

PROJECT INFORMATION	
Proj. Name and Number:	Essex TAP TA15(4)
EA No.:	TA15004 - 101
PPMS:	15F012
Project Manager:	Ande Deforge
Program:	Municipal Assistance
Phase:	Final
District:	District 5
If Multiple Districts Specify	
Traffic Signal:	No
Precast Elements:	No

DOCUMENTS FOR REVIEW AND FILES LOCATION	
PLANS	FILE LOCATION : Z:\Highways\MUN\LCL\LTF Projects\Essex TAP TA15(4) - 15F012\7 Final\Plans
ESTIMATE	FILE LOCATION : Z:\Highways\MUN\LCL\LTF Projects\Essex TAP TA15(4) - 15F012\7 Final\Plans
Other	FILE LOCATION : Z:\Highways\MUN\LCL\LTF Projects\Essex TAP TA15(4) - 15F012\7 Final\Plans
	FILE LOCATION :
	FILE LOCATION :

TIME LINES	
SUBMITTED:	12-09-2019
DEADLINE:	12-31-2019
COMPLETED:	01-02-2020

INVITEES FOR REVIEW

<input checked="" type="checkbox"/> MOB Districts	<input type="checkbox"/> PDB Right-of-Way	<input checked="" type="checkbox"/> PDB Environmental Section	<input type="checkbox"/> CMB Geotechnical Engineering Section	<input type="checkbox"/> FHWA	<input type="checkbox"/> Regional Planners
<p>REVIEWED By Ashley Bishop (ashley.bishop@vermont.gov) at 6:38 am, Dec 16, 2019</p> <p>REVIEWED By Randy Snelling (Randy.Snelling@vermont.gov) at 1:09 pm, Dec 16, 2019</p> <p>REVIEWED By Tyler Hanson (tyler.hanson@vermont.gov) at 9:10 am, Dec 23, 2019</p> <p>Operations and Safety Bureau</p> <p>Included in all projects</p> <p>REVIEWED By Tyler Guazzoni (tyler.guazzoni@vermont.gov) at 7:19 am, Dec 27, 2019</p>		<p>REVIEWED By Jane Brown (jane.brown@vermont.gov) at 2:26 pm, Dec 12, 2019</p> <p>REVIEWED By Jeff Ramsey (jeff.ramsey@vermont.gov) at 2:00 pm, Dec 12, 2019</p> <p><input checked="" type="checkbox"/> PDB Hydraulics Section</p> <p>Didn't participate in On-line review.</p>		<p>Include on all PoDI and WCRS Projects</p>	
	<input type="checkbox"/> PDB Structural Section		<input type="checkbox"/> AMP Budget and Programming	<input type="checkbox"/> Rail Bureau	
	<input type="checkbox"/> PDB Survey Section	<input type="checkbox"/> CMB Construction Section	<p>Include on all reviews that include bridges within the Project Limits</p>		
		<p>REVIEWED By Sandra (sandra.schmitt@vermont.gov) at 4:25 pm, Dec 13, 2019</p>	<input type="checkbox"/> AMP NBIS Inspections and Budget	<input type="checkbox"/> Civil Rights	
<input checked="" type="checkbox"/> Support Services Bureau	<input checked="" type="checkbox"/> PDB Utility Section		<p>Include on all reviews that include bridges within the Project Limits</p>		
Didn't participate in On-line review.	<p>REVIEWED By Melissa Rutter (Melissa.Rutter@vermont.gov) at 10:12 am, Dec 17, 2019</p>	<p>REVIEWED By Nancy Avery (nancy.avery@vermont.gov) at 3:38 pm, Dec 12, 2019</p>		<input checked="" type="checkbox"/> PPAID Permitting Services	<p>Randy Snelling Joel Perrigo Derek Kenison Jon Lemieux</p>
<input checked="" type="checkbox"/> MAB Bicycle and Pedestrian Program Unit	<input checked="" type="checkbox"/> PDB Highway Safety & Design	<input checked="" type="checkbox"/> CMB Materials Testing and Certification Section	<input type="checkbox"/> Policy and Planning Bureau	Didn't participate in On-line review.	
<p>REVIEWED By Jon Kaplan (Jon.kaplan@vermont.gov) at 4:59 pm, Dec 16, 2019</p>	Didn't participate in On-line review.	<p>REVIEWED By Aaron Schwartz (aaron.schwartz@vermont.gov) at 2:54 pm, Dec 16, 2019</p> <p>REVIEWED By Justin Ives (justin.ives@vermont.gov) at 6:38 am, Dec 19, 2019</p>			<p>REVIEWED By Derek Kenison (derek.kenison@vermont.gov) at 11:10 am, Dec 31, 2019</p> <p>REVIEWED By Jon Lemieux (jon.lemieux@vermont.gov) at 12:42 pm, Dec 13, 2019</p>

Review Focus Notes:

Please charge your time to TA15004 - 101. Design Consultant response period: 01/01/2020 to 01/17/2020.

REVIEWED
By Ande Deforge (ande.deforge@vermont.gov) at 2:00 pm, Dec 23, 2019

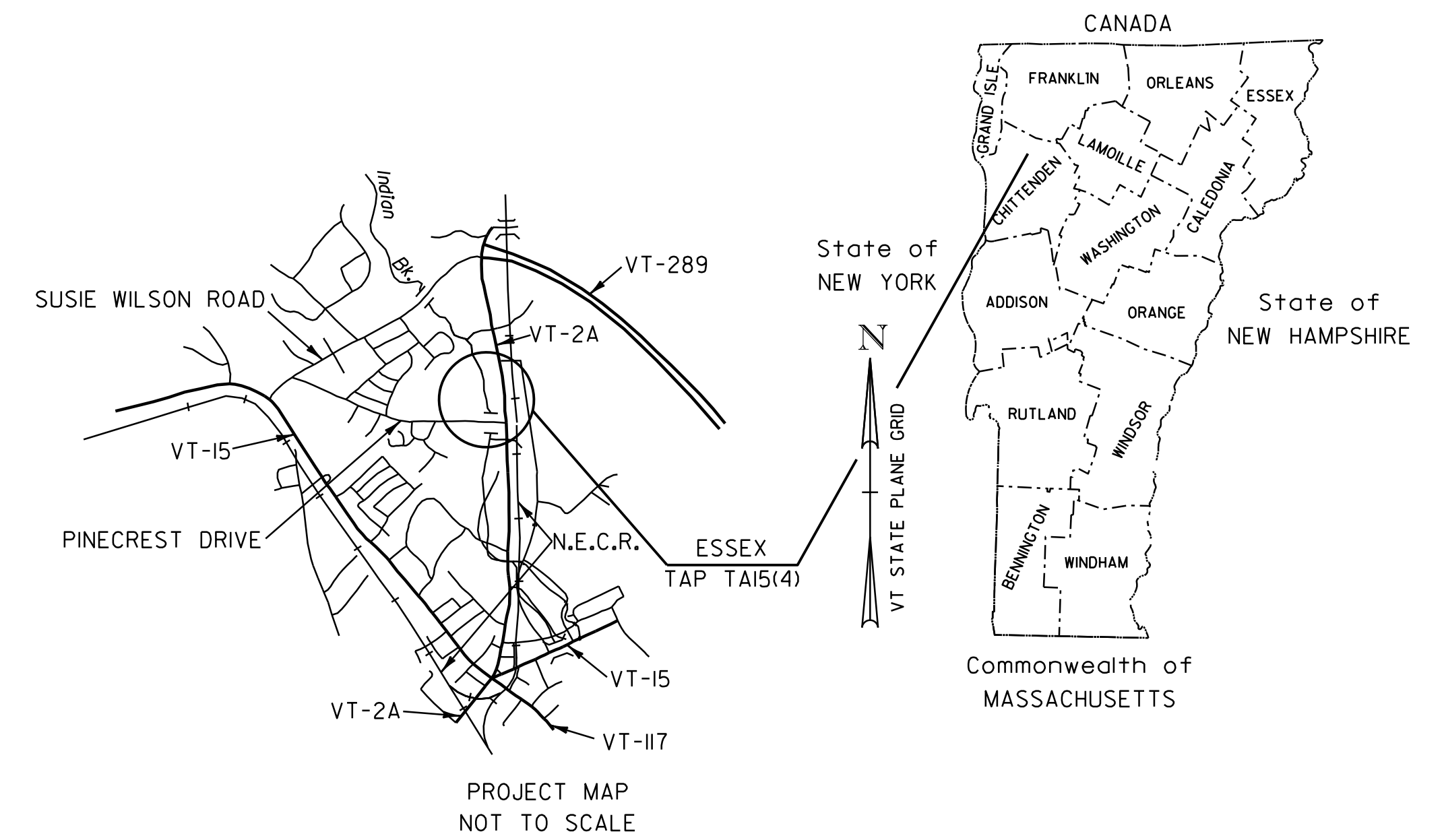
Print Form

Clear Form

Submit by Email

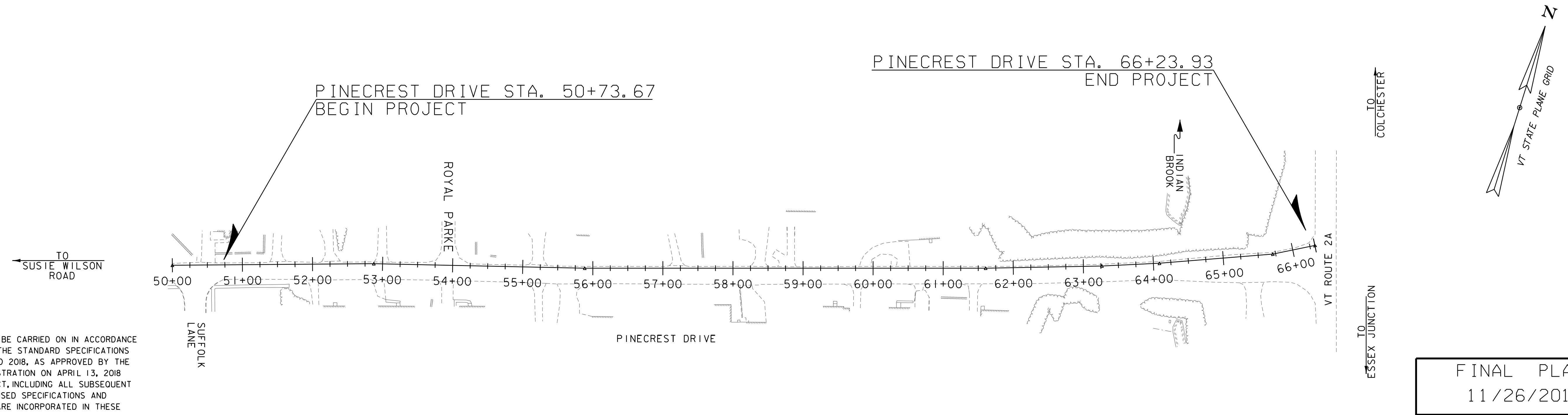
Online Shared Review

PROPOSED IMPROVEMENT TOWN OF ESSEX COUNTY OF CHITTENDEN SIDEWALK PROJECT



THIS PROJECT IS LOCATED IN THE TOWN OF ESSEX ALONG THE NORTH SIDE OF PINECREST DRIVE. THE PROJECT BEGINS ON PINECREST DRIVE AT THE INTERSECTION WITH THE EASTERN END OF SUFFOLK LANE AND ENDS ON PINECREST DRIVE AT THE INTERSECTION WITH VT ROUTE 2A. WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES CONSTRUCTION OF A NEW SIDEWALK, CURB, STORMWATER DRAINAGE WORK AND OTHER ASSOCIATED WORK ALONG THE EDGE OF PINECREST.

LENGTH OF PROJECT = 1550.26 FEET



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

QUALITY ASSURANCE PROGRAM : LEVEL 3
SURVEYED BY : VERMONT SURVEY
SURVEYED DATE : 05/12/2011
DATUM
VERTICAL NAVD 88 FT
HORIZONTAL NAD 83 (2007) sFT



Stantec
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South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

DIRECTOR OF PUBLIC WORKS	APPROVED _____ DATE _____
PROJECT MANAGER : AARON MARTIN, P.E.	
PROJECT NAME : ESSEX	
PROJECT NUMBER : TAP TA15 (4)	
SHEET 1 OF 27 SHEETS	

FINAL PLANS
11/26/2019

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STANDARD DRAWINGS

<u>STANDARD</u>	<u>NAME</u>	<u>DATE</u>
B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10/14/2005
C-2B	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP	10/14/2005
C-3A	SIDEWALK RAMPS	3/10/2008
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	3/10/2008
C-10	CURBING	2/11/2008
D-15	PRECAST REINF CONC. MH-GRATES, CAST IRON GRATE WITH FRAME, TYPE D & E	6/1/1994
D-16	DRAINAGE DETAILS INCLUDING DROP INLETS, IRON GRATE TYPE B&C, CONC END SECTIONS. ETC.	6/1/1994
D-17	CGM DROP INLET, REDUCER, RISER	6/1/1994
D-33	REINFORCED CONCRETE STRAIGHT HEADWALL	3/12/2007
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-193	PAVEMENT MARKING DETAILS	8/18/1995
J-3	MAIL BOX SUPPORT DETAILS	8/7/1995
T-1	TRAFFIC CONTROL GENERAL NOTES	4/25/2016
T-2	TRAFFIC SIGN GENERAL NOTES	4/25/2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	8/6/2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	8/6/2012
T-28	CONSTRUCTION SIGN DETAILS	8/6/2012
T-29	CONSTRUCTION SIGN DETAILS	8/6/2012
T-30	CONSTRUCTION SIGN DETAILS	8/6/2012
T-31	CONSTRUCTION SIGN DETAILS	8/6/2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	8/6/2012
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	8/6/2012
T-45	SQUARE TUBE SIGN POST AND ANCHOR	1/2/2013

E-145A? →

T-70? →



PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15f012index.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 2 OF 27
DESIGNED BY: E. ALLING	
INDEX OF SHEETS	

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
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
R.T.& I.	RIGHT, TITLE, AND INTEREST
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
□	BNDNS BOUND TO BE SET
⊙	IPNF IRON PIN FOUND
●	IPNS IRON PIN TO BE SET
⊠	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
□	BM BENCHMARK
□	BND BOUND
⊠	CB CATCH BASIN
⊕	COMB COMBINATION POLE
⊠	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
○	GASFIL GAS FILLER
○	GP GUIDE POST
×	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
×	GV GATE VALVE
⊕	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
●	IP IRON PIN
●	IPIPE IRON PIPE
⊠	LI LIGHT - STREET OR YARD
⊠	MB MAILBOX
○	MH MANHOLE (MH)
□	MM MILE MARKER
□	PM PARKING METER
□	PMK PROJECT MARKER
○	POST POST STONE/WOOD
⊠	RRSIG RAILROAD SIGNAL
⊠	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊠	SIGN SIGN
⊠	STUMP STUMP
⊠	TEL TELEPHONE POLE
○	TIE TIE
⊠	TSIGN SIGN W/DOUBLE POST
⊠	VCTRL CONTROL VERTICAL
○	WELL WELL
×	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE
CB	CHORD BEARING

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

— UGU —	UTILITY (GENERIC-UNKNOWN)
— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEPHONE
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU —	UTILITY (GENERIC-UNKNOWN)
— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEPHONE
—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— — — CZ — — —	CLEAR ZONE
—————	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△ — △ — △ — △	TOP OF CUT SLOPE
○ — ○ — ○ — ○	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗ ⊗	STONE FILL
-----	BOTTOM OF DITCH
-----	CULVERT PROPOSED
-----	STRUCTURE SUBSURFACE
PDF — PDF —	PROJECT DEMARCATION FENCE
BF — BF —	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	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
— P — P —	PROPERTY LINE (P/L)
— L — L —	PROPERTY LINE (P/L)
— SR — SR — SR —	SLOPE RIGHTS
6f — 6f —	6F PROPERTY BOUNDARY
4f — 4f —	4F PROPERTY BOUNDARY
HAZ — HAZ —	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
— — — — —	SILT FENCE
— X — X — X — X —	SILT FENCE WOVEN WIRE
— — — — —	CHECK DAM
-----	DISTURBED AREAS REQUIRING RE-VEGETATION
-----	EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

**ENVIRONMENTAL RESOURCES**

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

**ARCHEOLOGICAL & HISTORIC**

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
(H)	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

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

PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

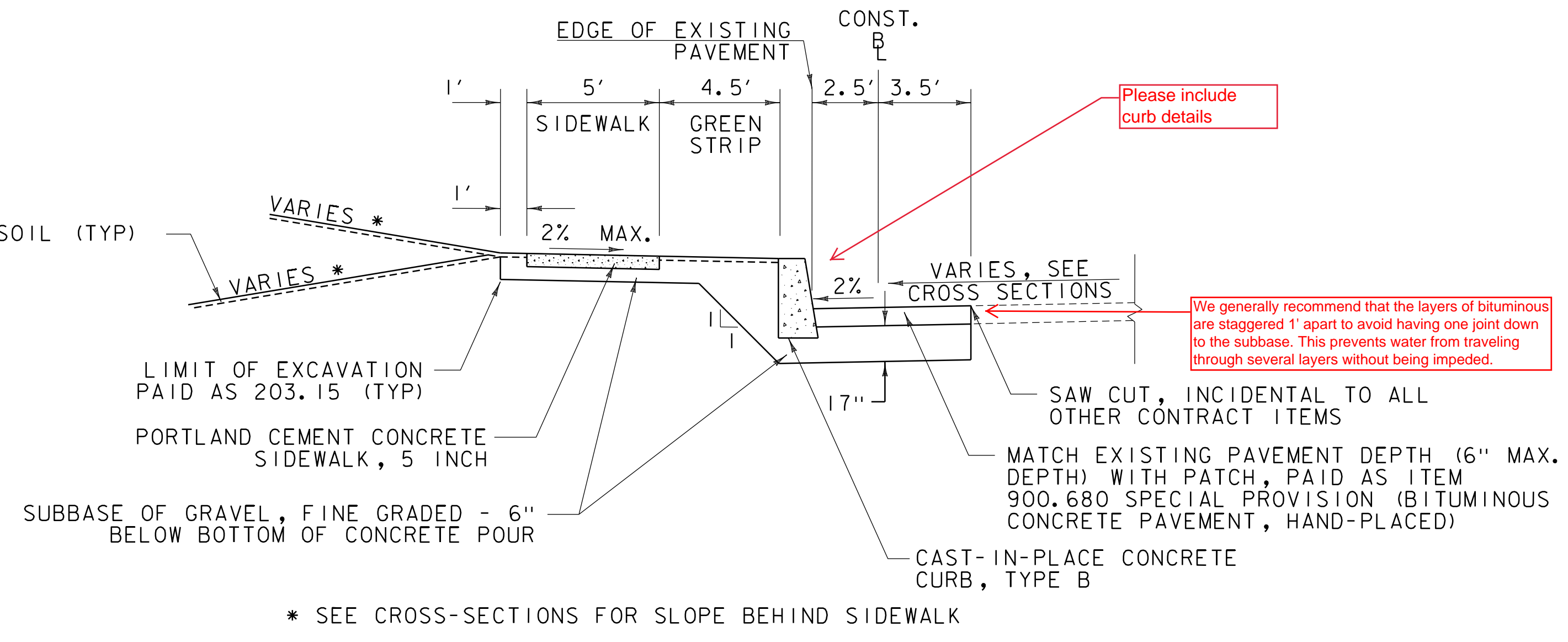
FILE NAME: z15f012legend.dgn PLOT DATE: 11/26/2019  
PROJECT LEADER: G. GOYETTE DRAWN BY: E. ALLING  
DESIGNED BY: E. ALLING CHECKED BY: G. GOYETTE  
CONVENTIONAL SYMBOLGY LEGEND SHEET SHEET 3 OF 27





MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT COURSES (TOTAL DEPTH)	+ 1/4"
BASE COURSES (TOTAL DEPTH)	+/- 1"
SUBBASE	+/- 1"

typically 4" preferred (651.05)



**PINECREST DRIVE SIDEWALK TYPICAL**  
NOT TO SCALE  
STATION 50+73.7 TO 66+23.9, LT

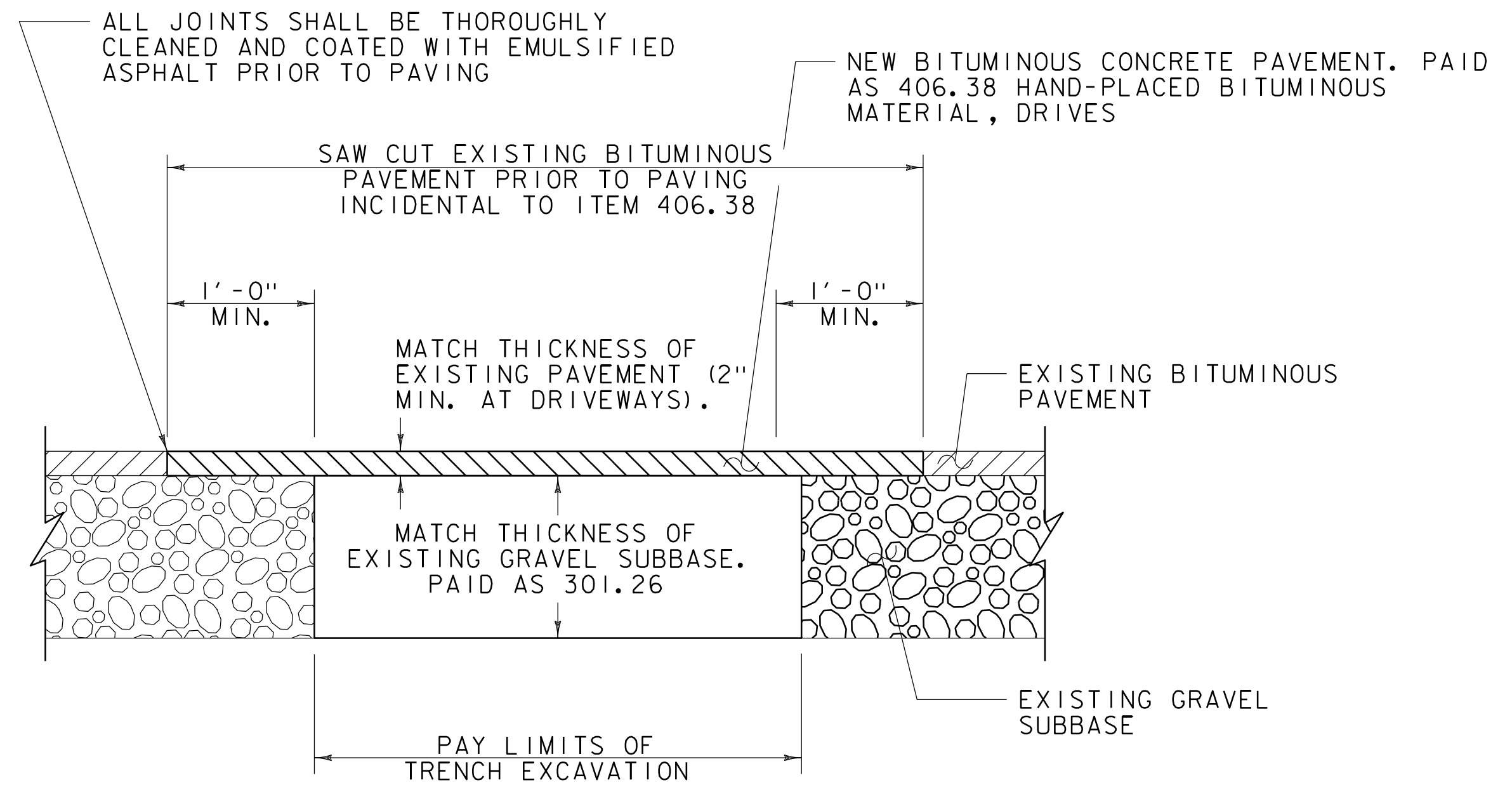
1) Why not reference Table 406.12A in the 2018 Standard Specifications?  
2) Small Quantity SP would make more sense for the application shown at left in the sidewalk typical.

Call out lifts and types

**GENERAL NOTES:**

- PAVEMENT PLACED IN THE ROADWAY AND THE ROYAL PARKE ENTRANCE (STA. 53+95 LT) SHALL BE PAID AS ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, HAND-PLACED). MATCH EXISTING DEPTH OF ROADWAY PAVEMENT TO A MAXIMUM DEPTH OF 8 INCHES.
- EMULSIFIED ASPHALT SHALL BE APPLIED AT THE RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, HAND-PLACED).
- ALL DRIVES ARE TO BE PAVED FROM CURB LINE TO THE SIDEWALK AND FROM BACK OF SIDEWALK TO THE RIGHT-OF-WAY WITH 2" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT, TYPE 111S. DRIVES SHALL BE SAW CUT AND COLD PLANED AS NECESSARY TO INSTALL NEW PAVEMENT FLUSH WITH EXISTING PAVEMENT. SAW CUTTING SHALL BE PAID INCIDENTAL TO ITEM 406.38 HAND-PLACED BITUMINOUS MATERIAL, DRIVES. SEE STANDARD DRAWING B-71 FOR DRIVE DETAILS.
- TREE STUMPS AND TREES WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED AS DIRECTED ON THE PLANS. THIS WORK SHALL BE PAID AS ITEM 201.10.
- TREE ROOTS ENCOUNTERED WITHIN EXCAVATION AREAS SHALL BE SAWN CLEANLY AND REMOVED. THIS WORK SHALL BE INCIDENTAL TO 656.85 TREE PROTECTION.
- PAYMENT FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES REQUIRED TO TEMPORARILY OR PERMANENTLY STABILIZE DISTURBED SOILS INCLUDING BUT NOT LIMITED TO SEED, FERTILIZER, LIMESTONE, EROSION MATTING, MULCH, SILT FENCE, BARRIER FENCE AND INLET PROTECTION SHALL BE PAID ACCORDING TO THEIR INDIVIDUAL PAY ITEMS. ALL WORK SHALL BE COMPLETED IN CONFORMANCE WITH SECTION 105 OF THE VTRANS STANDARD SPECIFICATIONS.

Paving from the back of the sidewalk to the ROW limits is only required on gravel drives. Maybe the intent is to redo the paved drives anyhow, but I wanted to point it out. Also, some drives show paving beyond the ROW limits (i.e. Sta. 54+00).



**SIDE ROAD AND DRIVEWAY TRENCH TYPICAL SECTION**  
NOT TO SCALE

**UTILITY NOTES:**

- ALL UNDERGROUND UTILITY LOCATIONS AND DEPTHS ARE CONSIDERED APPROXIMATE. CONTRACTOR SHALL CONTACT DIG SAFE PRIOR TO EXCAVATING.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF UNDERGROUND UTILITIES THAT MAY BE IN CONFLICT WITH NEW DRAINAGE CONSTRUCTION. ALL UTILITY CONFLICTS AND REQUIRED RELOCATIONS SHALL BE REPORTED TO THE RESIDENT ENGINEER AND THE UTILITY COMPANY AT MINIMUM ONE WEEK PRIOR TO RELOCATIONS BEING REQUIRED.
- VT GAS, GREEN MOUNTAIN POWER AND FAIRPOINT WILL RELOCATE THEIR UNDERGROUND UTILITIES AS NECESSARY. THE CONTRACTOR WILL BE RESPONSIBLE FOR RELOCATING SEWER AND WATER SERVICES AS NECESSARY.

has this been previously coordinated?

What about aerial utilities

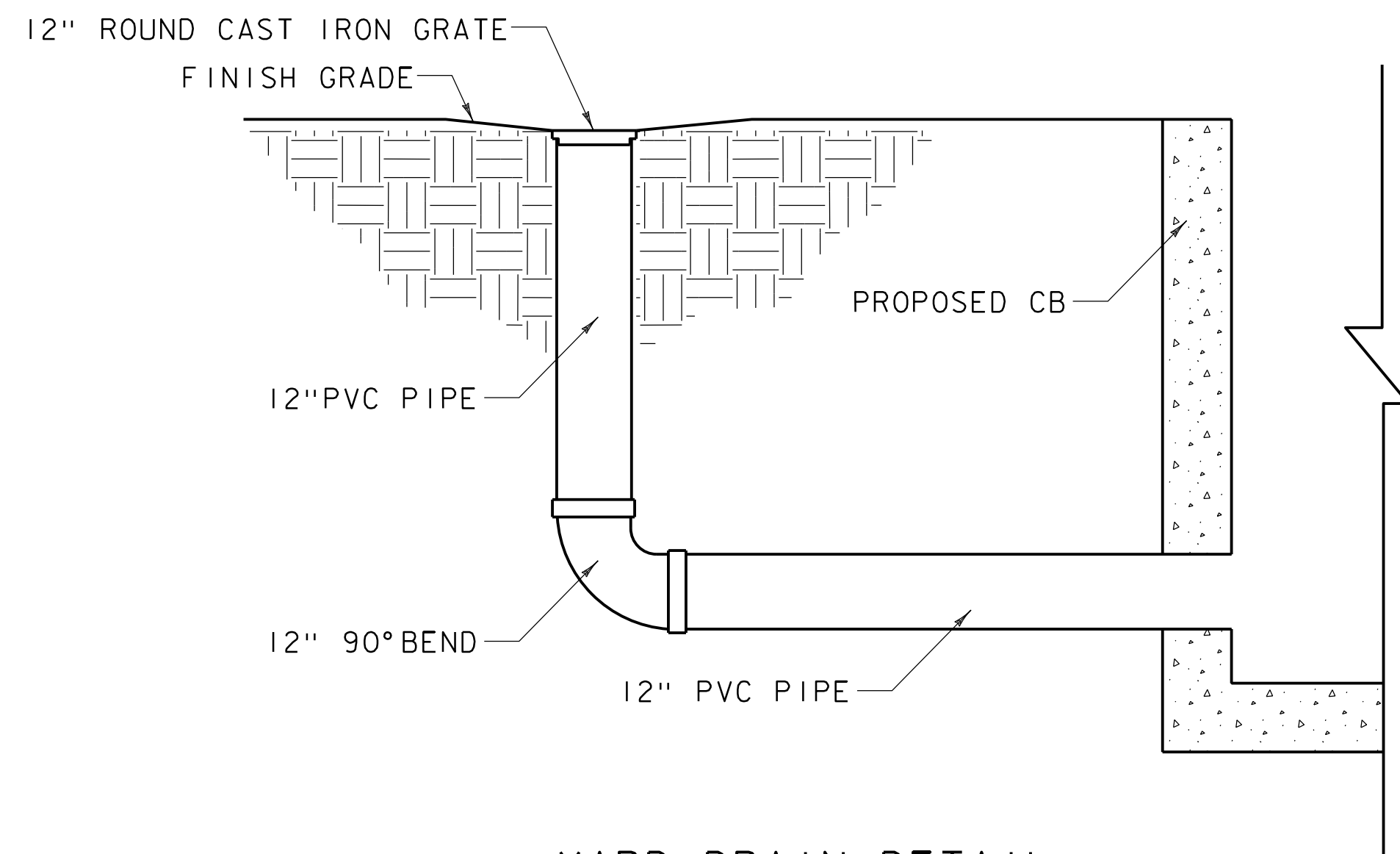
Quantities for materials are not listed if these relocations are necessary

Consolidated Communications



PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15F0121yp.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 4 OF 27
DESIGNED BY: E. ALLING	
TYPICAL SECTION SHEET	

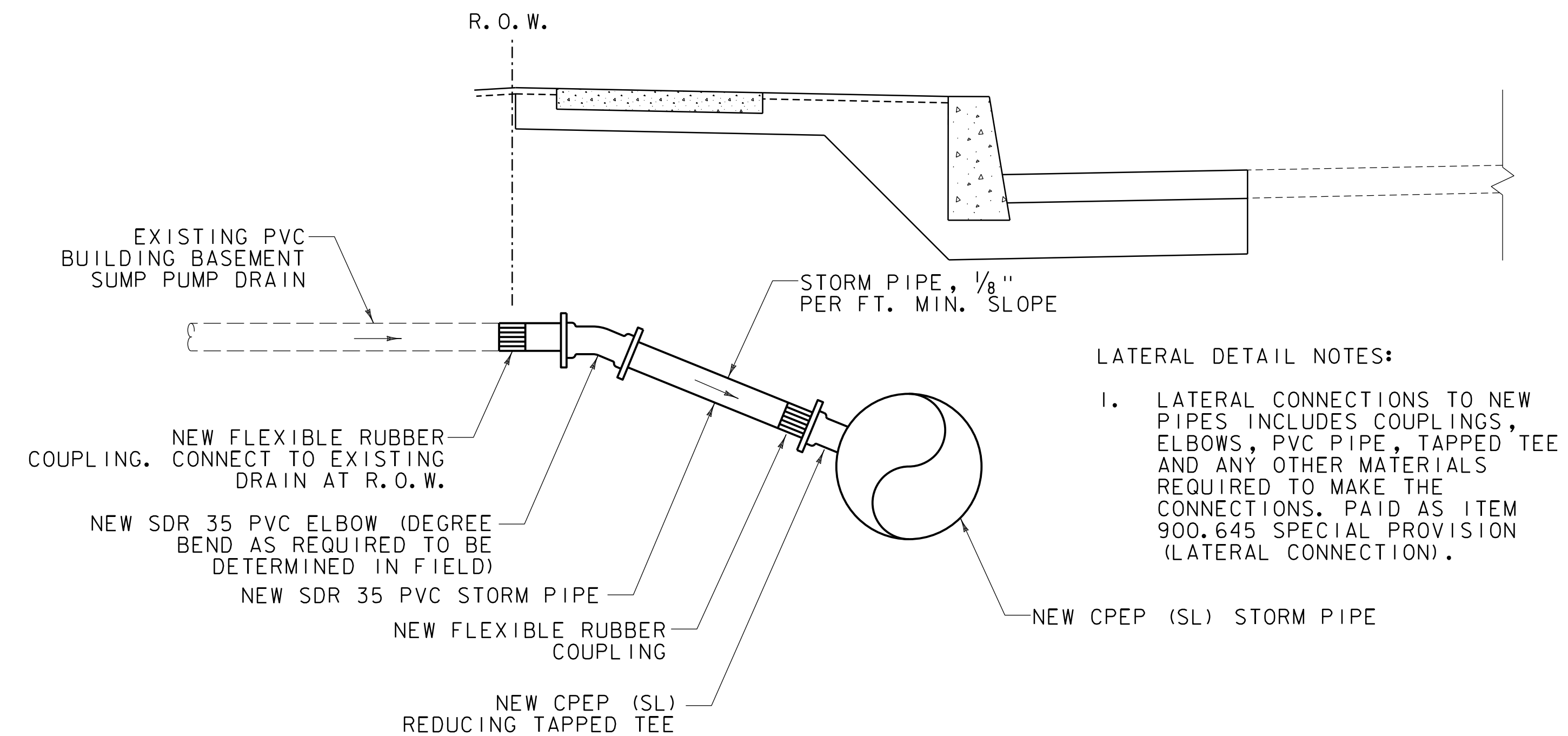




**YARD DRAIN DETAIL**  
NOT TO SCALE

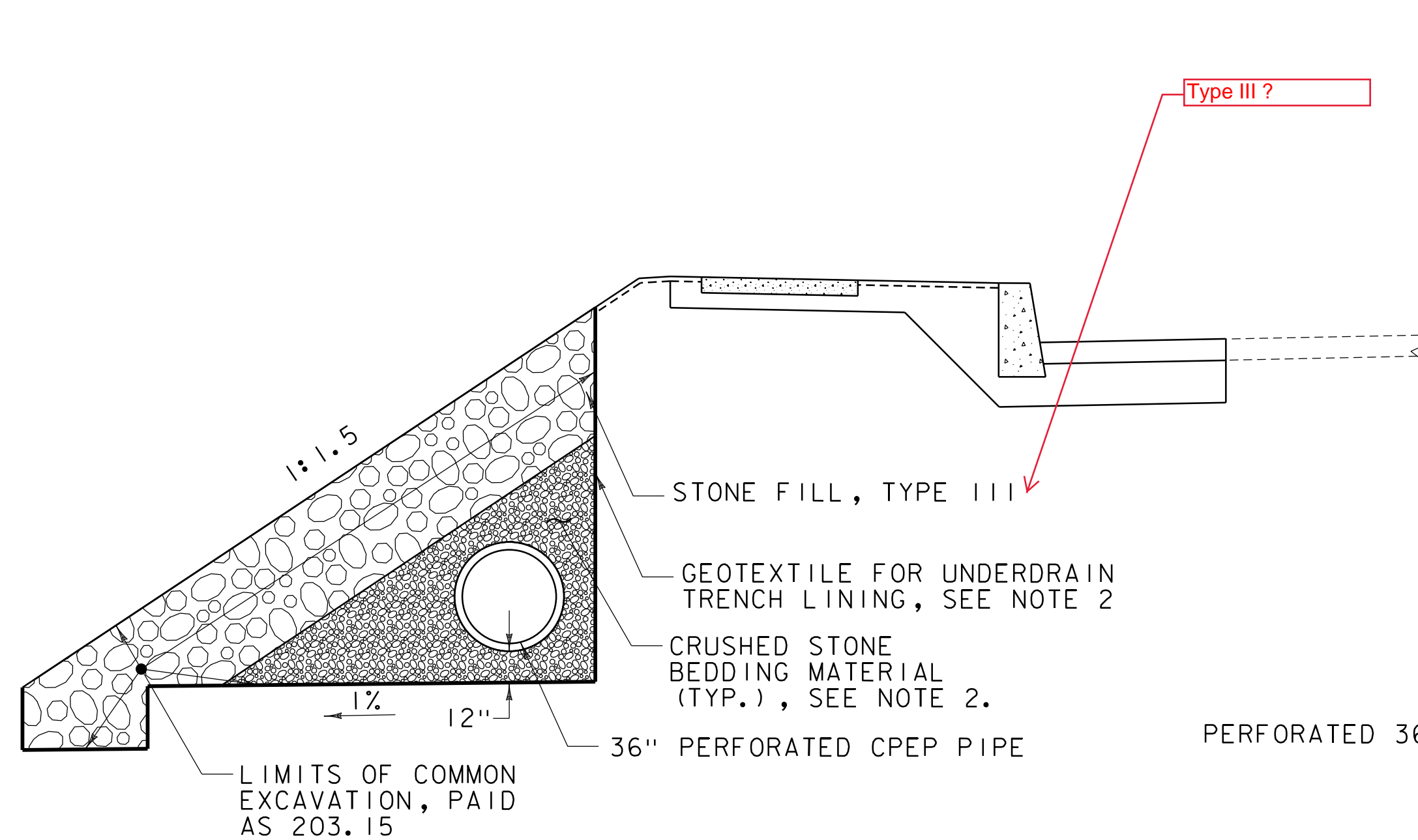
**NOTES:**

1. INSTALLATION OF 12" PVC PIPE, 12" PVC ELBOW AND 12" ROUND CAST IRON GRATE SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (YARD DRAIN)
2. SEE DRAINAGE PLAN FOR INVERT INFORMATION.

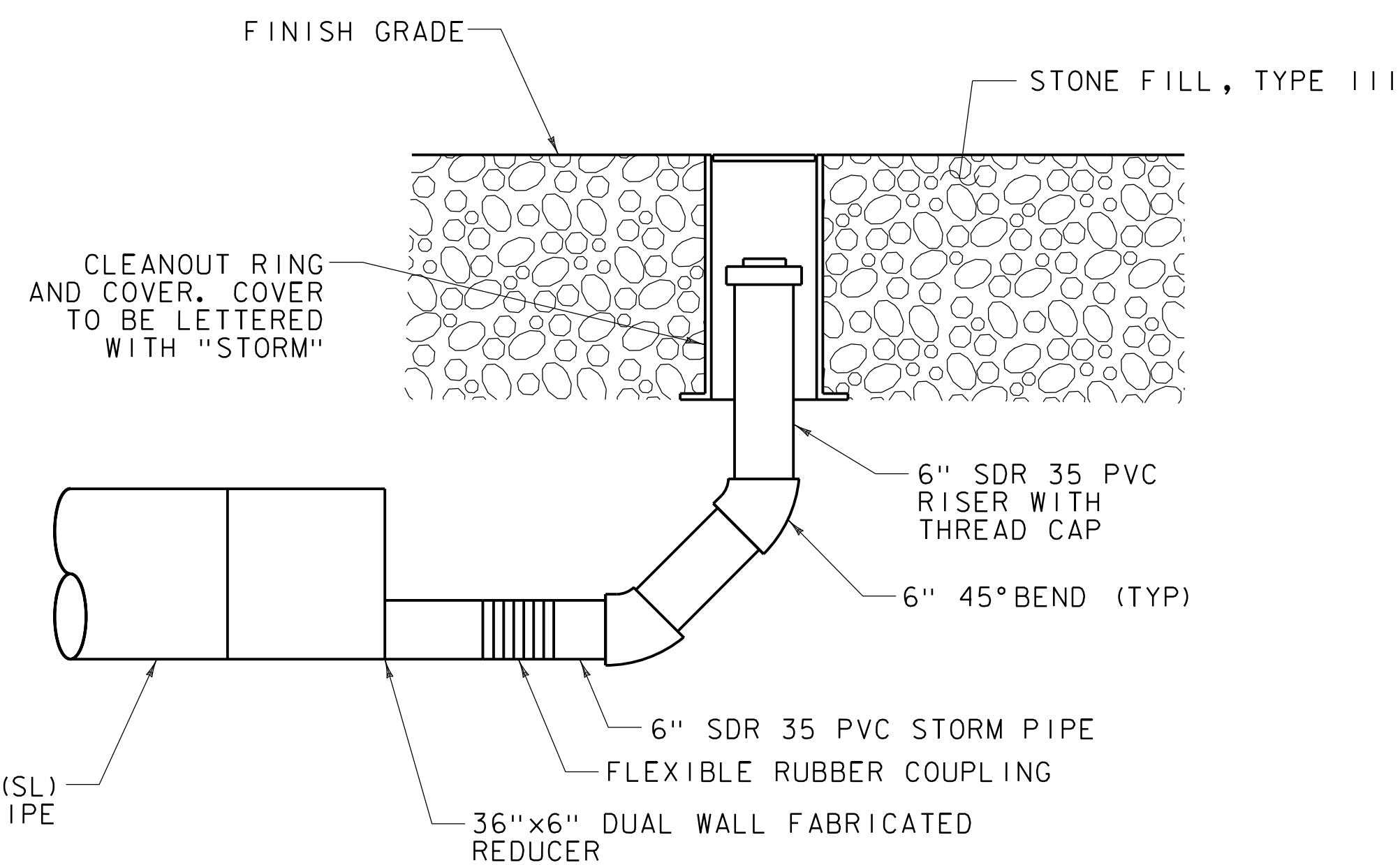


**TYPICAL LATERAL DETAIL**  
NOT TO SCALE

- LATERAL DETAIL NOTES:**
1. LATERAL CONNECTIONS TO NEW PIPES INCLUDES COUPLINGS, ELBOWS, PVC PIPE, TAPPED TEE AND ANY OTHER MATERIALS REQUIRED TO MAKE THE CONNECTIONS. PAID AS ITEM 900.645 SPECIAL PROVISION (LATERAL CONNECTION).



**36 INCH PERFORATED PIPE TRENCH DETAIL**  
NOT TO SCALE



**TYPICAL STORMWATER CLEANOUT DETAIL**  
NOT TO SCALE

**PERFORATED PIPE TRENCH NOTES:**

1. REMOVE ALL LOOSE MATERIAL AND THOROUGHLY SWEEP THE HOLE AREA CLEAN OF MUD AND STANDING WATER.
2. CRUSHED STONE BEDDING AND GEOTEXTILE FOR UNDERDRAIN TRENCH LINING SHALL BE PAID INCIDENTAL TO 900.640 SPECIAL PROVISION (36 INCH PERFORATED PIPE)
3. SEE DRAINAGE NOTES ON DRAINAGE PLAN SHEETS FOR PIPE INVERTS.
4. CLEANOUT INSTALLATION, INCLUDING REDUCER AND ALL OTHER COMPONENTS SHOWN IN THE DETAIL, SHALL BE PAID AS ITEM 900.645 SPECIAL PROVISION (STORMWATER CLEANOUT).

SP???



PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA 15(4)  
FILE NAME: z15F012+yp.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
DETAIL SHEET

PLOT DATE: 11/26/2019  
DRAWN BY: G. GOYETTE  
CHECKED BY: E. ALLING  
SHEET 5 OF 27



**BALLAST**

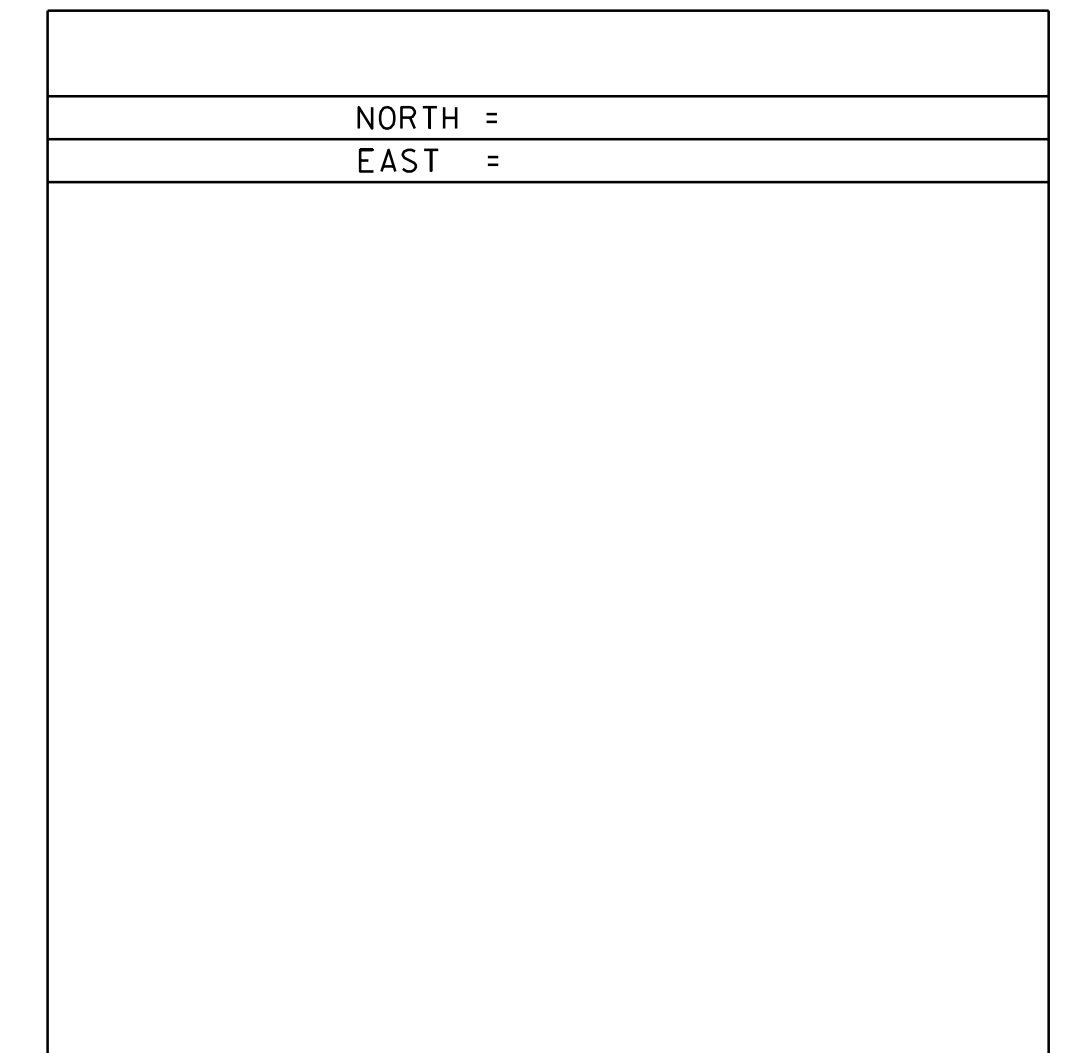
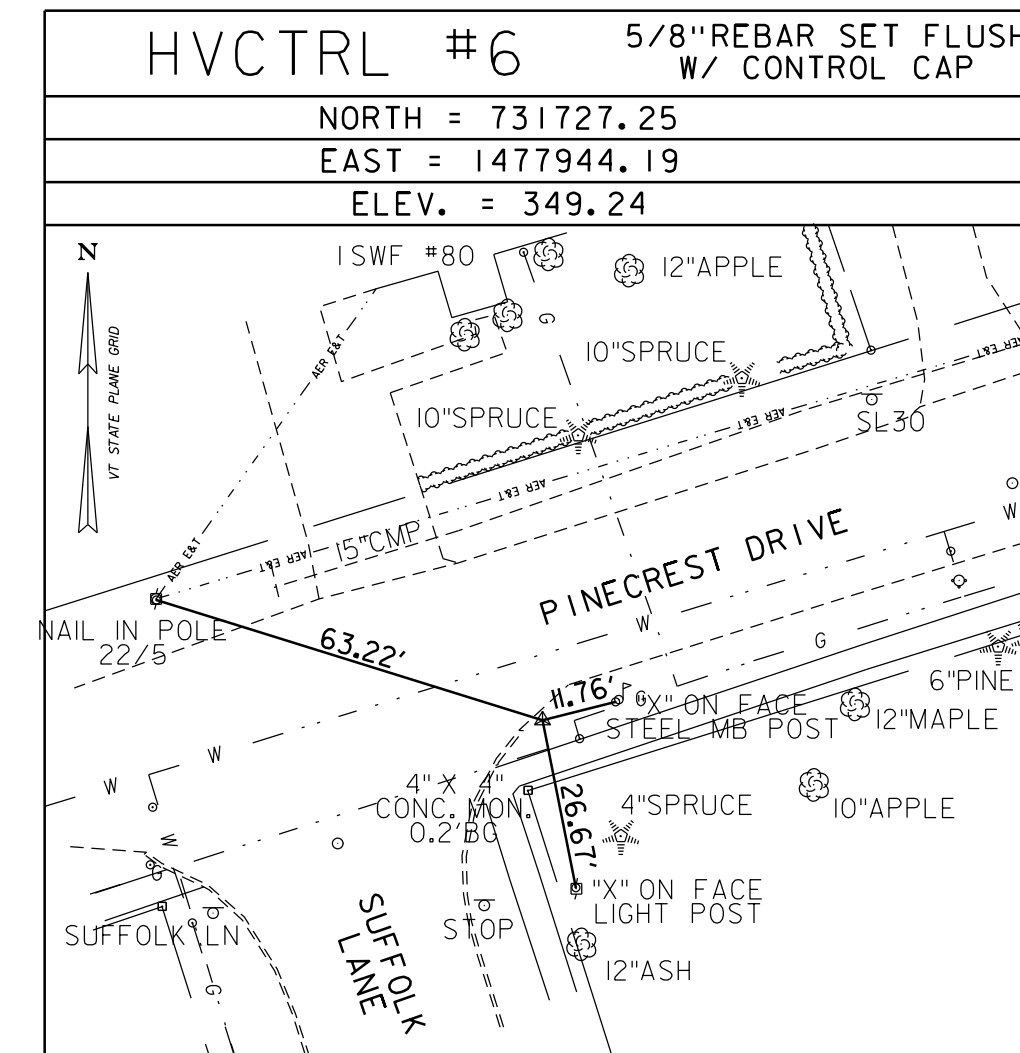
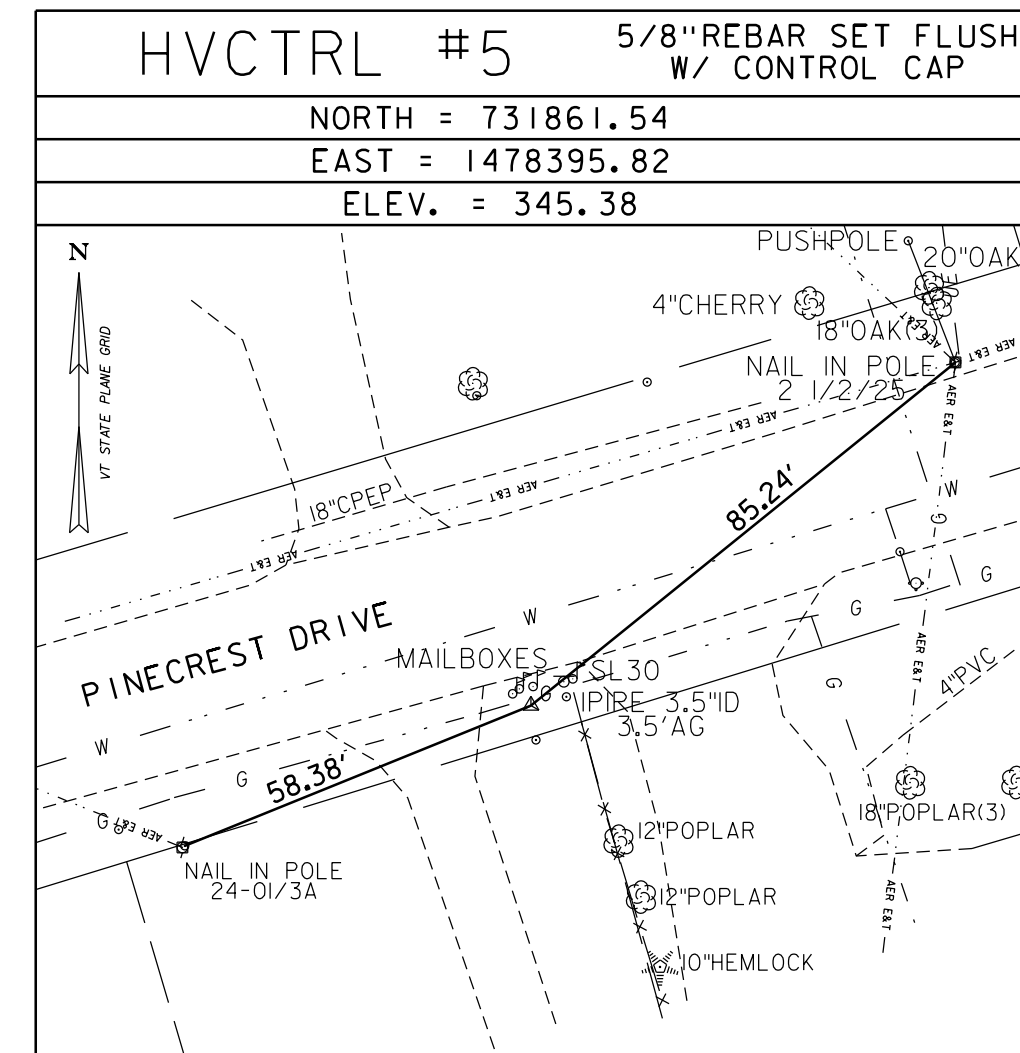
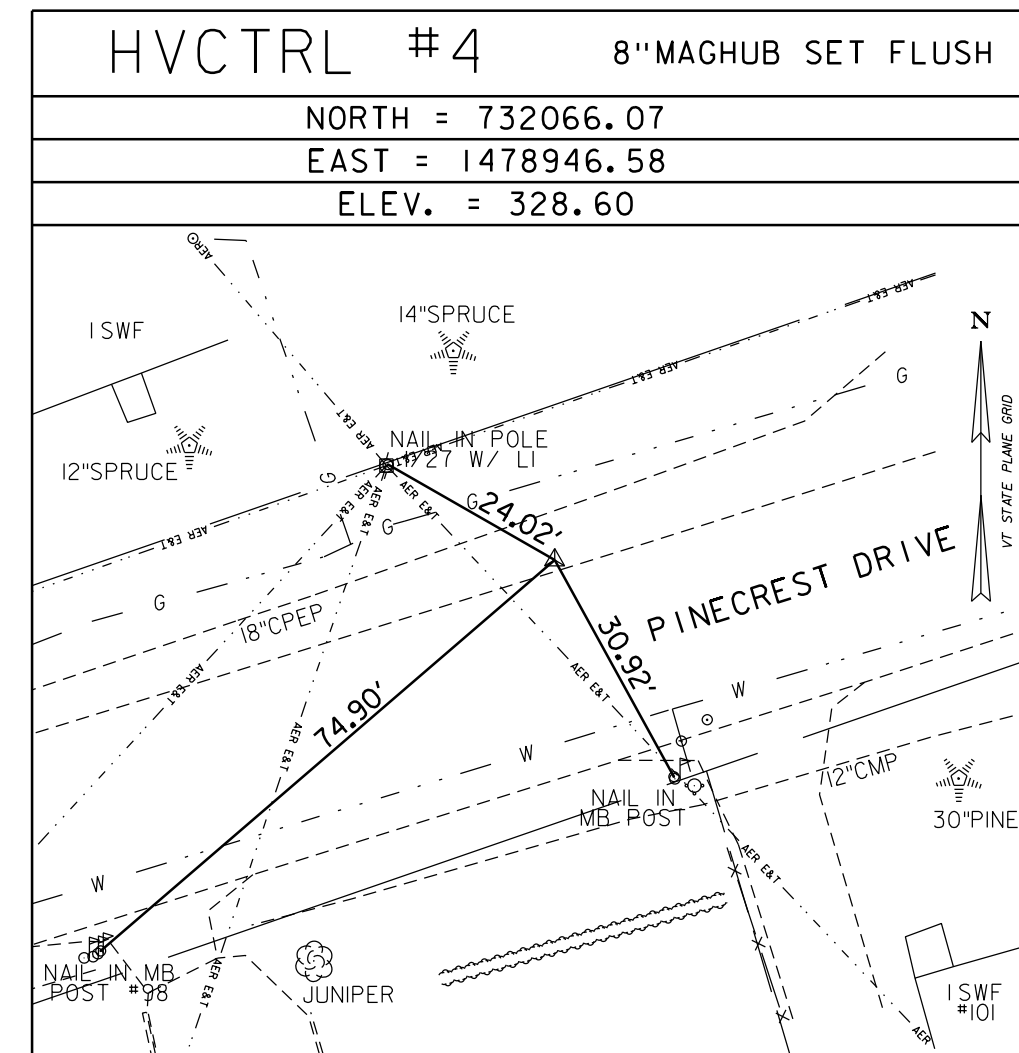
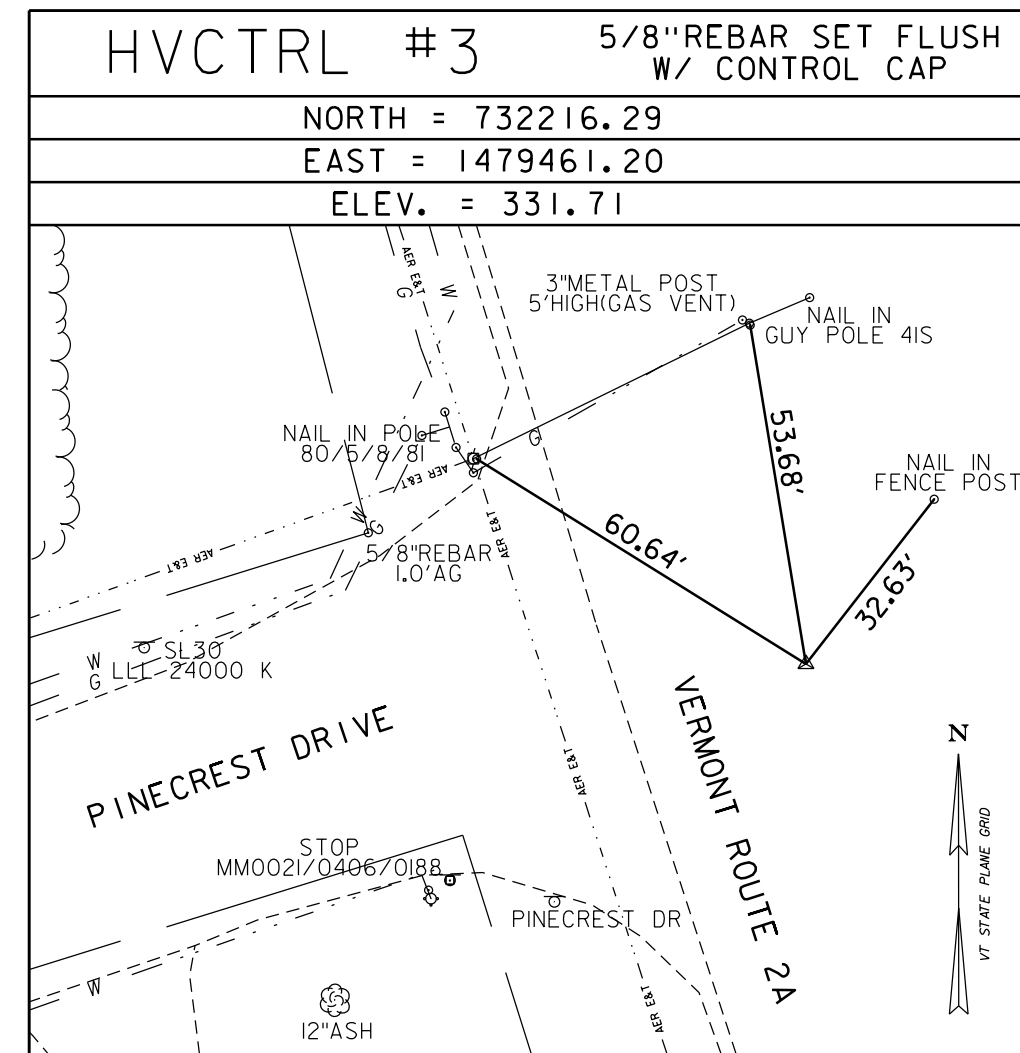
PID AB9617  
 N = 733041.32  
 E = 1479241.82  
 ORTHO. HEIGHT = 340.64

TO REACH FROM THE FIVE CORNERS INTERSECTION OF VT ROUTES 2A, 15, AND 117 IN ESSEX JUNCTION, GO NORTH ALONG VT ROUTE 2A FOR 1.1 MI (1.8 KM) TO THE INTERSECTION OF OLD COLCHESTER ROAD RIGHT AND PINECREST DRIVE LEFT. CONTINUE STRAIGHT AHEAD AND GO NORTH ALONG VT ROUTE 2A FOR 0.15 MI (0.24 KM) TO THE MARK ON THE RIGHT, JUST SOUTH OF AN OPEN FIELD. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 15 CM X 17 CM CONCRETE MONUMENT. IT IS 25.2 M (82.7 FT) EAST OF AND ABOUT LEVEL WITH THE CENTERLINE OF VT ROUTE 2A, 3.6 M (11.8 FT) WEST OF AND ABOUT 0.4 M (1.3 FT) LOWER THAN THE WEST RAIL OF THE NEW ENGLAND CENTRAL RAILROAD, 34.7 M (113.8 FT) SOUTHEAST OF POLE NO. 46, 34.0 M (111.5 FT) NORTH-NORTHEAST OF POLE NO. 1/8/45, AND 0.25 M (0.82 FT) EAST OF A FIBERGLASS WITNESS POST.

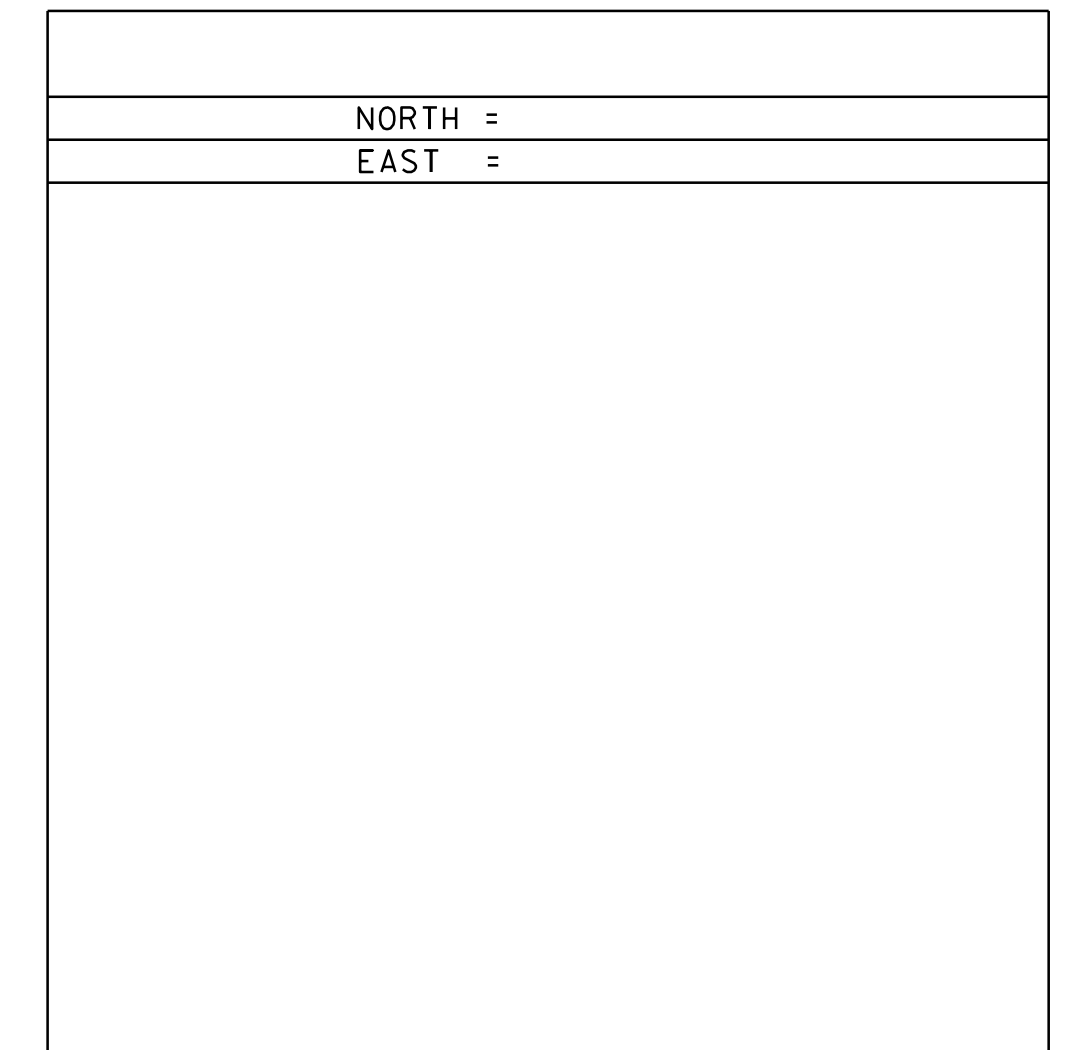
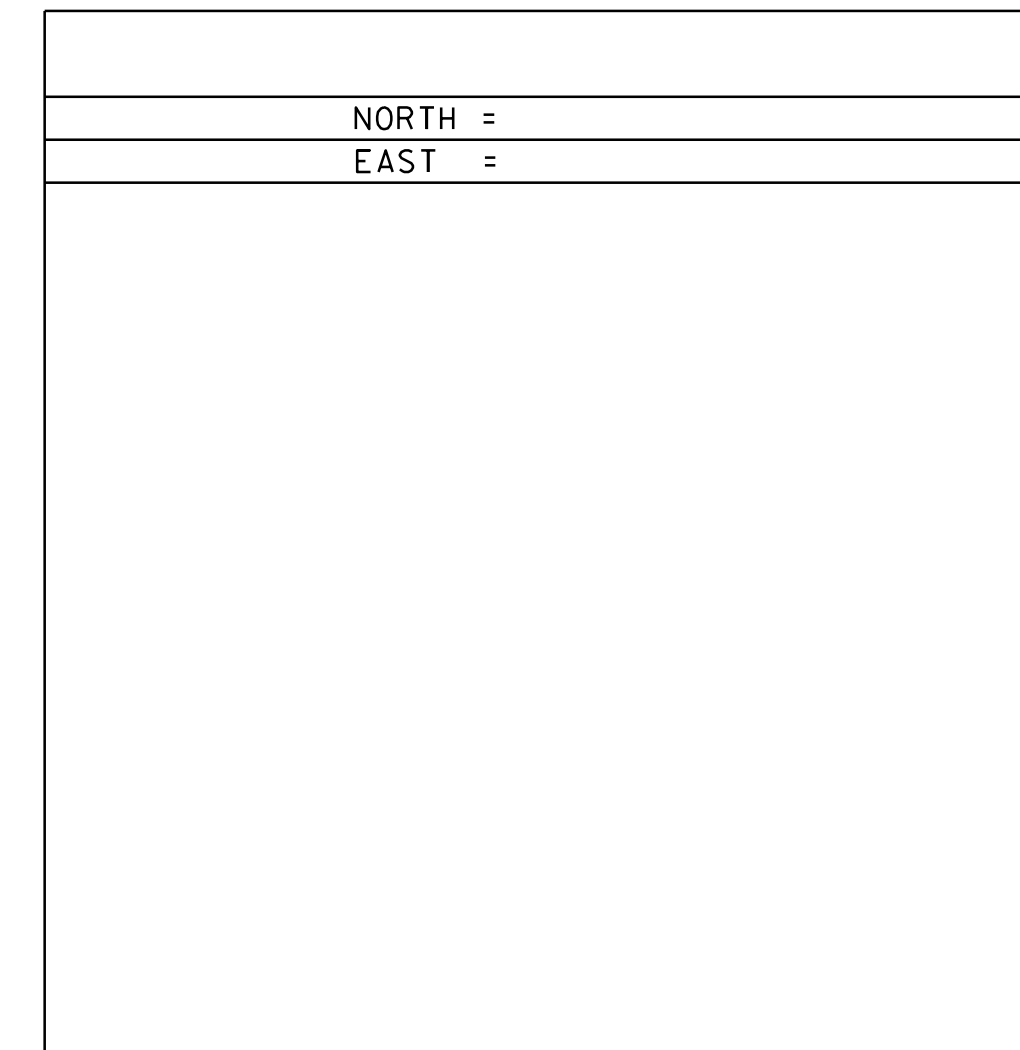
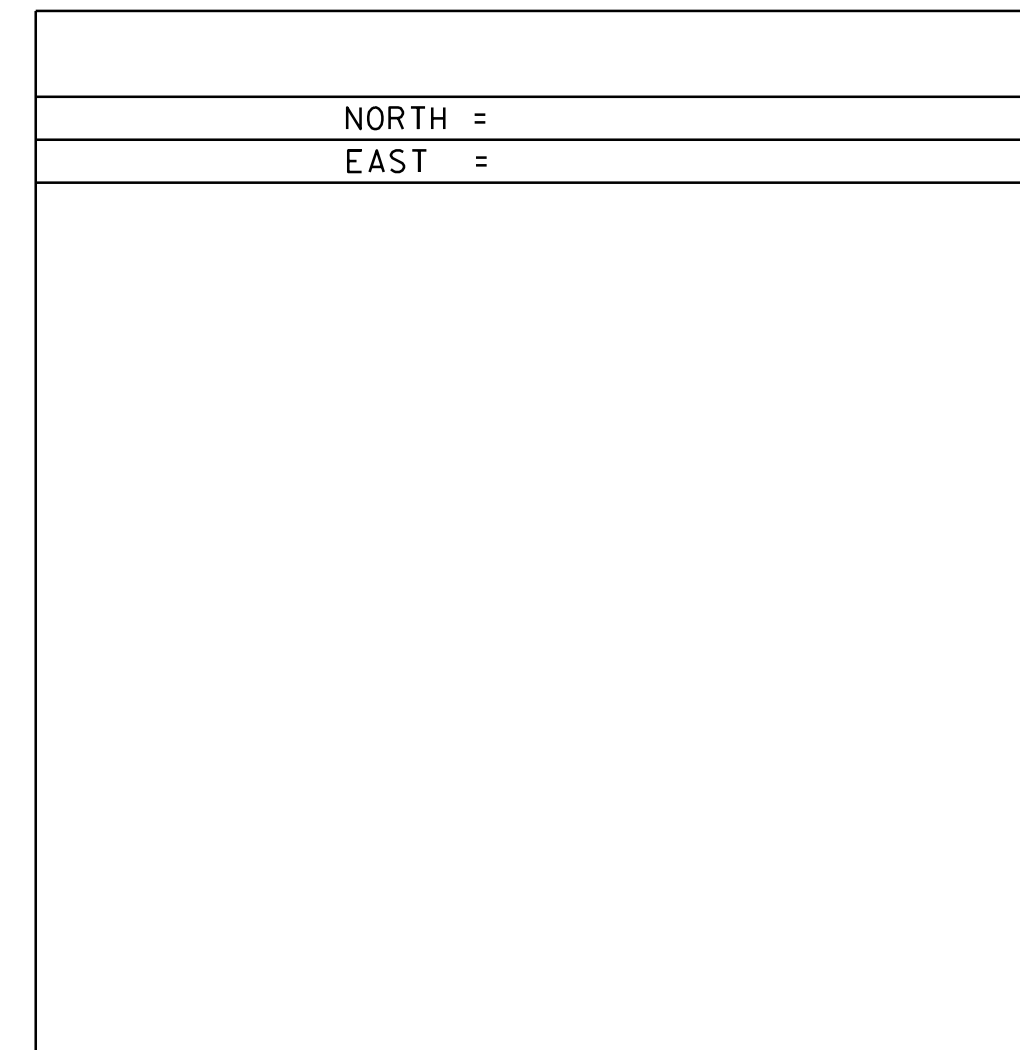
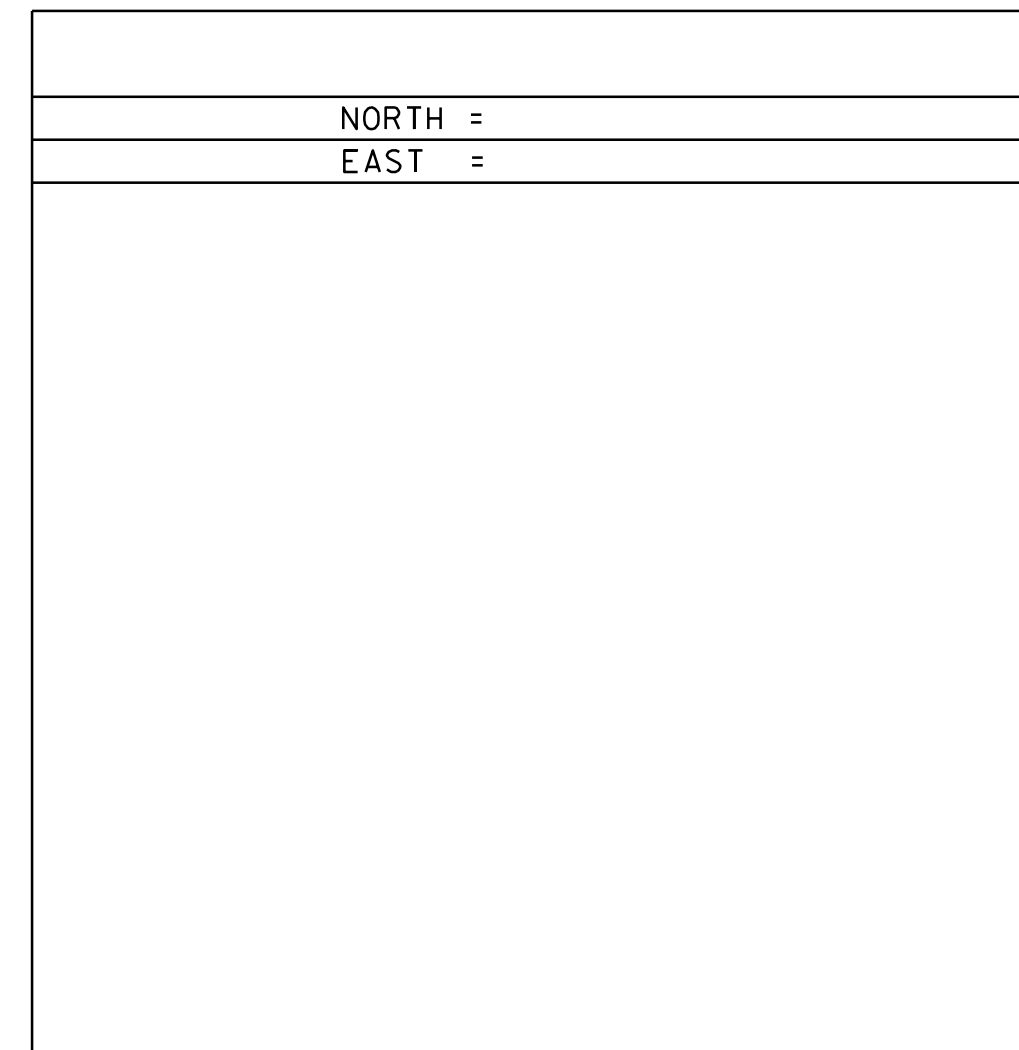
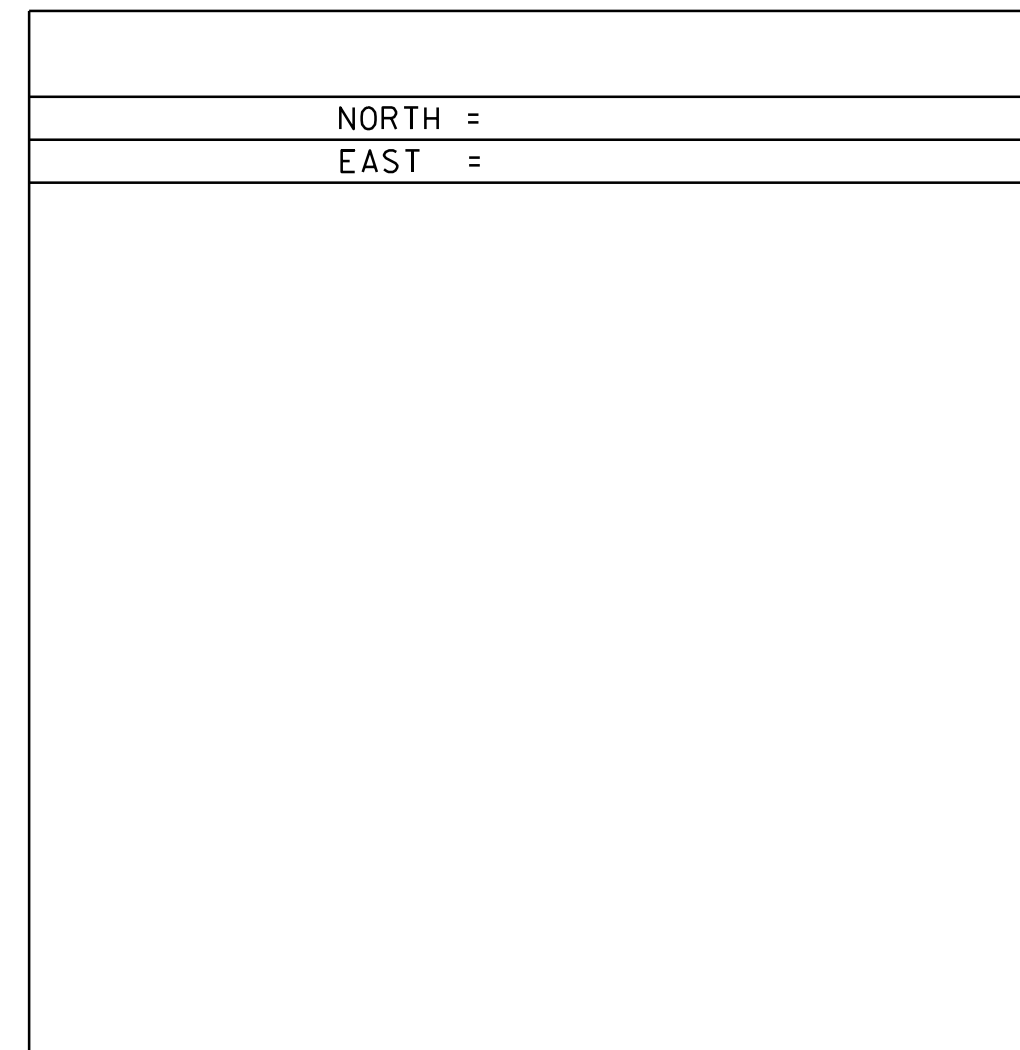
**ESSEX 2 A**

PID AB9618  
 N = 731600.50  
 E = 1479658.06  
 ORTHO. HEIGHT = 336.24

TO REACH FROM THE FIVE CORNERS INTERSECTION OF VT ROUTES 2A, 15, AND 117 IN ESSEX JUNCTION, GO NORTH ALONG VT ROUTE 2A FOR 1.0 MI (1.6 KM) TO THE TO THE MARK ON THE RIGHT. IT IS 0.15 MI (0.24 KM) SOUTH OF THE INTERSECTION OF OLD COLCHESTER ROAD AND PINECREST DRIVE. THE MARK IS SET 10 CM BELOW GROUND SURFACE IN THE TOP OF A CAST ALUMINUM MONUMENT. IT IS 5.2 M (17.1 FT) EAST OF AND ABOUT 0.3 M (1.0 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 2A, 16.5 M (54.1 FT) WEST OF THE WEST RAIL OF THE NEW ENGLAND CENTRAL RAILROAD, 11.7 M (38.4 FT) EAST OF POLE NO. 37, 3.7 M (12.1 FT) NORTH OF THE EAST END OF A METAL CULVERT WITH STONE MASONRY HEADWALL, AND 1.8 M (5.9 FT) WEST OF A FIBERGLASS WITNESS POST.



* PROJECT COMPLETED: APRIL 21, 2011 BY VSE, T. CATTANEO-PC, T. COMSTOCK



DATUM	
VERTICAL	NAVD 88 FT
HORIZONTAL	NAD 83(2007) sFT
ADJUSTMENT	LSQ



PROJECT NAME: ESSEX  
 PROJECT NUMBER: TAP TA15(4)

FILE NAME: z:\5F012\1e.dgn  
 PROJECT LEADER: G. GOYETTE  
 DESIGNED BY: VSE  
 TIE SHEET

PLOT DATE: 11/26/2019  
 DRAWN BY: VSE  
 CHECKED BY: VSE  
 SHEET 6 OF 27



# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
								ROADWAY	EROSION CONTROL	FULL C.E.	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								1			1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			
								1000			1000		CY	COMMON EXCAVATION	203.15	23			
								55			55		CY	SOLID ROCK EXCAVATION	203.16	EST			
								1975			1975		CY	TRENCH EXCAVATION OF EARTH	204.20	23			
								105			105		CY	TRENCH EXCAVATION OF ROCK	204.21	EST			
								1			1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
								975			975		CY	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.26	23			
								180			180		SY	HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES	406.38	8			
								900			900		LB	REINFORCING STEEL, LEVEL I	507.11	9			
								6			6		CY	CONCRETE, CLASS B	541.25	1			
								280			280		LF	18" CPEP(SL)	601.2615	-			
								110			110		LF	24" CPEP(SL)	601.2620	-			
								910			910		LF	36" CPEP(SL)	601.2630	-			
								1			1		EACH	36" CPEPES	601.7030	-			
								9			9		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20	-			
								1			1		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21	-			
								10			10		CY	STONE FILL, TYPE I	613.10	3			
								110			110		CY	STONE FILL, TYPE III	613.12	7			
								1420			1420		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	22			
								870			870		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10	15			
								40			40		SF	DETECTABLE WARNING SURFACE	618.30	-			
								30			30		LF	REMOVING AND RESETTING FENCE	620.50	4			
								2			2		EACH	ADJUST ELEVATION OF VALVE BOX	629.20	-			
								1400			1400		HR	FLAGGERS	630.15	-			
										1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
								1			1		LS	MOBILIZATION/DEMOLITION	635.11	-			
								1			1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE	641.11	-			
								10			10		LF	24 INCH STOP BAR, WATERBORNE PAINT	646.261				
								57			57		LF	CROSSWALK MARKING, WATERBORNE PAINT	646.311	1			
								30			30		SY	GEOTEXTILE UNDER STONE FILL	649.31	2			
								35			35		LB	SEED	651.15	6			
								270			270		LB	FERTILIZER	651.18	6			
								1			1		TON	AGRICULTURAL LIMESTONE	651.20	-			
								115			115		CY	TOPSOIL	651.35	6			
									1		1		TON	HAY MULCH	653.10	-			
									10		10		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-			
									2		2		EACH	INLET PROTECTION DEVICE, TYPE II	653.41	-			
									100		100		LF	SILT FENCE, TYPE I	653.475	6			
									475		475		LF	PROJECT DEMARCATION FENCE	653.55	20			

PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15F012frm.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
QUANTITY SHEET 1

PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 7 OF 27



# QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
							ROADWAY	EROSION CONTROL	FULL C.E.	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							2			2		EACH	TRANSPLANTING SHRUBS	656.50				
							1			1		LS	TREE PROTECTION	656.85	-			
							39			39		SF	TRAFFIC SIGN, TYPE A	675.20	-			
							75			75		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	-			
							3			3		EACH	REMOVING SIGNS	675.50	-			
							55			55		LF	SPECIAL PROVISION (36 INCH PERFORATED CPEP(SL), ALL-INCLUSIVE)	900.640	-			
							3			3		LS	SPECIAL PROVISION (LATERAL CONNECTION)	900.645	-			
							1			1		LS	SPECIAL PROVISION (STORMWATER CLEANOUT)	900.645	-			
							1			1		LS	SPECIAL PROVISION (YARD DRAIN)	900.645	-			
							330			330		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, HAND-PLACED)	900.680	7			

Specials with requirements attached will be critical for the acceptance package.



PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)  
FILE NAME: z15F012frm.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
QUANTITY SHEET 2

PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 8 OF 27



# GENERAL NOTES

this is essentially the same as utility notes on sheet 4. are both locations necessary?

## GENERAL PROJECT NOTES

1. THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE BASED ON LIMITED INFORMATION. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES WHERE A POTENTIAL CONFLICT EXISTS SHALL BE VERIFIED IN THE FIELD WITH EXPLORATORY EXCAVATION AS REQUIRED PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING THAT MAY BE AFFECTED. PAYMENT OF EXPLORATORY EXCAVATION SHALL BE MADE UNDER ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY. CONTRACTORS MUST CONTACT "DIG SAFE" AT 1 (888) 344-7233 [1 (888) DIG-SAFE] AND TOWN UTILITY DEPARTMENTS BEFORE EXCAVATING, DRILLING OR DRIVING SIGN POSTS.
2. CARE SHALL BE TAKEN TO AVOID DAMAGE TO NEARBY FENCES, DRIVEWAYS, BUILDINGS, MONUMENTS, IRON PINS, AND ANY OTHER APPURTENANCES DURING CONSTRUCTION. DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. IF PROPERTY INCLUDING BUT NOT LIMITED TO IRON PINS, FENCES, BUILDINGS, MONUMENTS, ETC. NEEDS TO BE TEMPORARILY RELOCATED DURING CONSTRUCTION, CONTRACTOR SHALL DOCUMENT EXACT EXISTING LOCATION AND RESET IN THE SAME LOCATION UPON COMPLETION OF WORK. THE CONTRACTOR SHALL WORK WITH THE PROPERTY OWNER AS REQUIRED. PROPERTY SHALL BE RESET TO ITS ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE ENGINEER. PROPERTY MONUMENTS SHALL BE SET BY A LICENSED LAND SURVEYOR, LICENSED IN THE STATE OF VERMONT. COST TO COMPLETE THIS WORK SHALL BE INCIDENTAL TO ALL OTHER CONTRACT ITEMS.
4. CONTRACTOR SHALL PROVIDE AT LEAST TWO WEEKS NOTICE TO ADJACENT PROPERTY OWNERS AND BUSINESSES PRIOR TO BEGINNING WORK. CONTRACTOR SHALL INFORM PROPERTY OWNER OF WORK TO BE COMPLETED AND SHALL WORK WITH PROPERTY OWNER TO MAINTAIN ACCESS TO PROPERTY AT ALL TIMES. COST TO COMPLETE THIS WORK SHALL BE INCIDENTAL TO ALL OTHER CONTRACT ITEMS.
5. CONTRACTOR SHALL RESTORE PROPERTY IN AN ACCEPTABLE MANNER SATISFACTORY TO THE ENGINEER IN ACCORDANCE WITH SECTION 107 OF THE 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION. TOPSOIL, SEED, FERTILIZER, LIMESTONE AND MULCH SHALL BE PAID PER THEIR RESPECTIVE PAY ITEMS. ANY OTHER WORK OR MATERIALS NECESSARY SHALL BE INCIDENTAL TO ALL OTHER CONTRACT ITEMS.
6. PAYMENT FOR ANY SAW CUTTING SHALL BE INCIDENTAL TO ITEM 203.15.
7. ALL EXISTING CURB SHALL BE RETAINED, IN PLACE, UNLESS OTHERWISE NOTED.
8. ALL EXISTING DRAINAGE STRUCTURES SHALL BE RETAINED, IN PLACE, UNLESS OTHERWISE NOTED.
9. FOR THE INSTALLATION OF PVC STORMWATER PIPES (INCIDENTAL TO 900.645 SPECIAL PROVISION (YARD DRAIN)), THE TESTING REQUIREMENT IN SECTION 628 IS WAIVED.
10. RIGHT-OF-WAY (ROW) MYLARS PLANS WERE FILED WITH THE TOWN CLERK PRIOR TO ISSUANCE OF THE BID DOCUMENTS. MINOR DESIGN DISCREPANCIES MAY EXIST BETWEEN THE ROW PLANS AND THE CONSTRUCTION PLANS. WHERE THESE DISCREPANCIES EXIST, THE CONTRACTOR SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE CONSTRUCTION PLANS; HOWEVER, ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF THE TOWN ROW AND EASEMENTS AS SHOWN ON THE ROW PLANS.

## PAVING NOTES:

11. PAVEMENT PATCHING FOR CURB CONSTRUCTION SHALL MATCH THE DEPTH OF EXISTING PAVEMENT. PAVEMENT SHALL BE BITUMINOUS CONCRETE PAVEMENT, TYPE 11. PAVEMENT LIFTS SHALL NOT EXCEED 2-1/2". BITUMINOUS CONCRETE PAVEMENT SHALL BE PAID AS ITEM 900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES).
12. EMULSIFIED ASPHALT SHALL BE APPLIED ON EXISTING PAVEMENT SURFACES, BETWEEN ALL COURSES OF PAVEMENT AND ON THE FACE OF CURB OR SAWCUT. EMULSIFIED ASPHALT SHALL MEET THE REQUIREMENTS OF SECTION 404. EMULSIFIED ASPHALT SHALL BE PAID INCIDENTAL TO ITEM 900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES).

Superpave is called out on sheet 4, note 9

add this to the note on sheet 4 also

is this item number correct? (typ)

both of these are pretty similar to the notes on sheet 4

## SIDEWALK AND CROSSWALK NOTES:

13. THE REMOVAL OF ALL EXISTING SIDEWALK SHALL BE PAID AS ITEM 203.15 COMMON EXCAVATION.
14. SIDEWALK RAMPS AND DETECTABLE WARNING SURFACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH VTRANS STD DRAWINGS C-3A, C-3B. ALL SIDEWALK RAMPS SHALL BE PORTLAND CEMENT CONCRETE, 5" THICK AND PAID AS ITEM 618.10 PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH. DETECTABLE WARNING SURFACES SHALL BE CAST IRON. DETECTABLE WARNING SURFACES PAID AS 618.30.
15. ALL NEW CROSSWALKS SHALL BE DURABLE MARKINGS, AND SHALL BE PAID AS ITEM 646.311.

## EROSION PREVENTION AND SEDIMENT CONTROL

16. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) CONSISTS OF INLET PROTECTION AND TEMPORARY AND PERMANENT STABILIZATION OF ALL DISTURBED SURFACES. THE CONTRACTOR SHALL REFER TO EPSC PLAN SHEETS AND DETAILS AND THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR PRACTICES AND DETAILS. EPSC REQUIREMENTS SHALL BE GOVERNED BY SUBSECTION 105.23 OF THE 2018 VTRANS STANDARD SPECIFICATIONS.

## TEMPORARY TRAFFIC CONTROL

17. THE FOLLOWING TRAFFIC CONTROL INFORMATION IS INTENDED TO BE A GENERAL OUTLINE FOR HOW THE WORK SHOULD PROCEED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITE SPECIFIC DETAILS TO ADDRESS SPECIFIC SITUATIONS. THIS RESPONSIBILITY INCLUDES PROVIDING A PLAN DETAILING THE USE AND PLACEMENT OF SIGNS, CHANNELING DEVICES, ARROW PANELS, FLAGGERS AND UNIFORMED TRAFFIC OFFICERS (UTO'S) DURING LANE CLOSURES. ALL TRAFFIC CONTROL DETAILS MUST BE DESIGNED AND IMPLEMENTED IN ACCORDANCE WITH THE MUTCD AND VAOT STANDARDS T-1, T-2, T-10, T-30, T-35 AND T-36. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 641.11 TRAFFIC CONTROL.
18. TWO-WAY TRAFFIC MUST BE MAINTAINED BETWEEN THE HOURS OF 7:00-9:00 AM AND 4:00-6:00 PM. FLAGGER-CONTROLLED ONE WAY ALTERNATING TRAFFIC WILL BE ALLOWED BETWEEN 9:00 AM AND 4:00 PM.
19. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THESE PROJECT PLANS, APPLICABLE VAOT STANDARD DRAWINGS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DATED 2009, AND ITS LATEST REVISIONS, OR AS DIRECTED BY THE ENGINEER.
20. THE CONTRACTOR MUST PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES AT ALL TIMES.
21. SIGNS SHALL ONLY BE VISIBLE TO MOTORISTS AT THE TIMES WHEN THE MESSAGE IS PERTINENT, I.E. A "FLAGGER AHEAD" SIGN SHALL ONLY BE VISIBLE TO MOTORISTS WHEN THE FLAGGER IS ACTUALLY PRESENT PERFORMING THEIR DUTIES.
22. MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES FOR EMERGENCY VEHICLES. MAINTAIN ACCESS TO ALL COMMERCIAL AND MUNICIPAL PROPERTIES DURING BUSINESS HOURS. ACCESS TO RESIDENTIAL PROPERTIES MAY BE RESTRICTED FOR A SHORT DURATION (????? HOURS). THIS WORK WILL BE COORDINATED WITH THE OWNER. COORDINATE MAJOR WORK ON COMMERCIAL OR MUNICIPAL ACCESSSES WITH THE OWNER AT LEAST ONE WEEK PRIOR TO STARTING THE WORK. ALL ACCESSSES SHALL ALSO BE KEPT FREE OF WORK AND TRAFFIC CONTROLLED BY UTO'S OR FLAGGERS AS REQUIRED.
23. ALL REASONABLE EFFORTS SHALL BE MADE TO ACCOMMODATE PEDESTRIAN TRAVEL AT ALL TIMES. THIS CAN INCLUDE, BUT IS NOT LIMITED TO A DEDICATED PEDESTRIAN ESCORT, SIGNAGE AND CONED OFF WALKING AREAS WITHIN CLOSED LANES. FLAGGERS SHALL NOT BE USED AS PEDESTRIAN ESCORTS. WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TEMPORARY TRAFFIC CONTROL ZONE, THE TEMPORARY FACILITIES SHALL BE DETECTABLE, SHALL MAINTAIN ADA STANDARDS AND SHALL INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE FOR ITEM 641.11 NO TRAFFIC CONTROL.

If this is intended to be all inclusive Traffic Control please use item 641.11 per 2018 spec.

Bicycle accommodations should be taken to ensure that obstacles, equipment, construction materials, traffic control devices, etc. do not encroach into the bicycle path of travel. It is important that cyclist's routes are free of ruts, sand and mud to prevent cyclist's crashes.

Communications and accommodations for postal delivers, newspaper routes, trash services and/or other delivery services interrupted by the project or detour should be communicated with the proper contacts.

## TEMPORARY TRAFFIC CONTROL

24. 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 TOWN HIGHWAYS. EXISTING SIGNS WHICH CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE COMPLETELY COVERED OR REMOVED.
25. CONSTRUCTION ZONE SIGN LAYOUT SHALL BE IN ACCORDANCE WITH SECTION 6 OF THE LATEST EDITION OF THE MUTCD, AND AS OUTLINED IN THE SPECIAL PROVISIONS.
26. DIAMOND SHAPED SIGNS SHALL BE 4' X 4' WITH BLACK TEXT AND BORDER ON A RETROREFLECTIVE FLUORESCENT ORANGE BACKGROUND.
27. RETROREFLECTIVE SHEETING SHALL BE AS NOTED ON VAOT STANDARD T-1 AND IN SUBSECTION 750.08
28. AS THE CONSTRUCTION OPERATION MOVES, FLAGGER SIGNS SHALL BE MOVED ACCORDINGLY. AT NO TIME SHOULD THE FLAGGER SYMBOL SIGN BE MORE THAN 500 FEET FROM THE FLAGGER STATION. FLAGGER SIGNS SHALL BE COVERED OR TURNED AWAY FROM TRAFFIC WHEN FLAGGING OPERATIONS CEASE FOR LONGER THAN 15 MINUTES.
29. BARRELS/DRUMS SHALL BE USED TO CLEARLY DEFINE THE TRAVEL SPACE AND PROVIDE SEPARATION FROM THE WORK SPACE ALONG ITS ENTIRE LENGTH. REFLECTORIZED CONES OR DRUMS MAY BE USED TO DELINEATE COMMERCIAL DRIVEWAYS WITHIN THE WORK ZONE.
30. THE CONTRACTOR SHALL MAKE ACCOMMODATIONS FOR ANY SCHOOL BUS STOPS WITHIN THE PROJECT LIMITS. THE LOCATIONS OF SCHOOL BUS STOPS SHALL BE COORDINATED WITH THE LOCAL SCHOOL TRANSPORTATION COORDINATOR AT Essex-Westford District AND THE Essex-Westford Supervisory District SUPERVISORY UNIT. FLAGGERS SHALL BE STATIONED AT THESE LOCATIONS DURING THE TYPICAL MORNING PICK UP AND AFTERNOON DROP OFF WHILE WORK IS BEING PERFORMED NEAR THESE BUS STOPS.

Use VTrans current TPAR notes

## PEDESTRIAN TEMPORARY TRAFFIC CONTROL

31. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN THROUGH MOVEMENTS FROM ONE END OF THE CONSTRUCTION AREA TO THE OTHER, ON AT LEAST ONE SIDE OF THE STREET DURING CONSTRUCTION. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MUTCD, PART 6.
32. PEDESTRIAN ACCESS SHALL BE PROVIDED TO ALL ADJACENT PROPERTIES, BUILDINGS, RESIDENCES AND COMMERCIAL PROPERTIES AT ALL TIMES. THIS MAY INCLUDE TEMPORARY WALKWAYS SPANNING THE CONSTRUCTION AREA.
33. WHEN SIDEWALKS ARE CLOSED, A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) SHALL BE PROVIDED ON THE SAME SIDE OF THE ROAD AS THE CLOSED SIDEWALK, IF POSSIBLE. SIGNS AND BARRICADES SHALL BE USED TO PROVIDE ADVANCE NOTICE OF THE CLOSURE AND THE ROUTE OF ANY PEDESTRIAN DETOURS. THE TPAR SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF THE TPAR IS LESS THAN 5 FEET IN WIDTH, A 5 FOOT BY 5 FOOT PASSING SPACE SHOULD BE PROVIDED AT LEAST EVERY 200 FEET. THE SURFACE OF THE TPAR SHALL BE SMOOTH AND CONTINUOUS FOR THE LENGTH OF THE TPAR. THE TPAR SHALL MAINTAIN THE SAME LEVEL OF ACCESSIBILITY AND DETECTABILITY AS THE FACILITY THAT IS BEING CLOSED. THE TPAR SHALL NOT LEAD PEDESTRIANS INTO CONFLICTS WITH VEHICLES, EQUIPMENT, OR CONSTRUCTION OPERATIONS.
34. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIREMENTS OF THE MUTCD SHALL BE USED.
35. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.
36. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.
37. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL A MINIMUM OF THREE WEEKS BEFORE SUCH PLAN IS IMPLEMENTED. THIS PLAN SHALL DETAIL THE CONSTRUCTION PHASING AND SCHEDULE AND THE SPECIFIC METHODS OF MAINTAINING SAFE PEDESTRIAN ACCESS THROUGHOUT THE CONSTRUCTION AREA. THIS PLAN SHALL PROVIDE THE LOCATION AND DETAILS OF TEMPORARY CONSTRUCTION SIGNING, MARKINGS, BARRICADES, CHANNELIZING DEVICES, TPARS AND METHODS TO MAINTAIN ACCESS TO ADJACENT PROPERTIES, BUSINESSES, RESIDENCES, ETC.
38. TPAR PLAN, IMPLEMENTATION AND MAINTENANCE WILL BE CONSIDERED INCIDENTAL TO ITEM 641.11 TRAFFIC CONTROL.

PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15F012frm.dgn	PLOT DATE: 11/26/2019
PROJECT LEADER: G. GOYETTE	DRAWN BY: VTRANS
DESIGNED BY: VTRANS	CHECKED BY: VTRANS
GENERAL NOTES	SHEET 9 OF 27





**DRIVES**

LOCATION	EXISTING MATERIAL	WIDTH
STA. 50+50, LT.	PAVED	20'
STA. 51+50, LT.	PAVED	16'
STA. 52+24, LT.	PAVED	16'
STA. 52+99, LT.	GRAVEL	15'
STA. 53+94, LT.	PAVED	43'
STA. 55+22, LT.	PAVED	17'

**REMOVING SIGNS**

STA. 51+32, LT.  
STA. 53+67, LT.

**RESETTING SIGNS**

STA. 51+34, LT.  
STA. 53+67, LT.

**SETTING SALVAGED POSTS**

STA. 51+34, LT.  
STA. 53+67, LT.

**24 INCH STOP BAR, WATERBORNE PAINT**

STA. 53+83 - 53+93, LT.

**CROSSWALK MARKING, WATERBORNE PAINT**

STA. 50+72 - 50+80, LT-RT.  
STA. 53+77 - 54+11, LT.

**ADJUST ELEVATION OF VALVE BOX**

STA. 51+97, LT.

**REMOVING AND RESETTING FENCE**

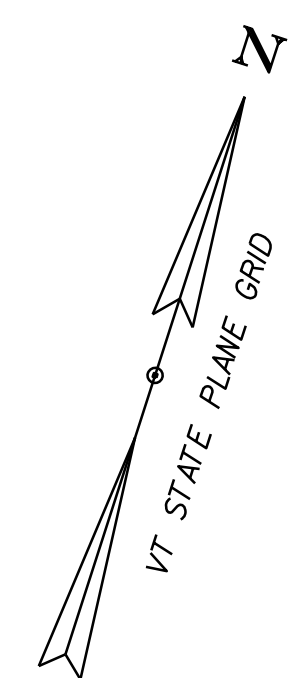
STA. 54+53, LT.

**TRANSPLANTING SHRUBS**

STA. 54+35, LT.  
STA. 54+56, LT.

**TREE PROTECTION**

STA. 50+61 - 51+33, LT.



How does the contractor know where this line should be placed without providing an offset distance?

Shouldn't hand-placed bituminous concrete material, drives be listed for the paving from the back of the sidewalk to the ROW limits on all drives, as stated on general note #4? (typ all layout sheets)

There's typically a separate detail sheet on VTrans paving projects that summarizes this information instead of including it on all layout sheets.

Relocate Pole?

ADD TREE PROTECTION FOR hedge and 10' SPRUCE

Please show proposed concrete headwall.

Drainage impacting water service?

this sign should be moved for better separation of the pedestrian sign.

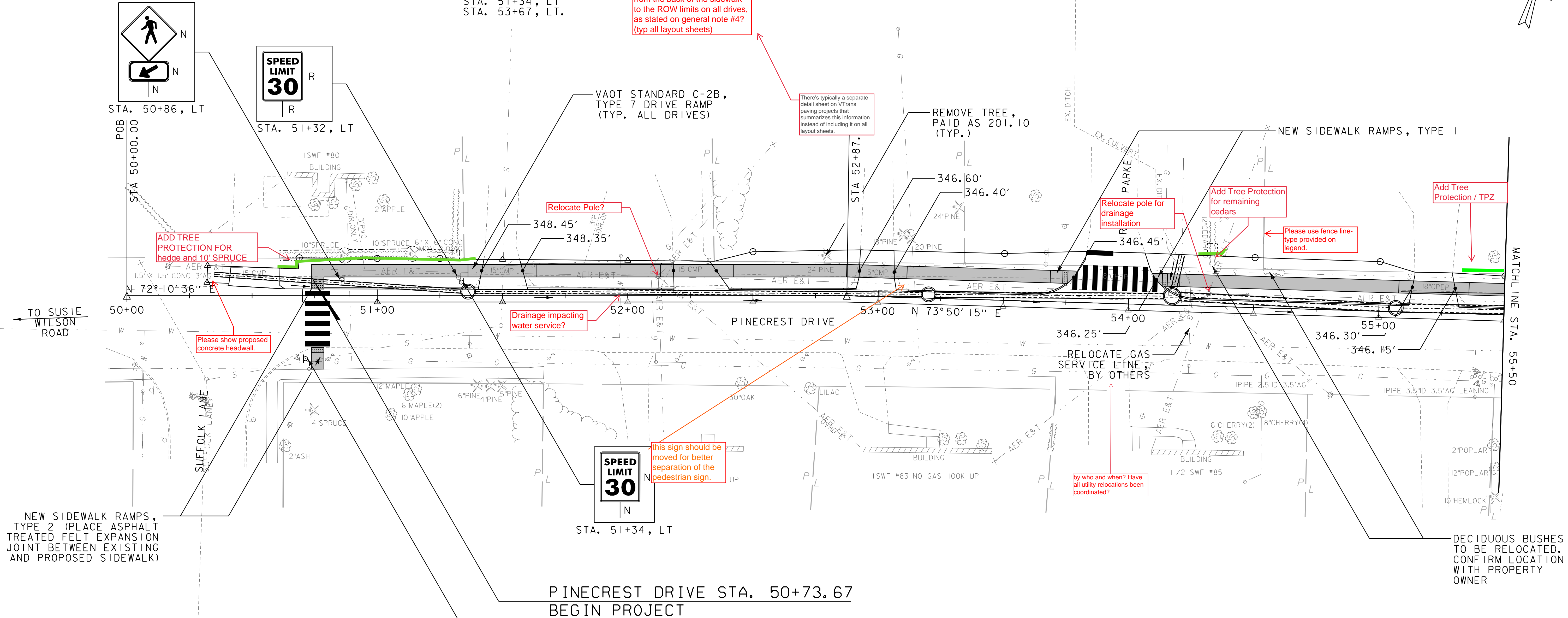
by who and when? Have all utility relocations been coordinated?

Relocate pole for drainage installation

Add Tree Protection for remaining cedars

Please use fence line-type provided on legend.

Add Tree Protection / TPZ



**PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH**

STA. 50+74 - 53+80, LT.  
STA. 50+74 - 50+79, RT.  
STA. 54+09 - 55+50, LT.

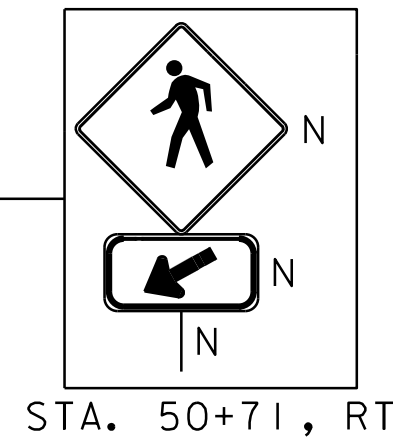
**DETECTABLE WARNING SURFACE**

STA. 50+76, LT.  
STA. 50+76, RT.  
STA. 53+75, LT.  
STA. 54+14, LT.

**CAST-IN-PLACE CONCRETE CURB, TYPE B**

STA. 50+79 - 51+40, LT.  
STA. 51+59 - 52+18, LT.  
STA. 51+60 - 52+19, LT.  
STA. 52+40 - 52+91, LT.  
STA. 53+07 - 53+76, LT.  
STA. 54+13 - 55+12, LT.  
STA. 55+32 - 55+50, LT.

PINECREST DRIVE STA. 50+73.67  
BEGIN PROJECT



STA. 50+71, RT

**LEGEND:**

XXX.XX	SPOT ELEVATION
N	NEW
S	SALVAGE
R	REMOVE
R&S	REMOVE AND SALVAGE
	TREE PROTECTION ZONE

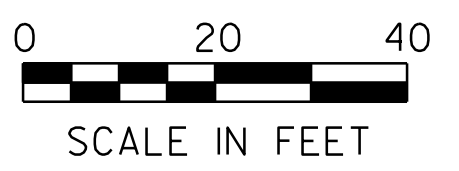
**NOTES:**

- ALL UTILITY LOCATIONS ARE CONSIDERED APPROXIMATE AND WERE OBTAINED FROM FIELD SURVEY AND EXISTING UTILITY PLANS.
- EXISTING GAS LINE LOCATION BASED ON AUTOCAD FILES AND PLASTIC PIPELINE SERVICE RECORDS RECEIVED FROM VT GAS. GAS LINE LOCATIONS ARE CONSIDERED APPROXIMATE.

PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15F012bdr.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING

PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 10 OF 27





**DRIVES**

LOCATION	EXISTING MATERIAL	WIDTH
STA. 57+18, LT.	GRAVEL	13'
STA. 58+39, LT.	PAVED	17'
STA. 58+72, LT.	PAVED	22'
STA. 59+96, LT.	PAVED	15'
STA. 60+40, LT.	PAVED	18'

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

STA. 55+00 - 61+50, LT.

CAST-IN-PLACE CONCRETE CURB, TYPE B

STA. 55+50 - 57+13, LT.  
 STA. 57+30 - 58+28, LT.  
 STA. 58+45 - 58+67, LT.  
 STA. 58+88 - 59+80, LT.  
 STA. 59+97 - 60+34, LT.  
 STA. 60+52 - 61+50, LT.

REMOVING AND RESETTING FENCE

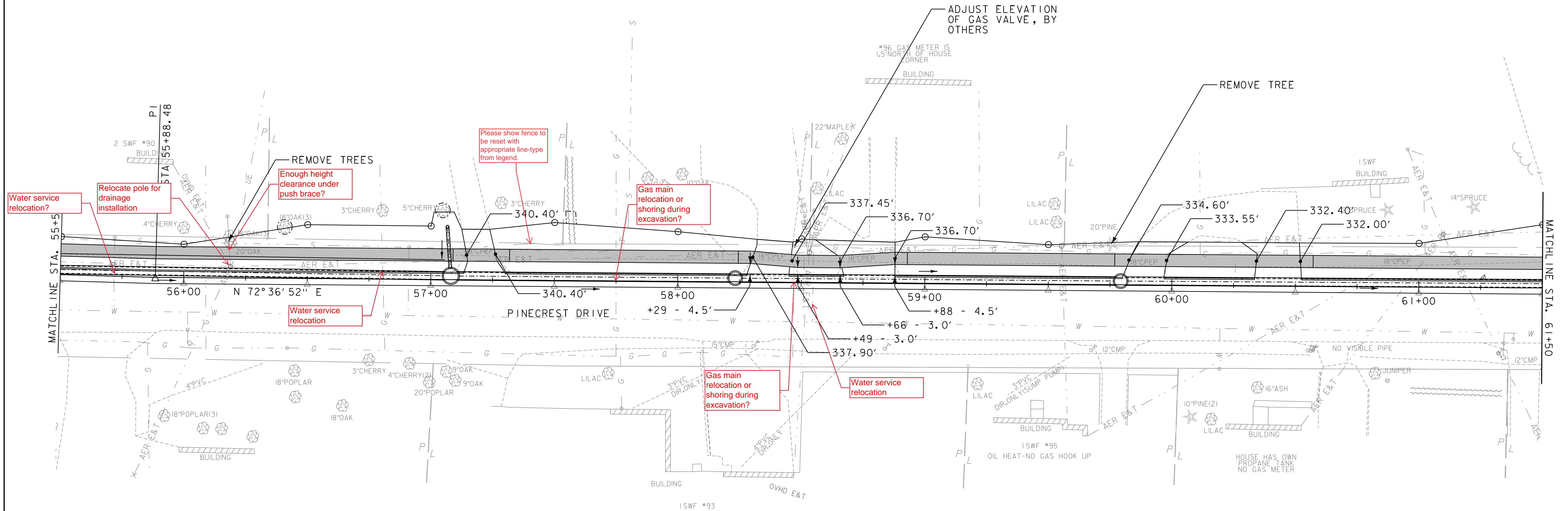
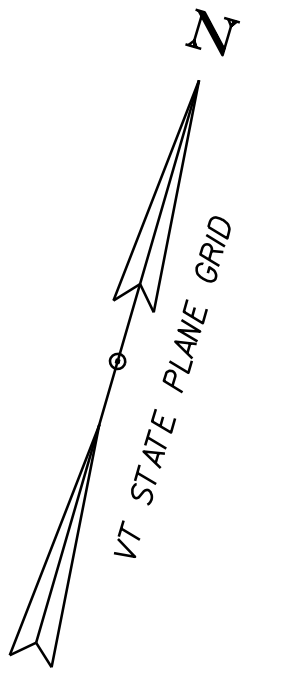
STA. 57+33 - 57+52, LT.

ADJUST ELEVATION OF VALVE BOX

STA. 56+91, LT.

TREE PROTECTION

STA. 57+57, LT.



Water service relocation?

Relocate pole for drainage installation

Enough height clearance under push brace?

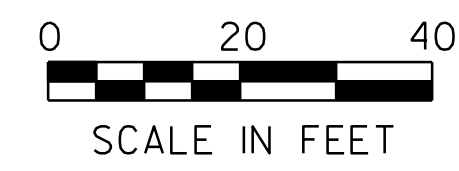
Please show fence to be reset with appropriate line-type from legend.

Gas main relocation or shoring during excavation?

Water service relocation

Gas main relocation or shoring during excavation?

Water service relocation



PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15F012bdr.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 11 OF 27
DESIGNED BY: E. ALLING	
PLAN SHEET 2	

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

STA. 61+50 - 66+24, LT.

CAST-IN-PLACE CONCRETE CURB, TYPE B

STA. 61+50 - 66+20, LT.

REMOVING SIGNS

STA. 65+65, LT.

RESETTING SIGNS

STA. 65+65, LT.

SETTING SALVAGED POSTS

STA. 65+65, LT.

ADJUST ELEVATION OF VALVE BOX

STA. 65+32, LT.

SPECIAL PROVISION (PARK BENCH)

STA. 64+87, LT.

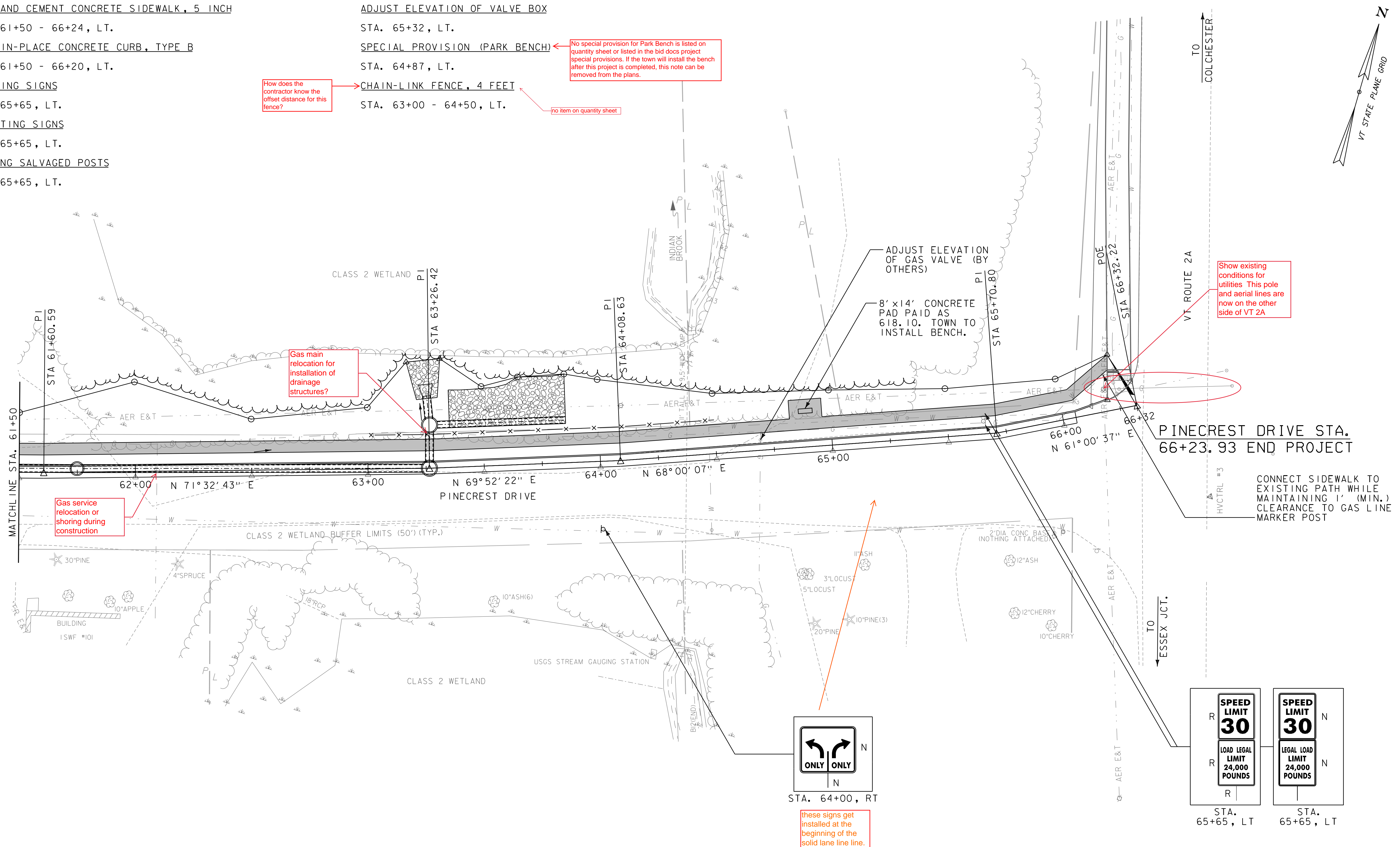
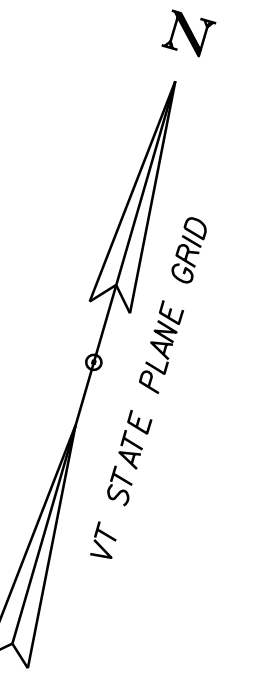
CHAIN-LINK FENCE, 4 FEET

STA. 63+00 - 64+50, LT.

No special provision for Park Bench is listed on quantity sheet or listed in the bid docs project special provisions. If the town will install the bench after this project is completed, this note can be removed from the plans.

How does the contractor know the offset distance for this fence?

no item on quantity sheet



Show existing conditions for utilities. This pole and aerial lines are now on the other side of VT 2A

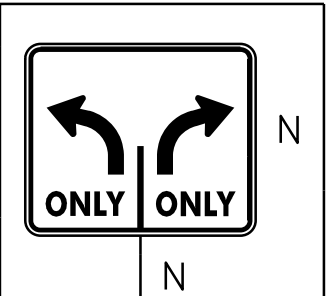
Gas service relocation or shoring during construction

Gas main relocation for installation of drainage structures?

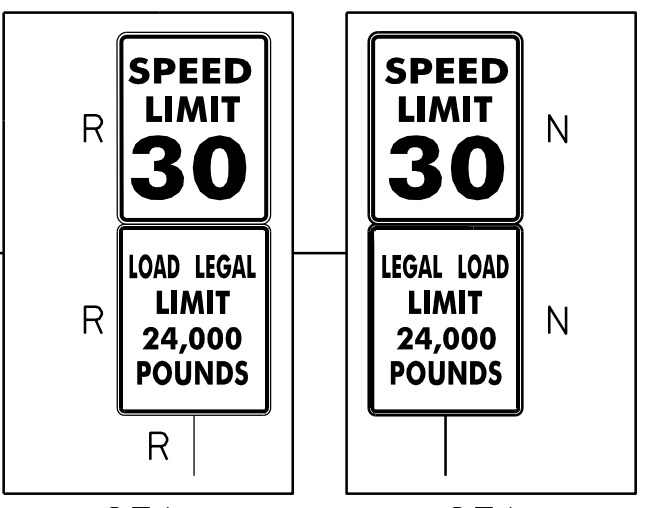
these signs get installed at the beginning of the solid lane line line.

PINECREST DRIVE STA. 66+23.93 END PROJECT

CONNECT SIDEWALK TO EXISTING PATH WHILE MAINTAINING 1' (MIN.) CLEARANCE TO GAS LINE MARKER POST



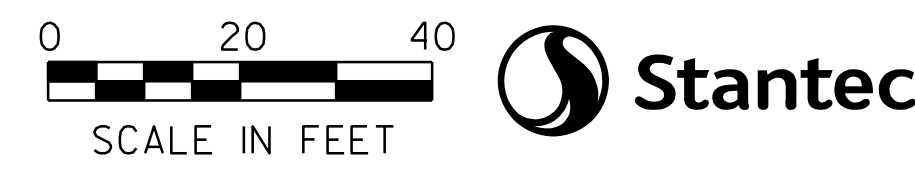
STA. 64+00, RT



STA. 65+65, LT




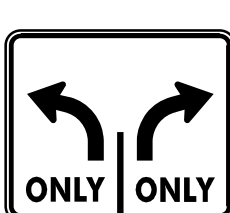

STA. 65+65, LT

PROJECT NAME:	ESSEX
PROJECT NUMBER:	TAP TA15(4)
FILE NAME:	z15F012bdr.dgn
PROJECT LEADER:	G. GOYETTE
DESIGNED BY:	E. ALLING
PLAN SHEET 3	
PLOT DATE:	11/26/2019
DRAWN BY:	E. ALLING
CHECKED BY:	G. GOYETTE
SHEET	12 OF 27





# TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & SALVAGED SIGNS				EXIST POST RETAIN SALVAGE	NO. OF POSTS	NEW SIGN POSTS																	REMARKS	SIGN DETAIL				
				"A"	"B"	SALV SIGN	SALV TIS			FLANGED CHANNEL			SQUARE STEEL (in)			TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)				W-SHAPE STEEL			SIGN FRAMING DETAIL		DETAIL IN SHSM BOOK	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER		
		lb/ft	1.2							2.0	3.0	1.75	2.0	2.5	3.0	4.0	4.0	4.0	FOUNDA- TION	3.0	3.5	4.0	5.0	FTG. SIZE							WEIGHT	POST SIZE
												1.88	2.42	3.35	ANCHOR	SLEEVE	1.3	1.7		1.7	7.6	9.0	10.8	14.6	24"							
STA. 50+71, RT		I	30	30	6.25			I		X														W11-15 FLOURESCENT YELLOW-GREEN (FYG)	X							
		I	24	12	2.00																			W16-9P (FYG)	X							
STA. 50+86, LT		I	30	30	6.25			I		X														W11-15 (FYG)	X							
		I	24	12	2.00																			W16-9P (FYG)								
STA. 51+34, LT		I	24	30	5.00			I		X														R2-1	X							
STA. 64+00, RT		I	36	30	7.50			I		X														VR-925			E-145A					
STA. 65+65, RT		I	24	30	5.00			I		X														R2-1	X							
		I	24	30	5.00																			VR-017			T-70					
									FT	FT	FT	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB								
													75.0																			
																	EA															
																	EA					EA	EA	LB								
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."									<b>TOTALS</b>				SF	SF	EA	SF		EA														
									39.0																							



PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15F012frm.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 13 OF 27
DESIGNED BY: E. ALLING	
TRAFFIC SIGN SUMMARY SHEET	

D 19 STA. 50+35, 8.5' LT - STA. 51+36.0, 1.6' LT  
 CONSTRUCT REINFORCED CONCRETE HEADWALL  
 CONSTRUCT 96' X 18" CPEP (SL).  
 18" INV = 347.46

D 17 STA. 51+36, 1.6' LT - STA. 53+20, 1.5' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH CAST IRON TYPE 'D' GRATE (5' I.D.),  
 CONSTRUCT 180' X 18" CPEP (SL),  
 RIM ELEVATION = 348.30  
 18" INV IN (W) = 343.07  
 18" INV OUT = 342.57

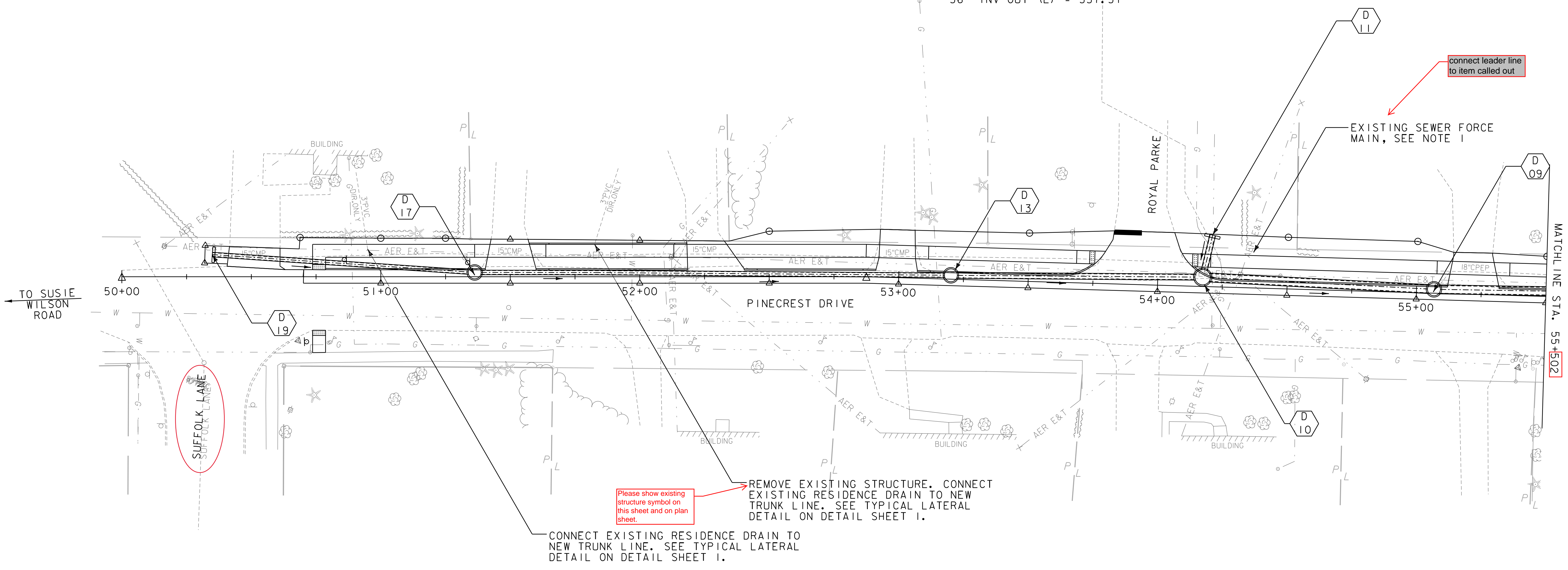
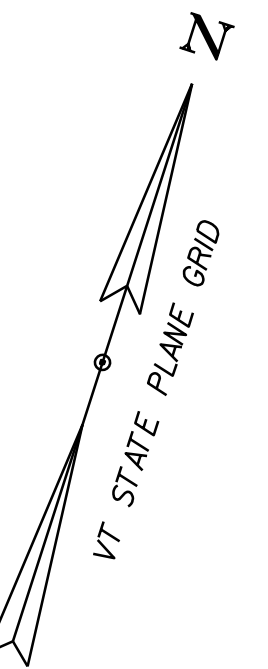
How is the transition happening from an 18" dia. to a 24" dia.?

D 13 STA. 52+30, 1.5' LT - STA. 54+17, 3.6' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH DOUBLE CAST IRON GRATE TYPE 'D' GRATE (6' I.D.),  
 CONSTRUCT 92' X 24" CPEP (SL),  
 RIM ELEVATION = 346.83  
 24" INV IN (W) = 341.68  
 24" INV OUT (E) = 341.18

D 11 STA. 54+21, 20.0' LT - STA. 54+17, 3.6' LT  
 CONSTRUCT REINFORCED CONCRETE HEADWALL  
 CONSTRUCT 17' X 24" CPEP (SL).  
 24" INV IN = 343.00

D 10 STA. 54+17, 3.6' LT - STA. 55+07, 1.5' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH CAST IRON GRATE (6' I.D.), TYPE 'D' GRATE,  
 CONSTRUCT 84' X 36" CPEP (SL),  
 RIM ELEVATION = 346.58  
 24" INV IN (N) = 341.18  
 24" INV IN (W) = 339.67  
 36" INV OUT (E) = 338.17

D 09 STA. STA. 55+07, 1.5' LT - STA. 57+08, 1.5' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH CAST IRON GRATE (5' I.D.), TYPE 'D' GRATE,  
 CONSTRUCT 196' X 36" CPEP (SL),  
 RIM ELEVATION = 346.29  
 36" INV IN (W) = 337.75  
 36" INV OUT (E) = 337.31



connect leader line to item called out

Please show existing structure symbol on this sheet and on plan sheet.

REMOVE EXISTING STRUCTURE. CONNECT EXISTING RESIDENCE DRAIN TO NEW TRUNK LINE. SEE TYPICAL LATERAL DETAIL ON DETAIL SHEET I.

CONNECT EXISTING RESIDENCE DRAIN TO NEW TRUNK LINE. SEE TYPICAL LATERAL DETAIL ON DETAIL SHEET I.

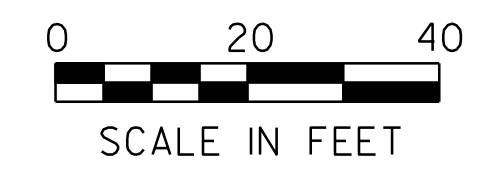
NOTES:

- EXISTING SEWER FORCE MAIN LOCATION BASED ON SEWAGE PUMP STATION AND FORCE MAIN PLANS DATED APRIL 1999. SEWER FORCE MAIN LOCATION SHALL BE FIELD LOCATED BY CONTRACTOR. IF FORCE MAIN CONFLICTS WITH PROPOSED DRAINAGE, CONTRACTOR SHALL DEVELOP FORCE MAIN RELOCATION PLAN. RELOCATION PLAN SHALL BE APPROVED BY TOWN ENGINEER PRIOR TO ANY WORK COMPLETED BY THE CONTRACTOR.

how will this be paid for?

LEGEND:

	PROPOSED STORM PIPE
	PROPOSED STORM SEWER FEATURE
	DRAINAGE FLOW DIRECTION



PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15f012bdr_drn.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 14 OF 27
DESIGNED BY: E. ALLING	
DRAINAGE PLAN I	

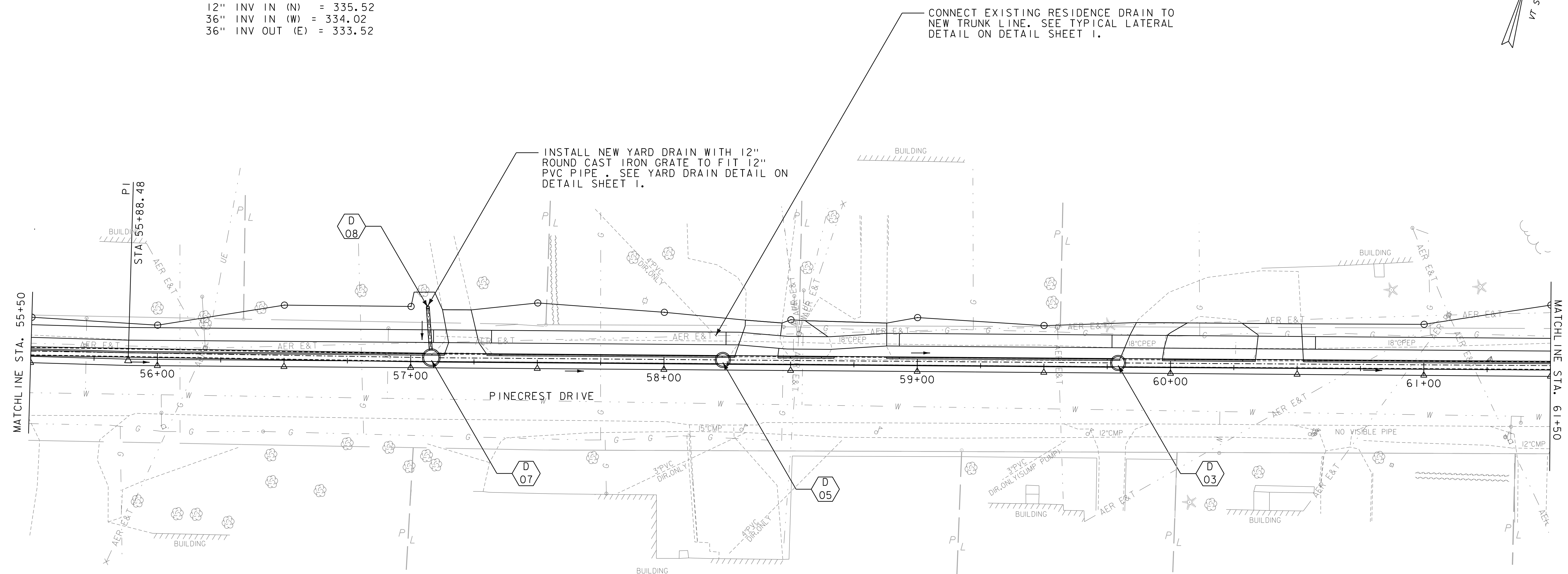
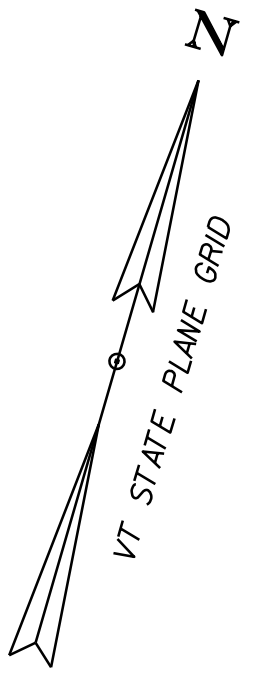


D 08 STA. 57+07, 21.4' LT - STA. 57+08, 0.5' LT  
 CONSTRUCT 12" PVC YARD DRAIN WITH A 12" ROUND  
 CAST IRON GRATE. SEE YARD DRAIN DETAIL ON DETAIL  
 SHEET  
 RIM ELEVATION = 339.65  
 12" INV OUT (BOTTOM OF RISER) = 335.70

D 05 STA. 58+23, 1.5' LT - STA. 59+79, 1.5' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH CAST IRON GRATE TYPE 'E' GRATE (5' I.D.),  
 CONSTRUCT 152' X 36" CPEP (SL),  
 RIM ELEVATION = 338.25  
 36" INV IN (W) = 331.38  
 36" INV OUT (E) = 330.88

D 03 STA. 59+79, 1.5' LT - STA. 61+75, 1.5' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH CAST IRON GRATE TYPE 'E' GRATE (5' I.D.),  
 CONSTRUCT 192' X 36" CPEP (SL),  
 RIM ELEVATION = 334.00  
 36" INV IN (W) = 327.22  
 36" INV OUT (E) = 326.72

D 07 STA. 57+08, 1.5' LT - STA. 58+23, 1.5' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN  
 WITH CAST IRON GRATE TYPE 'E' GRATE (6' I.D.),  
 CONSTRUCT 110' X 36" CPEP7893.  
 RIM ELEVATION = 340.78  
 12" INV IN (N) = 335.52  
 36" INV IN (W) = 334.02  
 36" INV OUT (E) = 333.52



INSTALL NEW YARD DRAIN WITH 12"  
 ROUND CAST IRON GRATE TO FIT 12"  
 PVC PIPE . SEE YARD DRAIN DETAIL ON  
 DETAIL SHEET 1.

CONNECT EXISTING RESIDENCE DRAIN TO  
 NEW TRUNK LINE. SEE TYPICAL LATERAL  
 DETAIL ON DETAIL SHEET 1.

LEGEND:

	PROPOSED STORM PIPE
	PROPOSED STORM SEWER FEATURE
	DRAINAGE FLOW DIRECTION



PROJECT NAME: ESSEX  
 PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15f012bdr_drn.dgn  
 PROJECT LEADER: G. GOYETTE  
 DESIGNED BY: E. ALLING  
 DRAINAGE PLAN 2

PLOT DATE: 11/26/2019  
 DRAWN BY: E. ALLING  
 CHECKED BY: G. GOYETTE  
 SHEET 15 OF 27

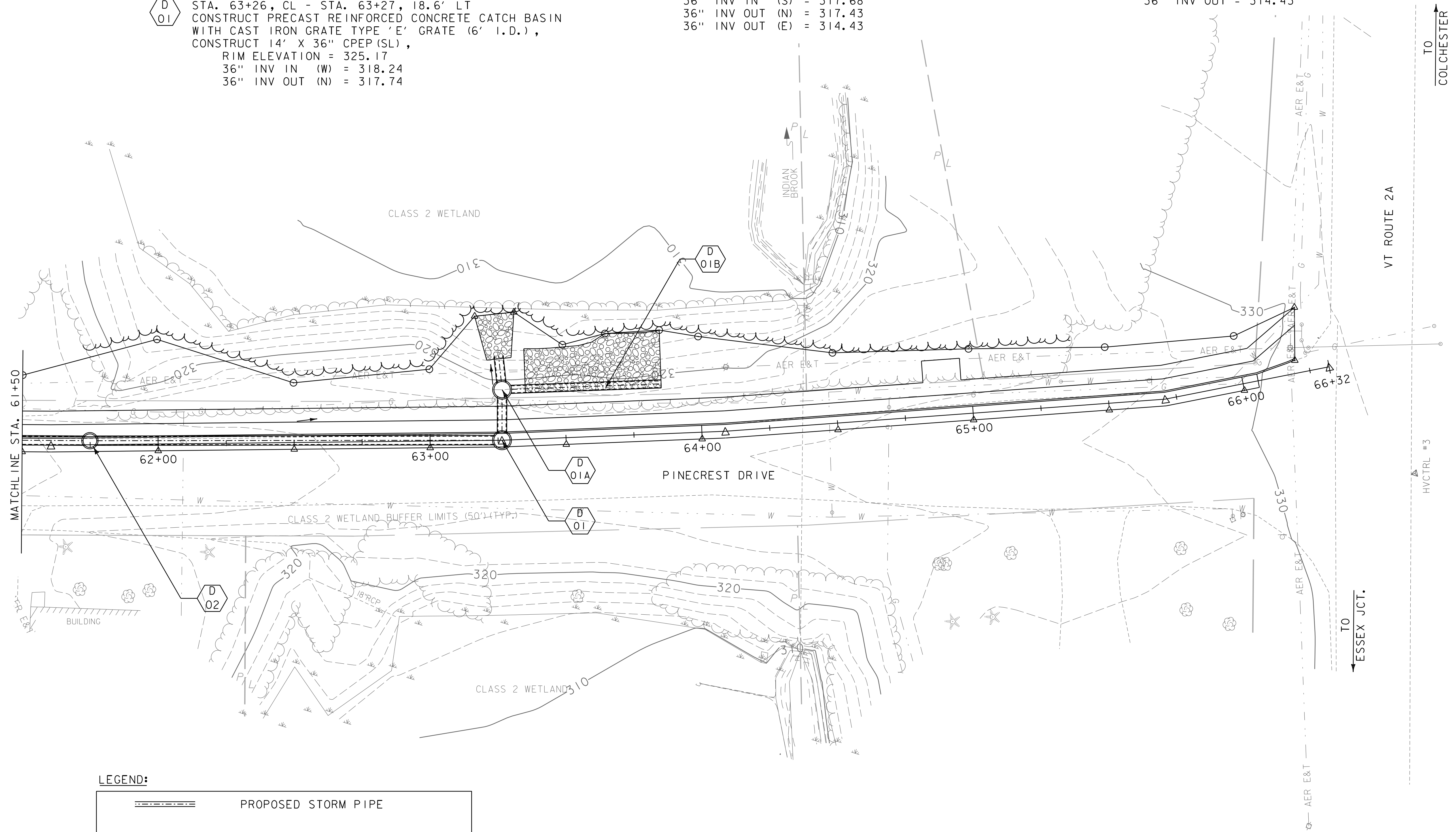
D 02 STA. 61+75, 1.5' LT - STA. 63+26, CL  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE TYPE 'E' GRATE (5' I.D.)  
 CONSTRUCT 146' X 36" CPEP (SL)  
 RIM ELEVATION = 326.72  
 36" INV IN = 320.50  
 36" INV OUT = 319.90

Will this be an issue for bicyclists? (typ)

D 01 STA. 63+26, CL - STA. 63+27, 18.6' LT  
 CONSTRUCT PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE TYPE 'E' GRATE (6' I.D.),  
 CONSTRUCT 14' X 36" CPEP (SL),  
 RIM ELEVATION = 325.17  
 36" INV IN (W) = 318.24  
 36" INV OUT (N) = 317.74

D 01A STA. 63+27, 18.6' LT CONSTRUCT PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER (6' I.D.)  
 CONSTRUCT 10' X 36" CPEP (SL)  
 INSTALL 36" CPEP END SECTION AT PIPE OUTLET  
 CONSTRUCT STONE LINED PILOT CHANNEL WITH STONE FILL, TYPE I AT PIPE OUTLET  
 RIM ELEVATION = 325.00  
 36" INV IN (S) = 317.68  
 36" INV OUT (N) = 317.43  
 36" INV OUT (E) = 314.43

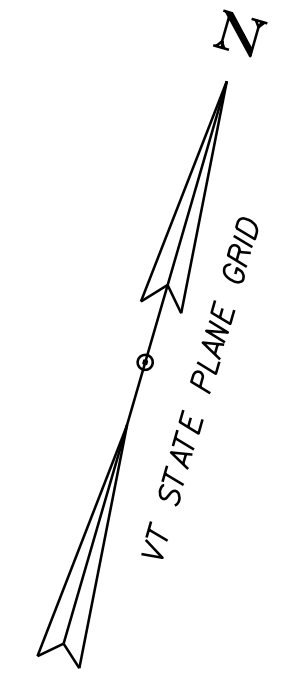
D 01B STA. 63+27, 18.6' LT - STA. 63+86, 18.4' LT  
 CONSTRUCT 55' X 36" PERFORATED PIPE (START PERFORATIONS 5' AWAY FROM NEW MANHOLE)  
 CONSTRUCT STONE LINED TRENCH (SEE 36 INCH PERFORATED PIPE TRENCH DETAIL ON DETAIL SHEET)  
 CONSTRUCT STORMWATER CLEANOUT AT +86 (SEE STORMWATER CLEANOUT DETAIL ON DETAIL SHEET)  
 36" INV IN = 314.43  
 36" INV OUT = 314.43



MATCHLINE STA. 61+50

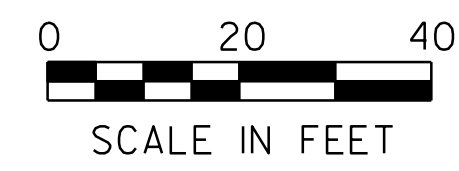
TO COLCHESTER

TO ESSEX JCT.



**LEGEND:**

	PROPOSED STORM PIPE
	PROPOSED STORM SEWER FEATURE
	DRAINAGE FLOW DIRECTION



PROJECT NAME: ESSEX  
 PROJECT NUMBER: TAP TA15(4)  
 FILE NAME: z15f012bdr_drn.dgn  
 PROJECT LEADER: G. GOYETTE  
 DESIGNED BY: E. ALLING  
 DRAINAGE PLAN 3

PLOT DATE: 11/26/2019  
 DRAWN BY: E. ALLING  
 CHECKED BY: G. GOYETTE  
 SHEET 16 OF 27



# EPSC PLAN NARRATIVE

## 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF A 5 FOOT WIDE CONCRETE SIDEWALK, CONCRETE CURB AND CLOSED STORM DRAINAGE. THE SIDEWALK WILL BE LOCATED ALONG THE NORTHERLY SIDE OF PINECREST DRIVE BETWEEN THE INTERSECTIONS WITH SUFFOLK LANE AND VT ROUTE 2A. THE LENGTH OF THE SIDEWALK IS APPROXIMATELY 1550 LF.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.85 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

## 1.2 SITE INVENTORY

### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS A RESIDENTIAL NEIGHBORHOOD THAT SLOPES GRADUALLY DOWN TOWARD VT ROUTE 2A. PINECREST DRIVE, SUFFOLK LANE, ROYAL PARKE AND VT ROUTE 2A ARE ALL WITHIN THE PROJECT AREA. THERE ARE SEVERAL RESIDENCES WITHIN THE PROJECT AREA.

### 1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

INDIAN BROOK IS THE ONLY WATER SOURCE WITHIN THE PROJECT AREA. THE BROOK IS CLASSIFIED AS STEEP, SINUOUS, NARROW, WITH A CONFINED AND ARMORED CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF GRAVEL, COBBLES AND BOULDERS. DUE TO THE NATURE OF THE EXISTING ROYAL PARKE NEIGHBORHOOD STORMWATER DRAINAGE DITCH, THE PROJECT SITE COULD RECEIVE RUNOFF WATER.

### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF LAWN AREAS, SOFT AND HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY INSTALLATION OF THE SIDEWALK AND STORM DRAIN SYSTEM. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. SOILS ON THE PROJECT SITE ARE ADAMS AND WINDSOR LOAMY SANDS, 0% TO 5%, "K FACTOR" = 0.15 AND 30% TO 60% SLOPES, "K FACTOR" = 0.15. THE SOIL IS CONSIDERED TO HAVE LOW EROSION POTENTIAL. BELGRADE AND ELDRIDGE SOILS, 3% TO 8%, "K FACTOR" = 0.32. THE SOIL IS CONSIDERED TO HAVE MODERATE EROSION POTENTIAL. DUANE AND DEERFIELD SOILS, 0% TO 5% SLOPES, "K FACTOR" = 0.24. THE SOIL IS CONSIDERED TO HAVE MODERATE EROSION POTENTIAL. DUANE AND DEERFIELD SOILS, 5% TO 12% SLOPES, "K VALUE" = 0.20. THE SOIL IS CONSIDERED TO HAVE LOW EROSION POTENTIAL. SCARBORO LOAM, "K VALUE" = 0.28. THE SOIL IS CONSIDERED TO HAVE MODERATE EROSION POTENTIAL.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:

0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

### 1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: YES, POTENTIAL NLEB HABITAT  
WATER RESOURCE: INDIAN BROOK  
WETLANDS: NO ← project has a wetlands permit

## 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

### 1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES IN AREAS NOT LOCATED ADJACENT TO A RESIDENCE.

### 1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

### 1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

CONSTRUCTION EQUIPMENT SHOULD BE ABLE TO STAY WITHIN EXCAVATION AREAS THEREFORE IT IS NOT ANTICIPATED THAT STABILIZED CONSTRUCTION ENTRANCES WILL BE NECESSARY.

### 1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN.

### 1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

IT IS NOT ANTICIPATED THAT STONE CHECK DAMS WILL BE NEEDED.

### 1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

### 1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

### 1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

### 1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

IT IS NOT ANTICIPATED THAT DE-WATERING ACTIVITIES WILL BE NEEDED.

### 1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

## 1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

### 1.5.1 CONSTRUCTION SEQUENCE

### 1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

### 1.5.3 UPDATES



PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15F012frm.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
EPSC NARRATIVE

PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 17 OF 27



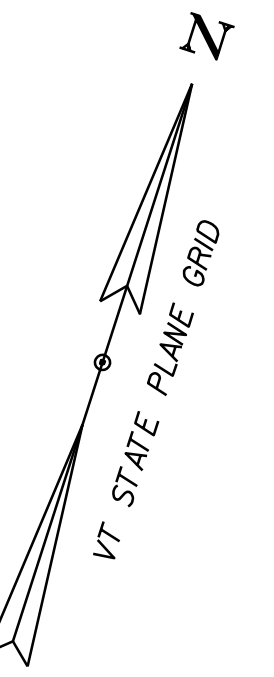
INLET PROTECTION  
DEVICE, TYPE I

STA. 51+36, LT.  
STA. 53+20, LT.  
STA. 54+17, LT.  
STA. 55+07, LT.

INLET PROTECTION  
DEVICE, TYPE I

STA. 51+29, LT.  
STA. 54+22, LT.

These should be  
denoted as type III inlet  
protection devices here  
and on quantity sheet  
(Spec 653.09(b)(3)).



1  
**MORRIS, ADRIANNE**  
(FORMERLY TROMBLAY, RUTH A.)

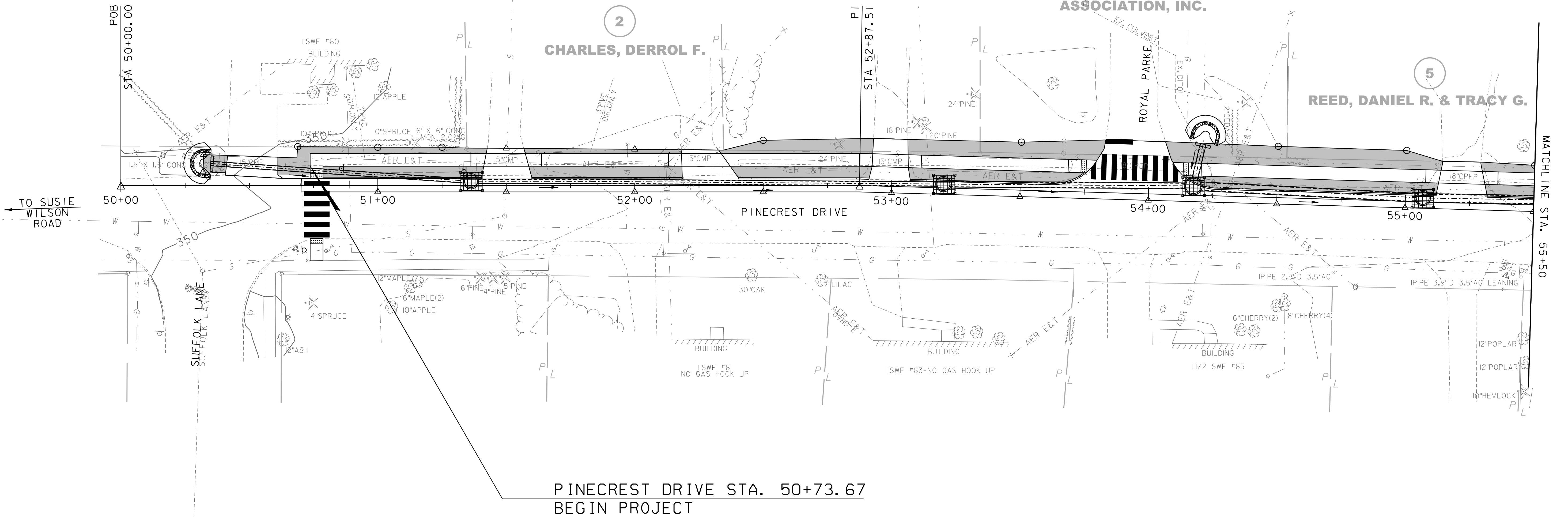
3  
**CHARRON, DAVID**  
(FORMERLY BOISSELLE, DONNA L.)

4  
**ROYAL PARKE HOMEOWNERS  
ASSOCIATION, INC.**

REED,  
& T

2  
**CHARLES, DERROL F.**

5  
**REED, DANIEL R. & TRACY G.**



this project site is within the limits of urban background soils area; there does not appear to be an NTB or notes in the environmental commitments form that outlines how excess soils for this project shall be handled.

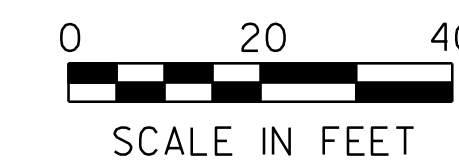
NOTES:

1. ALL UTILITY LOCATIONS ARE CONSIDERED APPROXIMATE AND WERE OBTAINED FROM FIELD SURVEY AND EXISTING UTILITY PLANS.
2. EXISTING GAS LINE LOCATION BASED ON AUTOCAD FILES AND PLASTIC PIPELINE SERVICE RECORDS RECEIVED FROM VT GAS. GAS LINE LOCATIONS ARE CONSIDERED APPROXIMATE.

PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15f012bdr_ero.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
EROSION CONTROL PLAN I

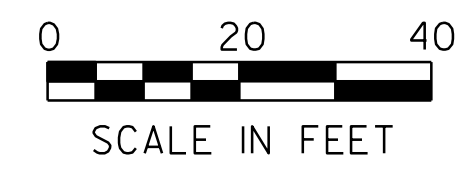
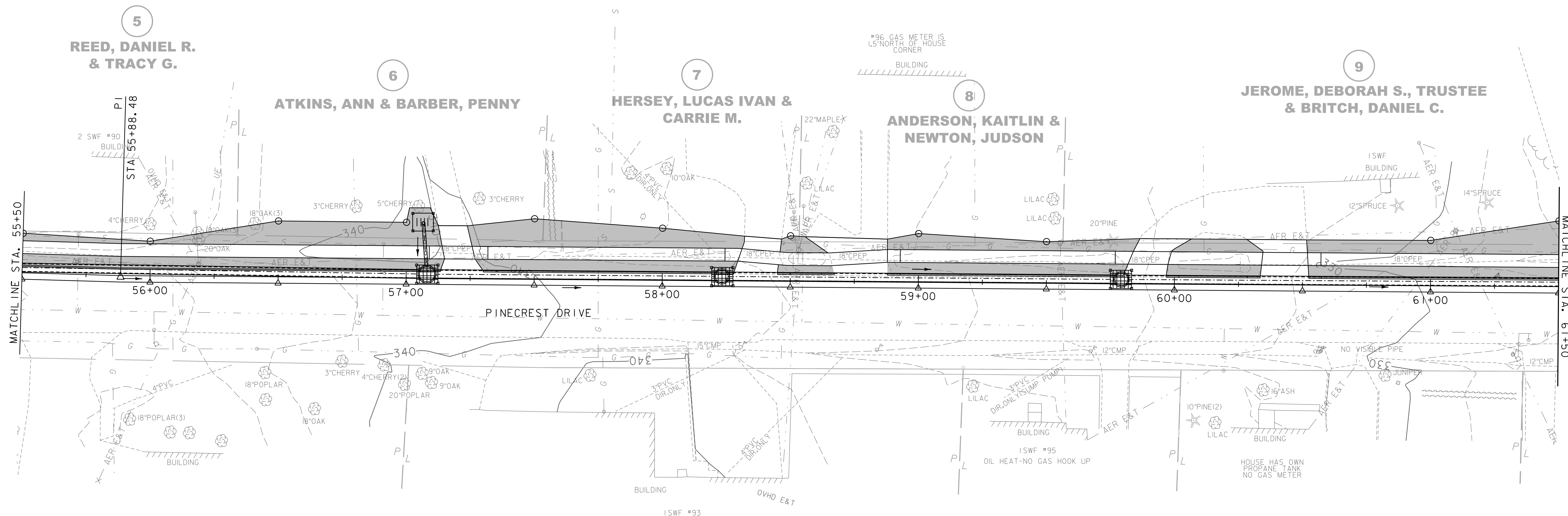
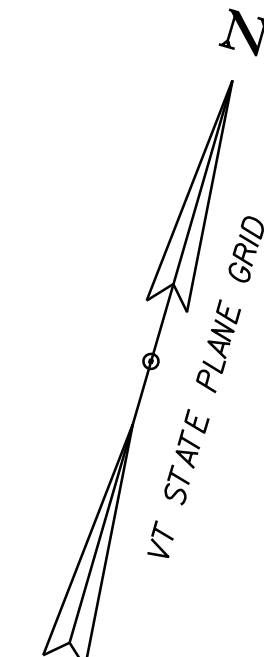
PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 18 OF 27





**INLET PROTECTION  
DEVICE, TYPE**

STA. 57+06, LT.  
STA. 57+08, LT.  
STA. 58+23, LT.  
STA. 59+79, LT.



PROJECT NAME: ESSEX	
PROJECT NUMBER: TAP TA15(4)	
FILE NAME: z15f012bdr_ero.dgn	PLOT DATE: 11/26/2019
PROJECT LEADER: G. GOYETTE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
EROSION CONTROL PLAN 2	SHEET 19 OF 27

INLET PROTECTION  
DEVICE, TYPE I

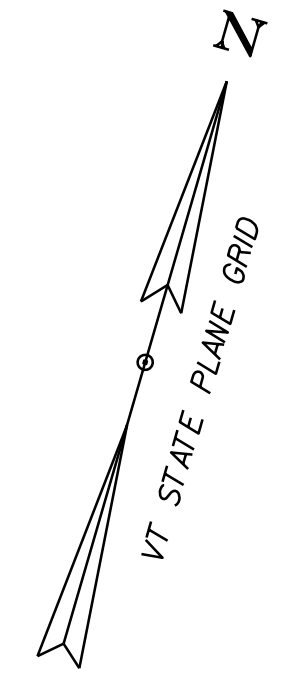
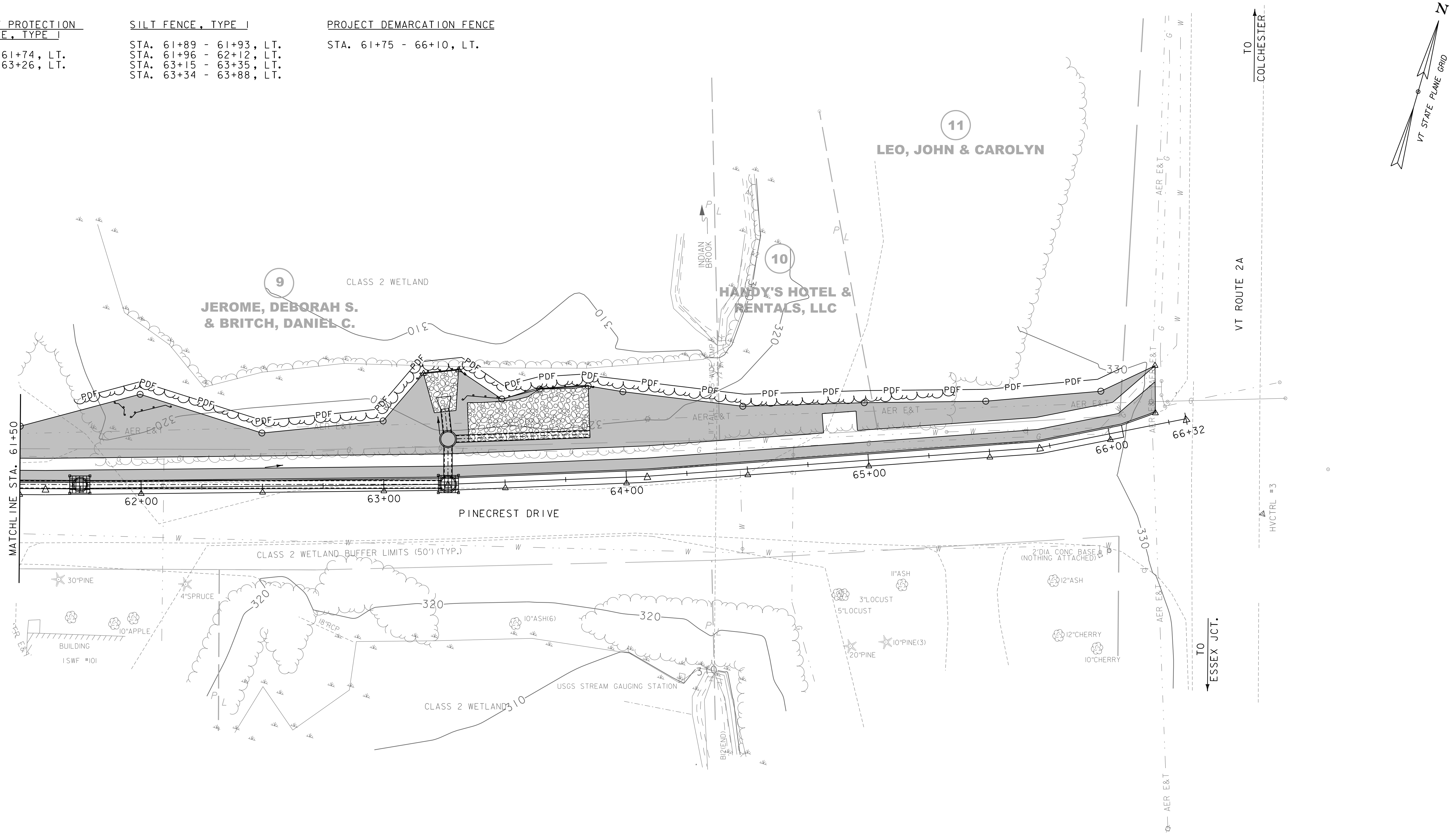
STA. 61+74, LT.  
STA. 63+26, LT.

SILT FENCE, TYPE I

STA. 61+89 - 61+93, LT.  
STA. 61+96 - 62+12, LT.  
STA. 63+15 - 63+35, LT.  
STA. 63+34 - 63+88, LT.

PROJECT DEMARCATION FENCE

STA. 61+75 - 66+10, LT.



PROJECT NAME:	ESSEX	PLOT DATE:	11/26/2019
PROJECT NUMBER:	TAP TA15(4)	DRAWN BY:	E. ALLING
FILE NAME:	z15f012bdr_ero.dgn	CHECKED BY:	G. GOYETTE
PROJECT LEADER:	G. GOYETTE	SHEET	20 OF 27
DESIGNED BY:	E. ALLING		
EROSION CONTROL PLAN 3			





VAOT RURAL AREA MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	FOLLOW	PELLETIZED	FOLLOW
500 LBS/AC	MANUFACTURER	2 TONS/AC	MANUFACTURER

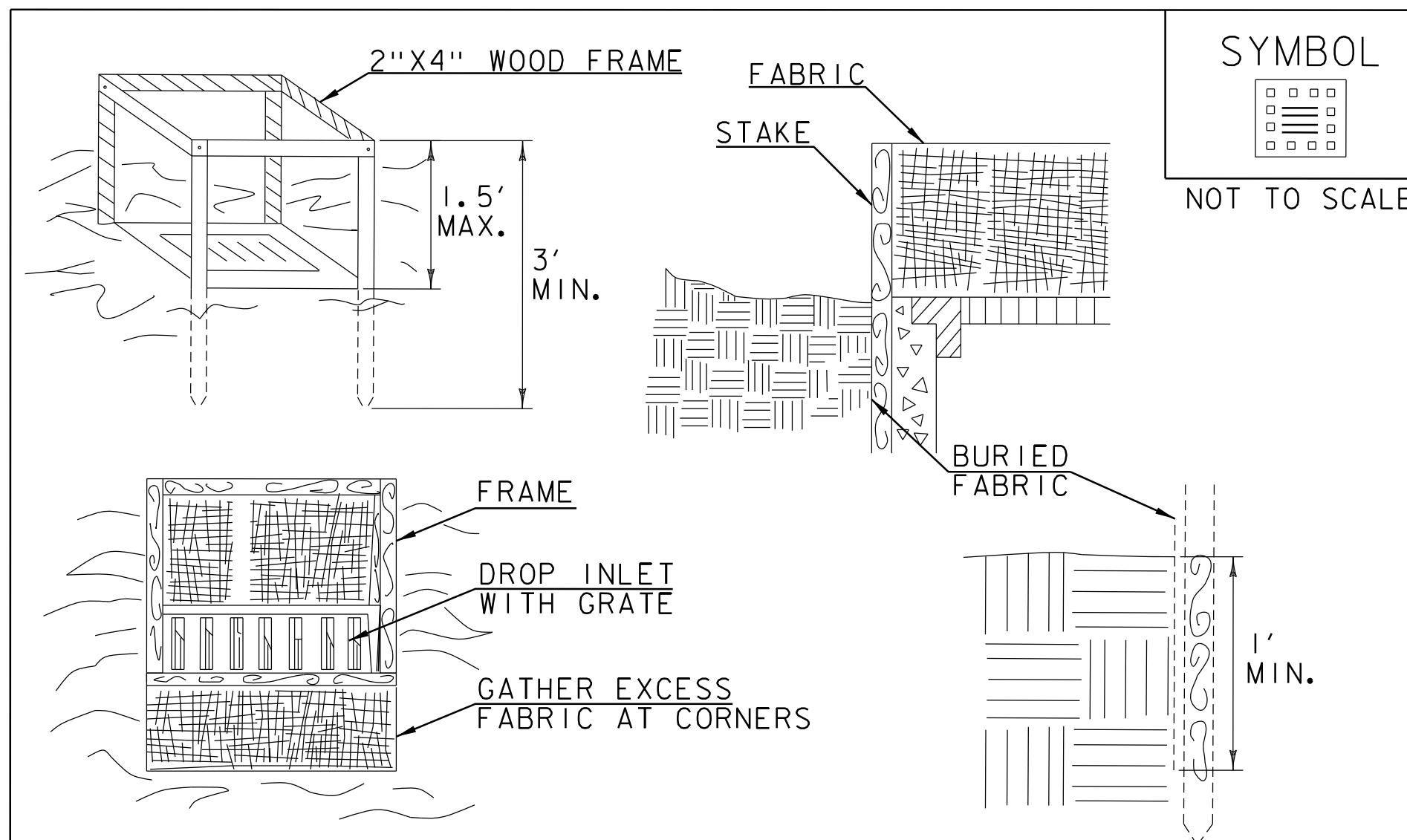
**CONSTRUCTION GUIDANCE**

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

**TURF ESTABLISHMENT**

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



**CONSTRUCTION SPECIFICATIONS**

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

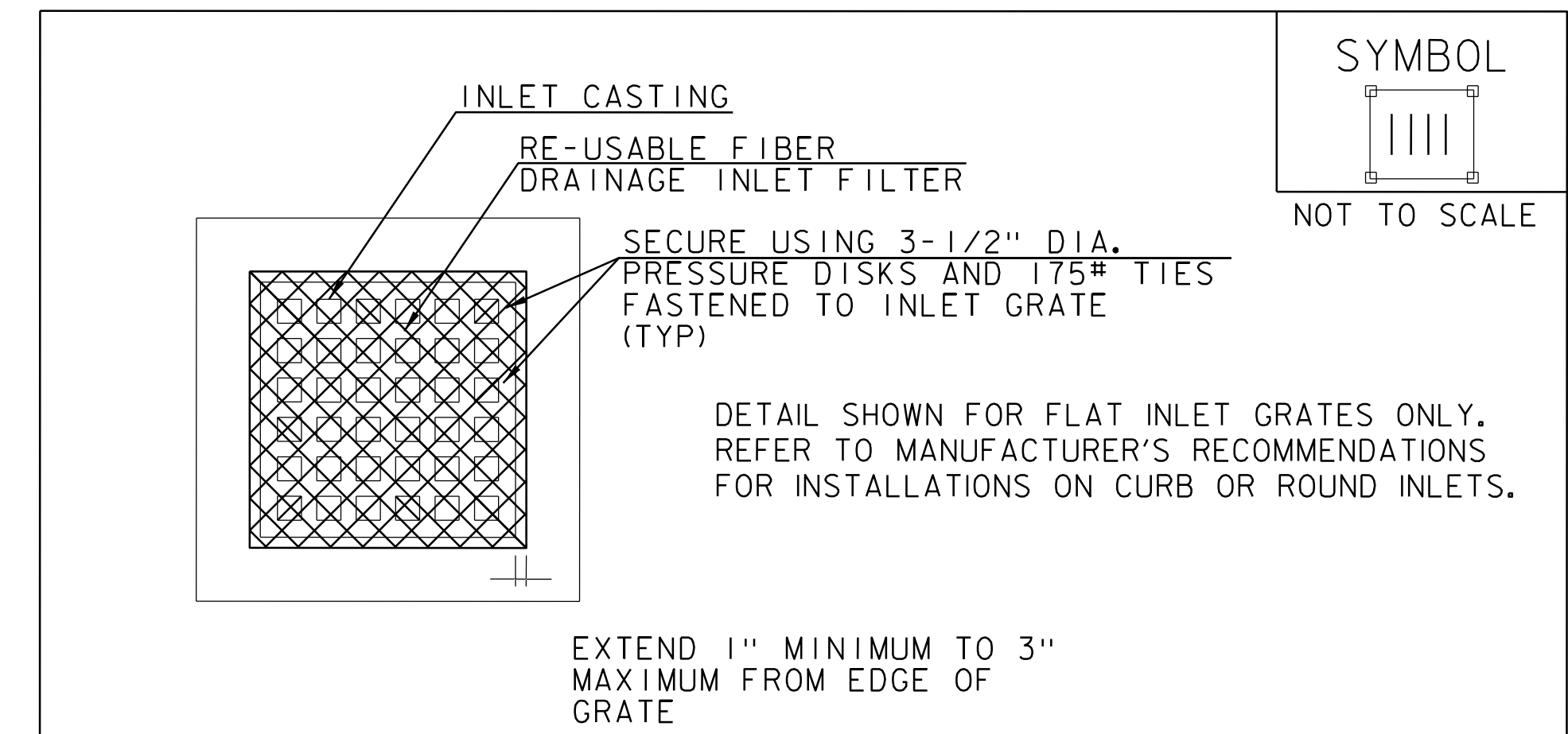
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**FILTER FABRIC  
DROP INLET  
PROTECTION**

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 INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



**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, FILTER  
FIBER**

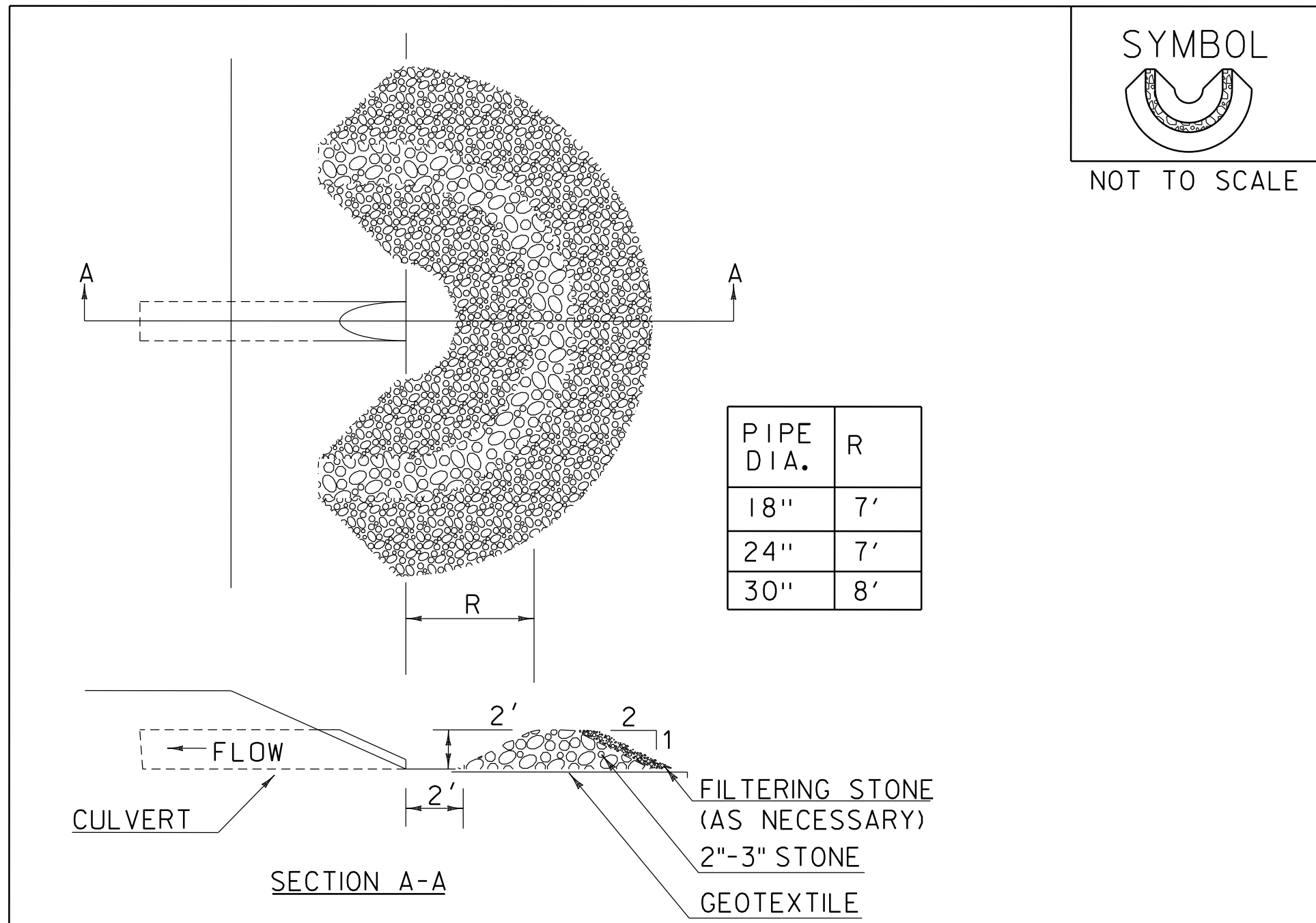
NOTES:  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).



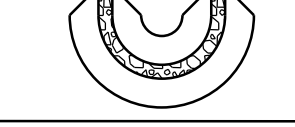
PROJECT NAME: ESSEX  
PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15F0121yp.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
EPSC DETAIL SHEET I

PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 21 OF 27



SYMBOL



NOT TO SCALE

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
-------------------------------------------------------------------------------------------	--------------------------

NOTES:  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

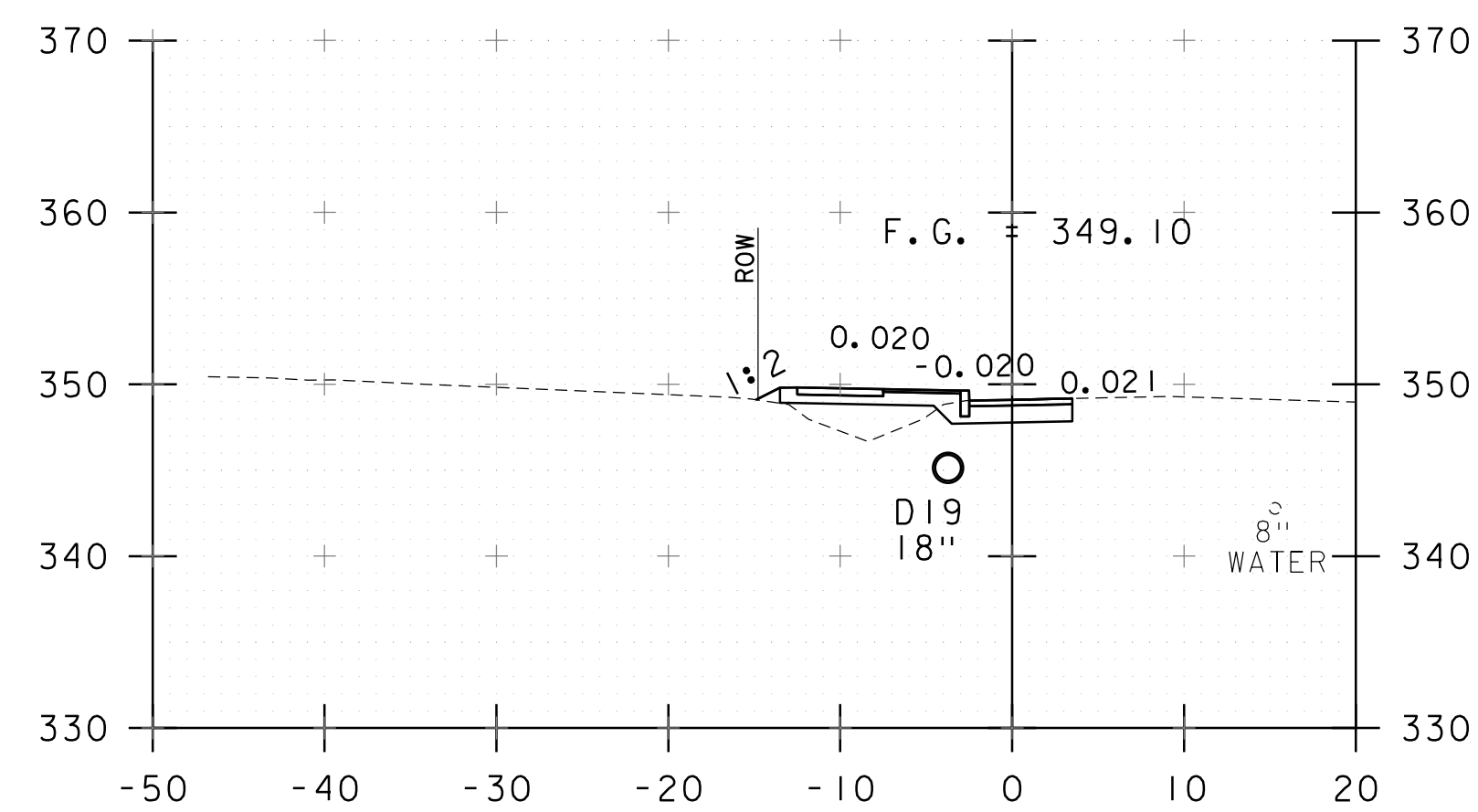
This is incorrect and should reference a type III.

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

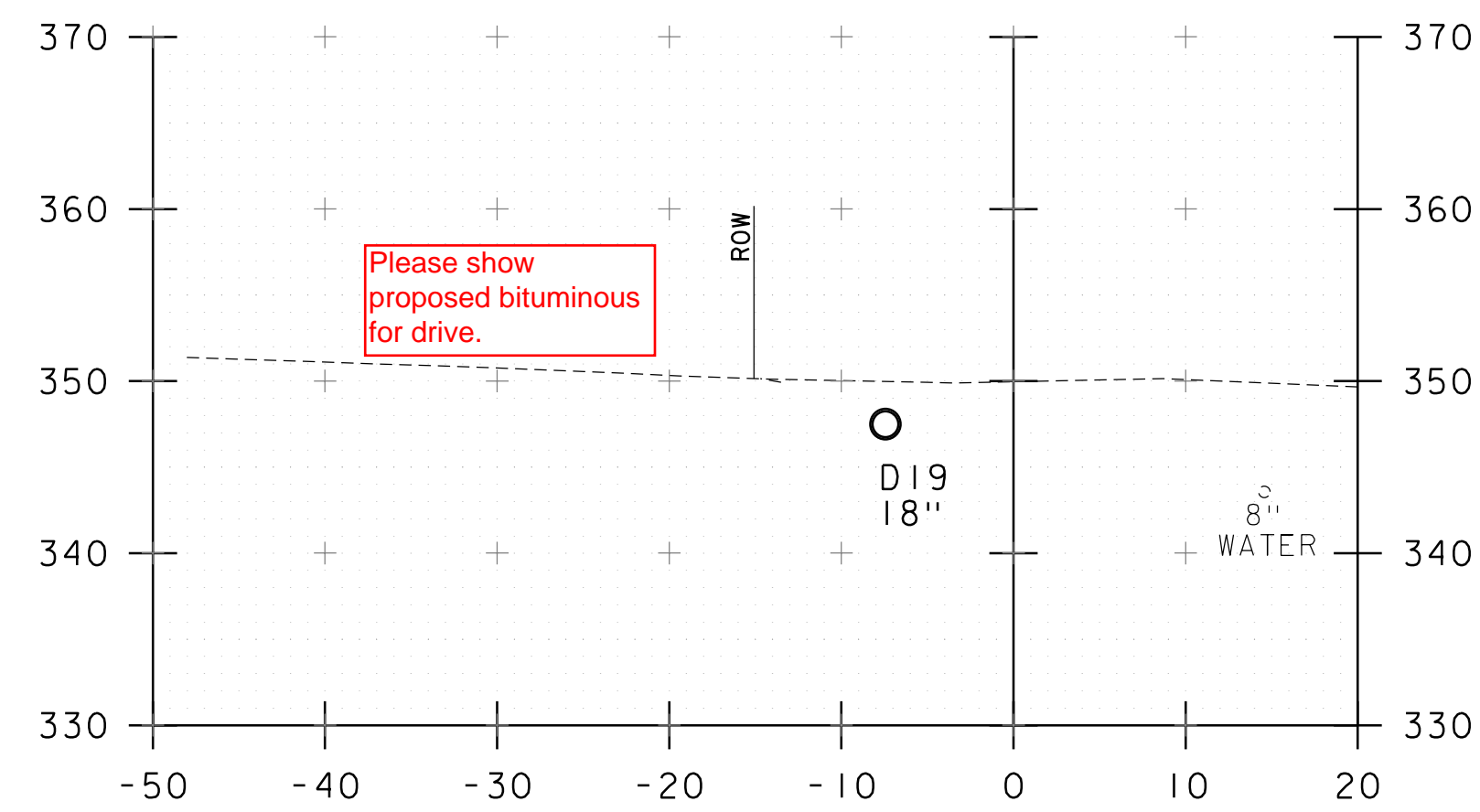


PROJECT NAME: ESSEX	
PROJECT NUMBER: TAP TA15(4)	
FILE NAME: z15f012+yp.dgn	PLOT DATE: 11/26/2019
PROJECT LEADER: G. GOYETTE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
EPSC DETAIL SHEET 2	SHEET 22 OF 27



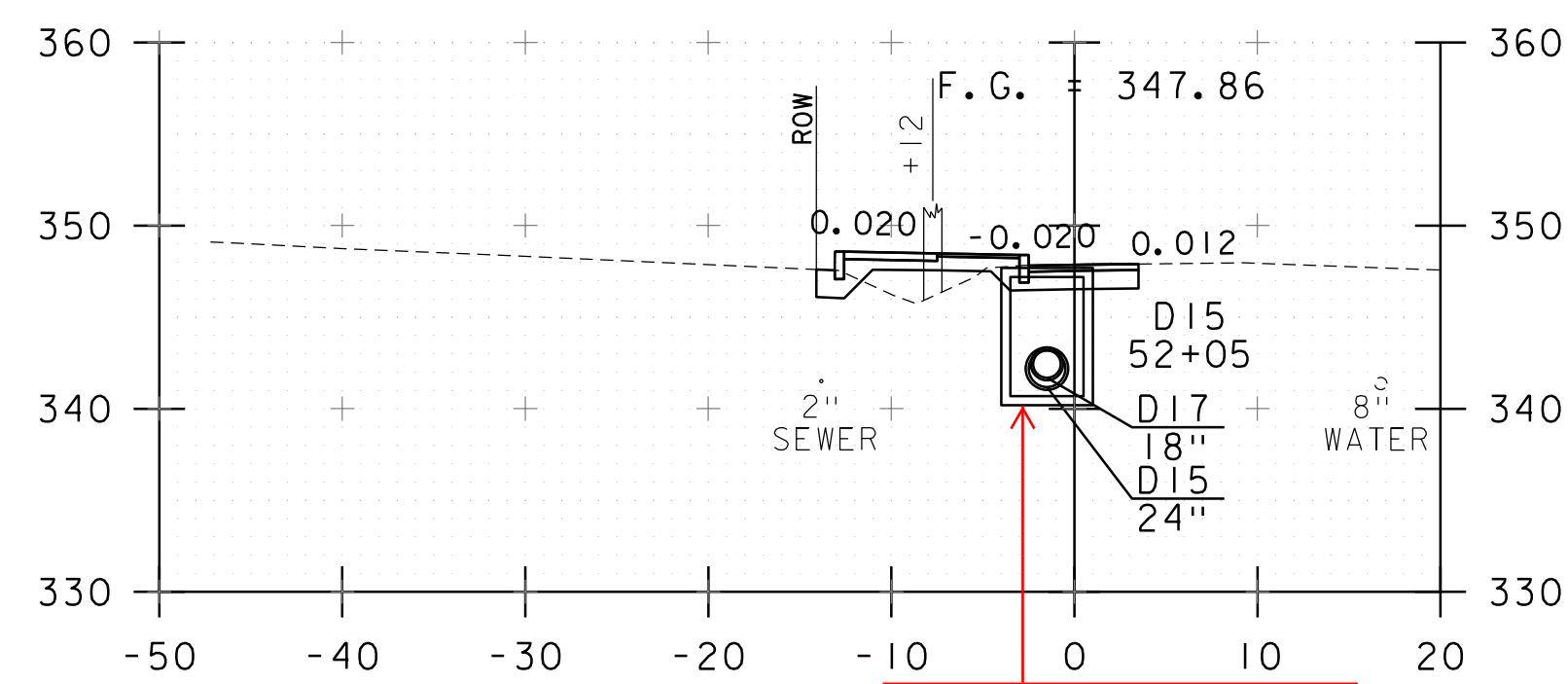


51+00



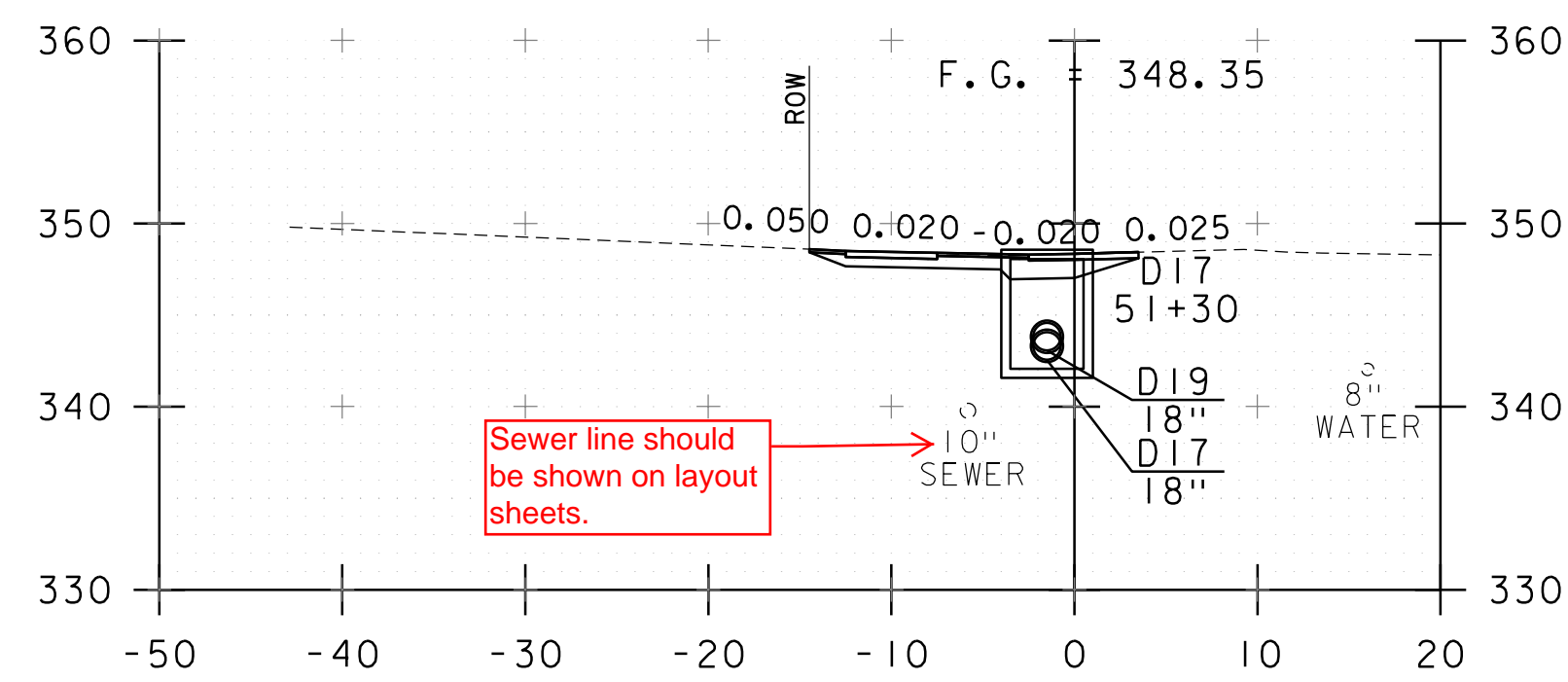
50+50

Please show proposed bituminous for drive.



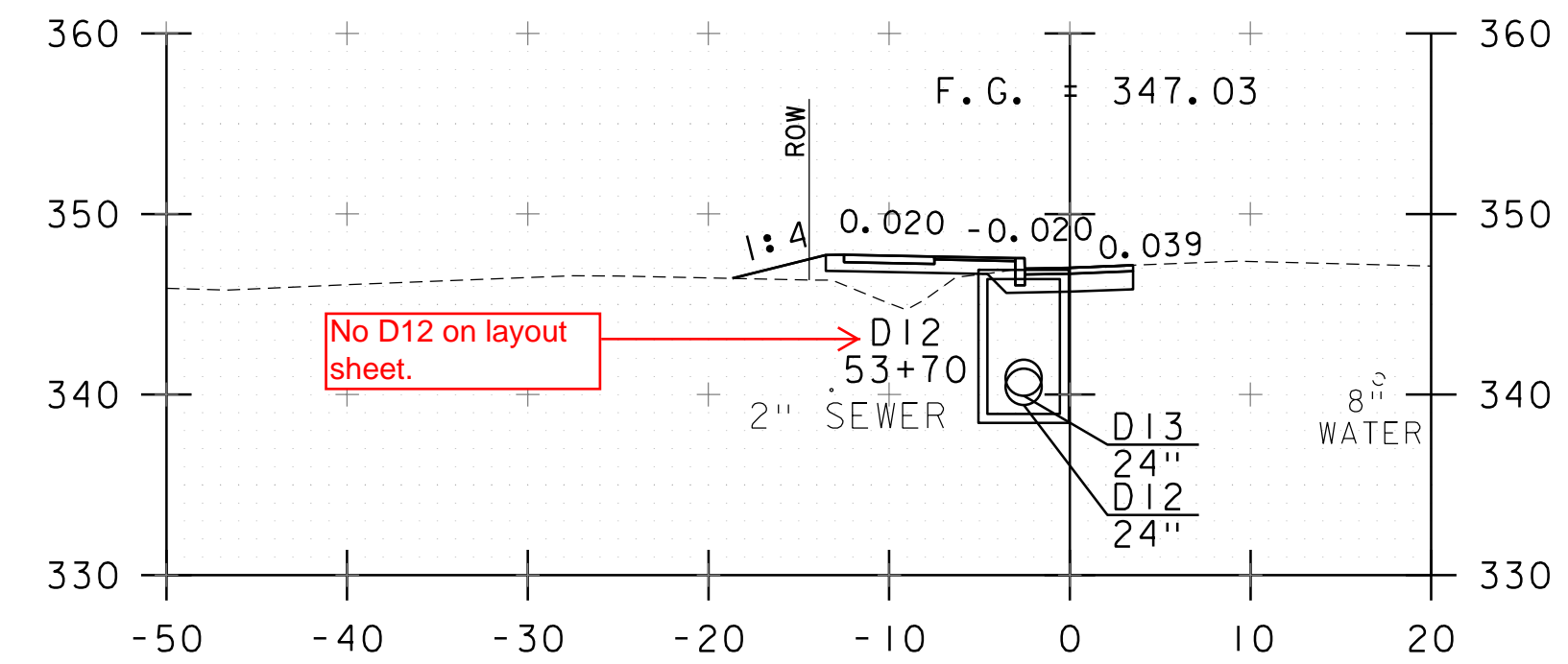
52+00

Catch basin D15 is not shown on layout sheet



51+50

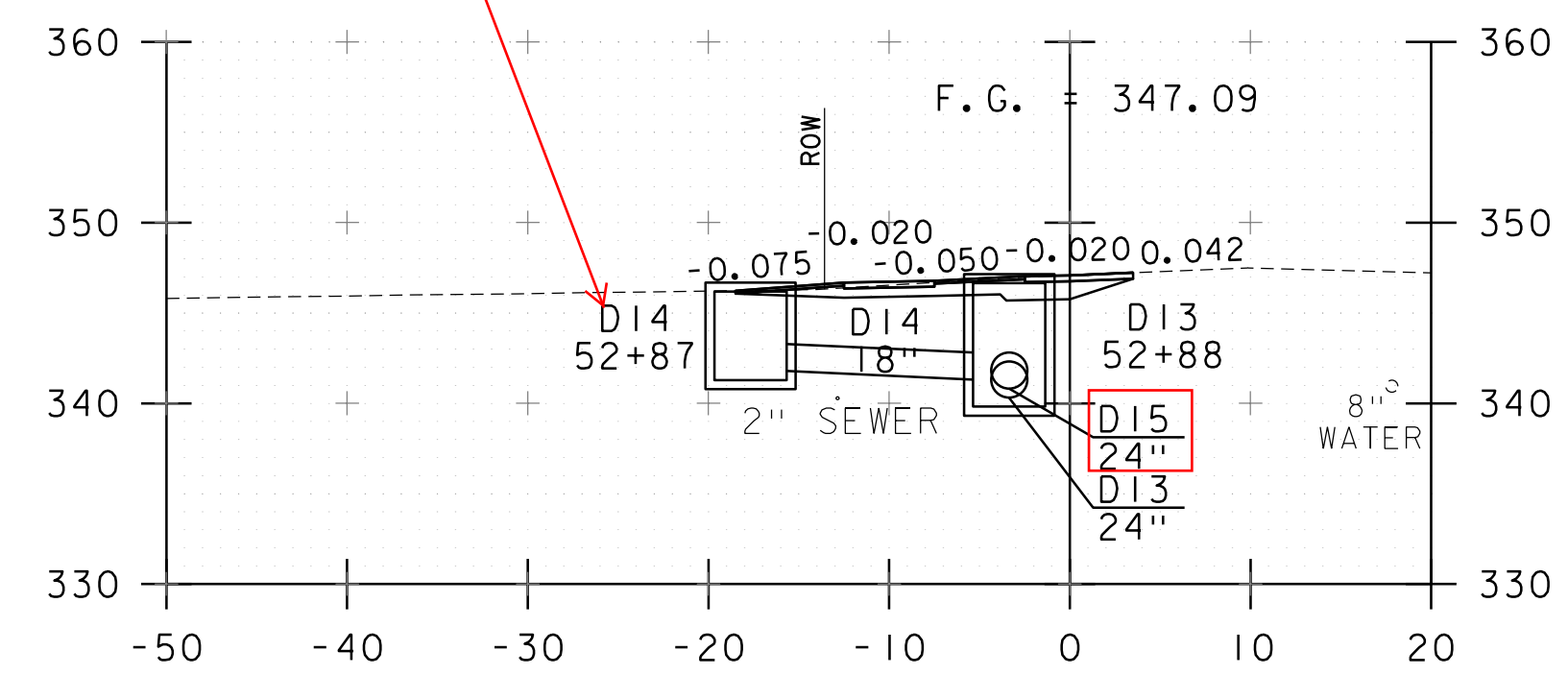
Sewer line should be shown on layout sheets.



53+50

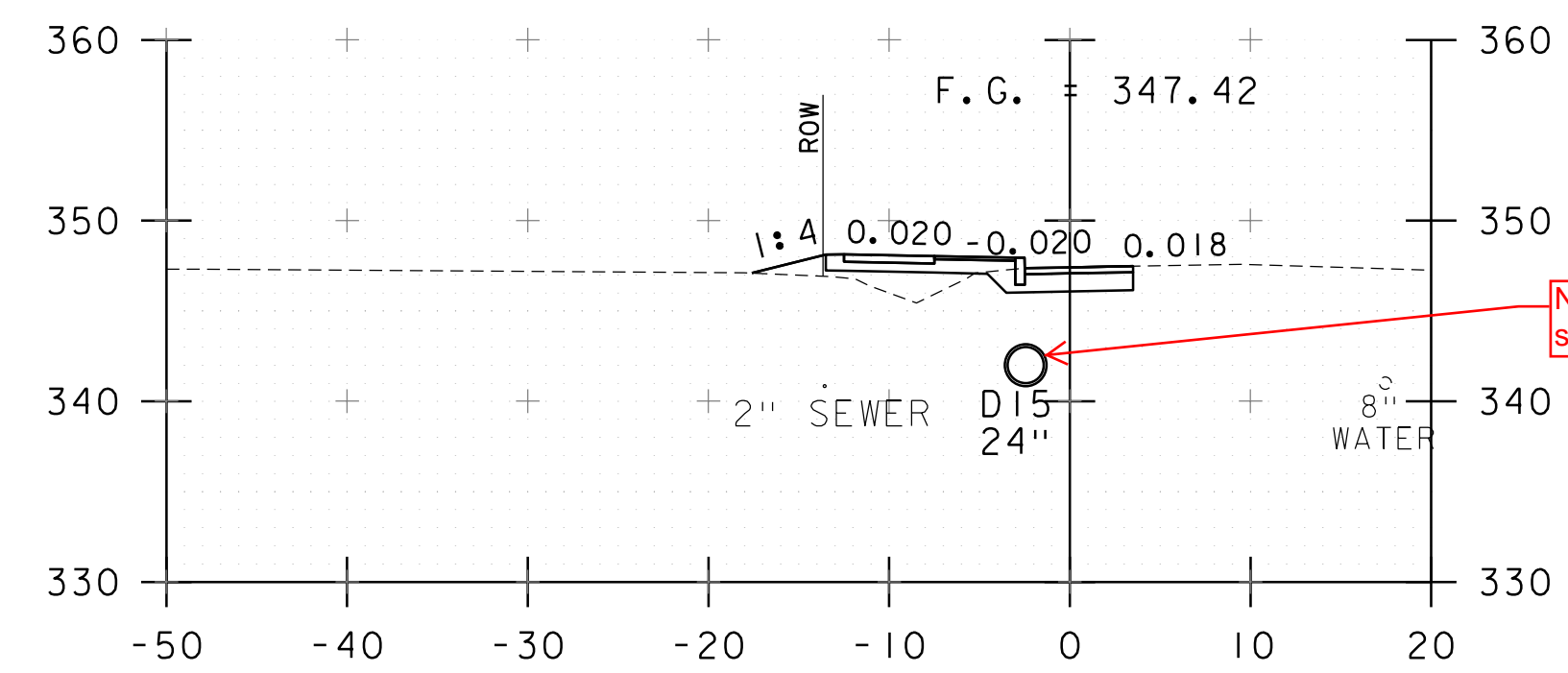
No D12 on layout sheet.

No D14 on layout sheet.



53+00

D15 24"

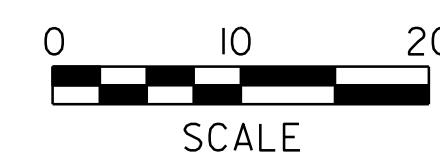


52+50

No D15 on layout sheet.

NOTES:

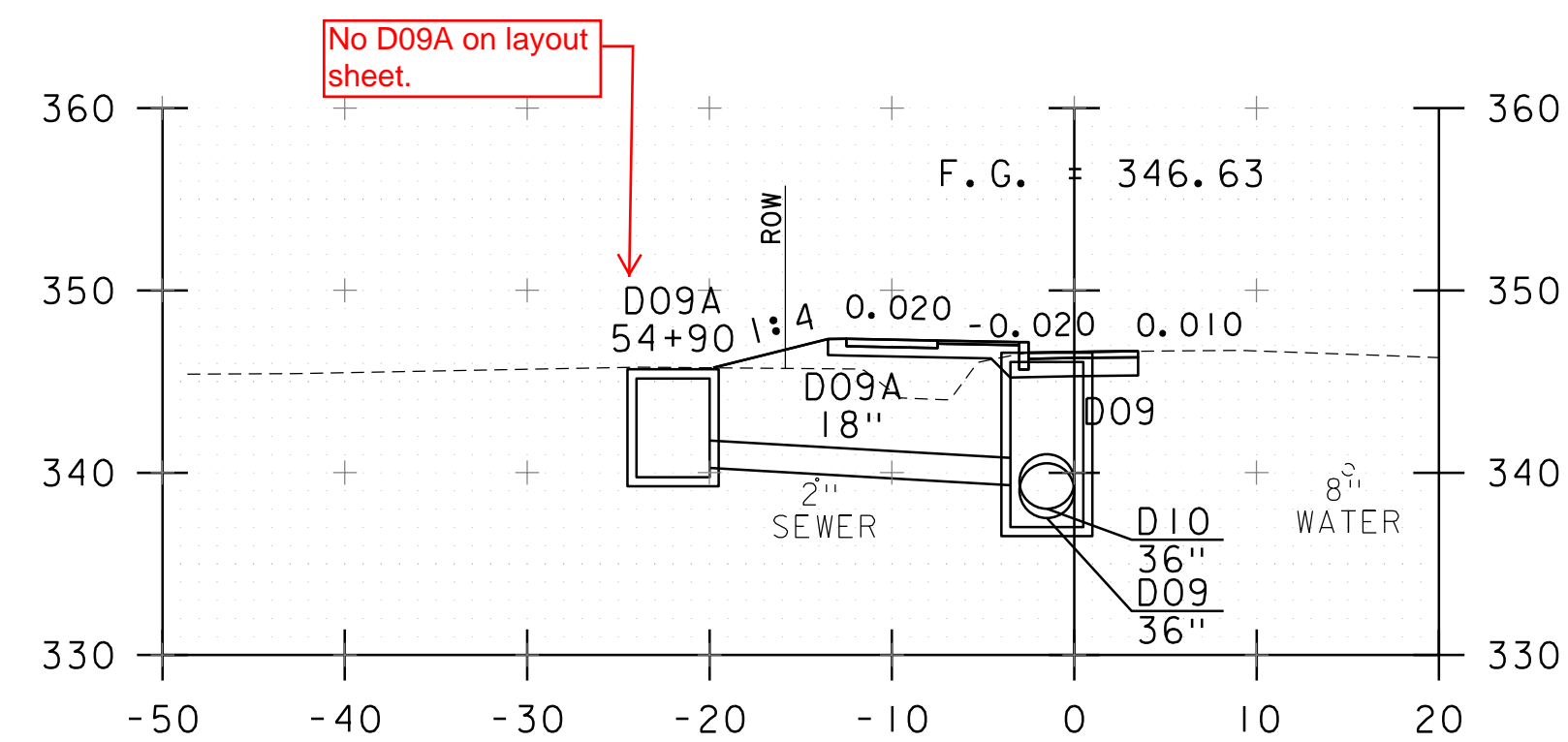
- ALL UNDERGROUND UTILITY DEPTHS AND LOCATIONS CONSIDERED APPROXIMATE. ALL CONFLICTS SHOWN ON PLANS AND SECTIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.



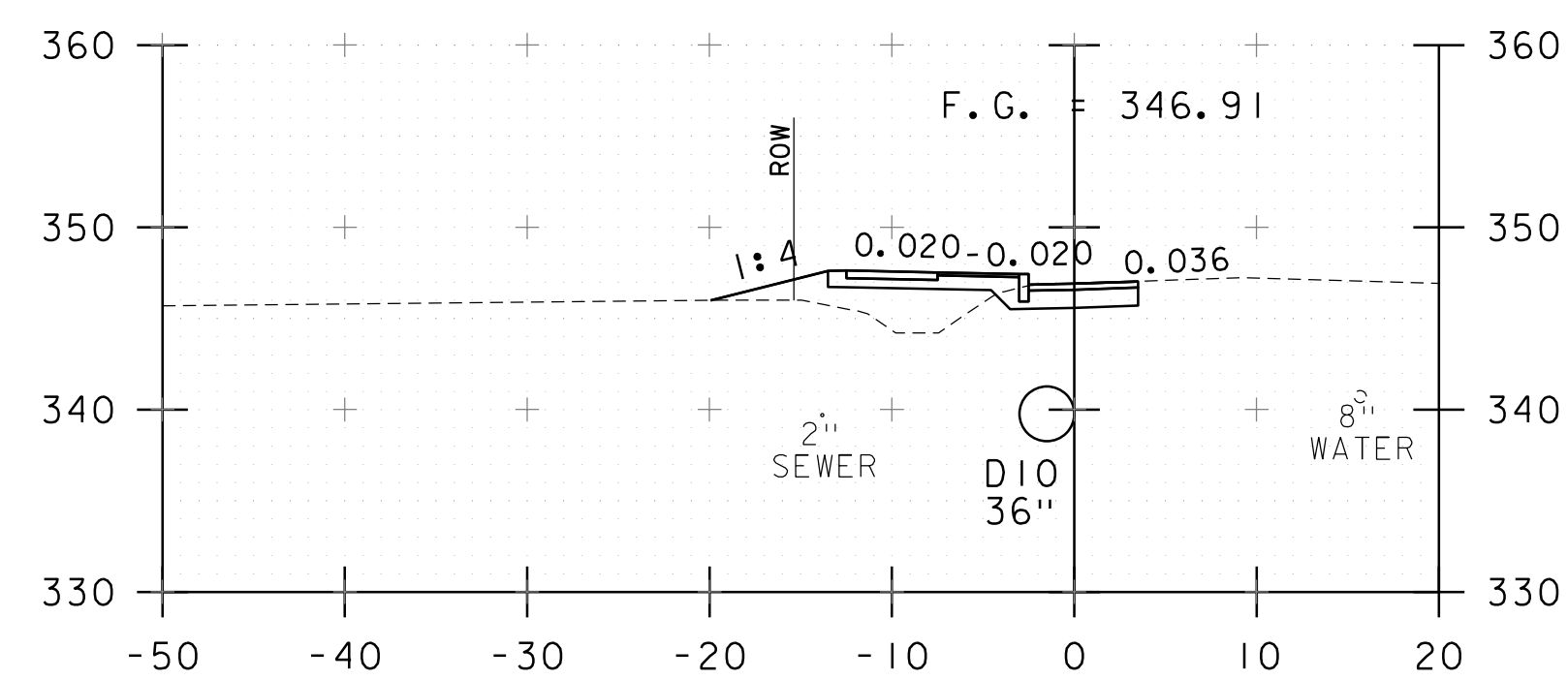
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PROJECT NUMBER: TAP TA15(4)

FILE NAME: z15F012xs.dgn  
PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
CROSS SECTION SHEET I

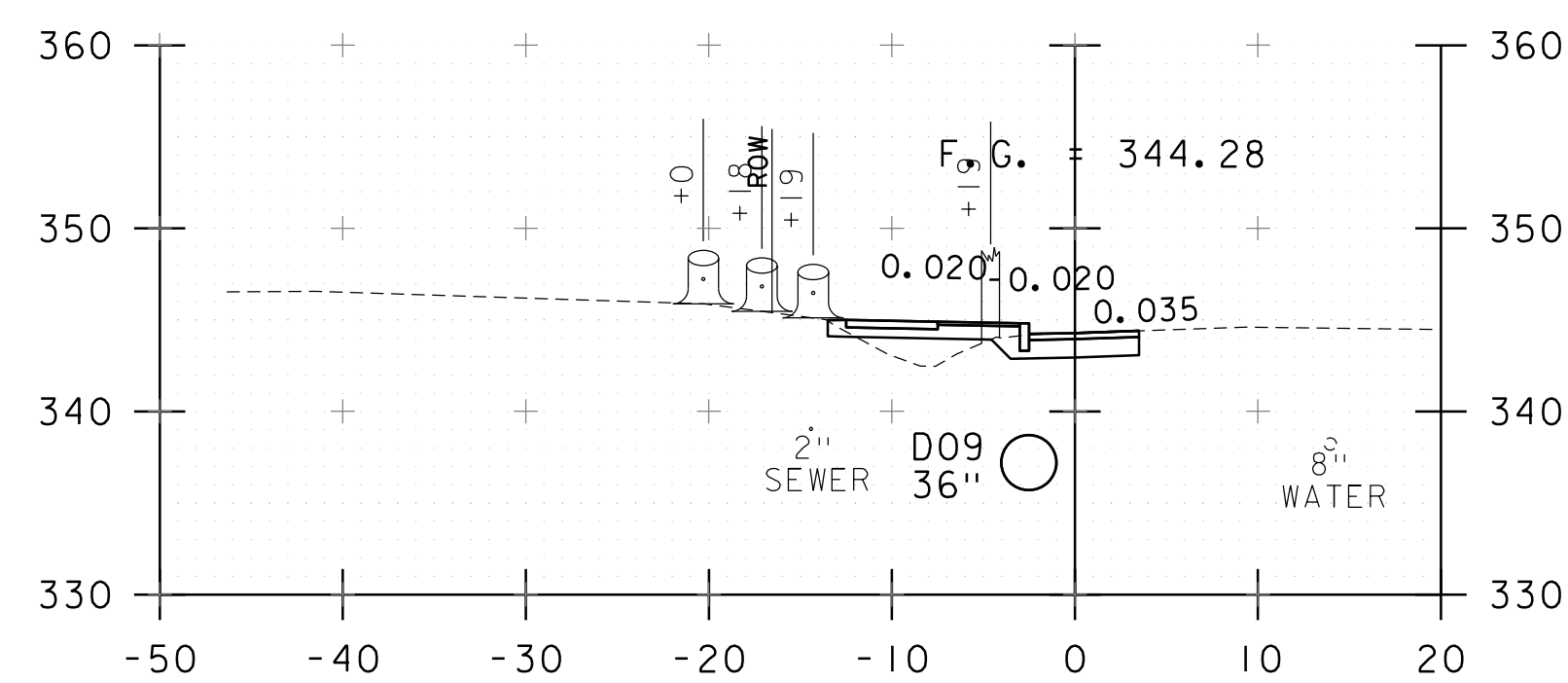
PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 23 OF 27



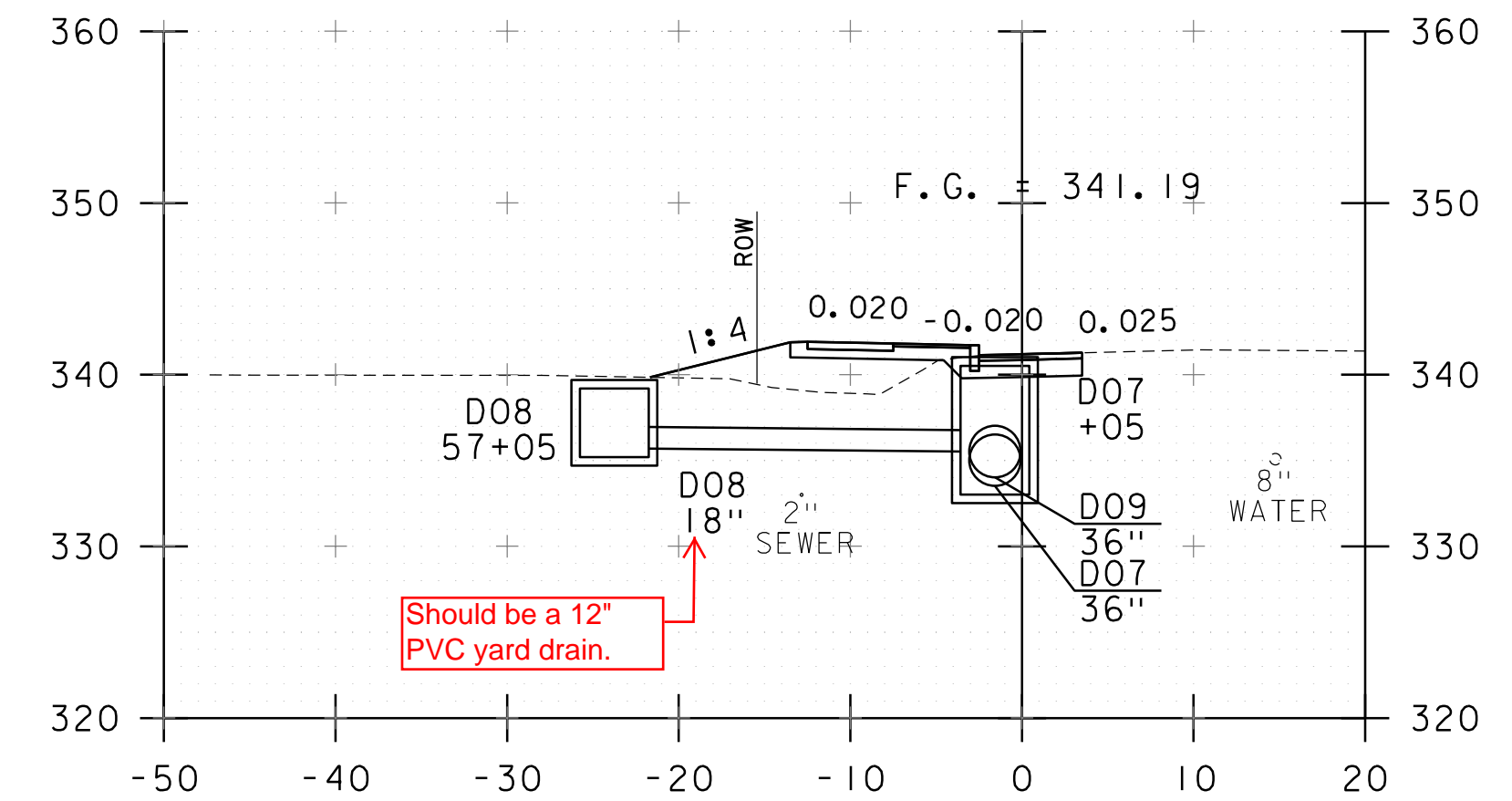
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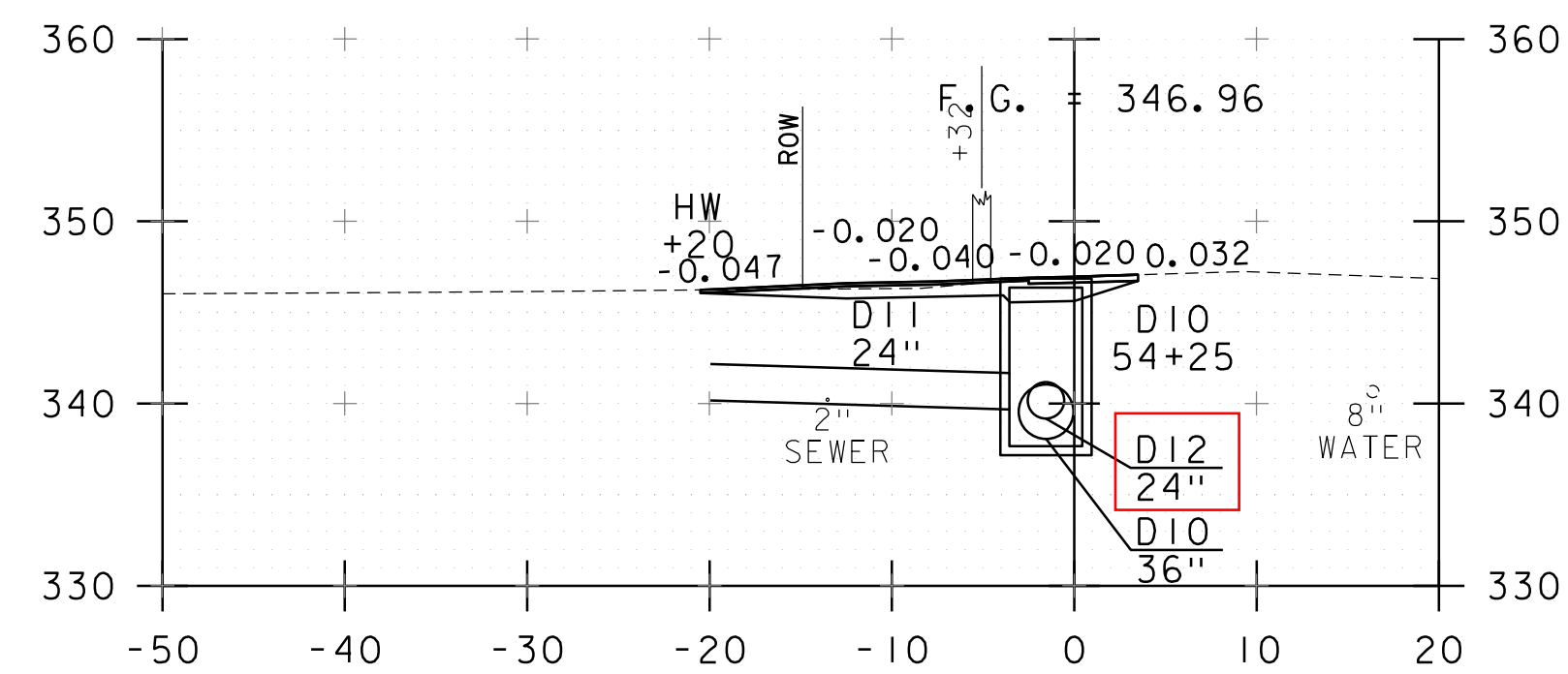
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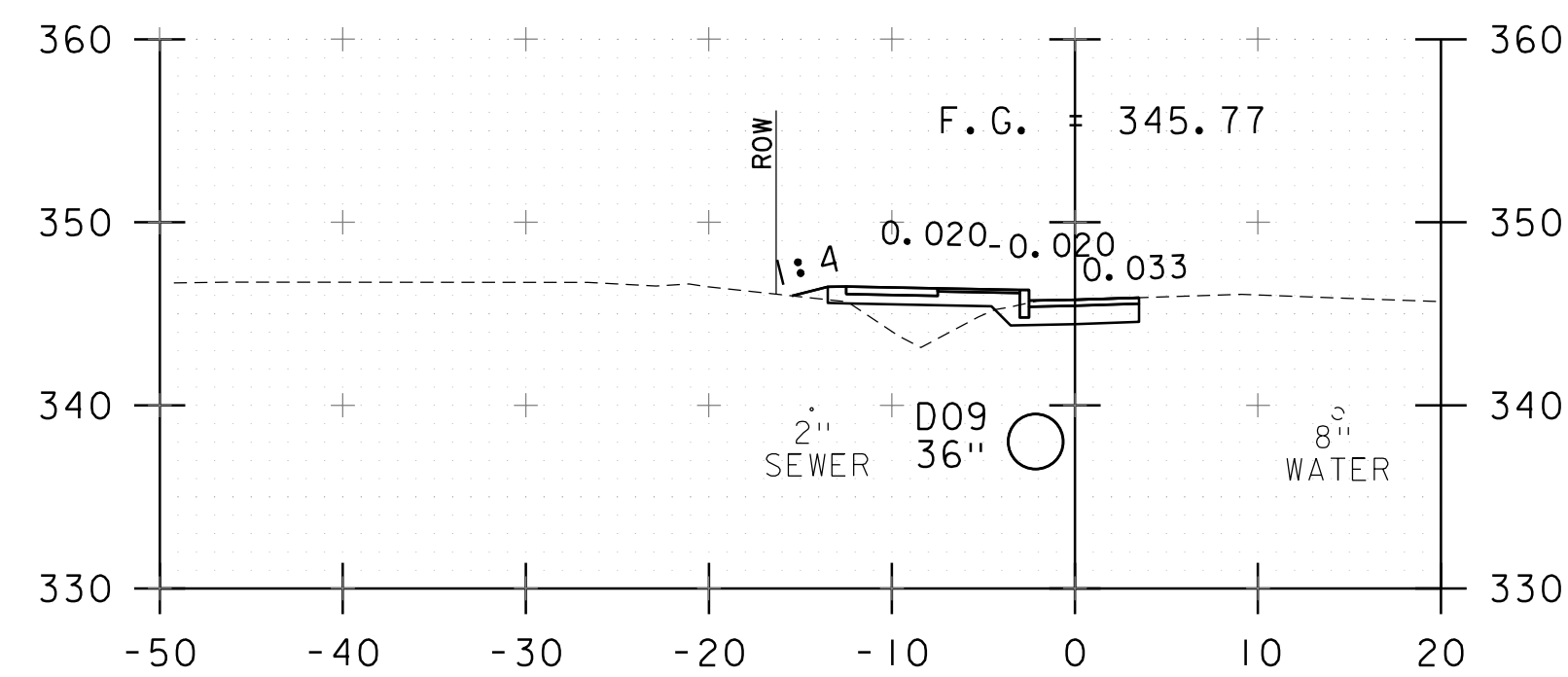
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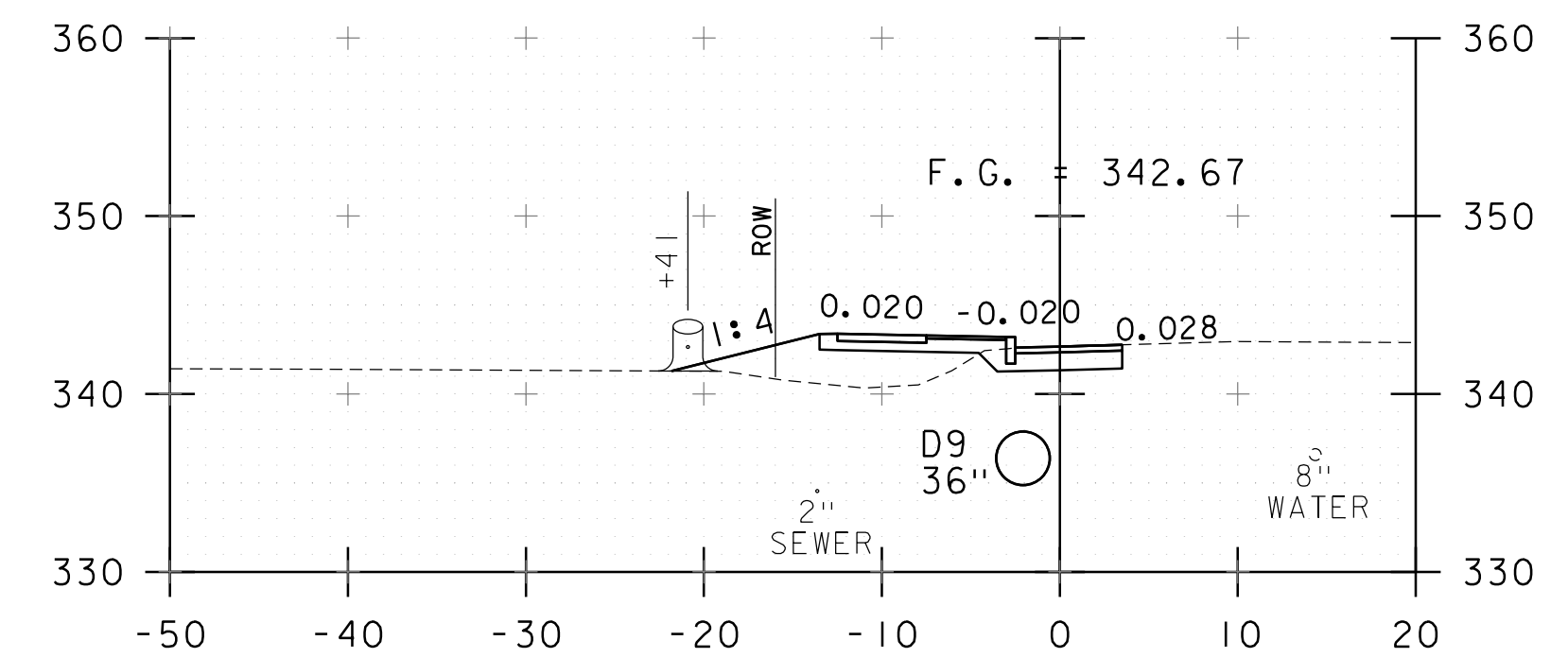
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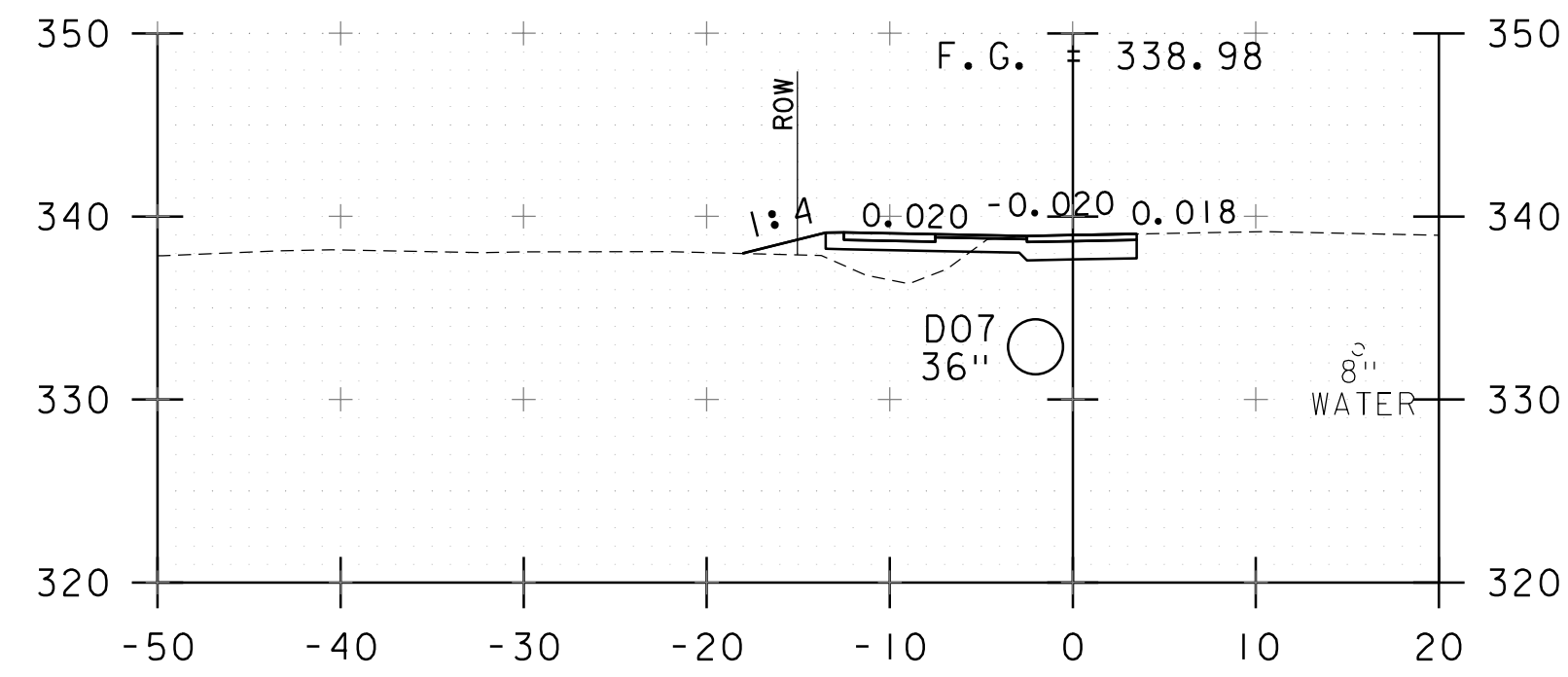


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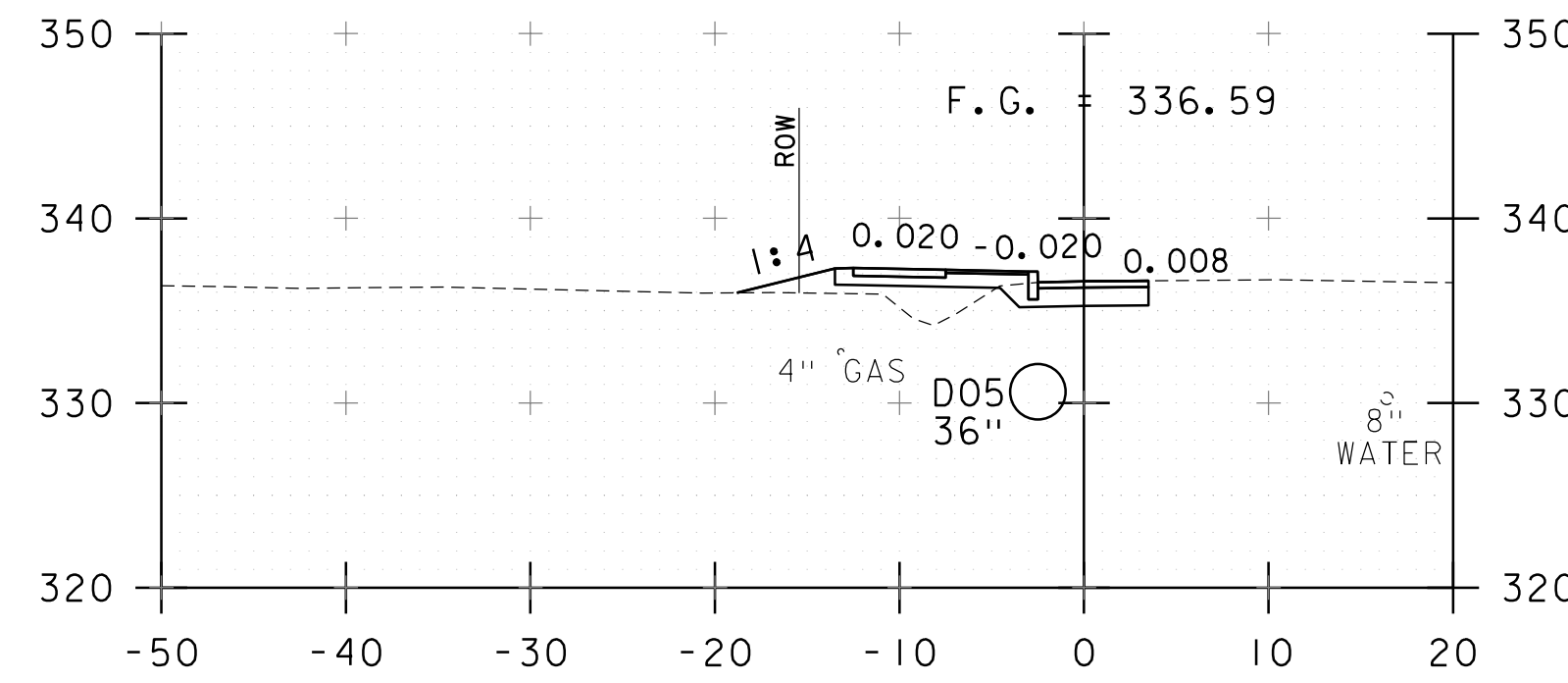
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PROJECT LEADER: G. GOYETTE  
DESIGNED BY: E. ALLING  
CROSS SECTION SHEET 2

PLOT DATE: 11/26/2019  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 24 OF 27

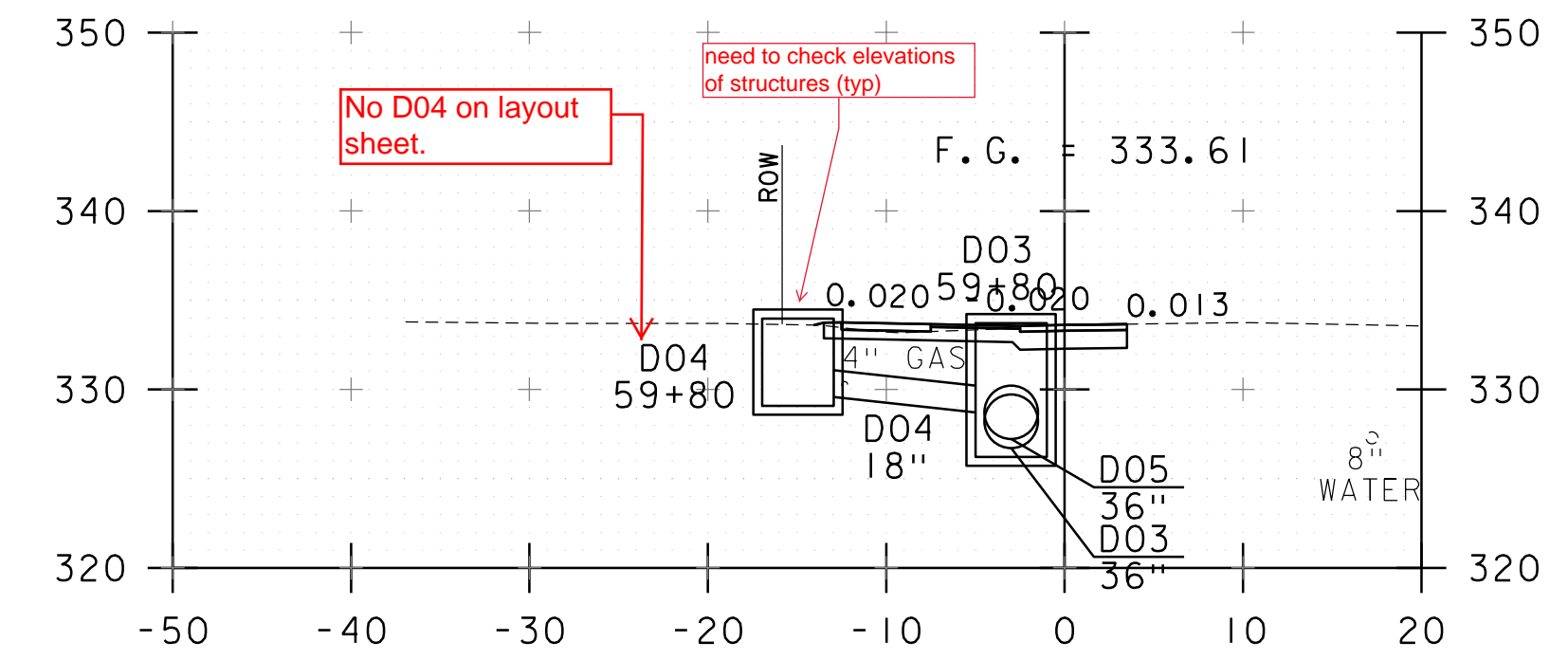




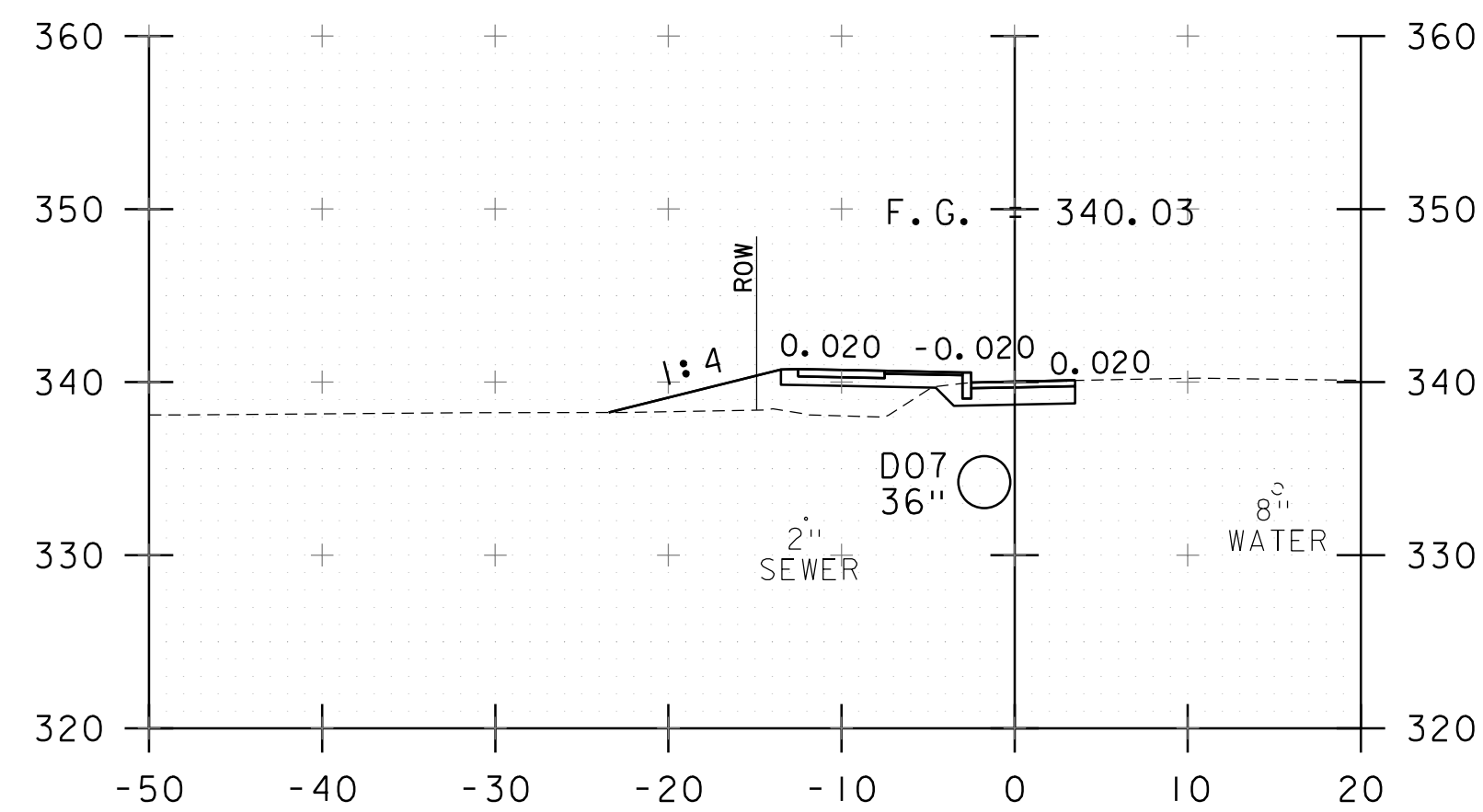
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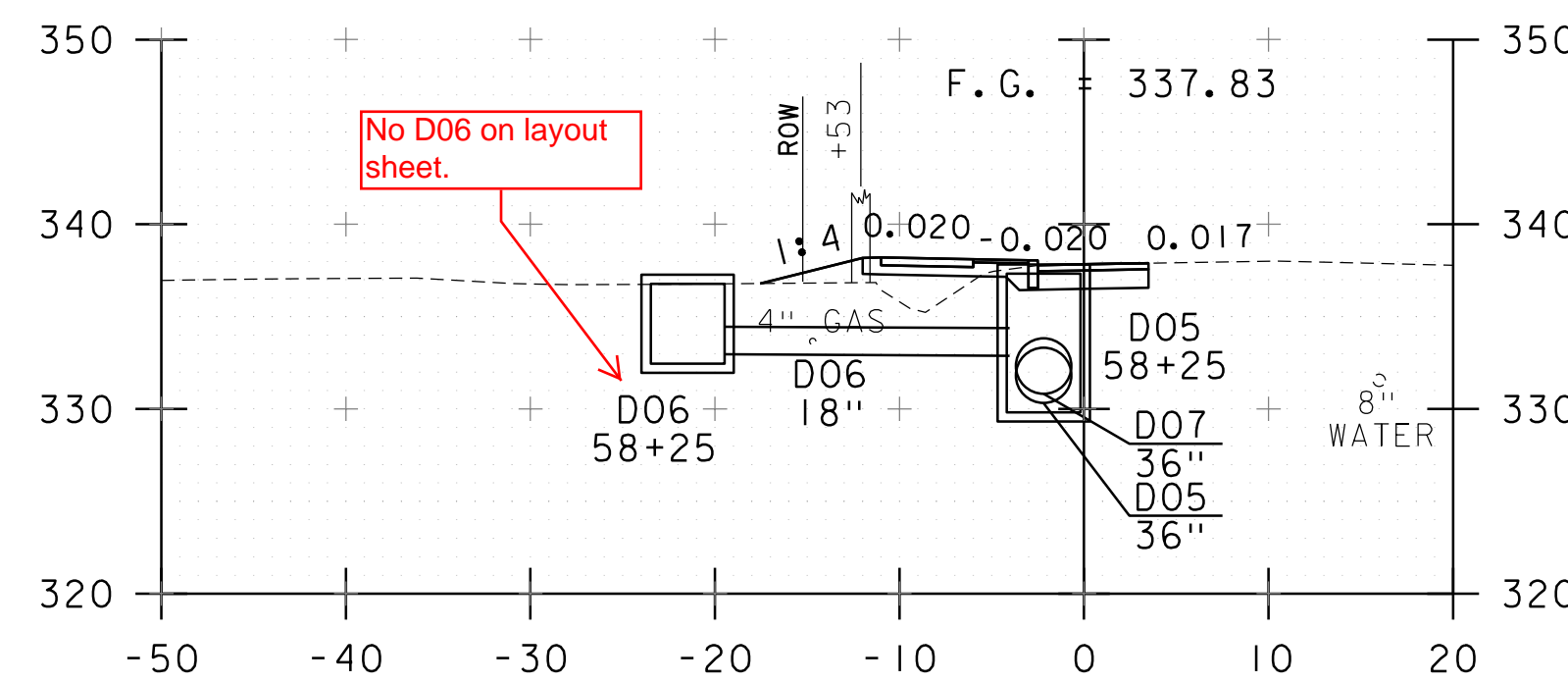
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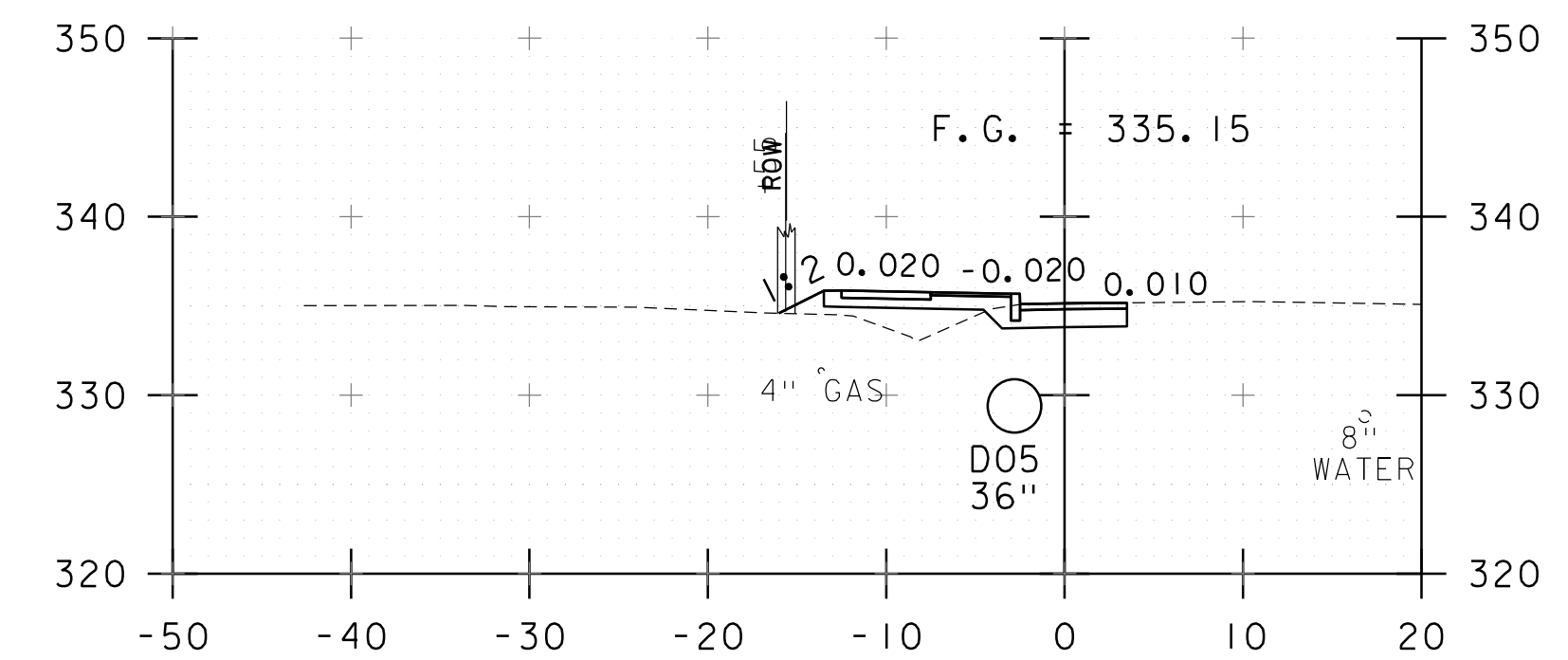
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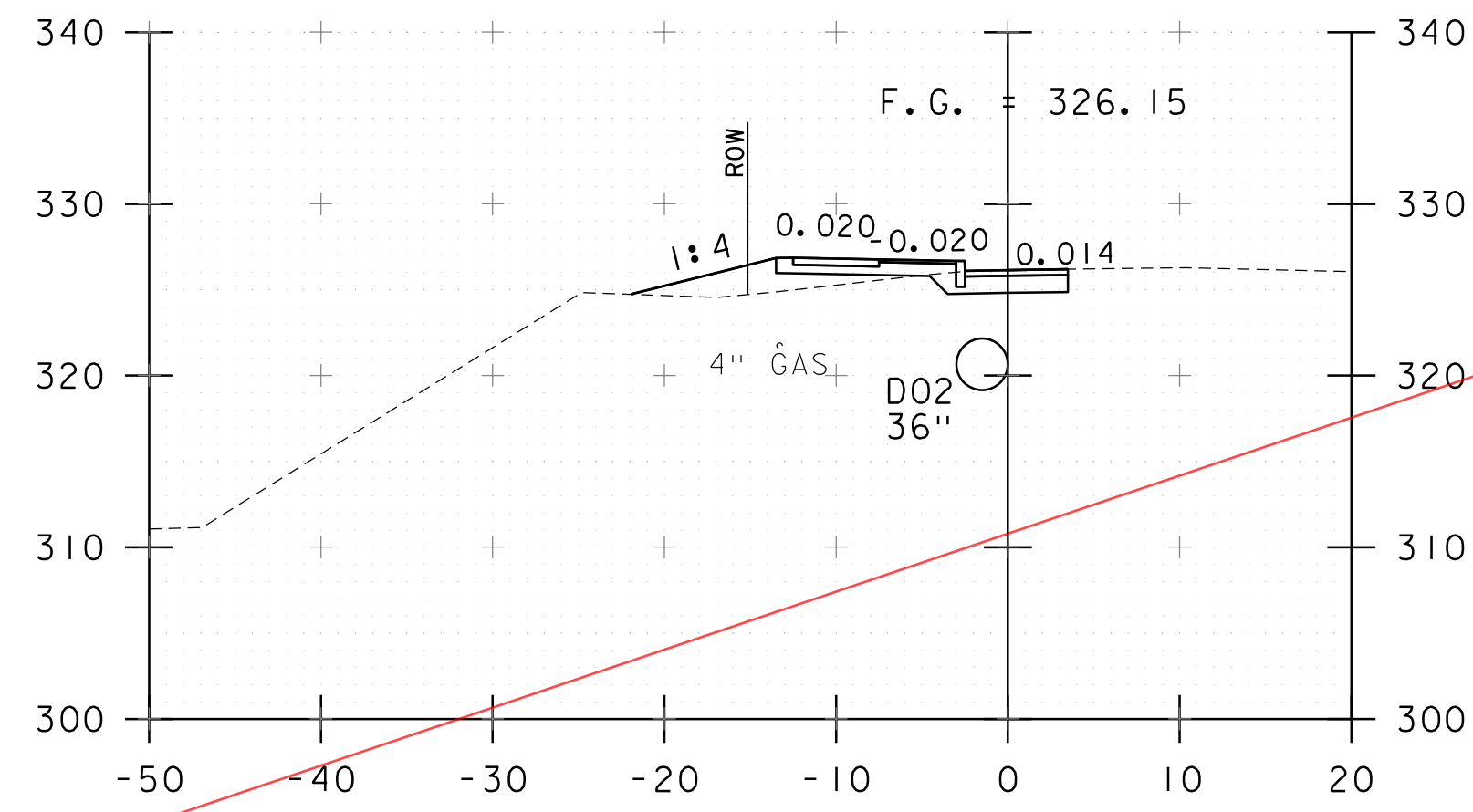
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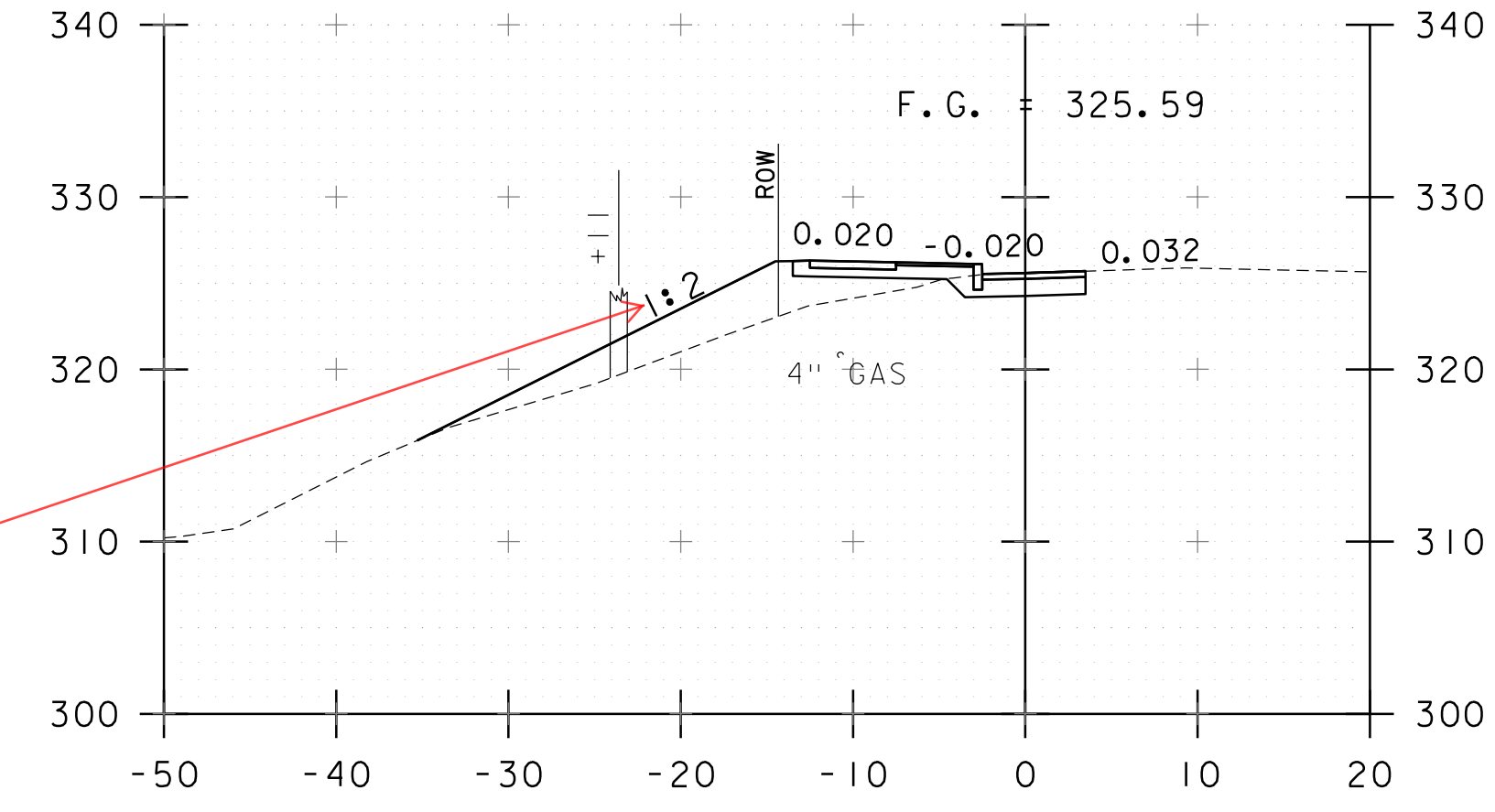
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PROJECT NAME:	ESSEX	PLOT DATE:	11/26/2019
PROJECT NUMBER:	TAP TA15(4)	DRAWN BY:	E. ALLING
FILE NAME:	z15F012xs.dgn	CHECKED BY:	G. GOYETTE
PROJECT LEADER:	G. GOYETTE	SHEET	25 OF 27
DESIGNED BY:	E. ALLING		
CROSS SECTION SHEET	3		

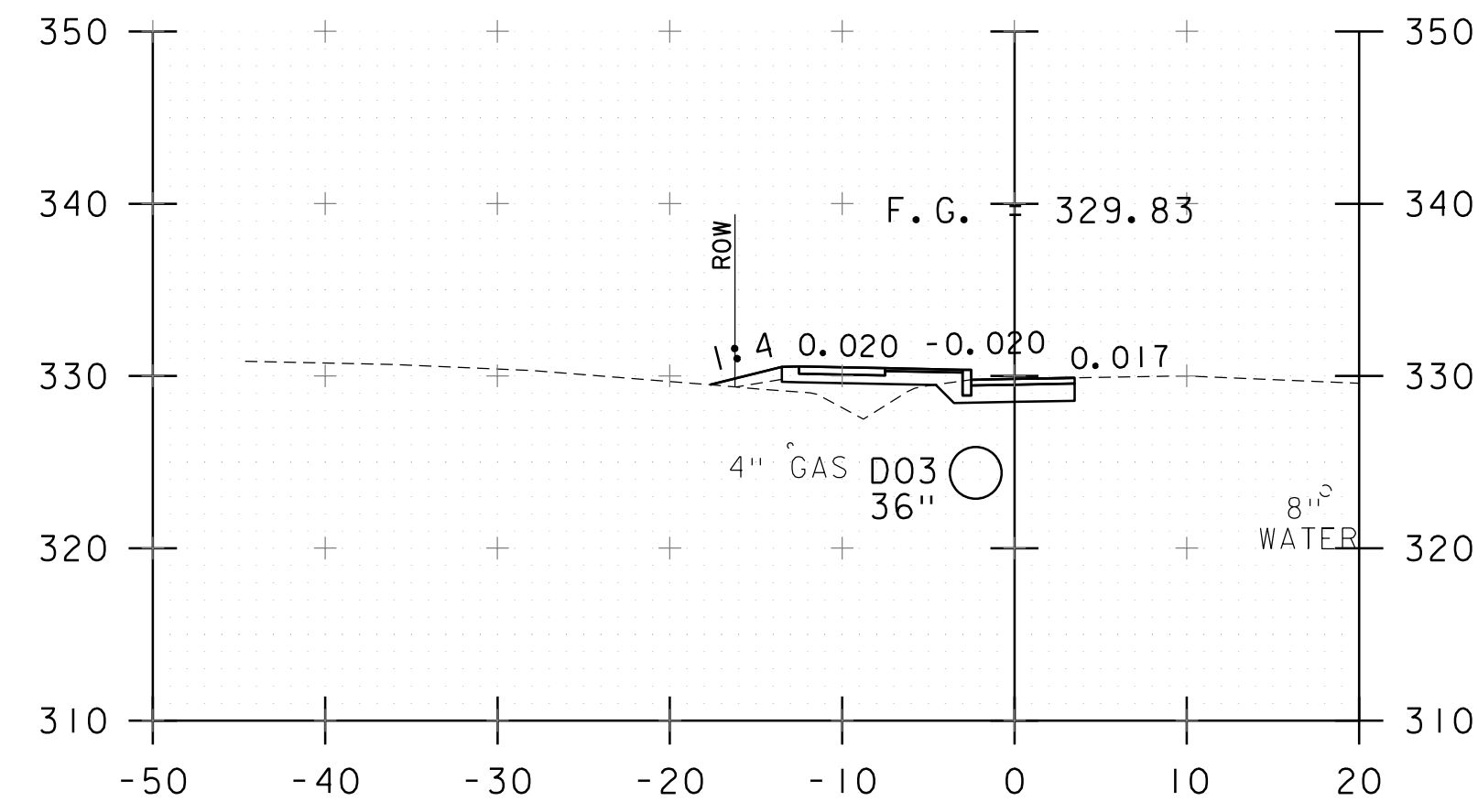


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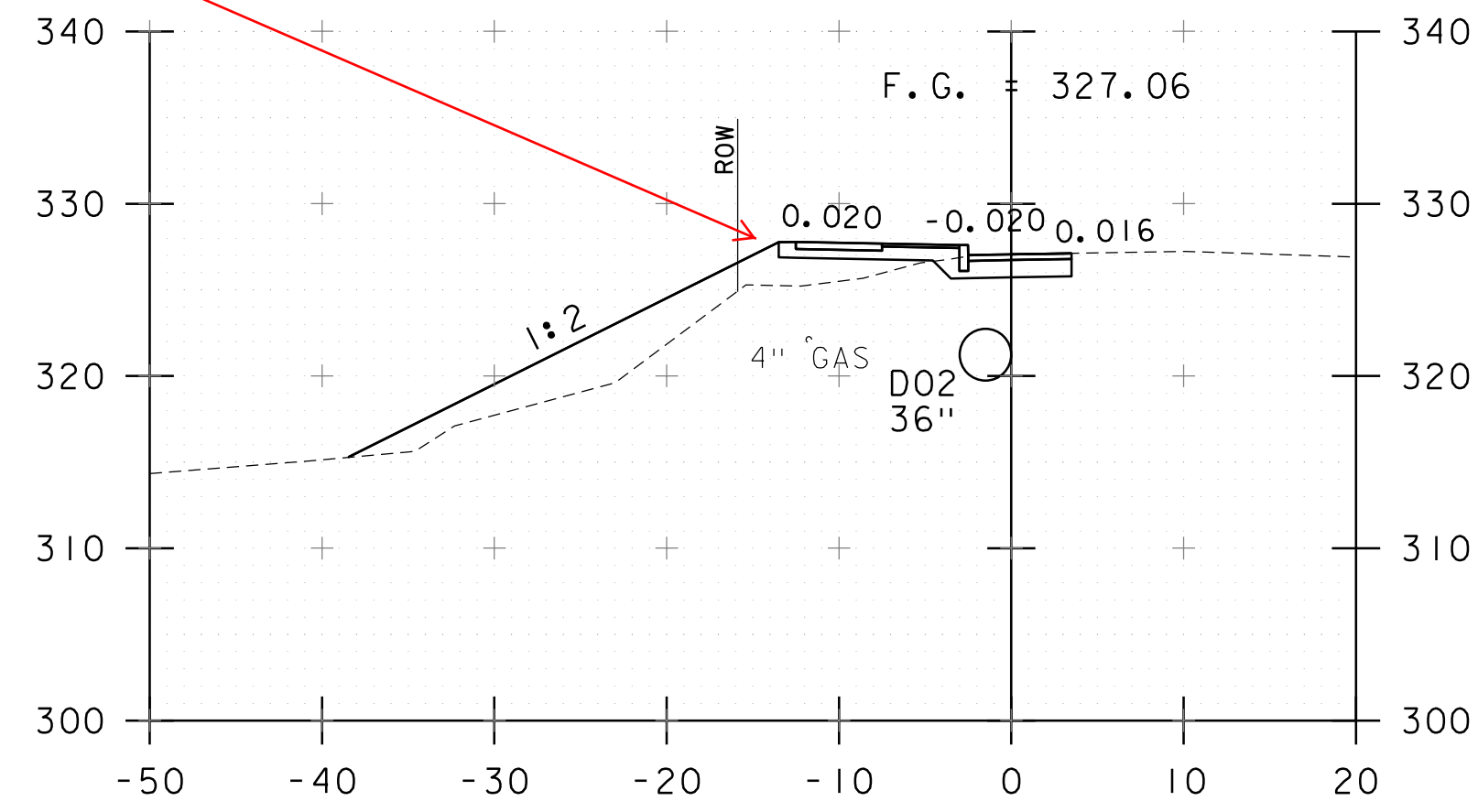


64+00

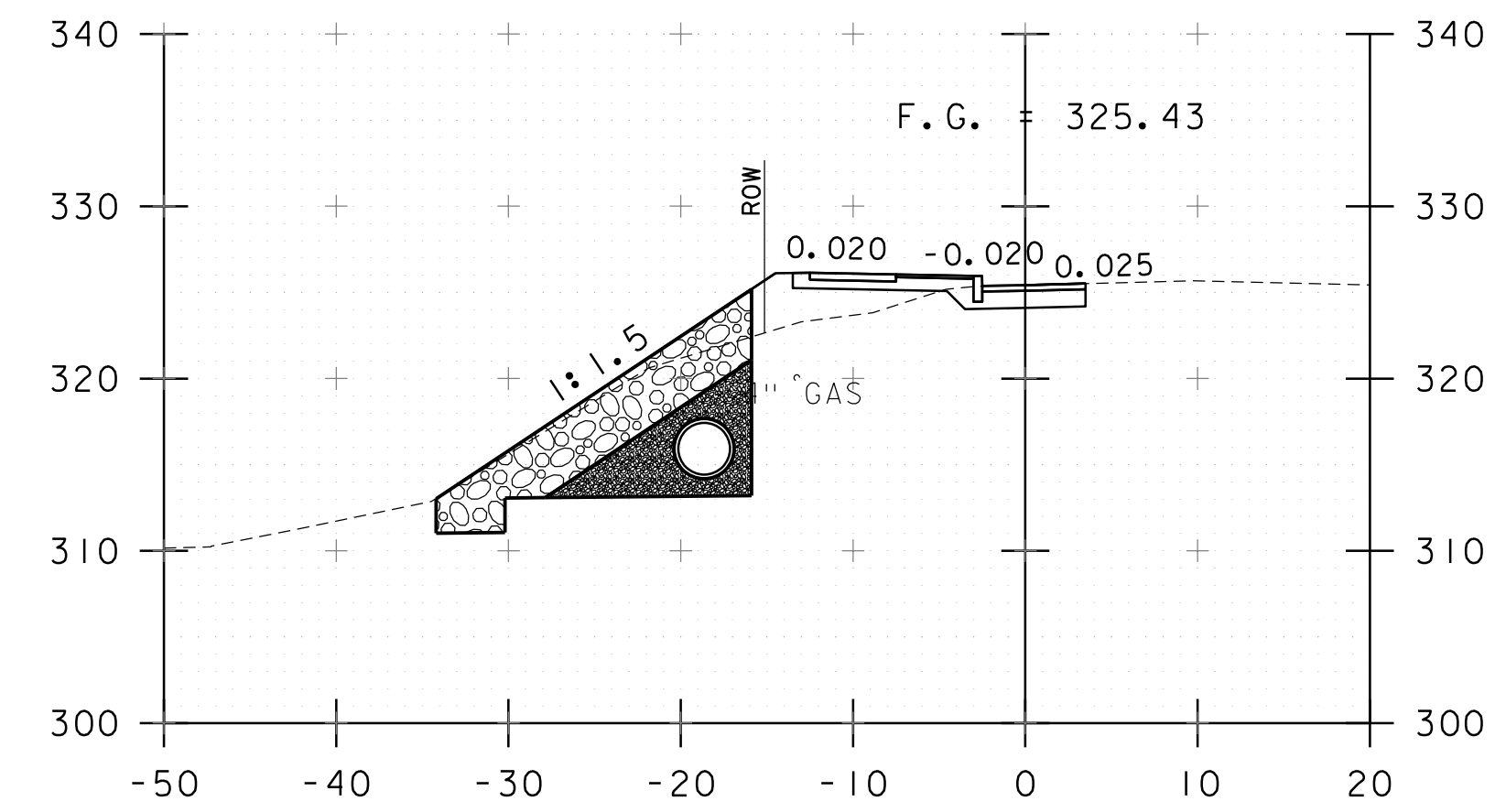
Where a sidewalk is located in close proximity to a drop that exceeds a slope grade greater than 1:4, a protective handrail should be provided along the full extent of the hazard. (Vermont Pedestrian and Bicycle Facility Planning and Design Manual pg. 3-23)



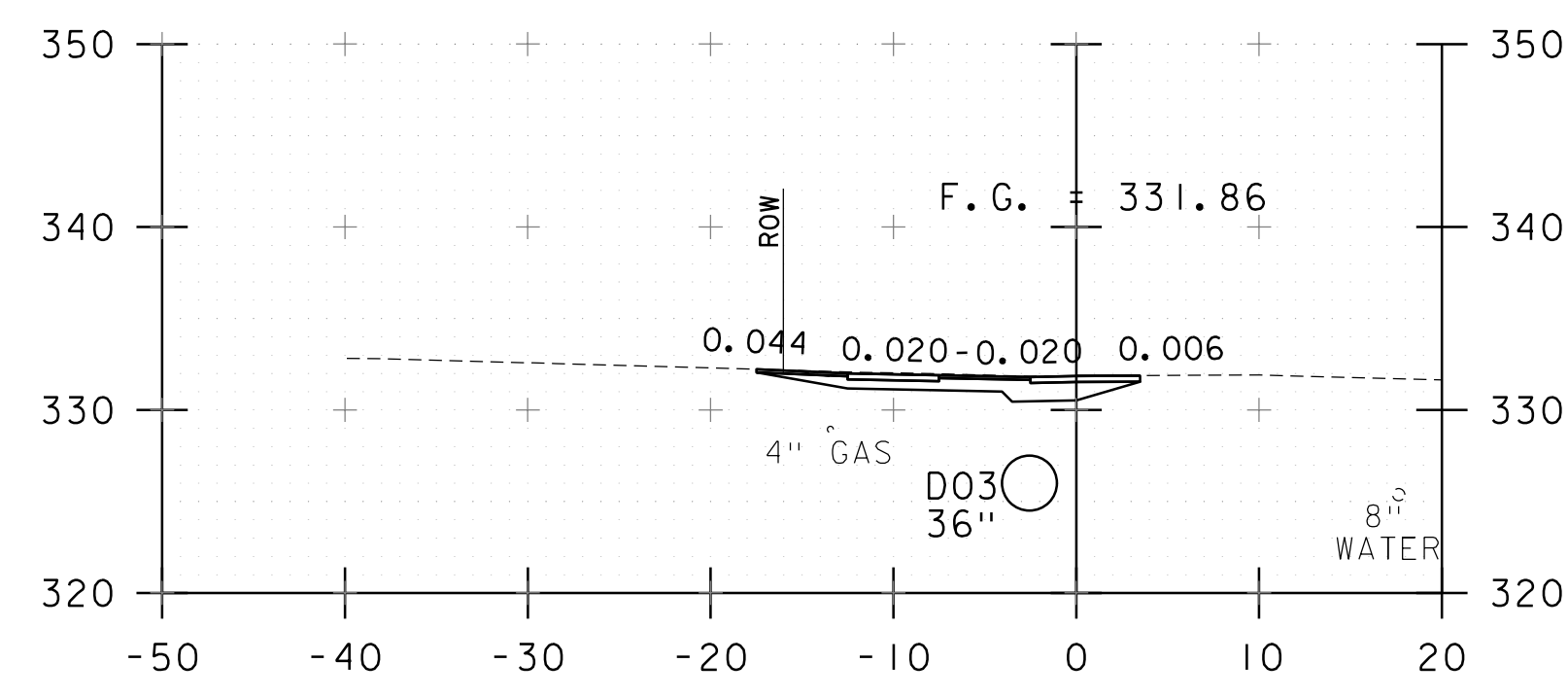
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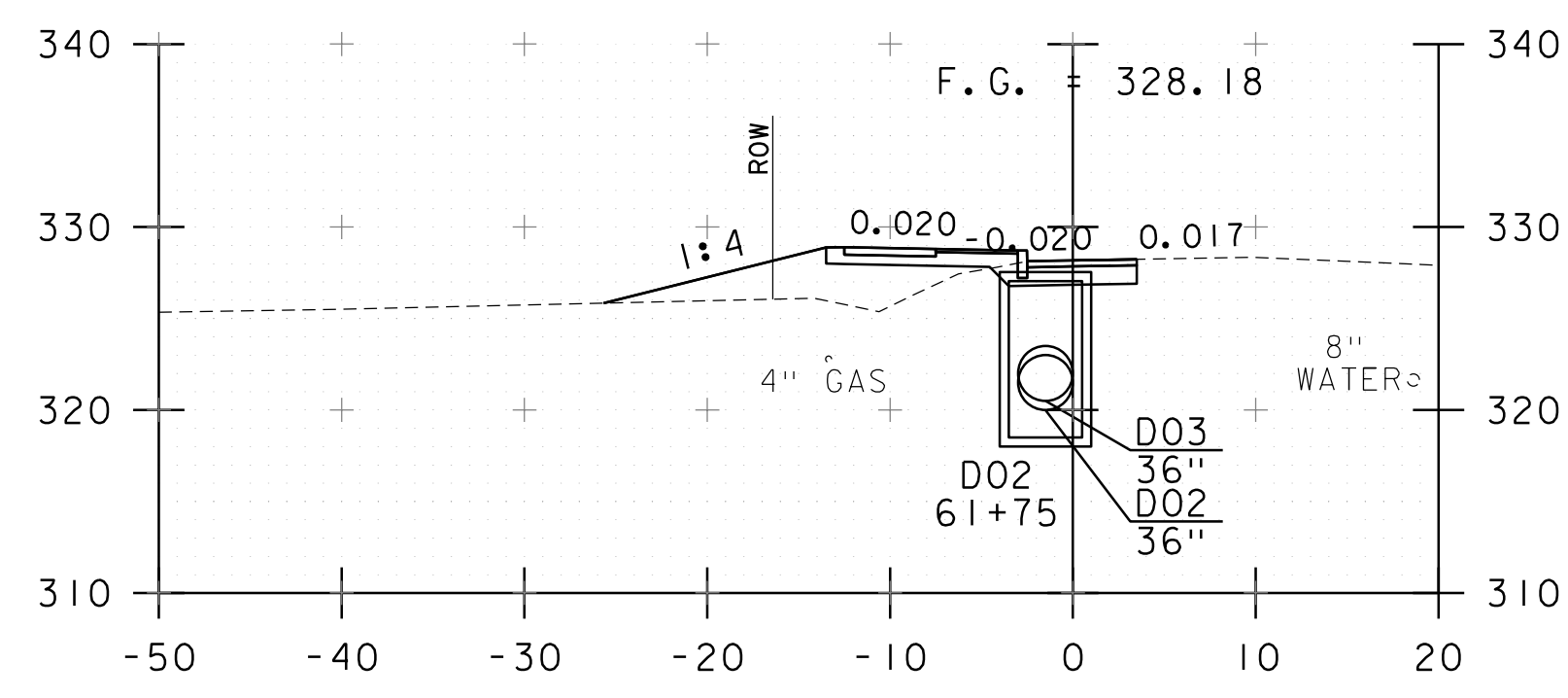
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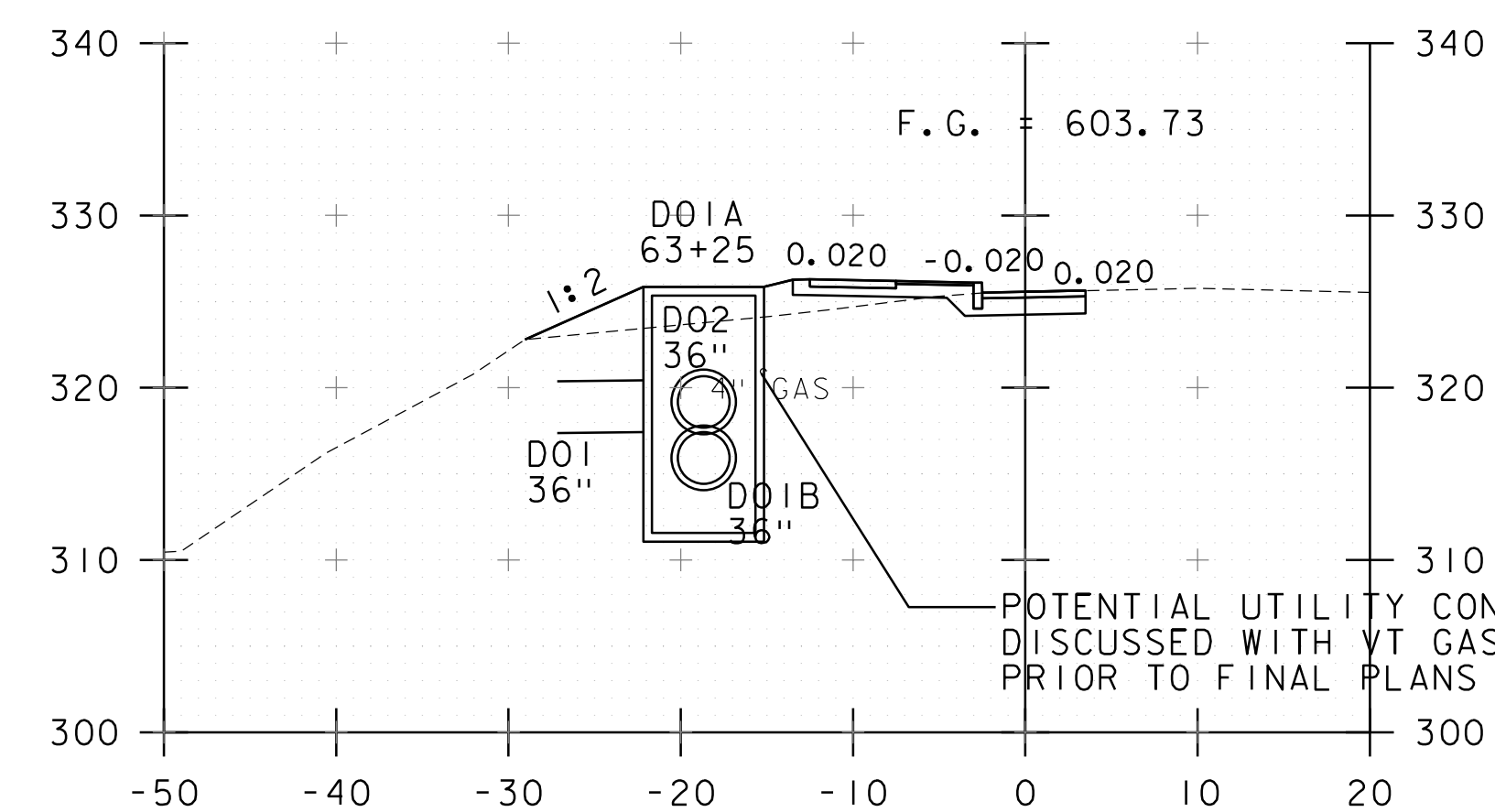
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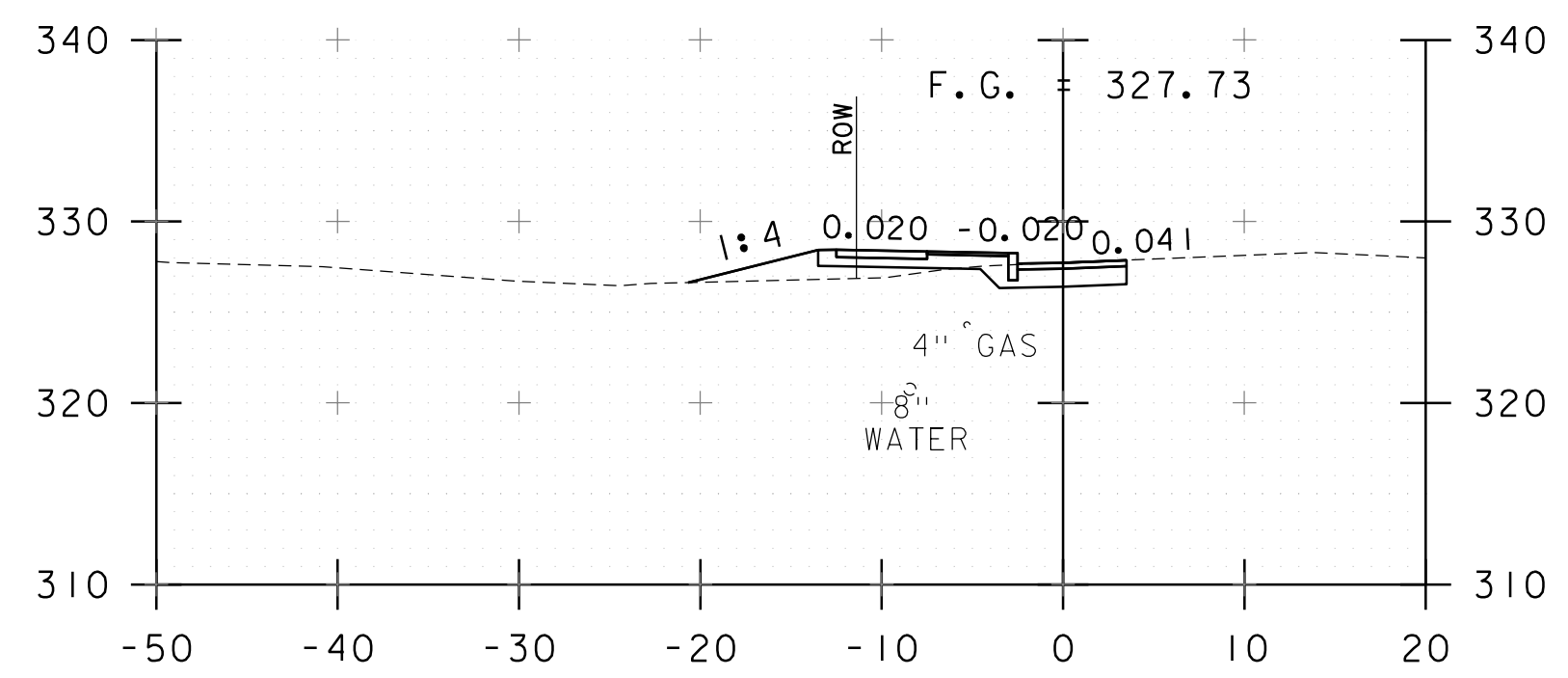
POTENTIAL UTILITY CONFLICT TO BE DISCUSSED WITH VT GAS SYSTEMS PRIOR TO FINAL PLANS SUBMITTAL

Will a relocation be completed by others?

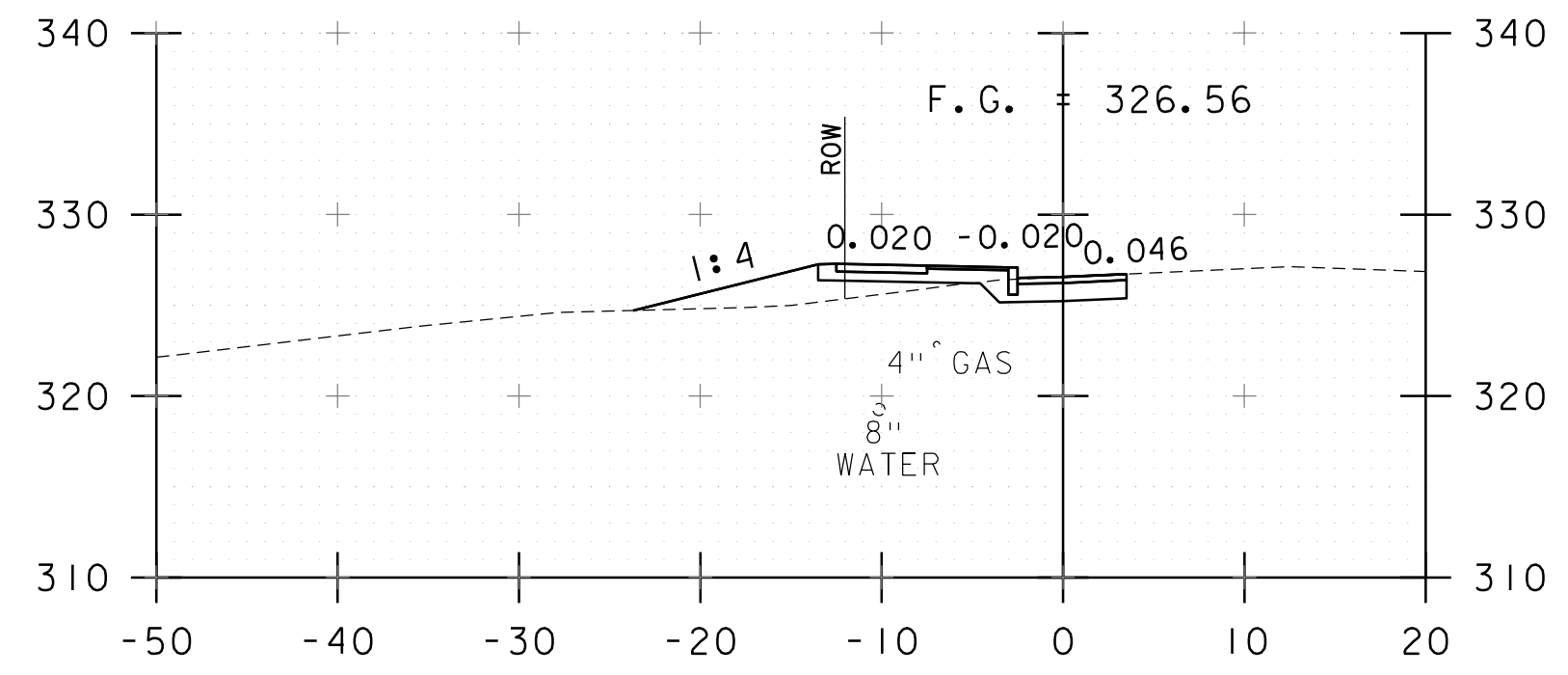


PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15F012xs.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 26 OF 27
DESIGNED BY: E. ALLING	
CROSS SECTION SHEET 4	

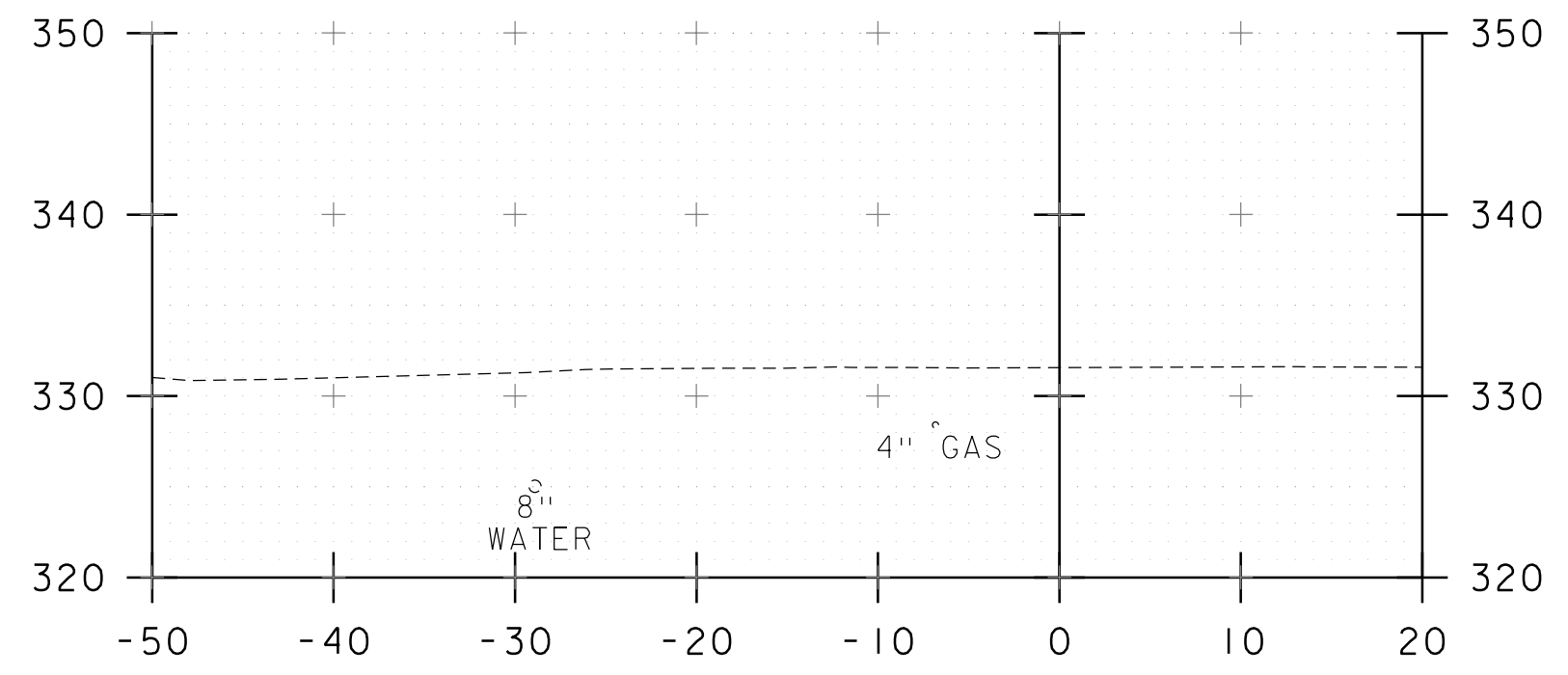




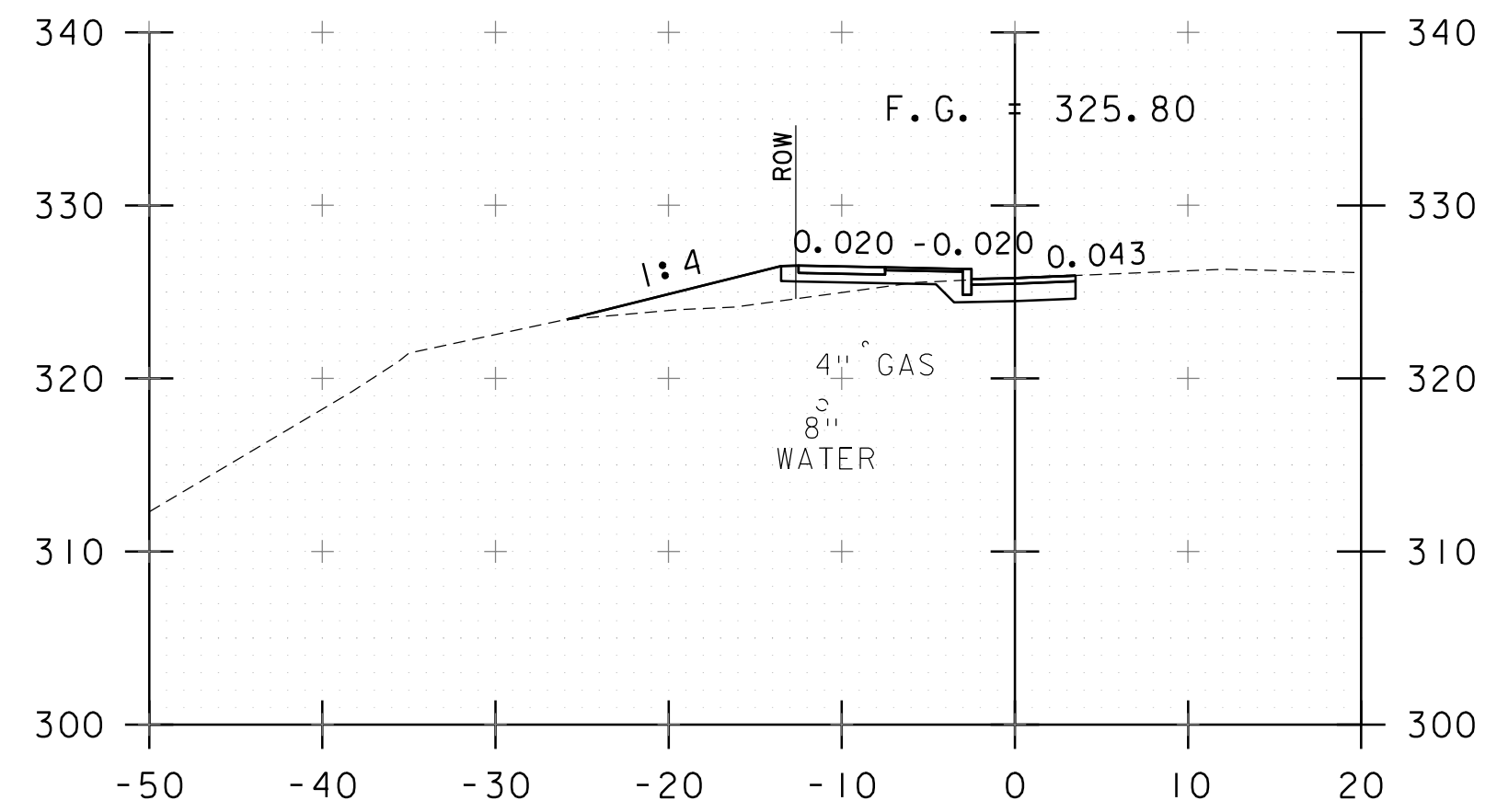
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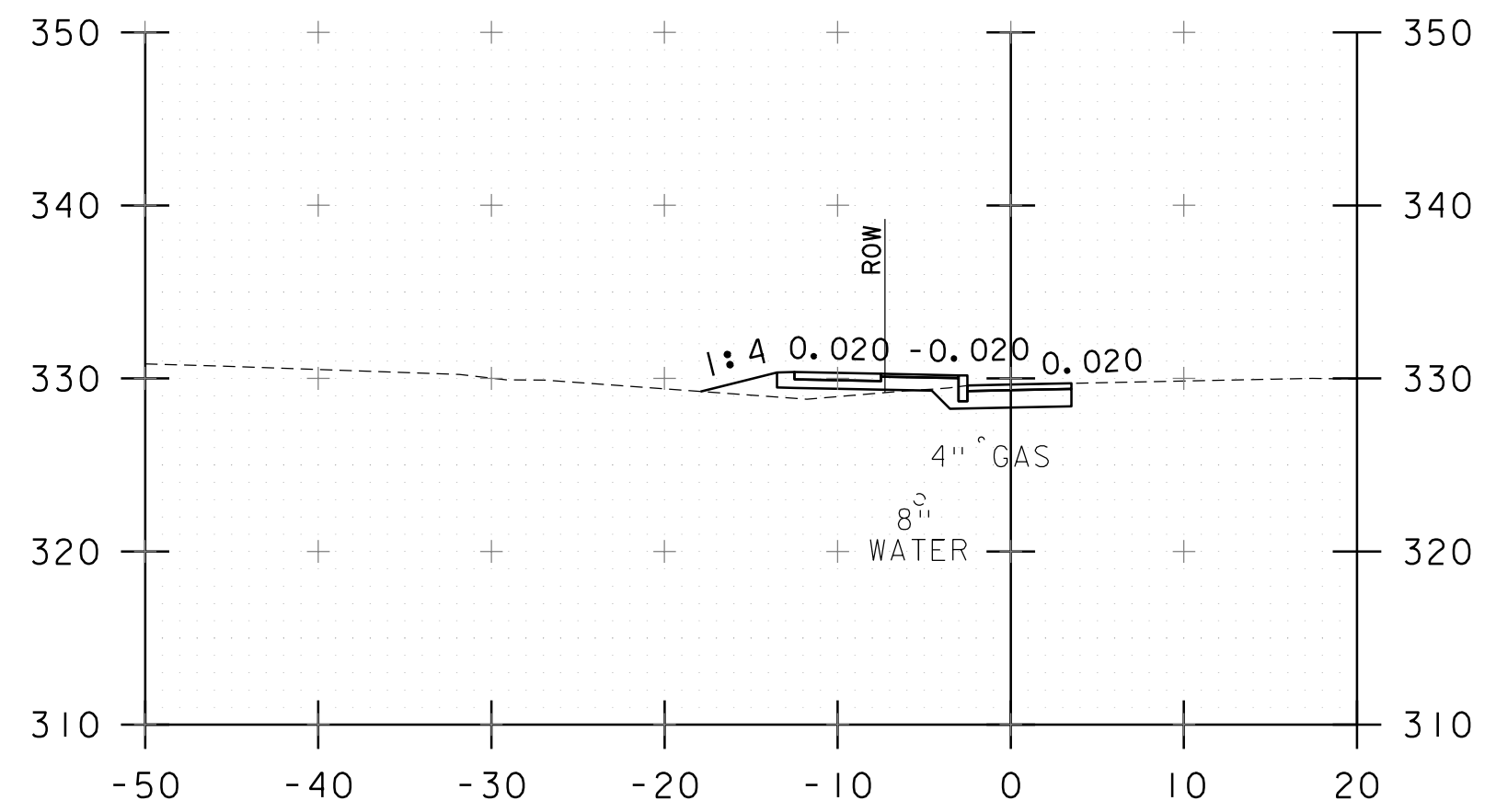
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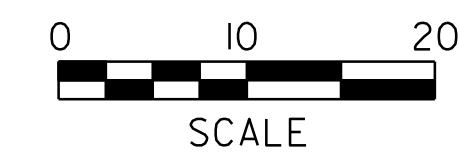
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64+50



66+00



PROJECT NAME: ESSEX	PLOT DATE: 11/26/2019
PROJECT NUMBER: TAP TA15(4)	DRAWN BY: E. ALLING
FILE NAME: z15F012xs.dgn	CHECKED BY: G. GOYETTE
PROJECT LEADER: G. GOYETTE	SHEET 27 OF 27
DESIGNED BY: E. ALLING	
CROSS SECTION SHEET 5	

## Estimate 15F012

Estimated Cost:\$593,903.46

Contingency: 0.00%

**Estimated Total: \$593,903.46**

NEW SIDEWALK, CURB AND STORMWATER DRAINAGE AND ASSOCIATED WORK

**Base Date: 11/21/19**

Spec Year: 18

Unit System: E

Work Type: CURB & SIDEWALK

Highway Type: LOCAL

Urban/Rural Type: URBAN

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

County: ESSEX

Midpoint of Latitude: 443023

Midpoint of Longitude: 730712

District: NW

Federal/State Project Number:

*Prepared by Stantec on 11/21/19*



<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>					

estimate must match quantity sheets and bid form

Group 1011: ROADWAY

0005	201.10	1.000	LS	\$5,000.00000	\$5,000.00
CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS					
0010	203.15	1,000.000	CY	\$18.87597	\$18,875.97
COMMON EXCAVATION					
0015	203.16	55.000	CY	\$146.20009	\$8,041.00
SOLID ROCK EXCAVATION					
0020	204.20	1,975.000	CY	\$23.84600	\$47,095.85
TRENCH EXCAVATION OF EARTH					
0025	204.21	105.000	CY	\$156.04983	\$16,385.23
TRENCH EXCAVATION OF ROCK					
0030	204.22	1.000	CY	\$75.00000	\$75.00
TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)					
0035	301.26	975.000	CY	\$45.00000	\$43,875.00
SUBBASE OF CRUSHED GRAVEL, FINE GRADED					
0040	406.38	180.000	SY	\$25.00000	\$4,500.00
HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES					
0045	507.11	900.000	LB	\$2.29218	\$2,062.96
REINFORCING STEEL, LEVEL I					
0050	541.25	6.000	CY	\$1,223.13803	\$7,338.83
CONCRETE, CLASS B					
0055	601.2615	280.000	LF	\$54.03279	\$15,129.18
18" CPEP(SL)					
0060	601.2620	110.000	LF	\$87.07146	\$9,577.86
24" CPEP(SL)					
0065	601.2630	910.000	LF	\$105.00000	\$95,550.00
36" CPEP(SL)					
0070	601.7030	1.000	EACH	\$700.00000	\$700.00
36" CPEPES					
0075	604.20	5.000	EACH	\$5,000.00000	\$25,000.00
PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE					
0080	604.20	4.000	EACH	\$6,000.00000	\$24,000.00
PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE					
0085	604.21	1.000	EACH	\$6,000.00000	\$6,000.00
PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER					

<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>					
0090	613.10	10.000	CY	\$88.41669	\$884.17
STONE FILL, TYPE I					
0095	613.12	110.000	CY	\$53.37122	\$5,870.83
STONE FILL, TYPE III					
0100	616.28	1,420.000	LF	\$15.59252	\$22,141.38
CAST-IN-PLACE CONCRETE CURB, TYPE B					
0105	618.10	870.000	SY	\$62.21577	\$54,127.72
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH					
0110	618.30	40.000	SF	\$43.67158	\$1,746.86
DETECTABLE WARNING SURFACE					
0115	620.50	30.000	LF	\$8.61514	\$258.45
REMOVING AND RESETTING FENCE					
0120	629.20	2.000	EACH	\$257.78805	\$515.58
ADJUST ELEVATION OF VALVE BOX					
0125	630.15	1,400.000	HR	\$33.97475	\$47,564.65
FLAGGERS					
0130	635.11	1.000	LS	\$33,617.17680	\$33,617.18
MOBILIZATION/DEMOBILIZATION					
0135	641.11	1.000	LS	\$15,000.00000	\$15,000.00
TRAFFIC CONTROL, ALL-INCLUSIVE					
0140	646.261	10.000	LF	\$3.00000	\$30.00
24 INCH STOP BAR, WATERBORNE PAINT					
0145	646.311	57.000	LF	\$4.80103	\$273.66
CROSSWALK MARKING, WATERBORNE PAINT					
0150	649.31	30.000	SY	\$5.26129	\$157.84
GEOTEXTILE UNDER STONE FILL					
0155	651.15	35.000	LB	\$11.03158	\$386.11
SEED					
0160	651.18	270.000	LB	\$3.90980	\$1,055.65
FERTILIZER					
0165	651.20	1.000	TON	\$627.00361	\$627.00
AGRICULTURAL LIMESTONE					
0170	651.35	115.000	CY	\$65.72405	\$7,558.27
TOPSOIL					
0175	656.50	2.000	EACH	\$250.00000	\$500.00
TRANSPLANTING SHRUBS					


This figures as 2 Flaggers at 10 hrs/day = 70 days of work. Which is about 14 weeks (not including weekends) and the project is scheduled from May- Nov = 7 months long = about 30 weeks of work providing they only require 2 Flaggers to achieve the work safely for vehicles, pedestrians, bicyclist and workers.



<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>					
0180	656.85	1.000	LS	\$1,000.00000	\$1,000.00
TREE PROTECTION					
0185	675.20	39.000	SF	\$20.26289	\$790.25
TRAFFIC SIGN, TYPE A					
0190	675.341	75.000	LF	\$15.32878	\$1,149.66
SQUARE TUBE SIGN POST AND ANCHOR					
0195	675.50	3.000	EACH	\$19.66854	\$59.01
REMOVING SIGNS					
0200	900.640	55.000	LF	\$160.00000	\$8,800.00
SPECIAL PROVISION (36 INCH PERFORATED CPEP(SL), ALL-INCLUSIVE)					
0205	900.645	1.000	LS	\$1,200.00000	\$1,200.00
SPECIAL PROVISION (YARD DRAIN)					
0210	900.645	1.000	LS	\$1,000.00000	\$1,000.00
SPECIAL PROVISION (STORMWATER CLEANOUT)					
0215	900.645	3.000	LS	\$1,000.00000	\$3,000.00
SPECIAL PROVISION (LATERAL CONNECTION)					
0220	900.680	330.000	TON	\$150.00000	\$49,500.00
SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, HAND-PLACED)					

Total for Group 1011:\$588,021.15

**Group 1051:** EROSION CONTROL

0225	653.10	1.000	TON	\$1,000.00000	\$1,000.00
HAY MULCH 					
0230	653.40	10.000	EACH	\$183.74966	\$1,837.50
INLET PROTECTION DEVICE, TYPE I					
0235	653.41	2.000	EACH	\$157.33295	\$314.67
INLET PROTECTION DEVICE, TYPE II					
0240	653.475	100.000	LF	\$5.00000	\$500.00
SILT FENCE, TYPE I					
0245	653.55	475.000	LF	\$1.53714	\$730.14
PROJECT DEMARCATION FENCE					

Total for Group 1051:\$4,382.31

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

0250	631.16	1.000	LS	\$500.00000	\$500.00
TESTING EQUIPMENT, CONCRETE					

<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>					

0255	631.17	1.000	LS	\$1,000.00000	\$1,000.00
TESTING EQUIPMENT, BITUMINOUS					

Total for Group 1999:\$1,500.00



Contract Documents for

*Pinecrest Drive Sidewalk Construction* – Essex TAP TA15 (4)  
Town of Essex, VT

VT Agency of Transportation 2018 Standard Specifications for Construction shall apply to this contract.

Owner:  
Town of Essex  
Essex Town Office  
81 Main Street  
Essex, VT 05452

XXXXXXXX XX, 2019

**Bid Set No.** _____

need to include most recent Davis-Bacon wage rate schedule

please add the Section 1111 permit and extension as attachments

utility special provisions? (for pole relocations, gas line and water)

have all permit conditions been addressed?

design certification w/ contract plans

utility agreements?

need to include right-of-way plans

does the town have all applicable local, state and federal permits?

will the town provide construction inspection services?

### Table of Contents

- Invitation for Bids
- Instructions to Bidders
- Bid Form
- Special Provisions

complete streets compliance form for file?

### Appendices

- A. Contractors EEO Certification Form CA-109
- B. Debarment & Non-Collusion Affidavit CA-91
- C. Worker Classification Compliance Requirement Form (*Prime Contractor*)
- D. Required Contract Provisions for Federal-Aid Construction, FHWA Form 1273
- E. Standard Federal EEO Specifications, EO 11246
- F. Certification of Federal Aid Contracts, CA-163
- G. Vermont Minimum Labor & Truck Rates
- H. Disadvantaged Business Enterprise (DBE) Policy Contract Requirements, CR-110
- I. General Special Provisions for All Projects dated XXXXX
- J. Example Compliance Bond Form
- K. Example Labor & Materials Bond Form
- L. Project Change Order Form
- M. Standard Title VI/Non-Discrimination Assurances Appendices A and E
- N. Certificate of Workers' Compensation Coverage (*Prime Contractor*)
- O. Work Zone Safety and Mobility Guidance Document

need to update with contract plans

### Project Specific Attachments

- US Department of Labor Davis-Bacon Rates
- **Materials Record & Certification Package** (*Provided by VTrans Project Supervisor*)
- Project Permits
- Right of Way and Utility Clearance

missing. will need 2020 rates

missing

will be requested with contract plans

The following documents are available at:

<https://outside.vermont.gov/agency/VTRANS/external/MAB-LP> (under Federal Aid Projects - Construction Phase)

environmental documents?

- Notice of Award
- Sample Construction Agreement
- Notice to Proceed
- Release of Waiver & Lien

### INVITATION TO BID Essex TAP TA15 (4)

Sealed bids from pre-qualified contractors shall be accepted until **time**, prevailing time on **day and date at location** for construction of the project hereinafter described. Bid



## Essex TAP TA15 (4)

Invitations to Bidder

XXXXXXXX XX, 2019

opening will occur immediately after the bid submittal deadline. The time of receiving and opening bids may be postponed due to emergencies or unforeseen conditions.

Sealed BIDS shall be marked in the lower left hand corner: Bid Documents: Essex TAP TA15 (4).

Each BID must be accompanied by a certified check payable to the Town of Essex for five percent (5%) of the total amount of the BID. A BID bond may be used in lieu of a certified check.

**PREQUALIFICATION OF CONTRACTORS:** All bidders on this project shall be on the Agency of Transportation's prequalified list under the category listed below or shall have submitted a complete prequalification application to the Agency of Transportation, Contract Administration, a minimum of 10 working days prior to the bid opening. For information contact Jon Winter at (802) 622-1267.

All bidders shall be on the current VTRANS Contract Administration pre-qualified list "Contractors List of Bike and/or Pedestrian Path Category". 


Bids submitted by bidders that exceed their Maximum Dollar Capacity Rating (MDCR) as determined by the Vermont Agency of Transportation on an annual basis will be considered non-responsive.

**LOCATION:** Beginning at a point on Pinecrest Drive at the intersection with Suffolk Lane and ends at the intersection with VT Route 2A.

**TYPE OF CONSTRUCTION:** Work to be performed under this project includes: Construction of new sidewalk, curb, stormwater drainage work and other associated work.

**CONTRACT COMPLETION DATE:** The Contract shall be completed on or before **date**.

**OBTAINING PLANS:** Plans may be obtained from the *Blueprints, Etc, 20 Farrell Street, South Burlington, Vermont 05403*. Phone: 802-865-5603 at a cost of **\$75** per set made payable to Blueprints, Etc. Plans are not returnable.

**ENGINEERS ESTIMATE:** For this Proposal the Engineers Estimate falls between \$500,000 and \$700,000. 

**PLANS, SPECIFICATIONS AND PROPOSAL MAY BE SEEN AT THE OFFICE OF:**

1. Town of Essex, 81 Main Street, Essex, VT 05452.
2. *Blueprints, Etc, 20 Farrell Street, South Burlington, Vermont 05403*

# Essex TAP TA15 (4)

Invitations to Bidder

XXXXXXXX XX, 2019

**PREBID CONFERENCE:** A non-mandatory pre-bid conference will be held for the project on **date** and **time** onsite.

**STANDARD SPECIFICATIONS:** This contract is governed by the Vermont Agency of Transportation (“VTrans”) 2018 Standard Specifications for Construction.

**QUESTIONS:** During the advertisement phase of this project all questions shall be addressed solely to Erik Alling, P.E., [erik.alling@stantec.com](mailto:erik.alling@stantec.com), via email only and including the subject line: Essex Pinecrest Drive Sidewalk Project Question. Questions must be submitted no later than **XXXXXX**, at **X:XX**pm prevailing time.

**EQUAL EMPLOYMENT OPPORTUNITY (EEO) CERTIFICATION:** Certification is required by the Equal Employment Opportunity regulations of the Secretary of labor (41 CFR 60-1.7(b) (1)) and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Generally only contracts and subcontracts of \$10,000 or under are exempt as set forth in 41 CFR 60-1.5. See Appendix A for Contractors EEO Certification Form (CA-109). **This certification form must be submitted with the bid.**

**NON-COLLUSION AFFIDAVIT:** All bidders are required to execute a sworn statement, certifying that the bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract. See Appendix B for Debarment and Non-Collusion Affidavit (CA-91). **This affidavit must be submitted with the bid.**

**DEBARMENT AFFIDAVIT:** All bidders are required to execute a sworn statement, certifying that the bidder has not within the last three (3) years been, suspended, debarred, voluntarily excluded or determined ineligible by any Federal or State Agency; does not have a proposed suspension, debarment, voluntary exclusion or ineligibility determination pending; and has not been indicted, convicted or had civil judgment rendered against (it, him, her, them) by a court having jurisdiction in any matter involving fraud or official misconduct within the past three (3) years. See Appendix B for Debarment and Non-Collusion Affidavit (CA-91). **This affidavit must be submitted with the bid.**

**WORKER CLASSIFICATION COMPLIANCE REQUIREMENT FORM (*Prime Contractor*):** All bidders are required to complete this self-reporting form in its entirety and **submit with the bid.**

**NON-DISCRIMINATION IN FEDERALLY ASSISTED CONTRACTS:** The Town of Essex hereby notifies all bidders that it will ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the basis of race, color, religion, sex or national origin for an award. This is consistent with the Town’s requirement to comply with provisions of Title VI.





**DAVIS BACON WAGE REQUIREMENTS:** Bidders agree to abide by the Davis Bacon Wage Rate Schedule, which are appended to these Contract Documents.

**BUY AMERICA REQUIREMENTS:** Buy America requirements of 23 CFR 635.410 are applicable to all Federal-aid construction projects. All steel or iron products permanently incorporated into Federal-aid projects, shall be products that have been entirely manufactured within the United States. All manufacturing processes of the steel or iron material, in a product, must occur within the United States to be considered of domestic origin. This includes process such as rolling, extruding, machining, bending, grinding, and drilling. The action of applying a coating to a material is deemed a manufacturing process subject to Buy America. Coating includes epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of the material.

**INSTRUCTIONS TO BIDDERS**  
**Essex TAP TA15 (4)**

**1. Bid Preparation and Submission**

- a. Bidders are expected to examine the specifications, drawings, all instructions and, the construction site. Failure to do so will be at the bidders' risk.
- b. All bids must be submitted on the forms provided by the municipality. Bidders shall furnish all the information required by the solicitation. Bids must be signed and the bidders name typed or printed on the bid sheet and each continuation sheet which requires the entry of information by the bidder. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence of the agent's authority. (Bidders should retain a copy of their bid for their own records.)
- c. All bids shall be sealed in an envelope which shall be clearly marked with the words "Bid Document," the Invitation to Bid number, any project or other identifying number, the bidder's name, and the date and time for receipt of bids.
- d. This solicitation requires bidding on all items, failure to do so will disqualify the bid.
- e. Unless expressly authorized elsewhere in this solicitation, alternate bids will not be considered.
- f. Unless expressly authorized elsewhere in this solicitation, bids submitted by telegraph, facsimile (fax) machines, or electronically via the internet or email will not be considered.
- g. All blank spaces under the page(s) headed "Bid Form" must be filled in with ink or typewriter in both words and figures indicating the unit price for each respective bid item. The bid total shall also be entered in words and figures.
- h. In case of a discrepancy between a unit price written in words and one entered in figures, the price written in words shall govern.
- i. In case of a discrepancy between the bid total written in words and that entered as a figure, the adjusted figure shall govern.
- j. The estimated quantities are not guaranteed and can be adjusted as needed during the project, but are given as a basis for the comparison of bids.



## **2. Explanation and Interpretation to Prospective Bidders**

- a. Any prospective bidder desiring an explanation or interpretation of the solicitation, specification, drawings, etc., must request it at least 10 days before the scheduled time for bid opening. Requests may be oral or written. Oral requests must be confirmed in writing. The only oral clarifications that will be provided will be those clearly related to solicitation procedures, i.e., not substantive technical information. No other oral explanation or interpretation will be provided. Any information given to a prospective bidder concerning this solicitation will be furnished promptly to all other prospective bidders as a written addendum to the solicitation, if that information is necessary in submitting bids, or if lack of it would be prejudicial to other prospective bidders.
- b. Any information obtained by, or provided to, a bidder other than by formal addendum to the solicitation shall not constitute a change to the solicitation.

## **3. Addendum to Invitation for Bids**

- a. If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.
- b. Bidders shall acknowledge receipt of any addendum to this solicitation by identifying the addendum number and date on the bid form. Bids which fail to acknowledge the bidders receipt of any addendum will result in the rejection of the bid if the addendum (addenda) contained information which substantively changed the municipality's requirements.
- c. Addenda will be on file in the offices of the Municipality at least 5 days before the bid opening.

## **4. Responsibility of Prospective Contractor**

- a. All prospective contractors shall be pre-qualified under the appropriate work category by the Vermont Agency of Transportation, Contract Administration. For this project a current annual prequalification is necessary. The contact for pre-qualification is Jon Winter, Tel: (802) 622-1267. Please note that applications for pre-qualification must be made at least 10 working days prior to the bid opening. Bids submitted by bidders that exceed their Maximum Dollar Capacity Rating (MDCR) as determined by the Vermont Agency of Transportation on an annual basis will be considered non-responsive.

Instructions to Bidders

- b. The VERMONT AGENCY OF TRANSPORTATION “POLICIES AND PROCEDURES FOR PREQUALIFICATION, BIDDING, AND AWARD OF CONTRACTS”, latest edition, Sections 1-6 and 9 are hereby incorporated in these specifications and the contract by reference. Sections 1 through 6 shall not be subject to the changes to the definitions in the Special Provisions.
- c. The Method of Measurement and Basis of Payment for all contract items shall follow the Vermont Agency of Transportation’s (“VTrans”) 2018 Standard Specification for Construction, unless modified in these Contract Documents.
- d. If a bidder submits a unit bid price of zero for a contract bid item, the bid will be declared informal.
- e. A bidder may submit a unit bid price that is obviously below the cost of the item. If the Municipality awards and enters into a contract with a Bidder that has submitted a unit bid price that is obviously below cost, the contractor shall be obligated to perform the work under such item as indicated in the contract documents and/or as directed by the Engineer.
- f. When “Optional Bid Items” are indicated in the proposal bidders shall bid on only one pay item in each group of options, leaving the other pay items in the group without a bid price. If a bidder enters more than one unit price bid in a group of options, only the lowest total price will be considered as the basis of calculation for determining the low bidder and used in the contract.
- g. When “Alternate Bid Items” are indicated in the Proposal bidders must bid on all pay items in each set of “Alternate Bid Items”. Failure to bid on all of the “Alternate Bid Items” in the proposal may result in rejection of the bid.
- h. When the Bid Form for a contract contains pay item(s) which have a quantity of one (1) and a unit price and total price entered, the work will be performed by the contractor according to the contract documents at the unit price listed if such item is determined to be needed by the Engineer.
- i. When it is indicated in the contract documents that payment or costs of work and/or materials are incidental to one or more other contract items (but not to specific other items), such costs shall be included by the bidder in the price bid for all other contract items.

**5. Errors and/or Inconsistencies in Contract Documents**

- a. By submitting a bid, a prospective bidder/contractor certifies that it shall assert no claim, cause of action, litigation, or defense against the Municipality unless notice was provided to the Municipality in writing of any error or

inconsistency discovered in the plans, specifications, and/or contract documents immediately upon discovery of such error or inconsistency.

**6. Availability of Lands for Work, Etc.**

- a. The lands upon which the Work is to be performed, rights of way and easement for access thereto and other lands designated for use by the contractor in performing the Work are identified in the contract documents. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the work are to be obtained and paid for by the Contractor. Easements for permanent structures or permanent changes in the existing facilities are to be obtained and paid for by the Municipality unless otherwise provided for in the contract documents.

**7. Familiarity with Laws, Ordinances and Regulations**

- a. By submitting a bid an entity certifies that it is familiar with all Federal, State and local laws, ordinances and regulations which affect in any way the materials, equipment, haul roads used in or upon the work, the conduct of the work, and the persons engaged or employed in the performance of the work to be performed pursuant to the contract.
- b. By submitting a bid an entity certifies that it shall forthwith report in writing to the Municipality any provision in the plans, specifications or proposed contract that the bidder/contractor believes is in conflict with or inconsistent with any Federal, State or local law, ordinance, or regulation.
- c. By submitting a bid a prospective Bidder certifies that if, during its investigation of the work in the process of preparing its bid, it discovers or encounters subsurface or latent physical conditions at a project site differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, it shall notify in writing the Municipality of the specific differing conditions immediately upon discovering or encountering the differing site conditions.
- d. An entity further certifies that if it fails to notify the Municipality of any differing site conditions as described above, it shall waive any and all rights that it might have to additional compensation from the Municipality for additional work as a result of the differing site conditions and that it shall not bring a claim for additional compensation because of differing site conditions.
- e. By submitting a bid a prospective bidder/contractor certifies that no claim or defense of ignorance or misunderstanding concerning Federal, State or local



laws, ordinances and/or regulations will be employed by a bidder/contractor or considered by the Municipality in claims, litigation, alternative dispute resolution procedures, or other matters concerning the contract for which the bid is submitted.

## **8. Late Submissions, Modifications, and Withdrawal of Bids**

- a. Any bid received at the place designated in the solicitation after the exact time specified for receipt will not be considered.
- b. Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a.) of this provision.
- c. The only acceptable evidence to establish the time of receipt at the Municipality is the time/date stamp of the Municipality on the bid wrapper, or other documentary evidence of receipt maintained by the municipality.
- d. Bids may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before the exact time set for opening of bids: provided that written confirmation of telegraphic or facsimile withdrawals over the signature of the bidder is mailed and postmarked prior to the specified bid opening time. A bid may be withdrawn in person by a bidder or its authorized agent if , before the exact time set for opening of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

## **9. Bid Opening**

- a. All bids received by the date and time specified in the solicitation will be publicly opened and total bid amounts read aloud. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present. In the event of unforeseen circumstances (severe weather, etc.) the Municipality reserves the right to postpone the reading of the bids for that contract. All bids for a contract will be opened at the same time and location at a later date.

## **10. Protests**

- a. This Section sets forth the exclusive protest remedies available with respect to this solicitation. Each Bidder, by submitting its bid, expressly recognizes the limitation on its rights to protest contained herein, expressly waives all other rights and remedies and agrees that the decision on any protest, as provided herein, shall be final and conclusive unless wholly arbitrary. These provisions

Instructions to Bidders

- are included in this solicitation expressly in consideration for such waiver and agreement by the Bidders. Such waiver and agreement by each Bidder are also consideration to each other Bidder for making the same waiver and agreement.
- b. A Bidder may protest any determination regarding the proposed award of a Contract by filing a notice of protest by hand delivery or courier to the Town of Essex Selectboard. Such notice shall be provided: (a) no earlier than the day of Essex issuance of the Notice of Award; and (b) no later than five (5) business days after Essex issuance of the Notice of Award. The notice of protest shall specifically state the grounds of the protest.
  - c. Within seven (7) calendar days of the notice of protest the protesting Bidder must file with the Municipality a detailed statement of the grounds, legal authorities and facts, including all documents and evidentiary statements, in support of the protest. Evidentiary statements, if any, shall be submitted under penalty of perjury. The protesting Bidder shall have the burden of proving its protest by clear and convincing evidence.
  - d. Failure to file a notice of protest or a detailed statement within the applicable period shall constitute an unconditional waiver of the right to protest the evaluation or qualified process and decisions there under.
  - e. Unless otherwise required by law, no evidentiary hearing or oral argument shall be provided, except the Town of Essex Selectboard, in its sole discretion, may decide to permit a hearing or argument if it determines that such hearing or argument is necessary for the protection of the public interest. The Town of Essex Selectboard shall issue a written decision regarding the protest within thirty (30) calendar days after it receives the detailed statement of protest. Such decision shall be final and conclusive.
  - f. If the Town of Essex Selectboard concludes that the Bidder submitting the protest has established a basis for protest, the Town of Essex Selectboard will determine what remedial steps, if any, are necessary or appropriate to address the issues raised in the protest. Such steps may include, without limitation, withdrawing or revising the decisions, issuing a new solicitation or taking other appropriate actions.

**11. Rejection of Bids**

- a. The Municipality may declare a Bid "Informal" and hence rejected if the bid shows any alteration of form, omissions or additions not called for in the bid, lacks proper signatures, is a conditional bid, has alternate bids unless required in the bid, has irregularities of any kind, has changes to the printed

Instructions to Bidders

- content, is submitted on a form not furnished by the Municipality, is incomplete, fails to acknowledge receipt of one or more addendums, or includes a clause in which the bidder reserves a right to accept or reject the contract award.
- b. The Municipality may reject a bid at the time of bid opening or following analysis to confirm the proposal.
  - c. The Municipality may reject any or all bids, waive any or all technicalities, and/or advertise for new bids if the municipality, in consultation with VTTrans, determines that the best interests of the Municipality, or the awarding authority, will be served.
  - d. The Municipality will reject a bid submitted without a completed Debarment and Non-Collusion Affidavit.
  - e. The Municipality will reject a bid submitted without a signed Contractors Equal Employment Certification Form.
  - f. The Municipality will reject a bid submitted without a Bid Bond.
  - g. The Municipality will reject a bid submitted by a bidder that exceeds their Maximum Dollar Capacity Rating (MDCR) as determined by the Vermont Agency of Transportation on an annual basis.
  - h. The Municipality will reject bids which fail to acknowledge the bidder's receipt of any addendum if the addendum (addenda) contained information which substantively changed the municipality's requirements.
  - i. The Municipality will decide whether any bid prices are unbalanced above or below a reasonable cost analysis value as determined by its Municipal Project Manager. Bids in which bid prices are unbalanced, mathematically and/or materially, may be rejected at the sole discretion of the Municipality. For purposes of this subsection "mathematically unbalanced bid" and "materially unbalanced bid" shall have the same meaning as in 23 CFR Part 635 – Construction and Maintenance.
  - j. Prospective bidders may be disqualified for various reasons including (a) Submission of more than one proposal for the same work by an entity under the same or different names, (b) Evidence of collusion among bidders, or (c) Any other cause for suspension or debarment as detailed in the Agency's policy and Procedures on Debarment, Code of Vermont Rules (CVR), Volume 8A, 14 010 004, pages 1-10.



## 12. Contract Award

- a. The municipality will evaluate bids in response to this solicitation without discussions and will award a contract to the lowest responsive and responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the municipality considering only price and any price related factors specified in the solicitation.
- b. Opened bids will be considered and submitted bids confirmed on the basis of the summation of the products of the quantities shown in each bid's Schedule of Items multiplied by the unit prices bid. In the event of a discrepancy between the written bid amount and the alpha numeric figure, the written amount shall govern. In the event of a discrepancy between a unit price and the calculated extension, the product based on the unit price bid and the mathematically correct summation of the products shall govern.
- c. The municipality may reject any and all bids, waive any or all technicalities, and/or advertise for new bids if the municipality, in consultation with VTrans, determines that the best interests of the municipality will be served.
- d. The municipality may reject any bid as nonresponsive if it is materially unbalanced as to the prices for the various items of work to be performed. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.
- e. A written award shall be furnished to the successful bidder within the period for acceptance specified in the bid and shall result in a binding contract without further action by either party.
- f. Prior to signing a construction contract, the successful bidder must submit a current Certificate of Good Standing from the Vermont Secretary of State's office.

## 13. Bid Guarantee

- a. All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government Bonds at par value, or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the State of Vermont. Certified checks and bank drafts must be made payable to the order of the municipality. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. **Failure to submit a bid guarantee with the bid shall result**

**in rejection of the bid.** Bid guarantees of the two lowest bidders that have submitted bids that comply with all the provisions required to render them formal will be retained until the contract and bonds have been signed by all parties. Bid guarantees submitted by the remaining unsuccessful bidders will be returned as soon as practicable after bid opening. Should no award be made within thirty-one calendar days following the opening of bids, thirty-two if the thirty-first day is a state holiday, all bids may be rejected and all guarantees may be returned.

#### 14. Contract Bonds

- a. A successful bidder entering into a contract for any portion of the work included in a bid shall provide the Town sufficient surety in the form of; 1) a labor and materials bond, and 2) a compliance bond, both as required by 19 V.S.A. Section 10(8) and (9).
- b. Each bond shall be in a sum equal to one hundred percent (100%) of the contract awarded.
- c. The labor and materials bond shall guarantee the payment in full of all bills and accounts for materials and labor used in the work as well as other obligations incurred in carrying out the terms of the contract.
- d. The compliance bond shall guarantee the faithful performance and completion of the work to be done under the contract as well as compliance with all provisions of the contract.
- e. The form of the bond shall be that provided by the Municipality, and the surety shall be acceptable to the State. The bonds shall be procured from an insurance company registered and licensed to do business in the State of Vermont.

#### 15. Signing the Contract

- a. The entity to which the Contract has been awarded shall sign the contract documents and return them to the Municipality within thirty (30) calendar days from the date of the Notice of Award. No contract shall be considered effective until it has been fully executed by all parties.
- b. Failure to comply with any of the requirements of these provisions relative to signing the contract or failure to furnish the required surety within fifteen (15) calendar days after notice of award shall be just cause for the annulment of the award or of the contract and/or forfeiture of the bid guarantee/bid bond. Further, if the award or the contract is annulled, or if the contract is not awarded due to in(action) of the lowest responsible bidder that has submitted a bid that complies with all the provisions required to make it formal, the bid

Instructions to Bidders

- guarantee accompanying the bid shall become the property of the Municipality, not as a penalty but as liquidated damages.
- c. If the award or the contract is annulled, the Municipality may award the contract to the next lowest responsible bidder that has submitted a bid that complies with all the provisions required to make it formal or advertise a new request for bids for the contract(s).
  - d. Failure by the contractor to sign the contract within the time provided by this Subsection shall not be reason for an extension of the contract completion date.

### 16. Taxes and Insurance Requirements

Taxes and insurance for this project shall be in conformance with Section 103 of the VTrans 2018 Standard Specifications for Construction.

### 17. Prompt Pay Compliance

- a. Vermont's Prompt Pay Statute requires payment from primes to subs within 7 days of primes receiving payment. Vermont State Statutes Annotated, Title 9, §4003 provides: "Notwithstanding any contrary agreement, when a subcontractor has performed in accordance with the provisions of its contract, a contractor shall pay a subcontractor, and each subcontractor shall in turn pay its subcontractors, the full or proportional amount received for each such subcontractor's work and materials based on work completed or service provided under the subcontractor, seven days after receipt of each progress or final payment or seven days after receipt of the subcontractor's invoice, whichever is later."

### 18. Preconstruction Conference

- a. After award of a contract under this solicitation and prior to the start of work, the successful bidder will be required to attend a preconstruction conference with representatives of the Municipality, Design and/or Resident Engineer, Municipal Project Manager (MPM), and the VTrans Project Supervisor, and other interested parties convened by the Municipality's engineer/representative. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The municipality will provide the successful bidder with the date, time and place of the conference. **Note:** If the specific material testing and certification requirements are not included elsewhere in



the contract documents, they will be provided by the Municipality to the contractor at the preconstruction conference.

## 19. Waste Borrow and Staging Areas

- a. The opening and use of offsite waste, borrow and staging areas shall follow the provisions of Section 105.25 of the VTrans Standard Specifications for Construction, 2018 Edition.
- b. The Contractor and/or property owner shall obtain all necessary permits and clearances prior to using off site waste, borrow or staging areas. In addition all off site waste borrow and staging areas must be reviewed and approved by the VTrans Environmental Section prior to use. Application should be made at least 21 calendar days prior to planned utilization. No work will be performed at offsite waste borrow or staging areas without written approval of the VTrans Environmental Section. The forms for either documenting an exempt site or applying for review of a site may be found on the VTrans web site at: <http://vtrans.vermont.gov/working/offsite-activity>

## 20. DBE Requirements

There are to be no mandatory Contract goals for DBE compliance on this project.

## 21. Contaminated Soils

If contaminated soils or groundwater are encountered during the course of construction, the Contractor is directed to contact: Mr. Andy Shively, Hazardous Material and Waste Coordinator, of the Vermont Agency of Transportation at [andy.shively@vermont.gov](mailto:andy.shively@vermont.gov) or by phone at . (802) 229-8740 or by pager at (802) 250-4666.

## 22. Contract Documents

See Sample Construction Contract below for contract documents to be included.

<https://outside.vermont.gov/agency/VTRANS/external/MAB-LP/SitePages/FinalPlans,SpecificationsAndEstimate.aspx>

# Essex TAP TA15(4)

## Instructions to Bidders

[Pick the date]

In the event that a bidder suspects or determines the proposal is incomplete, notify Erik Alling, P.E., [erik.alling@stantec.com](mailto:erik.alling@stantec.com) .

**BID FORM**  
**Pinecrest Drive Sidewalk Construction**  
**Essex TAP TA15 (4)**

Proposal of _____  
(hereinafter called Bidder), organized and existing under the laws of the State of _____ doing business as _____  
(a corporation, a partnership, of an individual)

To the Town of Essex, Vermont (hereinafter called Owner)

The Bidder represents that this bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation. The bidder has not directly or indirectly induced or solicited any other bidder to submit a false bid. Bidder has not solicited or induced any person, firm or corporation to refrain from bidding and the bidder has not sought by collusion to obtain for himself any advantage over any other bidder or Owner.

It is essential that all forms that require signature as part of the final Bid Submission be filled out and signed or the Bid itself will be invalid:

- Contractors EEO Certification Form CA-109 – Appendix A
- Debarment & Non-Collusion Affidavit CA-91 – Appendix B
- Worker Classification Compliance Requirement (Prime Contractor) – Appendix C

The undersigned bidder proposed and agrees, if this bid is accepted, to enter into an agreement with Owner to furnish all materials and to complete all work as specified or indicated in the Contract Documents for the contract price and within the contract time indicated in this bid and in accordance with the Contract Documents.

The undersigned bidder, by submission of this bid, certifies that the total base bid does not exceed their total Maximum Dollar Capacity Rating (MDCR) as determined by the Vermont Agency of Transportation on an annual basis.

Bidder hereby agrees to commence Work under this contract on the date of issuance of the Notice to Proceed and that the Final Completion date for this contract is **INSERT DATE**.



Bid Form

Bidder acknowledges receipt of the following Addenda:

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bid form must match  
quantity sheets and  
estimate

Bidder agrees to perform all the Work described in the Contract Documents for the following schedule of prices. Unqualified bids will not be accepted.

**VTRANS**

ITEM #	ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
203.15	COMMON EXCAVATION	CY	1000	\$ _____	\$ _____
	Unit Price in Words _____				
203.16	SOLID ROCK EXCAVATION	CY	55	\$ _____	\$ _____
	Unit Price in Words _____				
204.20	TRENCH EXCAVATION OF EARTH	CY	1975	\$ _____	\$ _____
	Unit Price in Words _____				
204.21	TRENCH EXCAVATION OF ROCK	CY	105	\$ _____	\$ _____
	Unit Price in Words _____				
204.22	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	CY	1	\$ <u>75.00</u>	\$ <u>75.00</u>
	Unit Price in Words <u>Seventy-five Dollars</u>				
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	975	\$ _____	\$ _____
	Unit Price in Words _____				
406.38	HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES	SY	180	\$ _____	\$ _____
	Unit Price in Words _____				
507.11	REINFORCING STEEL, LEVEL I	LB	900	\$ _____	\$ _____
	Unit Price in Words _____				

Essex TAP TA15(4)

XXXX XX, 2019

Bid Form

541.25	CONCRETE, CLASS B				
		CY	6	\$ _____	\$ _____
	Unit Price in Words	_____			
601.2615	18" CPEP(SL)				
		LF	280	\$ _____	\$ _____
	Unit Price in Words	_____			
601.2620	24" CPEP(SL)				
		LF	110	\$ _____	\$ _____
	Unit Price in Words	_____			
601.2630	36" CPEP(SL)				
		LF	910	\$ _____	\$ _____
	Unit Price in Words	_____			
601.7030	36" CPEPES				
		EACH	1	\$ _____	\$ _____
	Unit Price in Words	_____			
604.20	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE				
		EACH	9	\$ _____	\$ _____
	Unit Price in Words	_____			
604.21	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER				
		EACH	1	\$ _____	\$ _____
	Unit Price in Words	_____			
613.10	STONE FILL, TYPE I				
		CY	10	\$ _____	\$ _____
	Unit Price in Words	_____			
613.12	STONE FILL, TYPE III				
		CY	110	\$ _____	\$ _____
	Unit Price in Words	_____			
616.28	CAST-IN-PLACE CONCRETE CURB, TYPE B				
		LF	1420	\$ _____	\$ _____
	Unit Price in Words	_____			
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH				
		SY	870	\$ _____	\$ _____
	Unit Price in Words	_____			
618.30	DETECTABLE WARNING SURFACE				
		SF	40	\$ _____	\$ _____
	Unit Price in Words	_____			
620.50	REMOVING AND RESETTING FENCE				
		LF	30	\$ _____	\$ _____
	Unit Price in Words	_____			
629.20	ADJUST ELEVATION OF VALVE BOX				
		EACH	2	\$ _____	\$ _____
	Unit Price in Words	_____			

Essex TAP TA15(4)

XXXX XX, 2019

Bid Form

630.15	FLAGGERS	HR	1400	\$ _____	\$ _____
	Unit Price in Words _____				
631.16	TESTING EQUIPMENT, CONCRETE	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
631.17	TESTING EQUIPMENT, BITUMINOUS	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
635.11	MOBILIZATION/DEMOBILIZATION	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
641.11	TRAFFIC CONTROL, ALL-INCLUSIVE	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
646.261	24 INCH STOP BAR, WATERBORNE PAINT	LF	10	\$ _____	\$ _____
	Unit Price in Words _____				
646.311	CROSSWALK MARKING, WATERBORNE PAINT	LF	57	\$ _____	\$ _____
	Unit Price in Words _____				
649.31	GEOTEXTILE UNDER STONE FILL	SY	30	\$ _____	\$ _____
	Unit Price in Words _____				
651.15	SEED	LB	35	\$ _____	\$ _____
	Unit Price in Words _____				
651.18	FERTILIZER	LB	270	\$ _____	\$ _____
	Unit Price in Words _____				
651.20	AGRICULTURAL LIMESTONE	TON	1	\$ _____	\$ _____
	Unit Price in Words _____				
651.35	TOPSOIL	CY	115	\$ _____	\$ _____
	Unit Price in Words _____				
653.10	HAY MULCH	TON	1	\$ _____	\$ _____
	Unit Price in Words _____				
653.40	INLET PROTECTION DEVICE, TYPE I	EACH	10	\$ _____	\$ _____
	Unit Price in Words _____				



Bid Form

653.41	INLET PROTECTION DEVICE, TYPE II	EACH	2	\$ _____	\$ _____
	Unit Price in Words _____				
653.475	SILT FENCE, TYPE I	LF	100	\$ _____	\$ _____
	Unit Price in Words _____				
653.55	PROJECT DEMARCATION FENCE	LF	475	\$ _____	\$ _____
	Unit Price in Words _____				
656.20	EVERGREEN TREES	EACH	1	\$ _____	\$ _____
	Unit Price in Words _____				
656.35	DECIDUOUS SHRUBS	EACH	15	\$ _____	\$ _____
	Unit Price in Words _____				
656.85	TREE PROTECTION	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
675.20	TRAFFIC SIGN, TYPE A	SF	39	\$ _____	\$ _____
	Unit Price in Words _____				
675.341	SQUARE TUBE SIGNPOST AND ANCHOR	LF	75	\$ _____	\$ _____
	Unit Price in Words _____				
675.50	REMOVING SIGNS	EACH	3	\$ _____	\$ _____
	Unit Price in Words _____				
900.640	SPECIAL PROVISION (36 INCH PERFORATED CPEP(SL), ALL-INCLUSIVE)	LF	55	\$ _____	\$ _____
	Unit Price in Words _____				
900.645	SPECIAL PROVISION (LATERAL CONNECTION)	LS	3	\$ _____	\$ _____
	Unit Price in Words _____				
900.645	SPECIAL PROVISION (STORMWATER CLEANOUT)	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
900.645	SPECIAL PROVISION (YARD DRAIN)	LS	1	\$ _____	\$ _____
	Unit Price in Words _____				
900.680	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, HAND-PLACED)	TON	330	\$ _____	\$ _____



ATTEST _____

LS = lump sum

EA = each

SY = square yard

SF = square feet

CWT = hundredweight

GAL = gallon

HR = hour

LU = lump unit

CY = cubic yard

LF = linear foot

TON = ton

MGAL = thousand gallons

LB = pound





### **PROJECT SPECIAL PROVISIONS**

In case of discrepancy, precedence of the Contract Documents will follow be determined by Section 105.05 of the latest edition of the VTrans Standard Specifications for Construction.

**UTILITIES.** The Contractor is advised to use caution when working around aerial or underground utilities to protect the facilities from damage.

Employees or agents of utility companies are to be allowed free and full access within the project limits with the tools, materials, and equipment necessary to install, operate, maintain, place, replace, relocate, and remove their facilities.

There will be no extra compensation paid to the Contractor for any inconvenience caused by working around and with utilities.

Act No. 86 of 1987 (30 VSA Chapter 86) (“Dig Safe”) requires that notice be given prior to making an excavation. It is suggested that the Permit Holder or his/her contractor telephone 1-888-344-7233 at least 48 hours before, and not more than 30 days before, beginning any excavation at any location.



Should the Contractor desire additional adjustments of the utility facilities for his/her convenience, proper arrangements shall be made in conformance with Subsection 105.07 of the Standard Specifications for Construction.

**NOTICE TO BIDDERS – TEMPORARY CONSTRUCTION SIGNS.** All temporary construction signs shall meet the following requirements:

- (a) Where sign installations are not protected by guardrail or other approved traffic barriers, all sign stands and post installations shall meet National Cooperative Highway Research Program (NCHRP) Report 350 or the AASHTO Manual for Assessing Safety Hardware (MASH). The appropriate resource shall be determined as described in the MASH publication.
- (b) As a minimum, roll up sign material shall have ASTM D 4956 Type VI fluorescent orange retroreflective sheeting.
- (c) All post-mounted signs and solid substrate portable signs shall have ASTM D 4956 Type VII, Type VIII, or Type IX fluorescent orange retroreflective sheeting.
- (d) All retroreflective sheeting on traffic cones, barricades, and drums shall be at a minimum ASTM D 4956 Type III sheeting.

Project Name and Number

[Pick the date]

Special Provisions

(e) All stationary signs shall be mounted on two 3 lb/ft flanged channel posts or 2 inch square steel inserted in 2-1/4" galvanized square steel anchors. No sign posts shall extend over the top edge of sign installed on said posts.

(f) Construction signs shall be installed so as to not interfere with nor obstruct the view of existing traffic control devices, stopping sight distance, and corner sight distance from drives and town highways.

(g) Speed zones, if used, should be a maximum of 10 mph below existing posted speeds. Temporary speed limit certificates must be approved by the Chief Engineer on State highways and can be approved by the governing municipality on local roads.

**NOTICE TO BIDDERS.** All retroreflective sheeting on permanent signs (signs to remain after the project is completed) shall be at a minimum ASTM Type III sheeting, unless otherwise shown on the Plans.

**NOTICE TO BIDDERS – GENDER-FREE SINGLE OCCUPANCY**

**RESTROOMS.** The Contractor shall comply with all of the requirements of Vermont Act 127 (H.333) relating to the designation and signage of single-user toilet facilities in public buildings or places of public accommodation. Any such facilities may be identified by a sign, provided that the sign marks the facility as a restroom and does not indicate any specific gender.

**NOTICE TO BIDDERS – CONTAMINATED SHARPS (HYPODERMIC**

**NEEDLES).** The Contractor is hereby notified that there are an increasing number of hypodermic needles (also known as contaminated sharps) being found throughout Vermont, and there is the potential to find them along any project. In accordance with Section 107.05, Sanitary Provisions, the Contractor is required to provide a neat and sanitary working environment for each of its employees and workers at no additional cost to the Agency.

The Contractor may reach out to local Police, the Town Health Officer or the Vermont Department of Health at <https://dec.vermont.gov/content/safe-disposal-sharps> for guidance.

If the sharps are located in an area where work is required, the Contractor shall dispose of the sharps in accordance with OSHA Standard 1910.1030 for blood borne pathogens. OSHA has an e-tool for disposal of sharps on their website as well. The standard can be found at the following link:

[https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051).

Project Name and Number

[Pick the date]

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If the sharps are not in an area where the Contractor or workers will come into contact with them, it is best practice to avoid them altogether. The area can be marked and workers should be notified to stay out of the area.

**NOTICE TO BIDDERS: As of 2018, emerald ash borer (EAB)**, *Agrilus planipennis*, has been confirmed within Vermont's borders.

To provide an assurance of compliance with state and federal EAB laws the contractor shall adhere to the following:

Known EAB infestation areas are changing rapidly. Therefore the Contractor shall consult the online version of the EAB Infested Area Map (Located here: [www.vtinvasives.org/land/emerald-ash-borer-vermont](http://www.vtinvasives.org/land/emerald-ash-borer-vermont)) on the same day cutting is to occur. If the project is located with an EAB infested area, ALL tree material, regardless of species, within the project area shall be handled in accordance with a document developed by the Vermont Department of Forests, Parks and Recreation and the Vermont Agency of Agriculture titled "Recommendations to SLOW THE SPREAD of Emerald Ash Borer When Moving Ash from the Infested Area", (<https://vtinvasives.org/sites/default/files/images/SlowSpreadWoodVT.pdf>). Tree material shall not be moved out of state.

Alternatively, the Contractor may choose to hire a qualified professional (Arborist certified by the International Society of Arboriculture or Licensed Forester), at their own expense, to identify the presence of ash trees. Those identified ash trees would be subject to the above referenced recommendations, however other tree species would not.

The Contractor is also hereby made aware of the same potential restrictions as they relate to proposed Waste, Borrow and Staging areas under Section 105.25 Control of Waste, Borrow, and Staging Areas.

need to include this memo

**NOTICE TO BIDDERS – ENVIRONMENTAL COMMITMENTS.** Contract Commitments as written – found on Environmental Commitments Memo.

**HIGHWAY PARKING RESTRICTIONS.** Only such trucks and equipment as are necessary for the construction of this project will be permitted to stop or park on the shoulders or right-of-way of the highway. All trucks or equipment so stopped or parked shall be at least 4 feet from the edge of the thru traffic lanes. Parking or stopping on the traveled portion of the roadway will not be permitted unless authorized by the Engineer to meet field conditions.

Private automobiles or workers will not be permitted to stop or park on the shoulders or right-of-way of the highway.

Project Name and Number

[Pick the date]

Special Provisions

Each of the Contractor's trucks or equipment used for the construction of this project and permitted to park or stop as provided above shall be equipped with flashing light signals on the front and rear and the signals shall be operating at all times when parked or stopped on the highway unless otherwise authorized by the Engineer.

The flashing light signals shall be visibly distinct from and physically separate from the hazard warning system required by Federal and State motor vehicle laws and regulations. At least one of these flashing light signals shall be visible to traffic approaching from any angle at all times.

Qualified traffic control personnel shall be employed whenever the Contractor's vehicles or equipment (including that which belongs to the individual workers) enter or leave the traffic flow. All movement, in or out of the traffic flow, shall be with the flow of traffic.

### **SECTION 101 – DEFINITIONS**

**101.02, DEFINITIONS**, are hereby modified by deleting the existing following definitions and replacing as follows:

**AGENCY** – Wherever the word Agency appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Town of Essex, except when referenced to documents or publications.

**BOARD** – Wherever the term Board or Transportation Board appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Transportation Board of the State of Vermont or its successor.

**CALENDAR DAY** – Any day shown on the calendar, beginning and ending at midnight.

**CHANGE ORDER** – A document recommended by the Engineer, signed by the Contractor and the Municipality, and approved by the Agency of Transportation authorizing changes in the plans or quantities or both, establishing the basis of payment and time adjustments for the Work affected by the changes.

**CONSTRUCTION ENGINEER** – Wherever the term Construction Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Municipal Project Manager and/or Full Time Employee in Responsible Charge.

**CONTRACT COMPLETION DATE** - The calendar date specified in the Contract and as adjusted by Change Order when applicable, by which the Contractor shall achieve Substantial Completion.

**CONTRACT** –



Project Name and Number

[Pick the date]

Special Provisions

The written agreement between the Municipality and the Contractor setting forth the obligations of the parties relative to the performance of the work. The Contract includes the Contract agreement, Contract Bonds, Project permits, Project Special Provisions, Contract Plans, General Special Provisions, Standard Drawings, Supplemental Specifications, the Standard Specifications for Construction, and any Supplemental Agreements or supporting documents that are required to complete the work in an acceptable manner.

**CONTRACT BOND(S)** –

The approved forms of security, signed, notarized and furnished by the Contractor and the Contractor's Surety or Sureties, guaranteeing complete performance of the Contract, compliance with the Contract, and the payment of all legal debts pertaining to the construction of the Project or work.

**CONTRACTOR(S)** –

The individual, partnership, firm, corporation, any acceptable combination thereof, or a joint venture which is a party to the Contract with the Agency which is undertaking the performance of the work under the terms of the Contract and acting directly or through its agent(s) or employee(s). The term "Contractor" means the prime Contractor as differentiated from a Subcontractor. All Contractors must be registered with the Vermont Secretary of State. The Contractor will act in an independent capacity and not as officers or employees of the State.

**ENGINEER** – Wherever the term Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Resident Engineer (RE).

**GENERAL SPECIAL PROVISIONS** – Approved additions and revisions to the Standard Specifications for Construction approved pursuant to the Specification approval process.

**MATERIALS MANAGER** – Whenever the term Materials Manager appears on the plans, in any specification, or in the Contract, it shall be read as, and shall mean; Stantec Consulting, Inc.

**PROPOSAL FORM** – Whenever the term Proposal Form appears on the plans, in any specification, or in the Contract it shall be read as, and shall mean; the BID FORM unless specifically referenced otherwise in these Special Provisions.

**REGIONAL CONSTRUCTION ENGINEER** – Whenever the term Regional Construction Engineer appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Director of Public Works

**RESIDENT ENGINEER** – An entity employed by the Municipality to perform supervisory duties including the oversight of testing services on the project.

Project Name and Number

[Pick the date]

Special Provisions

**SECRETARY** – Wherever the term Secretary appears on the plans, in any specification, or in the contract it shall be read as, and shall mean; the Town of Essex Selectboard.

**PROJECT SPECIAL PROVISIONS** – Additions and revisions to the Standard Specifications for Construction, Supplemental Specifications, General Special Provisions applicable to the Contract, as well as other provisions specific to the Contract. Also referred to as Special Provisions.

**SPECIFICATIONS** – The compilation of provisions and requirements for the performance of prescribed work including the Standard Specifications for Construction, Supplemental Specifications, General Special Provisions, Project Special Provisions, and other requirements included in the contract.

**STANDARD SPECIFICATIONS or STANDARD SPECIFICATIONS FOR CONSTRUCTION** – The Vermont Agency of Transportation book entitled Standard Specifications For Construction and the specifications included therein, as approved for general and repetitive use and application in Agency/Municipal projects.

**STATE** – Wherever the term State appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean; the Town of Essex Selectboard.

**SURETY** – An individual or legal entity acceptable to the Town executing the bond or bonds furnished by the bidder or contractor.

**WORK** – The furnishing of all labor, materials, equipment, and incidentals necessary or convenient to the successful completion of a project and the carrying out of all duties and obligations imposed by a contract.

**WORKING DAY** –

Weekdays during the Construction Season during which construction operations may proceed. If the Contractor works on Saturdays, Sundays, holidays, or during the Seasonal Closure Period, those days will be considered Working Days.

**ADD TO DEFINITION LIST IN 101.02, DEFINITIONS**, the following definitions:

**ADDENDUM (addenda)** – Contract revisions developed after advertisement and before opening bids.

**ADVERTISEMENT** – A public announcement, inviting bids for work to be performed or materials to be furnished.

**AGREEMENT** – The written instrument which is evidence of the agreement between the Municipality and the Contractor.

Project Name and Number

[Pick the date]

Special Provisions

**AWARD** – The formal acceptance by the Municipality of a bid.

**BID** – The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

**BID BOND** – A bid guarantee as outlined in the Instructions to Bidders for Contracts.

**BIDDER** – The individual, partnership, firm, corporation, or any combination thereof, or joint venture, submitting a Bid in accordance with the bidding requirements.

**CONTRACT TIME** – The time allowed for completion of the contract including authorized time extensions.

**INCIDENTAL AND INCIDENTAL ITEM** – These terms are used to indicate work for which no direct payment will be made. Such work is considered to be incidental to items having contract prices, and the bid prices submitted by the contractor shall be sufficient to absorb the cost of all work designated as incidental or as incidental items.

**INVITATION FOR BIDS** – An advertisement for receiving bids for all work and/or materials on which bids are invited from prospective contractors.

**MUNICIPAL PROJECT MANAGER** – A person or firm employed or appointed by the Municipality to provide administrative services for the project.

**NOTICE OF AWARD** – The written notice of the acceptance of the Bid from the Owner to the successful Bidder.

**OWNER** – Town of Essex

**PREQUALIFICATION:**

**Annual Prequalification** – The Agency of Transportation process by which an entity is generally approved to bid on contracts advertised by the Local Project Sponsor. Depending on the project size annual prequalification may be the only prequalification necessary.

**Contract Specific Prequalification** – The process by which an entity is approved to bid on a specific contract determined by the Municipality to be of a size or scope to warrant more than an Annual Prequalification.

**PREQUALIFICATION ADMINISTRATOR** – An Agency of Transportation employee charged with administration of the prequalification process for the Prequalification Committee.

Project Name and Number

[Pick the date]

Special Provisions

**PROPOSAL** – The offer of a bidder, on the prescribed form, to perform work and/or provide materials at the price quoted in the offer.

**PROPOSAL FORM** – The prescribed form on which the Municipality requires the Bid be submitted.

**PROPOSAL GUARANTEE** – The security furnished with a bid to ensure that the bidder will enter into a contract if the bidder's proposal is accepted by the Municipality.

**SUBCONTRACTOR** – An individual or legal entity to which the contractor sublets a part of the work included in the contract.

**TESTING FIRM** – An independent firm employed by the Municipality or Resident Engineer to perform all sampling and testing of materials as specified in the Contract Documents and as defined in the VTrans Qualified Laboratory Program.

## **SECTION 105 CONTROL OF THE WORK**

**105.09 CONSTRUCTION STAKES, Part (a) Initial Layout, (b) Layout of Subgrade and (c) Permanent Marking Layout** delete these paragraphs in their entirety and replace with the following:

Horizontal and vertical control information for the project is shown on the project plans or shall be based on existing conditions. The information is sufficient to enable the Contractor to stake the project. The Contractor shall perform all staking requirements for the proposed work. The Contractor will be responsible for the accuracy and preservation of the staking.

**105.20 CLAIMS FOR ADJUSTMENT , ( c) Claims Procedure;** Delete the second, third and fourth sentence and replace with the following:

-Claims must be evaluated first by the Engineer and then by the Municipal Project Manager. Should a claim be ruled in favor of the Contractor, it will be allowed, in whole or in part, and paid as provided in the Contract. Should a claim be denied in whole or in part by the Municipal Project Manager the Contractor may appeal to the governing body of the project sponsor. Should a claim be denied in whole or in part by the governing body of the project sponsor, the Contractor may appeal to the Chief Engineer.

(d) Claims Documentation Requirements; In the first sentence, replace Construction Engineer with Municipal Project Manager.

## **SECTION 106 – CONTROL OF MATERIAL**



**106.03 SAMPLES AND TESTS.** Add the following two paragraphs to the beginning:

An independent firm employed by the Municipality or Resident Engineer to perform all sampling and testing of materials as specified in the Contract Documents and as defined in the VTrans Qualified Laboratory Program, shall be responsible for all acceptance sampling and testing of materials and completed work.

The Contractor shall be responsible for their Quality Control. The cost of their Quality Control shall be considered incidental to the payment items in the bid. Any sampling, testing, retesting, and submission of reports and certifications by the Contractor as required by the contract documents and plans shall be considered incidental to the payment items in the bid.

Change the last word in the first paragraph from Agency to Municipality.

Delete the first sentence of the second paragraph and replace with the following:

Samples will be taken and testing performed by certified personnel of the testing firm in accordance with the requirements of the latest edition of the Vermont Agency of Transportation's Quality Assurance Program and Material Sampling Manual.

Modify the last sentence of the third paragraph to read as follows:

Copies of all test results shall be forwarded directly to the Resident Engineer and the Contractor by the testing firm.

### CULVERTS AND STORM DRAINS

DESCRIPTION. This work shall consist of furnishing and installing culverts and storm drains, hereinafter referred to as pipe, at locations shown on the plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 601 of the Standard Specifications.

MATERIAL. Materials shall meet the requirements of the following Subsection:

Corrugated Polyethylene Pipe.....710.03

Project Name and Number

[Pick the date]

Special Provisions

METHOD OF MEASUREMENT. The quantity of pipe of the type and size specified to be measured for payment will be the number of linear feet installed in the complete and accepted work, as shown on the Plans or as directed by the Engineer.

BASIS OF PAYMENT. The accepted quantity of pipe of the type and size specified will be paid for at the respective Contract unit price per linear foot. Payment will be full compensation for furnishing, transportation, handling, placing the material specified to include coupling bands, joint material, and cutting when necessary; excavation; backfill; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

The accepted quantity of Special Provision (36" Perforated CPEP(SL), All-Inclusive) shall also include geotextile for underdrain trench lining and drainage aggregate as shown in the Plans.

Payment for excavation will be made separately under Contract item 204.20 Trench Excavation of Earth.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.640 Special Provision (36 Inch Perforated CPEP(SL), All-Inclusive)	Linear Foot

YARD DRAIN

DESCRIPTION. This work shall consist of furnishing and installing yard drains, at locations shown on the plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 601 of the Standard Specifications.

MATERIAL. Materials shall meet the requirements of the following Subsection:

Polyvinyl Chloride (PVC) Plastic Pipe.....710.06

METHOD OF MEASUREMENT. The quantity of Special Provision (Yard Drain) to be measured for payment will be on a lump sum basis for the complete and accepted work.

Project Name and Number

[Pick the date]

Special Provisions

BASIS OF PAYMENT. The accepted quantity of Special Provision (Yard Drain) will be paid for at the Contract lump sum price.

Payment will be full compensation for installing a complete yard drain system and materials and labor in accordance with the Contract Documents, and for furnishing, transportation, handling, placing the material specified to include pipe, elbows, coupling bands, joint material, and cutting when necessary; excavation; backfill; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.645 Special Provision (Yard Drain)	Lump Sum

STORMWATER CLEANOUT

DESCRIPTION. This work shall consist of furnishing and installing yard drains at locations shown on the plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 601 of the Standard Specifications.

MATERIAL. Materials shall meet the requirements of the following Subsection:

- Corrugated Polyethylene Pipe.....710.03
- Polyvinyl Chloride (PVC) Plastic Pipe.....710.06

METHOD OF MEASUREMENT. The quantity of Special Provision (Stormwater Cleanout) to be measured for payment will be on a lump sum basis for the complete and accepted work.

BASIS OF PAYMENT. The accepted quantity of Special Provision (Stormwater Cleanout) will be paid for at the Contract lump sum price.

Payment will be full compensation for installing a complete yard drain system and materials and labor in accordance with the Contract Documents, and for

Project Name and Number

[Pick the date]

Special Provisions

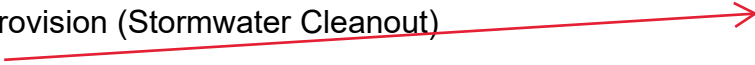
furnishing, transportation, handling, placing the material specified to include pipe, elbows, reducers, coupling bands, joint material, and cutting when necessary; excavation; backfill; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item

Pay Unit

900.645 Special Provision (Stormwater Cleanout)  
Lump Sum



LATERAL CONNECTION

DESCRIPTION. This work shall consist of furnishing and installing yard drains at locations shown on the plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 601 of the Standard Specifications.

MATERIAL. Materials shall meet the requirements of the following Subsection:

Polyvinyl Chloride (PVC) Plastic Pipe.....710.06

METHOD OF MEASUREMENT. The quantity of Special Provision (Lateral Connection) to be measured for payment will be on a lump sum basis for the complete and accepted work.

BASIS OF PAYMENT. The accepted quantity of Special Provision (Lateral Connection) will be paid for at the Contract lump sum price.

Payment will be full compensation for installing a complete yard drain system and materials and labor in accordance with the Contract Documents, and for furnishing, transportation, handling, placing the material specified to include pipe, elbows, reducers, coupling bands, joint material, and cutting when necessary; excavation; backfill; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:



Pay Item

Pay Unit

900.645 Special Provision (Lateral Connection)

Lump Sum

**ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, HAND-PLACED)**



Going along with this comment, I've never seen this SP until now, and it looks no different than the Small Quantity SP to begin with. That being said:

- 1) Please use the Small Quantity SP. The RE has the authority to waive the Mat Density Pay Adjustment.
- 2) If a new SP is going to be drafted by the consultant designer, please be sure to run it through both Pavement Design and Materials moving forward.

DESCRIPTION. This work shall consist of constructing one or more courses of bituminous mixture on a prepared foundation in accordance with specifications, the specific requirements of the type of surface being placed in reasonably close conformity with the lines, grades, thicknesses, and cross sections shown on the Plans or established by the Engineer.

The use of the item Special Provision (Bituminous Concrete Pavement, Placed) shall be used in the placement of bituminous concrete pavement by methods within the roadway limits, as required. Pavement placed in driveways to be paid as Item 406.38.

The work under this Section shall be performed in accordance with these provisions, the Plans, and the appropriate provisions of Section 406 of the Standard Specifications.

MATERIALS. Materials shall meet the requirements of the following Subsections:

Performance-Graded Asphalt Binder.....	702.02
Emulsified Asphalt, RS-1H or CRS-1H.....	702.04
Aggregate for Marshall Bituminous Concrete Pavement.....	704.10(a)
Aggregate for Superpave Bituminous Concrete Pavement....	704.10(b)

Aggregate shall meet requirements relating to Section 406, where so specified.

The grade of PG asphalt binder used to produce bituminous concrete pavement shall be 70-28. Substitutions will be accepted based on availability where the upper end temperature value is greater than 70°C (136°F) and/or the lower end temperature value is less than -28°C (- 18°F).

COMPOSITION OF MIXTURE.

(a) Gradation. Gradation shall meet the requirements of Section 406, as appropriate.

Project Name and Number

[Pick the date]

Special Provisions

(b) Design Criteria. Design Criteria shall meet the requirements of Section 406, as appropriate.

(c) Mix Design. Standard mix design will be in accordance with Subsection 406.03 with an n value of 65 gyrations. Allowable substitutions based on pre-existing approved mix designs and/or n values for intended Contract suppliers are listed in Table C below. A request for substitutions must be submitted in writing to the Engineer a minimum of 10 working days prior to production. Any substitutions from the standard mix design or mix types as detailed in the Plans shall not result in any increase in cost to the Agency.

TABLE C – ALLOWABLE SPECIFICATION SUBSTITUTIONS

Design ESALs (millions)	Acceptable Specification Substitution		
	Superpave Bituminous Concrete Pavement (Gyrations)	Bituminous Concrete Pavement* (75 Blow)	Med. Duty Bituminous Concrete Pavement* (50 Blow)
< 0.3	50	✓	✓
0.3 to < 10	65 ¹	✓	-

¹Standard mix design specification.

*Per Section 406

(d) Quality Acceptance.

(1) Acceptance Guidelines. Temperature of the bituminous mixture shall be tested using the Verified Thermometer test method and PG Asphalt Binder content determined from the batch slip. Gradation shall be tested in accordance with AASHTO T 30.

(2) Non-Compliant Material. The Contractor may, prior to sampling, elect to remove any defective material and replace it with new material at no expense to the Agency. Any such new material will be sampled, tested, and evaluated for acceptance.

(e) Boxed Samples. If Agency plant inspectors are not available for daily testing and inspection functions, then box samples will be taken by the Engineer at the project site to afford verification of mixture volumetrics /properties. Boxed samples will be processed and results reported to the Engineer within ten working days of being received at the Agency Central Laboratory in Berlin, Vermont. Gradation shall be tested in accordance with AASHTO T 30. Maximum Specific Gravity shall be tested in accordance with AASHTO T 209.

METHOD OF MEASUREMENT. The quantity of Special Provision (Bituminous Concrete Pavement, Hand-Placed) to be measured for payment will be the

# Project Name and Number


[Pick the date]

## Special Provisions

number of tons of mixture complete in place in the accepted work as determined from the weigh tickets.

BASIS OF PAYMENT. The measured quantity of Special Provision (Bituminous Concrete Pavement, Hand-Placed) will be paid for at the Contract unit price per ton. Payment shall be full compensation for furnishing, mixing, hauling, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

The costs of furnishing testing facilities and supplies at the plant will be considered included in the Contract unit price of Special Provision (Bituminous Concrete Pavement, Hand-Placed).

The costs of obtaining, furnishing, transporting, and providing the straightedges required by Subsection 406.16, as appropriate, will be paid for under the appropriate Section 631 pay item included in the Contract. 

When not specified as items in the Contract, the costs of cleaning and filling joints and cracks, sweeping and cleaning existing paved surfaces, the emulsified asphalt applied to tack these surfaces, and tacking of manholes, curbing, gutters, and other contact surfaces will not be paid for directly, but will be considered incidental to Special Provision (Bituminous Concrete Pavement, Hand-Placed).

Payment will be made under:

### Pay Item

### Pay Unit

900.680 Special Provision (Bituminous Concrete Pavement, Hand-Placed)	Ton
-----------------------------------------------------------------------	-----

# APPENDIX A

Contractor's EEO Certification Form  
CA-109



**APPENDIX A**

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

November, 1985  
CA-109

**CONTRACTOR'S EEO CERTIFICATION FORM**

Certification with regard to the Performance of Previous Contracts of Subcontracts subject to the Equal Opportunity Clause and the filing of Required Reports.

The bidder _____, proposed subcontractor _____, hereby certifies that he/she has _____, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246 as amended, and that he/she has _____, has not _____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

_____

Company	By	Title
---------	----	-------

NOTE: The above certification is required by the Equal Employment Opportunity regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5 (Generally only contracts or subcontracts of \$10,000 or under are exempt.) Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration, or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

# APPENDIX B

Debarment & Non-Collusion Affidavit  
CA-91

**APPENDIX B**

CA-91

STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
DEBARMENT AND NON-COLLUSION AFFIDAVIT

I, _____, representing  
(Official Authorized to Sign Contracts)  
_____ of _____,  
(Individual, Partnership or Corporation) (City or State)

being duly sworn, depose and certify under the penalties of perjury under the laws of the State of Vermont and the United States that on behalf of the person, firm, association, or corporation submitting the bid certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid for the Vermont project:

_____  
(Project Name)  
_____ project located on _____,  
(Project Number) (Route or Highway)  
bids opened at _____,  
(Town or City)

Vermont on _____, 20__.  
(Date)

I further depose and certify under the penalties of perjury under the laws of the State of Vermont and the United States that except as noted below said individual, partnership or corporation or any person associated therewith in any capacity is not currently, and has not been within the past three (3) years, suspended, debarred, voluntarily excluded or determined ineligible by any Federal or State Agency; does not have a proposed suspension, debarment, voluntary exclusion or ineligibility determination pending; and has not been indicted, convicted, or had a civil judgement rendered against (it, him, her, them) by a court having jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

Exceptions: ____ No ____ Yes. (If yes complete back of this form.)

Sworn to before me this

____ day of _____, 20__

_____  
(Name of Individual, Partnership or Corporation) L.S.

_____  
(Signature of Official Authorized to Sign Contracts) L.S.

_____  
(Notary Public)

_____  
(Name of Individual Signing Affidavit) L.S.

(My commission expires _____)

_____  
(Title of Individual Signing Affidavit) L.S.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administration sanctions.

EXCEPTIONS:



# APPENDIX C

Worker Classification Compliance Requirement

**APPENDIX G**

**RFP/PROJECT NAME & NUMBER:  
DATE:**

**WORKER CLASSIFICATION COMPLIANCE REQUIREMENT**

**Self Reporting  
Form 1 of 2**

**This form must be completed in its entirety and submitted as part of the response for the proposal to be considered valid.**

The Vermont Agency of Transportation, in accordance with Section 32 of Act 54 (2009), as amended by Section 17 of Act 142 (2010) and further amended by Section 6 of Act 50 (2011), and for total projects costs exceeding \$250,000.00, requires bidders comply with the following provisions and requirements.

Bidder is required to self report the following information relating to past violations, convictions, suspensions, and any other information related to past performance and likely compliance with proper coding and classification of employees. The Agency of Transportation is requiring information on any incidents that occurred in the previous 12 months. Attach additional pages as necessary. If not applicable, so state.

Summary of Detailed Information	Date of Notification	Outcome

**WORKER CLASSIFICATION COMPLIANCE REQUIREMENT:** Bidder hereby certifies that the company/individual is in compliance with the requirements as detailed in Section 32 of Act 54(2009), as amended by Section 17 of Act 142 (2010) and further amended by Section 6 of Act 50 (2011).

Date: _____

Name of Company: _____

Contact Name: _____

Address: _____

Title: _____

_____

Phone Number: _____

E-mail: _____

Fax Number: _____

By: _____

Name: _____

Signature (Request/Report Not Valid Unless Signed) *

(Type or Print)

*Form must be signed by individual authorized to sign on the bidder's behalf.

<b>DO NOT WRITE IN THIS SPACE – AGENCY USE ONLY</b>	
VDOL CHECKED RE: ACT 54 2009, AND AMENDMENTS	<input type="checkbox"/>

# APPENDIX D

Required Contract Provisions Federal-Aid Construction Contracts  
FHWA-1273

**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are



applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.



## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.



# APPENDIX E

Standard Federal Equal employment Opportunity Construction Contract  
Specifications  
EO-11246

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY**  
**CONSTRUCTION CONTRACT SPECIFICATIONS**  
**(EXECUTIVE ORDER 11246)**

1. As used in these specifications:
  - a. "Covered Area" means the geographical area described in the solicitation from which this contract resulted.
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.
  - c. "Employer Identification Number" means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

A Minority Group Member is:

...American Indian or Alaskan Native

consisting of all persons having origins in any of the original people of North American and who maintain cultural identification through tribal affiliations or community recognition.

...Black

consisting of all persons having origins in any of the Black racial groups of Africa.

...Asian or Pacific Islander

consisting of all persons having origins in any of the original people of the Far East, Southeast Asia, the Indian Sub-Continent or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippines and Samoa.

...Hispanic

consisting of all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin.

...Cape Verde an

consisting of all persons having origins in the Cape Verde Islands.

...Portuguese

consisting of all persons of Portuguese, Brazilian or other Portuguese culture or origin.

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000.00 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in the Hometown Plan

approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontract participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to make good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in Paragraphs 7a through p of these specifications. The goals set for the Contractor in the solicitation from which this contract resulted are expressed as percentages in the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minority or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
  - a. Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment with specific attention to minority or female individuals working at such sites or in such facilities.
  - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organizations' responses.
  - c. Maintain a current file of the names, addresses and telephone numbers of each

minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

- d. Provide immediate written notifications to the Regional Director when the union or unions, with which the Contractor has a collective bargaining agreement, have not referred to the Contractor a minority person or woman sent by the Contractor or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under Paragraph 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, Supervisors etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, and providing written notification to, and discussing the Contractor's EEO policy with, other Contractors and subcontractors with whom the Contractor anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notifications to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority

persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
  - l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
  - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and Contractor's obligations under these specifications are being carried out.
  - n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
  - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
  - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (Paragraph 7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under-utilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to



discriminate against any person because of race, color, religion, sex or national origin.

11. The Contractor shall not enter into any subcontract with any person for firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, terminations and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in Paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application or requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL  
EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Economic Areas	Timetables	Goals for Minority participation for each trade (%)	Goals for Female Participation in each trade (%)
<u>Entire State of Vermont:</u>			
<u>Vermont</u> 003 Burlington, VT Non-SMSA Counties NH Coos; NH Grafton; NH Sullivan; VT Addison; VT Caledonia; VT Chittenden; VT Essex; VT Franklin; VT Grand Isle; VT Lamoille; VT Orange; VT Orleans; VT Rutland; VT Washington; VT Windsor	Indefinite	0.8	6.9
<u>Connecticut (Mass)</u> 006 Hartford - New Haven Springfield, CT-MA Non-SMSA Counties CT Litchfield; CT Windham; MA Franklin; NH Cheshire; VT Windham	Indefinite	5.9	
<u>New York</u> 007 Albany - Schenectady - Troy, NY Non-SMSA Counties NY Clinton; NY Columbia; NY Essex; NY Fulton; NY Greene; NY Hamilton; NY Sohoarie; NY Warren; NY Washington; VT Bennington	Indefinite	2.6	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulation in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notifications shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any)

# APPENDIX F

Certification for Federal-Aid Contracts  
CA-163

**CERTIFICATION FOR FEDERAL-AID CONTRACTS**

The prospective bidder, by signing and submitting this bid proposal, certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person or influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered to. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such sub-recipients shall certify and disclose accordingly.



# APPENDIX G

Minimum Labor and Truck Rates  
CA101

**APPENDIX F**

CA101

Minimum Labor and Truck Rates  
Under Title 19, Vermont Statutes  
Annotated Section 18, as amended

April 3, 1997  
Sheet 1 of 1

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
MONTPELIER**

FOR OTHER THAN FEDERAL-AID. In accordance with the provisions of Title 19, VSA, Section 18, the following minimum rate for labor shall apply to this project:

The minimum wage for common labor will not be less than the State or Federal minimum wage, whichever is higher.

ON FEDERAL-AID PROJECTS ONLY.

The minimum rates for labor for Federal-Aid Projects shall be those set in the Wage Determination Decision of the U.S. Secretary of Labor for each project in accordance with the Federal-Aid Highway Act of 1956. When such wage rates are required they shall be included in the proposal. In the event these rates are lower than the Vermont rates, the Vermont rates shall prevail.

TRUCK RATES. In accordance with the provisions of Title 19, VSA, Section 18, the following minimum rates for trucks shall apply to this project:

<u>Trucks, not Including Driver Water Level Body Capacity</u>	<u>Minimum Rates Per YD per Hr.</u>
Trucks, Equipment Loaded	\$1.65

# APPENDIX H

Disadvantaged Business Enterprise (DBE) Policy Contract Requirements  
CR-110

## DISADVANTAGED BUSINESS ENTERPRISE (DBE) POLICY CONTRACT REQUIREMENTS

**Disadvantaged Business Enterprise (DBE) Policy.** It shall be the policy of the Vermont Agency of Transportation (VTrans) to ensure nondiscriminatory opportunity for Disadvantaged Business Enterprises (DBEs) to participate in the performance of all contracts and subcontracts financed with Federal funds as specified by the regulations of the United States Department of Transportation (USDOT), Federal Highway Administration and as set forth below.

1. **Policy.** It is the policy of USDOT that DBEs as defined in 49 Code of Federal Regulation (CFR) Part 26 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 and 23 CFR, Chapter 1, Part 230, Subpart b apply to this contract.
2. **DBE Obligation.** The State and its Contractors agree to ensure that DBEs as defined in 49 CFR Part 26, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. **Each subcontract the prime contractor signs with a subcontractor must include this assurance:** *The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as VTrans deems appropriate.*
3. **Sanctions for Noncompliance.** The Contractor is hereby advised that failure of the Contractor, or any Subcontractor performing work under this contract, to carry out the requirements set forth in paragraphs 1 and 2 above shall constitute a breach of contract and after the notification of the Vermont Agency of Transportation, Secretary of Transportation, may result in termination of this contract by the State or such remedy as the State deems necessary.
4. **Inclusion in Subcontracts.** The Contractor shall insert in each of its subcontracts this Disadvantaged Business Enterprise (DBE) Policy and also a clause requiring its subcontractors to include this same Policy in any lower tier subcontracts which they may enter into, together with a clause requiring the inclusion of the Policy in any further subcontract that may in turn be made. This Policy shall not be incorporated by reference.

**Disadvantaged Business Enterprise (DBE) Program Goals.** The Vermont Agency of Transportation (VTrans) is required to set an overall DBE goal for participation in all transportation related Federal-aid projects. The goal is determined following guidelines set forth in 49 CFR 26.45, and based on the availability of ready, willing and able DBEs who submitted bids and quotes for transportation related projects, compared as a percentage of all available contractors who submitted bids and quotes for transportation related projects during the same time period. The DBE goal may be adjusted to take into account other factors impacting DBE utilization, in an effort to narrowly tailor the overall DBE goal. The detailed goal setting methodology and current overall DBE goal may be viewed on the VTrans website at:

<http://vtrans.vermont.gov/civil-rights/doing-business/dbe-center/program-goals>

VTrans currently utilizes a race/gender neutral policy to fulfill its overall DBE goals, and relies on the voluntary participation of contractors to utilize certified DBEs on every project sufficient to obtain the Agency's overall DBE goal. In order for this practice to continue, contractors must be proactive and solicit bids and quotes from certified DBEs for use when submitting their own bids, and employ certified DBEs when participating on transportation related projects. Otherwise, VTrans may have to implement specified contract goals on projects to ensure the overall DBE goals are met. VTrans may include specific DBE contract goals in certain cases to ensure DBE participation, if failure to obtain the project DBE goal would negatively impact the Agency's overall DBE goal because of the size of the contract.

**Disadvantaged Business Enterprise (DBE) Definition.** A DBE is defined as a business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purposes of this definition:

- (1) "Socially and economically disadvantaged person" means an individual who is a citizen or lawful permanent resident of the United States and who is a Woman, Black, Hispanic, Portuguese, Native American, Asian American, or a member of another group, or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.
- (2) "Owned and controlled" means a business which is:
  - a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.
  - b. A partnership, joint venture or limited liability company in which at least 51% of the beneficial ownership interests legitimately is held by a disadvantaged person(s).
  - c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with percentage of ownership. Disadvantaged participation in a joint venture must also be based on the sharing of real earnings, as above. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of the program, a firm is considered a bona fide DBE.

**Certified DBE Directory.** The current Vermont Unified Disadvantaged Business Enterprise (DBE) Directory is available online at: <http://vtrans.vermont.gov/civil-rights/doing-business/dbe-center/directory> This directory contains all currently certified DBEs available for work in Vermont, and is updated continuously. Only firms listed in this directory are eligible for DBE credit on Vermont Federal-aid projects. If you have questions about DBE certification, or do not have access to the Internet, please call the DBE Program Manager at (802) 828-5858 for assistance.

**Counting DBE Participation Towards Project Goals.** In order for payments made to DBE contractors to be counted toward DBE goals, the DBE contractors must perform a commercially



useful function (CUF). The DBE must be responsible for execution of the work of the contract and must carry out its responsibilities by actually performing, managing, and supervising the work involved, consistent with standard industry practices.

This means that:

- The DBE must also be responsible for ordering its own materials and supplies, determining quantity and quality, negotiating price, installing (where applicable) and paying for the material itself;
- The DBE must perform work commensurate with the amount of its contract;
- The DBE's contribution cannot be that of an extra participant or a conduit through which funds are passed in order to obtain the appearance of DBE participation;
- The DBE must exercise responsibility for at least fifty percent of the total cost of its contract with its own workforce;
- None of the DBE's work can be subcontracted back to the prime contractor, nor can the DBE employ the prime's or other subcontractor's supervisors currently working on the project;
- The DBE's labor force must be separate and apart from that of the prime contractor or other subcontractors on the project. Transferring crews between primes, subcontractors, and DBE contractors is not acceptable;
- The DBE owner must hold necessary professional or craft license(s) or certification(s) for the type of work he/she performs on the project;
- The DBE may rent or lease, at competitive rates, equipment needed on the project from customary leasing sources or from other subcontractors on the project.

**Allowable credit for payments made to DBEs for work performed.** A contractor may take credit for payments made to a certified DBE that satisfies CUF requirements at the following rate:

- A DBE Prime Contractor: Count 100% of the value of the work performed by own forces, equipment and materials towards the DBE goals.
- An approved DBE subcontractor: Count 100% of the value of work performed by the DBE's own forces, equipment and materials, excluding the following:
  - The cost of materials/supplies purchased from a non-DBE Prime Contractor.
  - The value of work provided by non-DBE lower tier subcontractors, including non-DBE trucking to deliver asphalt to a DBE contractor.
- A DBE owner-operator of construction equipment: Count 100% of expenditures committed.

- A DBE manufacturer: Count 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor.
- A regular DBE dealer/supplier: Count 60% of expenditures committed. A regular dealer/supplier is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment, in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. A person may be a dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business, if the person both owns and operates distribution equipment for the products, by the means of a long term agreement, and not by a contract by contract basis.
- A DBE broker: Count for DBE credit only the fees or commissions charged for assistance in the procurement, and, fees and transportation charges for the delivery of materials or supplies required at the job site, but not the cost of materials procured. A broker is defined as any person(s) or firm who arranges or expedites transactions for materials or supplies, and does not take physical possession of the materials or supplies at their place of business for resale.
- A DBE renter of construction equipment to a contractor: Count 20% of expenditures committed, with or without operator.
- A bona fide DBE service provider: Count 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.
- A trucking, hauling or delivery operation: Count 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the materials and supplies. 100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees, or commissions, the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.
- Any combination of the above.

**Removal of Approved DBE From Transportation Related Project.** Contractors may not terminate for convenience, any approved DBE subcontractor and perform the work with their own forces, without prior written consent from the VTrans DBE Program Manager or VTrans Chief of Civil Rights.

**Federal-aid projects which specify a DBE contract goal.** The provisions of the Vermont Agency of Transportation Supplemental Specification – Disadvantaged Business Enterprise

(DBE) Utilization (CR 160) shall apply to all VTrans Federal-aid projects which specify a DBE contract goal.

**Compliance With Prompt Payment Statute.** In accordance with Vermont's Prompt Payment Act and VTrans Standard Specifications for Construction, Section 107.01(g), the Contractor shall fully comply with the provisions of 9 V.S.A. Chapter 102, also referred to as Act No. 74 of 1991 or the Prompt Payment Act, as amended.

**Subcontractor Payments.** In accordance with VTrans Standard Specifications for Construction, Section 107.01(h), on all federal-aid and state funded contracts, the Contractor, during the life of the Contract and on a monthly basis, shall submit electronically, a listing of payments to subcontractors on the form specified by the State and made available at: <http://apps.vtrans.vermont.gov/promptpay/>. Electronic reports shall be filed with the Agency Office of Civil Rights by an authorized representative and received in the Agency Office of Civil Rights on or before the tenth working day after month end. Contractors without access to the internet shall obtain and submit manual reports to the Agency Office of Civil Rights. Manual reports shall be signed by an authorized representative, sent to the Agency Office of Civil Rights, and postmarked on or before the tenth working day after month end. There shall be no direct compensation allowed the Contractor for this work, but the cost thereof shall be included in the general cost of the work. In accordance with 9 V.S.A. Section 4003, notwithstanding any contrary agreement, payments made to subcontractors after seven days from receipt of a corresponding progress payment by the State to the Contractor, or seven days after receipt of a subcontractor's invoice, whichever is later, violate this agreement. Violations shall be reported to the Agency Office of Civil Rights for review. Failure to resolve disputes in a timely manner may result in a complaint made to the Agency Pre-qualification Committee. In this Committee's judgment, appropriate penalties may be involved for failure to comply with this specification. Penalties may include suspension, reduction or revocation of the Contractor's pre-qualification rating. This clause shall be included in the prime Contractor's Contract made with all if its subcontractors.

# APPENDIX I

Vermont Agency of Transportation General Special Provisions for all Projects

## SUMMARY LIST OF GENERAL SPECIAL PROVISIONS

The following list is a summary of all approved General Special Provisions for the *2018 Standard Specifications for Construction*. This list is only intended to serve as a general guide to identify which subsections have been modified. The full text must be referenced to determine the details of the change.

The list is organized by subsection. Not all General Special Provisions are listed individually – modifications which were made to adjacent subsections for the same general reason may be combined within this list. Entries in bold text indicate the most recent changes, which were approved for projects advertising on or after the date given in the header of this document.

Subsections Changed	Broad Description of Changes	Date of GSP
Subsection 101.02	Replaced “Columbus Day” with “Indigenous Peoples’ Day” to reflect change in state law.	7-23-2019
<b>Subsection 101.02</b>	<b>Deleted all references to Supplemental Specifications.</b>	<b>10-22-2019</b>
Subsection 103.03	Legal reference to sales tax regulations corrected.	8-8-2018
<b>Subsection 105.05(a)</b>	<b>Deleted all references to Supplemental Specifications and modified the Contract Document Precedence to reflect the elimination of Supplemental Specifications.</b>	<b>10-22-2019</b>
<b>Subsection 105.05(d)</b>	<b>Deleted all references to Supplemental Specifications.</b>	<b>10-22-2019</b>
Subsection 105.14	Corrected double numbering by re-lettering list parts.	8-8-2018
Subsection 105.16	Corrected legal reference.	8-8-2018
<b>Subsection 106.09(c)</b>	<b>Revised the stockpiling requirements for raw materials.</b>	<b>10-22-2019</b>
Subsections 203.03 and 204.03	Added a requirement to submit construction drawings when required by OSHA or VOSHA.	7-23-2019
Subsection 210.03	Modified requirements for length of time milled surface can remain unpaved	7-23-2019
Subsection 406.03B	Added requirements for the contractor to provide Hamburg Wheel-Track and FIT testing data in mix designs.	7-23-2019
Subsection 406.03C (Table 406.031)	Corrected an ASTM reference and slightly modified Note 4.	7-23-2019
Subsections 406.03C(e) and 406.19(c)	Changed names of subsections to better match their contents and the names of other subsections.	8-8-2018
<b>Subsection 406.14</b>	<b>Added a requirement to use a self-propelled pneumatic tired roller for the levelling course of pavement.</b>	<b>10-22-2019</b>
Subsection 407.03	Deleted and replaced several paragraphs to correct equations and the table.	7-23-2019
<b>Section 418</b>	<b>Created a new section for Asphaltic Approach Material.</b>	<b>10-22-2019</b>
<b>Subsection 501.03</b>	<b>Deleted and replaced the entire subsection to update testing and mix design requirements.</b>	<b>10-22-2019</b>

Subsections Changed	Broad Description of Changes	Date of GSP
<b>Subsection 501.04</b>	<b>Deleted and replaced paragraphs 1 through 3 to update the batching requirements.</b>	<b>10-22-2019</b>
<b>Subsection 501.05(a)</b>	<b>Deleted and replaced parts (2) and (3) to update the mixing and delivery requirements.</b>	<b>10-22-2019</b>
Subsection 506.02	Updated the name of the subsection for one of the materials and added a new material subsection to the list.	7-23-2019
Subsection 506.03	Deleted and replaced multiple paragraphs to clarify requirements for fabrication drawings, the use of subcontractors for fabrication, and the level of plant certification required.	7-23-2019
Subsection 506.03(c)(1)	Deleted and replaced the subsection to provide additional details about inspectors.	7-23-2019
Subsections 506.03(d)(3) and 506.03(e)	Minor wording changes.	7-23-2019
Subsection 506.04(c)	Deleted and replaced subsection to modify welding procedures.	7-23-2019
Subsection 506.05(b)	Deleted a sentence.	7-23-2019
Subsection 506.06(b)	Deleted and replaced subsection to modify inspector requirements.	7-23-2019
Subsection 506.10(d)	Minor wording changes.	7-23-2019
Subsection 506.10(e)(1)	Deleted two paragraphs.	7-23-2019
Subsection 506.12(d)	Minor wording changes.	7-23-2019
Subsection 506.14	Deleted and replaced subsection to clarify surface preparation requirements.	7-23-2019
Subsection 506.18(b)	Deleted and replaced parts (2) and (3) to clarify alignment, drilling and reaming requirements.	7-23-2019
Subsections 506.19(a) and 506.19(b)	Minor wording changes.	7-23-2019
Subsection 506.19(c)	Added a sentence stating that standard bolts are to be Grade A 325.	8-8-2018
Subsection 506.19	Relabeled existing part (d) as part (e) and broke the existing part (c) in half, creating a new part (d) in the process. Done to correct duplicate list numbering in part (c). Also corrected internal cross references.	8-8-2018
Subsections 506.19(d)(1) and 506.19(e)	Minor wording changes.	7-23-2019
Subsection 506.23	Deleted and replaced entire subsection to add additional coating requirements.	7-23-2019
Subsection 506.25	Deleted and replaced entire subsection.	7-23-2019
Subsections 510.12(b) and 540.11(b)	Corrected internal cross references.	8-8-2018
<b>Subsection 516.02</b>	<b>Updated materials listing to reflect name change of Subsection 707.15</b>	<b>10-22-2019</b>



Subsections Changed	Broad Description of Changes	Date of GSP
<b>Subsection 519.02</b>	<b>Deleted and replaced subsection to reflect changes made in Subsection 726.11.</b>	<b>10-22-2019</b>
<b>Subsection 524.02</b>	<b>Updated materials listing to reflect name change of Subsection 707.15</b>	<b>10-22-2019</b>
<b>Subsection 540.02</b>	<b>Updated material listing to reflect changes made in Subsection 726.11.</b>	<b>10-22-2019</b>
<b>Subsection 540.10</b>	<b>Updated internal cross reference to reflect changes made in Subsection 726.11.</b>	<b>10-22-2019</b>
Subsection 540.12	Corrected internal cross reference.	8-8-2018
<b>Subsection 540.14(b)</b>	<b>Replaced the word “prestressed” with the word “precast”.</b>	<b>10-22-2019</b>
Subsection 543.04	Deleted and replaced sentence to correct submittal requirements.	7-23-2019
<b>Subsection 605.02</b>	<b>Updated materials listing to reflect name change of Subsection 707.15</b>	<b>10-22-2019</b>
Subsection 605.02	Added a new material subsection to the list and deleted internal cross reference. Changes made to conform to new Section 720.	8-8-2018
Subsection 625.02	Deleted incorrect material reference.	1-18-2019
Subsection 630.01	Minor wording changes.	7-23-2019
Subsection 630.02(b)	Deleted and replaced subsection to modify flagger apparel requirements.	7-23-2019
Subsection 630.04(a)	Modified flagger training requirements.	1-18-2019
Subsection 631.08	Modified requirements for grout molds.	1-18-2019
<b>Subsection 631.09</b>	<b>Deleted a sentence that dictated an Agency process.</b>	<b>10-22-2019</b>
Subsection 641.02	Deleted and replaced several paragraphs in order to add new subparts and clarify the difference between the traffic control items.	7-23-2019
Subsection 641.03	Added paragraph requiring security system for PCMS.	1-18-2019
Subsection 641.07	Deleted and replaced entire subsection to clarify basis of payment.	7-23-2019
Subsection 646.02	Deleted and replaced multiple entries in the materials list.	7-23-2019
Subsection 646.04	Minor wording changes.	7-23-2019
Subsection 646.07	Deleted and replaced parts (a) and (b) to redefine marking tape types.	7-23-2019
Subsection 646.07	Deleted parts (c) and (d).	7-23-2019
Subsection 646.07	Relabeled parts (e) and (f) as the new parts (c) and (d).	7-23-2019
Subsection 646.07	Inserted a new part (e) for preformed thermoplastic and relabeled part (g) as part (f).	1-18-2019
Subsections 646.07(c)(1) and 646.07(f)(1)	Minor wording changes.	1-18-2019
Subsection 646.08	Changed the name of part (a) to reflect redefined marking tape types.	7-23-2019
Subsection 646.09 (Table 646.09A)	Replaced the column headers of the table.	1-18-2019

Subsections Changed	Broad Description of Changes	Date of GSP
Subsections 646.13 and 646.14	Deleted all references to “Raised Pavement Markers, Type II”, including the pay item.	7-23-2019
Subsection 649.02	Deleted and replaced existing subsection so it would conform with the new Section 720.	8-8-2018
Subsection 653.02	Added new material subsections to the list and deleted internal cross reference. Changes made to conform to new Section 720.	8-8-2018
Subsection 653.08(a)(1), 653.09(a), 653.09(b)(1) and 653.09(b)(3)	Corrected references to various geotextile requirements to conform to new Section 720.	8-8-2018
Subsection 675.02	Deleted internal cross reference.	1-18-2019
Subsection 675.07(b)(2)	Deleted and replaced subsection to modify the requirements.	7-23-2019
Subsection 675.07(d)	Added two new sentences to add additional requirements for fasteners.	7-23-2019
Subsection 677.03	Added a sentence removing the requirement for field verification of DTI’s.	8-8-2018
Subsection 679.02	Deleted one materials section listing and added two new ones to match changes in Subsection 753.04.	1-18-2019
Subsection 679.05	Deleted existing first sentence and added two new paragraphs	1-18-2019
Subsection 679.09	Added a sentence removing the requirement for field verification of DTI’s.	8-8-2018
Subsection 680.02	Deleted internal cross reference.	1-18-2019
Subsection 702.06 (Table 702.06A)	Deleted and replaced table to correct some temperatures and add a new row.	7-23-2019
Subsection 704.10(a)	Corrected AASHTO references.	7-23-2019
Subsection 707.14 (Table 707.14A)	Corrected AASHTO references.	1-18-2019
<b>Subsection 707.15</b>	<b>Deleted and replaced entire subsection to update requirements.</b>	<b>10-22-2019</b>
<b>Subsection 707.17</b>	<b>Added a new subsection to provide material requirements for the new Section 418.</b>	<b>10-22-2019</b>
Subsection 708.03	Deleted and replaced entire subsection to provide new requirements.	7-23-2019
Subsection 708.06	Deleted and reserved entire subsection.	1-18-2019
Subsection 708.08 (Table 708.08C)	Added two rows to the table	7-23-2019
Subsection 708.11	Deleted and reserved entire subsection.	7-23-2019
Subsection 708.12	Deleted and replaced entire subsection to provide new requirements.	7-23-2019
Subsection 711.02	Corrected internal cross reference.	1-18-2019
Subsections 713.04 and 713.05	Corrected AASHTO references.	1-18-2019
Subsection 714.05	Deleted and replaced the first sentence to provide new requirements.	7-23-2019



GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS  
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SECTION 101 – DEFINITIONS AND TERMS

101.02 DEFINITIONS, the definition for “Holidays” is hereby modified by deleting the phrase “Columbus Day” from the first column and replacing it with the phrase “Indigenous Peoples’ Day”.

101.02 DEFINITIONS, is hereby modified by deleting the phrase “Supplemental Specifications,” from the definitions for “Contract”, “Project Special Provisions”, and “Specifications”.

101.02 DEFINITIONS, is hereby modified by deleting the entry for, and definition of, “Supplemental Specifications”.

SECTION 103 – TAXES AND INSURANCE

103.03 STATE SALES TAX is hereby modified by deleting the phrase “(see *Vermont Sales and Use Tax Regulations, No. 226-2 and 226-7 and 32 V.S.A. § 9743(4)*)” and the phrase “(see 32 V.S.A. § 9741(44)).” from the first paragraph.

103.03 STATE SALES TAX is hereby further modified by adding the following reference to the end of the first paragraph:

(see 32 V.S.A. § 9743(4), 32 V.S.A. § 9741(30), 32 V.S.A. § 9741(44), and the *Vermont Sales and Use Tax Regulations, Reg. § 1.9741(34)-5 and Reg. § 1.9743*).

SECTION 105 – CONTROL OF THE WORK

105.05 COORDINATION OF CONTRACT DOCUMENTS, part (a), is hereby modified by deleting the phrase “Supplemental Specifications,” from the first sentence.

105.05 COORDINATION OF CONTRACT DOCUMENTS, part (a)(1), is hereby modified by deleting subpart g. in its entirety, relabeling subpart h. as subpart g., and relabeling subpart i. as subpart h.


105.05 COORDINATION OF CONTRACT DOCUMENTS, part (d), is hereby modified by deleting the phrase “Supplemental Specifications,” from the last sentence.

105.14 SUNDAY, NIGHT, AND HOLIDAY WORK is hereby modified by relabeling part (c), “Application.”, as “(d) Application.” and part (d), “Other Provisions Not Affected.”, as “(e) Other Provisions Not Affected.”

105.16 LOAD RESTRICTIONS, part (c), Penalty and Reduction for Overweight Operation., is hereby modified by changing the phrase “23 V.S.A. § 1391(a)” to read “23 V.S.A. § 1391a”.

### SECTION 106 – CONTROL OF MATERIALS

106.09 STOCKPILING, part (c), is hereby modified by being deleted in its entirety and replaced with the following:

- (c) Raw Materials. In addition to the criteria set out above for other materials, raw material stockpiles shall be approved by the Construction Engineer and meet the following additional criteria:
- (1) The various components of the finished product shall include all of the appropriate certifications, passing samples, passing tests, and any other documentation that may be required to certify that the materials are acceptable. 
  - (2) For stockpiles of structural steel, invoices or quotes from the fabricator shall include supporting documentation such as mill invoices or quotes that show actual dimensions, quantities, and costs to the fabricator for the raw materials. The intent of this raw material payment is to reimburse the actual amount it cost the fabricator to purchase the raw materials for the specific Contract item. There will be no allowance for mark up of any type by the Contractor or fabricator. Stockpile payments will be limited to one payment per 6 months, per Contract item. There will be no raw material stockpile payment allowed for materials that do not meet the dimensions provided on the mill invoices.
  - (3) Any other criteria the Engineer deems necessary to allow for payment.

### SECTION 203 – EXCAVATION AND EMBANKMENTS

203.03 GENERAL CONSTRUCTION REQUIREMENTS is hereby modified by adding the following as the last sentence of the ninth paragraph:

Construction Drawings shall be submitted in accordance with Section 105 whenever OSHA or VOSHA regulations require a design by a Professional Engineer.

### SECTION 204 – EXCAVATION FOR STRUCTURES

204.03 GENERAL CONSTRUCTION REQUIREMENTS is hereby modified by adding the following as the last sentence of the third paragraph:

Construction Drawings shall be submitted in accordance with Section 105 whenever OSHA or VOSHA regulations require a design by a Professional Engineer.

SECTION 210 – COLD PLANING

210.03 GENERAL CONSTRUCTION REQUIREMENTS, part (b) is hereby modified by being deleted in its entirety and replaced with the following:

- (b) The Contractor shall repave any coarse-milled areas within 14 Calendar Days and any fine-milled areas within 28 Calendar Days of milling, or when directed by the Engineer. Should the area remain unpaved for a period longer than specified herein, without the approval of the Engineer, no payment whatsoever will be made for the milled areas left exposed in excess of the 14 or 28 Calendar Day periods. If the Contractor lays down temporary pavement to avoid the above non-payment for milling, temporary pavement and subsequent milling shall be at the Contractor's expense.

SECTION 406 – BITUMINOUS CONCRETE PAVEMENT

406.03B COMPOSITION OF MIXTURE – SUPERPAVE, part (c), is hereby modified by adding “, unless otherwise noted in this section.” to the end of the sentence which begins with “For Superpave bituminous concrete pavement mixes, *AASHTO R 35*...”.

406.03B COMPOSITION OF MIXTURE – SUPERPAVE, part (c), is hereby further modified by deleting the word “four” from the sentence which currently reads “The four principal parts of the Superpave Mix Design Method are:” and replacing it with the word “five”.

406.03B COMPOSITION OF MIXTURE – SUPERPAVE, part (c), is hereby further modified by deleting subpart (4) in its entirety and replacing it with the following:

- (4) Evaluate moisture sensitivity and rutting susceptibility using *AASHTO T 324*. Test specimens for Hamburg Wheel-Track (HWT) testing shall be 150 mm (6.0 inches) in diameter with a  $60 \pm 1$  mm ( $2.36 \pm 0.04$  inch) thickness and shall be short term conditioned in accordance with Section 7.2 of *AASHTO R 30*. HWT specimens shall be tested at  $45 \pm 1^\circ$  C ( $113 \pm 1.8^\circ$  F), with the machine pre-set to end the test once a maximum rut depth of 12.5 mm (0.50 inches) is reached. If the difference in the rut depth between the two pairs of specimens is 6 mm (0.24 inches) or more, and/or only one pair of specimens has a final rut depth of 12.5 mm (0.50 inches), the test results will be deemed invalid and not acceptable for mix design qualification. Slab specimens shall not be used.
- (5) Determine cracking susceptibility using *AASHTO TP 124*. Test specimens for the FIT shall be fabricated in a Superpave Gyratory Compactor and short term conditioned in accordance with Section 7.2 of *AASHTO R 30*. Specimens that are fabricated to a height of 50 mm (2.0 inches), in lieu of fabricating 160 mm (6.30 inch) or 115 mm (4.50 inch) specimens as part of the test specimen preparation procedures outlined in *AASHTO TP 124*, will be allowed.



406.03C REQUIREMENTS FOR BOTH MARSHALL AND SUPERPAVE BITUMINOUS MIXTURES is hereby modified by changing the name of part (e) from “Pay Factor Determination.” to “Air Voids Pay Factor ( $PF_{AV}$ ) Determination.”

406.03C REQUIREMENTS FOR BOTH MARSHALL AND SUPERPAVE BITUMINOUS MIXTURES, Table 406.03I, is hereby modified by deleting the phrase “*ASTM D 5821*” and replacing it with the phrase “*ASTM T 335*” in the third column of the fifth row.

406.03C REQUIREMENTS FOR BOTH MARSHALL AND SUPERPAVE BITUMINOUS MIXTURES, Table 406.03I, Note 4, is hereby modified by deleting the word “more” and replacing it with the word “less”.

406.14 COMPACTION is hereby modified by adding “Leveling courses shall be compacted using a self-propelled pneumatic tired roller for intermediate rolling, unless otherwise permitted in writing by the Engineer.” as the second sentence.

406.19 METHOD OF MEASUREMENT is hereby modified by changing the name of part (c) from “Longitudinal Joint Pay Factor.” to “Longitudinal Joint Pay Adjustment.”

#### SECTION 407 – BONDED WEARING COURSE

407.03 COMPOSITION OF MIXTURE is hereby modified by deleting the portion of the Subsection beginning with “PG Binder percentage shall be based on a minimum film thickness of 10.0 microns...” and ending with Table 407.03B, and replacing the deleted text and table with the following:

The asphalt cement content shall be based on a minimum asphalt film thickness of 0.394 mils (10.0 microns). The minimum asphalt cement content shall be calculated according to the following formulas and the factors in Table 407.03B.

For English units:  $W = 0.0052 \times A_s \times T \times G_b$

For metric units:  $W = 0.001 \times A_s \times T \times G_b$

and, for consistent units:  $P_{bmin} = \frac{W}{1+W} \times 100$

where:

$W$  = Intermediate variable

$A_s$  = Total aggregate surface area* (square feet per pound or square meters per kilogram of aggregate)

$T$  = Minimum asphalt film thickness (mils or microns)

$G_b$  = Specific gravity of asphalt cement

$P_{bmin}$  = Minimum asphalt cement content (percent by mass)

* The total aggregate surface area is calculated by multiplying the percent passing each sieve (as a decimal, i.e. 30% = 0.30) in the JMF by the corresponding factor in Table 407.03B and summing the resultant values.

TABLE 407.03B – AGGREGATE SURFACE AREA FACTORS

Sieve Designation	Surface Area Factors					
	Type A		Type B		Type C	
	SF/lb	SM/kg	SF/lb	SM/kg	SF/lb	SM/kg
3/4 inch (19.0 mm)	--	--	--	--	2.0	0.41
1/2 inch (12.5 mm)	--	--	2.0	0.41	0	0
3/8 inch (9.50 mm)	2.0	0.41	0	0	0	0
No. 4 (4.75 mm)	2.0	0.41	2.0	0.41	2.0	0.41
No. 8 (2.36 mm)	4.0	0.82	4.0	0.82	4.0	0.82
No. 16 (1.18 mm)	8.00	1.64	8.00	1.64	8.00	1.64
No. 30 (0.600 mm)	14.0	2.87	14.0	2.87	14.0	2.87
No. 50 (0.300 mm)	30.0	6.14	30.0	6.14	30.0	6.14
No. 100 (0.150 mm)	60.00	12.29	60.00	12.29	60.00	12.29
No. 200 (0.075 mm)	160.0	32.77	160.0	32.77	160.0	32.77

SECTION 418 – ASPHALTIC APPROACH MATERIAL

SECTION 418 – ASPHALTIC APPROACH MATERIAL is hereby made a new section of the specifications as follows:

SECTION 418 – ASPHALTIC APPROACH MATERIAL

418.01 DESCRIPTION. This work shall consist of furnishing and installing asphaltic approach material at the transition between bituminous concrete pavement and Portland cement concrete, steel or other materials.

418.02 MATERIALS. Materials shall meet the requirements of the following Subsections:

Asphalt Plug Joint Binder .....707.17

418.03 INSTALLATION. Asphaltic approach material shall be installed at the locations(s) and to the depth and configuration shown in the Plans and as directed by the Engineer.

418.04 METHOD OF MEASUREMENT. The quantity of Asphaltic Approach Material to be measured for payment will be the number of square feet used in the complete and accepted work.

418.05 BASIS OF PAYMENT. The accepted quantity of Asphaltic Approach Material will be paid for at the Contract unit price per square foot. Payment will be full compensation for detailing, furnishing, handling, transporting, and placing the material specified, including surface preparation, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Tack, prime, or seal coats of bituminous material required for the installation of asphaltic approach material will not be paid for separately, but will be considered incidental to the Contract unit price for Asphaltic Approach Material.

Removal of any existing asphaltic, bituminous or Portland cement concrete materials to allow for the installation of asphaltic approach material will not be paid for separately, but will be considered incidental to the Contract unit price for Asphaltic Approach Material.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
418.10 Asphaltic Approach Material.....	Square Foot

SECTION 501 – PERFORMANCE BASED STRUCTURAL CONCRETE

501.03 CLASSIFICATION AND PROPORTIONING is hereby modified by being deleted in its entirety and replaced with the following:

501.03 CLASSIFICATION AND PROPORTIONING. The following classes of concrete, shown in Table 501.03A, are included in these Specifications and shall be used as shown on the plans.

TABLE 501.03A – PERFORMANCE-BASED CONCRETE CLASSES AND PROPERTIES

Class of Concrete ¹	28-Day Compressive Strength (psi) ²	Target W/CM Ratio ³	VSI	Slump/Spread Target and Range (in.)	Max. Slump (in.)	Air Content Limits ⁴	Free Shrinkage ⁵	Max. 56-Day Surface Resistivity ⁶
PCD	4,000	TBD	--	TBD ± 1.5 ⁷	9	5.5% – 8.5%	0.032%	Low
PCS	3,500	TBD	--	TBD ± 2.5 ⁷	9	5.5% – 8.5%	0.042%	Low
SCC	4,000	TBD	≤ 1	TBD ⁸	--	6.5% – 8.5%	--	Low

¹ PCD = Performance Concrete, Deck

PCS = Performance Concrete, Substructure

SCC = Self Consolidating Concrete

² The listed 28-day compressive strength is the minimum strength required to meet the design intent.

³ The target W/CM ratio is to be determined by the contractor. During production the W/CM ratio shall be within + 0.05 of the target W/CM ratio. At no time may the W/CM ratio exceed 0.500, nor the total water content exceed 280 lbs/yd³. For Class SCC, the maximum W/CM ratio shall be determined by the Contractor.

⁴ See Subsection 501.03(b)(2).

⁵ The Contractor shall determine the free shrinkage in accordance with Subsection 501.03(c)(3).

⁶ The Contractor shall determine the surface resistivity in accordance with Subsection 501.03(c)(4).

⁷ The Contractor shall determine a slump target that will allow enough workability to be placed and finished per Contract requirements. The slump shall be maintained within the specified range for the placement. The mix shall not exhibit segregation. If the mix does exhibit segregation or exceeds the maximum slump, the load shall be rejected and subsequent loads shall be tested by the Contractor until the mix meets the allowable limits.

⁸ The Contractor shall determine the spread target and limits in accordance with Subsection 501.03(b)(1). The spread shall be maintained within the determined spread limits for the placement. The mix shall not exhibit segregation. If the mix does exhibit segregation or exceeds the upper spread limit, the load shall be rejected and subsequent loads shall be tested by the Contractor until the mix meets the allowable limits. The Engineer may perform a J-ring test at the time of placement if blocking is a concern.

If a nominal maximum aggregate size is not specified, the Contractor shall determine the nominal maximum aggregate size using guidance from *ACI 211.1* to do so. In no case will the maximum aggregate size exceed 1/5 of the narrowest dimension between sides of the forms, 1/3 the depth of slabs, nor 3/4 of the minimum clear spacing between individual reinforcing bars, bundles of bars, or pre-tensioning strands unless approved by the Engineer.

The Contractor may use industry methods to develop gradations not specified in Section 704 in order to create better optimized gradations to satisfy the required concrete performance characteristics. If the Contractor is using a combined gradation, they shall provide the method or methods of how they will monitor gradation, the limits of the gradation ranges, and the frequency of monitoring.

Lightweight fine aggregate may be used up to 30% by volume replacement for normal weight sand. The gradation of the lightweight fine aggregate shall conform to the requirements of *AASHTO M 195*. The lightweight fine aggregate shall be conditioned for enough time to fully saturate the material.

The stockpile shall be constructed so that it contains uniform moisture content throughout the pile. The stockpile will be allowed to drain 12 to 15 hours immediately prior to use, unless an alternate procedure is approved by the Structural Concrete Engineer. The Contractor shall state the method, duration and procedure used to confirm that the material is at or above its saturated surface dry (SSD) value, by weight, throughout the pile.

The mix may contain a shrinkage compensating admixture conforming to the requirements of *AASHTO M 194* *M/M 194* or *ASTM C 494/C 494 M*.

The use of chlorides or admixtures containing chlorides is prohibited. All admixtures will be considered incidental to the work and included in the Contract Unit Price of the concrete.

The concrete shall have air content by volume as specified. The entrained air shall be obtained using an approved admixture.

The concrete materials may be proportioned using the absolute volumes method in accordance with the specified requirements. The volumetric proportioning method such as that outlined in *ACI 211.1*, or other approved volumetric proportioning methods, shall be employed in the mix design.

A minimum of 30 Calendar Days prior to placement of the trial pour (or prior to the pre-placement meeting, if the trial pour is waived by the Engineer), the Contractor shall submit for approval the mix design for the class of concrete specified. The mix designs shall be submitted to the Structural Concrete Engineer at the Agency's Materials Section Central Laboratory. No class of concrete shall be placed on a project, including the trial pour, until the mix design is approved.

- (a) The mix design must contain the following information:
  - (1) Class of concrete.
  - (2) Type of mix, conventional or self-consolidating concrete (SCC).
  - (3) Specify if saturated surface dry or dry weights.
  - (4) Aggregates – Types, sources, specific gravities, and absorption values.
  - (5) Specified 28-day design compressive strength, psi.
  - (6) Cementitious content and the amount of each, pounds per cubic yard.
  - (7) Air content lower limit and upper limit, percent.

- (8) Specified surface resistivity value.
- (9) Slump range for conventional concrete, inches.
- (10) Determined spread lower limit and upper limit for SCC.
- (11) Water/cementitious materials (W/CM) ratio target value.
- (12) Volumetric quantities of each material in the mix design.
- (13) Design unit weight of the mix.
- (14) Chemical Admixtures – Types, brand names, and dosages.

Concrete test mix or mixes shall be used to obtain the test results where applicable. All wet testing shall be done by personnel with current ACI Concrete Field Testing Technician Grade I certifications. All other tests shall be performed by an independent Laboratory that is accredited in the particular test method, or as allowed by the Engineer.

- (b) The following preliminary mix qualification tests shall be performed:
- (1) The contractor shall determine the lower and upper spread limit for SCC concrete. The J-Ring Test and the Spread Test will be conducted at both the lower and upper spread limits. The J-Ring Test will be conducted per the requirements of *ASTM C 1621/C 1621 M*, and the Spread Test will be conducted per the requirements of *ASTM C 1611/C 1611 M*.  
  
The J-Ring test results shall be compared to the Spread Test results at both the upper and lower limits. The difference between the two tests at both the upper and lower limit shall not be greater than 2 inches. At both the upper and lower limits, the Visual Stability Index (VSI) shall not be greater than 1.
  - (2) The contractor shall provide test results that establish the quality of the entrained air void structure and the freeze-thaw durability of the concrete. Sampling shall be performed in accordance with *AASHTO R 60* on a trial batch of concrete that is a minimum of 3 cubic yards, and which meets the following requirements:
    - a. For all concrete, the air content shall be no more than 1.5% above the lower limit established in Table 501.03A.
    - b. For conventional concrete, the slump shall not exceed 5 inches.
    - c. For SCC concrete, the spread shall not be more than 5 inches greater than the minimum spread determined as specified in Subsection 501.03(b)(1), nor shall the spread exceed the maximum spread determined as specified in Subsection 501.03(b)(1).



Conventional concrete shall be tested for slump (*AASHTO T 119 M/T 119*), air content (*AASHTO T 152*), concrete temperature (*ASTM C 1064/C 1064 M*), and characterization of the air-void system of freshly mixed concrete by the sequential pressure method (*AASHTO TP 118*). The Contractor shall make a minimum of 2 concrete cylinders per *AASHTO T 23*.

SCC concrete shall be tested for spread (*ASTM C 1611/C 1611 M*, Procedure B), air content (*AASHTO T 152*), concrete temperature (*ASTM C 1064/C 1064 M*), and characterization of the air-void system of freshly mixed concrete by the sequential pressure method (*AASHTO TP 118*). The Contractor shall make a minimum of 2 concrete cylinders per *AASHTO T 23*.

The cylinders shall be cured for a minimum of 5 Calendar Days prior to being tested according to the requirements of *ASTM C 457*. The wet test results shall be included with the *ASTM C 457* results.

The tests required in Subsection 501.03(b)(2) will be used by the Agency to evaluate the quality of the entrained air void structure of the concrete. These test results will be used for informational purposes only and will not be used to determine the acceptability of the mix design.

- (c) The additional mix qualification test results specified below shall accompany the mix design. Testing should be done on the same test batch where applicable.
- (1) The concrete used to determine the additional mix qualification properties shall meet the following requirements:
    - a. For all concrete, the air content shall be not be more than 1.5% above the lower limit.
    - b. For conventional concrete, the slump shall be between 5 inches and 9 inches, and the W/CM ratio shall be 0.05 above the target.
    - c. For SCC concrete, the spread shall be within 5 inches of the maximum spread limit, and the W/CM ratio shall be the maximum W/CM ratio, as determined by the contractor.
  - (2) The compressive strength of the concrete shall be measured based on the requirements of *AASHTO T 22* for 7, 14, and 28-Calendar Day standard cured cylinders.
  - (3) The free shrinkage rate of the concrete shall be tested per the requirements of *AASHTO T 160*. The test specimen shall be a prism of 4 inch square cross section. Procedure 11.1.2 of *AASHTO T 160* shall be followed for storage and measurements, and all specified test age results shall be submitted. Specimen testing may be terminated after 28 Calendar Days of drying. Testing shall be performed by an independent Laboratory accredited in the specific test method.

- (4) The surface resistivity of the test mix shall be measured at 28 and 56 Calendar Days based on the requirements of *AASHTO T 358*. Results shall be categorized as Low, Very Low, or Negligible in accordance with *AASHTO T 358*, Table 1.
- (d) The Alkali-Silica Reactivity (ASR) of each type of aggregate shall be measured separately based on the requirements of *AASHTO T 303*. If one or more of the aggregates exceeds 0.10% expansion, then the aggregate shall be tested again according to the requirements of *ASTM C 1567*.

The Contractor may elect to go directly to *ASTM C 1567* testing if they suspect that the aggregate may exceed the 0.10% expansion if tested by *AASHTO T 303*. Testing shall be performed by an independent Laboratory accredited in the specific test method.

- (e) After the mix design furnished by the Contractor has been reviewed and approved by the Structural Concrete Engineer, no new materials shall be incorporated. In no case shall concrete from more than one mix design be permitted to be used during the same pour without prior written approval of the Engineer.

Mix design approvals will be valid for a 12-month period. The approved mix design will be allowed a two consecutive year re-approval if no material proportioning or material sources have changed from the previous year's approved mix design and the mix design is submitted with updated aggregate properties and volumes adjusted accordingly. The aggregate properties shall be tested within 60 Calendar Days of the mix design submission. The properties to be tested include, but are not limited to, specific gravity, unit weight, and absorption. The mix design shall be accompanied by the previously completed and accepted test mix data and any applicable updated test information.

501.04 BATCHING is hereby modified by deleting paragraphs one, two and three in their entirety and replacing them with the following:

501.04 BATCHING. Measuring and batching of materials shall be done at an approved batch plant. Batch plants shall have an inspection completed prior to the first concrete placement on an Agency project if it has been longer than 12 calendar months from the last inspection. Request for inspection and required documentation must be received by the Materials Testing and Certification Section a minimum of 21 Calendar Days prior to the date of the requested inspection.

All deficiencies shall be corrected and verified a minimum of 5 Calendar Days prior to the first concrete placement for any Agency project. The batch plant shall meet the requirements of *AASHTO M 157*, except as modified in these Specifications, and shall always be maintained in good repair. The batch plant shall be subject to periodic inspections by Authorized Representatives of the Agency. The batch plant shall have approved methods of storing, measuring, and dispensing approved mineral admixtures.

All concrete batch plants offered for Agency approval shall be equipped for semi-automatic batching and proportioning of all cementitious material, aggregates, water, and for the automatic insertion of admixtures. The plants shall be equipped to automatically and accurately record, report, and print batch weight tickets in English units the quantity of all aggregates, cementitious material, and the water incorporated into each batch and shall identify and record the addition of the required admixtures. All materials added to the concrete batch after initial batching shall be added to the printed batch weight ticket prior to delivery.

501.05 MIXING AND DELIVERY, parts (a)(2) and (a)(3), are hereby modified by being deleted in their entirety and replaced with the following:

- (2) Authorization by Field Inspection personnel must be obtained prior to the addition of water or admixtures at the project site. If water is added in excess of the specified maximum W/CM ratio, the concrete shall not be used.
- (3) Each load of concrete delivered at the job site shall be accompanied by a State of Vermont Batch Slip signed by the authorized Agency representative, if present, at the plant. If an Agency representative is not present at the time of batching, a batch weight ticket meeting the requirements of Subsection 501.04 shall accompany the delivery vehicle.

SECTION 506 – STRUCTURAL STEEL

506.02 MATERIALS is hereby modified by deleting the second entry in the Subsection listing and replacing it with the following:

Structural Steel Coating Systems.....708.03

506.02 MATERIALS is hereby modified by inserting the following as the third entry in the Subsection listing:

Grease Rustproofing Compound.....708.04

506.03 GENERAL FABRICATION REQUIREMENTS is hereby modified by deleting paragraphs three, four, five, and six in their entirety and replacing them with the following:

Prior to performing any work under this Section, the fabricator must have received approval for all Fabrication Drawings, welding procedures and any special Contract requirements and have notified the Agency’s Structural Steel Fabrication Engineer in writing at least 10 Working Days in advance of fabrication. The Contractor shall bear full responsibility and costs for all materials ordered, raw materials stockpiled, or for work performed prior to approval of the Fabrication Drawings or written authorization from the Structures Engineer.

Excepted as noted in this Subsection, all work shall be performed by the fabricator indicated on the approved Fabrication Drawings, unless otherwise authorized in writing by the Structural Steel Fabrication Engineer. For coatings, if the fabricator intends to use a Subcontractor, it shall be clearly outlined on the fabrication drawings to be submitted for review. At a minimum, the provided information shall include the Subcontractor's name and address; the name, phone number and e-mail address of the quality control (QC) contact; and an acknowledgement of the VTrans quality assurance (QA) inspection requirements which apply to the Subcontractor.

If the fabricator wishes to request the use of a Subcontractor for material processing (e.g. cutting, drilling, bending, rolling, punching, machining, etc.), they shall submit a set of the previously approved shop drawings to the Agency for review, with the requested changes and required information clearly marked and indicated (e.g. by making all additional notes red). At a minimum, the submittal shall include the Subcontractor's name and address; the name, phone number and e-mail address of the quality control (QC) contact; an acknowledgement of the VTrans quality assurance (QA) inspection requirements which apply to the Subcontractor; and clear information on the extent and limits of work to be performed by the Subcontractor

Requests will be evaluated on a case by case basis and may be rejected by the Agency for any reason. Use of a Subcontractor does not relieve the fabricator of any responsibilities or quality control requirements specified by the Contract.

Structural steel furnished under this Section shall be fabricated in a plant having an AISC Certified Bridge Fabricator – Advanced (ABR), or Intermediate (IBR) Certification, and in a plant approved by the Agency prior to Contract Execution. Structural steel components (such as bridge rail, bridge joints, and overhead sign structures) which are fabricated under this Section may be fabricated in a plant that does not have an ABR or IBR Certification, provided that the fabrication plant has either an AISC Certified Bridge Fabricator – Simple (SBR) Certification, or an AISC Bridge Component QMS Certification, and is approved by the Agency prior to Contract Execution.

Minor steel components, including, but not limited to, downspouts, scuppers, and pedestrian hand railings may be fabricated in a plant that does not have an ABR or IBR Certification, provided that the fabrication plant is approved in writing by the Structures Engineer prior to Contract Execution. All plants without certification shall have an organization, operation and equipment capable of producing a product equal to a certified plant.

Structural steel that is to be painted or metalized under this section shall be coated in a plant having an AISC Sophisticated Paint Endorsement – Enclosed, or SSPC-QP 3 – Enclosed Shop certification and which has been approved by the Agency prior to Contract Execution.

When certified fabrication or coating plants are required, the plant shall maintain certified status throughout the duration of the work under the Contract.

506.03 GENERAL FABRICATION REQUIREMENTS, part (c), is hereby modified by deleting subpart (1) in its entirety and replacing it with the following:

- (1) Inspectors. Quality control inspectors shall be onsite full time during any hot work (e.g. burning, heating, welding, etc.), as well during as any operations that may affect the quality of the coating system.
  - a. Fabrication Inspectors. The fabricator’s representative responsible for fabrication inspection, testing and quality matters shall be qualified and certified in accordance with the provisions of *AWS QC 1*.
  - b. Coating Inspectors. The fabricator’s coatings quality control manager shall possess a minimum classification as a NACE Coating Inspector Level 2 – Certified. The coatings quality control inspector shall possess a minimum classification as a NACE Coating Inspector Level 1 – Certified.

506.03 GENERAL FABRICATION REQUIREMENTS, part (d)(3), is hereby modified by deleting the last sentence, which begins with “The Engineer reserves the right...” and replacing it with “The Structural Steel Fabrication Engineer reserves the right to reject inadequate office facilities and require suitable alternatives.”

506.03 GENERAL FABRICATION REQUIREMENTS, part (e), is hereby modified by adding the word “Execution” as the last word of the subsection.

506.04 DRAWINGS AND PROCEDURES, part (c), is hereby modified by being deleted in its entirety and replaced it with the following:

- (c) Welding Procedures. Detailed welding procedures shall be prepared in accordance with the provisions of the applicable AWS/ANSI/AASHTO code revisions and submitted in accordance with the following:
  - (1) All procedures shall be prequalified. Procedure qualification test records shall be submitted along with each procedure. Heat input values during welding shall be shown for each procedure.
  - (2) Welding procedure Specifications shall be presented in a format similar to *Form O-2* of *AWS D1.5*, Annex O (See Annex M for *AWS D1.1*). Procedure qualification test records shall be presented in a format similar to *Form O-3* and *Form O-4* of *AWS D1.5*, Appendix O (See Annex M for *AWS D1.1*).
  - (3) Details of welded joints not prequalified under *AWS D1.5*, Section 2.7 shall be qualified.

506.05 QUALITY ACCEPTANCE, part (b), is hereby modified by deleting the sentence “The QAI will have the authority to reject any material or work that does not conform to the Contract requirements.” in its entirety.

506.06 QUALITY CONTROL, part (b), is hereby modified by being deleted in its entirety and replaced it with the following:

(b) Qualifications of Inspectors. Inspectors shall meet the requirements of Subsection 506.03(c).

506.10 WELDING, part (d), is hereby modified by adding the word “VTrans” immediately before the phrase “prequalified welder list.” in the first paragraph, and by adding the word “VTrans” immediately before the phrase “*Field Welding Manual*” in the second paragraph.

506.10 WELDING, part (e)(1), is hereby modified by deleting the third and fourth paragraphs in their entirety. The deleted text begins with “Process and procedure qualification record tests...” and ends with “... similar to those provided in *AWS D1.5*.”

506.12 ASSEMBLY, part (d), is hereby modified by adding “,” (a comma) immediately following the phrase “All sharp corners”.

506.12 ASSEMBLY, part (d), is hereby further modified by adding the word “minimum” immediately before the phrase “1/16 inch radius”.

506.14 SURFACE PREPARATION is hereby modified by being deleted in its entirety and replaced it with the following:

506.14 SURFACE PREPARATION. All materials shall be blast-cleaned to the specified grade as defined by the *SSPC Painting Manual* and supplemented by reference to *SSPC-VIS 1*. Further preparation shall conform to the following:

- (a) Surfaces to Remain Uncoated. Surfaces shall be blast-cleaned at least equivalent to Preparation Grade *SSPC-SP 10*. This work may be performed either before or after fabrication. The final surface appearance after fabrication shall be clean and free from any contaminants or blemishes so as to allow the metal to weather uniformly.
- (b) Surfaces to be Coated. Prior to application of any coating, all material to be coated shall be cleaned and prepared in accordance with the appropriate Contract Specifications.

506.18 ERECTION, part (b), is hereby modified by deleting subparts (2) and (3) in their entirety and replacing them with the following:



- (2) Drift pins shall be used to align and center the connections of main and secondary members. Only light drifting will be permitted. Any member subjected to drifting that results in distortion of the member or elongation of the holes will be rejected. Cylindrical erection pins, the same size as the hole, shall be used at least in the extreme corners of all main member connections.

Main members shall be match marked by the Fabricator and should fit together easily.

Main members shall not be reamed larger than the hole size indicated on the approved Fabrication Drawings without written authorization from the Project Manager. Secondary members may be subjected to limited field reaming with the written approval of the Engineer. Assembled parts that have been approved for field drilling or reaming shall be disassembled to remove any burrs, shavings, oils, or lubricants.

Pins used for hinged connections and bearings shall be inserted with care and aligned so the members take full and even bearing. Nuts shall be adequately tightened and locked in position either by upsetting the threads or tack welding the nut to the bolt.

- (3) Errors in shop fabrication that prevent proper assembly shall be reported immediately to the Engineer. The Engineer shall approve any corrective action prior to it occurring.

506.19 BOLTING AND CONNECTIONS, part (a), is hereby modified by adding the phrase “Structural Steel Fabrication” immediately before the word “Engineer” in the last sentence of part (a).

506.19 BOLTING AND CONNECTIONS, part (b), is hereby modified by deleting the sentence which reads “Faying surfaces of bolted connections shall meet the Class B slip coefficient value of not less than 0.50 as specified by AASHTO.” and replacing it with “Unless otherwise specified in the Contract Documents, faying surfaces of bolted connections shall have a Class B slip coefficient value of not less than 0.50 as specified by AASHTO.”

506.19 BOLTING AND CONNECTIONS, part (c), is hereby modified by adding the sentence “Unless otherwise indicated on the plans, *ASTM F 3125/F 3125 M* Grade A 325 hex head bolts shall be used.” immediately following the sentence “Bolts shall be tightened to develop a tension not less than 5% more than the minimum bolt tension specified in Table 506.19A.”

506.19 BOLTING AND CONNECTIONS is hereby modified by relabeling part (d), “Acceptance of Bolt Tensioning.” as “(e) Acceptance of Bolt Tensioning.”

506.19 BOLTING AND CONNECTIONS is hereby further modified by adding a new part “(d) Bolt Tensioning Methods.” The new part (d) will be composed of text that is currently located in part (c). The new part (d) will begin with the phrase “Bolts shall be tensioned by the Contractor in the presence of the Engineer...” and will contain all text and tables up to and including Note 4 of Table 506.19B.

All references to “Column 3 of Table 506.19B” within the text identified above shall be replaced with the phrase “Column 4 of Table 506.19B”.

506.19 BOLTING AND CONNECTIONS, part (d)(1), is hereby modified by adding the sentence “This method shall only be used when required by the Contract.” immediately following the sentence “This method shall be employed when installing button-headed or dome-headed high-strength bolts.”

506.19 BOLTING AND CONNECTIONS, part (e), is hereby modified by deleting the phrase “or stick out not more than three threads” from the last sentence of the ninth paragraph.

506.23 UNCOATED STEEL is hereby modified by being deleted in its entirety and replaced with the following:

506.23 STEEL SURFACES AND COATINGS.

- (a) Uncoated Steel. Care must be taken to keep chemicals and oils from contacting the exposed surfaces of unpainted steel during storage, erection, and construction of the deck.
  - (1) Staining of Masonry. The Contractor shall protect all concrete and masonry from staining due to oxide formation on the steel.
  - (2) Cleaning of Steel. After all concrete has been placed, the outside surface of the fascia beams and bottom surface of their lower flanges shall be cleaned of all foreign material to a uniform appearance. The Engineer may require the exposed surfaces to be blast cleaned to Preparation Grade *SSPC-SP 10*. The use of acids for cleaning is prohibited.
- (b) Galvanized Steel. All steel surfaces to be galvanized per Contract Plans shall be coated in accordance with Subsection 726.08. Certifications as described in *ASTM A 123*, Section 10 for the completed products shall be furnished to the QA Inspector (or the Structural Steel Fabrication Engineer, if there is no QA Inspector assigned to the project) prior to shipment from the galvanizer's plant. Certifications shall include a report of all test results.
- (c) Metalized Steel. All steel surfaces to be metalized per Contract Plans shall be metalized and seal coated in accordance with Subsection 726.09.
- (d) Painted Steel. When the Contract Plans specify shop painted structural steel, the work shall be performed in accordance with the requirements of this Subsection.
  - (1) Materials. The fabricator shall provide a three coat paint system meeting the requirements of Subsection 708.03.

Shop applied systems may have isolated areas where the coatings were damaged during shipping or erection and will have areas around faying surfaces that may need field applied primer, intermediate, and top coatings. Thus, any coating system that is used in the shop shall be acceptable for the field conditions that are expected to be encountered.

(2) Submittals. The fabricator shall submit a complete package, in accordance with Subsection 105.03 for Construction Drawings, which includes the following information. The submittals shall be made sufficiently in advance of coating work to allow for review, resubmittals, and approval.

a. Surface Preparation/Painting Plan. The surface preparation/painting plan shall include the specified methods of surface preparation and type(s) of equipment to be utilized for removal of rust, mill scale, or foreign matter. The plan shall identify the solvents proposed for solvent cleaning, together with the solvent Safety Data Sheets (SDS). If any detergents, additives, or inhibitors are incorporated into the water used for any coating work operations, the plan shall include the names of the materials and their SDS.

The plan shall also include the methods of coating application, including any required stripe coats, and all equipment to be utilized.

The plan shall also identify all applicable QC/QA Hold Points. Specific inspection items throughout these specifications are designated as Hold Points. These Hold Points are for the QA Inspector to perform inspections. QA inspections will be performed only after a proper QC inspection by the fabricator. Permission to proceed beyond a Hold Point without a QA inspection will be granted solely at the discretion of the Structural Steel Fabrication Engineer, and only on a case-by-case basis. If re-work is necessary, as determined by a QA inspection, it shall be accomplished and a new Hold Point for the re-work shall be observed as defined above.

b. Abrasives. The fabricator shall submit the type of abrasives to be used for abrasive blast cleaning and their SDS. For expendable abrasives, the Contractor shall provide certification from the abrasive supplier that the abrasive meets the requirements of *SSPC-AB 1*. For steel grit abrasives, the certification shall indicate that the abrasive meets the requirements of *SSPC-AB 3*.

- c. Coating System Information. The fabricator shall submit the latest version of the product manufacturer's application and thinning instructions, SDS, and product data sheets for each and every coating, thinner, sealer, and grease rustproofing compound. Specific attention shall be drawn to storage temperatures and the temperatures of the material, surface, and ambient air at the time of application. Recommended minimum ambient weather conditions during curing shall also be included. A letter or written instructions from the coating manufacturer shall be provided indicating the length of time that each coat must be protected from cold or inclement weather (e.g. exposure to rain) during the drying/curing period.

When the Agency accepts the submittals, the fabricator will receive written notification. The fabricator shall not construe Agency acceptance of the submittals to imply approval of any particular method or sequence for conducting the work, or for addressing health and safety concerns. Acceptance of the submittals does not relieve the fabricator from the responsibility to conduct the work according to the requirements of Federal, State, or local regulations, this Specification, or to adequately protect the health and safety of all workers involved in the project and any members of the public who may be affected by the project. The fabricator remains solely responsible for the adequacy and completeness of the programs and work practices, and adherence to them.

- (3) Quality Control (QC) Inspections. The fabricator shall perform first line, in progress QC inspections. The personnel performing any QC tests shall be trained in coatings inspection and the use of the testing instruments. Documentation of training shall be provided upon request. Painters shall perform wet film thickness measurements, with the Quality Control Inspector conducting random spot checks of the wet film. Reports for all quality control testing and observations shall be completed and provided to the QA Inspector on a daily basis.

- a. Fabricator QC inspections shall include, but are not limited to, the following:
1. Ambient conditions.
  2. Compressed air cleanliness.
  3. Surface preparation and surface profile (solvent cleaning, abrasive blast cleaning, etc.).
  4. Coating application (materials verification, mixing, thinning, induction/sweat-in time, and wet/dry film thickness).
  5. Recoat times and cleanliness between coats.

6. Coating continuity and coverage (freedom from runs, sags, overspray, dry spray, pinholes, shadow-through, skips, misses, etc.).
  7. Records of fabricator QC inspections shall document any applicable product batch numbers.
- b. The following equipment shall be provided by the fabricator as necessary to perform QC inspections:
1. Psychrometer or comparable equipment for the measurement of dew point and relative humidity, together with all necessary tables or psychrometric charts.
  2. Surface temperature Digital Spot Thermometer.
  3. *SSPC-VIS 1 - Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning* and *SSPC-VIS 3 - Visual Standard for Power and Hand-Tool Cleaned Steel*, as applicable.
  4. Commercially available putty knife of a minimum thickness of 40 mils and a width between 1 and 3 inches.
  5. Replica tape and spring micrometer.
  6. Wet film thickness gauge.
  7. Blotter paper for compressed air cleanliness checks.
  8. Type 2 electronic dry film thickness gauge per *SSPC-PA 2 Measurement of Dry Coating Thickness with Magnetic Gauges*.
  9. Calibration standards for dry film thickness gauge.
  10. Light meter for measuring light intensity during surface preparation, painting, and inspection activities.
  11. Printed copies of all applicable ASTM and SSPC Standards used for the work.
  12. *SSPC Manual of Good Painting Practice, Volume 1*.

The instruments shall be calibrated within 12 months of the date of Project usage or according to the equipment manufacturer's recommendations and the fabricator's QC Program if they require a shorter duration.

- (4) Quality Assurance (QA) Observations. The QA Inspector will conduct QA observations of any or all phases of the work. The presence or activity of QA Inspector observations in no way relieves the fabricator of the responsibility to provide all necessary daily QC inspections and to comply with all requirements of this specification.

The Structural Steel Fabrication Engineer has the right to reject any work that was performed without adequate provision for QA observations.

- (5) Inspection Access and Lighting. The fabricator shall provide artificial lighting in areas where natural light is inadequate, to allow proper cleaning, inspection, and painting. Illumination for inspection shall be at least 30 foot-candles.

- (6) Surface Preparation and Painting Equipment. All cleaning and painting equipment shall include gauges capable of accurately measuring fluid and air pressures and shall have valves capable of regulating the flow of air, water, or paint as recommended by the equipment manufacturer. The equipment shall be maintained in proper working order.

Hand tools, power tools, abrasive blast cleaning equipment, brushes, rollers, and spray equipment shall be of suitable size and capacity to perform the work required. All power tools shall be equipped with vacuums and High Efficiency Particulate Air (HEPA) filtration. Appropriate filters, traps, and dryers shall be provided for the compressed air used for abrasive blast cleaning and conventional spray application. Paint pots shall be equipped with air operated continuous agitation devices unless prohibited by the coating manufacturer. The air discharge from power tools and air motors shall be directed away from steel surfaces; if this is not possible a filtering device shall be appropriately placed.

- (7) Ambient Conditions. Surfaces to be painted after cleaning shall remain free of moisture and other contaminants. The fabricator shall control operations to ensure that dust, dirt, or moisture does not come in contact with surfaces cleaned or painted that day. The following ambient conditions shall be met:

- a. The surface and ambient temperatures shall be at least 5°F above the dew point during final surface preparation operations.
- b. The surface and ambient temperatures shall be a minimum of 40°F, at least 5°F above dew point, and the maximum relative humidity shall be less than or equal to 85% during the application and cure/dry time of each coat of the paint system. If the manufacturer's published literature is more restrictive it shall be followed for specific temperature, dew point, and humidity conditions during the application cure/dry of each coat. The cure/dry time shall be measured as the time following application when the ambient conditions are within the ranges above.



The fabricator shall monitor and document temperature, dew point, and relative humidity at the beginning of each Work Day and every 4 hours during surface preparation and coating application, in the specific areas where the work is being performed. The frequency of monitoring shall increase if weather conditions are changing. If the weather conditions are forecast to be borderline relative to the limits established by the manufacturer, monitoring shall continue at a minimum of 4 hour intervals throughout the curing/drying period. The Structural Steel Fabrication Engineer has the right to reject any work that was performed under unfavorable weather conditions. Rejected work shall be removed, re-cleaned, and repainted at the fabricator's expense.

- (8) Compressed Air Cleanliness. Prior to using compressed air for abrasive blast cleaning, blowing down the surfaces, and painting with conventional spray, the fabricator shall verify that the compressed air is free of moisture and oil contamination in accordance with the requirements of *ASTM D 4285*. The tests shall be conducted at least one time each shift for each compressor system in operation. If air contamination is evident, the fabricator shall change filters, clean traps, add moisture separators or filters, or make other adjustments as necessary to achieve clean, dry air. The fabricator shall also examine the work performed since the last acceptable test for evidence of defects or contamination caused by the compressed air. Affected work shall be repaired at the fabricator's expense.
- (9) Surface Preparation and Profile (Hold Point).
  - a. Surface Preparation. All steel surfaces to be painted shall be prepared by dry abrasive blast cleaning to meet the requirements of *SSPC-SP 10*.
  - b. Abrasives. Abrasive blast cleaning shall be performed using either expendable abrasives (other than silica sand), or recyclable steel grit abrasives. Expendable abrasives shall be used one time and disposed of. The fabricator shall verify that recycled abrasives are free of oil contamination by conducting oil content tests in accordance with *SSPC-AB 2* on a daily basis.
  - c. Surface Profile. The abrasives used for blast cleaning shall have a gradation such that the abrasive will produce a uniform surface profile of 1.5 to 3.5 mils. If the profile requirements of the coating manufacturer are more restrictive, the fabricator shall advise the Structural Steel Fabrication Engineer and comply with the more restrictive requirements. For recycled abrasives, an appropriate operating mix shall be maintained in order to control the profile within these limits.

The surface profile produced by the fabricator's surface preparation procedures shall be determined by replica tape and spring micrometer at the beginning of the work, and each day that the surface preparation is performed. Areas having unacceptable measurements shall be further tested to determine the limits of the deficient area. The replica tape shall be attached to the daily report.

When unacceptable profiles are produced, work shall be suspended. The fabricator shall make the necessary adjustments to ensure that the correct surface profile is achieved on all surfaces. The fabricator shall not resume work until the new profile is verified by the QA observations and he/she confirms that the profile is acceptable.

- d. Surface Condition Prior To Painting. Prepared surfaces shall meet the specified degrees of cleaning immediately prior to painting, and shall be painted before rusting appears on the surface. If rust appears or bare steel remains unpainted for more than 8 hours, the affected area shall be prepared again at the expense of the fabricator.

All surface preparation cleaning residue on steel surfaces shall be removed prior to painting.

The quality of surface preparation and cleaning of surface dust and debris must be accepted by the QA Inspector prior to painting. The Structural Steel Fabrication Engineer has the right to reject any work that was performed without adequate provision for QA observations to accept the degree of cleaning. Rejected coating work shall be removed and replaced at the fabricator's expense.

- (10) General Paint Requirements. Paint storage, mixing, and application shall be accomplished according to these Specifications and as specified in the paint manufacturer's written instructions and product data sheets for the paint system used. In the event of a conflict between these specifications and the coating manufacturer's instructions and data sheets, the fabricator shall advise the Structural Steel Fabrication Engineer and comply with the most restrictive requirements.

- a. Paint Storage and Mixing. All paint shall be stored according to the manufacturer's published instructions, including handling, minimum and maximum temperatures, and warming as required prior to mixing. All coatings shall be supplied in sealed containers bearing the manufacturer's name, product designation, batch number, and mixing/thinning instructions. Leaking containers shall not be used. The paint shall be stored in a secure fireproof location.

Mixing shall be performed according to the manufacturer's instructions. Thinning shall be performed using thinner provided by the manufacturer, and only to the extent allowed by the manufacturer's written instructions. In no case shall thinning be permitted that would cause the coating to exceed the local Volatile Organic Compound (VOC) emission restrictions. For multiple component paints, only complete kits shall be mixed and used. Partial mixing is not allowed.

The ingredients in the containers of paint shall be thoroughly mixed by mechanical power mixers according to the manufacturer's instructions, in the original containers before use or mixing with other containers of paint. The paint shall be mixed in a manner that will break up all lumps, completely disperse pigment, and result in a uniform composition. Paint shall be carefully examined after mixing for uniformity and to verify that no unmixed pigment remains on the bottom of the container.

Excessive skinning or partial hardening due to improper or prolonged storage will be cause for rejection of the paint, even though it may have been previously inspected and accepted. Manufacturer recommended induction/sweat-in times and temperature of mixed coatings shall be observed.

Multiple component coatings shall be discarded after the expiration of the pot life. Single component paint shall not remain in spray pots, paint buckets, etc. overnight and shall be stored in a covered container and remixed before use.

- b. Paint Application. Unless prohibited by the coating manufacturer's written instructions, paint may be applied by spray methods, rollers, or brushes. If applied with conventional or airless spray methods, paint shall be applied in a uniform layer with overlapping at the edges of the spray pattern.

The painters shall monitor the wet film thickness of each coat during application. The wet film thickness shall be calculated based on the specified dry film thickness using the solids by volume of the material and the amount of thinner added.

When brushes or rollers are used to apply the coating, additional applications may be required to achieve the specified thickness per layer.

- c. Re-coating and Film Continuity (Hold Point for Each Coat). Paint shall be considered dry for re-coating according to the re-coat time/temperature/humidity criteria provided in the manufacturer's instructions and when an additional coat can be applied without the development of film irregularities such as lifting, wrinkling, or loss of adhesion of the under coat.

- d. Stripe Coats. Unless indicated otherwise in the Contract, the Contractor shall apply an additional stripe coat to edges, crevices, welds, and similar surface irregularities for the prime coat and intermediate coat. The stripe coat shall be applied by brush or roller, as per manufacturer's recommendations, such that the coating is thoroughly worked into or on the irregular surfaces, and shall extend onto the surrounding steel a minimum of 1 inch in all directions. The purpose of the stripe coat is to build additional thickness and to assure complete coverage of these areas.

The stripe coat shall not be applied as part of the application of the full coat. The stripe coat shall be applied and dried separately according to the manufacturer's recommended drying times. Also, the color of the stripe coat shall contrast with the colors used for the full coats immediately preceding and succeeding the stripe coat.

- e. Coating Sequence. For locations painted under this specification, coatings shall be applied as follows:
1. Prime Coat. The full prime coat shall be applied first to protect the steel. Once the full prime coat has dried, the prime stripe coat shall be applied.
  2. Intermediate Coat. After the prime stripe coat has dried, an intermediate stripe coat shall be applied and allowed to dry, followed by the full intermediate coat.
  3. Top Coat. After the full intermediate coat has dried, the full top coat shall be applied.

- (11) Coating Thickness. The dry film thicknesses of the full coats shall be as follows, as measured in accordance with *SSPC-PA 2*. If the manufacturer's upper or lower thickness limit is more restrictive, it shall be followed instead.

1. The prime coat of organic zinc-rich primer shall be between 3.5 and 5.0 mils dry film thickness.
2. The intermediate coat of epoxy or urethane shall be between 3.0 and 6.0 mils dry film thickness.
3. The finish coat of aliphatic urethane shall be between 2.5 and 4.0 mils dry film thickness. Finish coat color shall be according to Contract Documents.

- (12) Amine Blush. Amine blush is a residue that can form on newly applied epoxy coating films under certain conditions. Amine blush often appears as a yellowish milky and/or a blotchy residue on the coating surface and is a deterrent to the adhesion of subsequently applied coating layers. If amine blush is detected, the Contractor shall provide the Engineer with written procedures from the coating manufacturer for complete removal prior to the application of additional coating layers.

Painting shall be done in a neat and workmanlike manner. Each coat of paint shall be applied as a continuous film of uniform thickness free of defects including, but not limited to, runs, sags, overspray, dry spray, pinholes, voids, skips, misses, and shadow-through. Defects such as runs and sags shall be brushed out immediately during application.

- (13) Repair of Damage to New Coating System. The Contractor shall repair all damage to the newly installed coating system, at no cost to the Agency. If the damage extends to the substrate, the damaged areas shall be prepared to meet *SSPC-SP 3*.

The surrounding coating at each repair location shall be feathered for a minimum distance of 1-1/2 inches to achieve a smooth transition between the prepared areas and the existing coating.

If the bare steel is exposed, all coats shall be applied to the prepared area. If only the intermediate and finish coats are damaged, the intermediate and finish coats shall be applied. If only the finish coat is damaged, the finish coat shall be applied.

All Hold Points and specifications are applicable to the repair of damaged areas and areas concealed by containment.

- (e) Grease Coating. When the Contract Plans specify that any steel surfaces are to be grease coated, all work shall be performed in accordance with Subsection 708.04.

Grease rustproofing compound shall be uniformly applied in a single coat by brush or spray at an approximate rate of 20 ft²/gal to the steel as specified. This shall occur after all concrete form work has been removed, and after the final coat of paint, including repairs, has fully cured. A fully cured condition has occurred when a thumbnail driven into the coating surface does not leave an impression and when a thumb firmly pushed against the surface and twisted does not disturb the coating.

Surfaces adjacent to areas being grease coated shall be protected against over-spray. Non-metallic and stainless steel surfaces shall not be coated.

506.25 BASIS OF PAYMENT is hereby modified by being deleted in its entirety and replaced with the following:

506.25 BASIS OF PAYMENT. The accepted quantity of Structural Steel will be paid for at the Contract Unit Price per pound for the items specified in the Contract. Payment will be full compensation for furnishing, detailing, handling, transporting, and placing the materials specified, including nondestructive testing of welds; for preparing the surface of new steel to be painted, galvanized, metalized, or to remain unpainted; for necessary field cleaning; and for painting, metalizing, sealing, galvanizing, or grease coating of surfaces, unless otherwise paid for. Payment will also be full compensation for furnishing and implementing the erection plan, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment for Structural Steel on a lump sum basis will be full compensation for performing all work specified and for furnishing all labor, materials, tools, equipment, erection plans, and incidentals necessary to complete the work.

The Engineer may authorize progress payments in the following manner:

- (a) A maximum of 15% of the estimated quantity may be paid when the Fabrication Drawings are approved for fabrication.
- (b) A maximum of 75% of the estimated quantity may be paid when the steel has been entirely completed and accepted per the approved Fabrication Drawings, stored in a location and manner accepted by the Structural Steel Fabrication Engineer, and all applicable material certifications have been approved.
- (c) A maximum of 90% of the estimated quantity may be paid when the steel has been erected, falsework removed, and painting of connections, and “touch-up” completed where required.
- (d) After completion and acceptance of all work under this Section, including extended weights being received and checked, 100% of the quantity will be paid.

All nondestructive testing and required quality control activities will be considered incidental to fabrication, and no separate payment will be made.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
506.50 Structural Steel, Rolled Beam.....	Pound
506.55 Structural Steel, Plate Girder .....	Pound
506.56 Structural Steel, Curved Plate Girder.....	Pound
506.57 Structural Steel, Truss.....	Pound
506.60 Structural Steel.....	Pound
506.75 Structural Steel.....	Lump Sum



SECTION 510 – PRESTRESSED CONCRETE

510.12 GROUT, part (b), is hereby modified by deleting the phrase “requirements of Subsection 707.03(c)(1) and Subsection 707.03(c)(3).” from the fifth paragraph and replacing it with the phrase “requirements of Subsection 707.03(a)(1) and Subsection 707.03(a)(3).”

SECTION 516 – EXPANSION DEVICES

516.02 MATERIALS is hereby modified by deleting the fourth entry, “Asphalt Plug Bridge Joint.....707.15”, from the Subsection listing and replacing it with the following:

Asphaltic Plug Joints for Bridges .....707.15

SECTION 519 – SHEET MEMBRANE WATERPROOFING

519.02 MATERIALS is hereby modified by being deleted in its entirety and replaced with the following:

519.02 MATERIALS. Materials shall meet the requirements of the following Subsections:

Waterproofing Membrane System, Type I .....726.11(a)

Waterproofing Membrane System, Type II .....726.11(b)

Spray applied membranes shall be a Waterproofing Membrane System, Type I, and torch applied membranes shall be a Waterproofing Membrane System, Type II.

SECTION 524 – JOINT SEALER

524.02 MATERIALS is hereby modified by deleting the sixth entry, “Asphalt Plug Bridge Joint.....707.15”, from the Subsection listing and replacing it with the following:

Asphaltic Plug Joints for Bridges .....707.15

SECTION 540 – PRECAST CONCRETE

540.02 MATERIALS is hereby modified by deleting the twenty eighth material entry, “Sheet Membrane Waterproofing, Preformed Sheet.....726.11”, from the Subsection listing and replacing it with the following:

Waterproofing Membrane System, Type III.....726.11(c)

540.10 INSTALLATION, part (c), is hereby modified by deleting the phrase “requirements of Subsection 726.11.” from the fifth paragraph and replacing it with the phrase “requirements of Subsection 726.11(c).”

540.11 GROUT, part (b), is hereby modified by deleting the phrase “requirements of Subsection 707.03(c)(1) and Subsection 707.03(c)(3).” from the fifth paragraph and replacing it with the phrase “requirements of Subsection 707.03(a)(1) and Subsection 707.03(a)(3).”

540.12 POST-TENSIONING is hereby modified by deleting the phrase “requirements of Subsection 510.12(b).” from the second paragraph and replacing it with the phrase “requirements of Subsection 540.11(b).”

540.14 BASIS OF PAYMENT, part (b), is hereby modified by deleting the word “prestressed” and replacing it with the word “precast”.

#### SECTION 543 – CONTRACTOR-FABRICATED PRECAST CONCRETE STRUCTURE

543.04 SUBMITTALS is hereby modified by deleting the first paragraph, which begins with “As soon as practical after award...” and ends with “...submitted as separate submittals”, in its entirety and replacing it with the following:

As soon as practical after award of the Contract, all required information shall be prepared and submitted. Fabrication Drawings and erection plans shall be submitted as separate submittals.

#### SECTION 605 – UNDERDRAINS

605.02 MATERIALS is hereby modified by adding the following as the eighth entry in the Subsection listing:

Geotextile for Underdrain Trench Lining.....720.05

605.02 MATERIALS is hereby further modified by deleting the sentence “Geotextile shall meet the requirements of Table 720.01A for Geotextile for Underdrain Trench Lining.”

#### SECTION 625 – SLEEVES FOR UTILITIES

625.02 MATERIALS is hereby modified by deleting the eighth entry, “Asphalt Plug Bridge Joint.....707.15”, from the Subsection listing and replacing it with the following:

Asphaltic Plug Joints for Bridges .....707.15

625.02 MATERIALS is hereby further modified by deleting the fifteenth entry, “Well Casing.....741.01”, from the Subsection listing.

SECTION 630 – UNIFORMED TRAFFIC OFFICERS AND FLAGGERS

630.01 DESCRIPTION is hereby modified by deleting the last sentence, which begins with “Flaggers and UTOs shall conform to...” and replacing it with “Flaggers and UTOs shall conform to the requirements of the Contract Documents and the current edition of the *MUTCD* and its latest revisions.”

630.02 GENERAL, part (b), is hereby modified by being deleted in its entirety and replaced with the following:

- (b) Safety Apparel. Traffic control personnel shall wear safety apparel in accordance with the most current edition of the *MUTCD* and its latest revisions. Traffic control personnel deemed to have unsuitable safety apparel by the Engineer shall be considered ineffective and shall be removed.

When operating during nighttime hours, between sunset and sunrise, traffic control personnel shall wear safety apparel meeting or exceeding performance Class 3 requirements of *ANSI/ISEA 107*, including Class E pants or gaiters.

630.04 FLAGGERS is hereby modified by deleting part (a) in its entirety and replacing it with the following:

- (a) Requirements. The Contractor shall verify that Flaggers meet the following requirements. Flaggers shall have successfully completed a 4-hour training course taught by a certified instructor within the last 24 months and shall carry proof of training at all times when on the Project. Certified instructors shall have successfully completed one of the following courses:
  - (1) Associated General Contractors of VT Traffic Control Technician/Flagger Trainer Course
  - (2) American Traffic Safety Services Association Flagger Instructor Training Course
  - (3) National Safety Council Flagger Instructor Course

SECTION 631 – FIELD OFFICE

631.08 TESTING EQUIPMENT, GROUT is hereby modified by deleting “1 Set of specimen molds meeting the requirements of *AASHTO T 106 M/T 106*” and replacing it with the following:

Specimen molds meeting the requirements of *AASHTO T 106 M/T 106*. The number of molds shall be sufficient to perform both the acceptance testing required for the contract item and any necessary control of work testing. Each specimen mold shall be capable of producing 3 individual cubes.

631.09 METHOD OF MEASUREMENT is hereby modified by deleting the sentence “Upon entering the cost of the submitted bill into the next biweekly estimate, the Engineer will forward the original paid bill to the Construction Office to be retained with the Project records and will place a copy of the paid bill into the field office records.” in its entirety.

#### SECTION 641 – TRAFFIC CONTROL

641.02 GENERAL CONSTRUCTION REQUIREMENTS is hereby modified by deleting paragraphs four, five, six and seven in their entirety and replacing them with the following:

- (a) Traffic Control. When the Contract includes the Traffic Control Pay Item, the Plans will contain an Agency-designed traffic control plan. The Contractor may implement the Agency-designed plan or submit an alternate traffic control plan for the Project. When the Contractor will implement an Agency-designed traffic control plan, written certification shall be submitted to the Engineer indicating that traffic control will be performed in accordance with the Agency design. An alternate plan may be for the entire traffic control plan of the Project or for revisions to various phases of the Agency’s design in the Plans, including the specific location of the lanes where the traffic will be maintained. Any alternate plan submitted shall conform to the latest edition of the *MUTCD*.

For an alternate traffic control plan, Construction Drawings shall be submitted in accordance with Section 105. The submitted alternative plan shall include complete construction details, including all aspects of traffic control, to the same extent provided in the Agency design. The Contractor shall allow the Agency 30 Calendar Days to Review the proposed plan for Conformance before it is to be implemented.

- (b) Traffic Control, All-Inclusive. When the Contract includes the Traffic Control, All-Inclusive Pay Item, the Contractor shall design and submit a site-specific traffic control plan in accordance with Section 105. The submitted site-specific plan shall include, for each phase of construction requiring a significant change in temporary traffic control, a narrative description of the proposed temporary traffic control for each phase, including pedestrian accommodations where appropriate, and the major work activities to be completed in each phase.

The submitted site-specific plan shall also include a layout for each phase of construction showing existing lane configurations, existing traffic control devices (signs, signals, and pavement markings), driveways, ramps, and highway intersections, and the location of all proposed temporary traffic control devices, Flaggers, and UTOs. All pertinent dimensions, such as taper lengths, sign spacing, temporary lane widths, and distances from existing traffic control devices shall be labeled.

641.03 TRAFFIC CONTROL DEVICES is hereby modified by adding the following as the thirteenth paragraph, immediately following the phrase “each consisting of a maximum of three lines of eight characters.”:

Each PCMS unit shall be tamper-resistant. The control cabinet shall be locked when not in use. Each PCMS shall also have a security system that will only allow access if a code or password is entered. The default code or password shall be changed upon deployment of the PCMS by the Contractor. PCMS boards featuring remote access shall also be password protected.

641.07 BASIS OF PAYMENT is hereby modified by being deleted in its entirety and replaced with the following:

641.07 BASIS OF PAYMENT.

- (a) Traffic Control and Traffic Control, All-Inclusive. The accepted quantity of Traffic Control and Traffic Control, All-Inclusive will be paid for at the Contract lump sum price. Payment will be full compensation for designing, preparing, implementing, inspecting, maintaining, and removing the applicable traffic control plan and specified traffic control devices, and for furnishing all labor (including traffic patrol vehicle operators, if used by the Contractor), tools, materials, equipment, and incidentals necessary to complete the work.

Partial payments for Traffic Control and Traffic Control, All-Inclusive will be made as follows:

- (1) The first 15% of the Contract lump sum price will be paid upon receipt of written certification from the Contractor that traffic control will be performed in accordance with the Agency-designed traffic control plan, or upon approval of the Contractor’s traffic control plan.
- (2) The remaining 85% of quantity payments will be paid on a prorated basis for the estimated duration of the Contract work remaining.

- (b) Portable Changeable Message Sign and Portable Arrow Board. The accepted quantities of Portable Changeable Message Sign and Portable Arrow Board will be paid for at the Contract Unit Price for each. There will be no payment for any spare units, as they shall be considered incidental to the unit(s) being utilized and paid for through the Contract.

Partial payment for Portable Changeable Message Sign and Portable Arrow Board will be made as follows:

- (1) The first 50% of quantity payments will be made upon the erection of complete Portable Changeable Message Sign(s) and Portable Arrow Board(s) as specified in Subsection 641.06.

- (2) The remaining 50% of quantity payments will be paid on a prorated basis for the estimated duration of the Contract work remaining.

The accepted quantities of Portable Changeable Message Sign Rental and Portable Arrow Board Rental will be paid for at the Contract Unit Price per day. The minimum quantity for payment shall be five days.

Payment for the accepted quantities of Portable Changeable Message Sign, Portable Arrow Board, Portable Changeable Message Sign Rental, and Portable Arrow Board Rental shall be full compensation for furnishing, operating, maintaining, transporting, and installing the unit specified, for removing the unit when it is no longer needed, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

When both Pay Items are in the Contract, a Portable Changeable Message Sign used as a Portable Arrow Board will be paid for at the Contract price for a Portable Arrow Board.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
641.10 Traffic Control .....	Lump Sum
641.11 Traffic Control, All-Inclusive .....	Lump Sum
641.15 Portable Changeable Message Sign .....	Each
641.16 Portable Arrow Board .....	Each
641.17 Portable Changeable Message Sign Rental.....	Day
641.18 Portable Arrow Board Rental.....	Day

SECTION 646 – RETROREFLECTIVE PAVEMENT MARKINGS

646.02 MATERIALS is hereby modified by deleting the ninth through sixteenth entries in the Subsection listing and replacing them with the following:

Line Striping Targets .....	708.12(a)
Pavement Marking Mask .....	708.12(b)
Pavement Marking Tape, Type A .....	754.03(a)
Pavement Marking Tape, Type B .....	754.03(b)
Pavement Marking Tape, Type C .....	754.03(c)

646.04 APPLICATION OF MARKINGS, GENERAL, part (a), is hereby modified by deleting both instances of the phrase “cold planing” from the second sentence (which begins with “During paving and cold planing, work shall be...”) of the sixth paragraph, and replacing them with the word “milling”.



646.07 DURABLE PAVEMENT MARKINGS, parts (a) and (b), are hereby modified by being deleted in their entirety and replaced with the following:

- (a) Pavement Marking Tape, Type A. Pavement Marking Tape, Type A, when used as a final durable marking, shall be applied in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements.
- (b) Pavement Marking Tape, Type B. Pavement Marking Tape, Type B, when used as a final durable marking, shall be applied in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements.

646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by deleting part (c), "Pavement Marking Tape, Type C" and part (d), "Pavement Marking Tape, Type D", in their entirety.

646.07 DURABLE PAVEMENT MARKINGS is hereby further modified by relabeling parts (e) and (f) as parts (c) and (d).

646.07 DURABLE PAVEMENT MARKINGS is hereby further modified by adding the following as the new part (e):

- (e) Preformed Thermoplastic. Preformed thermoplastic shall be one of the Thermoplastic Pavement Markings, Type B listed on the Agency's *Approved Products List*.

646.07 DURABLE PAVEMENT MARKINGS is hereby further modified by relabeling part (g), "Polyurea Paint," as "(f) Polyurea Paint."

646.07 DURABLE PAVEMENT MARKINGS, parts (c)(1) and (f)(1), are both hereby modified by deleting the phrase "paver-placed pavement" from each part and replacing it with the phrase "bonded wearing course".

646.08 TEMPORARY PAVEMENT MARKINGS is hereby modified by relabeling part (a), "Temporary Pavement Marking Tape," as "(a) Pavement Marking Tape, Type C."

646.09 OTHER RELATED MARKINGS, Table 646.09A, is hereby further modified by deleting the first row and replacing it with the following:

Marking Material	Recess Depth (mils)
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646.13 METHOD OF MEASUREMENT is hereby modified by deleting the seventh paragraph in its entirety. The deleted text begins with "The quantity of Raised Pavement Markers, Type II..." and ends with "... and removed when no longer needed."

646.14 BASIS OF PAYMENT is hereby modified by deleting the phrase “raised pavement markers,” from the first sentence (which begins with “The Contract Unit Price for pavement marking items...”) of the eleventh paragraph.

646.14 BASIS OF PAYMENT is hereby further modified by deleting the twelfth and thirteenth paragraphs in their entirety. The deleted text begins with “The accepted quantity of Raised Pavement Markers, Type II...” and ends with “... will be considered incidental to the Contract Item Raised Pavement Markers, Type II.”

646.14 BASIS OF PAYMENT is hereby further modified by deleting the pay item “646.75 Raised Pavement Markers, Type II..... Each”.

SECTION 649 – GEOTEXTILE FABRIC

649.02 MATERIALS is hereby modified by being deleted in its entirety and replaced with the following:

649.02 MATERIALS. Materials shall meet the requirements of the following Subsections:

Geotextile for Roadbed Separator.....	720.02
Geotextile Under Railroad Ballast.....	720.03
Geotextile Under Stone Fill .....	720.04
Geotextile for Underdrain Trench Lining.....	720.05
Geotextile for Filter Curtain.....	720.06

Geotextiles shall conform to the following:

- (a) Where sewn seams are used, the Contractor shall furnish the manufacturer’s wide strip tensile test results as part of the certification. The results must verify that the seam meets or exceeds the specified average minimum roll values for the grab tensile strength of the geotextiles, or wide strip tensile strength for reinforcement applications.
- (b) Field seams, where used, shall be in accordance with the manufacturer’s recommendations.

SECTION 653 – EROSION PREVENTION AND SEDIMENT CONTROL

653.02 MATERIALS is hereby modified by inserting the following as the fourth and fifth entries in the Subsection listing:

Geotextile Under Stone Fill .....	720.04
Geotextile for Silt Fence .....	720.07

653.02 MATERIALS is hereby further modified by deleting the phrase “Geotextile Under Stone Fill shall be in accordance with Section 720 and Table 720.01A. Geotextile for Silt Fence shall be in accordance with Section 720 and Table 720.01A.”

653.08 RUNOFF CONTROL MEASURES is hereby modified by deleting the first paragraph of Subsection 653.08(a)(1) in its entirety and replacing it with the following:

- (1) Check Dam, Type I. Check Dam, Type I shall be placed in channels and on Geotextile Under Stone Fill meeting the requirements of Subsection 720.04.

653.08 RUNOFF CONTROL MEASURES is hereby further modified by deleting Subsection 653.08(b)(1) and Subsection 653.08(b)(2) in their entirety and replacing them with the following:

- (1) Silt Fence, Type I. Silt Fence, Type I shall be constructed of posts and Geotextile for Silt Fence meeting the requirements of Subsection 720.07.
- (2) Silt Fence, Type II. Silt Fence, Type II shall be constructed of posts, Geotextile for Silt Fence meeting the requirements of Subsection 720.07, and woven wire reinforcement.

653.09 TREATMENT MEASURES is hereby modified by deleting the second paragraph of Subsection 653.09(a), beginning with “Stabilized Construction Entrances shall be constructed of stone...”, in its entirety and replacing it with the following:

Stabilized Construction Entrances shall be constructed of stone meeting the requirements of Subsection 704.17 and shall be placed on top of Geotextile Under Stone Fill meeting the requirements of Subsection 720.04.

653.09 TREATMENT MEASURES is hereby further modified by deleting the third paragraph of Subsection 653.09(b)(1), beginning with “Stake and fabric devices...”, in its entirety and replacing it with the following:

Stake and fabric devices shall be constructed of Geotextile for Silt Fence meeting the requirements of Subsection 720.07 and stakes approved by the Engineer.

653.09 TREATMENT MEASURES is hereby further modified by deleting the second paragraph of Subsection 653.09(b)(3), beginning with “Inlet Protection Device, Type III shall be constructed of Aggregate...”, in its entirety and replacing it with the following:

Inlet Protection Device, Type III shall be constructed of Aggregate for Erosion Prevention and Sediment Control and shall be placed on top of Geotextile Under Stone Fill meeting the requirements of Subsection 720.04.

SECTION 675 – TRAFFIC SIGNS

675.02 MATERIALS is hereby modified by deleting the first entry, “Paint for Traffic Signs.....708.06”, from the Subsection listing.

675.07 TRAFFIC SIGNS is hereby modified by deleting part (b)(2) in its entirety and replacing it with the following:

- (2) Flat Sheet Aluminum. Fabrication of the flat aluminum sheets, including cutting to size, shall be completed prior to degreasing, etching, or treating, and application of the retroreflective sheeting. Flat sheet aluminum may be sheared, blanked, sawed, or milled. No flame cutting will be permitted. Field drilling or punching of holes will be allowed as needed.

675.07 TRAFFIC SIGNS is hereby further modified by adding the following as the second and third sentences of part (d), immediately after the sentence beginning “Signs shall be mounted as tightly to the posts, frame, or...”:

For permanent installations of Type A signs to frames or posts, a nylon-insert locking nut and two washers shall be used. For all sign types, if bolts are used for mounting, the installed bolt shall be at least flush with the nut.

SECTION 677 – OVERHEAD TRAFFIC SIGN SUPPORTS

677.03 GENERAL is hereby modified by adding the sentence “Field verification testing for Direct Tension Indicators is not required.” immediately following the sentence “High-Strength Bolts, Nuts, and Washers shall be tensioned in accordance with Subsection 506.19.”

SECTION 678 – TRAFFIC CONTROL SIGNALS

678.09 ERECTION OF POSTS AND POLES is hereby modified by adding the sentence “Field verification testing for Direct Tension Indicators is not required.” immediately following the sentence “High-Strength Bolts, Nuts, and Washers shall be tensioned in accordance with Subsection 506.19.”

SECTION 679 – STREET LIGHTING

679.02 MATERIALS is hereby modified by deleting the fifth material entry, “Bracket Arms.....753.04”, from the Subsection listing.

679.02 MATERIALS is hereby further modified by inserting the following as the fifth and sixth entries in the Subsection listing:

Bracket Arms, Aluminum.....753.04(a)  
 Bracket Arms, Steel .....753.04(b)

679.05 BRACKET ARMS is hereby modified by deleting the first sentence of the Subsection and replacing it with the following:

Bracket arms shall be free of defects and burrs. Bracket arms shall be able to withstand a vertical load of 100 pounds and a horizontal load of 50 pounds without fracture or permanent deformation and shall be installed as shown in the Contract Documents.

Bracket arms installed on aluminum posts shall be in accordance with Subsection 753.04(a). Bracket arms installed on steel or wood posts shall be in accordance with Subsection 753.04(b).

SECTION 680 – TRAVEL INFORMATION SIGNS

680.02 MATERIALS is hereby modified by deleting the second entry, “Paint for Traffic Signs.....708.06”, from the Subsection listing.

SECTION 702 – BITUMINOUS MATERIALS

702.06 APPLICATION TEMPERATURE RANGES, is hereby modified by deleting Table 702.06A in its entirety and replacing it with the following:

TABLE 702.06A – EMULSIFIED ASPHALT APPLICATION TEMPERATURE RANGES

Emulsified Asphalt Type	Temperature Range (°F)		Temperature Range (°C)	
	Spray	Mix	Spray	Mix
	Min. – Max.	Min. – Max.	Min. – Max.	Min. – Max.
RS-1	70 – 170	--	21 – 77	--
RS-2, CRS-1	120 – 160	--	49 – 71	--
CRS-2	140 – 175	--	60 – 79	--
RS-1h, CRS-1h	70 – 170	--	21 – 77	--
SS-1h, CSS-1h	75 – 130	50 – 130	24 – 54	10 – 54
MS-2h, CMS-2h	--	75 – 140	--	24 – 60

SECTION 704 – AGGREGATES

704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (a), is hereby modified by deleting the reference to “*ASTM C 295/C 295 M (Modified)*” from the end of the sentence that begins with “Manufactured sand may be substituted for...” and replacing it with “*AASHTO T 304*”.

704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (a)(3), is hereby modified by deleting the reference to “*ASTM D 5821*” from the end of the sentence that begins with “When crushed gravel is used as coarse aggregate in Marshall bituminous...” and replacing it with “*AASHTO T 335*”.

704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (a)(3)a., is hereby modified by deleting “Measurement is made using test method *ASTM D 5821, Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate.*” and replacing it with “Measurement is made using test method *AASHTO T 335.*”

SECTION 707 – JOINT MATERIALS

707.14 PREFORMED JOINT FILLER, Table 707.14A, is hereby modified by deleting the reference to “*AASHTO T 42 /*” from the third column.

707.15 ASPHALTIC PLUG JOINTS FOR BRIDGES is hereby modified being deleted in its entirety and replaced with the following:

707.15 ASPHALTIC PLUG JOINTS FOR BRIDGES. Asphaltic Plug Joints for Bridges shall be single and/or multiple layer systems consisting of asphaltic binder, aggregate, closed cell foam expansion joint filler, and steel bridging plate, as applicable. Asphaltic Plug Joints shall be in accordance with *ASTM D 6297* and shall be one of the products listed on the Agency’s *Approved Products List*.

707.17 ASPHALTIC PLUG JOINT BINDER is hereby made a new subsection of the specifications as follows:

707.17 ASPHALTIC PLUG JOINT BINDER. Asphaltic Plug Joint Binder shall be a thermoplastic polymeric-modified asphalt in accordance with *ASTM D 6297* and shall be one of the products listed on the Agency’s *Approved Products List*.

SECTION 708 – PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

708.03 APPROVED STRUCTURAL COATING SYSTEMS is hereby modified by being deleted in its entirety and replaced with the following:



708.03 STRUCTURAL STEEL COATING SYSTEMS. Acceptable structural steel coating systems shall be one of the systems listed on the Agency’s *Approved Products List*, listed on the *NEPCOAT Qualified Products List B*, and shall meet the following requirements:

- (a) System. The structural steel coating system shall be a three-coat system with a prime, intermediate, and top coat. Components of different systems shall not be intermixed.
- (b) Color. Individual coats shall have contrasting colors. The finish color of the top coat shall be green, black, or brown as specified in the Contract Documents, and shall conform to *SAE AMS-STD 595* for the respective chip number as specified in Table 708.03A.

TABLE 708.03A – COLORS FOR STRUCTURAL COATING SYSTEMS

Color	Chip Number
Green	14062
Black	27038
Brown	20059

Damage to structural steel coating systems shall be repaired with a compatible structural steel coating system as specified herein.

708.06 PAINT FOR TRAFFIC SIGNS is hereby modified by being deleted in its entirety and replaced with the following:

708.06 THIS SUBSECTION RESERVED.

708.08 PAINT FOR PAVEMENT MARKINGS is hereby modified by adding the following two rows to Table 708.08C, immediately after the row for “Close cup flash point”.

Viscosity	<i>ASTM D 562</i>	78 Krebs min./ 95 Krebs max.	78 Krebs min./ 95 Krebs max.
Dry Time	<i>ASTM D 711</i>	10 minutes max	10 minutes max.

SUBSECTION 708.11 PAVEMENT MARKING TAPE is hereby modified by being deleted in its entirety and replaced with the following:

708.11 THIS SUBSECTION RESERVED

708.12 TEMPORARY DELINEATION SYSTEMS is hereby modified by being deleted in its entirety and replaced with the following:

708.12 TEMPORARY DELINEATION SYSTEMS.

- (a) Line Striping Targets. Acceptable Line Striping Targets shall be one of the Line Striping Targets on the Agency's *Approved Products List*.
- (b) Pavement Marking Mask. Acceptable Pavement Marking Mask shall be one of the Masking Marking Tapes on the Agency's *Approved Products List*.

SECTION 711 – CULVERTS, STORM DRAINS, AND SEWER PIPES, METAL

711.02 CORRUGATED ALUMINUM ALLOY PIPE, PIPE ARCHES, AND UNDERDRAINS, part (a)(2)c., is hereby modified by deleting the phrase “requirements of Subsection 711.01(a)(2)c.” and replacing it with the phrase “requirements of Subsection 711.01(a)(1)c.”

SECTION 713 – REINFORCING STEEL, STRAND, AND WELDED WIRE REINFORCEMENT

713.04 COLD DRAWN STEEL WIRE is hereby modified by deleting the reference to “*AASHTO M 32 M/M 32*” and replacing it with “*AASHTO M 336 M/M 336*”.

713.05 WELDED WIRE REINFORCEMENT is hereby modified by deleting the phrase “*AASHTO M 55 M/M 55* or *AASHTO M 221 M/M 221*” and replacing it with “*AASHTO M 336 M/M 336*”.

SECTION 714 – STRUCTURAL STEEL

714.05 HIGH-STRENGTH BOLTS, NUTS, AND WASHERS is hereby modified by deleting the first sentence in its entirety and replacing it with the following:

High-strength bolts shall conform to the requirements of *ASTM F 3125/F 3125 M*, Grade A 325, including rotational capacity testing, for each lot of fasteners.

714.06 HEAT-TREATED STEEL STRUCTURAL BOLTS is hereby modified by deleting the first sentence in its entirety and replacing it with the following:

Heat-treated steel structural bolts shall conform to the requirements of *ASTM F 3125/F 3125 M*, Grade A 490, including rotational capacity testing, for each lot of fasteners.

SECTION 720 – GEOTEXTILES

SECTION 720 – GEOTEXTILES is hereby modified by being deleted in its entirety and replaced with the following:

SECTION 720 – GEOTEXTILES

720.01 GENERAL. Geotextiles shall be evaluated in accordance with the NTPEP geotextiles work plan and in compliance with the NTPEP audit program for geotextiles. Geotextiles shall be one of the products listed on the Agency’s *Approved Products List* for the respective material specification.

720.02 GEOTEXTILE FOR ROADBED SEPARATOR. Geotextile for Roadbed Separator shall conform to *AASHTO M 288*, Table 1, Class 1 for Geotextile Strength Property Requirements, and shall conform to *AASHTO M 288*, Table 3 for Separation Geotextile Property Requirements.

720.03 GEOTEXTILE UNDER RAILROAD BALLAST. Minimum Average Roll Values (MARV) for Geotextile Under Railroad Ballast shall be as required in Table 720.03A.

TABLE 720.03A – MARV FOR GEOTEXTILE UNDER RAILROAD BALLAST

Geotextile Property	Test Method	MARV
Elongation Criteria at Failure ¹	<i>ASTM D 4632/ D4632 M</i>	≥ 50%
Grab Strength (lbs)	<i>ASTM D 4632/ D4632 M</i>	225
Tear Strength (lbs)	<i>ASTM D 4533/ D 4533 M</i>	115
Puncture Strength (lbs)	<i>ASTM D 6241</i>	850
Permittivity (s ⁻¹ )	<i>ASTM D 4491/ D 4491 M</i>	0.70
Apparent Opening Size (mm)	<i>ASTM D 4751</i>	0.212 max. (No. 70 Sieve)
UV Resistance (% Strength Retained)	<i>ASTM D 4355/ D 4355 M</i>	70% at 500 hours of exposure
Structure	--	Nonwoven only

¹ Elongation corresponds to Maximum Grab Tensile Strength as measured in accordance with the requirements of *ASTM D 4632/D 4632 M*.

720.04 GEOTEXTILE UNDER STONE FILL. Geotextile Under Stone Fill shall conform to *AASHTO M 288*, Table 1, Class 1 for Geotextile Strength Property Requirements, and shall conform to *AASHTO M 288*, Table 5 for Stabilization Geotextile Property Requirements. Geotextile structure shall not be slit film.

720.05 GEOTEXTILE FOR UNDERDRAIN TRENCH LINING. Geotextile for Underdrain Trench Lining shall conform to *AASHTO M 288*, Table 1, Class 3 for Geotextile Strength Property Requirements, with a minimum elongation of 20%. Geotextile for Underdrain Trench Lining shall conform to *AASHTO M 288*, Table 2 (> 50% of in situ soil passing the No. 200 (0.075 mm) sieve) for Subsurface Drainage Geotextile Requirements. Geotextile structure shall be nonwoven and shall not be slit film.

720.06 GEOTEXTILE FOR FILTER CURTAIN. Minimum Average Roll Values (MARV) for Geotextile for Filter Curtain shall be as required in Table 720.06A.

TABLE 720.06A – MARV FOR GEOTEXTILE FOR FILTER CURTAIN

Geotextile Property	Test Method	MARV
Elongation Criteria at Failure ¹	<i>ASTM D 4632/ D4632 M</i>	20% max.
Grab Strength (lbs)	<i>ASTM D 4632/ D4632 M</i>	200
Tear Strength (lbs)	<i>ASTM D 4533/ D 4533 M</i>	50
Puncture Strength (lbs)	<i>ASTM D 6241</i>	430
Permittivity (s ⁻¹ )	<i>ASTM D 4491/ D 4491 M</i>	0.28
Apparent Opening Size (mm)	<i>ASTM D 4751</i>	0.212 max. (No. 70 Sieve)
UV Resistance (% Strength Retained)	<i>ASTM D 4355/ D 4355 M</i>	70% at 500 hours of exposure
Structure	--	Woven only

¹ Elongation corresponds to Maximum Grab Tensile Strength as measured in accordance with the requirements of *ASTM D 4632/D 4632 M*.

720.07 GEOTEXTILE FOR SILT FENCE. Geotextile for Silt Fence shall conform to *AASHTO M 288*, Table 8 for Temporary Silt Fence Property Requirements. Geotextile structure shall be woven.

SECTION 725 – CONCRETE CURING MATERIALS AND ADMIXTURES

725.01 CONCRETE CURING MATERIALS, part (d) is hereby modified by being deleted in its entirety and replaced with the following:

- (d) Liquid Membrane-Forming Compounds. Liquid membrane-forming compounds shall be one of the products listed on the Agency's *Approved Products List* and shall meet the following requirements:
- (1) Liquid membrane-forming compounds shall be evaluated in accordance with the NTPEP concrete curing compounds work plan.
  - (2) Liquid membrane-forming compounds shall conform to the requirements of *ASTM C 309*, Type 1-D or Type 2, Class B.
  - (3) Liquid membrane-forming compounds shall not be allowed to freeze.

725.02 CHEMICAL ADMIXTURES, part (a) is hereby modified by being deleted in its entirety and replaced with the following:

- (a) General Requirements. Non-bulk quantities of chemical admixtures shall be delivered in the manufacturer's original containers marked with the manufacturer's name and product name. Bulk quantities shall be accompanied by a delivery slip indicating both the manufacturer's name and the product name. Chemical admixtures shall be one of the products listed on the Agency's *Approved Products List* for the respective material specification, shall be evaluated in accordance with the NTPEP concrete admixtures work plan, and shall meet the requirements of the respective material specification below.

SECTION 726 – PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

726.09 METALIZING is hereby modified by being deleted in its entirety and replaced with the following:

726.09 METALIZING. Surfaces to be metalized shall be prepared and coated in accordance with the requirements of *AASHTO/NSBA S8.2/SSPC-PA 18, Specification for Application of Thermal Spray Coating Systems to Steel Bridges*, and the following:

- (a) The coating shall be zinc with a minimum purity of 99.9%.

- (b) All surfaces to be thermal sprayed shall be blast-cleaned to white metal immediately prior to metalizing. The final surface appearance shall be equivalent to Preparation Grade *SSPC-SP 5* supplemented by *SSPC VIS-1*. All surfaces shall also have a uniform surface profile of 3.5 to 5.5 mils. If the profile requirements of the coating manufacturer are more restrictive, the Fabricator shall advise the Structural Steel Fabrication Engineer and comply with the more restrictive requirements.

The surface profile produced by the Fabricator's surface preparation procedures shall be determined by replica tape and spring micrometer at the beginning of the work, and each day that the surface preparation is performed. The replica tape shall be attached to the daily inspection records. Areas having unacceptable measurements shall be further tested to determine the limits of the deficient area and subsequently corrected to meet specification requirements.

- (c) Thermal Spray Coating (TSC) shall be applied within six hours of completing blast cleaning. If this time is exceeded, or rust appears on the surface, the steel surface shall be properly prepared again. TSC shall be applied in the thickness range of 8 to 12 mils to all exterior surfaces. Internal surface (e.g. pot bearings) shall have a coating with a minimum thickness of 2 mils.
- (d) Exterior surfaces (except faying surfaces) shall be sealed with an approved sealant conforming to the sealant manufacturer's recommendations for the TSC applied. The sealant name, manufacturer, and product data sheets shall be included with the submittal for the metalizing procedure. Unless otherwise specified in the Contract, a top coat will not be applied over the seal coat, and therefore the seal coat shall be UV-resistant. The dry film thickness of the sealant shall be 1 to 2 mils. The sealant shall be applied within 8 hours of completing the TSC application.
- (e) In addition to the requirements above, the following shall also apply:
- (1) QA witnessing of Job Reference Standard(s) is required, when applicable
  - (2) Companion coupons shall be used in lieu of destructive testing on the work piece, except when a test failure occurs.
  - (3) Bend tests shall be performed. The tests shall meet the requirements of *AWS C2.23*.
- (f) Metalizing that has been damaged shall be repaired in accordance with the requirements of Subsection 726.08.

726.11 WATERPROOFING MEMBRANE SYSTEMS is hereby modified by being deleted in its entirety and replaced with the following:

726.11 WATERPROOFING MEMBRANE SYSTEMS. Waterproofing Membrane Systems shall conform the requirements of *ASTM D 6153*, be one of the products listed on the Agency's *Approved Products List*, and meet the following requirements for the respective material specification.



- (a) Waterproofing Membrane System, Type I. Waterproofing Membrane System, Type I shall be a Type I cold applied elastomeric system in accordance with *ASTM D 6153*.
- (b) Waterproofing Membrane System, Type II. Waterproofing Membrane System, Type II shall be a Type II hot applied elastomeric system in accordance with *ASTM D 6153*.
- (c) Waterproofing Membrane System, Type III. Waterproofing Membrane System, Type III shall be a Type III preformed sheet membrane system in accordance with *ASTM D 6153*.

#### SECTION 753 – HIGHWAY ILLUMINATION

753.04 BRACKET ARMS is hereby modified by being deleted in its entirety and replaced with the following:

##### 753.04 BRACKET ARMS.

- (a) Bracket Arms, Aluminum. Single member bracket arms and the main member of truss-type arms shall be fabricated from seamless aluminum tube conforming to the requirements of *ASTM B 221/B 221 M*, Alloy 6063-T6 or Alloy 6061-T6. Other members of truss-type arms shall conform to the requirements of *ASTM B 221/B 221 M*, Alloy 6063-T6. All screws, nuts, bolts and other hardware for mounting bracket arms to the light pole shall be stainless steel, unless otherwise specified.
- (b) Bracket Arms, Steel. Components of single member and truss-type bracket arms shall be fabricated from standard steel pipe meeting the requirements of *ASTM A 53/A 53 M* or *ASTM A 501/A 501 M*.

#### SECTION 754 – PAVEMENT MARKING MATERIALS

SECTION 754 – PAVEMENT MARKING MATERIALS is hereby made a new Section of the Specifications as follows:

#### SECTION 754 – PAVEMENT MARKING MATERIALS

754.01 THIS SUBSECTION RESERVED.

754.02 THIS SUBSECTION RESERVED.

754.03 PAVEMENT MARKING TAPE. Pavement marking tape is a white or yellow preformed retroreflective tape. Pavement marking tape shall be evaluated in accordance with the applicable NTPEP pavement marking materials work plan, with a minimum of one year of data for permanent tape and a full data set for temporary tape, listed on the Agency's *Approved Product List* for the respective material specification, and meet the following requirements.

- (a) Pavement Marking Tape, Type A. Pavement Marking Tape, Type A shall be a high performance and extended service life pavement marking tape in accordance with *ASTM D 4505*. The tape shall have continuous wetting properties and meet the following requirements.
- (1) Skid Resistance. Skid resistance shall be Skid Resistance Level A in accordance with *ASTM D 4505*.
  - (2) Adhesive. Adhesive shall be Class I, II, or III in accordance with *ASTM D 4505*.
  - (3) Durability. Initial durability shall be 10 and three-year durability shall be a minimum of 7 as determined in accordance with *ASTM D 913*.
  - (4) Retroreflectivity.
    - a. Dry. Initial dry retroreflectivity shall be Reflectivity Level I in accordance with *ASTM D4505*. Three-year retroreflectivity shall be a minimum of 150 mcd/m²/lx for white and 100 mcd/m²/lx for yellow as determined in accordance with *ASTM E 1710*.
    - b. Wet. Initial wet retroreflectivity shall be a minimum of 250 mcd/m²/lx for white and 200 mcd/m²/lx for yellow. Three-year wetness retroreflectivity shall be a minimum of 150 mcd/m²/lx for white and 75 mcd/m²/lx for yellow as determined in accordance with *ASTM E 2177*.
    - c. Wet Continuous. Wet continuous retroreflectivity shall be a minimum of 150 mcd/m²/lx for white and 100 mcd/m²/lx for yellow in accordance with *ASTM E 2832*.
- (b) Pavement Marking Tape, Type B. Pavement Marking Tape, Type B shall be a standard performance pavement marking tape in accordance with *ASTM D 4505*.
- (1) Skid Resistance. Skid resistance shall be Skid Resistance Level A in accordance with *ASTM D4505*.
  - (2) Adhesive. Adhesive shall be Class I, II, or III in accordance with *ASTM D 4505*.
  - (3) Durability. Initial durability shall be 10 and three-year durability shall be a minimum of 7 as determined in accordance with *ASTM D 913*.
  - (4) Retroreflectivity. Initial dry retroreflectivity shall be Level II in accordance with *ASTM D 4505*.
- (c) Pavement Marking Tape, Type C. Pavement Marking Tape, Type C shall be a temporary pavement marking tape in accordance with *ASTM D 4592* and the following requirements.

- (1) Retroreflectivity. Initial wet retroreflectivity shall be a minimum of 250 mcd/m²/lx for white and 200 mcd/m²/lx for yellow.

ALPHABETICAL INDEX OF PAY ITEMS

The index entry “406.38 Hand-Placed Bituminous Concrete Pavement, Drives..... Square Yard” is hereby modified by deleting the word “Pavement” and replacing it with the word “Material”.

The index is hereby modified by adding an entry for “418.10 Asphaltic Approach Material..... Square Foot”.

The index entry for “646.75 Raised Pavement Markers, Type II..... Each” is hereby modified by being deleted in its entirety.

# APPENDIX J

Compliance Bond

**Appendix J**

**COMPLIANCE BOND**

KNOW ALL MEN BY THESE PRESENTS: that

---

(Name of Contractor)

---

(Address of Contractor)

a _____, hereinafter called Principal,  
(Corporation, Partnership or Individual)

and _____  
(Name of Surety)

---

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

---

(Name of Owner)

---

(Address of Owner)

hereinafter called Owner, in the penal sum of _____ Dollars, \$(_____) in  
lawful money of the United States, for the payment of which sum well and truly to be  
made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these  
presents.

**Appendix J**

The condition of this obligation is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20___, a copy of which is hereto attached and made a part hereof for the construction of:

---

---

---

Now, therefore, if the principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if they shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

Provided, further, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the Work to be performed thereunder or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Specifications.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.



**Appendix J**

IN WITNESS WHEREOF, this instrument is executed in ____ counterparts, (No.)  
each one of which shall be deemed an original, this the ____ day of  
_____, 20__.

ATTEST:

_____

Principal

_____  
(Principal Secretary)

(SEAL)

By: _____(s)

Address: _____

_____

_____  
Witness as to Principal

_____  
Address

_____

Surety

_____

ATTEST:

By: _____

Attorney-in-Fact

_____

Witness as to Surety

_____

Address

## Appendix J

---

Address

**NOTE:** Date of Bond must not be prior to date of Contract.

If Contractor is Partnership, all partners should execute Bond.

**IMPORTANT:** Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570) as amended and be authorized to transact business in the State where the Project is located.

# APPENDIX K

Labor & Material Bond

**Appendix J**

**LABOR & MATERIAL BOND**

KNOW ALL MEN BY THESE PRESENTS: that

---

(Name of Contractor)

---

(Address of Contractor)

a _____, hereinafter called Principal,  
(Corporation, Partnership or Individual)

and

---

(Name of Surety)

---

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

---

(Name of Owner)

---

(Address of Owner)

Hereinafter called Owner, in the penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

**Appendix J**

The Condition of this obligation is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20___, a copy of which is hereto attached and made a part hereof for the construction of:

---

---

---

---

Now, Therefore, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such Work and all insurance premiums on said Work, and for all labor performed in such Work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in force and effect.

Provided, further, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the Work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Specifications.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

**Appendix J**

In Witness Whereof, this instrument is executed in ____ count (No.)  
each one of which shall be deemed an original, this the ____ day of  
_____, 20__.

ATTEST:

_____  
Principal

_____  
(Principal Secretary)

By: _____(s)

(SEAL)

Address: _____  
_____

_____  
_____

Witness as to Principal

_____  
Address

_____  
Surety

ATTEST: By: _____  
Attorney-in-Fact

_____  
Witness as to Surety Address

_____  
Address



## **Appendix J**

**NOTE:** Date of Bond must not be prior to date of Contract.

If Contractor is Partnership, all partners should execute Bond.

**IMPORTANT:** Surety companies executing Bond must appear on the Treasury Department's most current list (Circular 570) as amended and be authorized to transact business in the State where the Project is located.

# APPENDIX L

Change Order

**APPENDIX K**

**CHANGE ORDER**

Date: _____

Change Order No: _____

Name of Project: _____

Municipality: _____

Contractor: _____

The following changes are hereby made to the Contract:

Justifications:

Change to Contract Price: \$ _____

Original Contract Price: \$ _____

Current Contract Price adjusted by previous Change Order: \$ _____

The Contract Price due to this Change Order will be (increased) decreased by: \$ _____

New Adjusted Contract Price: \$ _____

Change to Contract Time: _____

The Contract Time will be (increased) decreased by _____ Calendar days

The date for completion of all work will be _____

**APPROVALS**

Contractor: _____

Construction Inspector: _____

Municipality: _____

VTrans Project Manager: _____

# APPENDIX M

Assurance Appendix A

## ***Assurance Appendix A***

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income-level, or LEP in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations as set forth in Appendix E, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, national origin, sex, age, disability, income-level, or LEP.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement

as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.



## ***Assurance Appendix E***

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin), as implemented by 49 C.F.R. § 21.1 *et seq.* and 49 C.F.R. § 303;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (102 Stat. 28.), (“...*which restore[d] the broad scope of coverage and to clarify the application of title IX of the Education Amendments of 1972, section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and title VI of the Civil Rights Act of 1964.*”);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Justice regulations at 28 C.F.R. parts 35 and 36, and Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*), as implemented by 49 C.F.R. § 25.1 *et seq.*

# APPENDIX N

Vermont Agency of Transportation Certificate Verifying Workers' Compensation  
Coverage

VERMONT AGENCY OF TRANSPORTATION  
CERTIFICATE VERIFYING WORKERS' COMPENSATION COVERAGE  
**(PRIME CONTRACTOR)**

**REQUIRED FOR CONTRACTS OVER \$250,000, PER ACT 54 OF 2009 & ACT 50 OF 2011**

VTrans Project: _____

Prime Contractor: _____

Vermont statutes and standard State contract provisions require contractors and subcontractors to obtain and maintain workers' compensation insurance while performing work for the State.

Evidence of coverage, including but not limited to this Certificate, must be provided prior to commencement of work.

1. The undersigned organization certifies that it either:

A. Has workers' compensation insurance

Insurance Company: _____

Policy Expiration Date: _____

-OR-

B. Is approved by the Vermont Department of Labor to operate as a self-insured for workers' compensation

2. The undersigned organization certifies that it has verified that its workers' compensation coverage contains a rider or non-cancellation clause reading in substance (per 2018 Standard Specifications for Construction §103.04(e)) as follows:

*Anything herein to the contrary notwithstanding, no cancellation, termination, or alteration of this policy by the company or the assured shall become effective unless and until notice of cancellation, termination, or alteration has been given by registered mail to the Chief Engineer of the Vermont Agency of Transportation, 1 National Life Drive, Montpelier, Vermont 05633-5001, at least 30 Calendar Days before the effective cancellation, termination, or alteration date, unless all work required to be performed under the terms of the Contract is satisfactorily completed as evidenced by the formal, final acceptance of the Project by the Agency.*

_____  
Signature (must be by a person authorized to sign for contractor)                      Date

_____  
Print name of person signing                                              Title

# APPENDIX O

Work Zone Safety and Mobility Guidance Document

# ***APPENDIX L –***

Work Zone Safety and Mobility

Guidance Document

August 2007

# WORK ZONE SAFETY & MOBILITY GUIDANCE DOCUMENT

August 2007



Prepared by:

Vermont Agency of Transportation



The following document was drafted in response to updates made to the work zone regulations at 23 CFR 630 Subpart J, published by the Federal Highway Administration. This document applies to all federal aid projects that have a pre-final contract administration/step submittal date after January 1, 2008.

### **Work Zone Safety and Mobility Vision**

Current and future work zone safety and mobility issues mean that transportation practitioners need to minimize and manage the work zone impacts of transportation projects. In order to meet safety and mobility needs during highway maintenance and construction, and to meet the expectations of the traveling public, it is important to systematically analyze and assess the work zone impacts of projects and take appropriate action to manage these impacts.

The following has been adopted as the Vermont Agency of Transportation's (VTrans) work zone safety and mobility vision statement: *To provide optimum safety for workers and the traveling public while maintaining acceptable levels of mobility in an efficient environment for the contractors to complete the project work in accordance with their contracts.*

### **Work Zone Safety and Mobility Goals and Strategies**

Goal: To provide a safe work zone for motorists, pedestrians, bicyclists (the traveling public) and construction personnel.

Strategy: Development of site-specific traffic control plans, while ensuring compliance with the Manual on Uniform Traffic Control Devices (MUTCD) and state design standards and specifications.

Goal: To minimize construction-related delays.

Strategy: Construction-related delays will be monitored. A change to the traffic management plan will be considered for construction-related delays greater than ten minutes.

Goal: To gain further knowledge of work zone procedures applicable to the State of Vermont.

Strategy: Summarize the work zone field evaluations to identify the effectiveness of implemented safety measures and to improve future Transportation Management Plans (TMP).



Goal: To ensure that the appropriate personnel have the necessary knowledge, skills, and abilities to design and/or implement a TMP.

Strategy: Management will be responsible for ensuring that their personnel has been provided appropriate training in accordance with their defined roles. Training to include but not limited to: flagger certification, NHI courses, AGC training, and the Vermont Local Roads Program courses.

### **Project Classification**

The purpose of the Work Zone Safety and Mobility Guidance document is to allow VTrans to better anticipate the impacts associated with individual projects. Examples of impacts include internal project coordination, project scheduling and overall cost. Every federally funded project will require a TMP. The classification of the project will determine the complexity of the TMP. All transportation projects must be classified into one of three types of projects: significant, moderate, or minor projects. To accurately classify a project, several design characteristics must be analyzed to provide **guidance** in determining the appropriate project classification. The following characteristics should be evaluated when determining any project classification. These characteristics include but are not limited to:

- Project Location (Urban/Rural Setting)
- Primary Network (Interstate, Interchanges, Major State Roads, Major Intersections, NHS, Truck Network)
- Construction Duration (Months, Years)
- Access Management Category (Driveway Density, Business/Industry Density)
- Traffic Volumes (Average Annual Daily Traffic, Peak Hour Traffic, Existing Crash Rates, Car-Truck-Pedestrian-Bicycle Volumes)
- Proximity To Other Construction Projects
- Available Detour Routes

A project classification should be identified by the appropriate Project Manager¹, and confirmed by their respective Program Manager as early as the scoping process. This classification should be analyzed periodically throughout the design process to ensure that any design changes or site characteristic changes will not require a classification modification. Project classification is used to help identify the impacts associated with different types of transportation projects. This classification is used to determine what TMP should be applied to the project. The following definitions closely follow FHWA's Work Zone Self Assessment, [http://www.ops.fhwa.dot.gov/wz/docs/wz-sa-docs/sa_guide_s4.htm](http://www.ops.fhwa.dot.gov/wz/docs/wz-sa-docs/sa_guide_s4.htm).

---

¹ Please note that the position titles used in this document are typical Program Development Division titles. Applicable Operations Division titles as well as alternate VTrans Division titles may be substituted as necessary.

Significant Projects: Significant projects have a high level of public interest and will likely impact a large number of travelers. This impact must be analyzed individually and also in combination with concurrent active projects. It will have moderate to high user-cost impacts and the duration is usually moderate to long. These characteristics create work zone impacts that fall outside of the typical work zone safety and mobility thresholds. Examples of this work type may include: major corridor reconstruction, high impact intersection reconstruction, full closures on high volume facilities, major bridge reconstruction or repair, repaving projects that require long term lane closures, etc (e.g. Shelburne-South Burlington US 7 Reconstruction Project). It is important to note that significant projects are unique in that they have considerable impacts to the project area as well as the surrounding community.

Moderate Projects: Moderate projects have the potential to affect the level of public interest and may impact a modest number of commuters. These projects would include typical roadway, bridge, and paving projects.

Minor Projects: Minor projects have a minimal impact to the traveling public and a short duration. Typical projects within this category include sign installation, bridge inspection, pavement marking, and various maintenance activities.

### **Transportation Management Plans (TMPs)**

TMPs are strategies/methodologies that will be implemented to ensure safe and mobile work zones within transportation projects. The project classification will determine the detail level required for the TMP. There are three major components of a TMP;

Temporary Traffic Control Plan (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.

Transportation Operations Component (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. Examples of practices that may be used to satisfy the TO component may be found at [http://www.ops.fhwa.dot.gov/wz/rule_guide/sec6.htm#sec63](http://www.ops.fhwa.dot.gov/wz/rule_guide/sec6.htm#sec63).

Public Information Component (PI): The PI component shall 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. Examples of communications strategies that may be used to satisfy the PI component may be found at [http://www.ops.fhwa.dot.gov/wz/rule_guide/sec6.htm#sec63](http://www.ops.fhwa.dot.gov/wz/rule_guide/sec6.htm#sec63).

**Significant Projects:** The TMP for significant projects shall consist of a TTC, a TO, and a PI.

**Moderate/Minor Projects:** The TMP for moderate and minor projects shall consist of a TTC. A TO and a PI are not required, but may be applicable to certain projects as determined by the Project Manager.

### **Design Strategies**

The development of a TMP is an iterative process that may vary significantly between projects. Work on a TMP should begin early in the project development process. There are numerous resources available to the designer to assist in the development of this plan: several of these are listed in the reference section of this document. The following outlines the key components of the TMP development process.

**Preliminary Data Collection:** As early as scoping, the project design team collects, analyzes, and documents all applicable project data.

**Determine Project Classification:** A project classification is determined based on the initial data that was collected. The project classification defines what components are required in the TMP.

**Develop TMP:** Work zone management strategies should be identified based on the project characteristics and used to develop all necessary aspects of the TMP. Applicable resources should be contacted during this step to obtain their input. This may include utilization of previous work zone feedback provided by the Construction Section. Plans and contract documents shall be based on standard specifications and include necessary pay items.

**Update/Revise TMP:** As a project progresses through all of the design stages the TMP should be re-evaluated to ensure that any project changes do not affect the TMP. It is possible that the project classification could change during the project design stages.

**Finalize TMP:** Ensure that the contract plans, special provisions, and estimate include all of the applicable elements of the TMP and allow the flexibility to develop or modify a TMP.

## **Roles and Responsibilities**

- Step 1: A preliminary analysis will be performed by the ***Design Team*** to determine project classification. This preliminary analysis will be documented in the project's design file.
- Step 2: The ***Project Manager*** will have the responsibility of monitoring the project and proposed classification and informing the respective ***Program Manager***.
- Step 3: The ***Design Team*** will develop a transportation management plan. The ***Project Manager*** will monitor the classification status. If there are significant changes, the project classification may be modified.
- Step 4: The ***Construction Resident Engineer*** will be responsible for identifying and documenting deficiencies in the TMP that compromise the effectiveness of the work zone and coordinating any improvements with the Contractor/State safety representative. Examples of data that may be included in the work zone documentation includes; crashes or other traffic incidents, traffic delay, traffic conflicts, and public comments. The ***Project Manager*** may assist in addressing any proposed modifications to the TMP during the construction process.
- Step 5: The ***Regional Construction Engineer*** will complete a work zone summary of TMP effectiveness based on the work zone documentation and any applicable work zone reviews performed by Traffic Operations.
- Step 6: The ***Work Zone Safety and Mobility Committee*** will consist of representatives from multiple sections within VTrans. This committee will review the work zone summary and will be responsible for updating the Work Zone Safety and Mobility Guidance document based on feedback from the year's construction projects. This committee will be responsible for sharing all applicable information throughout the Agency as well as with additional working groups and committees.

## **Application/Feedback**

The Construction Engineer will submit a summary of TMP effectiveness and recommendations for improvements at the end of the construction season based on the work zone documentation provided by the Regional Engineers. The Work Zone Safety and Mobility Committee will meet annually to discuss these summaries. These summaries will serve to identify common TMP practices that are not working effectively, and will also assist in identifying TMP practices that are successful. The Work Zone Safety and Mobility Guidance document and supporting documentation will be revised to reflect the field evaluation summaries.

## **References**

A Policy on Geometric Design of Highways and Streets. American Association of State Highway and Transportation Officials, Current Edition.

Developing and Implementing Transportation Management Plans for Work Zones. U.S. Department of Transportation Federal Highway Administration, December 2005.

Engineering Operations Manual. Vermont Agency of Transportation, Current Edition.

Highway Capacity Manual. Transportation Research Board of the National Academies, Current Edition.

Implementing the Rule on Work Zone Safety and Mobility. U.S. Department of Transportation Federal Highway Administration, September 2005.

Manual on Uniform Traffic Control Devices for Streets and Highways. U.S. Department of Transportation Federal Highway Administration, Current Edition.

Road Design Manual. Vermont Agency of Transportation, Current Edition.

Roadside Design Guide. American Association of State Highway and Transportation Officials, Current Edition.

Standard Specifications for Construction. Vermont Agency of Transportation, Current Edition.

Structures Manual. Vermont Agency of Transportation, Current Edition.

The State of Vermont Agency of Transportation Safety Manual. Vermont Agency of Transportation, Current Edition.

Traffic Design Manual. Vermont Agency of Transportation, Current Edition.

“Vermont Agency of Transportation Standard Drawings.” Vermont Agency of Transportation, Current Edition.

Work Zone Impacts Assessment: An Approach to Assess and Manage Work Zone Safety and Mobility Impacts of Road Projects. U.S. Department of Transportation Federal Highway Administration, May 2006.

Work Zone Public Information and Outreach Strategies. U.S. Department of Transportation Federal Highway Administration, November 2005.

# APPENDIX P

Project Permits



**State of Vermont  
Agency of Transportation  
Environmental Section**

One National Life Drive  
Montpelier, VT 05633-5001  
[www.aot.state.vt.us](http://www.aot.state.vt.us)

[phone] 802-828-3963  
[fax] 802-828-2334  
[tdd] 800-253-0191

Matthew Hake, Division Administrator  
Federal Highway Administration  
P.O. Box 568, Montpelier, VT 05601

September 19, 2016

Attn: Kenneth R. Sikora, Environmental Program Manager  
Re: **Essex TAP TA15(4); Sidewalk Construction**

Dear Mr. Hake:

Project Essex TAP TA15(4) is located in the Town of Essex, Vermont. The project is located along Pinecrest Drive beginning at the eastern end of the intersection with Suffolk Lane. The project continues along Pinecrest Drive and ends at the intersection with VT Route 2A. Work to be performed under this contract includes constructing a new 5-foot-wide sidewalk along the edge of Pinecrest Drive, drainage, and incidental items. The length of the project is approximately 1,550 feet.

The Vermont Agency of Transportation (VTrans) has considered the potential environmental consequences of the project in accordance with the National Environmental Policy Act (NEPA). VTrans has determined that this project meets all of the criteria specified in the Programmatic Agreement entitled "Processing of Projects Eligible for Categorical Exclusion," executed 06/25/99. The project qualifies for Categorical Exclusion pursuant to 23 CFR 771.117(c)(3) "Environmental Impact and Related Procedures - Categorical Exclusions" as the project consists of the construction of bicycle and pedestrian paths.

This project will not involve substantial planning, resources, or expenditures; nor is it likely to induce significant alterations in land use, planned growth, development patterns, traffic volumes, or traffic patterns. The project will have no significant effect upon natural and cultural resources. No significant environmental impact is expected to result from construction or maintenance of this facility.

Please contact Julie Ann Held, Environmental Specialist, SW Region @ 802-828-3963 if you require additional information.

Respectfully,

*Julie Ann Held 09/19/2016*

Julie Ann Held  
VTrans Environmental Specialist

Attachments cc: Ande DeForge, Project Manager, Project File



## PROGRAMMATIC CATEGORICAL EXCLUSION CRITERIA

VTrans has determined that this project will **NOT**:

- A. X Require a temporary detour outside existing right-of-way, or a temporary wetland or stream crossing which will require non-routine mitigation, or a ramp closure, unless the following conditions are met :
- (1) provisions are made for access by local traffic and the facility is posted accordingly,
  - (2) businesses dependent upon through traffic will not be unduly affected,
  - (3) the temporary detour or ramp closure will not interfere with local special events,
  - (4) the temporary detour, ramp closure, wetland or stream crossing will not substantially increase the environmental consequences of the action (project).
- B. X Involve construction in wetlands totaling more than 5,000 square feet of permanent impacts, requiring the Army Corp of Engineers to coordinate with resource agencies per the General Permit.
- C. X Require a Risk Analysis for an increase in 100-year flood water surface elevations, per EO 11988.
- D. X Involve construction within, or alter drainage patterns so as to adversely affect, a Sole Source Aquifer.
- E. X Require coordination with the US Fish and Wildlife Service for the preparation of a Biological Assessment for Threatened and Endangered Species, per 16 CFR Section 7.
- F. X Require acquisition of additional right-of-way (including permanent or temporary construction easements) involving: more than three acres of land per mile of roadway, or a total of 10 acres or more for a non-linear improvement (such as a bridge or an intersection), or any relocation of residences or businesses.
- G. X Require FHWA approval for changes in access control.
- H. X Involve acquisition of, or impacts upon Prime or Unique Farmland, unless a USDA Farmland Conversion Impact Rating Part VI Site Assessment has been completed and indicates Total Site Assessment Points less than 160 (doesn't apply to designated urban areas).
- I. X Adversely Effect a historic or archaeological resource on, or eligible for inclusion on, the National Register of Historic Places.
- J. X Require use (permanent or temporary) of a Section 4(f) resource, unless that use meets the criteria for a de minimis or Programmatic 4(f); or involve the use of a Section 6(f) resource when compensation is required (property acquired or improved using Land and Water Conservation Funds).
- K. X Involve hazardous or residual waste liabilities subject to CERCLA and/or RCRA requirements.
- L. X Require a bridge permit from the US Coast Guard, per 23CFR 650 Subpart H.
- M. X Qualify as a Type I project and require analysis of noise abatement measures, per 23 CFR 772 and the FHWA approved VTrans Noise Policy.

(NOTE: If coordination with the FHWA was required to reach this determination attach concurrence memo)

## Categorical Exclusion Environmental Analysis Sheet

Town Essex Project No. TAP TA15(4) Route Pinecrest Drive

Project Setting: Urban X Village _____ Rural _____  
 Traffic 4,000 AADT Year 2015 Typical 5 Foot Sidewalk  
 AASHTO Functional Classification Urban Local

### Project Purpose & Need:

The purpose of the project is to create a continuous multimodal transportation facility on Pinecrest Drive. The need for this project is due to the lack of continuous multimodal transportation infrastructure and the need to provide a safe, efficient travel way for the public.

### Project Description:

Project Essex TAP TA15(4) is located in the Town of Essex, Vermont. The project is located along Pinecrest Drive beginning at the eastern end of the intersection with Suffolk Lane. The project continues along Pinecrest Drive and ends at the intersection with VT Route 2A. Work to be performed under this contract includes constructing a new 5-foot-wide sidewalk along the edge of Pinecrest Drive, drainage, and incidental items. The length of the project is approximately 1,550 feet.

CRITERIA OF 23 CFR771.117 (C) APPLICABLE? X YES _____ NO _____

NOTE: PROJECTS THAT MEET THE CRITERIA OF 23 CFR771.17 (C) NEED ONLY ADDRESS THOSE ISSUES MARKED WITH AN ASTERISK (*). THIS DOES NOT PRECLUDE THE NEED TO OBTAIN APPLICABLE STATE & FEDERAL CONCURRENCES & PERMITS.

#### 1. Air Quality

Ten year increase in ADT _____ (10,000 allowed maximum per MOA)  
 Urban intersection improvement Yes _____ No _____

#### 2. Noise

Type I Project (VTrans Noise Policy) Yes _____ No _____  
 If yes, number of receptors impacted _____  
 Mitigation Requirements _____

#### 3. Water Quality

##### Lakes or Ponds

VANR Lakes & Ponds permit Yes _____ No _____ Acquired _____

##### Rivers or Streams

VANR Title 19 Consultation Yes _____ No _____ Completed _____

##### Wetlands

* Wetland Impact area Temporary 0 Permanent 0

* Buffer Impact area Temporary 7,670 Square Feet Permanent 1,442 Square Feet

* VANR Wetland Permit Yes X No _____ Acquired Yes, Permit  
#2012-113, expires 12/19/2017

401 Water Quality Certification Yes _____ No X Acquired _____

Stormwater Discharge Permit Yes _____ No X Acquired _____

Flood plains Encroachment Yes X No _____ Volume TBD

Describe Hydraulic Changes Consultation with floodplain manager, Rebecca Pfeiffer, is advised to determine if any floodplain permits will be required.

does the town need a CGP 3-9020?

need to include extension request/approval

has this been completed?

Ground Water/Surface Water/Well Impacts Yes _____ No X  
(Describe) _____ N/A  
ANR Comments _____ N/A

Stormwater Comments via email dated 06/14/2016 from Jon Armstrong This project will not trigger VT Operational Stormwater permitting and as such, may be considered clear for NEPA. It is worth mentioning that the project is located within a designated MS4 and in Stormwater impaired Indian Bk watershed. According to soil mapping, much of the project appears to be located in well drained HSG A Soils. In my opinion, consideration should be given to lessening the water quality impacts from the project by implementing measures such as grading the sidewalk to drain away from the road where practicable, eliminating new proposed drainage behind the sidewalk (this would save project costs), potentially amending soils to provide infiltration or utilizing dry wells or other infiltration practices in addition to the proposed perforated end section of the drainage run to Indian Bk.

4. **U.S. Army Corps of Engineers**  
Section 10 and/or Section 404 Permit Required Yes _____ No _____ Acquired _____  
Permit Type _____  
COE Comments _____

5. **U.S. Coast Guard**  
Navigable Waters Yes _____ No _____ Involved Waterway _____  
Rivers & Harbors Act Section 9 and/or  
Bridge Act of 1946 Permit(s) Required Yes _____ No _____ Acquired _____  
Section 144(h) "Exemption" Yes _____ No _____ Acquired _____  
USCG Comments _____

* 6. **Threatened and Endangered Species and Habitat**  
Present in Project Area Yes _____ No X  
ANR Non-Game and Natural Heritage Program comments none at this time  
USF&WS comments none at this time  
Natural Resources Clearance Comments via John Lepore on 08/25/2016 This project is located within the range of the Northern Long-eared Bat, but it was determined that suitable habitat was not present in the area. There are no other State or Federally listed plant or animal species in the vicinity of the project, to include the Indiana Bat.

7. **Agricultural Land**  
Prime/secondary/locally important soils affected Yes _____ No _____  
Current land use _____  
Form 1006 Parts I, III, VI, VII, completed (FHWA) Yes _____ No _____  
Form 1006 Parts II, IV, V completed (NRCS) Yes _____ No _____  
Vermont Department of Agriculture comments _____

8. **Hazardous/ Residual Waste Liabilities**  
Present in project area Yes _____ No _____  
Determination from VANR list Yes _____ No _____  
Determination from field visit Yes _____ No _____  
Borings completed Yes _____ No _____  
Petroleum related wastes Yes _____ No _____  
CERCLA involvement Yes _____ No _____  
Remediation required Yes _____ No _____

Describe: _____

*** 9. Historical or Archaeological Resources (Section 106)**

Historic Resources: Present in project area Yes _____ No X Exempt _____

Archeological Resources: Present in project area Yes _____ No X Exempt _____

Section 106 determination No Historic Properties Affected Issued: 09/15/2016

Memorandum of Agreement needed Yes _____ No X Executed _____

SHPO coordination completed _____ per VTrans SHPO PA

Advisory Council coordination completed _____ N/A

Historic Comments via Judith Ehrlich on 09/15/2016 There are numerous residential buildings adjacent to the project area, some of which are over fifty years old. However, none of them are considered historic as they do not possess the qualities of significance that would qualify them as eligible for listing on the National Register of Historic Places either individually or as part of a

Archaeology Comments via Jeannine Russell on 09/15/2016 Hartgen Archaeological, Inc. conducted a phase 1 study within the project limits. Results confirmed the presence of fill and previously disturbed soils. No intact soil profiles and no archaeological sites were encountered.

*** 10. Section 4(f) and 6(f) Resources**

Section 4(f) Resource(s) present in project area Yes _____ No X

Nature of Section 4(f)

Parks/Rec. Areas _____ Wildlife and Waterfowl Refuge _____ Historic Property _____

Temporary use of 4(f) resource Yes _____ No X

Permanent use of 4(f) resource Yes _____ No X

Section 4(f) Approval (check one)

Negative Declaration _____ de minimis 4(f) _____ Programmatic 4(f) _____ Circulated 4(f) _____

Section 4(f) Comments There aren't any 4(f) resources within the project limits.

Section 6(f) involvement (LWCF Funding) Yes _____ No X

National Park Service Conversion Approval n/a

Section 6(f) Comments There aren't any 6(f) resources within the project limits.

*** 11. Right of Way**

New ROW Acquisition fee simple Yes _____ No X

permanent easement Yes X No _____

temporary easement Yes X No _____

Description of taking Both Permanent and temporary easements will be required to complete this project. The temporary easements total approximately 5,550 square feet and are required for construction access. This project requires permanent easements totaling approximately 9,300 square feet are required for the construction of the pedestrian path.

Improved properties acquired Yes _____ No X

Displacements Rental Units 0 Private Homes 0 Businesses 0

Relocation services to be provided _____ N/A

Properties available for relocation _____ N/A

**12. Public Participation Opportunity**

Pre-Design Site Meeting Yes _____ No _____ Date _____

Public Information Meeting Yes _____ No _____ Date _____

Public Hearing Required (502) Yes _____ No _____ Date _____

Comments by Local Officials/RPC's _____

13. **Social and Economic Concerns**

Project consistent with Local and Regional Land Use Plans Yes _____ No _____

Describe _____ (Attach correspondence from officials)

Neighborhood and Community Concerns Yes _____ No _____

- _____ Churches
- _____ Schools
- _____ Low Income Housing
- _____ Emergency Services
- _____ Elderly
- _____ Handicapped
- _____ Environmental Justice Exec. Order 12898
- _____ Other

Describe _____

Effect on local business Yes _____ No _____ (Describe) _____

Temp. effect on business Yes _____ No _____ (Describe) _____

Loss of parking Yes _____ No _____ (Describe) _____

Pedestrian Facilities Sidewalk Widths Existing _____ Proposed _____

Bicycle Facilities Paved Shoulder Widths Existing _____ Proposed _____

If not minimum standard (sidewalk 5ft, paved shoulder 4ft), explain _____

14. **Aesthetic Concerns**

Scenic Byway/VT Scenic Highway Yes _____ No _____

Describe _____

15. **Effects of Temporary Detour/ Bridge**

Detour required Yes _____ No _____ Length _____ (Attach Plans)

Temporary bridge required Yes _____ No _____ (Attach Plans)

Impacts of Detour/ Bridge _____

Public notification of detour _____

**Field Inspection Comments:** _____ See supporting documentation.

**Summary of Commitments and Mitigation**

Describe:

**Northern long-eared bat Consideration:**

This project is subject to avoidance and minimization measures to protect the habitat and hibernacula of the Northern Long-eared bat. Although conservation measures are not warranted at this time, if during construction, additional tree clearing becomes necessary, further review will be required and time of year restrictions may apply. In such cases, the Engineer will need to coordinate further environmental review with the Construction Environmental Engineer.

The Contractor must also be made aware that time of year tree cutting restrictions apply to any and all proposed waste, borrow and staging areas associated with this project. Cutting trees outside of the contract project limits shall require review under Section 105.25 Control of Waste, Borrow, and Staging Areas.

Prepared by: Julie Ann Held 09/19/2016  
Signature Date

Reviewed by: _____  
Signature Date

Document Template Last Revised 11/10/15



## OFFICE MEMORANDUM

AOT - PROJECT DELIVERY BUREAU  
ENVIRONMENTAL SECTION

**TO:** Project File  
**COPY:** Kenneth R. Sikora, Environmental Program Manager  
Ande DeForge, Project Manager

**FROM:** Jeff Ramsey, Environmental Specialist Supervisor

**DATE:** 11/05/19

**SUBJECT:** 3-Year PACE Re-Evaluation Per VTTrans/ FHWA Programmatic Agreement

**PROJECT:** **Essex TAP TA15 (4)**

A Programmatic Categorical Exclusion (PACE) for the above-mentioned project, per 23 CFR 771.117(c)(3), was issued on 09/19/16/.

Project Essex TAP TA15(4) is located in the Town of Essex, Vermont. The project is located along Pinecrest Drive beginning at the eastern end of the intersection with Suffolk Lane. The project continues along Pinecrest Drive and ends at the intersection with VT Route 2A. Work to be performed under this contract includes constructing a new 5-foot-wide sidewalk along the edge of Pinecrest Drive, drainage, and incidental items.

Based upon re-evaluation of the proposed project, it has been determined that there have been no substantive changes in the project scope, design footprint, anticipated impacts, or proposed mitigation measures and the determination that the project qualifies for Programmatic Categorical Exclusion remains valid. The next major action consists of Right-of-Way Negotiation. This Memorandum serves to document that the PACE was re-evaluated on 11/05/19.

Please contact Jeff Ramsey at 802-917-4467 if you require additional information.

VERMONT AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

INDIVIDUAL WETLAND PERMIT

In the matter of:

Town of Essex  
81 Main Street  
Essex Junction, VT 05452

**Application for the construction of a sidewalk with proposed  
impacts to 9,112 square feet of wetland buffer zone.**

Pinecrest Drive and Route 2A/Colchester Rd  
Essex, VT 05452

File #: 2012-113  
DEC ID #: EJ12-1104

Date of Decision: December 19, 2012  
Decision: Approved  
Expiration Date: December 19, 2017

10 V.S.A. §913 and Section 9.1 of the Vermont Wetland Rules provides that any activity in a Class 1 or Class II wetland or its associated buffer zone is prohibited unless it is an allowed use under the Wetland Rules or unless it receives a permit allowing such activity. Applicants for an individual permit for a proposed activity in any Class I or Class II wetland or its buffer zone have the burden of proof to show that the proposed activity complies with the Wetland Rules and will have no undue adverse impact on protected functions and values.

The Vermont Agency of Natural Resources (Agency) received an application dated September 12, 2012 from the Town of Essex for a Vermont Wetland Permit #2012-113 for a project involving activities in the buffer zone of a Class II wetland located in the Town of Essex, Vermont. Public notice of the application was given in accordance with the Vermont Wetland Rules. Any comments received during the public comment period were considered during review of the application and issuance of this permit.

**DECISION AND PERMIT CONDITIONS**

have these conditions  
been addressed?

1. Based on the Findings contained in this permit, the permit application, and information obtained during a site visit by Agency staff, the Secretary finds that the proposed activities will comply with the Vermont Wetlands Statute, 10 V.S.A. §901 et. seq. and the Vermont Wetland Rules. The applicant has demonstrated that the project will have no undue adverse effects on the protected functions and values of the subject significant wetland and associated buffer zone, and adjacent wetland complex, provided the project is conducted in accordance with the following conditions:
  - A. All activities in the wetland and buffer zone shall be completed, operated and maintained as set forth in the permit application #2012-113 and the supporting materials listed in Section 13 of the permit application. No material or substantial changes shall be made to the project without the prior written approval of the Vermont Wetlands Section. Project changes may require a permit amendment and additional public notice.



- B. The applicant shall record this permit in the land records of the Town of Essex for all properties subject to the permit. Within 30 days of the date of issuance of this permit, the applicants shall supply the Vermont Wetlands Section with a copy of the recording of this permit.
- C. The applicant shall notify the Vermont Wetlands Section in writing or by email prior to the start of the approved project.
- D. **Prohibitions:** No additional activities are allowed in the wetland and associated buffer zone without the approval of the Secretary unless such activities are allowed uses under the Vermont Wetland Rules. No draining, dredging, filling, grading or alterations of the water flow is allowed. No cutting, clearing or removal of vegetation within the wetland and buffer zone is allowed with the exception of the proposed project area as approved by this permit.
- E. All construction activities in the wetland and adjacent 50-foot buffer zone shall be completed within five years of the date of this permit or this permit will expire. Any request for an extension must be received by the Department at least 30 days prior to the end of the five year period in order to prevent the expiration of the permit. A request for extension may be considered a minor modification at the discretion of the Secretary. Projects may not be extended beyond ten years of the issuance date, in accordance with Section 9.1 of the Vermont Wetland Rules.
- F. The wetland boundary delineation is valid for five years. The delineation will need to be re-evaluated by a qualified wetland consultant if the project is not constructed during the five-year period and a request for an extension is submitted.
- G. Within thirty (30) days of completion of the work approved by this permit, the permittee or their representative shall supply the Vermont Wetlands Section with a letter certifying that the project was constructed in compliance with the conditions of this permit.
- H. If a stormwater construction permit is obtained for this project, the erosion prevention and control requirements of that permit shall be followed. If a stormwater permit is not required, the permittee shall comply with the following: A continuous line of orange snow fence or flagging tape shall be installed along the limit of disturbance prior to the start of construction. A continuous line of silt fence shall be properly installed by the applicant immediately upgradient of the snow fence or tape prior to any construction and shall be regularly maintained. Care should be taken to ensure that silt fence is installed on the contour and not in areas of concentrated flow such as stream channels or ditches. Sediment shall be cleaned out before and after any significant storm event or when they have reached less than half the height of the fence. Removed sediments shall be disposed of in a stable, upland area outside the 50-foot buffer zone at least 100 feet from waters of the state and stabilized immediately with seed and mulch at a minimum. All other disturbed soils shall be seeded and mulched within 48 hours of final grading. All sediment barriers and construction fencing shall be removed following the successful establishment of vegetation.
- I. All contractors' equipment shall be cleaned so as to contain no observable soil or vegetation prior to work in wetlands and buffer zones to prevent the spread of invasive species. The applicant shall monitor the portion of the wetland in question annually during early July for five years following construction for the nuisance plant species purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*). All nuisance plants found shall be pulled by hand and disposed of by burial or burning in a non-wetland location. If hand pulling is not feasible, a state approved invasive species control plan is required.

2. The Agency maintains continuing jurisdiction over this project and may at any time order that remedial measures be taken if it appears that undue adverse impacts to the protected functions and values of the wetland or buffer are or will occur.
3. This permit does not relieve the applicant of the responsibility to comply with any other applicable federal, state, and local laws, regulations, and permits.
4. The permittee shall allow the Secretary or his/her representatives, at reasonable times and upon presentation of credentials, to enter upon and inspect the permitted property for the purpose of ascertaining compliance with this permit, the Vermont Wetland Rules and the Vermont Water Quality Standards and to have access to and copy all records required to be prepared pursuant to this permit.
5. The Agency, by issuing this permit, accepts no legal responsibility for any damage direct or indirect of whatever nature and by whomever suffered arising out of the approved project. This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights, or any infringement of federal, state or local laws or regulations. This permit does not obviate the necessity of obtaining such federal, state or local permits or approvals as may be required by law. Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under other laws.
6. Within 15 days of the date of the decision, the applicant, any person entitled to notice under Section 9.2 of the Vermont Wetland Rules, or any person who filed written comments regarding the permit application may request in writing reconsideration of the decision by the Secretary in accordance with Section 9.6 of the Rules.
7. Any person with an interest in this matter can appeal this decision pursuant to 10 V.S.A. §917. Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned; the name of the applicant; and any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at [www.vermontjudiciary.org](http://www.vermontjudiciary.org). The address for the Environmental Court is 2418 Airport Road, Suite 1, Barre, VT 05641 (Tel. # 802-828-1660).

#### **FINDINGS**

1. A complete application was received from the Town of Essex for Vermont Wetland Permit #2012-113 on September 17, 2012.
2. The wetland and adjacent 50-foot buffer zone are located along the north side of Pinecrest Drive (approximately 1,600 feet) and the west side of Colchester Road (1,100 feet) in Essex, Vermont.
3. Alan Quackenbush, Wetlands Program Manager, conducted a site visit to the subject property with Dennis Lutz (Town of Essex), Greg Goyette (Stantec Consulting) and Polly Harris (Stantec Consulting) on May 8, 2012.

4. The subject wetland is identified as a palustrine wetland on the Vermont Significant Wetlands Inventory maps and is therefore designated as a Class II wetland in the Vermont Wetland Rules.
5. The 38.5-acre wetland in question is comprised of 60% emergent wetland and 40% shrub swamp. It is located at the toe of slope in the Indian Brook floodplain and is saturated for the majority of the year in the project area. Dominant plant species include common reed and cattail. Soils were sampled and identified as loamy mucky mineral soils with depleted matrix.
6. The proposed project includes the construction of a 5-foot wide sidewalk on the north side of Pinecrest Drive, extending from the existing sidewalk near Suffolk Lane east approximately 1,600 feet to Route 2A. This will then connect to a new 8-foot wide shared use path on the west side of Route 2A north approximately 1,100 feet to Old Colchester Road. Construction of the sidewalk will result in a permanent buffer zone impact of 1,442 square feet. Temporary impacts from vegetation clearing and reseeding total 7,014 square feet. An additional 656 square feet of existing road, that will remain roadway, will be included as a temporary impact.
7. Proposed impacts to the wetland and buffer zone as summarized in Section 12 of the permit application are as follows:

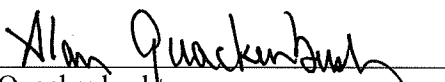
<b>Wetland Alteration:</b>		<b>Buffer Zone Alteration:</b>	
Wetland Fill:	0 sq.ft.		
Temporary:	0 sq.ft.	Temporary:	7,670 sq.ft.
Other Permanent: :	0 sq.ft.	Permanent: :	1,442 sq.ft.
<b>Total Wetland Impact</b>	<b>0 sq.ft.</b>	<b>Total Buffer Zone Impact:</b>	<b>9,112 sq.ft.</b>

8. The protected functions of both the wetland complex and subject wetland include the following: water storage for flood water and storm runoff (§5.1 of the Vermont Wetland Rules), surface and groundwater protection (§5.2), fish habitat (§5.3), wildlife and migratory bird habitat (§5.4), education and research in natural science (§5.7), recreational value and economic benefits (§5.8), open space and aesthetics (§5.9), and erosion control through binding and stabilizing the soil (§5.10).
9. The following functions are either not present or are present at such a minimal level as to not be protected functions: exemplary wetland natural community (§5.5) and threatened and endangered species habitat (§5.6).
10. **Water Storage for Flood Water and Storm Runoff.** The wetland is significant for the water storage for flood water and storm runoff function as demonstrated in Section 16 of the permit application. Based on the factors described in Section 16.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
11. **Surface and Groundwater Protection.** The wetland is significant for the surface and ground water protection function as described in Section 17 of the permit application. Based on the factors described in Section 17.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
12. **Fish Habitat.** The wetland is significant for the fish habitat function as described in Section 18 of the permit application. Based on the factors described in Section 18.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.

13. **Wildlife and Migratory Bird Habitat.** The wetland is significant for the wildlife and migratory bird habitat function as described in Section 19 of the permit application. Based on the factors described in Section 19.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
14. **Education and Research in Natural Sciences.** The wetland is significant for the education and research in natural sciences function as demonstrated in Section 22 of the permit application. Based on the factors described in Section 22.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
15. **Recreational Value and Economic Benefits** The wetland is significant for the recreational value and economic benefits function as demonstrated in Section 23 of the permit application. Based on the factors described in Section 23.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
16. **Open Space and Aesthetics.** The wetland is significant for the open space and aesthetics as demonstrated in Section 24 of the permit application. Based on the factors described in Section 24.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
17. **Erosion Control.** The wetland is significant for the erosion control function demonstrated in Section 25 of the permit application. Based on the factors described in Section 25.2 of the application, as confirmed through a site visit by Agency staff, the proposed project will not result in an undue adverse impact to this function.
18. Under 10 V.S.A. §913 and Section 9 of the Vermont Wetland Rules, the Secretary may authorize activities in a significant wetland or in its adjacent buffer zone if the Secretary determines that it complies with the Wetland Rules and will have no undue adverse effect on the protected functions and values. The Secretary has determined that the proposed project, described in these Findings and in the permit application, will have no undue adverse impacts to the protected functions and values of the subject Class Two wetlands or the adjacent wetland complex.
19. The applicant has demonstrated the proposed activity in the subject wetland cannot practicably be located outside the wetland buffer zone or on another site owned, controlled or available to satisfy the basic project purpose. All practicable measures have been taken in this proposal to avoid adverse impacts on protected functions, as described in the application.

In order to avoid direct impacts to the wetland, slopes have been steepened to 2:1 in the wetland vicinity. Stormwater runoff currently discharges directly into the wetland, but the Essex Sidewalk Project includes stormwater collection and pretreatment, which will reduce direct discharge impacts to the wetland. A 5-foot grass strip will be located between the road and the sidewalk providing further area for stormwater filtration, sidewalk safety, and snow buildup in winter.

David K. Mears, Commissioner  
Department of Environmental Conservation

by:   
Alan Quackenbush  
Wetlands Program Manager, Watershed Management Division

Dated at Montpelier, Vermont  
this 19th day of December, 2012

**Vermont Wetlands Program  
Minor Amendment Application**  
Under Sections 9.7  
of the Vermont Wetland Rules



VERMONT DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION  
**WATERSHED  
MANAGEMENT DIVISION**  
WETLANDS PROGRAM

VWP File# 2012-113 Issue Date: 12/19/12

**1. Eligibility Checklist:**

*If you cannot verify each of the following, stop and proceed to the Major Amendment Qualification Form.*

- The changes are for an Individual Permit which was issued after April 1, 2017. (General Permit authorizations do not apply; all permits issued before April 1, 2017 need a new permit for any amendments)
- There are no changes to the overall project purpose.
- The changes do not impact any additional properties.
- The changes involve the same delineated wetland area (if impacts are to previously unassessed areas, the change does not qualify)
- There is no net additional impact to wetland or buffer zone
- Changes are within the same or lesser cover type in wetland or buffer (i.e. impact moves from shrub cover to meadow)
- The activity does not move from a managed area to a natural area
- Activity does not move to areas with rare, threatened or endangered species habitat and exemplary natural community
- The changes include no additional encroachment into wildlife habitat and are no closer to surface water bodies

Per 12/1/17 email from Tina Heath, this is correct form to use.

**2. Overall Project Description**

The Pinecrest Drive Sidewalk Project [Essex TAP TA15(4)] includes construction of a sidewalk along the north side of Pinecrest Drive, extending from the existing sidewalk near Suffolk Lane east approximately 1,600 feet to Route 2A. This will then connect to a new 10-foot wide shared use path on the west side of Route 2A north approximately 1,100 feet to Old Colchester Road. The shared use path on Route 2A has been constructed, and the Pinecrest Drive Sidewalk will provide the final link in the overall sidewalk and path system in this area of Essex. The sidewalk will provide a safe location for pedestrians and other users along the busy road.

**3. Detailed Description and purpose of proposed changes**

The original sidewalk construction project resulted in a total buffer zone impact of 9,112 sf, including a proposed permanent buffer zone impact of 1,442 sf. Temporary impacts from vegetation clearing, re-seeding, and re-paving of existing roadway totaled 7,670 square feet. Note that the project has been refined since the original permit submittal, and total impacts to the wetland buffer have been reduced from 9,112 SF to 8,117 SF. This includes 3,925 SF of permanent impact from construction of the sidewalk and stormwater system, and 4,192 SF of temporary impact from regrading and seeding the slope.

Stormwater runoff currently discharges directly to the wetland. Construction of the Essex Pinecrest Drive Sidewalk Project includes stormwater collection and pretreatment, which will reduce direct discharge impacts to the wetland. A 5-foot grass strip will be located between the road and the sidewalk, providing further area for stormwater infiltration. The updated project includes installation of an improved stormwater system including a stone lined level spreader with a stone lined pilot channel for overflow. The original design had a concentrated outlet. While it is true that there is a slight increase in permanent buffer impacts from the upgraded stormwater system, the level spreader design will be a net benefit to the nearby wetland as it reduces velocities and distributes the stormwater across a wider area, thus reducing erosion potential. There is a decrease in temporary buffer impacts.



**4. Wetland and/or Buffer Type Proposed for changed impact Name, impact numbers, cover type.**

There are no direct wetland impacts resulting from this project.

The existing buffer includes maintained grassed road shoulder as well as areas of eastern cottonwood, red maple, and staghorn sumac along the road prism. Proposed impacts include 8,117 SF of total buffer impact, a reduction from the original permitted impact area. This includes 3,925 SF of permanent impact and 4,192 SF of temporary impact to the maintained road shoulder and mixed upland forest habitats.


**5. Description of avoidance and minimization measures associated with changes**


The wetland buffer cannot be avoided in order to construct the sidewalk and stormwater system. The Indian Brook wetland is located at the toe of slope, and any work adjacent to the existing road is located within the wetland buffer. Stormwater currently discharges directly to the wetland. The project's upgraded stormwater system includes installation of a stone lined level spreader with a stone lined pilot channel for overflow. The level spreader design will be a net benefit to the nearby wetland as it reduces velocities and distributes the stormwater across a wider area, thus reducing erosion potential.

**6. Attachments check all that apply**

- [Required] Updated abutters list (include all who are adjacent to the parcel with proposed change)
- [Required] Location Map
- Site plan(s) associated with original permit (if impacts have changed)
- [Required] Updated site plan(s) labeled Essex TAP TA15(4) Erosion Control Plan 3
- Updated management plan(s) labeled _____

**The Secretary may require a person applying for a Minor Amendment to apply for a Major Amendment or new permit. Contact your District Ecologist to verify eligibility before submittal.**

<b>Permittee Information: All fields required</b>			
Name: Town of Essex / Aaron Martin, P.E.			
Address: 81 Main Street	City/Town Essex	State: VT	Zip: 05452
Phone Number: 802.878.1344	Email Address: amartin@essex.org		
<b>Permittee Certification:</b>			
By signing this application you are certifying that all of the information contained within is true, accurate, and complete to the best of your knowledge. Original signature is required.			
Permittee Signature: 		Date: 12-7-17	

<b>Application Preparer/Consultant Information: If applicable</b>			
Name: Stantec / Polly Harris			
Address: 55 Green Mountain Drive	City/Town South Burlington	State: VT	Zip: 05403
Phone Number: 802.497.6407	Email Address: polly.harris@stantec.com		
<b>Application Preparer/Consultant Certification:</b>			
By signing this application you are certifying that all of the information contained within is true, accurate, and complete to the best of your knowledge. Original signature is required.			
Application Preparer/Consultant Signature: 		Date: 12/7/17	

<b>Submittal:</b>
Submit this completed form and <b>\$120.00</b> fee made payable to the "State of Vermont" to:
<b>Vermont Department of Environmental Conservation</b> Watershed Management Division Attn: Wetlands Program One National Life Drive, Main Bldg., 2nd Floor Montpelier, VT 05620
Or send an electronic copy to:
<a href="mailto:ANR.WSMDWetlands@vermont.gov">ANR.WSMDWetlands@vermont.gov</a>