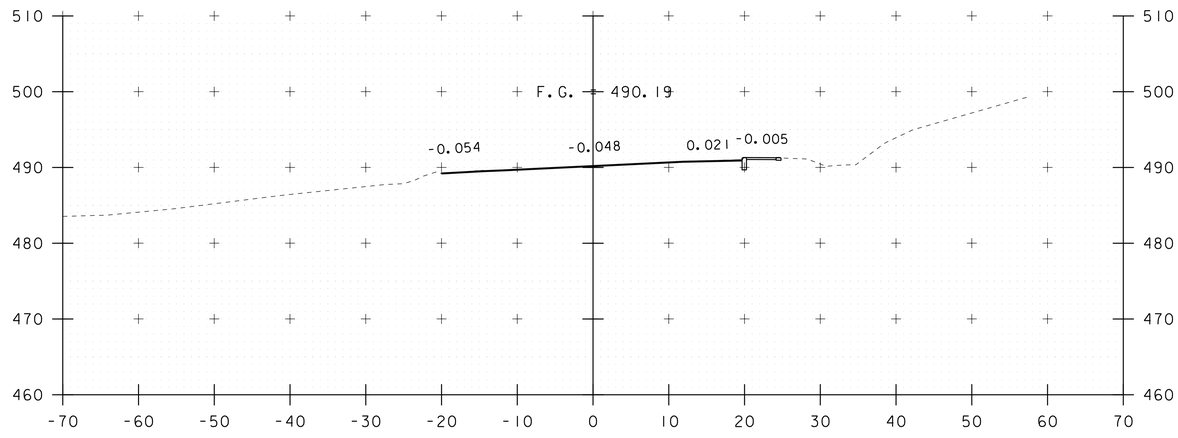
366+50



367+00



366+25



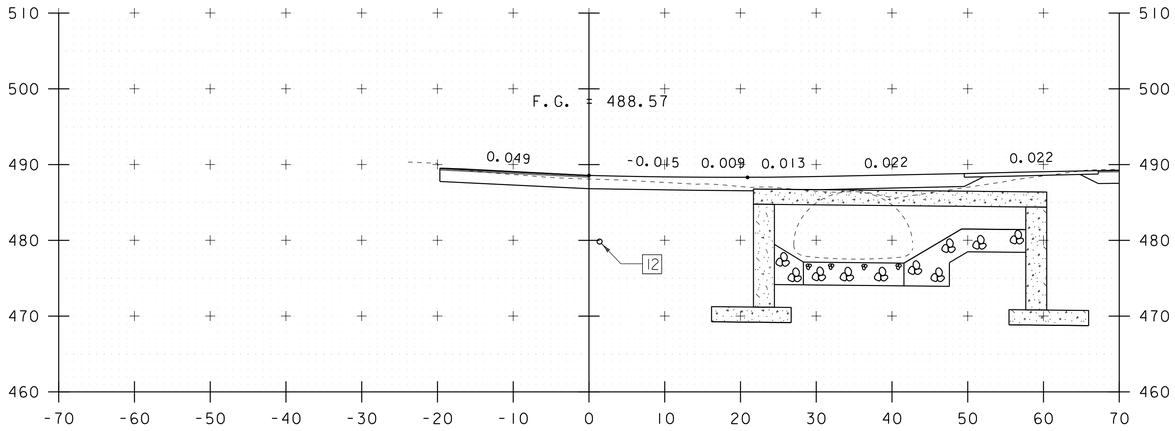
366+75
END APPROACH

STA. 366+25 TO STA. 367+00

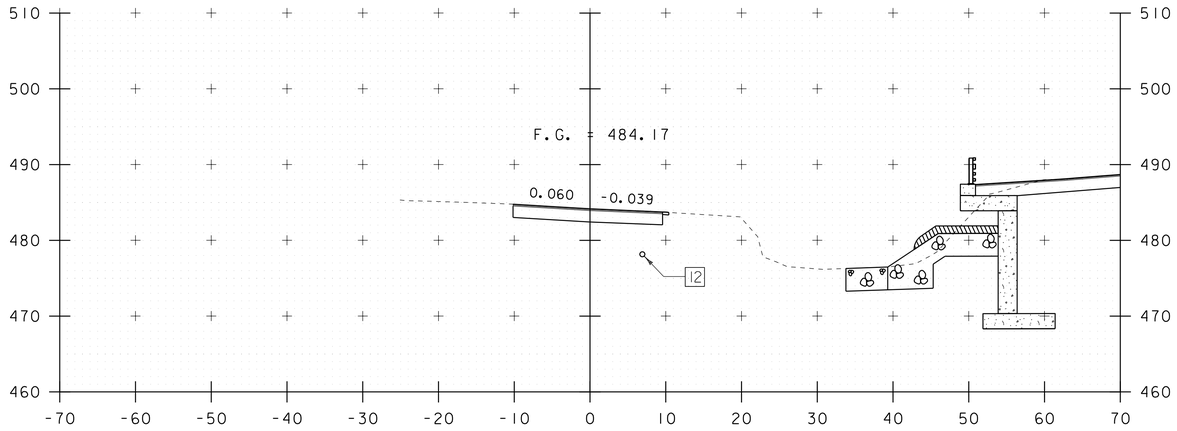
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

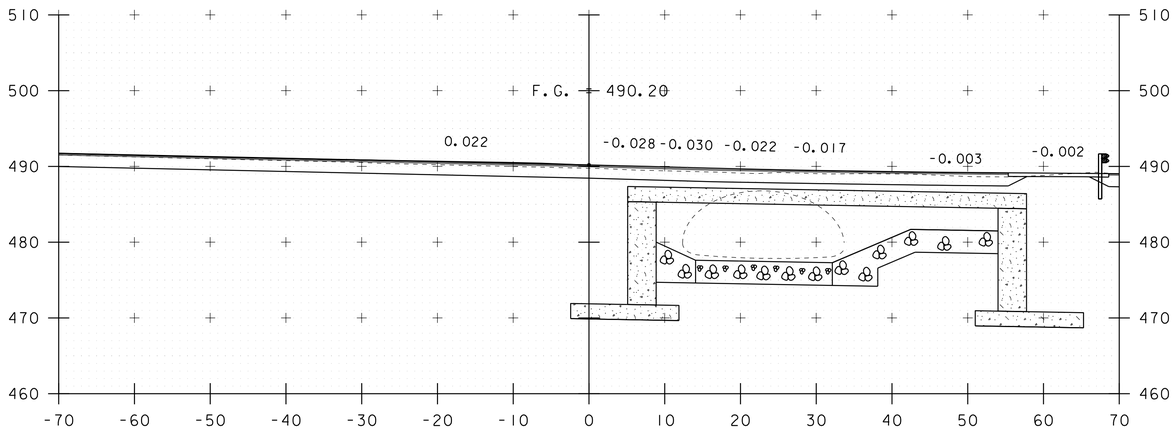
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 31 OF 37



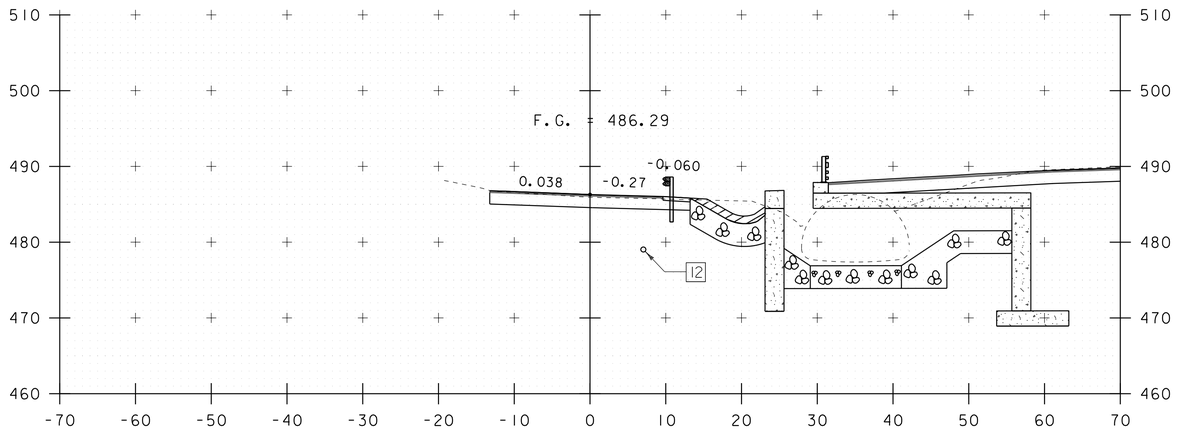
200+50



201+00



200+25



200+75

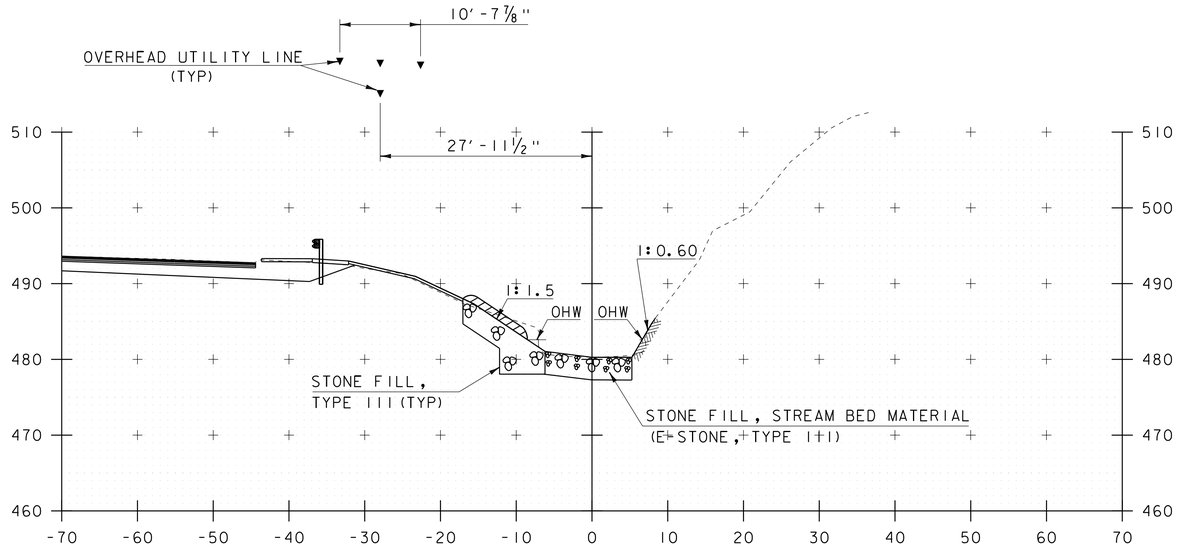
12 8" SEWER PIPE (RETAIN)

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 CROSS SECTIONS

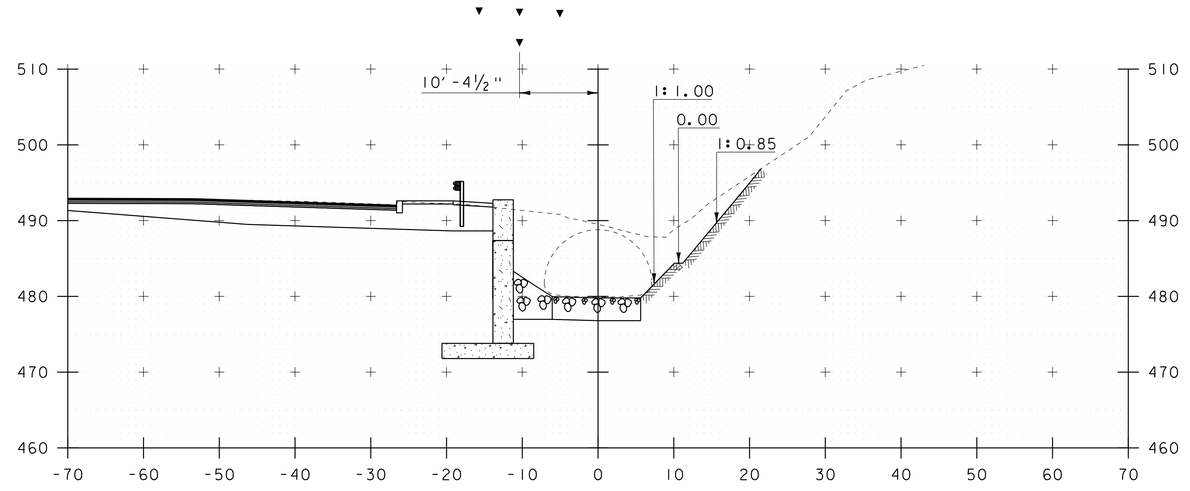
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 32 OF 37



STA 50+64.00 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)
BEGIN STONE FILL, TYPE III
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

50+70

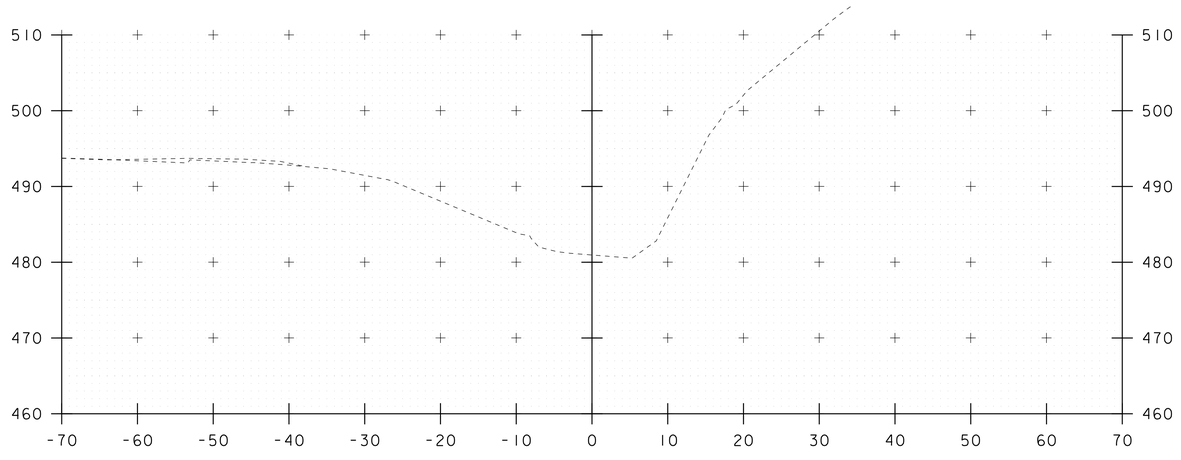
STA 50+64.00 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE III)
BEGIN STONE FILL, TYPE III
BEGIN GEOTEXTILE UNDER STONE FILL



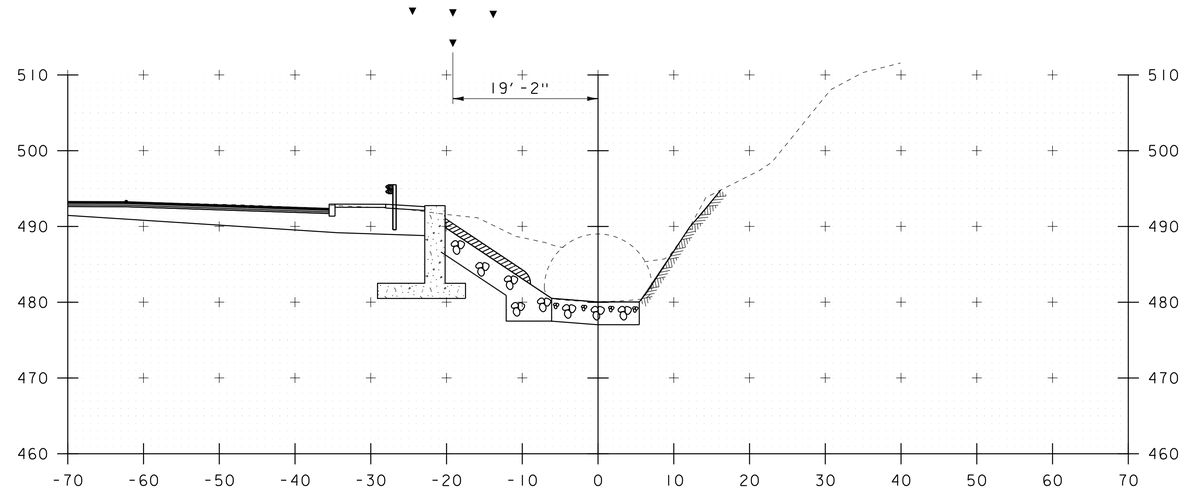
STA 50+90.00 LT
END GRUBBING MATERIAL

50+90

STA 50+82.80 RT
END GRUBBING MATERIAL



50+60



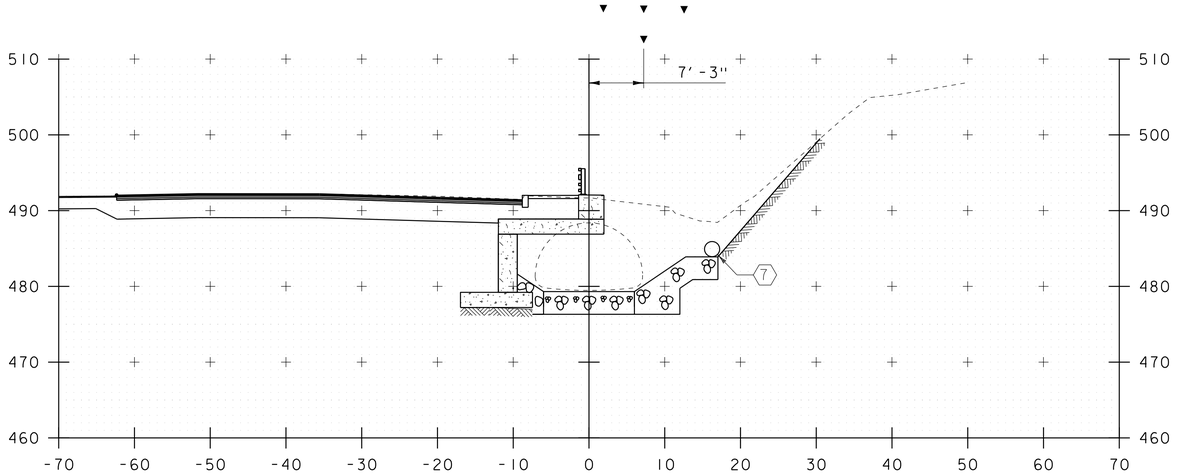
50+80

STA. 50+60 TO STA. 50+90

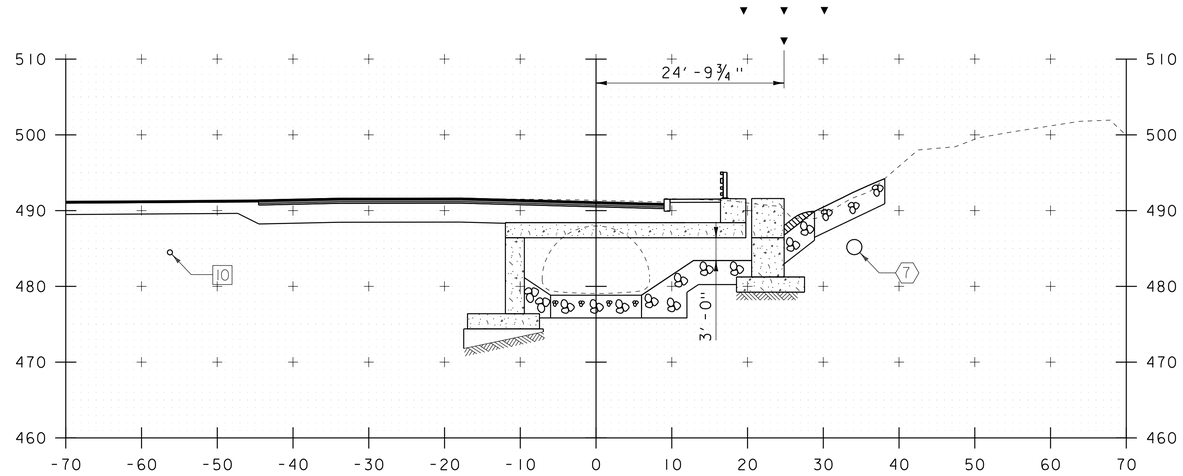
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 33 OF 37

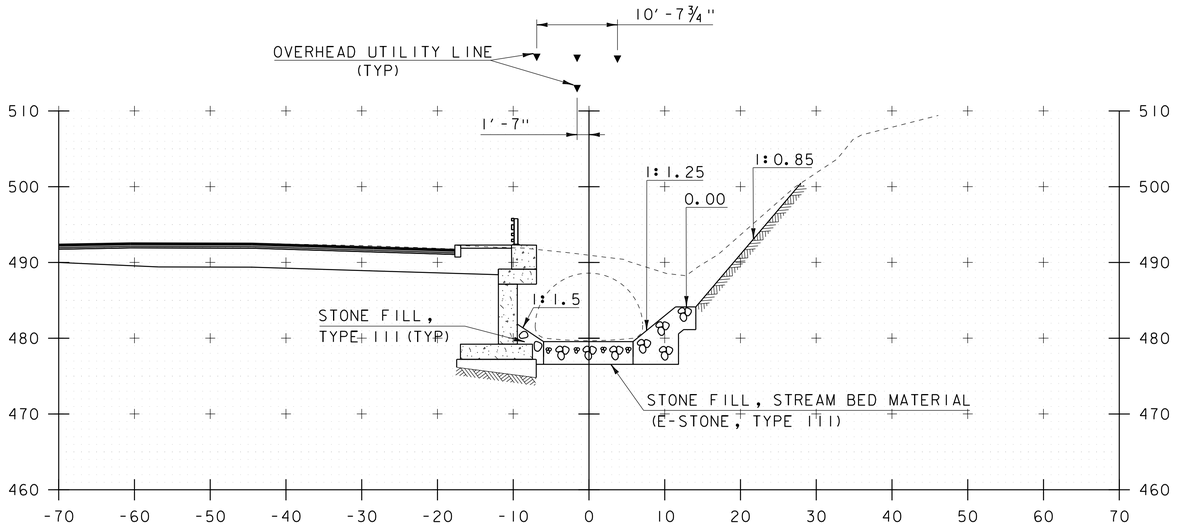


51+10



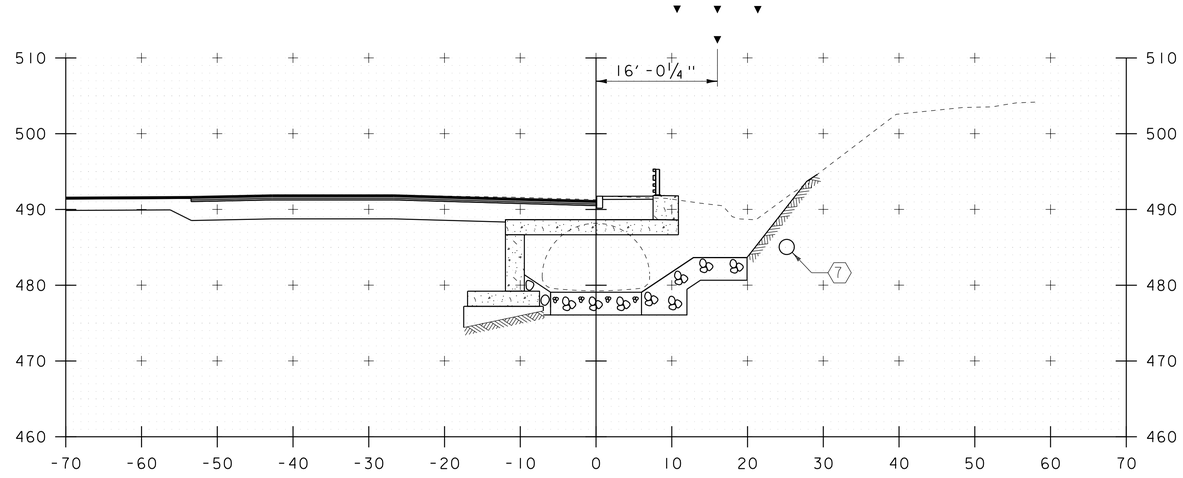
51+30

STA 51+35.00 RT
END GRUBBING MATERIAL



STA 50+94.06 LT
END STONE FILL, TYPE III
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL

51+00



51+20

10 8" SEWER PIPE (RETAIN)

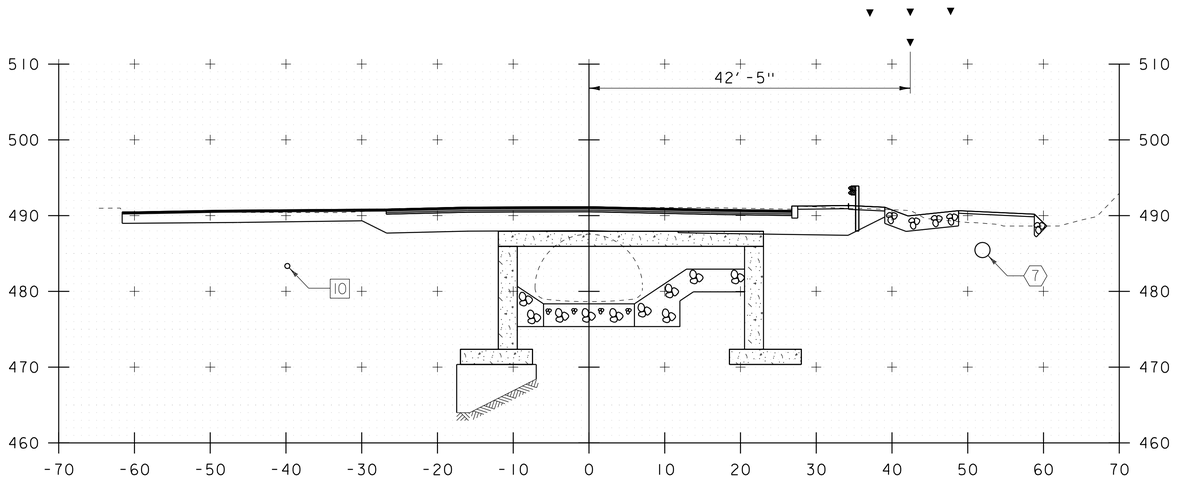
7 24" PIPE (NEW)

STA. 51+00 TO STA. 51+30

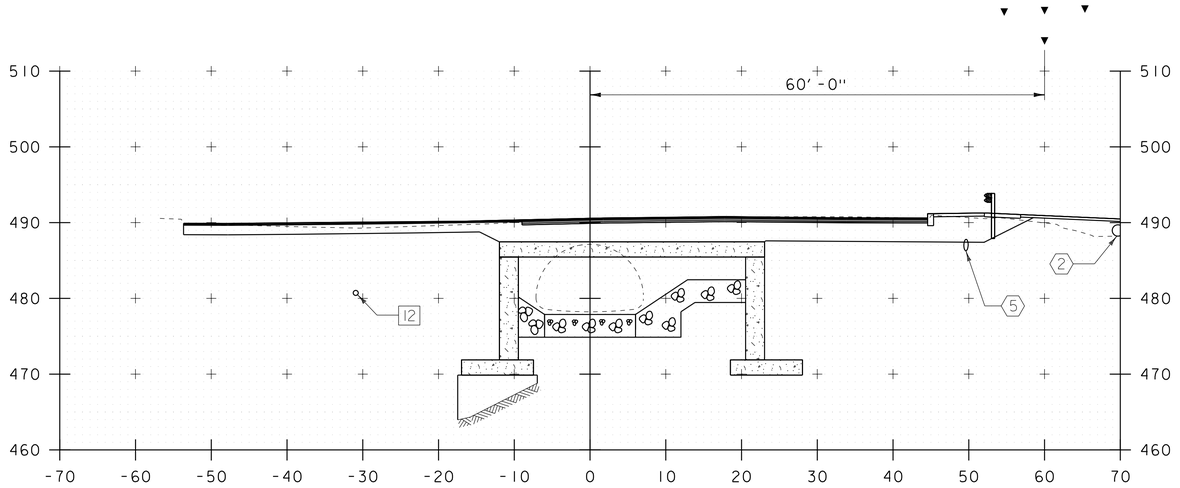
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

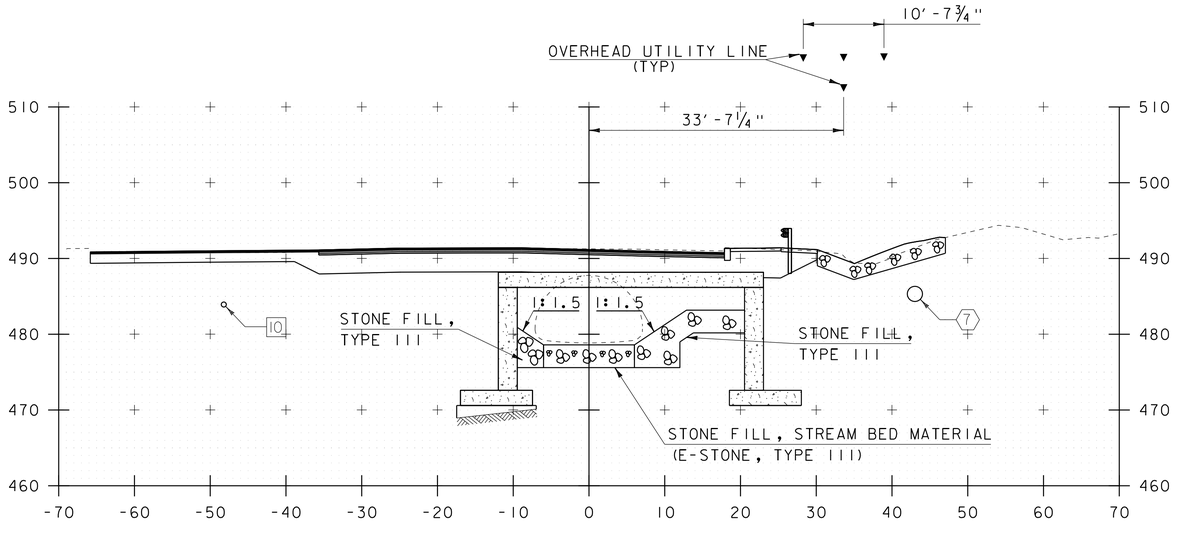
PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 34 OF 37



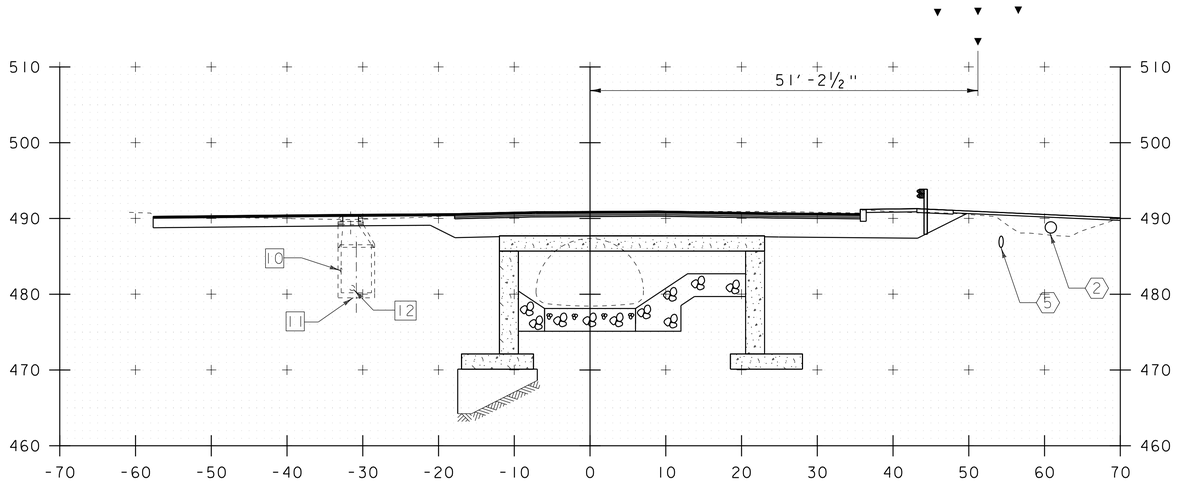
51+50



51+70



51+40



51+60

10 8" SEWER PIPE (RETAIN)

11 MAN HOLE SEWER
STA. 364+61.56 LT (RETAIN)

12 8" SEWER PIPE (RETAIN)

2 18" PIPE (NEW)

5 18" PIPE (NEW)

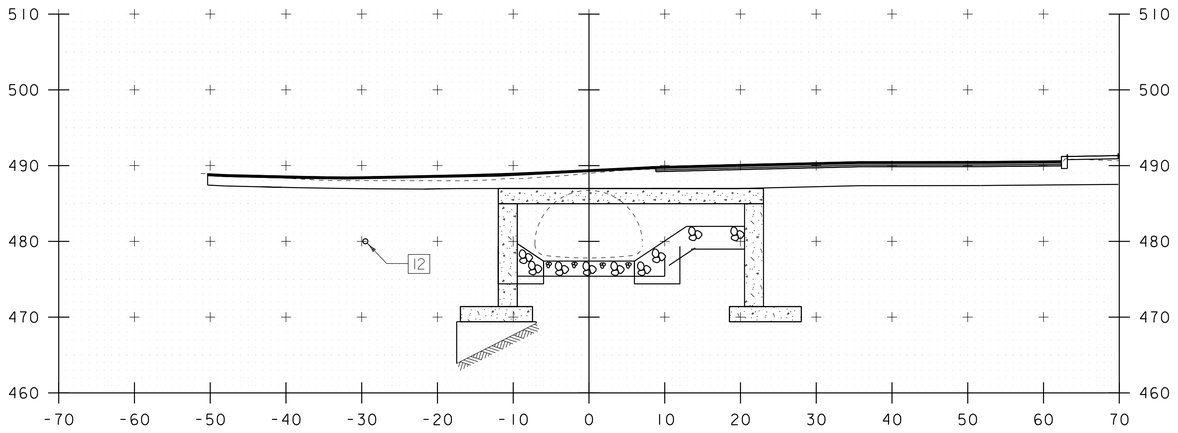
7 24" PIPE (NEW)

STA. 51+40 TO STA. 51+70

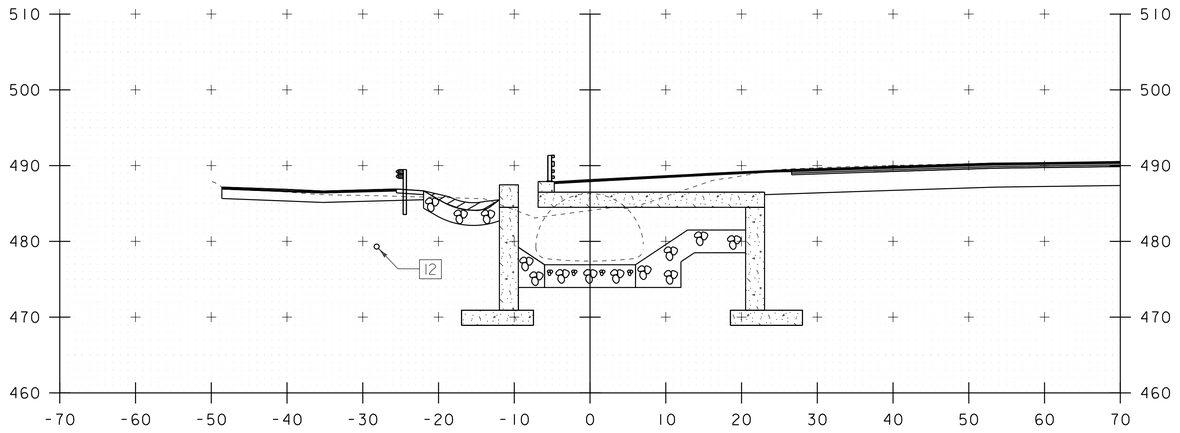
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BF 0134(45)

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

PLOT DATE: 22-APR-2019
DRAWN BY: G. ROKES
CHECKED BY: G LAROCHE
SHEET 35 OF 37

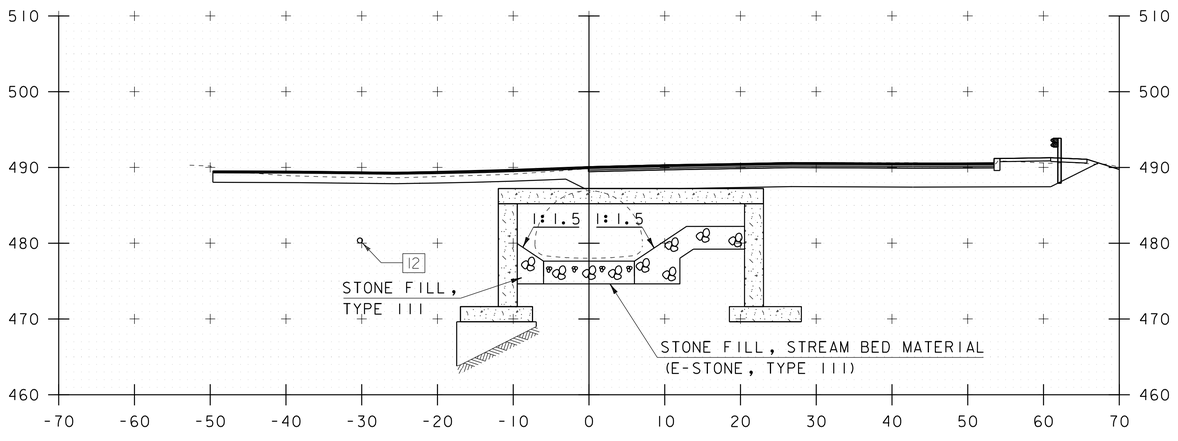


51+90

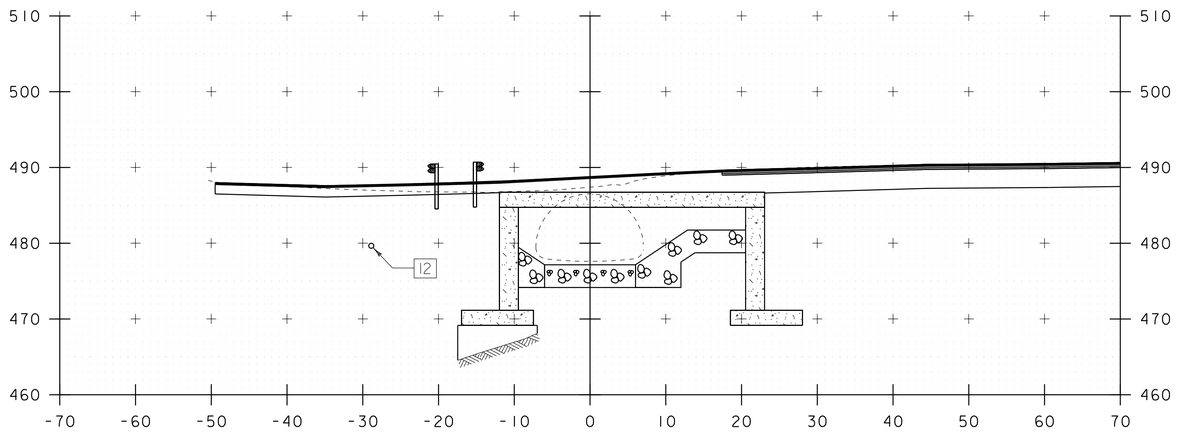


STA 52+02.00 LT
BEGIN GRUBBING MATERIAL

52+10



51+80



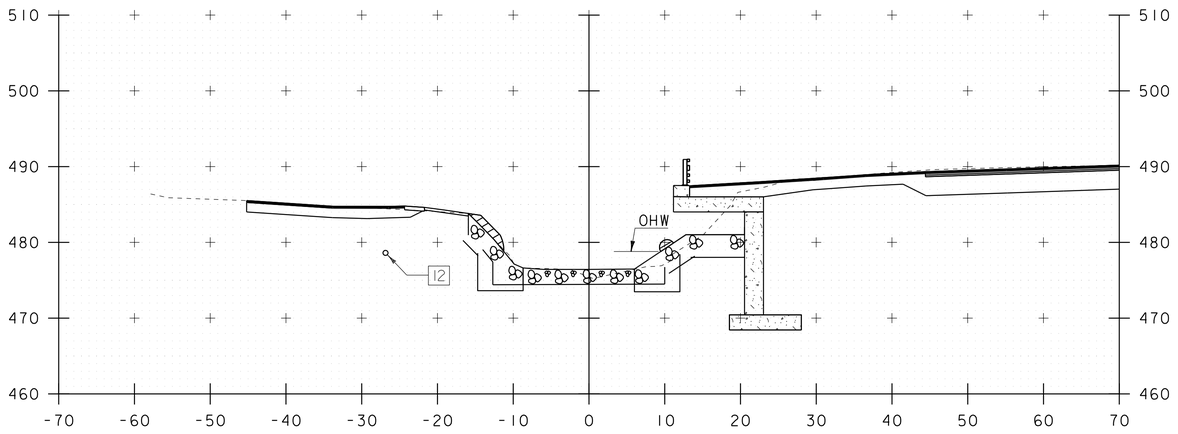
52+00

12 8" SEWER PIPE (RETAIN)

STA. 51+80 TO STA. 52+10

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

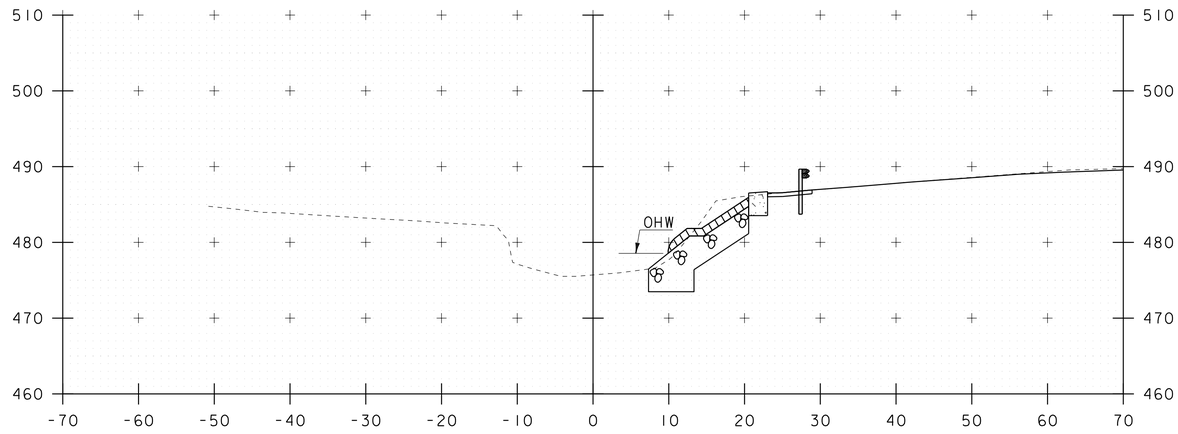
FILE NAME: sl3d336xs.dgn	PLOT DATE: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
CHANNEL CROSS SECTIONS 4	SHEET 36 OF 37



52+30

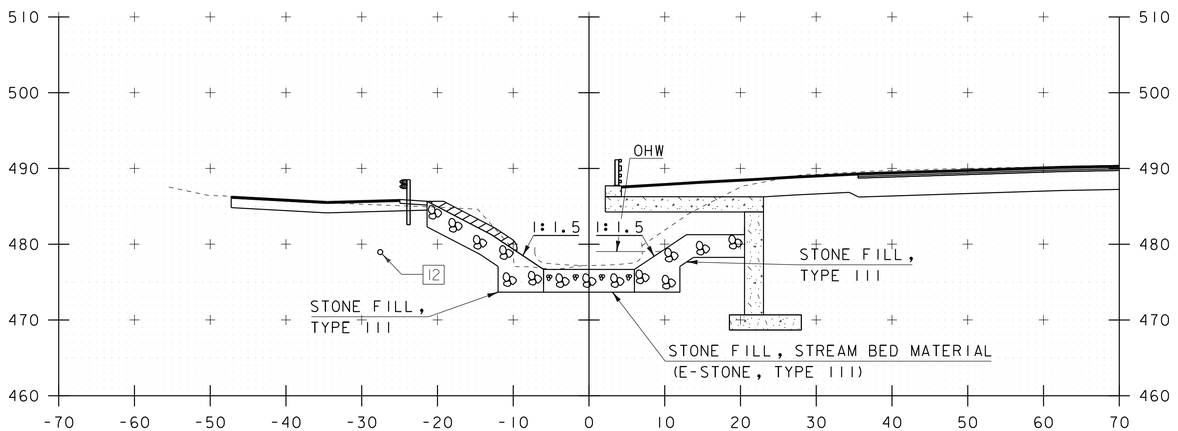
STA 52+43.00 LT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL, STREAM BED MATERIAL (E-STONE, TYPE II)
END STONE FILL, TYPE II
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL

STA 52+25.00 RT
BEGIN GRUBBING MATERIAL

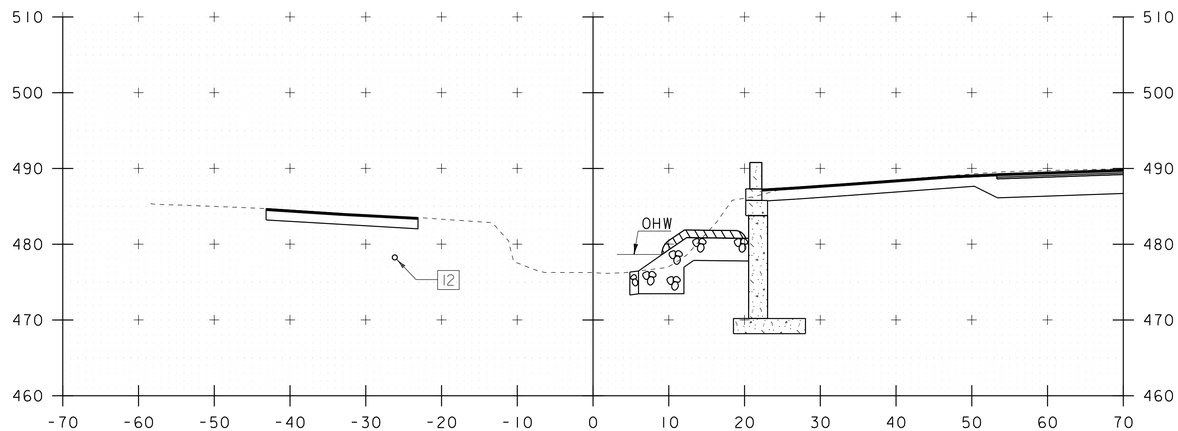


52+50

STA 52+55.00 RT
END UNCLASSIFIED CHANNEL EXCAVATION
END STONE FILL, TYPE III
END GEOTEXTILE UNDER STONE FILL
END GRUBBING MATERIAL



52+20



52+40

12 8" SEWER PIPE (RETAIN)

STA. 52+20 TO STA. 52+40

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BF 0134(45)
FILE NAME: sl3d336xs.dgn	PLOT DATE: 22-APR-2019
PROJECT LEADER: N. WARK	DRAWN BY: G. ROKES
DESIGNED BY: G. ROKES	CHECKED BY: G LAROCHE
CHANNEL CROSS SECTIONS 5	SHEET 37 OF 37