

PROJECT INFORMATION

Proj. Name and Number:

EA No.: PPMS:

Project Manager:

Program: Phase:

District: If Multiple Districts Specify

Traffic Signal:

DOCUMENTS FOR REVIEW AND FILES LOCATION

PLANS FILE LOCATION :

ESTIMATE FILE LOCATION :

TMP FILE LOCATION :

FILE LOCATION :

FILE LOCATION :

TIME LINES

SUBMITTED:

DEADLINE:

COMPLETED:

INVITEES FOR REVIEW

<input type="checkbox"/> MOB Districts	<input type="checkbox"/> MAB Bicycle and Pedestrian Program Unit	<input type="checkbox"/> PDB Utility Section <small>REVIEWED By Bill Gray (william.gray@vermont.gov) at 10:36 am, Sep 18, 2018</small>	<input type="checkbox"/> CMB Construction Section	<input type="checkbox"/> Integral Abutment	<input type="checkbox"/> Rail Bureau
	<input type="checkbox"/> PDB Right-of-Way	<input type="checkbox"/> PDB Highway Safety & Design			<input type="checkbox"/> Civil Rights
<input type="checkbox"/> MOB TSMO Traffic Operations <small>REVIEWED in all projects By Nancy Avery (nancy.avery@vermont.gov) at 1:13 pm, Sep 04, 2018</small> <small>REVIEWED By Ian Degutis (ian.degutis@vermont.gov) at 8:08 pm, Sep 27, 2018</small> <small>REVIEWED By Marcos R. Miller (marcos.miller@vermont.gov) at 8:11 am, Oct 02, 2018</small>	<input type="checkbox"/> PDB Structural Section	<input type="checkbox"/> PDB Environmental Section	<input type="checkbox"/> CMB Materials Testing and Certification Section	<input type="checkbox"/> Policy and Planning Bureau	<input type="checkbox"/> Others:
<input type="checkbox"/> MOB Technical Services	<input type="checkbox"/> PDB Survey Section	<input type="checkbox"/> PDB Hydraulics Section	<input type="checkbox"/> CMB Geotechnical Engineering Section	<input type="checkbox"/> FHWA Include on all PoDI and WCRS Projects	derek.kenison@vermont.gov bill.gray@vermont.gov christopher.berg@vermont.gov brandon.kipp@vermont.gov

Review Focus Notes:

This is the first project being done under the statewide rest area paving program. The Guilford Welcome Center is open from 7 am until 11 pm and is the busiest in the state with 684,662 visitors in 2017. The most critical issue for this project is keeping the impacts to the travelling public to a minimum. These plans will be shared in a separate email with staff from BGS and DMV to get their input and comments.

Print Form

Clear Form

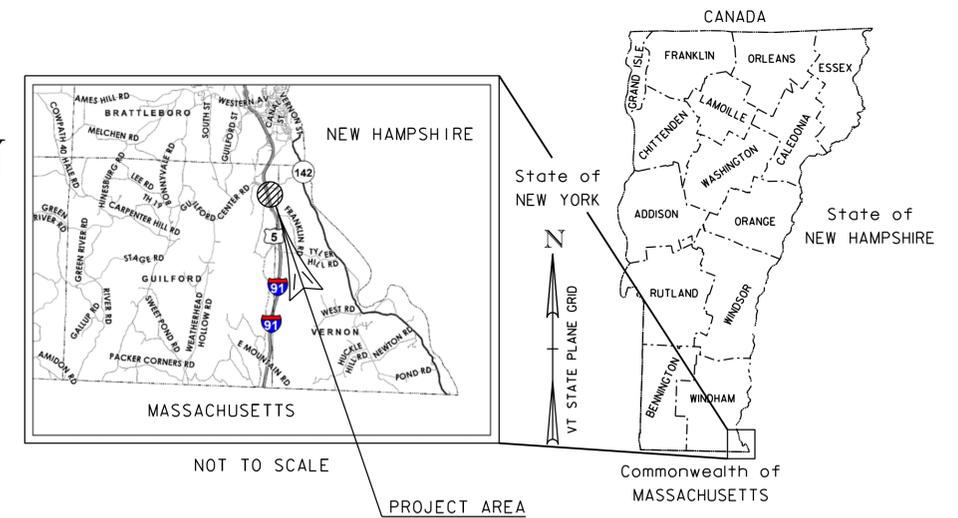
Submit by Email

Online Shared Review

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT TOWN OF GUILFORD COUNTY OF WINDHAM GUILFORD WELCOME CENTER

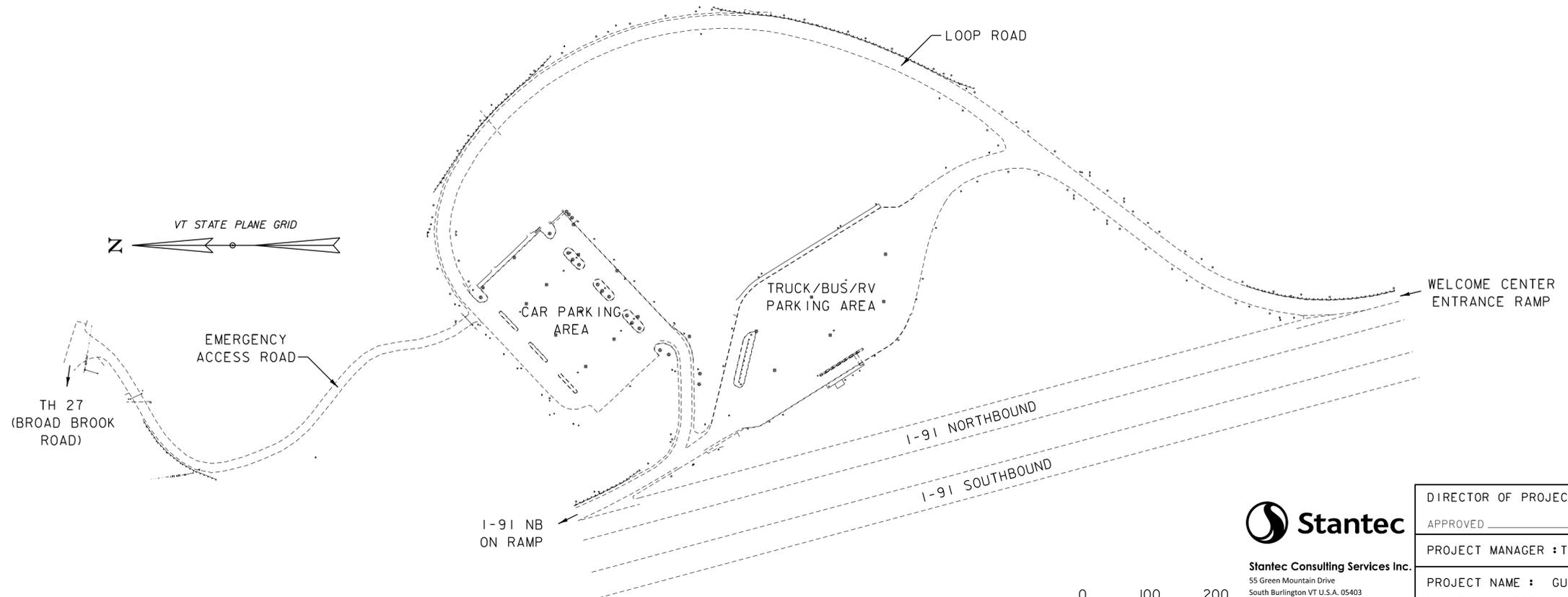


SUPERPAVE BITUMINOUS CONCRETE PAVEMENT MIXTURE DESIGN CRITERIA	
DESIGN LANE / DESIGN LIFE ESALS	N/A
DESIGN NUMBER OF GYRATIONS	65
PERFORMANCE GRADE ASPHALT BINDER	70-28

THIS PROJECT IS LOCATED ON THE EAST SIDE OF I-91 APPROXIMATELY 5.8 MILES NORTH OF THE MA/VT BORDER IN GUILFORD, VT.

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES FINE-MILLING AND PAVING OF THE I-91 ENTRANCE AND EXIT RAMPS, LOOP ROADS, ALL PARKING AREAS, ASSOCIATED PAVEMENT MARKINGS, AND OTHER PAVING RELATED ITEMS. THE PROJECT ALSO INCLUDES THE FULL DEPTH RECLAMATION AND RE-PAVING OF THE WELCOME CENTER EMERGENCY ACCESS ROAD CONNECTING TH 27 (BROAD BROOK ROAD) WITH THE CAR PARKING AREA.

Not doing anything with sign replacements?



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 3
SURVEYED BY : VSE
SURVEYED DATE : 5/18
DATUM
VERTICAL NAVD 88FT
HORIZONTAL NAD 83 (2011) sFT



Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

DIRECTOR OF PROJECT DELIVERY	APPROVED _____ DATE _____
PROJECT MANAGER : TINA BOHL	
PROJECT NAME : GUILFORD	
PROJECT NUMBER : IM 091-1 (79)	
SHEET 1 OF 30 SHEETS	

INDEX OF SHEETS	
<u>DESCRIPTION</u>	<u>PAGE #</u>
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STANDARD DRAWINGS	
<u>STANDARD</u>	<u>REVISED DATE</u>
E-191	2/1/1999
E-192	10/12/2000
E-193	8/18/1995
F-20	3/22/2017
G1-d	2/10/2014
T-1	4/25/2016
T-2	4/25/2016
T-10	8/6/2012
T-11	8/6/2012
T-12	8/6/2012
T-13	8/6/2012
T-17	8/6/2012
T-28	8/6/2012
T-29	8/6/2012
T-30	8/6/2012
T-31	8/6/2012
T-35	8/6/2012
T-36	8/6/2012

HIGHWAY SAFETY & DESIGN DETAILS

<u>STANDARD</u>	<u>NAME</u>	<u>REVISED DATE</u>
HSD-400.01	SAFETY EDGE	1/5/2018



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 09I-1(79)	DRAWN BY: G. MERKLE
FILE NAME: z17e296frm.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	DESIGNED BY: C. WAITE
INDEX OF SHEETS / STANDARDS	SHEET 2 OF 30

GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

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

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

POINT CODE	DESCRIPTION
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
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
□	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	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 BENCH MARK
□	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 RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

—	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

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

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

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

**EPSC LAYOUT PLAN SYMBOLGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
—	SILT FENCE, TYPE I
—	SILT FENCE, TYPE II
—	CHECK DAM
—	DISTURBED AREAS REQUIRING RE-VEGETATION
—	ROLLED EROSION CONTROL PRODUCT

**ENVIRONMENTAL RESOURCES**

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

**ARCHEOLOGICAL & HISTORIC**

---	ARCHEOLOGICAL BOUNDARY
---	HISTORIC DISTRICT BOUNDARY
---	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**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: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296frm.dgn PLOT DATE: 8/23/2018  
PROJECT LEADER: M. FOWLER DRAWN BY: VTRANS  
DESIGNED BY: VTRANS CHECKED BY: VTRANS  
CONVENTIONAL SYMBOLGY LEGEND SHEET SHEET 3 OF 30



# TYPICAL SECTIONS

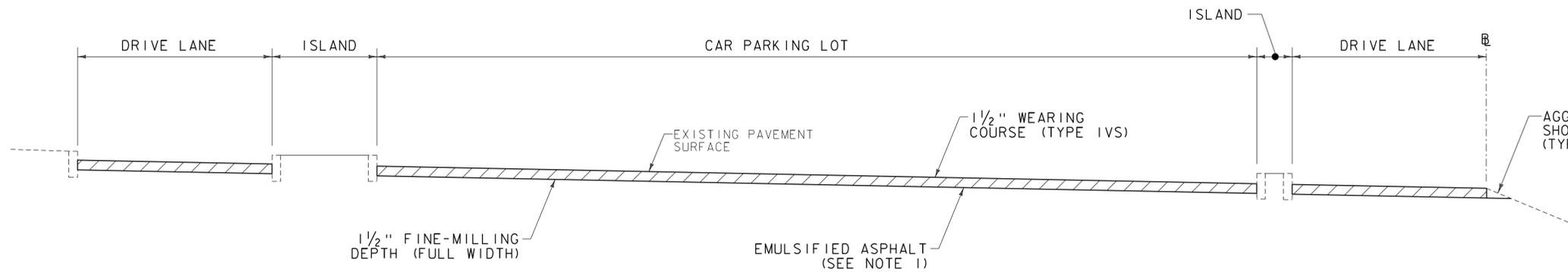
1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IVS)

MATERIAL ITEM THICKNESS / TOLERANCE

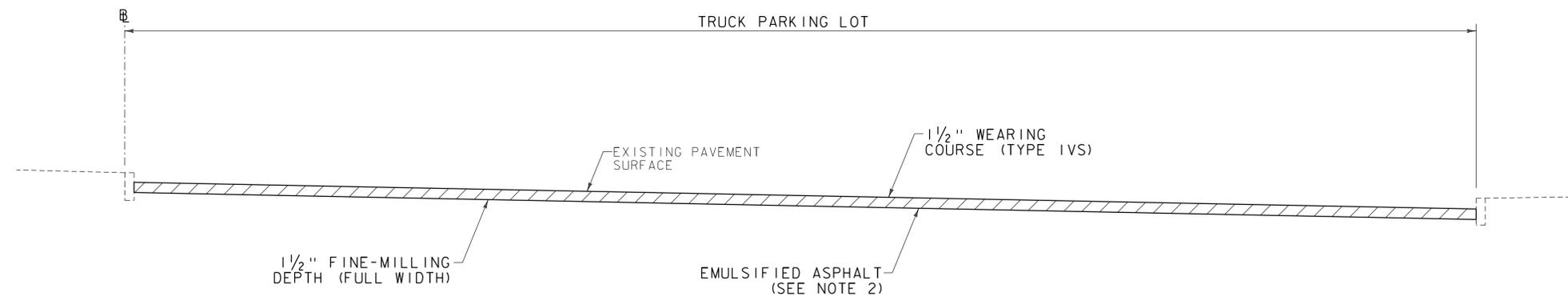
BITUMINOUS CONCRETE PAVEMENT +/- 1/4" (TOTAL DEPTH)

## NOTES

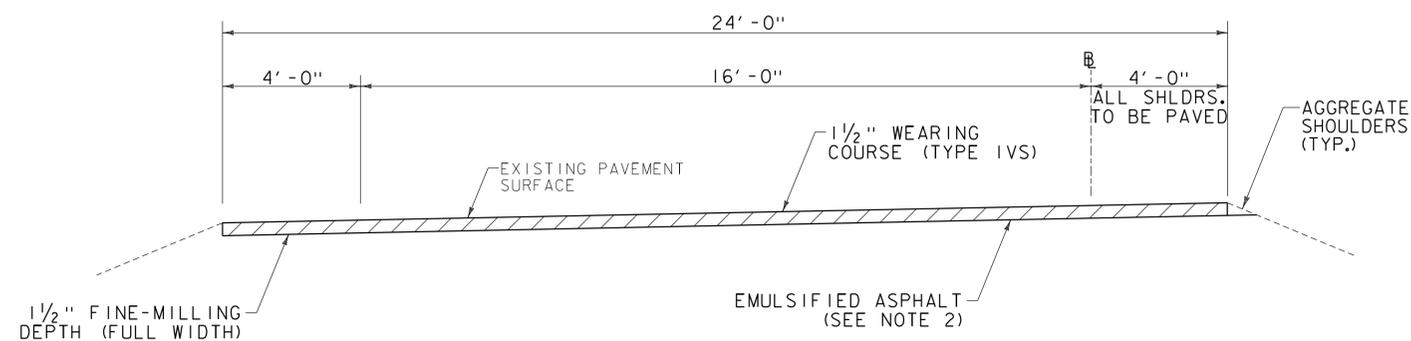
1. EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL SURFACES JUST PRIOR TO BEING PAVED PER THE RESPECTIVE APPLICATION RATES STATED IN SUBSECTION 406.12 OF THE VTRANS 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. AN ESTIMATED QUANTITY OF ITEM 619.17 YIELDING MARKER POSTS HAS BEEN INCLUDED TO DELINEATE PIPE INLETS, PIPE OUTLETS AND DROP INLETS LOCATED OUTSIDE OF THE PAVEMENT SURFACE OR AS DIRECTED BY THE ENGINEER.
3. AGGREGATE SHOULDERS SHALL BE USED TO BACK UP EDGES OF PAVEMENT, EXCEPT IN LAWN AREAS WHERE ITEM 651.35 TOPSOIL SHALL BE USED.
4. FOR AREAS WITHOUT CURB THE EDGE OF PAVEMENT TREATMENT SHALL FOLLOW VTRANS SAFETY EDGE DETAIL HSD-400.01.



FINE-MILLING TYPICAL SECTION  
CAR PARKING LOT



FINE-MILLING TYPICAL SECTION  
TRUCK PARKING LOT



FINE-MILLING TYPICAL SECTION

LOOP ROAD, ENTRANCE AND EXIT RAMPS  
STA. 101+76 TO 118+50  
STA. 207+00 TO 208+15

NOT TO SCALE

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

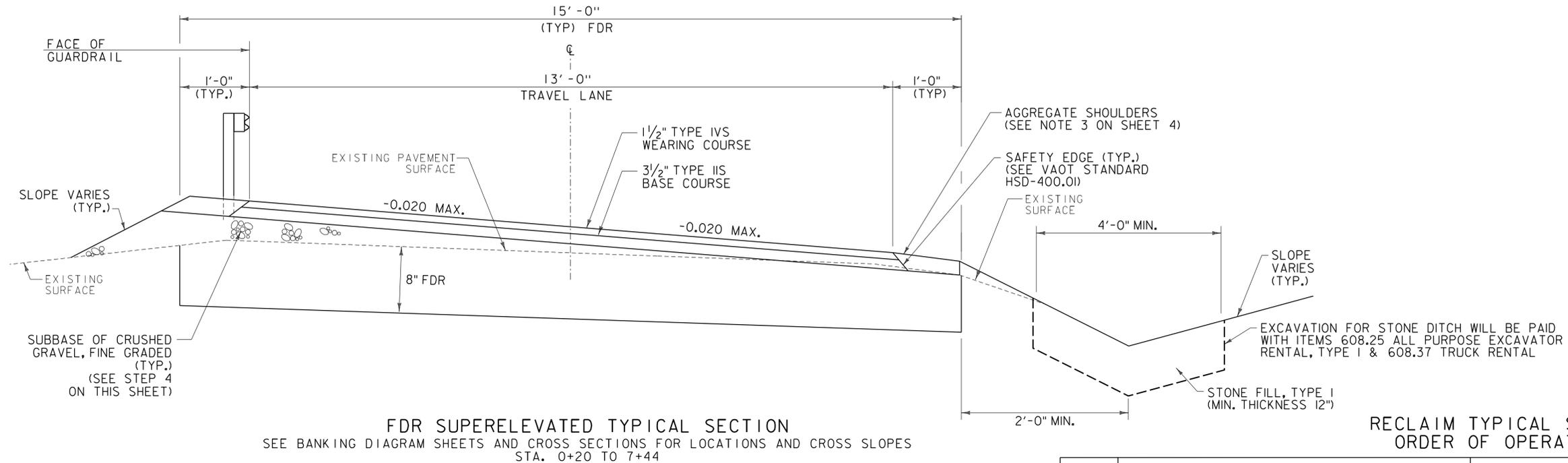
FILE NAME: z17e296typ.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: D. YOULEN  
TYPICAL SECTION SHEET 1

PLOT DATE: 8/23/2018  
DRAWN BY: G. MERKLE  
CHECKED BY: M. FOWLER  
SHEET 4 OF 30



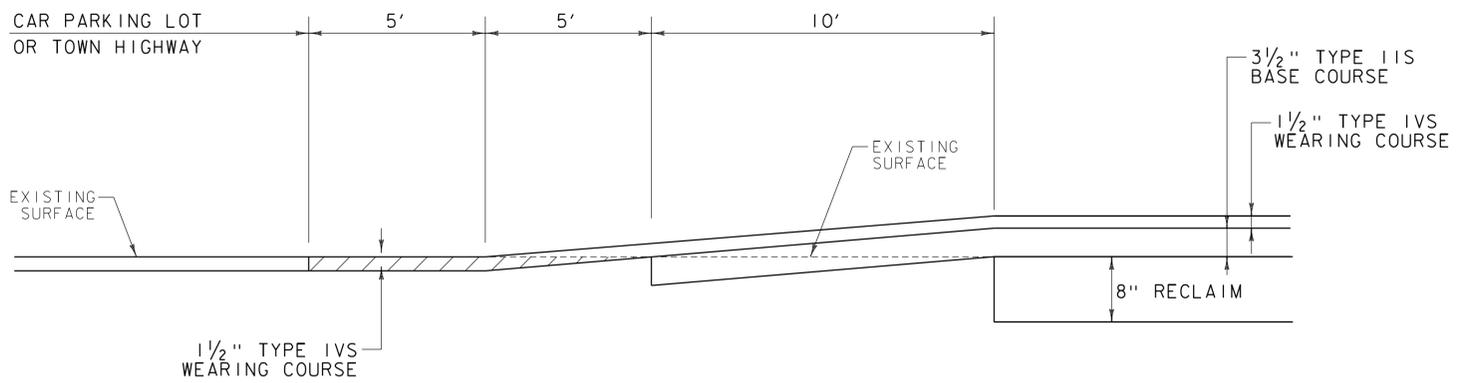
# TYPICAL SECTIONS

1 1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE IVS)  
 3 1/2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (1 LIFTS - TYPE IIS)  
 8" FULL DEPTH RECLAMATION (FDR)



STEP	DESCRIPTION	PAYMENT ITEM(S)
1	REPAIR AREAS ALONG EXISTING PAVEMENT EDGE DEEMED UNSUITABLE BY THE ENGINEER. TYPICAL LIMIT FOR REPAIR MAY EXTEND TO 8.5 MAX. OFF CENTERLINE.	608.25 ALL PURPOSE EXCAVATOR, TYPE I 608.37 TRUCK RENTAL 301.28 SUBBASE CRUSHED GRAVEL, FINE GRADED
2	COMPLETE FIRST PASS FDR, COMPACT, AND REGRADE	310.20 FULL DEPTH RECLAMATION (FDR)
3	APPLY CALCIUM CHLORIDE TO FINISHED SURFACE AS PER SPECIFICATION OR A GREATER RATE MEETING MANUFACTURER'S RECOMMENDATION.	609.15 DUST AND ICE CONTROL WITH CALCIUM CHLORIDE
4	CORRECT CROSS SLOPE AND GRADE DEFICIENCIES	301.28 SUBBASE CRUSHED GRAVEL, FINE GRADED
5	APPLY CALCIUM CHLORIDE TO FINISHED SURFACE AS PER SPECIFICATION OR A GREATER RATE MEETING MANUFACTURER'S RECOMMENDATION.	609.15 DUST AND ICE CONTROL WITH CALCIUM CHLORIDE
6	COMPLETE SECOND PASS FDR, COMPACT, AND FINE GRADE TO FINISH GRADE TOLERANCE	INCIDENTAL TO 310.20 FULL DEPTH RECLAMATION (FDR)
7	PLACE 3.5" TYPE IIS BASE COURSE	406.35 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
8	APPLY EMULSIFIED ASPHALT FOR TACK COAT ON TYPE IIS BASE COURSE SURFACE THEN PLACE 1.5" TYPE IVS WEARING COURSE	404.65 EMULSIFIED ASPHALT 406.35 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
9	PLACE AGGREGATE SHOULDER MATERIAL AS SHOWN ON THE TYPICAL SECTION OR AS DETAILED IN THE CROSS SECTIONS	402.12 AGGREGATE SHOULDERS

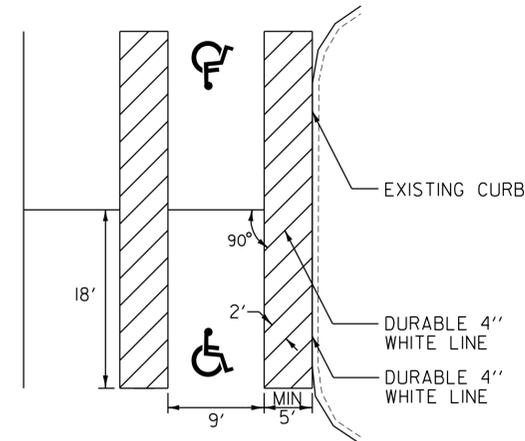
NOTE: THIS LIST OF PROCEDURES FOR REHABILITATING THE EXISTING ROADBED ARE PRESENTED FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL PREPARE THEIR OWN SCHEDULE OF OPERATIONS TO COMPLETE THE PROPOSED WORK UTILIZING THE APPROPRIATE PAY ITEMS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.



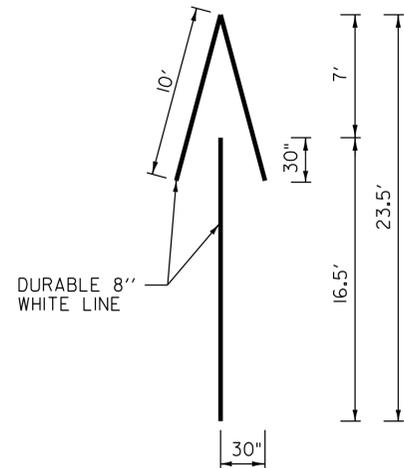
NOT TO SCALE

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	IM 091-1(79)
FILE NAME:	z17e296typ.dgn
PROJECT LEADER:	M. FOWLER
DESIGNED BY:	D. YOULEN
TYPICAL SECTION SHEET 2	
PLOT DATE:	8/23/2018
DRAWN BY:	G. MERKLE
CHECKED BY:	M. FOWLER
SHEET	5 OF 30

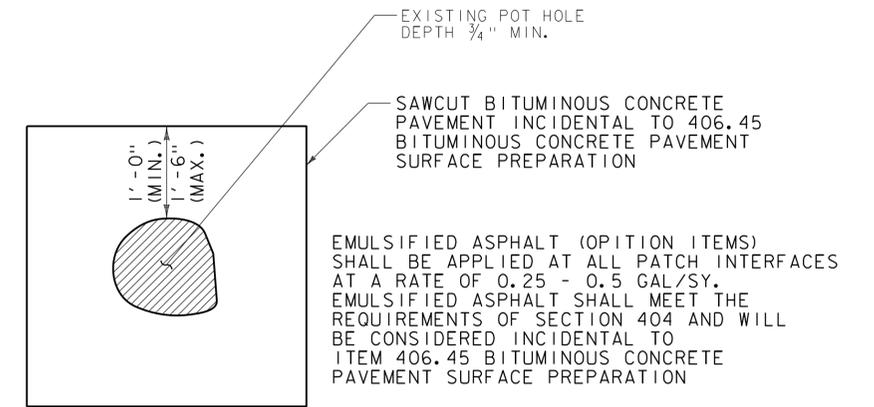




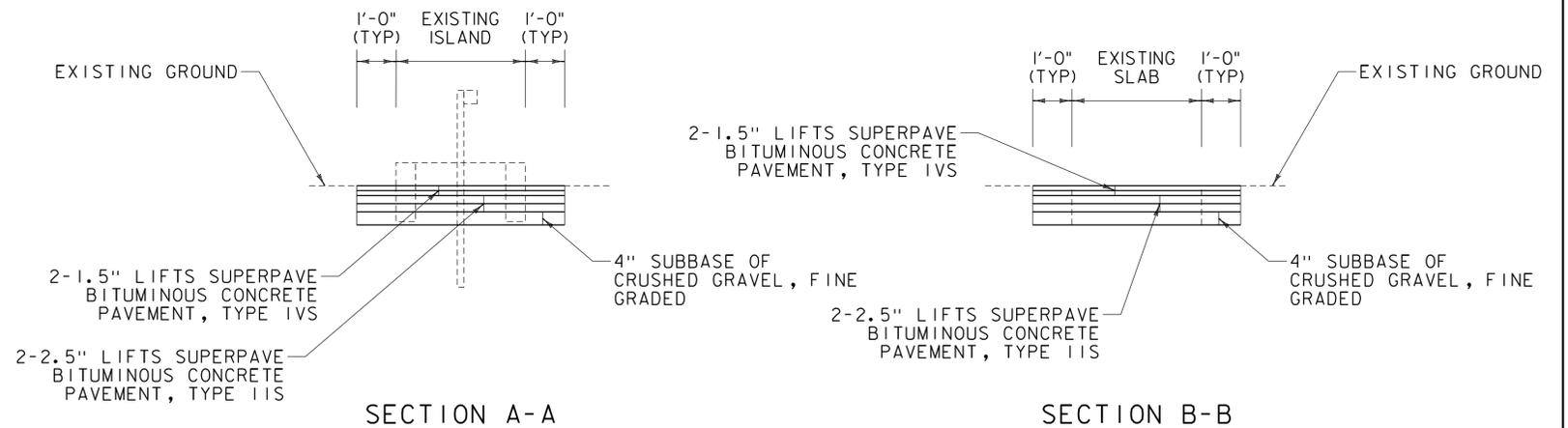
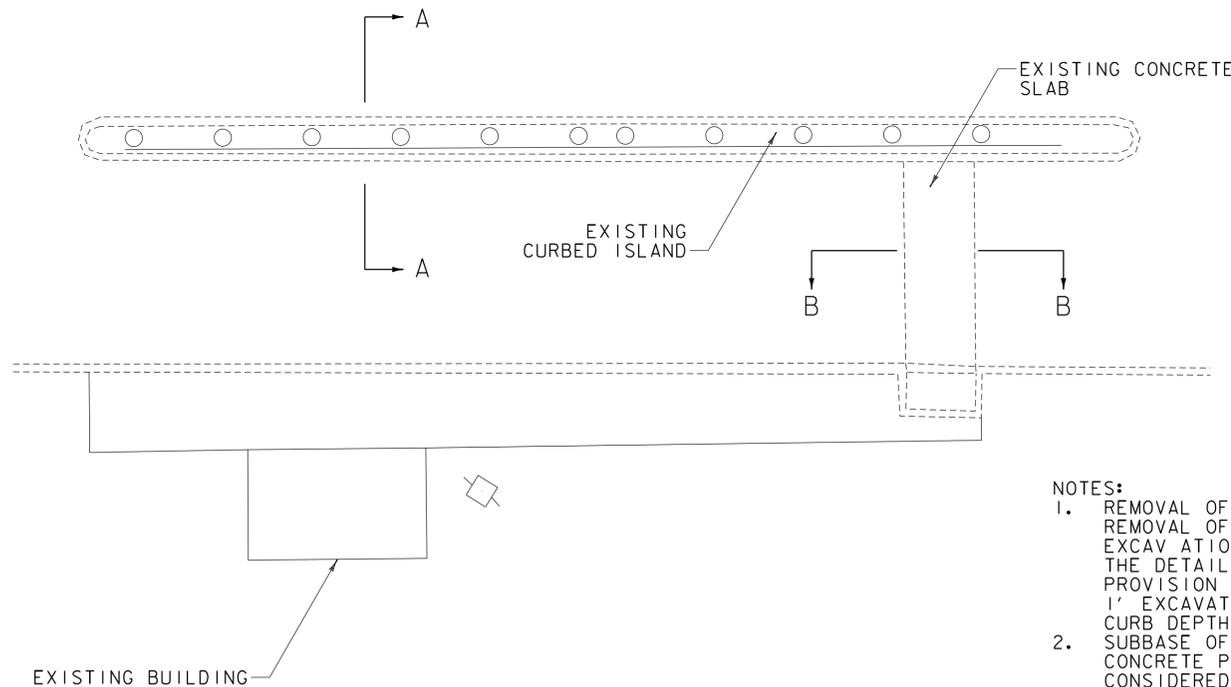
ACCESSIBILITY PAVEMENT MARKING DETAIL  
NOT TO SCALE



FREEWAY, EXPRESSWAY AND RAMP PAVEMENT ARROW DETAIL  
NOT TO SCALE



TYPICAL - POT HOLE REPAIR  
(SEE NOTE 10 ON SHEET 7)



- NOTES:
1. REMOVAL OF THE EXISTING CURBED ISLAND CURB AND CONCRETE, REMOVAL OF GUARDRAIL AND POSTS, REMOVAL OF CONCRETE SLAB, EXCAVATION AND ANY OTHER WORK TO COMPLETE THE WORK AS SHOWN IN THE DETAIL WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (REMOVAL OF WEIGH STATION ISLAND). AN ASSUMED DEPTH OF 1' EXCAVATION FOR REMOVAL OF 12" CONCRETE SLAB AND STANDARD CURB DEPTH.
  2. SUBBASE OF CRUSHED GRAVEL, FINE GRADED AND SUPERPAVE BITUMINOUS CONCRETE PAVEMENT REQUIRED TO COMPLETE THE WORK AS SHOWN WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (REMOVAL OF WEIGH STATION ISLAND).
  3. EMULSIFIED ASPHALT FOR PAVEMENT PATCH WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (REMOVAL OF WEIGH STATION ISLAND).
  4. ISLAND REMOVAL WORK AND LOT RESTORATION SHALL BE COMPLETED PRIOR TO THE TRUCK/RV/BUS PARKING LOT BEING REPURPOSED FOR TEMPORARY CAR PARKING.

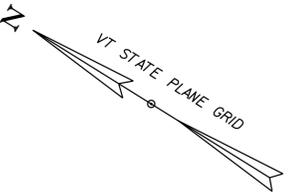
WEIGH STATION ISLAND REMOVAL DETAIL

NOT TO SCALE

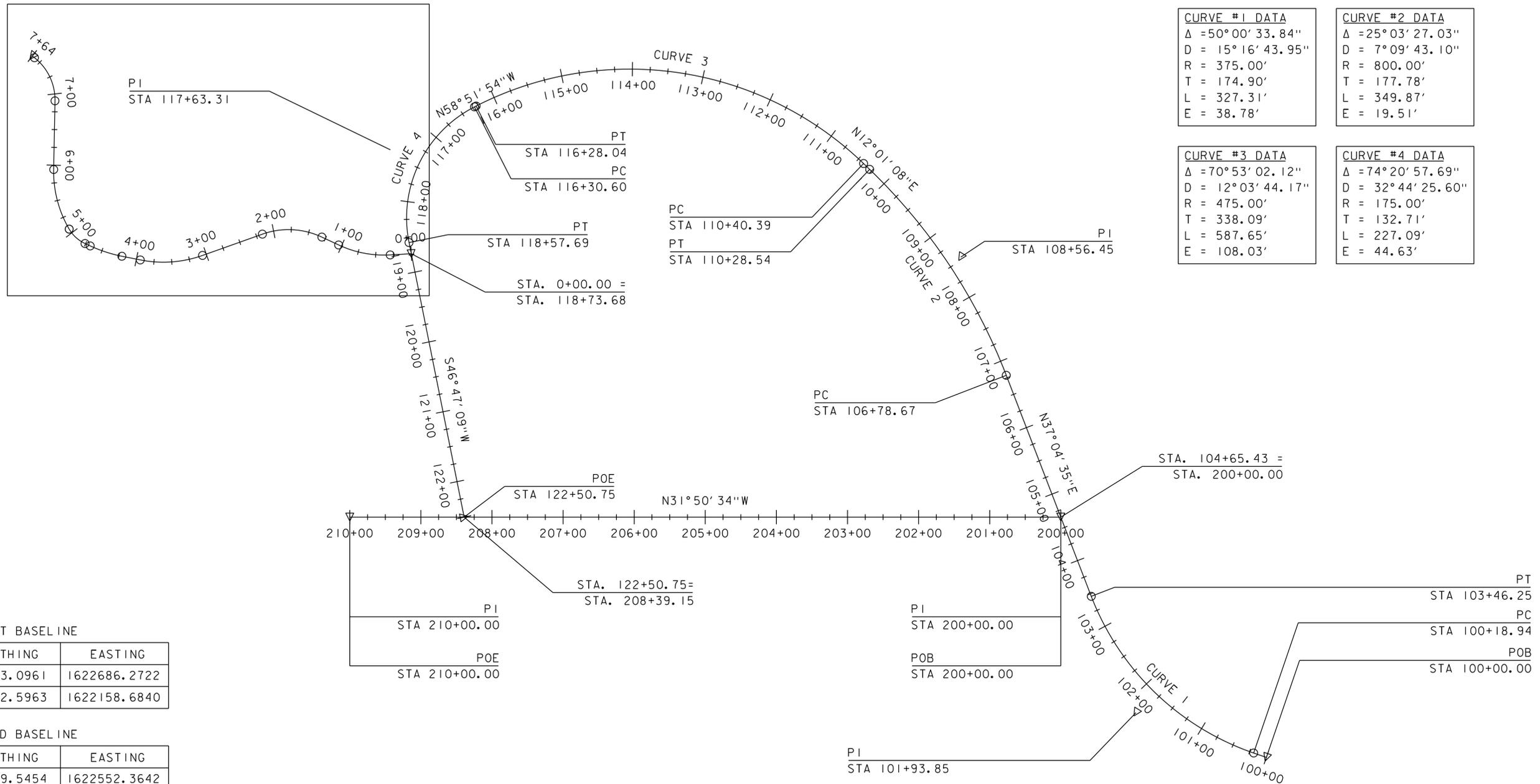


PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)  
FILE NAME: z17e296det.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: C. WAITE  
DETAIL SHEET

PLOT DATE: 8/23/2018  
DRAWN BY: G. MERKLE  
CHECKED BY: M. FOWLER  
SHEET 6 OF 30



SEE ALIGNMENT SHEET 2 FOR ACCESS ROAD INFORMATION



CURVE #1 DATA	
Δ	= 50°00'33.84"
D	= 15°16'43.95"
R	= 375.00'
T	= 174.90'
L	= 327.31'
E	= 38.78'

CURVE #2 DATA	
Δ	= 25°03'27.03"
D	= 7°09'43.10"
R	= 800.00'
T	= 177.78'
L	= 349.87'
E	= 19.51'

CURVE #3 DATA	
Δ	= 70°53'02.12"
D	= 12°03'44.17"
R	= 475.00'
T	= 338.09'
L	= 587.65'
E	= 108.03'

CURVE #4 DATA	
Δ	= 74°20'57.69"
D	= 32°44'25.60"
R	= 175.00'
T	= 132.71'
L	= 227.09'
E	= 44.63'

TRUCK LOT BASELINE

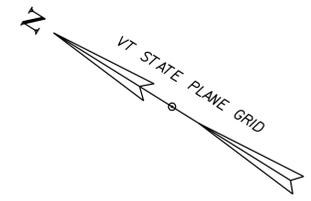
POINT	NORTHING	EASTING
200+00.00 POB	113053.0961	1622686.2722
210+00.00 POE	113902.5963	1622158.6840

LOOP ROAD BASELINE

POINT	NORTHING	EASTING
100+00.00 POB	112629.5454	1622552.3642
100+18.94 PC	112648.0075	1622548.1247
103+46.25 PT	112958.0165	1622508.9798
106+78.68 PC	113223.2295	1622814.8335
110+28.54 PT	113538.9454	1622959.0314
110+40.39 PC	113550.5358	1622961.4990
116+28.04 PT	114056.0245	1622742.5140
116+30.60 PC	114057.3477	1622740.3234
118+57.69 PT	114035.0960	1622530.0108
122+50.75 POE	113765.9539	1622243.5467



PROJECT NAME:	GUILFORD	PLOT DATE:	8/23/2018
PROJECT NUMBER:	IM 091-1(79)	DRAWN BY:	C. WAITE
FILE NAME:	z17e296alg.dgn	CHECKED BY:	M. FOWLER
PROJECT LEADER:	M. FOWLER	SHEET	7 OF 30
DESIGNED BY:	C. WAITE	ALIGNMENT SHEET	I



POE  
STA 7+63.63  
PT  
STA 7+59.87

PI  
STA 7+27.83

PC  
STA 6+90.35

PT  
STA 5+93.93

PI  
STA 5+51.28

PT  
STA 5+06.35  
PC  
STA 5+06.38  
PI  
STA 4+91.59  
PC  
STA 4+75.84  
PT  
STA 4+67.83  
PI  
STA 4+44.45  
PC  
STA 4+20.86  
PT  
STA 3+94.46  
PI  
STA 3+51.16  
PC  
STA 3+05.64

ACCESS ROAD

POINT	NORTHING	EASTING
0+00.00 POB	114024.1458	1622518.3558
0+29.71 PC	114048.4381	1622501.2434
1+04.32 PT	114117.4084	1622474.8864
1+30.40 PC	114143.3146	1622471.8584
2+16.26 PT	114216.5012	1622431.2421
3+05.64 PC	114272.2705	1622361.4030
3+94.46 PT	114343.2964	1622309.8588
4+20.86 PC	114368.0143	1622300.5943
4+67.83 PT	114413.5179	1622289.4018
4+75.84 PC	114421.4644	1622288.4133
5+06.35 PT	114451.0178	1622293.8344
5+06.38 PC	114451.0430	1622293.8477
5+93.93 PT	114513.7007	1622353.4222
6+90.35 PC	114563.0275	1622436.2681
7+59.87 PT	114619.4773	1622472.4719
7+63.63 POE	114623.2156	1622472.8725

**CURVE #1 DATA**  
 $\Delta = 28^\circ 29' 44.20''$   
 $D = 38^\circ 11' 49.87''$   
 $R = 150.00'$   
 $T = 38.09'$   
 $L = 74.60'$   
 $E = 4.76'$

**CURVE #2 DATA**  
 $\Delta = 44^\circ 43' 28.57''$   
 $D = 52^\circ 05' 13.46''$   
 $R = 110.00'$   
 $T = 45.25'$   
 $L = 85.87'$   
 $E = 8.95'$

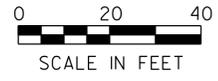
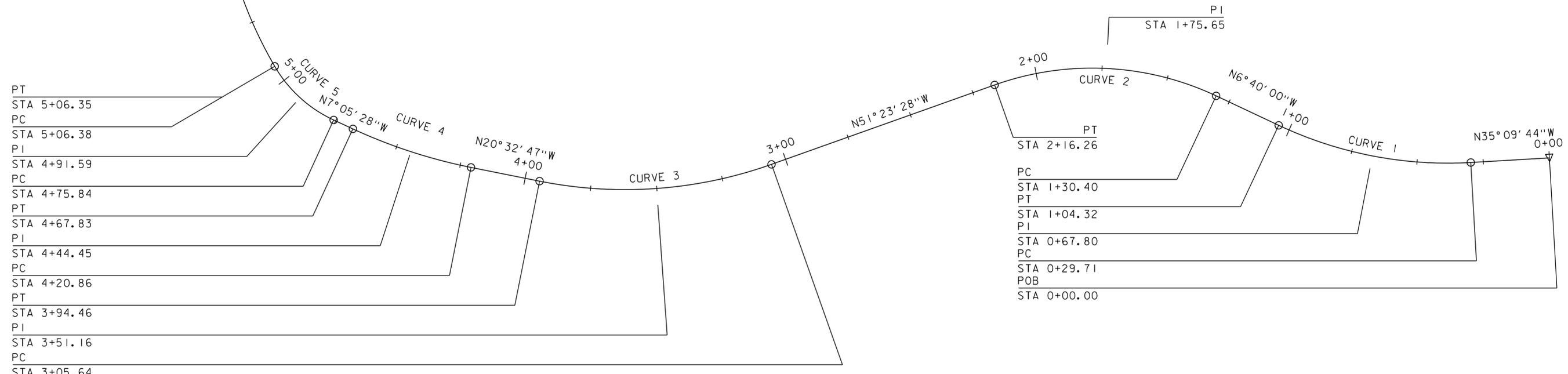
**CURVE #3 DATA**  
 $\Delta = 30^\circ 50' 41.50''$   
 $D = 34^\circ 43' 28.97''$   
 $R = 165.00'$   
 $T = 45.52'$   
 $L = 88.83'$   
 $E = 6.16'$

**CURVE #4 DATA**  
 $\Delta = 13^\circ 27' 18.90''$   
 $D = 28^\circ 38' 52.40''$   
 $R = 200.00'$   
 $T = 23.59'$   
 $L = 46.97'$   
 $E = 1.39'$

**CURVE #5 DATA**  
 $\Delta = 34^\circ 58' 15.65''$   
 $D = 114^\circ 35' 29.61''$   
 $R = 50.00'$   
 $T = 15.75'$   
 $L = 30.52'$   
 $E = 2.42'$

**CURVE #6 DATA**  
 $\Delta = 31^\circ 21' 01.28''$   
 $D = 35^\circ 48' 35.50''$   
 $R = 160.00'$   
 $T = 44.90'$   
 $L = 87.55'$   
 $E = 6.18'$

**CURVE #7 DATA**  
 $\Delta = 53^\circ 06' 46.37''$   
 $D = 76^\circ 23' 39.74''$   
 $R = 75.00'$   
 $T = 37.49'$   
 $L = 69.52'$   
 $E = 8.85'$



PROJECT NAME: GUILFORD  
 PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296alg.dgn  
 PROJECT LEADER: M. FOWLER  
 DESIGNED BY: C. WAITE  
 ALIGNMENT SHEET 2

PLOT DATE: 8/23/2018  
 DRAWN BY: C. WAITE  
 CHECKED BY: M. FOWLER  
 SHEET 8 OF 30

# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								750			750		LF	SHOULDER BERM REMOVAL	203.40	7			
								18400			18400		SY	FINE-MILLING, BITUMINOUS PAVEMENT	210.12	174			
								100			100		TON	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.28	9			
								1250			1250		SY	RECLAIMED STABILIZED BASE	310.20	21			
								50			50		TON	AGGREGATE SHOULDERS	402.12	6			
								125			125		CWT	EMULSIFIED ASPHALT	404.65	1			
								1			1		LU	AIR VOIDS PAY ADJUSTMENT (N.A.B.I.)	406.28				
								1			1		LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	406.29				
								1950			1950		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	406.35	22			
								2			2		TON	BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION	406.45	EST			
								1			1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
								40			40		LF	CLEANING CULVERT PIPE, IN-PLACE [0 TO 24 IN., INCL.]	601.995	2			
								14			14		EACH	CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.40				
								4			4		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I	604.412	EST			
								10			10		HR	POWER GRADER RENTAL	608.15	EST			
								10			10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST			
								20			20		HR	POWER BROOM RENTAL, TYPE II	608.31	EST			
								10			10		HR	TRUCK RENTAL	608.37	EST			
								2			2		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	0.8			
								60			60		CY	STONE FILL, TYPE I	613.10	7			
								2			2		EACH	YIELDING MARKER POSTS	619.17				
								166.5			166.5		LF	STEEL BEAM GUARDRAIL, GALVANIZED W8 FEET POSTS	621.205				
								2			2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
								150			150		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
								775			775		HR	UNIFORMED TRAFFIC OFFICERS	630.10	15			
								300		Flagger hours seem low	300		HR	FLAGGERS	630.15				
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
										3000	3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26				
								2			2		EACH	CPM SCHEDULE	633.10	EST			
								1			1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
								1			1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE	641.11				
								6			6		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
														BEGIN OPTION AA					
								4500			4500		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402	41			
								4500			4500		LF	DURABLE 4 INCH WHITE LINE, EPOXY PAINT	646.403	41			
								4500			4500		LF	DURABLE 4 INCH WHITE LINE, POLYUREA	646.404	41			
														END OPTION AA					

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: IM 09I-1(79)  
 FILE NAME: z17e296frm.dgn  
 PROJECT LEADER: M. FOWLER  
 DESIGNED BY: C. WAITE  
 QUANTITY SHEET 1

PLOT DATE: 8/23/2018  
 DRAWN BY: C. WAITE  
 CHECKED BY: M. FOWLER  
 SHEET 9 OF 30



# QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
														BEGIN OPTION BB					
								2600			2600		LF	DURABLE 6 INCH WHITE LINE, THERMOPLASTIC	646.422	77			
								2600			2600		LF	DURABLE 6 INCH WHITE LINE, EPOXY PAINT	646.423	77			
								2600			2600		LF	DURABLE 6 INCH WHITE LINE, POLYUREA	646.424	77			
														END OPTION BB					
														BEGIN OPTION CC					
								2500			2500		LF	DURABLE 6 INCH YELLOW LINE, THERMOPLASTIC	646.432	7			
								2500			2500		LF	DURABLE 6 INCH YELLOW LINE, EPOXY PAINT	646.433	7			
								2500			2500		LF	DURABLE 6 INCH YELLOW LINE, POLYUREA	646.434	7			
														END OPTION CC					
														BEGIN OPTION DD					
								400			400		LF	DURABLE 12 INCH WHITE LINE, THERMOPLASTIC	646.462	9			
								400			400		LF	DURABLE 12 INCH WHITE LINE, EPOXY PAINT	646.463	9			
								400			400		LF	DURABLE 12 INCH WHITE LINE, POLYUREA	646.464	9			
														END OPTION DD					
														BEGIN OPTION EE					
								20			20		LF	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	646.482	4			
								20			20		LF	DURABLE 24 INCH STOP BAR, EPOXY PAINT	646.483	4			
								20			20		LF	DURABLE 24 INCH STOP BAR, POLYUREA	646.484	4			
														END OPTION EE					
														BEGIN OPTION FF					
								44			44		EACH	DURABLE LETTER OR SYMBOL, THERMOPLASTIC	646.492				
								44			44		EACH	DURABLE LETTER OR SYMBOL, EPOXY PAINT	646.493				
								44			44		EACH	DURABLE LETTER OR SYMBOL, POLYUREA	646.494				
														END OPTION FF					
								3900			3900		LF	TEMPORARY 4 INCH WHITE LINE, PAINT	646.602	32			
								2600			2600		LF	TEMPORARY 6 INCH WHITE LINE, PAINT	646.622	77			
								2500			2500		LF	TEMPORARY 6 INCH YELLOW LINE, PAINT	646.632	7			
								400			400		LF	TEMPORARY 12 INCH WHITE LINE, PAINT	646.662	9			
								20			20		LF	TEMPORARY 24 INCH STOP BAR, PAINT	646.682	4			
								6			6		EACH	TEMPORARY LETTER OR SYMBOL, PAINT	646.692				
								300			300		EACH	LINE STRIPING TARGETS	646.76	EST			
								475			475		SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	14			
									10		10		LB	SEED	651.15	2			
									80		80		LB	FERTILIZER	651.18	10			
									0.5		0.5		TON	AGRICULTURAL LIMESTONE	651.20	0.2			
								80			80		CY	TOPSOIL	651.35	5			
									0.5		0.5		TON	HAY MULCH	653.10	0.2			
									60		60		CY	CHECK DAM, TYPE I	653.25	4			
									30		30		CY	STABILIZED CONSTRUCTION ENTRANCE	653.35	EST			

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296frm.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: C. WAITE  
QUANTITY SHEET 2

PLOT DATE: 8/23/2018  
DRAWN BY: C. WAITE  
CHECKED BY: M. FOWLER  
SHEET 10 OF 30





## GENERAL NOTES

1. THE PROJECT SHALL BE CONSTRUCTED AS DESIGNED AND WITHIN THE LIMITS ESTABLISHED BY THE CROSS SECTIONS. IF IT IS DEEMED NECESSARY BY THE CONTRACTOR TO WORK BEYOND THOSE LIMITS IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ACQUIRE ANY NECESSARY STATE AND/OR FEDERAL PERMITS.
2. ALL WORK SHALL BE PERFORMED WITHIN THE STATE RIGHT OF WAY AND CURRENT EASEMENTS.
3. QUANTITIES FOR ITEM 604.412 REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I HAS BEEN INCLUDED TO BE USED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. ALL D/S SHALL BE RAISED OR REHABILITATED SUCH THAT THE NEW GRATE ELEVATION IS 1/2" BELOW ELEVATION OF PAVEMENT. DRAINAGE STRUCTURES HAVE BEEN DISTRIBUTED BETWEEN ITEMS 604.40 AND 604.412 FOR ESTIMATING PURPOSES.
5. DAMAGE INFLICTED BY THE CONTRACTOR TO ANY DROP INLETS, CROSS CULVERTS OR OTHER DRAINAGE FEATURES IS THE LIABILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
6. ITEM 613.10 STONE FILL, TYPE I AND ITEM 608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I HAVE BEEN INCLUDED FOR AREAS WITH PROPOSED SIDE SLOPES OF 1:1.5 AND TO PROVIDE FOR REPAIR OF EXISTING STONE LINED DRAINAGE OUTLETS OR WASHOUTS LOCATED ALONG THE ROADWAY SIDE SLOPES AS DIRECTED BY THE ENGINEER.
7. A QUANTITY OF ITEM 601.995 CLEANING CULVERT PIPE, IN-PLACE (0 TO 24 IN., INCL.) HAS BEEN INCLUDED TO BE USED AT LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
8. EXISTING UNDERGROUND AND AERIAL FACILITIES ARE LOCATED THROUGHOUT THE PROJECT AREA. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL CONTACT THE OWNERS OF THOSE FACILITIES FOR VERIFICATION. OWNERSHIP OF THESE FACILITIES INCLUDES OPERATIONAL UTILITY COMPANIES, MUNICIPALITIES AND INDIVIDUAL PROPERTY OWNERS. THE CONTRACTOR IS CAUTIONED TO PROTECT THESE FACILITIES FROM DAMAGE.
9. ALL FINE-MILLED SURFACES SHALL HAVE SURFACE PREPARATION BEFORE PAVING THE COURSE CONSISTING OF POTHOLE PATCHING AND PATCHING OF ALL LARGE CRACKS THAT ARE AT LEAST ONE INCH IN WIDTH. THIS WILL BE PAID UNDER ITEM 406.45 BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION. SEE DETAIL ON SHEET 6.
10. AGGREGATE SHOULDERS SHALL BE USED TO BACK UP EDGES OF PAVEMENT, EXCEPT IN LAWN AREAS WHERE ITEM 651.35 TOPSOIL SHALL BE USED.
11. AN ESTIMATED QUANTITY OF ITEM 608.15, POWER GRADER RENTAL HAS BEEN INCLUDED FOR THE EXCAVATION OF UNPAVED SHOULDERS AND REMOVING BUILT UP, SAND, ETC. ADJACENT TO THE SHOULDERS IN NON GUARDRAIL AREAS, TO ALLOW FREE DRAINAGE OFF THE SHOULDER.
12. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED. ANY SIGNS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.

## RECLAIM AREA NOTES

13. PRIOR TO RECLAIMING, ANY EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE ENGINEER WILL BE EXCAVATED TO THE DEPTH OF RECLAIMING OR AS DIRECTED BY THE ENGINEER. EXCAVATED MATERIAL WILL BE SPREAD ON THE ADJACENT SLOPES OR REMOVED FROM THE PROJECT AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR USING THE APPROPRIATE RENTAL ITEMS. THE METHOD OF REMOVAL AND THE USE OF RENTAL ITEMS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY WORK BEING DONE. MATERIAL REMOVED SHALL BE REPLACED WITH ITEM 301.28 SUBBASE OF CRUSHED GRAVEL, FINE GRADED.
14. AN ADDITIONAL QUANTITY OF ITEM 301.28 SUBBASE OF CRUSHED GRAVEL, FINE GRADED HAS BEEN INCLUDED TO CORRECT SUPERELEVATION AND GRADATION DEFICIENCIES WITHIN THE RECLAIMED SECTION.
15. ITEMS 653.475 SILT FENCE, TYPE I, 653.25 CHECK DAM, TYPE I, OR 653.60 EROSION LOG SHALL BE USED AT THE DISCRETION OF THE ENGINEER.

The Underground Utilities along the "Emergency Access" Road will need to be shown and protected or relocated.



PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

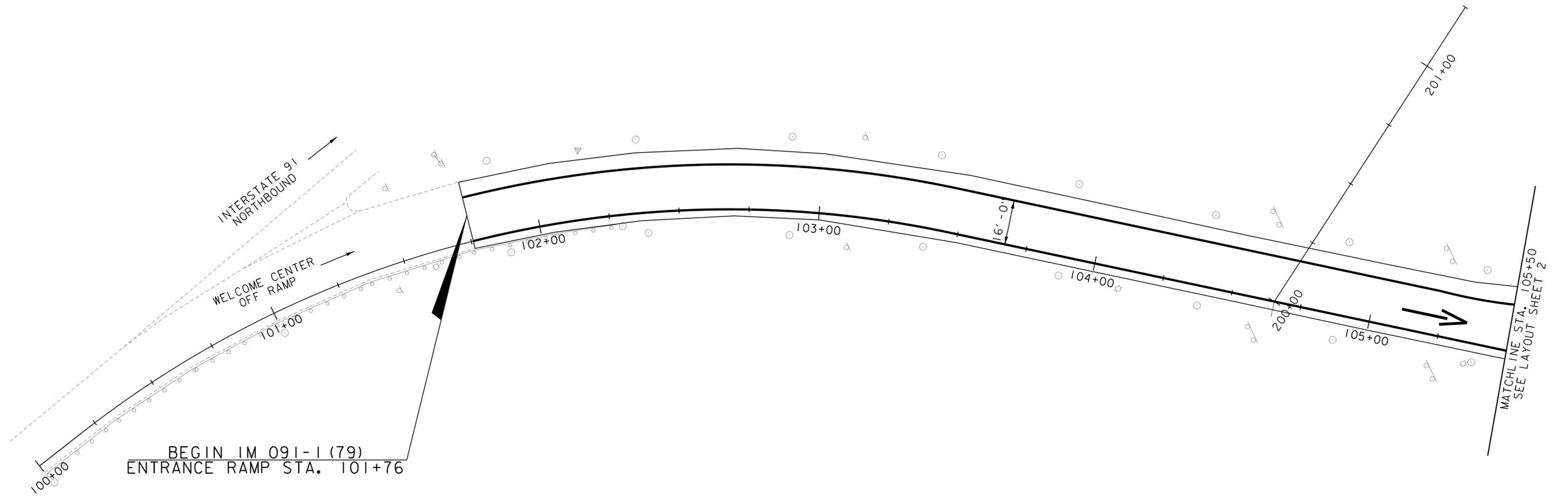
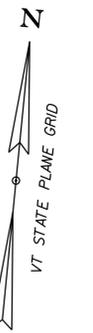
FILE NAME: z17e296frm.dgn	PLOT DATE: 8/23/2018
PROJECT LEADER: M. FOWLER	DRAWN BY: G. MERKLE
DESIGNED BY: C. WAITE	CHECKED BY: M. FOWLER
GENERAL NOTES	SHEET 12 OF 30

SHOULDER BERM REMOVAL  
STA. 101+76 TO 102+27, RT

DURABLE 6 INCH WHITE LINE  
STA. 101+76 TO 105+50, SOLID CL

DURABLE 6 INCH YELLOW LINE  
STA. 101+76 TO 105+50, SOLID LT

DURABLE LETTER OR SYMBOL  
STA. 105+21, LT LANE ARROW



BEGIN IM 091-1 (79)  
ENTRANCE RAMP STA. 101+76



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: C. WAITE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 13 OF 30
DESIGNED BY: C. WAITE	
PLAN SHEET 1	

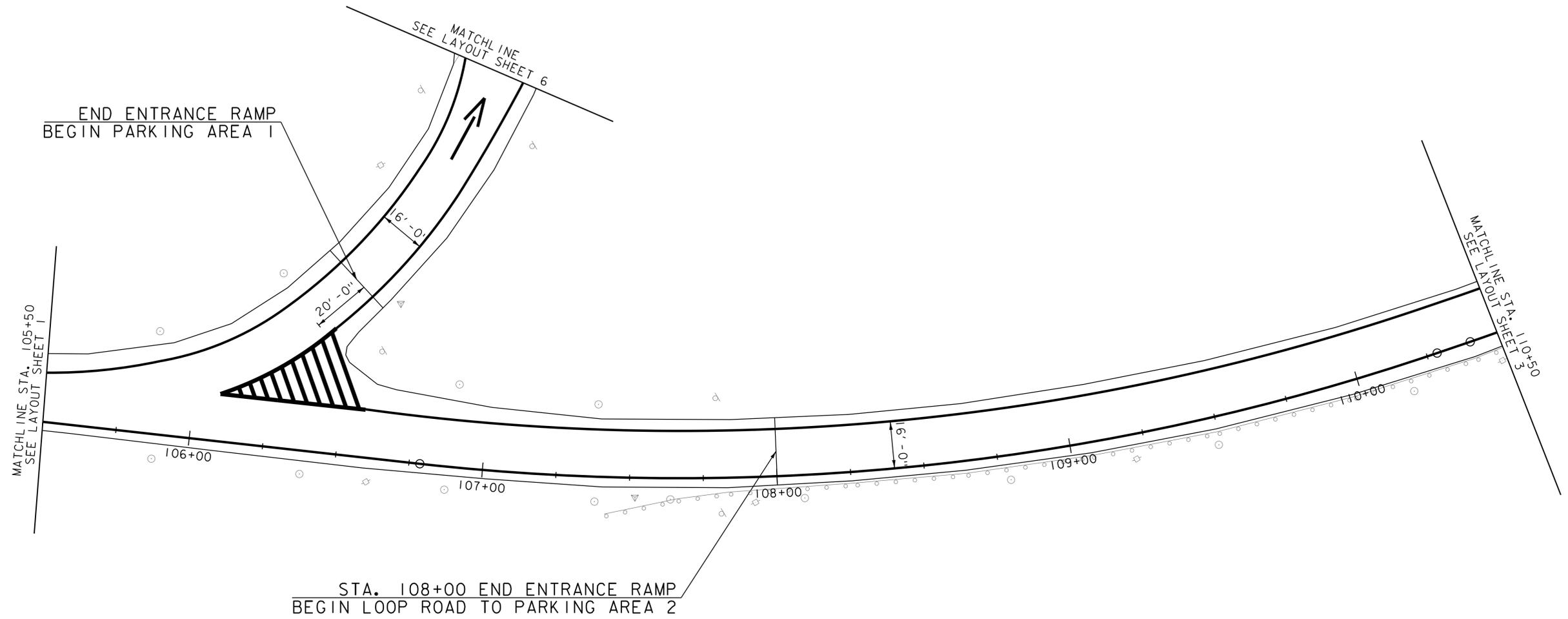
SHOULDER BERM REMOVAL  
STA. 107+42 TO 110+50, RT

DURABLE 6 INCH WHITE LINE  
STA. 105+50 TO 110+50, SOLID CL  
STA. 106+46 TO 107+03, SOLID LT

DURABLE 6 INCH YELLOW LINE  
STA. 105+50 TO 106+79, SOLID LT  
STA. 106+58 TO 110+50, SOLID LT

DURABLE 12 INCH WHITE LINE  
STA. 106+09 TO 106+58, LT (DIAGONALS)

DURABLE LETTER OR SYMBOL  
STA. 106+82, LT LINE ARROW



NOTE:  
PARKING AREA 1 = TRUCK/BUS/RV PARKING AREA  
PARKING AREA 2 = CAR PARKING AREA

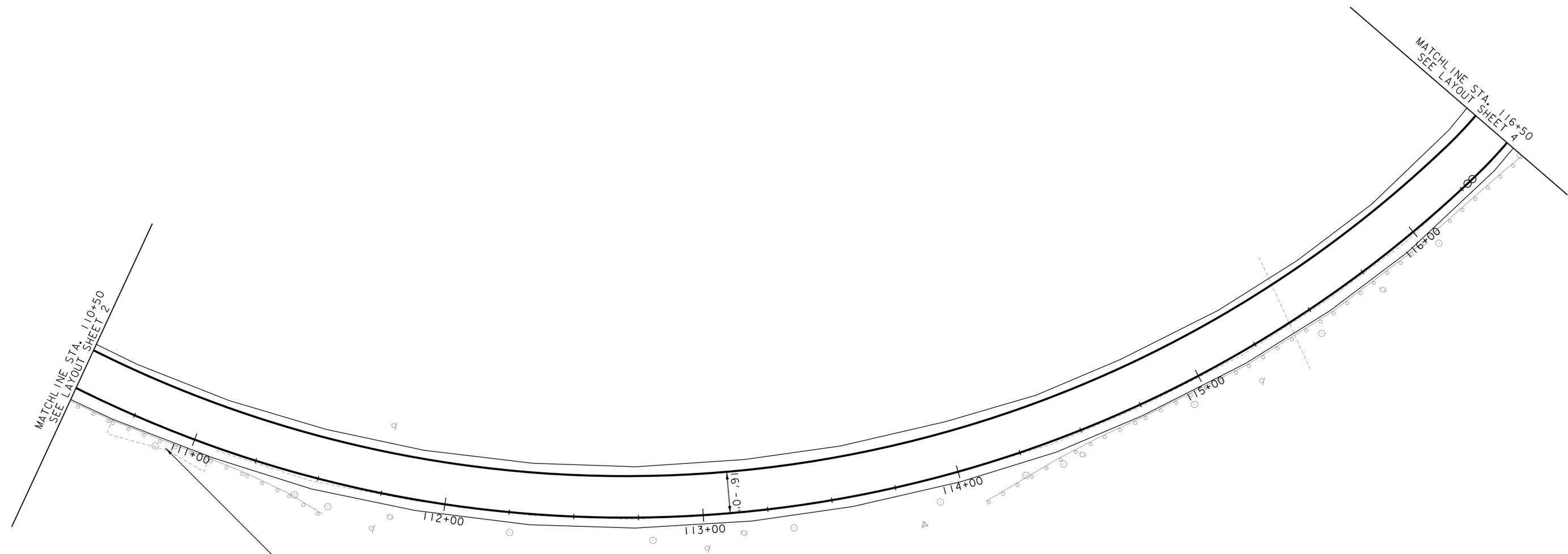
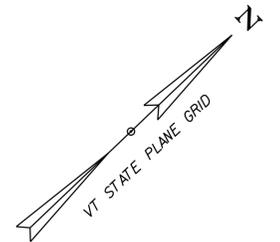


PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: C. WAITE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 14 OF 30
DESIGNED BY: C. WAITE	
PLAN SHEET 2	

SHOULDER BERM REMOVAL  
STA. 110+50 TO 111+55, RT  
STA. 114+07 TO 116+50, RT

DURABLE 6 INCH WHITE LINE  
STA. 110+50 TO 116+50, SOLID CL

DURABLE 6 INCH YELLOW LINE  
STA. 110+50 TO 116+50, SOLID LT



CLEAN PAVED GUTTER, INCIDENTAL  
TO SHOULDER BERM REMOVAL



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: C. WAITE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 15 OF 30
DESIGNED BY: C. WAITE	
PLAN SHEET 3	

SHOULDER BERM REMOVAL  
STA. 116+50 TO 116+75, RT

CHANGING ELEVATION OF DROP  
INLETS, CATCH BASINS, OR MANHOLES  
STA. 118+48, LT  
STA. 118+50, LT (2)  
STA. 119+45, LT (3)  
STA. 119+78, LT (3)  
STA. 120+44, LT (3)

DURABLE 4 INCH WHITE LINE  
PARKING LOT, SEE LAYOUT BELOW

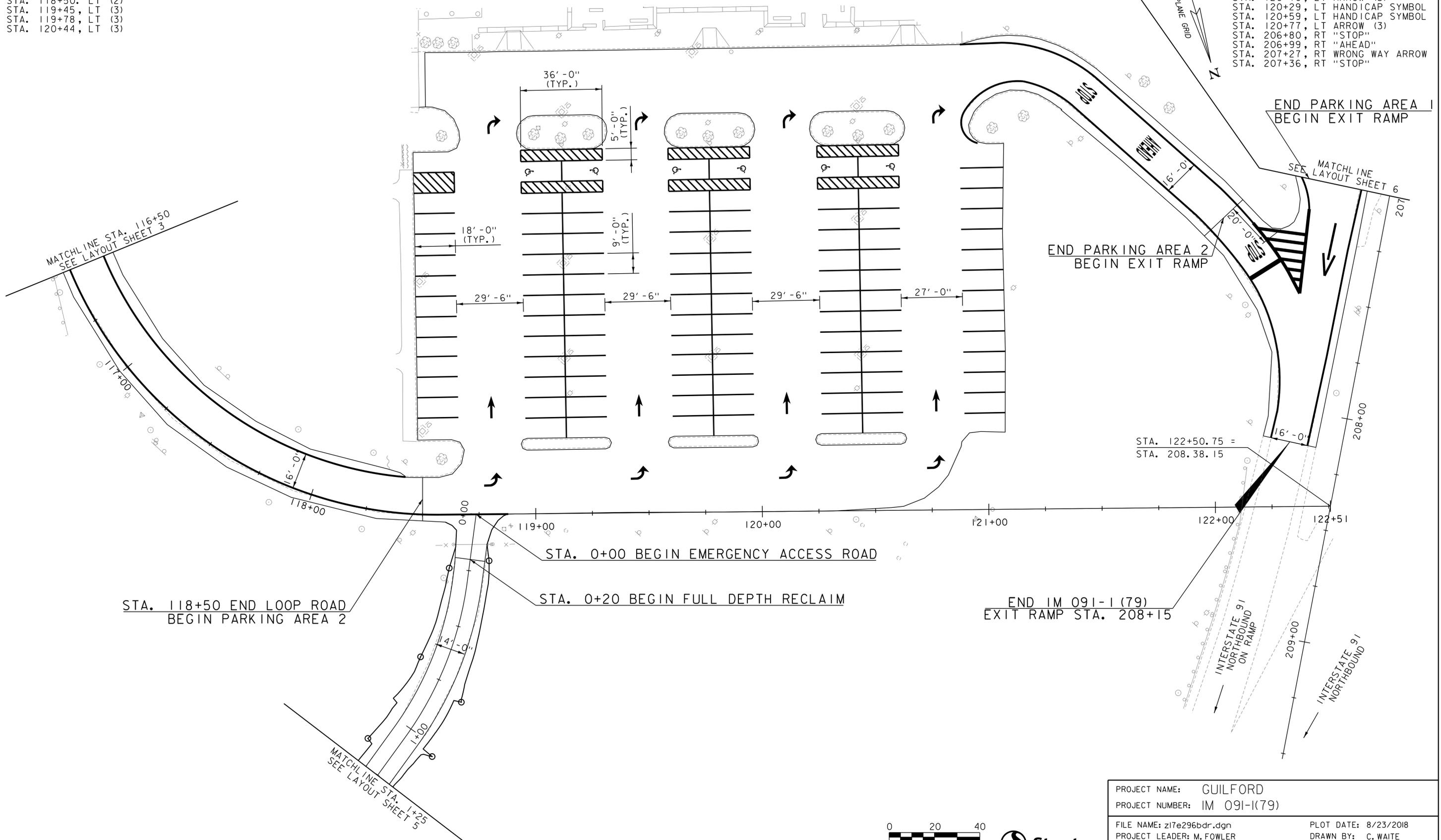
DURABLE 6 INCH WHITE LINE  
STA. 116+50 TO 188+88, SOLID CL  
STA. 207+11 TO 208+15, SOLID RT  
STA. 207+00 TO 207+13, SOLID, RT

DURABLE 6 INCH YELLOW LINE  
STA. 116+50 TO 118+41, SOLID LT  
STA. 206+41 TO 207+22, SOLID RT  
STA. 207+00 TO 208+15, SOLID RT

DURABLE 12 INCH WHITE LINE  
STA. 207+13 TO 207+22, RT (DIAGONAL)

DURABLE 24 INCH STOP BAR  
STA. 207+42, RT (16 LF)

DURABLE LETTER OR SYMBOL  
STA. 118+82, LT ARROW (3)  
STA. 118+98, LT HANDICAP SYMBOL  
STA. 119+28, LT HANDICAP SYMBOL  
STA. 119+45, LT ARROW (3)  
STA. 119+63, LT HANDICAP SYMBOL  
STA. 119+93, LT HANDICAP SYMBOL  
STA. 120+10, LT ARROW (3)  
STA. 120+29, LT HANDICAP SYMBOL  
STA. 120+59, LT HANDICAP SYMBOL  
STA. 120+77, LT ARROW (3)  
STA. 206+80, RT "STOP"  
STA. 206+99, RT "AHEAD"  
STA. 207+27, RT WRONG WAY ARROW  
STA. 207+36, RT "STOP"



STA. 122+50.75 =  
STA. 208.38.15

STA. 118+50 END LOOP ROAD  
BEGIN PARKING AREA 2

STA. 0+00 BEGIN EMERGENCY ACCESS ROAD

STA. 0+20 BEGIN FULL DEPTH RECLAIM

END IM 091-1(79)  
EXIT RAMP STA. 208+15

MATCHLINE STA. 1+25  
SEE LAYOUT SHEET 5



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: C. WAITE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 16 OF 30
DESIGNED BY: C. WAITE	
PLAN SHEET 4	

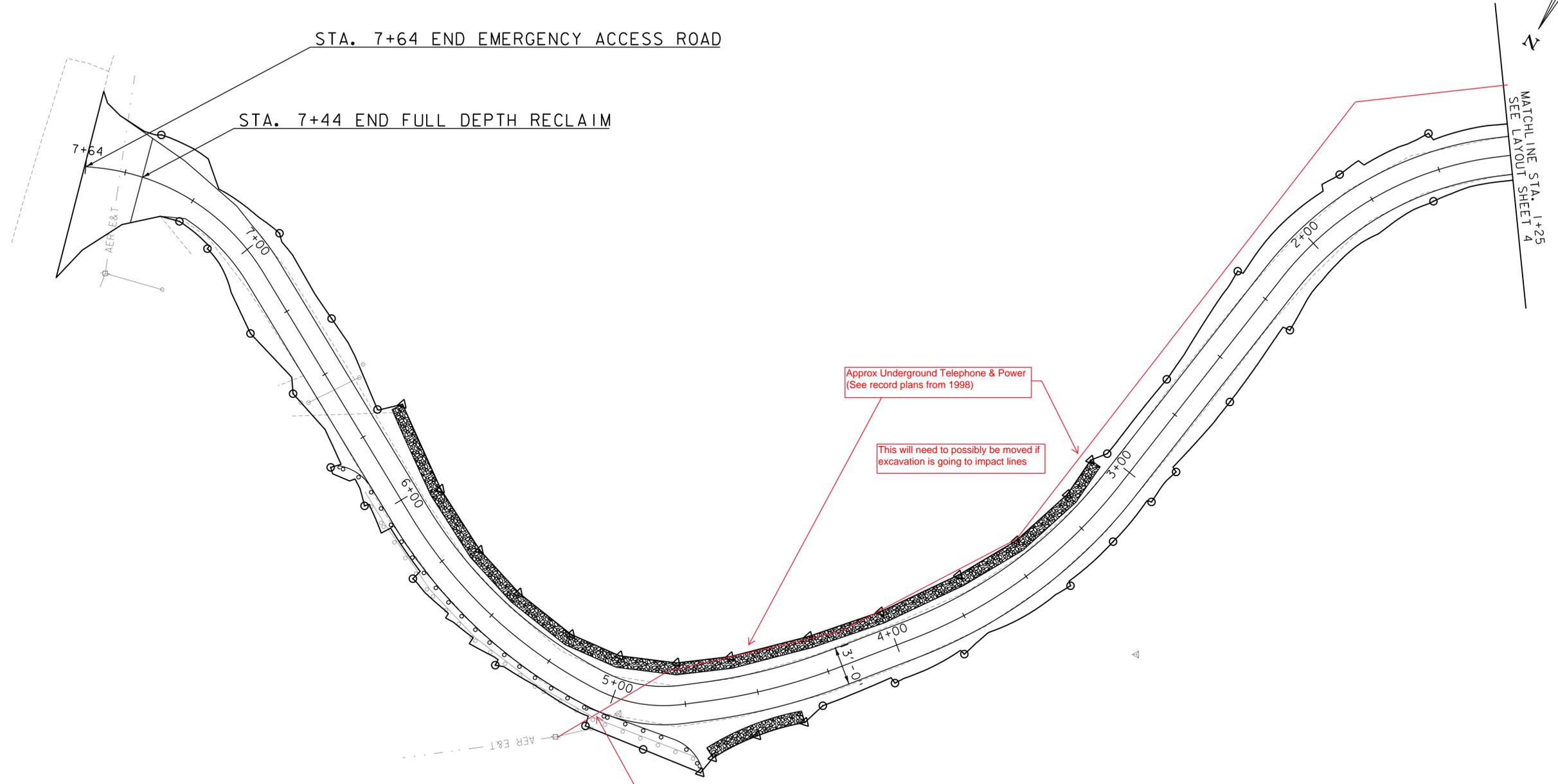
STEEL BEAM GUARDRAIL, W/8 FEET POSTS  
STA. 4+73 TO 6+21, LT

ANCHOR FOR STEEL BEAM GUARDRAIL  
STA. 4+73, LT  
STA. 6+21, LT

REMOVAL AND DISPOSAL OF GUARDRAIL  
STA. 4+74 TO 6+09, LT

STONE FILL, TYPE I  
STA. 3+05 TO 6+28, RT  
STA. 4+37 TO 4+70, LT

YIELDING MARKER POST  
STA. 6+26, RT  
STA. 6+44, LT



Approx Underground Telephone & Power  
(See record plans from 1998)

This will need to possibly be moved if  
excavation is going to impact lines

Dig Safe location of underground before  
placing New Gaurdail Posts.

NOTE: EXCAVATION FOR STONE FILL IN  
DITCHES TO BE PAID AS ITEM 608.25  
ALL PURPOSE EXCAVATOR RENTAL, TYPE I  
AND ITEM 608.37 TRUCK RENTAL.



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: C. WAITE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 17 OF 30
DESIGNED BY: C. WAITE	
PLAN SHEET 5	

CHANGING ELEVATION OF DROP  
INLETS, CATCH BASINS, OR MANHOLES  
STA. 203+36, RT  
STA. 203+77, RT  
STA. 204+66, RT  
STA. 204+73, RT  
STA. 205+61, RT  
STA. 205+72, RT

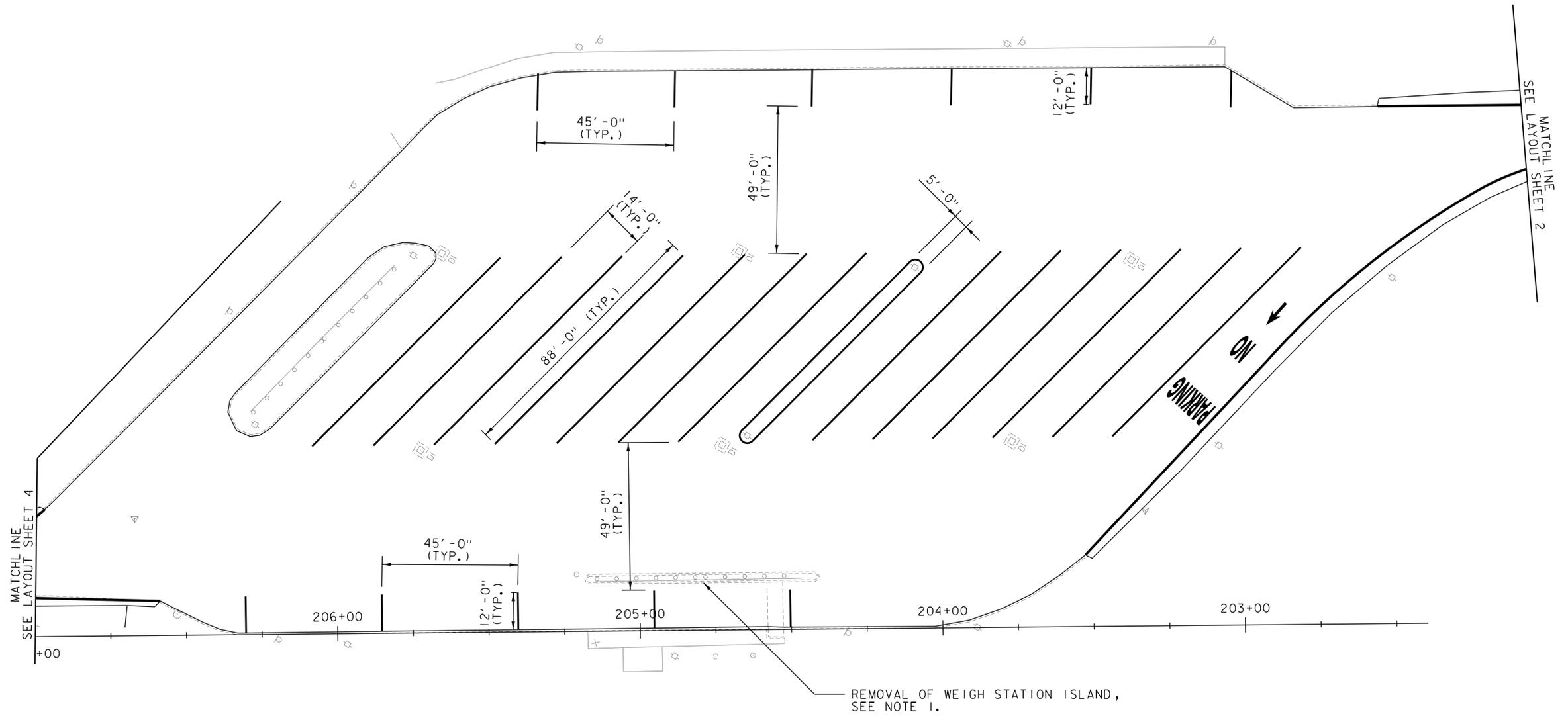
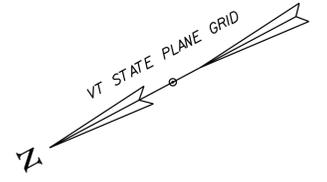
DURABLE 4 INCH WHITE LINE  
PARKING LOT, SEE LAYOUT BELOW

DURABLE 6 INCH WHITE LINE  
STA. 107+03 TO 107+26, SOLID, LT  
STA. 206+59 TO 207+00, SOLID RT

DURABLE 6 INCH YELLOW LINE  
STA. 106+14 TO 106+79, SOLID, LT  
STA. 206+59 TO 207+00, SOLID, RT

DURABLE LETTER OR SYMBOL  
STA. 202+88, RT ARROW  
STA. 202+99, RT "NO"  
STA. 203+17, RT "PARKING"

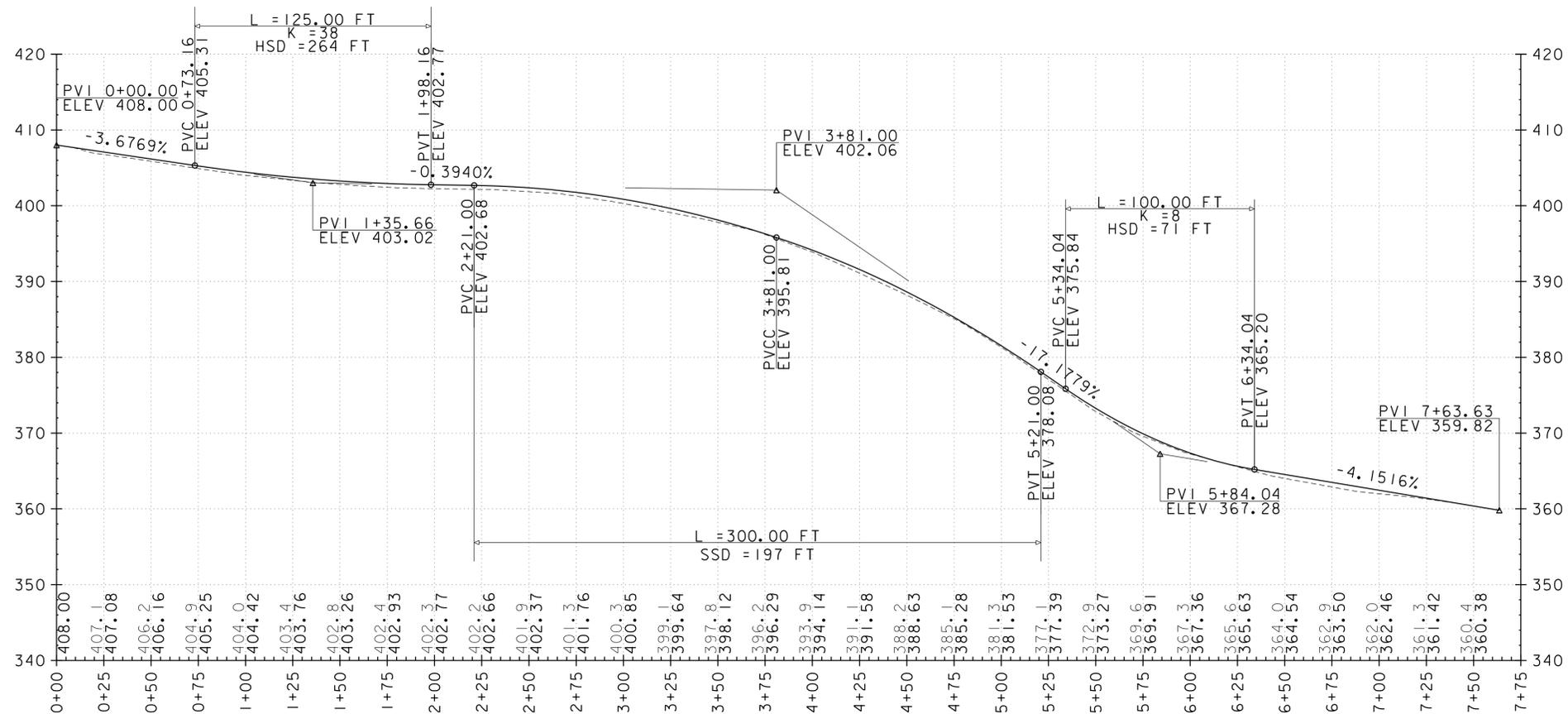
REMOVAL OF WEIGH STATION ISLAND  
STA. 204+40 TO 205+18, RT  
(SEE NOTE THIS SHEET)



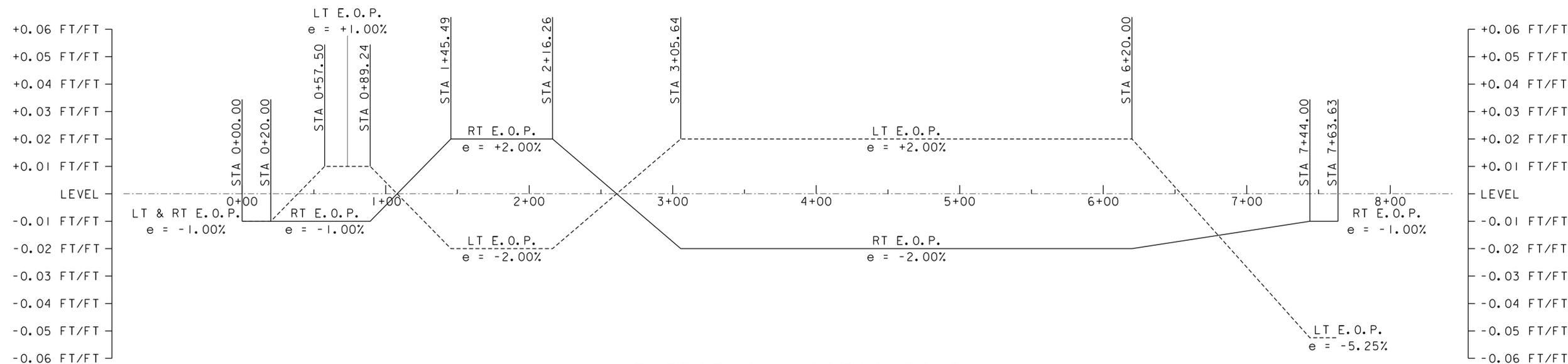
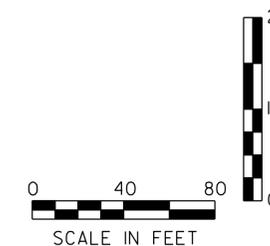
NOTES:  
1. REMOVAL OF WEIGH STATION ISLAND SHALL BE PAID AS ITEM 900.645 SPECIAL PROVISION (REMOVAL OF WEIGH STATION ISLAND). SEE DETAIL ON SHEET 8. REMOVAL AND LOT RESTORATION SHALL BE COMPLETED PRIOR TO LOT BEING UTILIZED FOR TEMPORARY CAR LOT.



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: C. WAITE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 18 OF 30
DESIGNED BY: C. WAITE	
PLAN SHEET 6	



EMERGENCY ACCESS ROAD



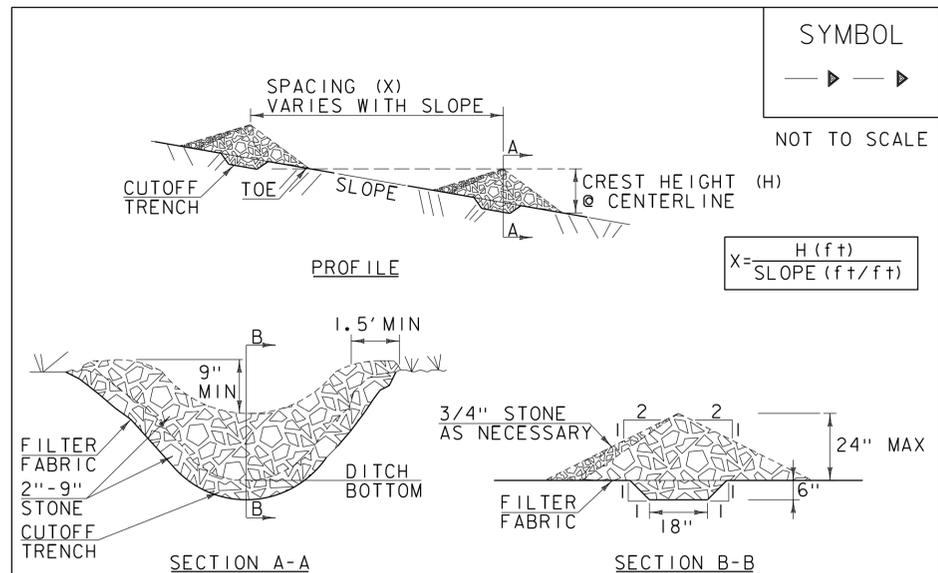
EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: IM 091-1(79)

FILE NAME: zi7e296pro.dgn  
 PROJECT LEADER: M. FOWLER  
 DESIGNED BY: J. BURKE  
 PROFILE & SUPERELEVATION SHEET

PLOT DATE: 8/23/2018  
 DRAWN BY: J. BURKE  
 CHECKED BY: M. FOWLER  
 SHEET 19 OF 30





SYMBOL



NOT TO SCALE

$$X = \frac{H (ft)}{\text{SLOPE} (ft/ft)}$$

**CONSTRUCTION SPECIFICATIONS**

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

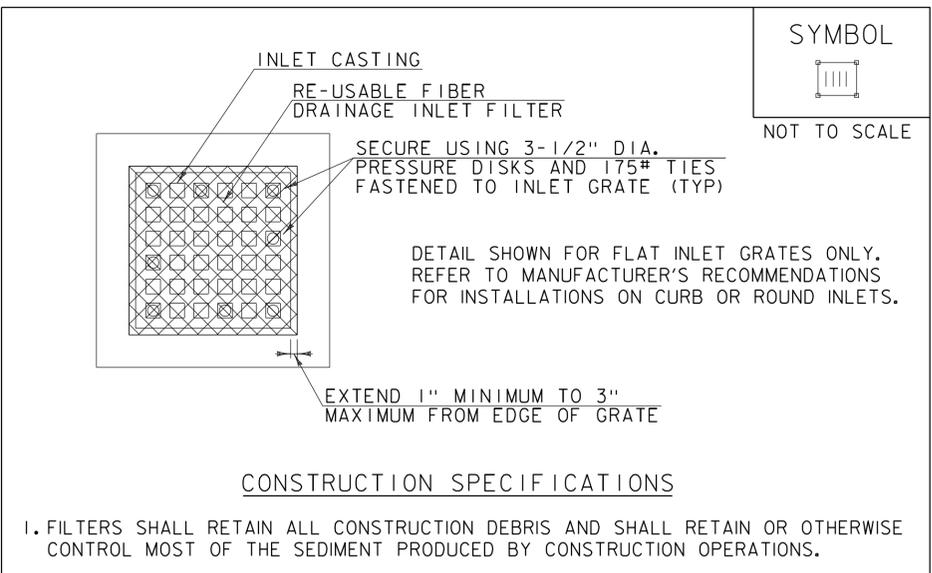
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**CHECK DAM**

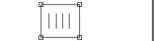
NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF



SYMBOL



NOT TO SCALE

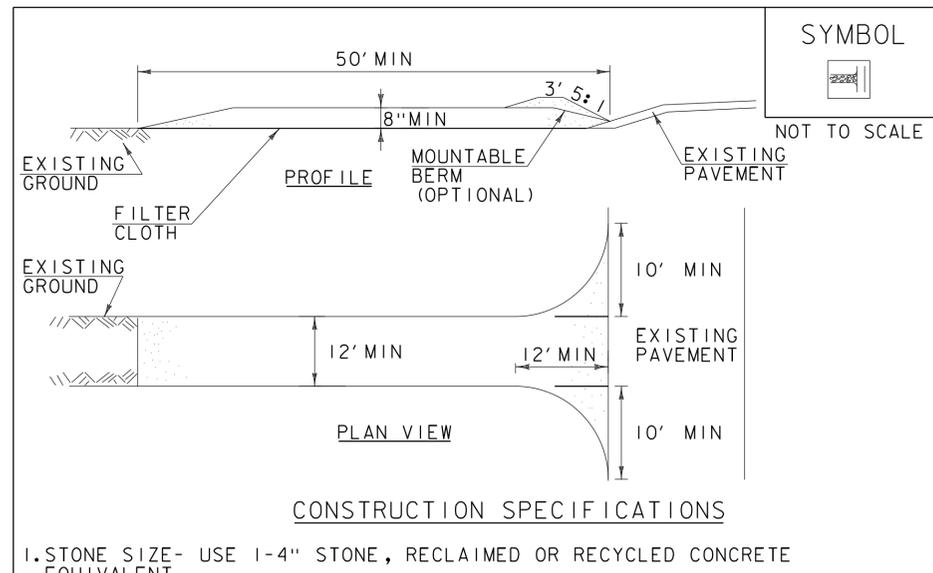
**CONSTRUCTION SPECIFICATIONS**

1. FILTERS SHALL RETAIN ALL CONSTRUCTION DEBRIS AND SHALL RETAIN OR OTHERWISE CONTROL MOST OF THE SEDIMENT PRODUCED BY CONSTRUCTION OPERATIONS.
2. IF CLOGGING OCCURS, INLETS SHALL BE ABLE TO BE EASILY UNCLOGGED BY BROOMING THE SIDES AND TOP OF THE FILTER.
3. INSTALLED FILTERS SHALL BE RESISTANT TO TRAFFIC DAMAGE, INCLUDING TRAFFIC BY STREET CLEANING MACHINES.
4. FILTER UNITS SHALL BE BIODEGRADABLE AND MAY OFTEN BE RE-USED.
5. INSTALL FILTER UNIT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. MINIMUM NUMBER OF ANCHORS PER FILTER UNIT: 7 FOR CURB INLETS, 8 FOR FLAT GRATES.
7. INSPECT ALL INSTALLED FILTER UNITS AFTER EVERY RAIN.
8. INSPECT ALL INSTALLED FILTER UNITS PRIOR TO INITIATING CONSTRUCTION ACTIVITIES FOR THE DAY IF RAIN PERSISTS OVERNIGHT.
9. IF, UPON VISUAL INSPECTION, 50% OR MORE OF FILTER FABRIC SURFACE AREA IS INUNDATED WITH SEDIMENT OR FILTER FABRIC IS CLOGGED, CONTRACTOR SHALL BROOM COLLECTED MATERIAL OFF FILTER UNIT SURFACES AND AWAY FROM EDGES.
10. REMOVE SEDIMENT AND DEBRIS COLLECTED AROUND FILTER UNITS. DISPOSE OF COLLECTED SEDIMENT AND DEBRIS OFF-SITE IN ACCORDANCE WITH THE VERMONT AGENCY OF NATURAL RESOURCES, SOLID WASTE MANAGEMENT RULES.

ORIGINALLY DEVELOPED BY STANTEC

**INLET PROTECTION DEVICE, TYPE II**

NOTES:  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR PAY ITEM 653.41



SYMBOL



NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

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

**STABILIZED CONSTRUCTION ENTRANCE**

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 FOR STABILIZED CONSTRUCTION ENTRANCE (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296det.epsc.dgn  
PROJECT LEADER: VTrans  
DESIGNED BY: VTrans  
EPSC DETAIL SHEET I

PLOT DATE: 8/23/2018  
DRAWN BY: VTrans  
CHECKED BY: VTrans  
SHEET 20 OF 30



VAOT LOW GROW/FINE FESCUE MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
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				

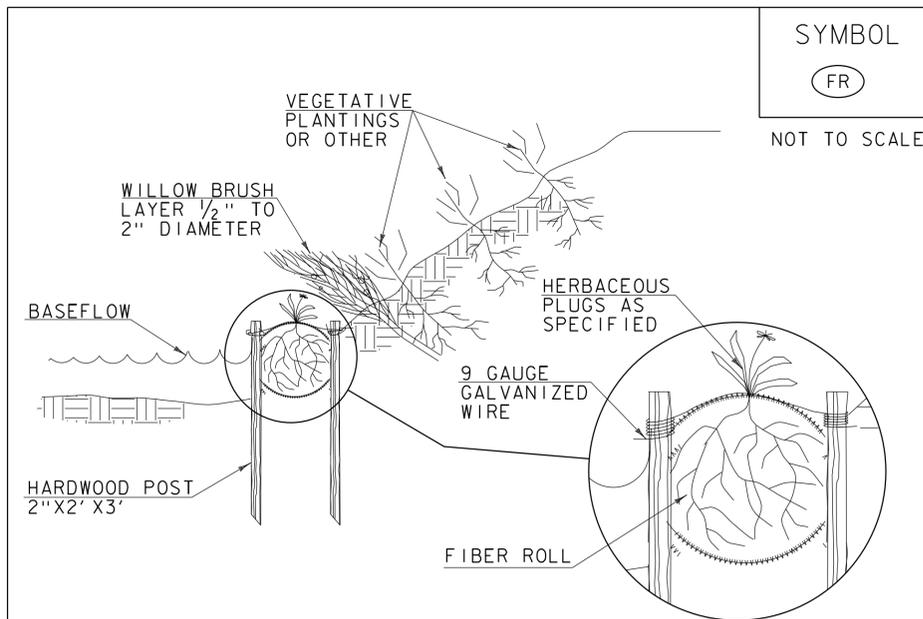
VAOT RURAL AREA MIX						
WEIGHT	LBS/AC		NAME	LATIN NAME	GERM	PURITY
	BROADCAST	HYDROSEED				
37.5%	22.5	45	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS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

- SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
- SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
- 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.
- 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.
- 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	<b>TURF ESTABLISHMENT</b>								
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651J5)	<table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td>JANUARY 12, 2015</td> <td>WHF</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISIONS		JANUARY 12, 2015	WHF				
REVISIONS									
JANUARY 12, 2015	WHF								



**CONSTRUCTION SPECIFICATIONS**

- EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS
- PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"x2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
- NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
- PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

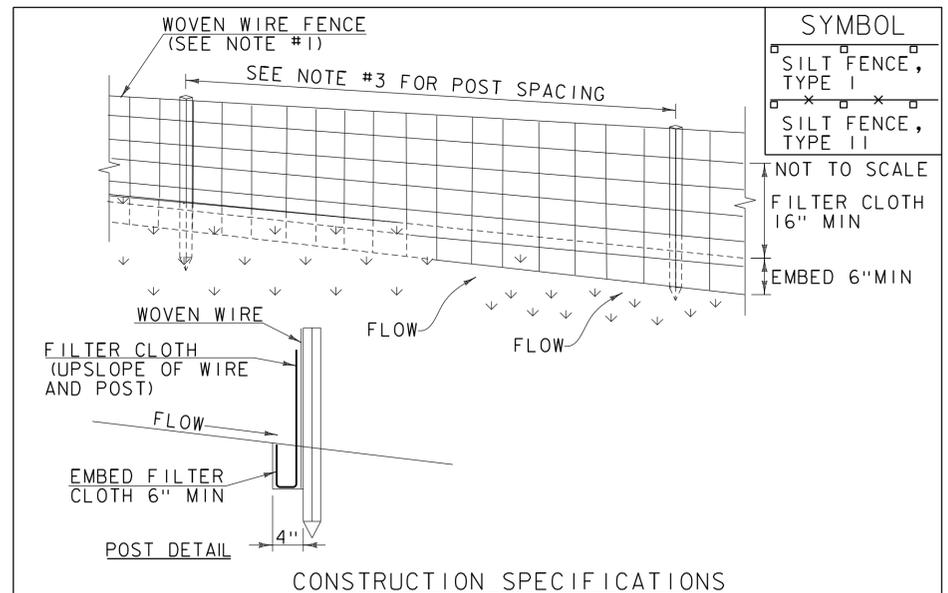
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**FIBER ROLL  
(EROSION LOG)**

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

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR EROSION LOG (PAY ITEM 653.60)



**CONSTRUCTION SPECIFICATIONS**

- WOVEN WIRE REINFORCED FENCE (TYPE II) 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.
- FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
- 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'.
- 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.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
- 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.

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

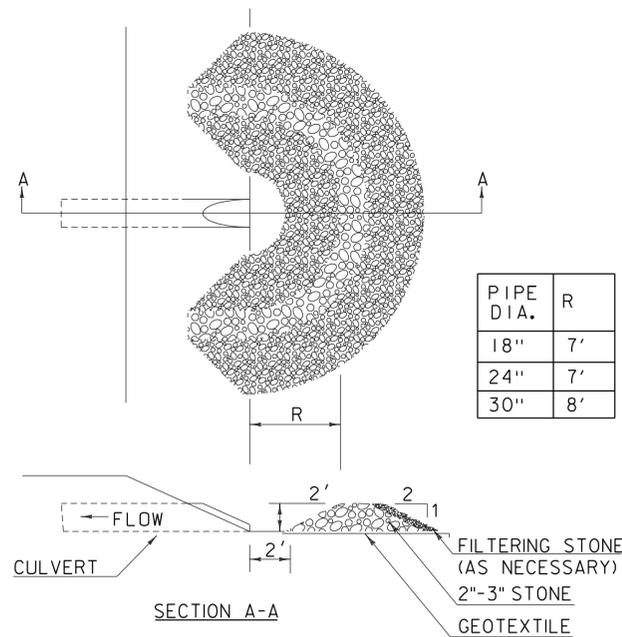
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR SILT FENCE, TYPE I (PAY ITEM 653.475) OR SILT FENCE, TYPE II (PAY ITEM 653.476).

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-I(79)



FILE NAME: z17e296det_epsc.dgn  
PROJECT LEADER: VTrans  
DESIGNED BY: VTrans  
EPSC DETAIL SHEET 2

PLOT DATE: 8/23/2018  
DRAWN BY: VTrans  
CHECKED BY: VTrans  
SHEET 21 OF 30



PIPE DIA.	R
18"	7'
24"	7'
30"	8'

**CONSTRUCTION SPECIFICATIONS**

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE THE AREAS UPSTREAM FROM THE CHECK DAM ARE STABILIZED WITH VEGETATION, THE SEDIMENT TRAPPED BEHIND THE DAM SHALL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM(S) SHALL BE FLATTENED AND GRADED IN A MANNER WHICH PROTECTS THE AREA FROM EROSION AND CHANNEL BLOCKAGE. (GEOTEXTILE MUST BE REMOVED).
5. THE GEOTEXTILE MUST BE DISPOSED OF APPROPRIATELY.
6. THE AREA CONTRIBUTING TO THE CHECK DAM SHALL NOT EXCEED 4 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS  
ORIGINALLY DEVELOPED BY USDA-NRCS

**PIPE INLET PROTECTION**

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE III (PAY ITEM 653.42).

BARRIER FENCE (LINE STYLE)  
653.50



BRUSH LAYER  
653.75, DETAIL



CHECK DAM (LINE STYLE)  
653.25, DETAIL



DUST CONTROL  
609.10 & 15



INLET PROTECTION DEVICE, TYPE III  
653.42, DETAIL



INLET PROTECTION DEVICE, TYPE I  
653.40, DETAIL (EXCAVATED)



FIBER ROLL (EROSION LOG)  
653.60, DETAIL



FILTER BAG  
653.45, DETAIL



INLET PROTECTION DEVICE, TYPE I OR TYPE II  
653.40 OR 653.41, DETAIL (FILTER FABRIC)



PROJECT DEMARCATION FENCE (LINE STYLE) -PDF-  
653.55



ROLLED EROSION CONTROL PRODUCT (RECP)  
653.20 (TEMP. EROSION MATTING)



SILT FENCE, TYPE I (LINE STYLE)  
653.475, DETAIL



SILT FENCE, TYPE II (LINE STYLE)  
653.476, DETAIL (WOVEN WIRE)



DISTURBED AREAS REQUIRING RE-VEGETATION



ROLLED EROSION CONTROL PRODUCT



STABILIZED CONSTRUCTION ENTRANCE  
653.35, DETAIL



INLET PROTECTION DEVICE, TYPE I  
653.40, DETAIL (STONE & BLOCK)



RIP RAP OUTLET PROTECTION  
613.11 (STONE FILL, TYPE II)



SURFACE ROUGHENING  
INCIDENTAL TO CONTRACT



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

**STANDARD SYMBOLS**

**EPSC NOTES**

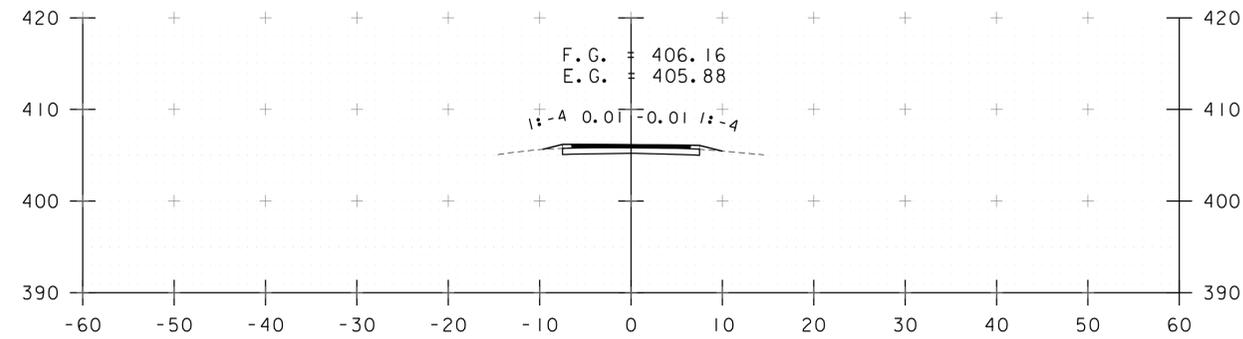
1. A QUANTITY OF INLET PROTECTION DEVICE, TYPE II HAS BEEN INCLUDED FOR PROTECTION OF ALL DRAINAGE STRUCTURES SHOWN ON THE PLAN SHEETS OR AS DIRECTED BY THE ENGINEER.
2. A QUANTITY OF INLET PROTECTION DEVICE, TYPE III HAS BEEN PROVIDED TO PROTECT THE CULVERT TO BE CLEANED ALONG THE ACCESS ROAD OR AS DIRECTED BY THE ENGINEER.
3. QUANTITIES OF CHECK DAM, TYPE I, SILT FENCE, TYPE I AND EROSION LOG HAVE BEEN INCLUDED FOR USE AS NEEDED (PRIMARILY ALONG THE EMERGENCY ACCESS ROAD) OR AS DIRECTED BY THE ENGINEER.



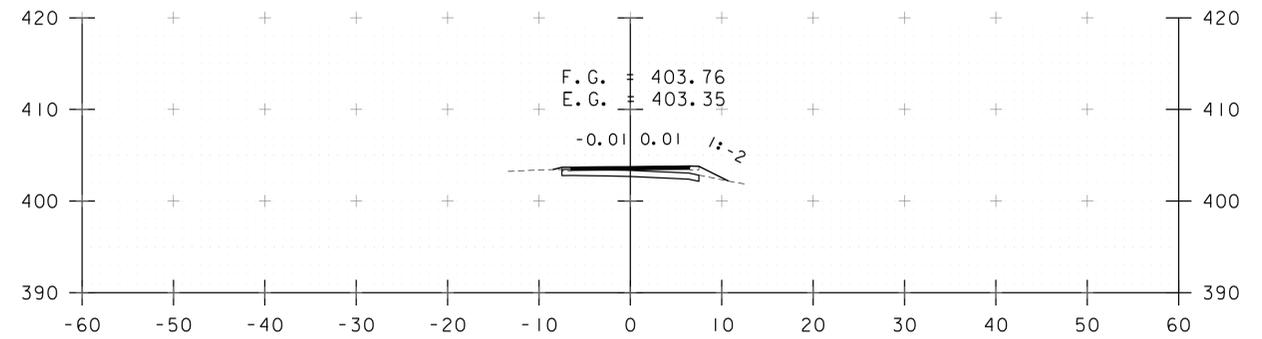
PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296det_epsc.dgn  
PROJECT LEADER: VTrans  
DESIGNED BY: VTrans  
EPSC DETAIL SHEET 3

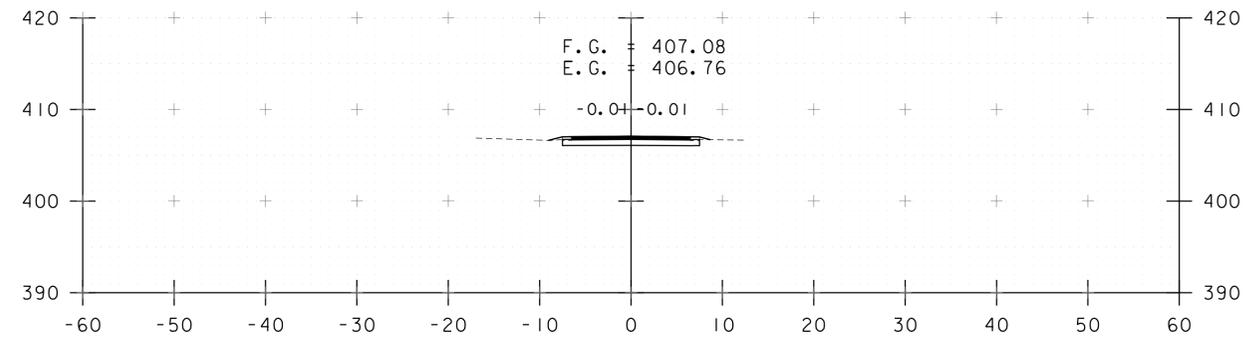
PLOT DATE: 8/23/2018  
DRAWN BY: VTrans  
CHECKED BY: VTrans  
SHEET 22 OF 30



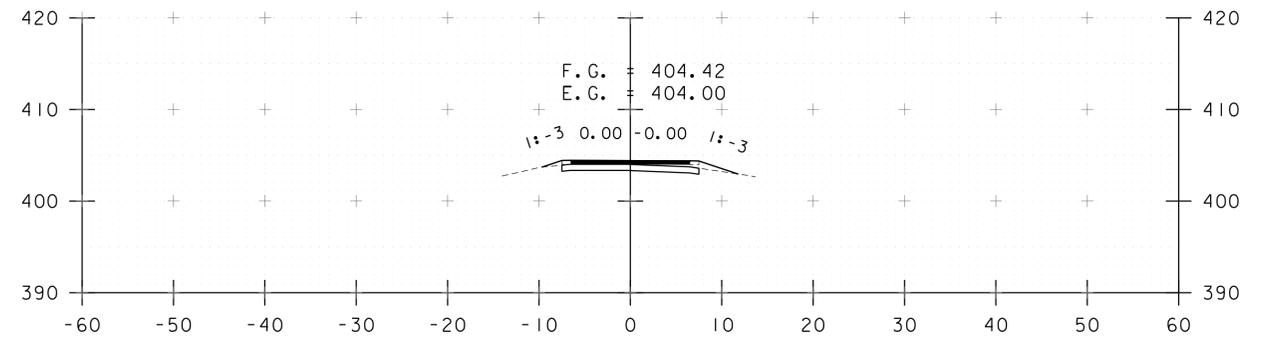
0+50



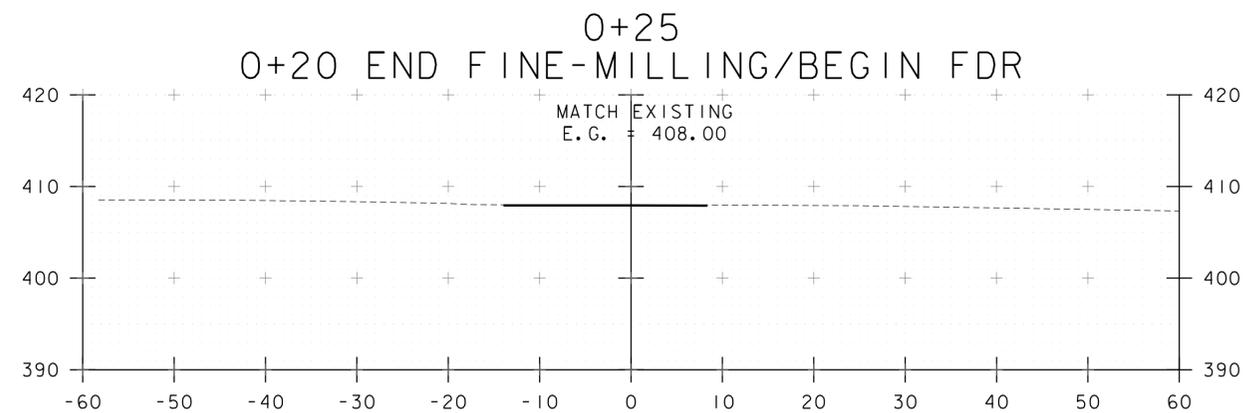
1+25



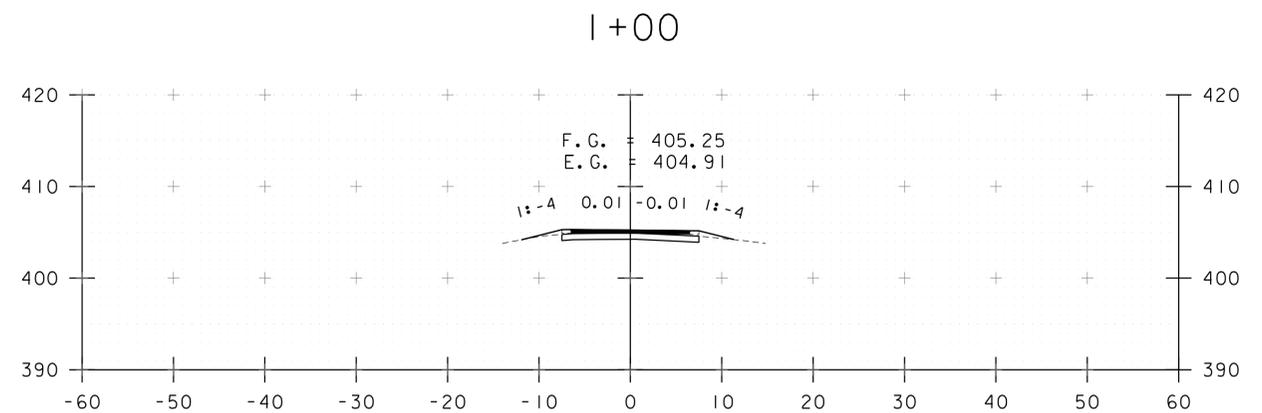
0+25



1+00



0+00  
BEGIN FINE-MILLING/MATCH EXISTING



0+75

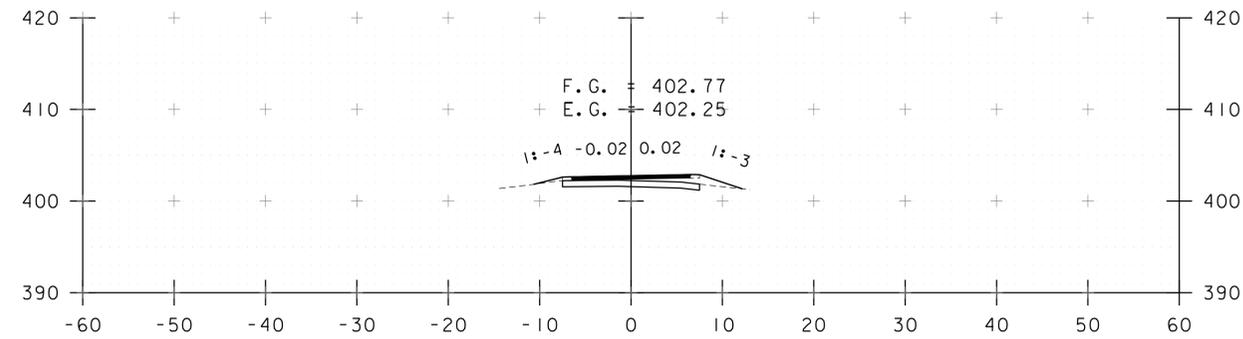
EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

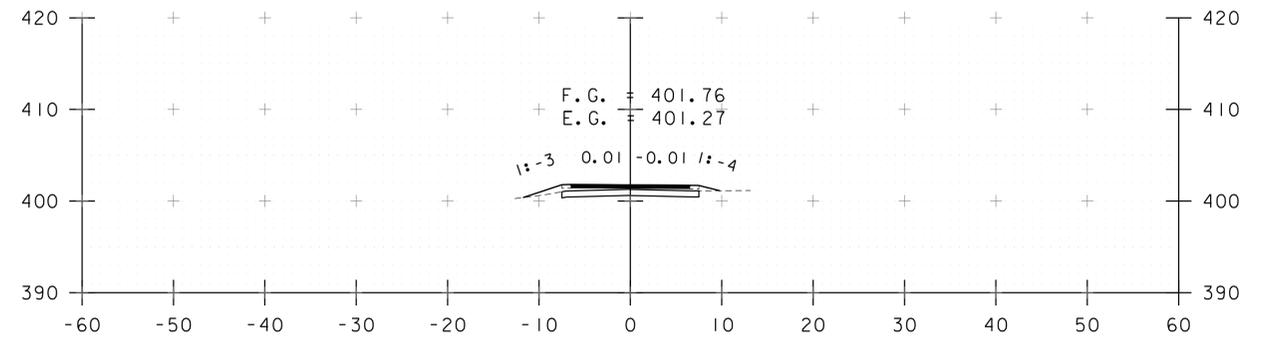
FILE NAME: z17e296xs.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: J. BURKE  
CROSS SECTION SHEET 1

PLOT DATE: 8/23/2018  
DRAWN BY: J. BURKE  
CHECKED BY: M. FOWLER  
SHEET 23 OF 30

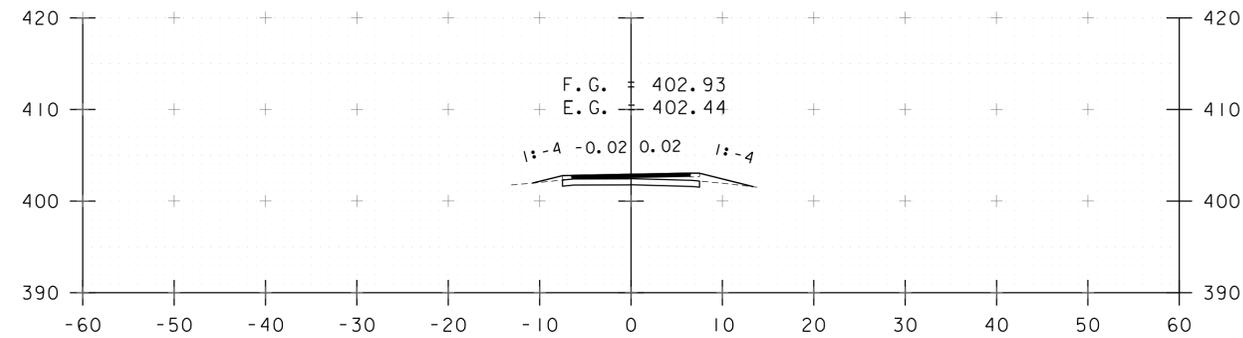




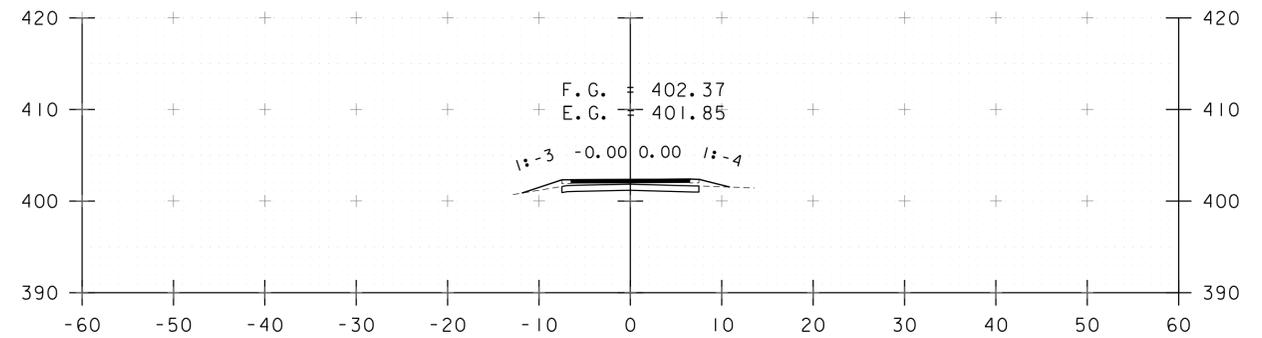
2+00



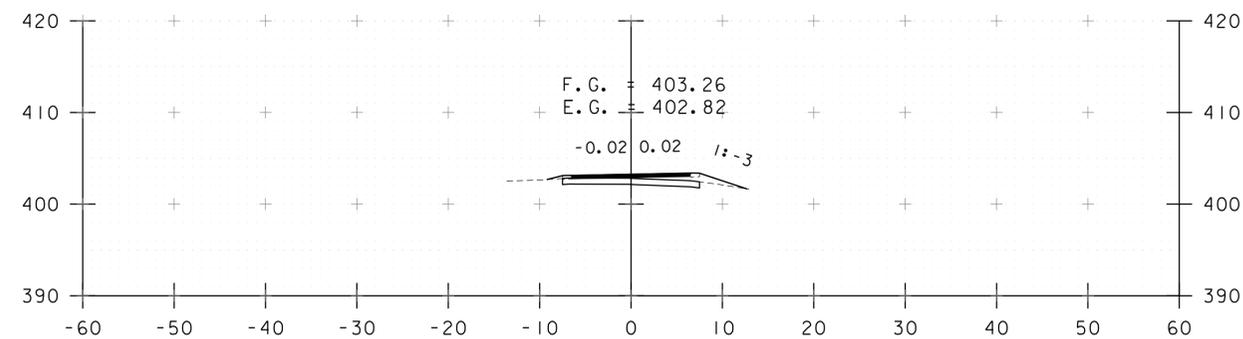
2+75



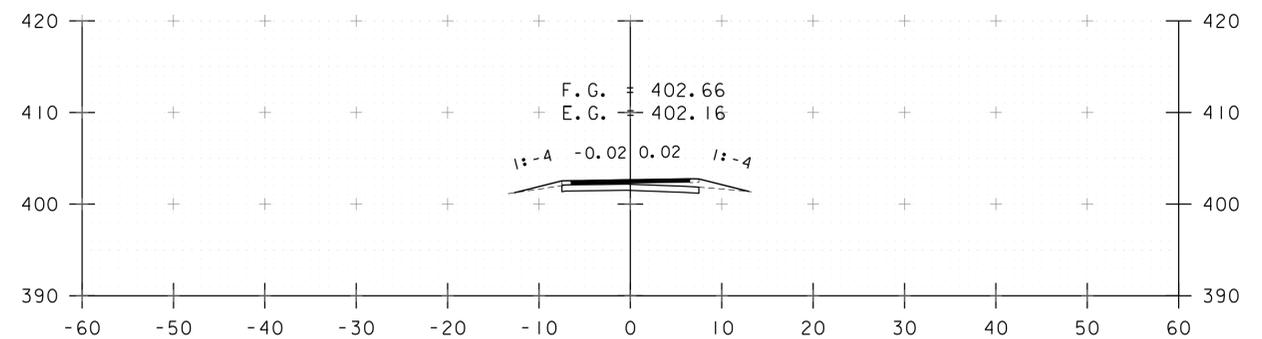
1+75



2+50



1+50



2+25

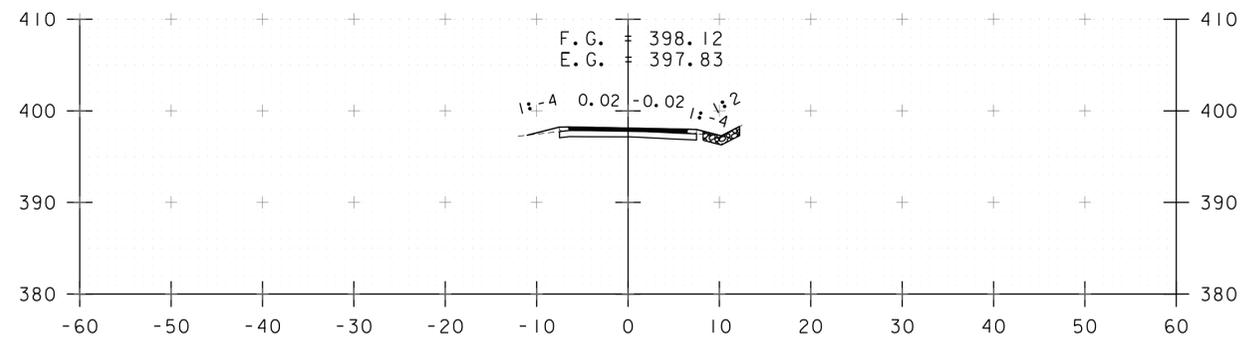
EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

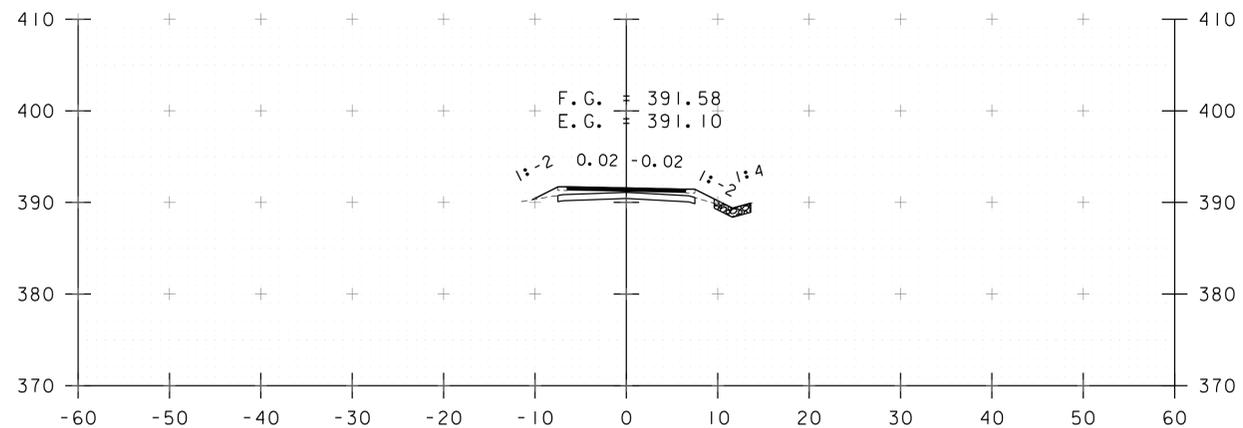
FILE NAME: z17e296xs.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: J. BURKE  
CROSS SECTION SHEET 2

PLOT DATE: 8/23/2018  
DRAWN BY: J. BURKE  
CHECKED BY: M. FOWLER  
SHEET 24 OF 30

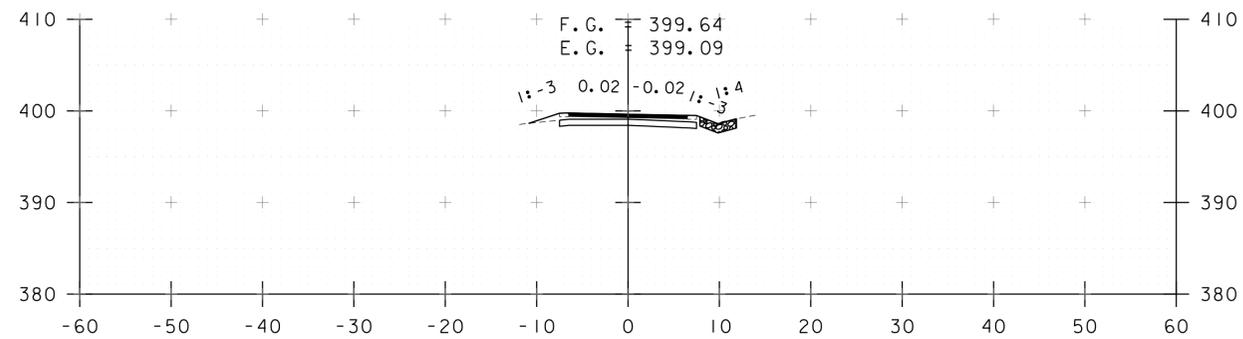




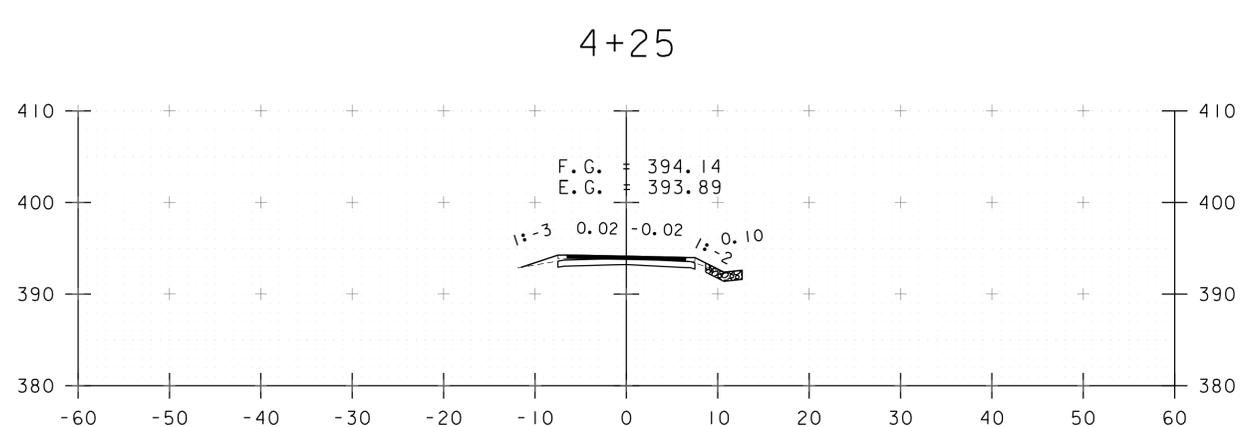
3+50



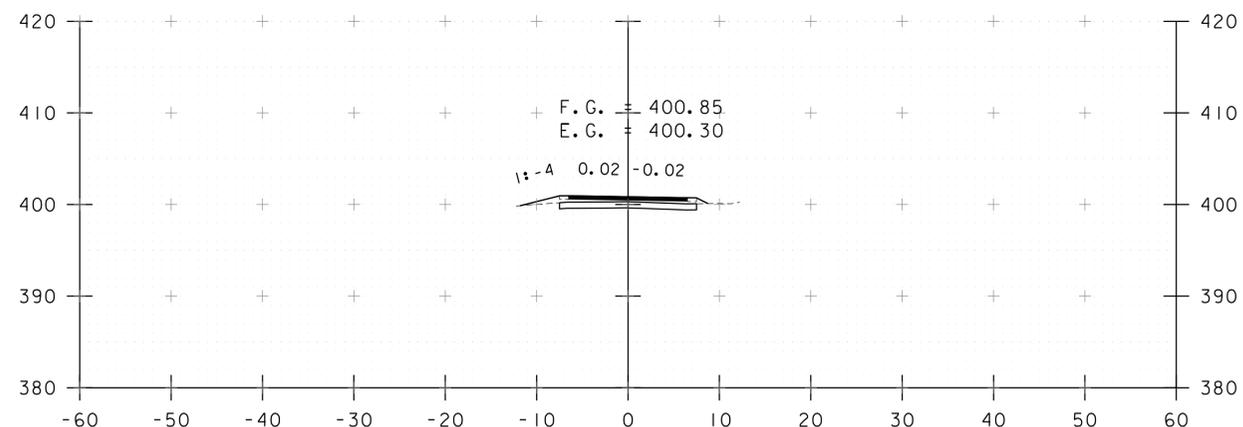
4+25



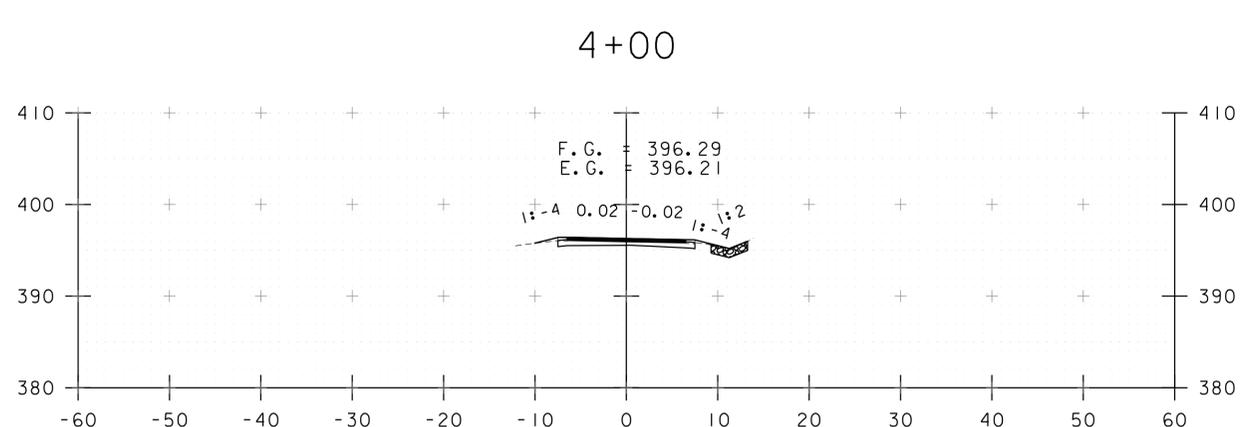
3+25



4+00



3+00



3+75

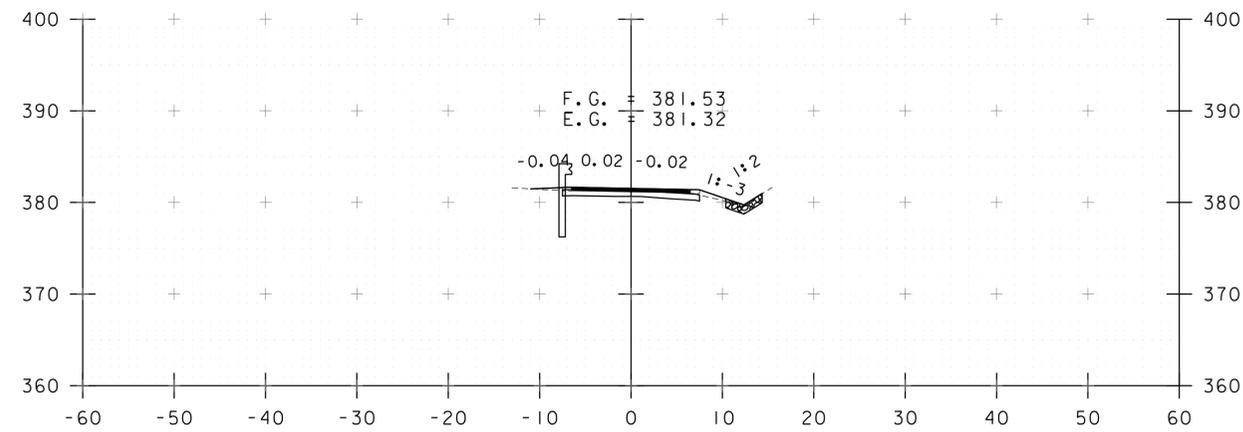
EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

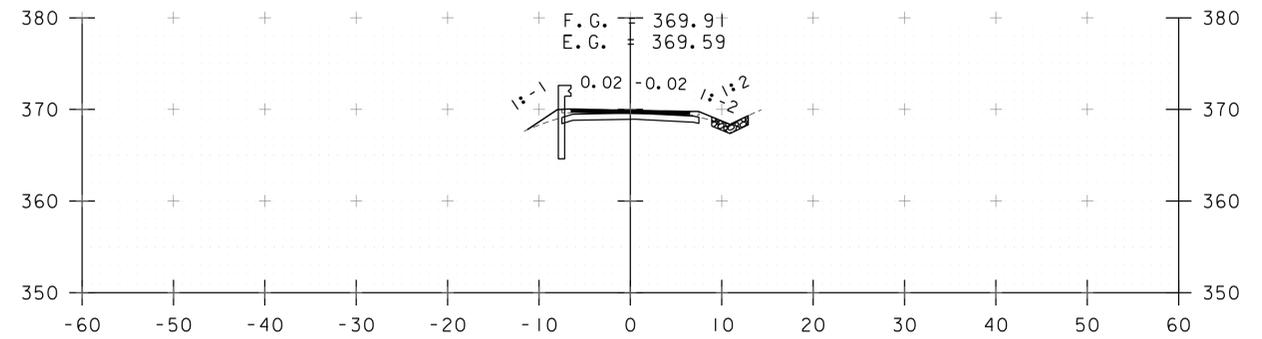
FILE NAME: z17e296xs.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: J. BURKE  
CROSS SECTION SHEET 3

PLOT DATE: 8/23/2018  
DRAWN BY: J. BURKE  
CHECKED BY: M. FOWLER  
SHEET 25 OF 30

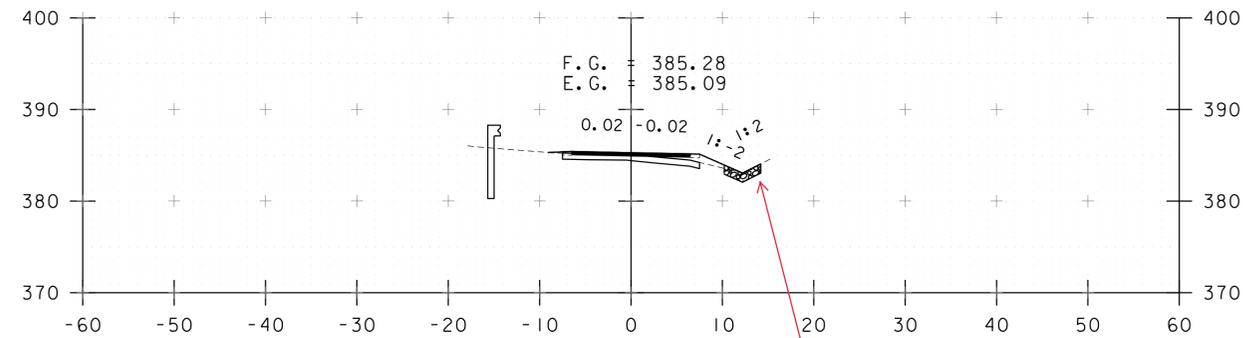




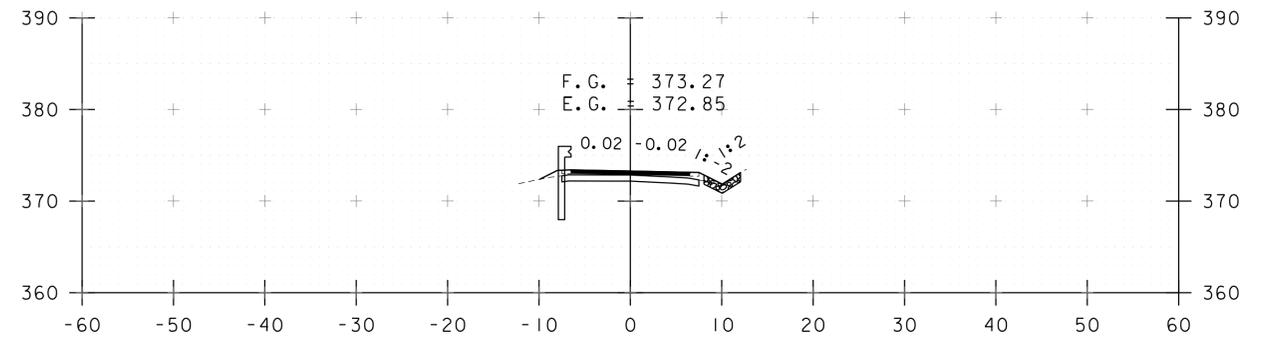
5+00



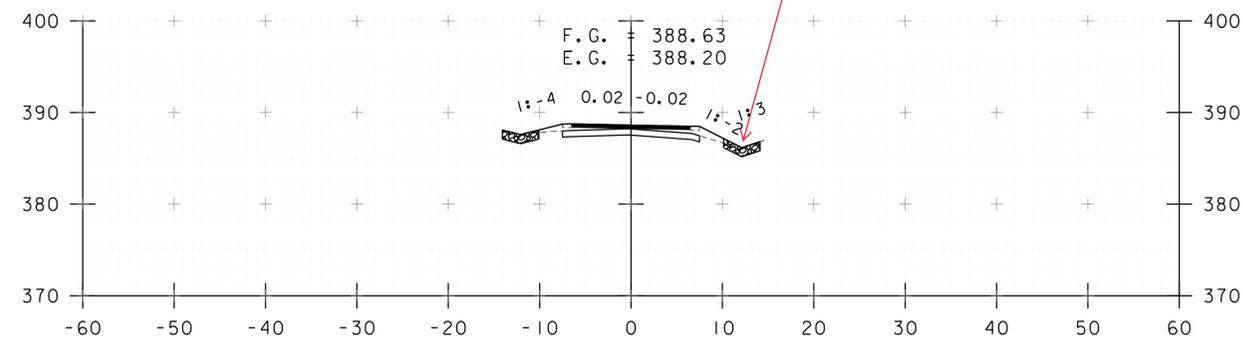
5+75



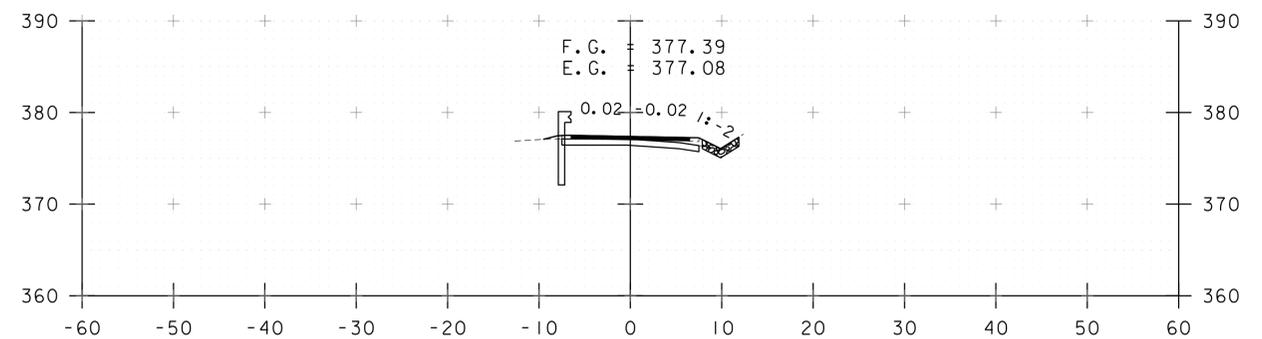
4+75



5+50



4+50



5+25

Excavation for new ditch appears to only be 12" to 18" deeper than existing grade?

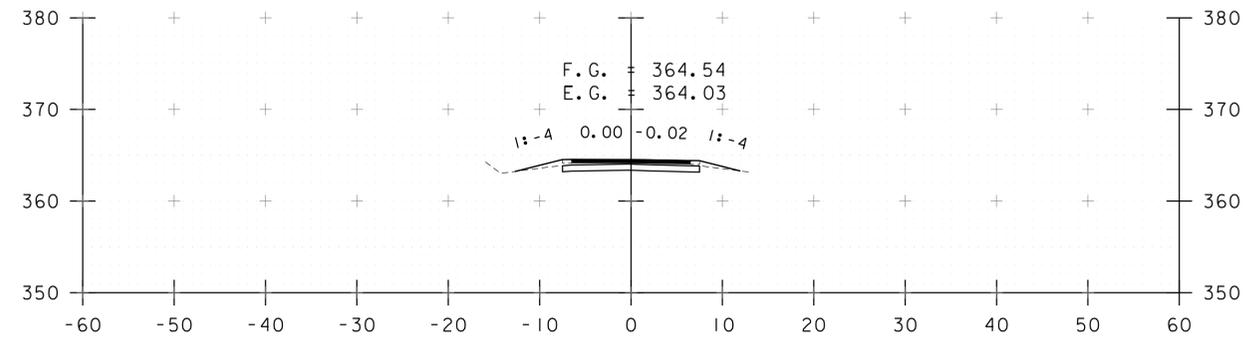
### EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

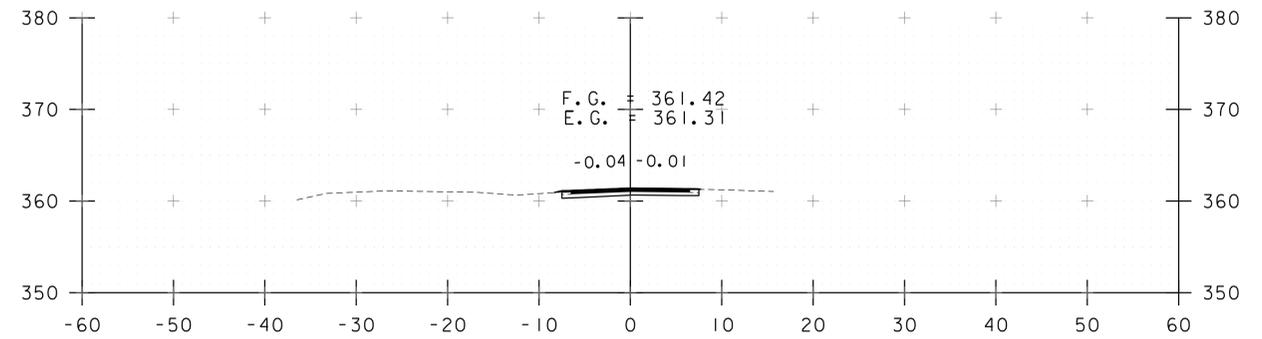
FILE NAME: z17e296xs.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: J. BURKE  
CROSS SECTION SHEET 4

PLOT DATE: 8/23/2018  
DRAWN BY: J. BURKE  
CHECKED BY: M. FOWLER  
SHEET 26 OF 30

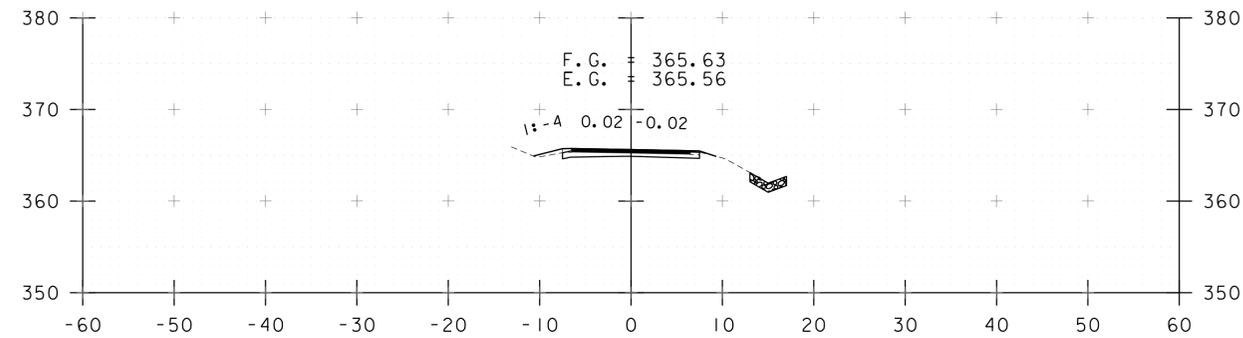




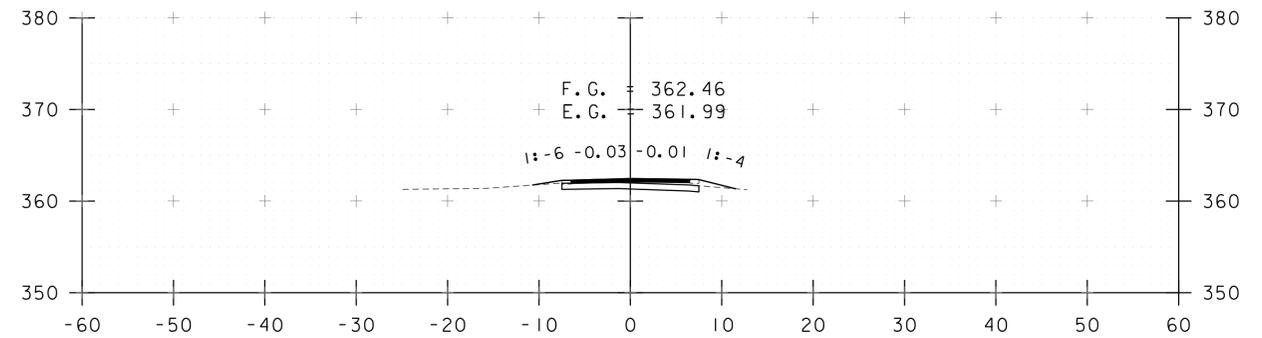
6+50



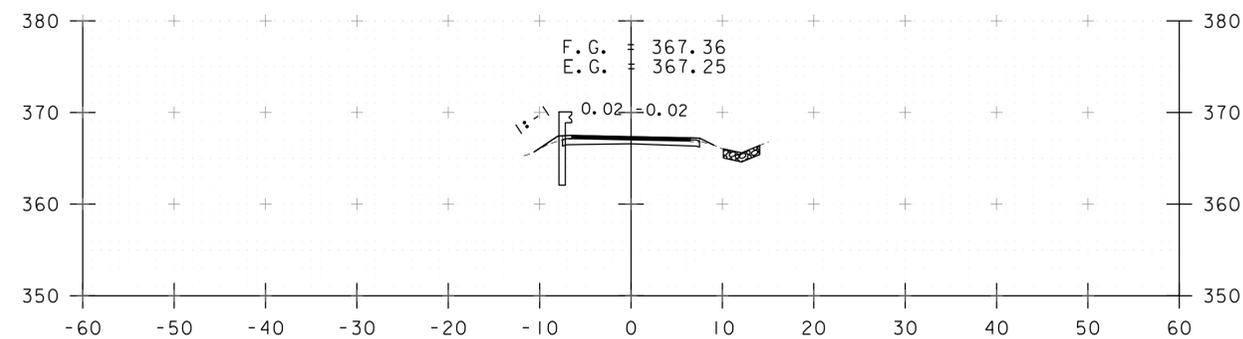
7+25



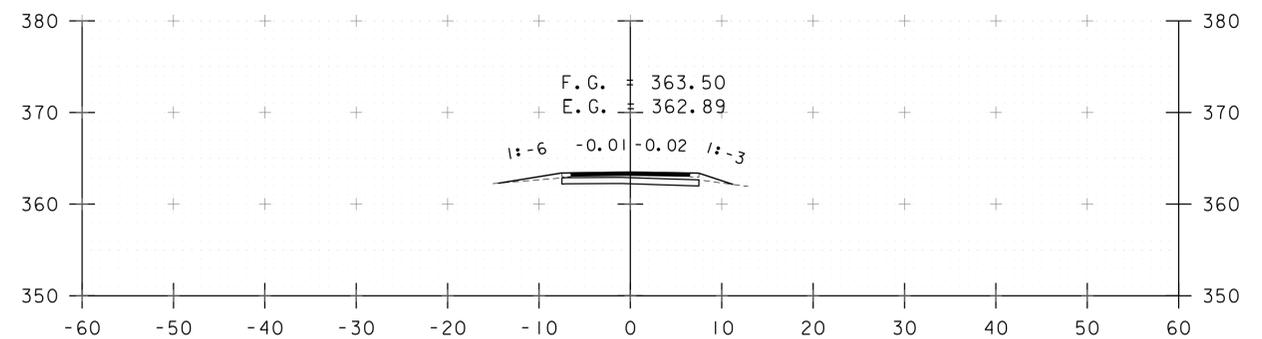
6+25



7+00



6+00



6+75

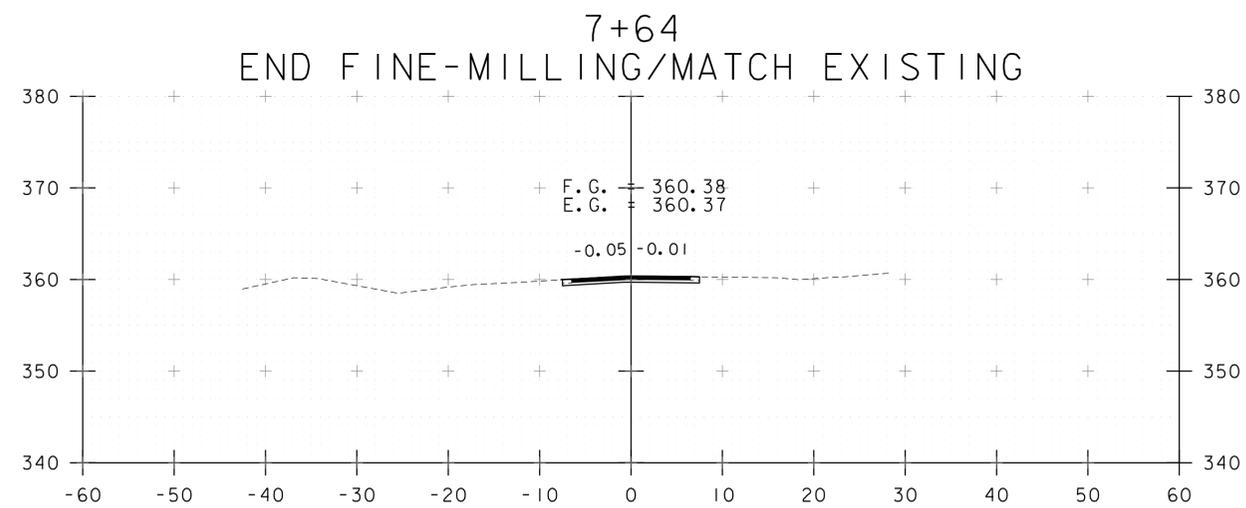
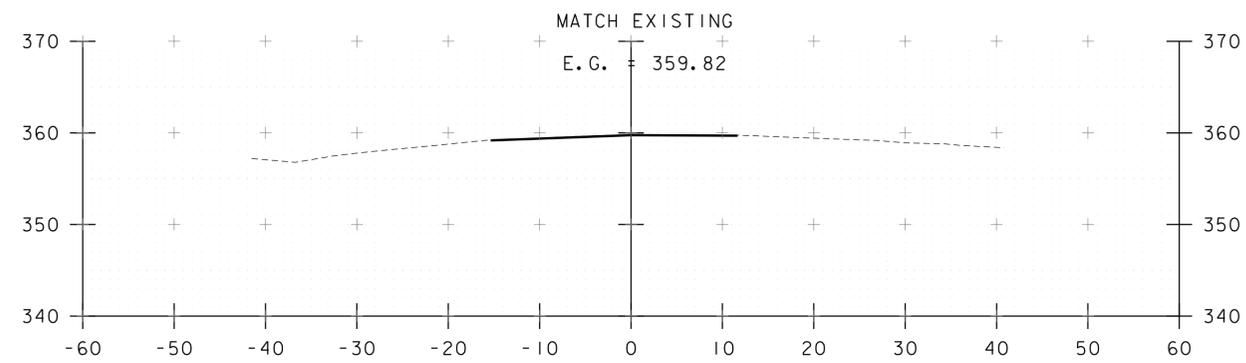
EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296xs.dgn  
 PROJECT LEADER: M. FOWLER  
 DESIGNED BY: J. BURKE  
 CROSS SECTION SHEET 5

PLOT DATE: 8/23/2018  
 DRAWN BY: J. BURKE  
 CHECKED BY: M. FOWLER  
 SHEET 27 OF 30





7+50  
7+44 END FDR/BEGIN FINE-MILLING

EMERGENCY ACCESS ROAD

PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 09I-1(79)

FILE NAME: z17e296xs.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: J. BURKE  
CROSS SECTION SHEET 6

PLOT DATE: 8/23/2018  
DRAWN BY: J. BURKE  
CHECKED BY: M. FOWLER  
SHEET 28 OF 30



# TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION. THE TRAFFIC CONTROL PLAN MUST BE SUBMITTED AS A CONSTRUCTION DRAWING IN ACCORDANCE WITH SECTION 105.03 OF THE VAOT 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) WILL NOT BE PAID SEPARATELY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.11, TRAFFIC CONTROL, ALL-INCLUSIVE. WORK SHALL NOT COMMENCE UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN ACCEPTED AND APPROVED BY THE ENGINEER.
2. ALL TRAFFIC CONTROL DEVICES SHALL MEET THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY REVISIONS. EXISTING SIGNS, SIGNALS AND MARKINGS SHALL BE VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERECTED OR PLACED OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED, THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH THE MUTCD.
3. ADDITIONAL RAMP SIGNING will BE REQUIRED.
4. THE BID PRICE FOR ITEM 641.11, TRAFFIC CONTROL, ALL-INCLUSIVE SHALL INCLUDE ALL APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, PORTABLE ARROW BOARDS, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS, AND POSTS AS DETAILED IN VAOT STANDARDS. ALL ADJUSTING, RELOCATING, AND REMOVING OF THESE DEVICES AS DIRECTED BY THE ENGINEER SHALL ALSO BE INCIDENTAL TO ITEM 641.11. THE FOLLOWING ITEMS WILL BE PAID FOR SEPARATELY:

- 630.10 - UNIFORMED TRAFFIC OFFICERS
- 630.15 - FLAGGERS
- 641.15 - PORTABLE CHANGEABLE MESSAGE SIGN
- 646.602 - TEMPORARY 4 INCH WHITE LINE, PAINT
- 646.622 - TEMPORARY 6 INCH WHITE LINE, PAINT
- 646.632 - TEMPORARY 6 INCH YELLOW LINE, PAINT
- 646.662 - TEMPORARY 12 INCH WHITE LINE, PAINT
- 646.682 - TEMPORARY 24 INCH STOP BAR, PAINT
- 646.692 - TEMPORARY LETTER OR SYMBOL, PAINT
- 646.76 - LINE STRIPING TARGETS
- 646.85 - REMOVAL OF EXISTING PAVEMENT MARKINGS

5. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PROVIDED FOR USE ALONG THIS PROJECT. THE PLACEMENT OF THESE UNITS AS WELL AS THE MESSAGE WILL BE APPROVED BY THE ENGINEER. THESE SIGNS WILL BE PAID FOR UNDER ITEM 641.15, PORTABLE CHANGEABLE MESSAGE SIGN. PCMS SHOULD NOT REPLACE ANY OF THE SIGNING DETAILED IN THE MUTCD AND SHOULD NOT BE USED IF STANDARD TRAFFIC CONTROL DEVICES ADEQUATELY PROVIDE THE INFORMATION THE MOTORISTS NEED TO TRAVEL SAFELY. IT IS ANTICIPATED THAT AS MANY AS THREE PCMS WILL BE LOCATED ALONG I-91 NORTHBOUND WITHIN MASSACHUSETTS BEGINNING AT EXIT 28B. AN ADDITIONAL THREE PCMS HAVE BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR POTENTIAL USE BETWEEN THE STATE LINE AND THE WELCOME CENTER.

THE PCMS SHALL CONSIST OF EITHER ONE OR TWO PHASES. TYPICALLY, A PHASE SHALL CONSIST OF UP TO THREE LINES OF EIGHT CHARACTERS PER LINE. THE PCMS SHOULD BE USED AS A SUPPLEMENT AND NOT AS A SUBSTITUTE FOR CONVENTIONAL SIGNS AND PAVEMENT MARKINGS.

THE PCMS SHOULD COMMUNICATE WHAT INFORMATION MOTORISTS NEED TO KNOW. UNNECESSARY INFORMATION SHOULD BE AVOIDED. MESSAGES SHOULD BE UPDATED PERIODICALLY TO DESCRIBE THE WORK ACTIVITY OCCURRING SO THAT THE PCMS CONTINUES TO COMMAND THE ATTENTION OF MOTORISTS.

6. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND INTERSECTING HIGHWAYS.
7. REFER TO VT STATE STANDARDS, THE SPECIAL PROVISIONS, AND THE MUTCD FOR TEMPORARY TRAFFIC CONTROL SIGN DIMENSIONS AND COLORS.

8. THE CONTRACTOR WILL BE ALLOWED TO CLOSE ACCESS TO THE WELCOME CENTER FACILITY FOR A MAXIMUM OF FOUR OVERNIGHT PERIODS BETWEEN THE HOURS OF 11PM AND 7AM TO COMPLETE FINE-MILLING AND PAVING IN THE WELCOME CENTER ENTRANCE RAMP AND THE I-91 ON-RAMP EXITING THE WELCOME CENTER. PREFERABLY THESE FACILITY CLOSURES WOULD OCCUR ON MONDAY OR TUESDAY OVERNIGHTS, OR AS APPROVED BY THE ENGINEER.
9. IN ANTICIPATION FOR WELCOME CENTER RAMP CLOSURES, THE TRAFFIC CONTROL PLAN SHALL DEPICT HOW ADVANCED WARNING TO THE TRAVELING PUBLIC WILL BE ACCOMMODATED DURING THE CLOSURE. ADVANCED WARNING SHALL BE DEFINED AS PROVIDING ADVANCED WARNING SIGNS, BOTH STATIC AND PCMS, THAT PROVIDE INFORMATION FOR MOTORISTS REGARDING WELCOME CENTER FACILITY CLOSURES. THE TRAFFIC CONTROL PLAN WILL NEED TO BE SUBMITTED FOR REVIEW AND COMMENT TO THE PROJECT MANAGER A MINIMUM OF 14 CALENDAR DAYS AHEAD OF ANY PLANNED CLOSURE. APPROVAL OF THE PLAN SHALL BE IN PLACE 72 HOURS BEFORE WORK MAY BEGIN. INSTALLATION OF THE PCMS NETWORK SHALL BE DONE 48 HOURS BEFORE WORK BEGINS. ELEMENTS OF THE PLAN SHALL INCLUDE BUT WILL NOT BE LIMITED TO THE LOCATION OF THE PCMS AND ASSOCIATED MESSAGES, ANY OTHER NECESSARY SIGNAGE, LOCATIONS FOR DEPLOYMENT OF UNIFORMED TRAFFIC OFFICERS AND FLAGGERS, AND SEQUENCING AND DURATION OF CLOSURE FOR EACH RAMP WITHIN THE WELCOME CENTER FACILITY. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL NOT BE PAID SEPARATELY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.11, TRAFFIC CONTROL, ALL-INCLUSIVE.

10. THE CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS ASSOCIATED WITH INSTALLING PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) WITHIN THE COMMONWEALTH OF MASSACHUSETTS. CONTRACTOR MUST CONTACT PATRICK J. PAUL, DISTRICT HIGHWAY DIRECTOR (PH. (413) 582-0599).

11. DURING WORK PERFORMED IN THE CAR PARKING AREA LOT, THE CAR PARKING LOT AND LOOP ROAD MAY BE CLOSED AND THE TRUCK/BUS/RV PARKING AREA BE REPURPOSED INTO A CAR PARKING LOT. SEE THE TRAFFIC CONTROL LAYOUT SHEET FOR A POTENTIAL LAYOUT OF CAR PARKING SPACES FOR THIS PHASE OF CONSTRUCTION. DURING THIS TIME, TRUCKS WILL BE RESTRICTED FROM USING THE WELCOME CENTER TRUCK/BUS/RV PARKING LOT. TRUCKS WILL BE ALLOWED TO USE THE EXISTING WEIGH STATION SOUTH OF THE WELCOME CENTER (I-91 MILE MARKER 0.15) FOR PARKING OFF THE HIGHWAY. THE LENGTH OF TIME THAT TRUCKS ARE RESTRICTED FROM USING THE PARKING LOT AT THE WELCOME CENTER SHALL NOT EXCEED 30 CALENDAR DAYS.

12. DURING WORK PERFORMED IN THE TRUCK/BUS/RV PARKING AREA, THE CONTRACTOR MAY RESTRICT ACCESS TO THE WELCOME CENTER FOR BUSES AND RV'S. BUSES AND RV'S WILL BE ALLOWED TO USE THE EXISTING WEIGH STATION SOUTH OF THE WELCOME CENTER (I-91 MILE MARKER 0.15) TO PARK OFF THE HIGHWAY FOR THE TIME PERIOD THAT THE TRUCK/BUS/RV PARKING LOT WILL BE CLOSED. THE LENGTH OF TIME THAT BUSES AND RV'S ARE RESTRICTED FROM USING THE PARKING LOT AT THE WELCOME CENTER SHALL NOT EXCEED 14 CALENDAR DAYS.

13. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FIVE PORTABLE RESTROOMS (TWO OF THESE SHALL BE ACCESSIBLE) FOR USE BY THE PUBLIC AT THE EXISTING WEIGH STATION SOUTH OF THE WELCOME CENTER (I-91 MILE MARKER 0.15) DURING THE DURATION OF TIME THAT TRUCKS, BUSES AND RV'S ARE RESTRICTED FROM THE WELCOME CENTER. COSTS FOR INSTALLING AND MAINTAINING THE PORTABLE RESTROOMS WILL BE CONSIDERED INCIDENTAL TO ITEM 641.11, TRAFFIC CONTROL, ALL-INCLUSIVE.

14. A QUANTITY FOR ITEM 630.10, UNIFORMED TRAFFIC OFFICERS HAS BEEN ESTIMATED TO ALLOW FOR 24-HOUR ENFORCEMENT OF TRUCK, BUS AND RV RESTRICTIONS DURING THE PARKING RESTRICTION PERIODS AS DIRECTED BY THE ENGINEER.

15. EMERGENCY VEHICLE ACCESS ON THE EMERGENCY ACCESS ROAD WILL NEED TO BE MAINTAINED DURING NON-WORK HOURS AND WHEN THERE IS NO ACTIVE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL COORDINATE WITH LOCAL EMERGENCY SERVICES TO DETERMINE REASONABLE ALTERNATE ROUTES FOR EMERGENCY VEHICLES TO ACCESS THE WELCOME CENTER.

DMV should be notified to let and superload haulers who may potentially use this area a staging location for their moves of the schedule for the closures.

Also the Agency's web page and 511 should post this information for tourist that may be traveling and other entities interested in using this facility.

Pedestrians should not be led into conflicts with work site vehicles, equipment and operations.  
Pedestrians should not be led into conflict with vehicles moving through and around the work site.  
Pedestrians should be provided with a safe, convenient path that replicates as nearly as practical the most desirable characteristics of the existing sidewalk(s) or a footpath(s).  
A pedestrian route should not be severed and/or moved for non-construction activities such as parking for vehicles and equipment.  
Consideration should be made to separate pedestrian movements from both work site activity and vehicular traffic. Unless an acceptable route that does not involve crossing the roadway can be provided, pedestrians should be appropriately directed with advance signing that encourages them to cross to the opposite side of the roadway.

Provisions for effective continuity of accessible circulation paths for pedestrians should be incorporated into the TTC process. Where existing pedestrian routes are blocked, or detoured, information should be provided about alternative routes that are usable by pedestrians with disabilities, particularly those who have visual disabilities. Barriers and channelizing devices that are detectable by people with visual disabilities should be provided.

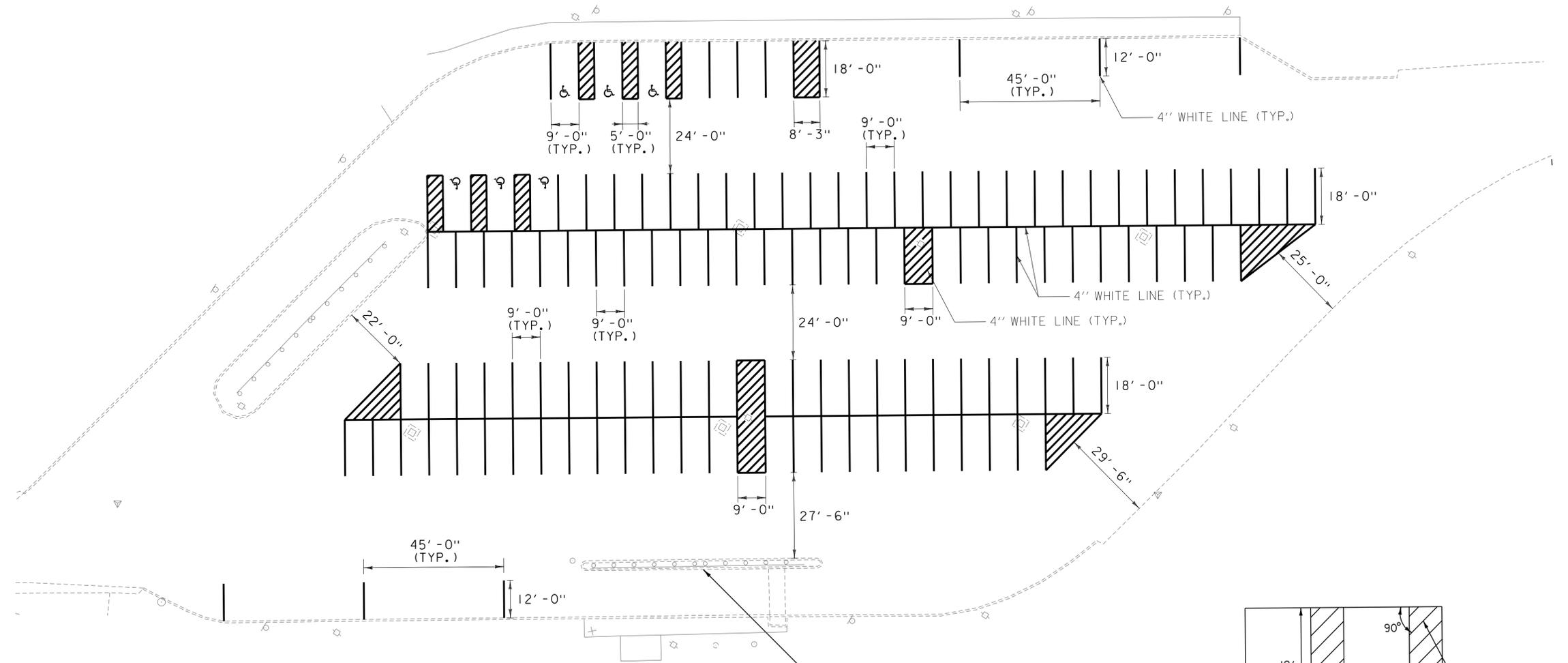
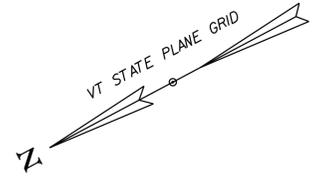
PROJECT NAME: GUILFORD  
PROJECT NUMBER: IM 091-1(79)

FILE NAME: z17e296frm.dgn PLOT DATE: 8/23/2018  
PROJECT LEADER: M. FOWLER DRAWN BY: G. MERKLE  
DESIGNED BY: C. WAITE CHECKED BY: M. FOWLER  
TRAFFIC CONTROL NOTES SHEET SHEET 29 OF 30

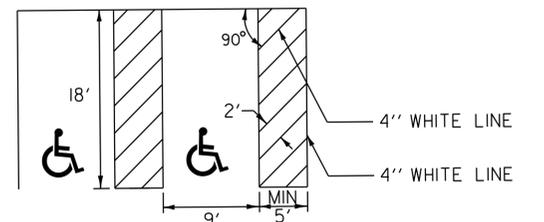


TEMPORARY 4 INCH WHITE LINE  
 PARKING LOT, SEE LAYOUT BELOW  
 -PARKING LINES  
 -NO PARKING HATCHING

TEMPORARY LETTER OR SYMBOL  
 PARKING LOT, SEE LAYOUT BELOW  
 -ACCESSIBLE PARKING (6 SPACES)

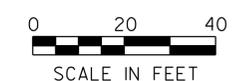


REMOVAL OF WEIGH STATION ISLAND  
 TO BE COMPLETED PRIOR TO USE OF  
 LOT FOR TEMPORARY CAR PARKING.  
 SEE DETAIL ON SHEET 6.



**ACCESSIBILITY PAVEMENT  
 MARKING DETAIL**  
 NOT TO SCALE

NOTES:  
 1. ALL EXISTING MARKINGS IN CONFLICT  
 WITH TEMPORARY MARKINGS SHALL BE  
 REMOVED. REMOVAL OF EXISTING PAVEMENT  
 MARKINGS WILL BE PAID AS ITEM 646.85.



PROJECT NAME: GUILFORD	PLOT DATE: 8/23/2018
PROJECT NUMBER: IM 091-1(79)	DRAWN BY: J. BURKE
FILE NAME: z17e296bdr.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	TRAFFIC CONTROL LAYOUT
DESIGNED BY: J. BURKE	SHEET 30 OF 30

NEED TO RERUN ESTIMATE USING 2018 ESTIMATOR CATALOG AS YOU HAVE USED 2018 ITEMS. ALL INDIVIDUAL OPTION ITEMS NEED TO HAVE THE SAME PRICE.

UPPER CASE

## Estimate 17e296

Estimated Cost:\$561,306.75

Contingency: 0.00%

**Estimated Total: \$561,306.75**

COLD PLANING & RESURFACING OF EXISTING HWY ENTRANCE & EXIT RAMPS, PARKING AREAS, PVMT MARKINGS, & RECLAIM OF ACCESS RD.

**Base Date: 08/23/18**

Spec Year: 11 ← 18

Unit System: E

Work Type: PARK & RIDE LOT

Highway Type: INTERSTATE (RURAL ONLY)

Urban/Rural Type: RURAL

Season: WINTER (OCTOBER 16th - APRIL 14th)

County: GUILFORD

Midpoint of Latitude: 424843 424845

Midpoint of Longitude: 0723357 0723400

District: SE

Federal/State Project Number: GUILFORD IM 091-1(79)

Estimate Type: PRELIMINARY PLANS

*Prepared by C. WAITE on 08/23/18*

*Checked by D. YOULEN on 08/23/18*

APPROVED BT:

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					

## Group 1011: ROADWAY

0005	203.40	750.000	LF	\$1.00000	\$750.00
SHOULDER BERM REMOVAL					
0010	210.12	18,400.000	SY	\$2.50000	\$46,000.00
FINE-MILLING, BITUMINOUS PAVEMENT					
0015	301.28	100.000	TON	\$36.78049	\$3,678.05
SUBBASE OF CRUSHED GRAVEL, FINE GRADED					
0020	310.20	1,250.000	SY	\$7.00000	\$8,750.00
RECLAIMED STABILIZED BASE					
0025	402.12	50.000	TON	\$49.08423	\$2,454.21
AGGREGATE SHOULDERS					
0030	404.65	125.000	CWT	\$58.05150	\$7,256.44
EMULSIFIED ASPHALT					
0035	406.28	1.000	LU	\$1.00000	\$1.00
AIR VOIDS PAY ADJUSTMENT (N.A.B.I.)					
0040	406.29	1.000	LU	\$1.00000	\$1.00
MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)					
0045	406.35	1,950.000	TON	\$120.00000	\$234,000.00
SUPERPAVE BITUMINOUS CONCRETE PAVEMENT					
0050	406.45	2.000	TON	\$150.00000	\$300.00
BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION					
0055	406.50	1.000	LU	\$1.00000	\$1.00
PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)					
0060	601.995	40.000	LF	\$28.45200	\$1,138.08
CLEANING CULVERT PIPE, IN-PLACE [0 TO 24 IN., INCL.]					
0065	604.40	14.000	EACH	\$676.58696	\$9,472.22
CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES					
0070	604.412	4.000	EACH	\$1,224.76733	\$4,899.07
REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I					
0075	608.15	10.000	HR	\$56.75914	\$567.59
POWER GRADER RENTAL					
0080	608.25	10.000	HR	\$99.19031	\$991.90
ALL PURPOSE EXCAVATOR RENTAL, TYPE I					
0085	608.31	20.000	HR	\$83.83333	\$1,676.67
POWER BROOM RENTAL, TYPE II					
0090	608.37	10.000	HR	\$89.55712	\$895.57
TRUCK RENTAL					
0095	609.15	2.000	TON	\$1,042.35526	\$2,084.71
DUST AND ICE CONTROL WITH CALCIUM CHLORIDE					
0100	613.10	60.000	CY	\$69.27290	\$4,156.37
STONE FILL, TYPE I					
0105	619.17	2.000	EACH	\$53.75490	\$107.51
YIELDING MARKER POSTS					
0110	621.205	166.500	LF	\$30.00000	\$4,995.00
STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS					
0115	621.60	2.000	EACH	\$828.69231	\$1,657.38
ANCHOR FOR STEEL BEAM RAIL					
0120	621.80	150.000	LF	\$3.92551	\$588.83
REMOVAL AND DISPOSAL OF GUARDRAIL					
0125	630.10	775.000	HR	\$76.40536	\$59,214.15
UNIFORMED TRAFFIC OFFICERS					
0130	630.15	300.000	HR	\$28.99373	\$8,698.12
FLAGGERS					
0135	633.10	2.000	EACH	\$900.00000	\$1,800.00
CPM SCHEDULE					
0140	635.11	1.000	LS	\$51,027.88600	\$51,027.89
MOBILIZATION/DEMobilIZATION					

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
<u>Description</u>					
<u>Supplemental Description</u>					
0145	641.11	1.000	LS	\$20,000.00000	\$20,000.00
TRAFFIC CONTROL, ALL-INCLUSIVE					
0150	641.15	6.000	EACH	\$3,542.89529	\$21,257.37
PORTABLE CHANGEABLE MESSAGE SIGN					
0155	646.402	4,500.000	LF	\$3.28000	\$14,760.00
DURABLE 4 INCH WHITE LINE, THERMOPLASTIC					
					Item Alternate Code: AA1
0160	646.403	4,500.000	LF	\$1.25000	\$5,625.00
DURABLE 4 INCH WHITE LINE, EPOXY PAINT					
					Item Alternate Code: AA2
0165	646.404	4,500.000	LF	\$0.75000	\$3,375.00
DURABLE 4 INCH WHITE LINE, POLYUREA					
					Item Alternate Code: AA3
0170	646.422	2,600.000	LF	\$1.09273	\$2,841.10
DURABLE 6 INCH WHITE LINE, THERMOPLASTIC					
					Item Alternate Code: BB1
0175	646.423	2,600.000	LF	\$0.70000	\$1,820.00
DURABLE 6 INCH WHITE LINE, EPOXY PAINT					
					Item Alternate Code: BB2
0180	646.424	2,600.000	LF	\$0.75000	\$1,950.00
DURABLE 6 INCH WHITE LINE, POLYUREA					
					Item Alternate Code: BB3
0185	646.432	2,500.000	LF	\$1.11575	\$2,789.38
DURABLE 6 INCH YELLOW LINE, THERMOPLASTIC					
					Item Alternate Code: CC1
0190	646.433	2,500.000	LF	\$0.70000	\$1,750.00
DURABLE 6 INCH YELLOW LINE, EPOXY PAINT					
					Item Alternate Code: CC2
0195	646.434	2,500.000	LF	\$0.72301	\$1,807.53
DURABLE 6 INCH YELLOW LINE, POLYUREA					
					Item Alternate Code: CC3
0200	646.462	400.000	LF	\$4.00000	\$1,600.00
DURABLE 12 INCH WHITE LINE, THERMOPLASTIC					
					Item Alternate Code: DD1
0205	646.463	400.000	LF	\$3.00000	\$1,200.00
DURABLE 12 INCH WHITE LINE, EPOXY PAINT					
					Item Alternate Code: DD2
0210	646.464	400.000	LF	\$3.00000	\$1,200.00
DURABLE 12 INCH WHITE LINE, POLYUREA					
					Item Alternate Code: DD3
0215	646.482	20.000	LF	\$17.47770	\$349.55
DURABLE 24 INCH STOP BAR, THERMOPLASTIC					
					Item Alternate Code: EE1
0220	646.483	20.000	LF	\$8.00000	\$160.00
DURABLE 24 INCH STOP BAR, EPOXY PAINT					
					Item Alternate Code: EE2
0225	646.484	20.000	LF	\$5.94749	\$118.95
DURABLE 24 INCH STOP BAR, POLYUREA					
					Item Alternate Code: EE3
0230	646.492	44.000	EACH	\$114.76841	\$5,049.81
DURABLE LETTER OR SYMBOL, THERMOPLASTIC					
					Item Alternate Code: FF1
0235	646.493	44.000	EACH	\$79.26635	\$3,487.72
DURABLE LETTER OR SYMBOL, EPOXY PAINT					
					Item Alternate Code: FF2
0240	646.494	44.000	EACH	\$93.68518	\$4,122.15
DURABLE LETTER OR SYMBOL, POLYUREA					
					Item Alternate Code: FF3
0245	646.602	3,900.000	LF	\$0.29073	\$1,133.85

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
	<b>TEMPORARY 4 INCH WHITE LINE, PAINT</b>				
0250	646.622	2,600.000	LF	\$0.15176	\$394.58
	<b>TEMPORARY 6 INCH WHITE LINE, PAINT</b>				
0255	646.632	2,500.000	LF	\$0.09053	\$226.33
	<b>TEMPORARY 6 INCH YELLOW LINE, PAINT</b>				
0260	646.662	400.000	LF	\$0.87954	\$351.82
	<b>TEMPORARY 12 INCH WHITE LINE, PAINT</b>				
0265	646.682	20.000	LF	\$3.37537	\$67.51
	<b>TEMPORARY 24 INCH STOP BAR, PAINT</b>				
0270	646.692	6.000	EACH	\$41.28520	\$247.71
	<b>TEMPORARY LETTER OR SYMBOL, PAINT</b>				
0275	646.76	300.000	EACH	\$1.21902	\$365.71
	<b>LINE STRIPING TARGETS</b>				
0280	646.85	475.000	SF	\$4.39397	\$2,087.14
	<b>REMOVAL OF EXISTING PAVEMENT MARKINGS</b>				
0285	651.35	80.000	CY	\$75.90784	\$6,072.63
	<b>TOPSOIL</b>				
0290	690.50	1.000	LU	\$1.00000	\$1.00
	<b>PRICE ADJUSTMENT, FUEL (N.A.B.I.)</b>				
0295	900.645	1.000	LS	\$7,500.00000	\$7,500.00
	<b>SPECIAL PROVISION (REMOVAL OF WEIGH STATION ISLAND)</b>				

Total for Group 1011:\$528,620.08

**Group 1051: EROSION CONTROL**

0300	651.15	10.000	LB	\$14.27734	\$142.77
	<b>SEED</b>				
0305	651.18	80.000	LB	\$8.31419	\$665.14
	<b>FERTILIZER</b>				
0310	651.20	0.500	TON	\$822.14069	\$411.07
	<b>AGRICULTURAL LIMESTONE</b>				
0315	653.10	0.500	TON	\$700.00000	\$350.00
	<b>HAY MULCH</b>				
0320	653.25	60.000	CY	\$70.54712	\$4,232.83
	<b>CHECK DAM, TYPE I</b>				
0325	653.35	30.000	CY	\$59.98758	\$1,799.63
	<b>STABILIZED CONSTRUCTION ENTRANCE</b>				
0335	653.41	18.000	EACH	\$156.60449	\$2,818.88
	<b>INLET PROTECTION DEVICE, TYPE II</b>				
0340	653.475	1,000.000	LF	\$2.00000	\$2,000.00
	<b>SILT FENCE, TYPE I</b>				
0345	653.50	500.000	LF	\$3.12214	\$1,561.07
	<b>BARRIER FENCE</b>				
0350	653.55	1,000.000	LF	\$2.00000	\$2,000.00
	<b>PROJECT DEMARCATION FENCE</b>				
0355	653.60	1,000.000	LF	\$4.83028	\$4,830.28
	<b>EROSION LOG</b>				
0375	653.42	5.000	CY	\$75.00000	\$375.00
	<b>INLET PROTECTION DEVICE, TYPE III</b>				

ITEM OUT OF ORDER

Total for Group 1051:\$21,186.67

**Group 1999: FULL C.E. ITEMS**

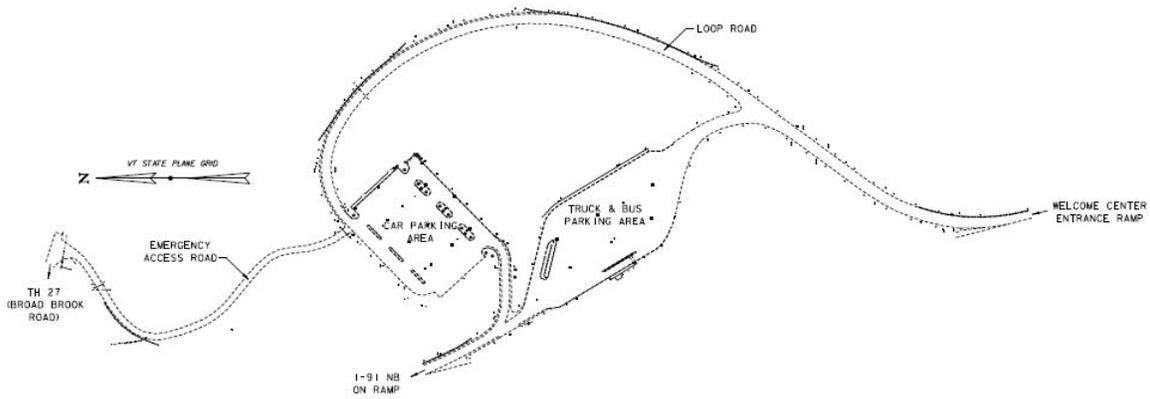
0360	631.10	1.000	LS	\$8,000.00000	\$8,000.00
	<b>FIELD OFFICE, ENGINEERS</b>				
0365	631.17	1.000	LS	\$500.00000	\$500.00
	<b>TESTING EQUIPMENT, BITUMINOUS</b>				

<u>Line #</u>	<u>Item Number</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Extension</u>
	<u>Description</u>				
	<u>Supplemental Description</u>				
0370	631.26	3,000.000	DL	\$1.00000	\$3,000.00
	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)				

Total for Group 1999:\$11,500.00

STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
**Traffic Management Plan**  
FOR  
**Guilford IM 091-1(79)**  
Guilford I-91 NB Welcome Center Resurfacing

August 23, 2018



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## 1.0 Project Description

- Project Location
  - Located on the east side of I-91 approximately 5.7 miles north of the Vermont Massachusetts state line.
- Work zone limits (if possible, include a map showing the limits of the work).
  - Within the State ROW
- Project background information.
  - Includes cold planing and paving of the I-91 entrance and exit ramps, loop roads, all parking areas, associated pavement markings, and other paving related items. the project also includes the full depth reclamation and re-paving of the welcome center emergency access road connecting TH 27 (Broad Brook Road) with the car parking area.
- Specific traffic restrictions expected on major roadways during the work (e.g., shoulder closures, lane closures, lane shifts).
  - Nighttime closure of the facility will be required to cold plane and pave the off ramp in to the Welcome Center and the on ramp exit from facility (four night maximum). Other work can be performed by closures of sections of the parking lots around the Welcome Center building while allowing the facility to remain opening. When the existing car parking lot is closed for construction, the truck parking lot will be repurposed and restriped to be the car parking lot for a length of time. **During this time, large trucks will not be allowed into the Welcome Center. Accommodations will need to be made for trucks to be able to pull off the highway at the former weigh station south of the Welcome Center. Portable toilets and other facilities may be needed at the former weigh station.**
- Specific roadways that will be directly affected by the project work zones.
  - I-91 traffic into and out of the Welcome Center: Impacts will be minor, except for the time periods when the facility is closed for ramp work.
  - TH 27 (Broad Brook Road): Impacts will be only felt when construction is occurring where the Emergency Access Road meets TH 27.
  - No detours will be required. Advance notification to trucks when truck entrance will be restricted and to cars and trucks when the facility is closed can be given through portable changeable message boards. **their locations should be shown on the TTCP.**
- Regional projects that may impact each other.
  - Not aware of any at this time.
- Project schedule.
  - Target Construction schedule: Construction activities will likely take place beginning in July 2019 and last 60 days.

Night work will require a night time lighting plan

Proper temporary signs will be required to direct motorist to temporary facilities

Highlighted for emphasis. Truck drivers plan their days around where they can park at night, and New England doesn't have many options. Outreach will be critical, particularly if our temporary accommodations are not as large as the rest area.

The guidelines NCHRP Report 476 are intended to help an agency develop and implement a plan for night work that will provide for the safety of the public and the worker and the satisfaction of the community while minimizing waste and other problems associated with an insufficient supply of capable and alert workers, materials, maintenance, and administrative support.

## 2.0 TMP Team—Contact Information

Defining roles and responsibilities from the initial stages of a project helps to coordinate all the activities related to TMP development, implementation, and monitoring. This section includes contact information and roles and responsibilities for major personnel involved in the project.

- **TMP Development Managers**—Agency/Contractor personnel with the primary responsibility for developing the TMP. TBD (will be design PM and Contractor)
- **TMP Implementation Managers**—Agency/Contractor personnel primarily responsible for implementing the TMP. TBD (will be the resident engineer and Contractor)
- **TMP Implementation Task Leaders**—Agency personnel/Contractor personnel who manage, complete, oversee, or assist in specific transportation management tasks (examples include TTC inspection/supervision, PI Officer, etc.) during the work. (TBD)
- **Construction Engineering**—Agency personnel who have primary responsibility for overseeing the construction of the project, including the traffic control plan. (Resident/regional engineer)
- **Public Information Officer**—Agency personnel who provide real-time public awareness of the work zone, including detection, prevention, and response to incidents. (TBD)
- **Emergency Contacts**—Public or semi-public agencies (e.g., hospitals, schools) that need to be kept informed about work zone activities, especially in case of a road closures.
  - **Guilford Town Administrator** – Peder Rude (802-254-6857 ext. 105)
  - **Guilford Central School Principal** – John Gagnon (802-254-2271)
- **Contractor**—Primary Contractor responsible for construction of the project. (to be completed after contract award) (N/A)

Contact information and roles and responsibilities of major personnel involved in the project.

**TMP Development Managers**

Agency of Transportation (AOT)	Town/Consultant
Name/Title: Tina Bohl, MAB Project Manager Unit: Municipal Assistance Bureau Phone: N/A Email: Tina.Bohl@vermont.gov	Name/Title: David Youlen, PE Unit: Stantec Consulting Services Phone: (802) 497-6428 Email: dave.youlen@stantec.com
<b>Roles and Responsibilities:</b> Development of the Traffic Management Plan. AOT will be responsible for developing the TMP related to the area within the project construction limits as well as related to the detour route.	

**TMP Implementation/Monitoring Managers**

AOT Resident Engineer	Town (If Applicable)
Name/Title: TBD Unit: Phone: Email:	Name/Title: Peder Rude, Town Administrator Unit: Town of Guilford Phone: (802) 254-6857 x105 Email: pederrude@guilfordvt.net
<b>Roles and Responsibilities:</b> AOT will be responsible for implementing the TMP.	

**TMP Implementation Task Leaders**

TSMO	Contractor Engineer
Name/Title: Ian Degutis Unit: TSMO Phone: (802) 371-8827 Email: ian.degutis@vermont.gov	Name/Title: TBD Unit: Phone: Email:
<b>Roles and Responsibilities:</b> Technical personnel responsible for design/review/acceptance of specific components related to implementation of the TMP (such as TCP, etc.....).	

**Construction Engineering**

Chief Inspector	Resident Engineer
Name/Title: TBD Unit: Phone: Email:	Name/Title: TBD Unit: Phone: Email:
<b>Roles and Responsibilities:</b> Ensure all requirements outlined in the TMP are followed in accordance with the appropriate construction documents.	

**Public Information Officer**

AOT	Consultant (If applicable)
Name/Title: TBD Unit: Phone: Email:	Name/Title: N/A Unit: Phone: Email:
<p><b>Roles and Responsibilities:</b> Ensure timely and accurate communication of all necessary construction updates.</p>	

**Emergency Service Contacts**

Fire and Emergency Medical Services (FEMS)	Police Department (PD)
Name/Title: Jared Bristol, Fire Chief Unit: Guilford Volunteer Fire Department Phone: (802) 254-4413 Email: guilfordfire@gmail.com	Name/Title: Michael Fitzgerald, Police Chief Unit: Brattleboro Police Department Phone: (802) 257-7950 Email: bpd@sover.net
<p><b>Roles and Responsibilities:</b> Prepare any response plans necessary to ensure the least impact to Emergency services for the duration of Construction.</p>	

Contractor	
Contractor	Superintendent
Name/Title: TBD	Name/Title: TBD
Address:	Unit:
Phone:	Phone:
Email:	Email:
<p><b>Roles and Responsibilities:</b> Planning, installation, and maintenance of any necessary permanent or temporary infrastructure needed to implement the TMP for the duration of the project. Work closely with the Resident Engineer, Project Manager, and TSMO to ensure the TMP is functioning as desired and implement any changes deemed necessary due to un-anticipated traffic requirements.</p>	
Contractors Competent Person	Contractors Safety Officer
Name/Title: TBD	Name/Title: TBD
Unit:	Unit:
Phone:	Phone:
Email:	Email:
<p><b>Roles and Responsibilities:</b> Responsible for making real time decisions in the event of an emergency or unplanned interruption. Must identify risk and make judgments that ensure public safety while taking measures to mitigate the emergency/unplanned traffic interruption.</p>	

### 3.0 Preliminary Work Zone Impact Assessment

Preliminary assessment of work zone impacts Questionnaire:

- Does the project include a long-term closure and/or extended weekend closure?
  - No.
- If Yes, what is/are the applicable type of facility(ies)?
- Can traffic be detoured?
  - No, but trucks looking to stop will have times when they will need to use the old weigh station south of the welcome center.
- Is additional width required on culverts or bridges to maintain traffic?
  - No
- Is there a pedestrian/bicycle facility that must be maintained?
  - Yes, walkway areas around the Welcome Center
- Would a temporary structure(s) be required?
  - No
- Would a median crossover be needed?
  - No
- Would there be a need to maintain railroad traffic?
  - No
- Could maintenance of traffic have an impact on existing or proposed utilities?
  - No
- Does it appear that maintenance of traffic will require additional right-of-way?
  - No
- Can the contractor restrict the roadway during the time periods listed:
  - a.m. peak hours, one direction

Pedestrian accommodations shall be included in the TTC plans

- No
  - p.m. peak hours, one direction
    - No
  - a.m. peak hours, both directions
    - No
  - p.m. peak hours, both directions
    - No
  - Overnight
    - Yes, Contractor will be allowed to close the Welcome Center between 11pm and 6am (four nighttime closures maximum)
  - During Local celebrations? (if so when are they?)
    - Yes
  - Holidays or weekends
    - Yes
  - Sporting events/other special events
    - No
- Will project timing (for example, start or end date) be affected by special events:
  - School closings or openings?
    - No.
  - Holidays?
    - 4th of July
  - Sporting events?
    - No
- Are there any projects to be considered along the corridor or in the region?
  - None known at this time.
- Roadwork in the immediate area that may affect traffic or the contractor's operations?

- No
- Roadwork on other roads that may affect the use of alternate routes?
  - No
- Are there other maintenance of traffic issues? If so, specify.
  - Yes, when the Emergency Access Road is closed during reclaiming, emergency services will need to access the Welcome Center or I-91 from a different location. The contractor will maintain access up this road during non-work hours.

## 4.0 Existing Conditions

This section provides an overview of the existing conditions within the study area. The existing conditions generally include:

- Roadway characteristics (history, roadway classification, number of lanes, geometrics, urban/suburban/rural).
  - Roadway Classification: I-91 on and off ramps, loop road Welcome Center parking lots and Access Road
  - Roadway Lane/Shoulder Widths and Bridge Lane/Shoulder Widths Varies
- Historical traffic data (volumes, speed, capacity, volume/capacity, percent trucks, queue length, peak traffic hours).
  - See attached Welcome Center traffic counts in Appendix
  - Design Speed: 30 mph
- Traffic operations (signal timing, traffic controls).
  - N/A
- Crash data.
  - N/A
- Pedestrian/bicycle facilities.
  - Maintain Access from parking to the Welcome Center
- Transit facilities.
  - N/A
- Truck routes.
  - Truck looking to stop at times will be required to stop at an off-site weight station
- School Bus Routes.
  - N/A
- Local community and business concerns/issues.
  - Turning radius from Soundview is a big concern if the bridge were closed.
  - Emergency service vehicles/delays by the local bypass
  - Ped traffic for full time schools

The sample table below summarizes pertinent project information related to the routes affected by the bridge/road closure.

Roadways Affected By Local Passenger Car Detour Route—Summary						
Roadway/Street Name	Classification	ADT	Capacity	Peak Hour Volume	Existing LOS	Proposed LOS
N/A						

## 5.0 Operational Analysis

This section is intended to provide information on safety and mobility aspects within the project influence area, including traffic safety, data collection and modeling approach, traffic analysis, and other issues and concerns. This operational analysis will help identify potential work zone impacts and guide selection of TMP strategies.

### 5.1. Safety Analysis

A safety analysis will help identify the potential locations for monitoring and/or other strategy deployments during construction to help manage work zone safety. Ongoing monitoring of the potential locations for any increase in crashes is important while the TTC, TOP, and PI&O are implemented.

The table, below can be used to summarize crash data (at least for the previous three years) by intersection or control section. The table can be modified depending on agency needs/standards. Crash data may include:

- Number of crashes by location.
- Percentage of crashes by type or contributory factors.

Summary of Crashes									
Intersection Name/ Control Section	Total	Injuries	Fatalities	Work Zone	Type of Crashes				
					Pedestrian	Bicycle	Rear-End	Right Angle	Left-Turn


## 5.2. Traffic Analysis

### 5.2.1. Data Collection and Traffic Modeling

Measures of effectiveness (MOEs) are usually determined for the primary/critical roadway segments. The type of analysis greatly depends on agency policies and practices, and complexity of the project.

MOEs can include:

- Delays
- Queue Lengths
- LOS
- Travel Time
- V/C Ratio
- Congestion/User cost

The use of traffic analysis tools depends on the roadway classification (corridor/freeway/freeway surface street interchange) and level of complexity of the project. Specific tools available for use in modeling include the following:

- SYNCHRO
- HCS
- Quick Zone
- QUEWZ
- CA4PRS
- DYNASMART- P
- Lane Closure Analysis Program (LCAP)/Charts
- VISSIM
- CORSIM
- Quadro

A single tool may be used in modeling, or for some projects a combination of tools may be helpful.

- **No traffic analysis was performed for this facility. See Appendix for average hourly traffic counts and 24 Hour Visitor Counts performed by Vermont BGS.**

### 5.2.2. Alternatives/Impact Assessment

Due to the scope of work for this project, no alternatives were explored, but the following are some anticipated impacts on:

- Community Accessibility—Little impact for the travelling public except for the nighttime facility closures.
- Pedestrians and Bicyclists—little impact due to the pedestrian facilities being left in service
- Public Transportation—No impact.
- Commercial Vehicles—Little impact, only impact is at times that trucks will not be allowed into the facility and alternate accommodations are made.

- Utilities—No impact.

## 6.0 Work Zone Impact Management Strategies

There is no traffic control plan sheets in the plan besides a Traffic Control Notes sheet and a striping plan to change the truck parking lot into a car parking lot when the contractor closes the loop road and car lot for milling and paving. It is anticipated that the contractor will close sections of the facility and at times restrict trucks from using the facility. The existing weigh station south of the Welcome Center will be used for trucks to pull off the highway if they wish. The contractor will provide temporary toilets at this location for use by truck drivers. Advanced warning through Portable Changeable Message Boards will inform drivers of anticipated conditions. One of the message boards will likely need to be placed south of the Massachusetts state line, thus coordination between the contractor and MassHighway will be required.

The Emergency Access Road work will be performed outside of traffic and will require a flagger at each end of the road to safely allow trucks and equipment to enter or exit the work site.

No Public Information campaign is anticipated.

### 6.1. Temporary Traffic Control (TTC)

A TTC plan describes temporary traffic control measures to be used for facilitating road users through a work zone or an incident area. The TTC plan plays a vital role in providing continuity of reasonably safe and efficient road user flow and highway worker safety when a work zone, incident, or other event temporarily disrupts normal road user flow. The TTC plan shall be consistent with the provisions of the MUTCD and AASHTO Roadside Design Guide.

Temporary Traffic Control	Check if recommended for use
<b>Control Strategies</b>	
1. Construction phasing/staging	✓
2. Full roadway closures	✓
3. Lane shifts or closures	✓
4. One-lane, two-way controlled operation	
5. Two-way, one-lane traffic/reversible lanes	
6. Ramp closures/relocation	✓
7. Freeway-to-freeway interchange closures	
8. Night work	✓
9. Weekend work	✓
10. Work hour restrictions for peak travel	✓
11. Pedestrian/bicycle access improvements	

12. Business access improvements	
13. Off-site detours/use of alternate routes	
<b>Traffic Control Devices</b>	
14. Temporary signs	✓
15. Arrow boards	
16. Portable Changeable message signs	✓
17. Channelizing devices	
18. Temporary pavement markings	✓
19. Flaggers and uniformed traffic control officers	✓
20. Temporary traffic signals	
21. Automated Flagger Assistant Devices	
22. Truck attenuators	
23. Lighting devices	✓
<b>Project Coordination Strategies</b>	
24. Other area projects	
25. Utilities	
26. Right-of-Way	
27. Other transportation infrastructure	
<b>Innovative Contracting Strategies</b>	
28. Design-Build	
29. A+B Bidding	
30. Incentive/Disincentive clauses	
31. Lane rental	
32. Performance specifications	
<b>Innovative or Accelerated Construction Techniques</b>	
33. Prefabricated/precast elements	
34. Rapid cure materials	

## 6.2. Transportation Operations (To)

The TO component shall include the identification of strategies to mitigate impacts of the work zone on the operation of the transportation system within the work zone impact area. The work zone impact area consists of the immediate work zone as well as affects to the surrounding roadways and communities. Additional information can be acquired from the *“Workzone Safety and Mobility Guidelines”* (WSMG) and *“Appendix A”* in the WSMG document:

Transportation Operations	Check if recommended for use
<b>Demand Management Strategies</b>	
1. Transit service improvements	
2. Transit incentives	
3. Shuttle services	
4. Parking supply management	✓
5. Variable work hours	
6. Telecommuting	
7. Ridesharing/carpooling incentives	
8. Park-and-Ride promotion	
<b>Corridor/Network Management Strategies</b>	
9. Signal timing/coordination improvements	
10. Temporary traffic signals	
11. Street/intersection improvements	
12. Bus turnouts	
13. Turn restrictions	
14. Parking restrictions	
15. Truck/heavy vehicle restrictions	✓
16. Reversible lanes	
17. Dynamic lane closure system	
18. Ramp closures	
19. Railroad crossing controls	
20. Coordination with adjacent construction site(s)	
<b>Work Zone ITS Strategies</b>	
21. Late lane merge	
22. PCMS with speed display	
23. Travel time estimation system	
24. Advanced speed information system	
25. Advanced congestion warning system	
26. Conflict warning system (e.g., construction vehicles entering roadway)	
27. Travel time monitor system	
28. Freeway queue monitor system	
29. CCTV monitoring	

30. Real-time detour	
<b>Work Zone Safety Management Strategies</b>	
31.Speed limit reduction/variable speed limits	
32.Temporary traffic signals	
33.Temporary traffic barrier	
34.Movable traffic barrier systems	

Transportation Operations	Check if recommended for use
35.Crash cushions	
36.Temporary rumble strips	
37.Intrusion alarms	
38.Warning lights	
39.Automated flagger assistance devices (AFADs)	
40.Project task force/committee	
41.Construction safety supervisors/inspectors	
42.Road safety audits	
43.TMP monitor/inspection team	
<b>Incident Management and Enforcement Strategies</b>	
44.ITS for traffic monitoring/management	
45.TMC	
46.Surveillance (e.g., CCTV)	
47.Helicopter for aerial surveillance	
48.Traffic Screens	
49.Call boxes	
50.Mile-post markers	
51.Tow/freeway service patrol	
52.Total station units	
53.Photogrammetry	
54.Media coordination	
55.Local detour routes	
56.Contract support for incident management	
57.Incident/Emergency management coordination	✓

58.Incident/Emergency response plan	✓
59.Dedicated (paid) police enforcement	
60.Cooperative police enforcement	
61.Automated enforcement	
62.Increased penalties for work zone violations	✓
63.Emergency pull-offs	

*Contingency/Incident Management Plans—*

It is best to develop the Contingency/Incident Management plan as a collaborative effort with the emergency response and the public safety community. Development of such a plan is crucial in the early phases to properly integrate the concerns of the first responder personnel.

**6.3. Public Information and Outreach (PI&O)**

*The PI component can include communication strategies that seek to inform the general public of work zone impacts and the changing condition of the project. The general public may include road users, area residences and businesses, and other public entities.*

Public Information and Outreach can be important for the success of bridge closure projects. This project will create a short term impact to travelers, businesses, residents, and truckers. Properly informing these stakeholders of what to expect during construction will ensure proper public support and reduce problems during construction. The following measures can be used:

- Factsheets
  - A project factsheet can be used to show the detour routes, describe the project and why and when it is taking place.
- Business concerns/issues
- Public Input and Surveys
- Social Media to inform the public

Public Information and Outreach	Check if Recommended for use
<b>Public Awareness Strategies</b>	
1. Branding	
2. Press kits	
3. Brochures and mailers	
4. Press releases/media alerts	
5. Mass media (earned and/or paid)	

Public Information and Outreach	Check if Recommended for use
6. Paid advertisements	
7. Project Information Center	
8. Telephone hotline	
9. Planned lane closure website	
10. Project website	
11. Public meetings/hearings, workshops	
12. Community task forces	
13. Coordination with media/schools/business/emergency services	
14. Work zone education and safety campaigns	
15. Work zone safety highway signs	
16. Rideshare promotions	
17. Visual information	
<b>Motorist Information Strategies</b>	
18. Radio traffic news	
19. Changeable message signs	✓
20. Temporary motorist information signs	
21. Dynamic speed message sign	
22. Highway Advisory Radio (HAR)	
23. Extinguishable Signs	
24. Highway information network (web-based)	
25. Traveler information systems(wireless, handheld)	
26. Transportation Management Center (TMC)	
27. Live traffic camera(s) on a website	
28. Project information hotline	
29. Email alerts	

Additional information can be acquired from the [“Workzone Safety and Mobility Guidelines”](#) and [“Appendix A”](#) to said document:

## 7.0 Notes

### 8.0 TMP Implementation/Monitoring

The TMP needs to be implemented in the field, as specified, unless any changes have been approved by the agency. To help ensure appropriate implementation, [23 CFR 630 Subpart J §630.1012\(e\)](#) requires that the State/Agency and the contractor each designate a trained person at the project level who has the primary responsibility and sufficient authority for implementing the TMP and other safety and mobility aspects of the project.

Monitoring the performance of the TMP during the construction phase is important to establish whether the predicted impacts closely resemble the actual conditions in the field, and whether the TMP strategies are effective in managing the impacts. TMP monitoring is needed for both oversight and evaluation purposes, such as:

- Monitoring and documenting TMP changes during construction.
- Preparing an evaluation of the TMP, including lessons learned.
- Refining work zone impact analysis processes and models based on outcomes.

TMP monitoring includes details of any specific observational, logging, and/or recording activities conducted during the project for work zone performance measurement purposes. Examples of possible performance measures for TMP monitoring include:

- Volume
- LOS
- Queue length
- Delay
- Travel time
- Number of crashes/incidents
- Incident response and clearance times
- Type and frequency of legitimate complaints received.

It is helpful for the TMP Implementation/Monitoring Managers to meet with the Project Manager on a regular basis to discuss and assess the safety and mobility impacts of the project work zone to date. This helps to assess how well the TMP is managing the project impacts, and can help identify and address issues before they become problems. It also provides the opportunity to verify that all key stakeholders and project officials have been receiving timely notifications where required.

### 9.0 TMP Summary

This summary should include a brief description of the traffic management strategies selected for use on the project as well as important contact information. This summary should be included in the contract documents.

#### TMP Summary

- The following temporary traffic control (TTC) measures have been identified for use though the construction area.
  - Control Strategies: Partial facility roadway/parking lot closures and reconfigurations. Nighttime full facility closures to perform work at on and off ramps.
  - Traffic Control Devices: PCMS, barricades
  - Innovative or Accelerated Construction Techniques:
- The following transportation operations (TO) measures have been identified for use for mitigation of impacts to the work zone and the surrounding roadway network
  - Incident Management and Enforcement Strategies: The media should be coordinated with to inform the public of any delays that occur due to unexpected incidents, Emergency response personnel should be aware of the local routes available in case of emergency, and an Incident/Emergency response plan should be drafted and coordinated with emergency personnel.

### **Public Information and Outreach Summary**

The following measures are recommended to warn the public of the possible impacts to them:

- Public meetings prior to the closure should be held in order to notify the public what to expect during the closure, and to hear concerns.
- Factsheets
- Public Input and Surveys
- Social Media to inform the public of upcoming impacts

### **Contacts**

Design Project Manager: Tina Bohl

Resident Engineer: TBD

Regional Engineer: Alan Campo (802) 281-5000

Public Information Officer: N/A

Fire and Emergency Medical Services: See above for fire and local police

VT State Police (Regional Barracks): Westminster Barracks (802) 722-4600

Contractor: TBD

Superintendent: TBD

Contractors Competent Person: TBD

Contractor Safety Officer: TBD

## 10.0 TMP Review/Approvals

TMPs, and changes to TMPs, can be submitted for review by the Transportation Systems Management & Operations (TSMO) section at AOT before they are implemented. Review of the TMP by AOT prior to implementation is not mandatory, but is highly encouraged.

TSMO Contacts		
AOT - Transportation Systems Management & Operations (TSMO)		
Name/Title:	Ian Degutis	Traffic Operations Engineer
Address:	2178 Airport Road, Unit A, Barre, VT 05641	
Phone:	802-371-8827	
Email:	ian.degutis@state.vt.us	
<b>Roles and Responsibilities:</b> Review of Traffic Management Plans		

The approval of the TMP should be based on conformance of the TMP with the Work Zone Safety and Mobility Guideline.

Regional Construction Engineer			Traffic Operations Engineer			Project Manager		
<b>All approvals must be obtained prior to the start of work</b>								
Signature:			Signature:			Signature:		
Name:			Name:			Name:		
Date:			Date:			Date:		
Revision#	Initials	Date	Revision#	Initials	Date	Revision #	Initials	Date
1			1			1		
2			2			2		

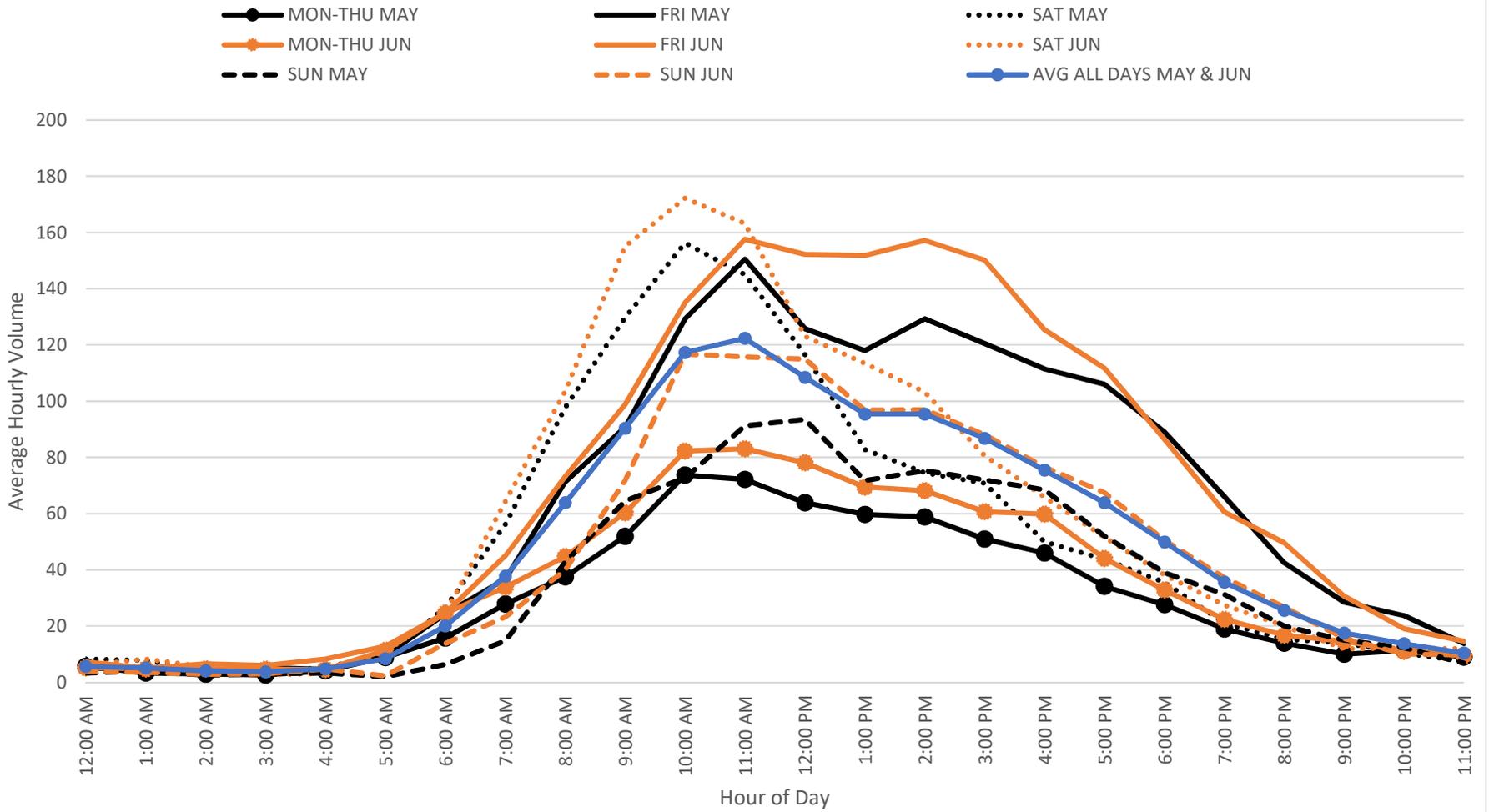
## 11.0 Appendices

- Average Hourly Vehicle and Truck Traffic Counts
- Guilford Welcome Center 24 Hour Visitor Traffic Counts from BGS
- Risk Registry

# Appendix A

## Average Hourly Vehicle and Truck Traffic Counts

### Guilford Welcome Center Average Hourly Traffic by Day of Week by Month; All Vehicles Included 5/3/2018 - 6/30/2018



Vermont Agency of Transportation

Volume by Hour by Day for 5/1/2018 - 5/31/2018

District : 2  
 Roadbed : ML  
 Location ID : X430

County : WINDHAM  
 Location : GUILFORD WELCOME C  
 Lane Direction : 1-WAY

Community : GUILFORD  
 Route : I91

Collection Type :

5/2018																														
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
12-1A	5	4	6	5	4	2	9	3	5	4	1	10	6	5	9	6	4	4	2	10	2	14	6	19	3	5	4	3	3	163
1-2A	0	1	6	6	8	5	4	2	3	11	1	3	5	3	3	8	5	5	3	3	4	4	4	9	4	2	2	0	4	118
2-3A	3	3	6	4	4	5	2	4	0	2	4	1	1	3	3	4	3	0	2	3	3	7	8	4	2	3	1	4	1	90
3-4A	1	6	2	2	2	0	2	4	6	2	5	2	2	5	5	6	3	2	2	2	2	6	3	3	3	4	2	1	4	89
4-5A	4	3	5	3	3	2	1	4	5	4	4	6	5	6	7	3	2	3	6	4	7	3	7	11	3	3	4	3	1	122
5-6A	8	7	7	2	9	8	6	9	8	6	2	7	10	10	14	6	5	0	6	8	12	8	17	19	4	2	12	14	7	233
6-7A	14	16	21	6	15	10	20	13	28	32	8	17	16	21	24	25	19	6	16	13	20	17	28	34	5	5	11	16	22	498
7-8A	26	20	49	20	28	19	28	21	37	54	13	35	23	27	26	37	41	15	39	34	32	35	53	81	11	13	32	22	32	903
8-9A	33	40	133	32	34	31	36	36	59	69	41	35	37	27	39	60	60	49	40	40	38	60	126	129	49	24	53	39	40	1,489
9-10A	42	69	113	43	46	47	55	64	95	119	72	61	58	37	70	70	83	58	60	46	39	66	129	204	85	44	50	39	69	2,033
10-11A	75	104	126	41	63	59	62	72	124	120	92	104	90	71	89	110	118	62	78	63	71	90	179	261	96	65	72	56	81	2,694
11-12A	51	99	119	77	73	73	61	81	127	109	93	82	51	64	79	141	119	93	67	63	69	98	235	233	102	84	81	72	85	2,781
12-1P	51	110	85	77	58	44	55	63	118	95	89	60	56	61	74	102	86	91	68	72	73	95	173	200	117	73	58	54	79	2,437
1-2P	50	91	59	54	54	54	60	53	105	75	77	75	52	64	56	96	77	69	65	54	60	72	180	120	87	71	68	48	56	2,102
2-3P	73	100	68	58	45	57	56	62	127	64	87	59	48	47	71	106	55	83	70	45	56	78	184	111	73	72	47	60	65	2,127
3-4P	44	111	62	64	35	38	44	67	91	60	86	54	44	55	55	99	62	69	66	28	49	83	181	99	69	65	51	42	57	1,930
4-5P	36	97	49	59	41	35	29	61	101	38	75	33	37	38	56	79	37	84	52	38	37	87	169	76	56	76	40	44	55	1,715
5-6P	38	68	39	45	26	28	38	43	100	55	66	36	21	38	43	87	40	58	26	32	35	45	169	41	39	44	27	25	43	1,395
6-7P	27	106	30	36	27	15	29	39	70	30	45	25	12	26	37	55	35	46	30	24	22	43	125	47	29	50	20	21	30	1,131
7-8P	13	54	25	27	18	18	19	21	58	21	31	24	10	12	20	53	11	36	17	23	15	41	99	27	31	25	15	14	22	800
8-9P	16	31	10	18	13	12	22	12	35	8	24	12	7	8	26	33	14	19	14	12	13	24	71	29	19	10	12	11	17	552
9-10P	12	16	7	14	10	7	10	10	25	19	22	4	2	4	14	23	15	16	14	8	13	9	50	15	8	11	6	19	20	403
10-11P	10	17	5	12	4	14	10	16	30	10	15	8	9	6	16	20	7	15	12	10	11	19	28	19	7	17	14	8	11	380
11-12P	9	8	6	9	11	9	11	9	10	9	6	10	6	7	12	11	4	9	7	5	8	20	26	11	3	6	8	8	11	269
Total:	641	1181	1038	714	631	592	669	769	1367	1016	959	763	608	645	848	1240	905	892	762	640	691	1024	2250	1802	905	774	690	623	815	26,454

Vermont Agency of Transportation

Volume by Hour by Day for 6/1/2018 - 6/30/2018

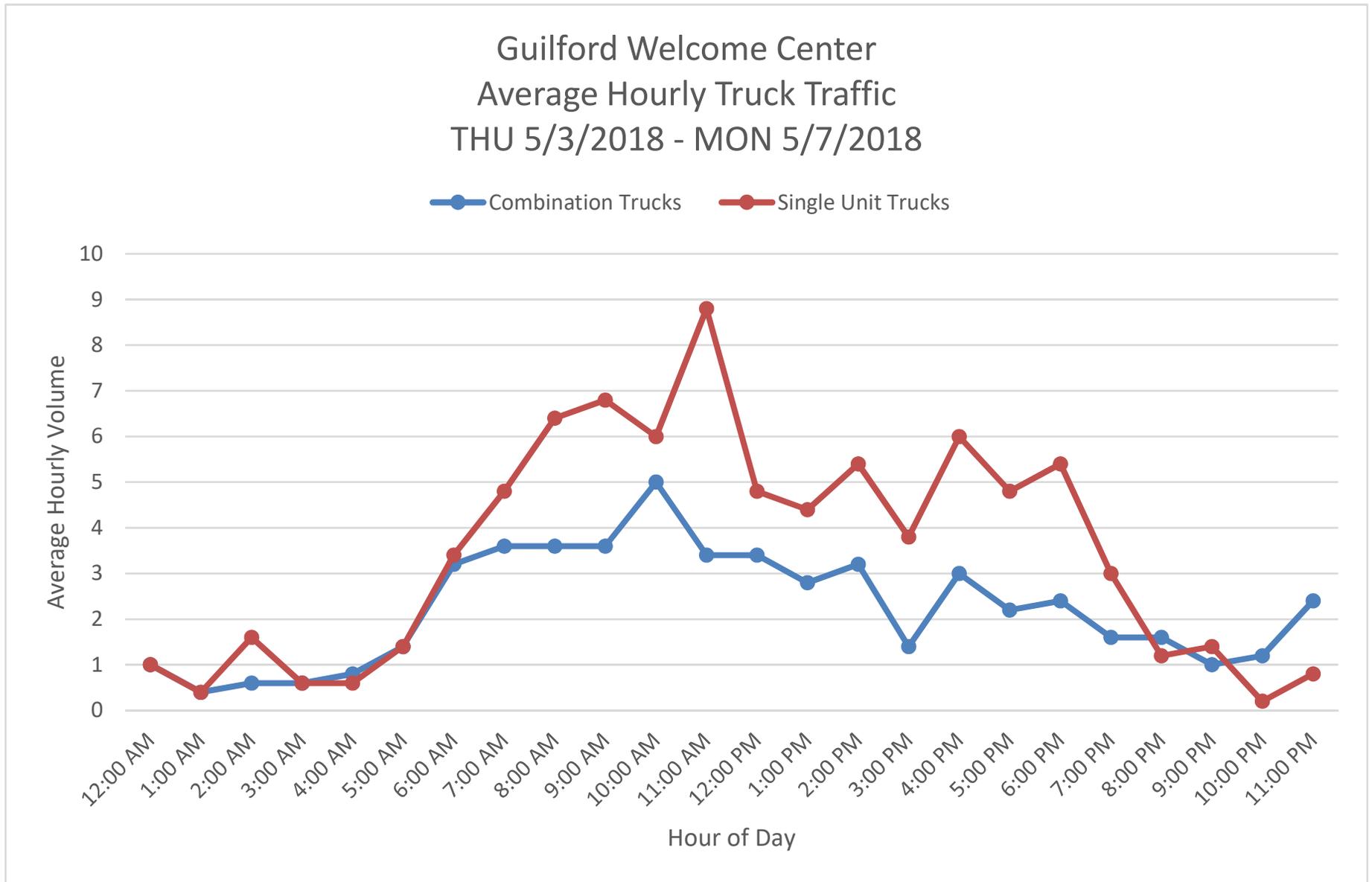
District : 2  
 Roadbed : ML  
 Location ID : X430

County : WINDHAM  
 Location : GUILFORD WELCOME C  
 Lane Direction : 1-WAY

Community : GUILFORD  
 Route : I91

Collection Type :

6/2018																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
12-1A	6	5	5	7	8	3	3	7	5	0	2	1	4	2	10	3	8	6	6	2	3	6	5	3	8	9	8	10	7	12	164
1-2A	3	9	4	6	3	6	0	6	7	2	4	6	3	5	9	8	3	4	3	6	3	4	9	5	7	3	5	12	3	8	156
2-3A	9	9	2	8	7	2	3	5	5	4	4	2	2	8	4	4	3	5	5	5	3	5	3	2	7	3	8	4	10	6	147
3-4A	7	4	4	2	3	7	1	5	2	3	5	6	1	4	7	3	5	4	5	3	7	3	0	0	5	7	7	8	8	4	130
4-5A	8	5	2	8	1	3	6	11	1	4	3	8	7	1	6	2	4	4	10	2	1	7	2	9	7	6	4	2	9	6	149
5-6A	8	7	1	7	10	12	12	11	12	4	14	7	11	12	19	7	2	10	11	14	14	12	16	2	15	8	14	11	14	13	310
6-7A	24	25	18	19	23	19	24	21	25	11	24	21	31	30	20	29	9	25	17	18	40	26	16	17	30	24	30	19	32	28	695
7-8A	35	73	25	29	21	23	29	53	61	20	41	41	29	50	42	64	31	39	37	36	26	55	49	17	35	37	37	32	40	75	1,182
8-9A	46	102	40	28	44	43	43	91	100	33	39	35	45	44	60	104	41	50	54	50	61	92	85	46	45	45	50	39	77	127	1,759
9-10A	76	141	70	47	40	51	53	75	158	64	65	54	49	52	100	134	75	76	48	65	78	127	167	78	103	70	65	49	116	175	2,521
10-11A	119	143	94	53	62	79	88	111	168	114	82	74	77	94	158	164	124	88	52	69	125	140	175	135	126	101	65	81	147	211	3,319
11-12A	128	119	102	81	57	73	98	153	137	120	87	70	68	100	166	143	125	84	63	87	99	161	177	116	126	95	45	96	180	240	3,396
12-1P	118	95	93	75	54	68	79	159	106	116	65	61	53	104	160	119	124	88	65	65	119	176	132	127	113	70	63	108	148	163	3,086
1-2P	152	88	88	59	46	69	85	168	94	98	76	48	65	96	128	94	91	72	55	53	85	128	138	110	77	69	81	75	183	153	2,824
2-3P	144	86	72	50	47	71	74	134	108	99	61	66	75	85	163	90	97	63	64	55	71	142	95	120	77	58	70	103	203	137	2,780
3-4P	123	51	80	49	47	57	60	149	79	63	52	43	58	95	123	74	92	54	49	59	48	195	95	117	90	59	64	87	161	104	2,477
4-5P	112	65	68	45	29	57	66	114	38	77	53	38	40	84	143	64	71	53	65	78	82	146	62	90	63	53	64	87	112	100	2,219
5-6P	79	40	65	36	24	33	59	110	51	61	37	35	25	63	126	55	60	37	44	43	52	125	46	84	44	59	54	60	119	66	1,792
6-7P	62	28	37	20	16	27	34	88	38	50	25	25	28	45	117	22	48	25	33	47	50	83	47	67	33	27	38	52	82	56	1,350
7-8P	54	33	37	17	23	19	30	60	27	34	12	18	19	25	62	28	28	16	12	42	28	63	15	50	15	23	17	42	64	34	947
8-9P	43	10	24	18	16	6	18	48	20	17	12	12	15	30	48	29	29	6	14	8	20	55	16	37	18	13	30	31	54	25	722
9-10P	31	8	16	11	9	6	14	36	8	10	15	14	13	17	32	19	16	12	16	22	23	23	8	20	20	15	11	15	31	16	507
10-11P	18	12	2	10	5	10	15	20	14	14	10	8	9	17	21	12	13	13	7	6	25	16	6	11	12	8	10	11	20	17	372
11-12P	17	9	11	10	6	7	7	16	7	6	5	9	7	8	14	14	12	11	11	10	15	13	12	10	10	16	10	10	13	17	323
Total:	1422	1167	960	695	601	751	901	1651	1271	1024	793	702	734	1071	1738	1285	1111	845	746	845	1078	1803	1376	1273	1086	878	850	1044	1833	1793	33,327



Guilford Welcome Center  
Hourly Traffic by Vehicle Class

Date	Day of Week	Hour	Passenger Vehicles	Single Unit Trucks	Combination Trucks	Total Vehicles
5/3/2018	THU	12:00 AM	2	0	3	5
5/3/2018	THU	1:00 AM	0	0	0	0
5/3/2018	THU	2:00 AM	2	1	0	3
5/3/2018	THU	3:00 AM	0	1	0	1
5/3/2018	THU	4:00 AM	1	1	2	4
5/3/2018	THU	5:00 AM	5	1	2	8
5/3/2018	THU	6:00 AM	7	3	4	14
5/3/2018	THU	7:00 AM	20	1	5	26
5/3/2018	THU	8:00 AM	23	4	5	32
5/3/2018	THU	9:00 AM	29	6	7	42
5/3/2018	THU	10:00 AM	61	7	7	75
5/3/2018	THU	11:00 AM	39	6	6	51
5/3/2018	THU	12:00 PM	41	5	4	50
5/3/2018	THU	1:00 PM	40	6	4	50
5/3/2018	THU	2:00 PM	63	8	2	73
5/3/2018	THU	3:00 PM	43	1	0	44
5/3/2018	THU	4:00 PM	31	4	1	36
5/3/2018	THU	5:00 PM	32	3	3	38
5/3/2018	THU	6:00 PM	21	4	2	27
5/3/2018	THU	7:00 PM	13	0	0	13
5/3/2018	THU	8:00 PM	12	1	3	16
5/3/2018	THU	9:00 PM	8	3	1	12
5/3/2018	THU	10:00 PM	7	0	3	10
5/3/2018	THU	11:00 PM	5	1	3	9
5/4/2018	FRI	12:00 AM	2	2	0	4
5/4/2018	FRI	1:00 AM	1	0	0	1
5/4/2018	FRI	2:00 AM	1	1	1	3
5/4/2018	FRI	3:00 AM	4	0	2	6
5/4/2018	FRI	4:00 AM	1	1	0	2
5/4/2018	FRI	5:00 AM	4	0	3	7
5/4/2018	FRI	6:00 AM	5	8	3	16
5/4/2018	FRI	7:00 AM	11	5	4	20
5/4/2018	FRI	8:00 AM	33	2	5	40
5/4/2018	FRI	9:00 AM	57	8	3	68
5/4/2018	FRI	10:00 AM	89	7	7	103
5/4/2018	FRI	11:00 AM	82	13	4	99
5/4/2018	FRI	12:00 PM	101	6	3	110
5/4/2018	FRI	1:00 PM	80	7	3	90
5/4/2018	FRI	2:00 PM	90	5	5	100
5/4/2018	FRI	3:00 PM	97	9	4	110
5/4/2018	FRI	4:00 PM	79	13	5	97
5/4/2018	FRI	5:00 PM	61	7	0	68

Guilford Welcome Center  
Hourly Traffic by Vehicle Class

Date	Day of Week	Hour	Passenger Vehicles	Single Unit Trucks	Combination Trucks	Total Vehicles
5/4/2018	FRI	6:00 PM	85	15	6	106
5/4/2018	FRI	7:00 PM	46	6	2	54
5/4/2018	FRI	8:00 PM	27	2	2	31
5/4/2018	FRI	9:00 PM	13	2	1	16
5/4/2018	FRI	10:00 PM	16	0	1	17
5/4/2018	FRI	11:00 PM	7	0	1	8
5/5/2018	SAT	12:00 AM	3	2	1	6
5/5/2018	SAT	1:00 AM	5	1	0	6
5/5/2018	SAT	2:00 AM	1	4	1	6
5/5/2018	SAT	3:00 AM	2	0	0	2
5/5/2018	SAT	4:00 AM	3	0	2	5
5/5/2018	SAT	5:00 AM	4	3	0	7
5/5/2018	SAT	6:00 AM	17	0	4	21
5/5/2018	SAT	7:00 AM	36	11	2	49
5/5/2018	SAT	8:00 AM	114	17	2	133
5/5/2018	SAT	9:00 AM	101	9	3	113
5/5/2018	SAT	10:00 AM	112	8	5	125
5/5/2018	SAT	11:00 AM	108	11	0	119
5/5/2018	SAT	12:00 PM	81	2	2	85
5/5/2018	SAT	1:00 PM	53	4	2	59
5/5/2018	SAT	2:00 PM	59	8	1	68
5/5/2018	SAT	3:00 PM	62	0	0	62
5/5/2018	SAT	4:00 PM	43	3	3	49
5/5/2018	SAT	5:00 PM	31	4	4	39
5/5/2018	SAT	6:00 PM	26	4	0	30
5/5/2018	SAT	7:00 PM	21	3	0	24
5/5/2018	SAT	8:00 PM	8	2	0	10
5/5/2018	SAT	9:00 PM	5	1	1	7
5/5/2018	SAT	10:00 PM	5	0	0	5
5/5/2018	SAT	11:00 PM	5	0	1	6
5/6/2018	SUN	12:00 AM	3	1	1	5
5/6/2018	SUN	1:00 AM	5	1	0	6
5/6/2018	SUN	2:00 AM	4	0	0	4
5/6/2018	SUN	3:00 AM	1	1	0	2
5/6/2018	SUN	4:00 AM	1	1	0	2
5/6/2018	SUN	5:00 AM	1	1	0	2
5/6/2018	SUN	6:00 AM	6	0	0	6
5/6/2018	SUN	7:00 AM	17	3	0	20
5/6/2018	SUN	8:00 AM	24	3	5	32
5/6/2018	SUN	9:00 AM	35	7	1	43
5/6/2018	SUN	10:00 AM	37	1	2	40
5/6/2018	SUN	11:00 AM	66	8	3	77

Guilford Welcome Center  
Hourly Traffic by Vehicle Class

Date	Day of Week	Hour	Passenger Vehicles	Single Unit Trucks	Combination Trucks	Total Vehicles
5/6/2018	SUN	12:00 PM	69	6	2	77
5/6/2018	SUN	1:00 PM	48	4	2	54
5/6/2018	SUN	2:00 PM	51	2	5	58
5/6/2018	SUN	3:00 PM	56	6	2	64
5/6/2018	SUN	4:00 PM	53	4	2	59
5/6/2018	SUN	5:00 PM	34	9	2	45
5/6/2018	SUN	6:00 PM	30	4	1	35
5/6/2018	SUN	7:00 PM	20	3	3	26
5/6/2018	SUN	8:00 PM	18	0	0	18
5/6/2018	SUN	9:00 PM	13	0	1	14
5/6/2018	SUN	10:00 PM	10	1	1	12
5/6/2018	SUN	11:00 PM	7	0	2	9
5/7/2018	MON	12:00 AM	4	0	0	4
5/7/2018	MON	1:00 AM	6	0	2	8
5/7/2018	MON	2:00 AM	1	2	1	4
5/7/2018	MON	3:00 AM	0	1	1	2
5/7/2018	MON	4:00 AM	3	0	0	3
5/7/2018	MON	5:00 AM	5	2	2	9
5/7/2018	MON	6:00 AM	4	6	5	15
5/7/2018	MON	7:00 AM	17	4	7	28
5/7/2018	MON	8:00 AM	27	6	1	34
5/7/2018	MON	9:00 AM	38	4	4	46
5/7/2018	MON	10:00 AM	52	7	4	63
5/7/2018	MON	11:00 AM	63	6	4	73
5/7/2018	MON	12:00 PM	46	5	6	57
5/7/2018	MON	1:00 PM	50	1	3	54
5/7/2018	MON	2:00 PM	38	4	3	45
5/7/2018	MON	3:00 PM	31	3	1	35
5/7/2018	MON	4:00 PM	31	6	4	41
5/7/2018	MON	5:00 PM	23	1	2	26
5/7/2018	MON	6:00 PM	24	0	3	27
5/7/2018	MON	7:00 PM	12	3	3	18
5/7/2018	MON	8:00 PM	9	1	3	13
5/7/2018	MON	9:00 PM	8	1	1	10
5/7/2018	MON	10:00 PM	3	0	1	4
5/7/2018	MON	11:00 PM	3	3	5	11

## Appendix B

Guilford Welcome Center 24 Hour Visitor Traffic Counts from BGS

### Guilford 24 Hr Visitor Traffic

	2013	Avg Nightly Vis by Month	2014	Avg Nightly Vis by Month	2015	Avg Nightly Vis by Month	2016	Avg Nightly Vis by Month	2017	Avg Nightly Vis by Month
January	1515	49	1340	43	1623	52	1568	51	1769	57
February	1610	58	1642	59	1466	52	1636	56	2060	74
March	1939	63	1647	53	1812	58	1612	52	1940	63
April	1520	51	1468	49	1593	53	1633	54	1853	62
May	1882	61	1936	62	2119	68	2192	71	2016	65
June	2266	76	2149	72	2314	77	2738	91	2871	96
July	2884	93	2884	93	3130	101	3173	102	3410	110
August	2719	88	2752	89	3034	98	3282	106	3170	102
September	2034	68	1957	65	2329	78	2441	81	2266	76
October	1842	59	1892	61	1965	63	2167	70	2086	67
November	1541	51	1456	49	1621	54	1865	62	1858	62
December	1599	52	1456	47	1667	54	1782	57	1647	53
<b>Total Visitor 11p-7a</b>	23351		22579		24673		26089		26946	
<b>Total Visitor Count 7am - 11pm</b>	632,098		631,945		639,110		647,987		684,662	
<b>Total Visitor Count 24/7</b>	<b>655,449</b>		<b>654,524</b>		<b>663,783</b>		<b>674,076</b>		<b>711,608</b>	
AVG Annual Visitor Per Night 11p-7a	64		62		68		71		74	
% of Total Visitors	4%		3%		4%		4%		4%	

# Appendix C

## Risk Registry

