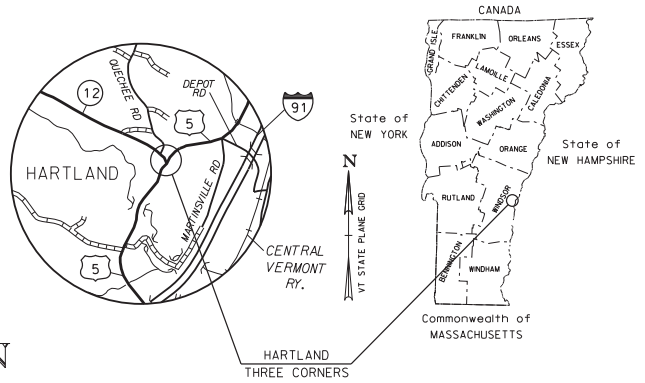
INDEX OF SHEETS

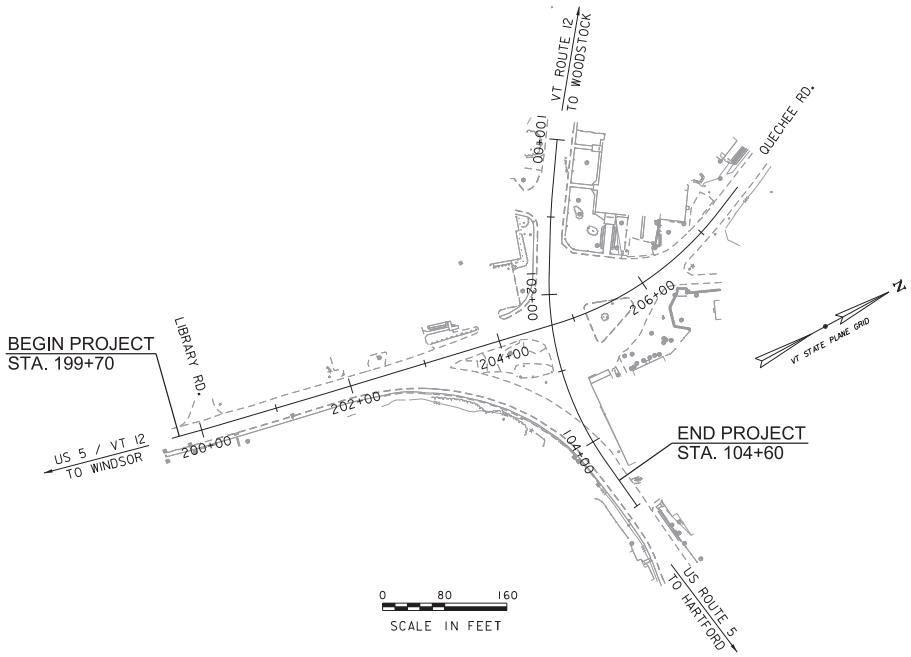
PROPOSED IMPROVEMENT
INTERSECTION PROJECT
TOWN OF HARTLAND
COUNTY OF WINDSOR
THREE CORNERS INTERSECTION



PROJECT LOCATION: THIS PROJECT IS LOCATED AT THE INTERSECTION OF VT ROUTE 12, US ROUTE 5, AND QUECHEE ROAD. THE PROJECT BEGINS ON US ROUTE 5 AT LIBRARY ROAD AND EXTENDS APPROXIMATELY 250 FEET NORTH OF THE VT 12/QUECHEE ROAD INTERSECTION. THE PROJECT EXTENDS FROM 125 FEET WEST TO 200 FEET EAST OF THE INTERSECTION.

PROJECT DESCRIPTION: THE WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES A REALIGNMENT OF THE INTERSECTION, NEW SURFACE PAVEMENT, NEW SIDEWALK, NEW DRAINAGE, STRIPING, SIGNAGE, LANDSCAPING, AND OTHER INCIDENTAL ITEMS NEEDED FOR CONSTRUCTION.

PROJECT LENGTH: 1096 FT = .208 MILES



This project received review comments for Historic Properties which includes a request for relocation of the monument to a particular location, and that was indicated on the previous OLSR; please refer to those comments and map which are in the project folder--if you can't find them please let me know...

APPLICABLE VTRANS CONSTRUCTION STANDARDS

STANDARD	REVISION DATE
B-12	06-01-1994
B-71	07-08-2005
C-2A	10-14-2005
C-3A	3-10-2008
C-3B	3-10-2008
C-10	2-11-2008
D-9	6-1-1994
D-15	6-1-1994
D-20	3-3-2003
E-121	8-8-1995
E-127	8-8-1995
E-136B	8-8-1995
T-1	4-25-2016
T-2	4-25-2016
T-10	8-6-2012
T-17	8-6-2012
T-24	8-6-2012
T-28	8-6-2012
T-30	8-6-2012
T-35	8-6-2012
T-36	8-6-2012
T-45	1-2-2013
T-56	10-26-2015
T-92	10-26-2015
T-93	10-26-2015

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

SURVEYED BY : VHB
SURVEYED DATE : SEPTEMBER 2015

DATUM
VERTICAL NAVD 88 (GEOID 12A)
HORIZONTAL VT STATE PLANE (NAD 83)

FINAL PLANS
MARCH 28, 2017

PROJECT MANAGER : J.D. SALADINO

PROJECT NAME : HARTLAND
VHB PROJECT NUMBER : 57790.00

SHEET 1 OF 48 SHEETS

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

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

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

POINT	CODE	DESCRIPTION
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	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 VALUE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

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

PROPOSED GEOMETRY CODES

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

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UGU — UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEP.
- 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+TELEP.
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH ℄
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PDF — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

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

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- Ⓗ HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

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

vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790.00legend.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J. D. SALADINO	DRAWN BY: VTRANS
DESIGNED BY: D.M. PECK	CHECKED BY: D.M. PECK
CONVENTIONAL SYMBOLOGY LEGEND SHEET	SHEET 2 OF 48

It should be noted that the Agency has 14 days to review the plans, but that does not include any additional time necessary to correct and resubmit plans.

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND SUCH SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THE FINAL CONTRACT DOCUMENTS.

2. PER ADA GUIDELINES, SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2%.

3. UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXISTING PAVEMENT AND SIDEWALK CALLED OUT FOR REMOVAL ON THE ROADWAY LAYOUT PLANS SHALL BE REPLACED WITH ACCEPTABLE BACKFILL AND 4" OF TOPSOIL & SEED TO MEET FINISHED GRADE ELEVATIONS. REMOVAL OF EXISTING CONCRETE SIDEWALK SHALL BE PAID FOR UNDER ITEM 203.16 - ROCK STRUCTURE EXCAVATION. REMOVAL OF EXISTING PAVEMENT NOT CARRIED UNDER COMMON EXCAVATION SHALL BE PAID FOR UNDER ITEM 203.28 - EXCAVATION OF SURFACES AND PAVEMENTS.

4. EXISTING GRANITE CURB REMOVED DURING CONSTRUCTION SHALL BE BE RE-USED TO THE EXTENT POSSIBLE. ALL REMAINING EXISTING GRANITE CURB NOT RE-USED SHALL BE STOCKPILED AT A LOCATION IDENTIFIED BY THE TOWN OF HARTLAND.

5. VERTICAL GRANITE CURB SHALL CONFORM TO SECTION 616 OF THE STANDARD SPECIFICATIONS FOR VERTICAL GRANITE CURB.

6. SAW CUTTING OF EXISTING PAVEMENT SHALL BE INCIDENTAL TO RELATED ITEMS AND NO SEPARATE PAYMENT WILL BE MADE.

7. THESE CONTRACT PLANS SHOW PROPOSED CURB AND SIDEWALK INSTALLATION ALONG THE SOUTHBOUND SIDE OF US ROUTE 5 / VT ROUTE 12 FROM STATION 199+65 TO 204+11, LT. FOR THE PURPOSES OF THIS CONTRACT, ALL WORK RELATED TO THE INSTALLATION OF THAT SECTION OF CURB AND SIDEWALK SHALL CONSIDERED AN AD-ON. THE CONTRACTOR SHALL BID ON THE AD-ON PAY ITEMS SEPARATELY FOR THIS CONTRACT AND SHALL NOT DO THE WORK UNLESS WRITTEN AUTHORIZATION IS RECEIVED FROM THE TOWN.

8. IN AREAS WHERE EXISTING PAVEMENT IS TO BE REMOVED THE CONTRACTOR SHALL TILL THE EXPOSED SOIL / MATERIAL TO A DEPTH OF AT LEAST 24" PRIOR TO INSTALLING THE APPROPRIATE BACKFILL MATERIAL AND/OR TOPSOIL. TILLING OF THE SOIL SHALL BE CONSIDERED INCIDENTAL TO ALL EXCAVATION ITEMS.

CONSTRUCTION NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A DETAILED TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION. THE PLANS SHALL SHOW ACCURATELY SHOW THAT VEHICULAR, BICYCLE, AND PEDESTRIAN TRAFFIC IS PROPERLY MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THESE PLANS, SECTION 641 FOR TRAFFIC CONTROL AS DEFINED IN THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION BOOK, DATED 2011, THE VTRANS WORK ZONE SAFETY & MOBILITY GUIDANCE DOCUMENT AND APPENDIX A, AND THE LATEST VERSION OF THE MUTCD. THE CONTRACTOR SHALL SUBMIT THE TRAFFIC CONTROL PLANS TO THE VERMONT AGENCY OF TRANSPORTATION FOR THEIR REVIEW AND COMMENT PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE VTRANS A MINIMUM OF TWO (2) WEEKS FOR REVIEW OF THE TRAFFIC CONTROL PLANS.

2. THE CONTRACTOR SHALL ERECT, MAINTAIN, REMOVE, AND/OR RESET AS REQUIRED ALL ON-PROJECT SIGNS AND BARRICADES. ALL SIGNS AND BARRICADES SHALL BE INSPECTED AND REPAIRED DAILY. ALL SIGNS AND BARRICADES SHALL CONFORM TO THE LATEST VERSION OF MUTCD AND SHALL BE CLEANED OF DUST AND DEBRIS WEEKLY.

3. ANY EXISTING SIGNS NOT REUSED SHALL REMAIN THE PROPERTY OF THE TOWN OF HARTLAND OR STATE OF VERMONT IF LOCATED ON STATE ROADS. THESE SIGNS SHALL BE REMOVED BY THE CONTRACTOR AND STOCKPILED FOR REMOVAL BY THE TOWN. STOCKPILE LOCATION TO BE DETERMINED BY THE TOWN. ANY EXISTING SIGNS THAT ARE NOT COMPLIANT WITH MUTCD RETRO-REFLECTIVE REQUIREMENTS, DESIGN, AND CONDITION SHALL BE DISPOSED OF.

4. FULL ACCESS TO ALL DRIVES WITHIN THE PROJECT/APPROACH LIMITS SHALL BE MAINTAINED AT ALL TIMES. IF FULL ACCESS CANNOT BE MAINTAINED, THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH THE BUSINESS OR PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF TEMPORARILY CLOSING OFF THE ACCESS. THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH THE WORK ZONE FOR EMERGENCY VEHICLES AT ALL TIMES OR COORDINATE EMERGENCY ROUTES.

5. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL BURIED AND AERIAL UTILITIES AND POLES PRIOR TO STARTING WORK. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY OWNERS TO CONFIRM ACTUAL LOCATIONS PRIOR TO CONSTRUCTION.

   DIG-SAFE (1-888-344-7233)
   GREEN MOUNTAIN POWER - DAN AUSTIN (802-886-3309)

6. THE FOLLOWING IS A LIST OF CONTACTS THE CONTRACTOR SHALL NOTIFY AT LEAST 2 FULL BUSINESS DAYS PRIOR TO EXCAVATING. THE TOWN OF HARTLAND SHALL REQUIRE AT LEAST 7 DAYS NOTIFICATION:

   TOWN OF HARTLAND:
   BOB STACEY, TOWN MANAGER (802-436-2119)

   STATE OF VERMONT:
   CHRISTOPHER BUMP, VTRANS DISTRICT 4 (802-296-5567)
   THERESA GILMAN, VTRANS (802-828-2473)

7. VTRANS WILL PROVIDE CONTACT INFORMATION FOR THE ASSIGNED INSPECTOR TO THE PROJECT AT THE PRECONSTRUCTION MEETING.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.

9. WORK WITHIN THE LOCAL RIGHTS-OF-WAY AND ACQUIRED EASEMENTS SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION.

10. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

11. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE TOWN IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

12. DAMAGE RESULTING FROM CONTRACTOR CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION AS PER THESE PLANS, THE ANR LOW RISK HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL, AND THE ENGINEER IN ORDER TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.

UTILITY NOTES

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR DESIGN ENGINEER HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY. EXPLORATORY EXCAVATION SHALL BE PAID FOR UNDER ITEM 204.22 - TRENCH EXCAVATION OF EARTH, EXPLORATORY.

2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED AND THE INFORMATION FURNISHED IN WRITING TO THE TOWN AND DESIGN ENGINEER FOR THE RESOLUTION OF THE CONFLICT.

3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GENERAL PLANS, CROSS SECTIONS AND DRAINAGE NOTES.

4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.

5. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE VERIFIED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

6. THE USE OF BRICK AND MORTAR TO ADJUST THE ELEVATION OF DRAINAGE OR SANITARY STRUCTURES IS PROHIBITED. ALL ELEVATION ADJUSTMENTS SHALL BE MADE USING EITHER GRADE RINGS OR A SYNTHETIC RISER.

7. ALL CONNECTIONS BETWEEN PRECAST DRAINAGE STRUCTURES AND NEW DRAINAGE PIPES SHALL BE A BOOTED CONNECTION.

8. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND ADJUSTING ALL CURB STOPS, WATER VALVES, MANHOLES, & DRAINAGE STRUCTURES WITHIN THE PROJECT LIMITS TO TO THE FINAL GRADE ELEVATION. PAYMENT FOR ADJUSTMENTS SHALL BE PAID FOR UNDER THE APPROPRIATE CONTRACT PAY ITEMS IN ACCORDANCE WITH THE 2011 VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION.

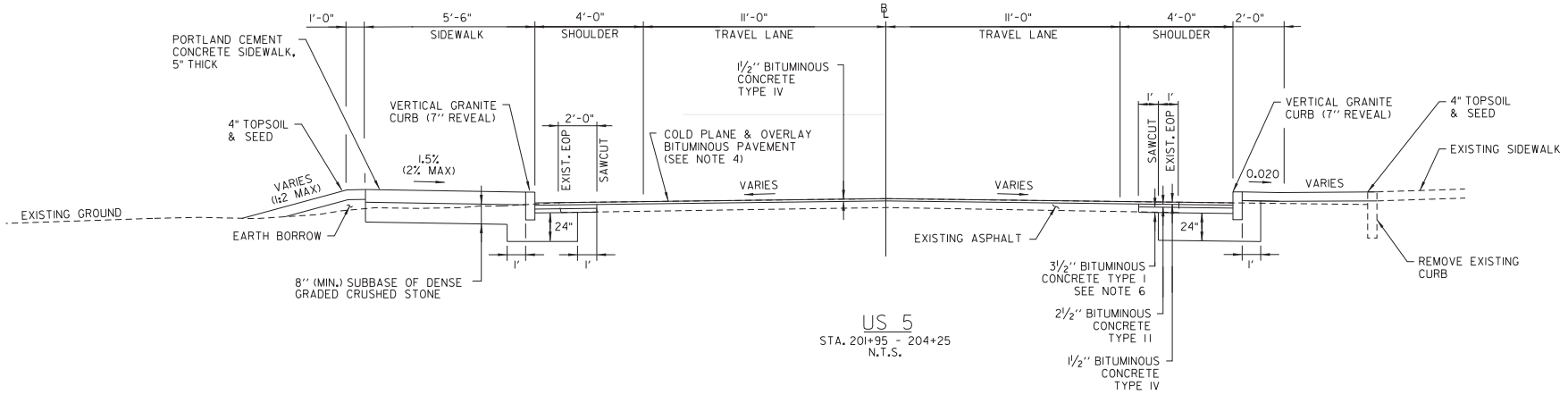
vhb

PROJECT NAME: HARTLAND	
PROJECT NUMBER: 57790.00	
FILE NAME: 57790NOTES.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
NOTES SHEET	SHEET 3 OF 48

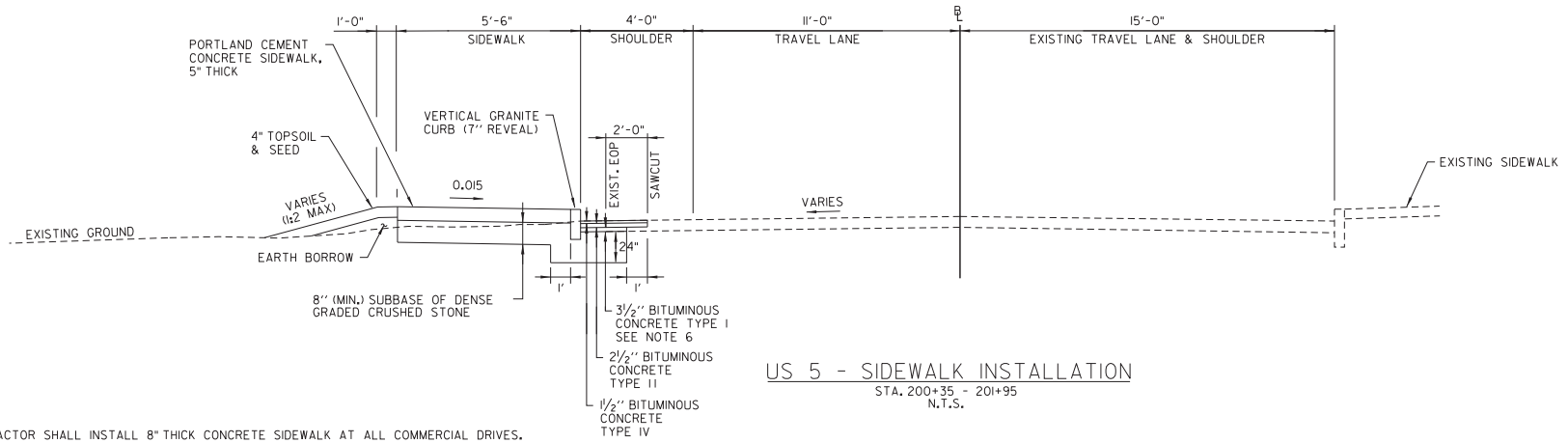
MATERIAL TOLERANCES	
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (FULL DEPTH)	± 1/4" (TOTAL THICKNESS)
SUBBASE	1/2"

TYPICAL SECTIONS

1 1/2" BITUMINOUS CONCRETE PAVEMENT WEARING COURSE - TYPE IV PG 58-34
2 1/2" BITUMINOUS CONCRETE PAVEMENT BINDER COURSE - TYPE II PG 58-34
3 1/2" BITUMINOUS CONCRETE PAVEMENT BASE COURSE - TYPE I PG 58-34



US 5
STA. 201+95 - 204+25
N.T.S.



US 5 - SIDEWALK INSTALLATION
STA. 200+35 - 201+95
N.T.S.

NOTES

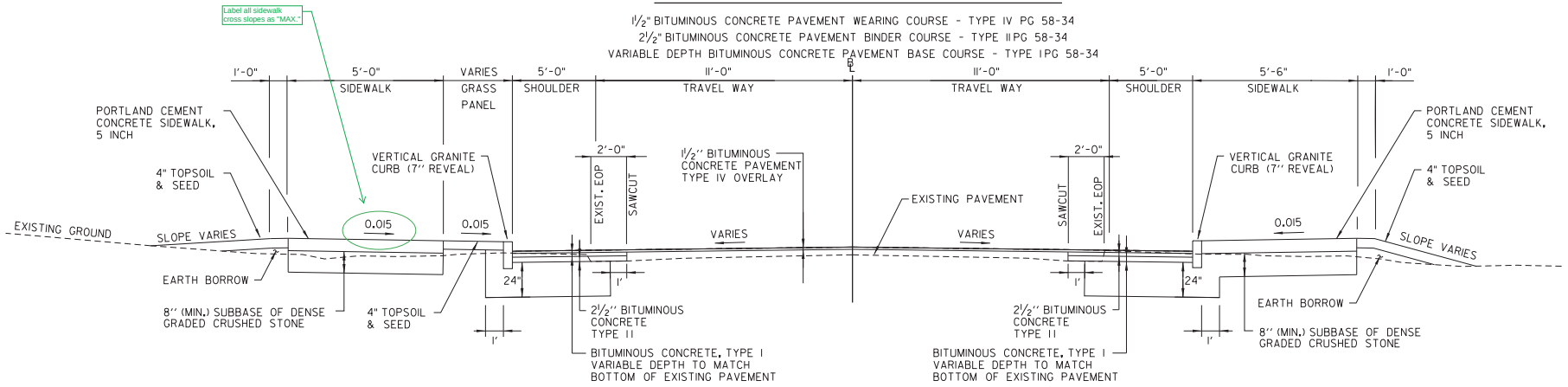
1. CONTRACTOR SHALL INSTALL 8" THICK CONCRETE SIDEWALK AT ALL COMMERCIAL DRIVES.
2. SIDEWALK RAMP DETECTABLE WARNING SURFACES SHALL BE TRUNCATED DOME DETECTABLE WARNING CAST IRON PLATES FROM THE VTRANS APPROVED PRODUCTS LIST.
3. SAWCUT OF EXISTING PAVEMENT, CONCRETE BASE, OR SIDEWALK SHALL BE INCIDENTAL TO ALL EXCAVATION ITEMS (TYP).
4. DEPTH OF COLD PLANING SHALL VARY FROM 1" AT CENTERLINE TO AS MUCH AS 3.5" ALONG CURB LINES TO ALLOW FOR PROPER SIDEWALK CROSS SLOPE AND CURB REVEAL. CONTRACTOR TO ADJUST AS NEEDED.
5. VERTICAL GRANITE CURB DIMENSIONS SHALL ADHERE TO VERMONT AGENCY OF TRANSPORATION STANDARD DRAWING C-10.
6. CONTRACTOR SHALL ADJUST THICKNESS OF TYPE I PAVEMENT (BASE COURSE) INSTALLED TO MATCH THE BOTTOM OF THE EXISTING PAVEMENT.
7. EMULSION RATES BETWEEN LIFTS SHALL BE 0.080 GAL/SY ON COLD PLANE SURFACES AND EXISTING BITUMINOUS CONCRETE PAVEMENT. EMULSION RATES BETWEEN LIFTS SHALL BE 0.040 - 0.060 GAL/SY ON NEW BITUMINOUS CONCRETE PAVEMENT.

vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790typ.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M.DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
TYPICAL SECTIONS (1 OF 4)	SHEET 4 OF 48

TYPICAL SECTIONS

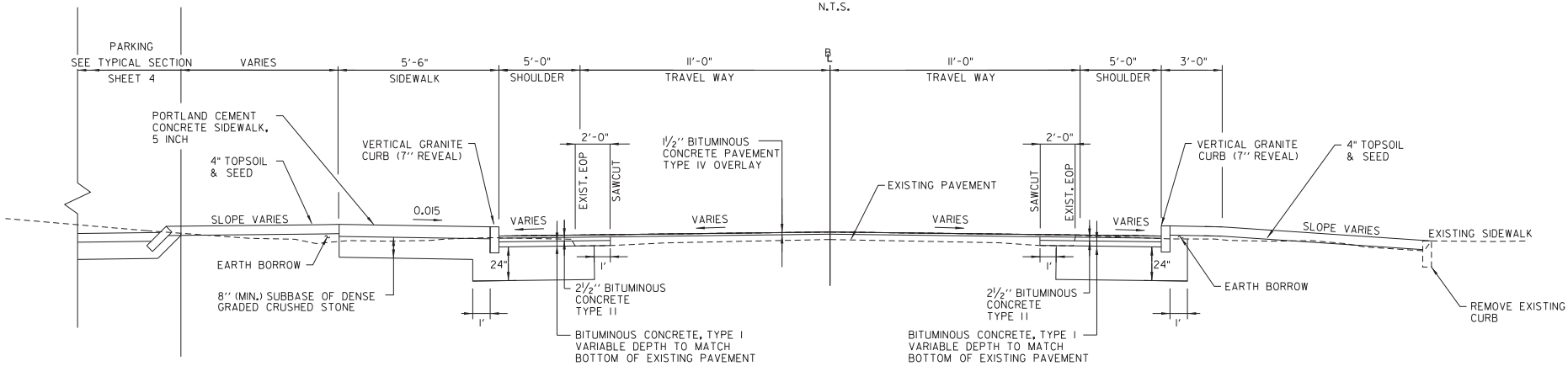
1½" BITUMINOUS CONCRETE PAVEMENT WEARING COURSE - TYPE IV PG 58-34
2½" BITUMINOUS CONCRETE PAVEMENT BINDER COURSE - TYPE IIPG 58-34
VARIABLE DEPTH BITUMINOUS CONCRETE PAVEMENT BASE COURSE - TYPE IPG 58-34



VT 12 (SKUNK HOLLOW ROAD)

STA. 101+06 - 102+50
N.T.S.

QML



US 5 NORTH

N.T.S.

NOTES

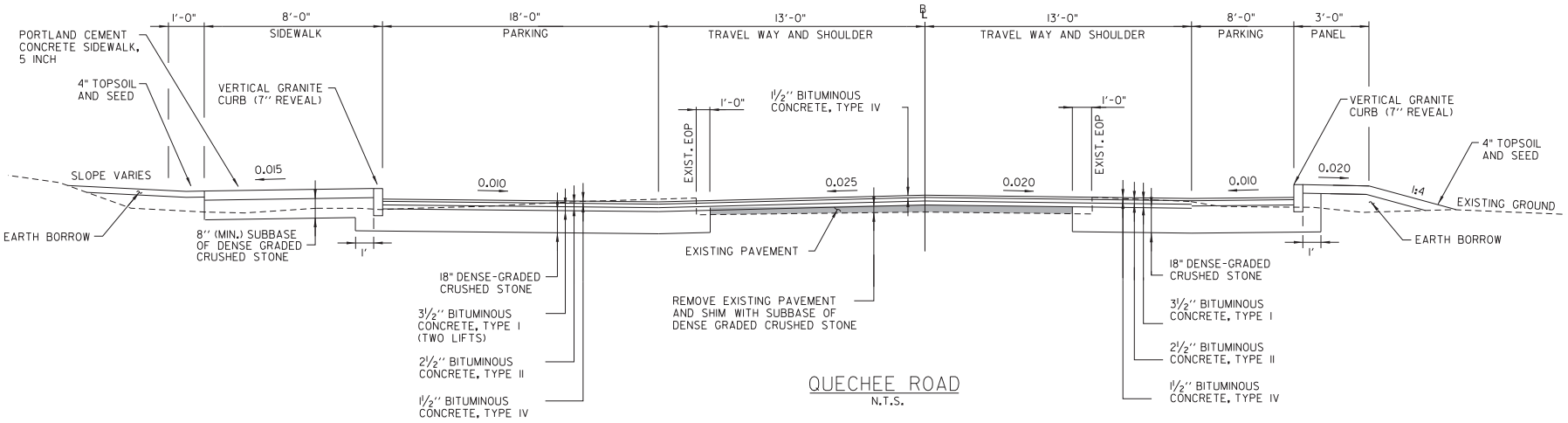
1. CONTRACTOR SHALL INSTALL 8" THICK CONCRETE SIDEWALK AT ALL COMMERCIAL DRIVES.
2. SIDEWALK RAMP DETECTABLE WARNING SURFACES SHALL BE TRUNCATED DOME DETECTABLE WARNING CAST IRON PLATES FROM THE VTRANS APPROVED PRODUCTS LIST.
3. SAWCUT OF EXISTING PAVEMENT, CONCRETE BASE, OR SIDEWALK SHALL BE INCIDENTAL TO ALL EXCAVATION ITEMS (TYP).
4. DEPTH OF COLD PLANING SHALL VARY FROM 1" AT CENTERLINE TO AS MUCH AS 3.5" ALONG CURB LINES TO ALLOW FOR PROPER SIDEWALK CROSS SLOPE AND CURB REVEAL. CONTRACTOR TO ADJUST AS NEEDED.
5. VERTICAL GRANITE CURB DIMENSIONS SHALL ADHERE TO VERMONT AGENCY OF TRANSPORATION STANDARD DRAWING C-10.
6. CONTRACTOR SHALL ADJUST THICKNESS OF TYPE IPAVEMENT (BASE COURSE) INSTALLED TO MATCH THE BOTTOM OF THE EXISTING PAVEMENT.
7. EMULSION RATES BETWEEN LIFTS SHALL BE 0.080 GAL/SY ON COLD PLANE SURFACES AND EXISTING BITUMINOUS CONCRETE PAVEMENT. EMULSION RATES BETWEEN LIFTS SHALL BE 0.040 - 0.060 GAL/SY ON NEW BITUMINOUS CONCRETE PAVEMENT.

vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790typ.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M.DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
TYPICAL SECTIONS (2 OF 4)	SHEET 5 OF 48

TYPICAL SECTIONS

1½" BITUMINOUS CONCRETE PAVEMENT WEARING COURSE - TYPE IV PG 58-34
2½" BITUMINOUS CONCRETE PAVEMENT BINDER COURSE - TYPE II PG 58-34
3½" BITUMINOUS CONCRETE PAVEMENT BASE COURSE - TYPE I PG 58-34



QUECHEE ROAD
N.T.S.

NOTES

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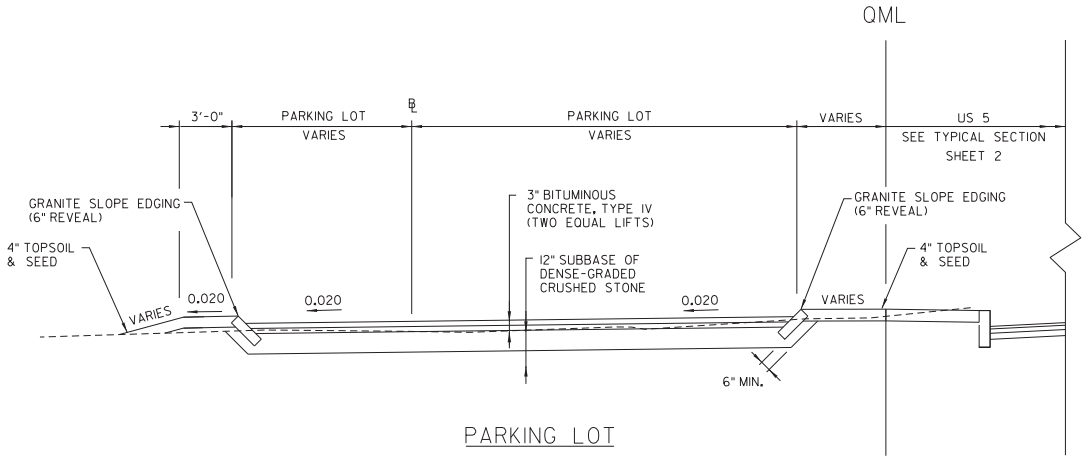
vhb

PROJECT NAME: HARTLAND	
PROJECT NUMBER: 57790.00	
FILE NAME: 57790typ.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M.DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
TYPICAL SECTIONS (3 OF 4)	SHEET 6 OF 48

MATERIAL TOLERANCES	
MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (FULL DEPTH)	± ¼" (TOTAL THICKNESS)
SUBBASE	½"
SAND BORROW	1"

TYPICAL SECTIONS

3" BITUMINOUS CONCRETE PAVEMENT WEARING COURSE - TYPE IV PG 58-34



PARKING LOT

NOTES

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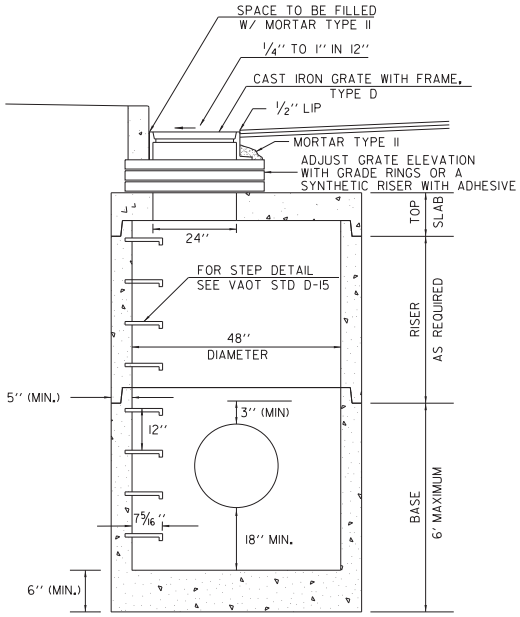
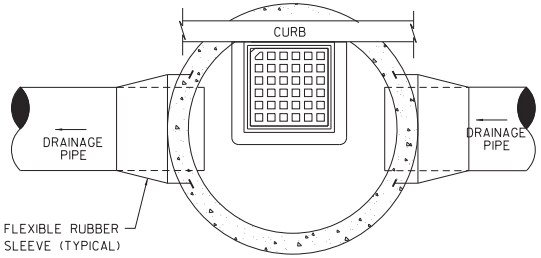
vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790typ.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M.DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
TYPICAL SECTIONS (4 OF 4)	SHEET 7 OF 48



ELEVATION VIEW



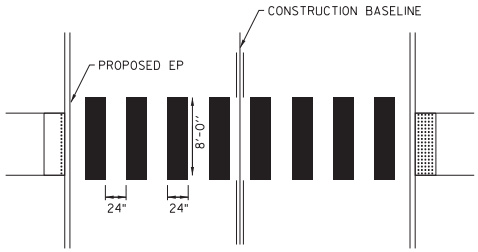
DROP INLET PLAN VIEW

TYPICAL PRECAST DROP INLET INSTALLED IN ROADWAY

N.T.S.

PRECAST CONCRETE DROP INLET AND MANHOLE NOTES:

1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND ASTM C-478.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI AT 28-DAYS
3. STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS25 LOADING.
4. MANHOLE STEPS SHALL BE 14" WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO ASTM C-478 AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER.
5. FACE OF PIPE SHALL NOT PROJECT MORE THAN 2" OR LESS THAN 1" FROM INSIDE WALL OF STRUCTURE.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
7. FITTING FRAME TO FINAL GRADE MAY BE DONE WITH A SYNTHETIC RISER OR WITH PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (3 COURSES MAX).
8. ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
10. PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE. SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS.
11. DROP INLET GRATE ORIENTATION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING D-15 FOR TYPE D GRATES.
12. INSTALLATION OF DROP INLETS OVER EXISTING PIPES SHALL INCLUDE CLEAN CUTTING OF EXISTING PIPES, PROVIDING AN EXTENSION PIPE OF SIMILAR MATERIAL AND SIZE AS THE EXISTING PIPE, COUPLINGS REQUIRED FOR THE CONNECTION BETWEEN THE EXTENSION PIPE AND THE EXISTING PIPE, AND INSTALLING FLEXIBLE RUBBER SLEEVES AS SHOWN IN DETAILS PROVIDED ON THIS SHEET.
13. PAYMENT FOR INSTALLATION OF THE DROP INLETS SHALL BE MADE UNDER PRECAST REINFORCED CONC. DROP INLET WITH CAST IRON GRATE (ITEM 604.18).

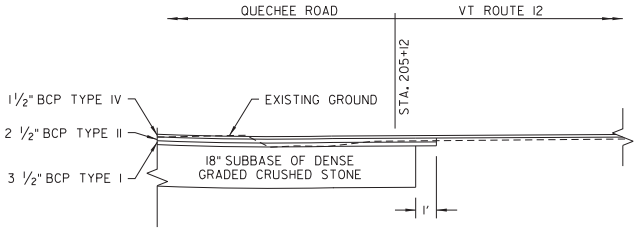


CROSSWALK MARKING DETAIL

ADJUST SPACING (12" TO 24") TO AVOID WHEEL PATHS.

BLOCKS SHOULD BE INSTALLED PARALLEL TO TRAFFIC FLOW. FOR SKEWED CROSSINGS, OFFSET BLOCKS LATERALLY AS NEEDED.

CROSSWALK MARKINGS SHALL CONFORM TO SECTION 646.06 OF THE VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011.

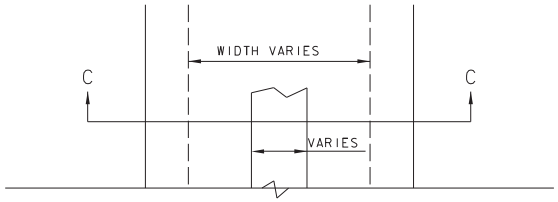


VT ROUTE 12 / QUECHEE ROAD TRANSITION DETAIL

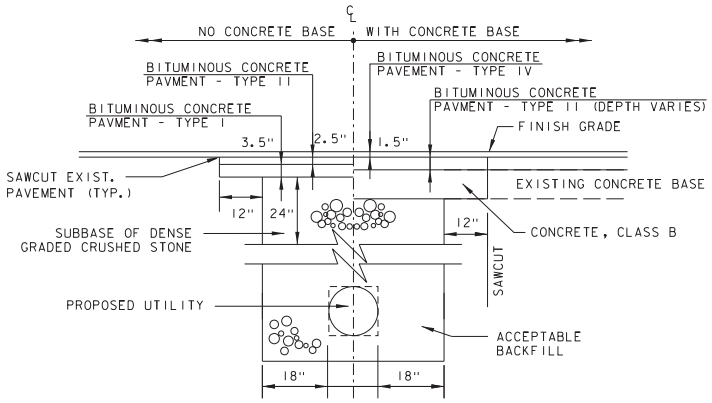
N.T.S.

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790det.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
DETAILS SHEET (1 OF 2)	SHEET 8 OF 48

VHB 57790.00



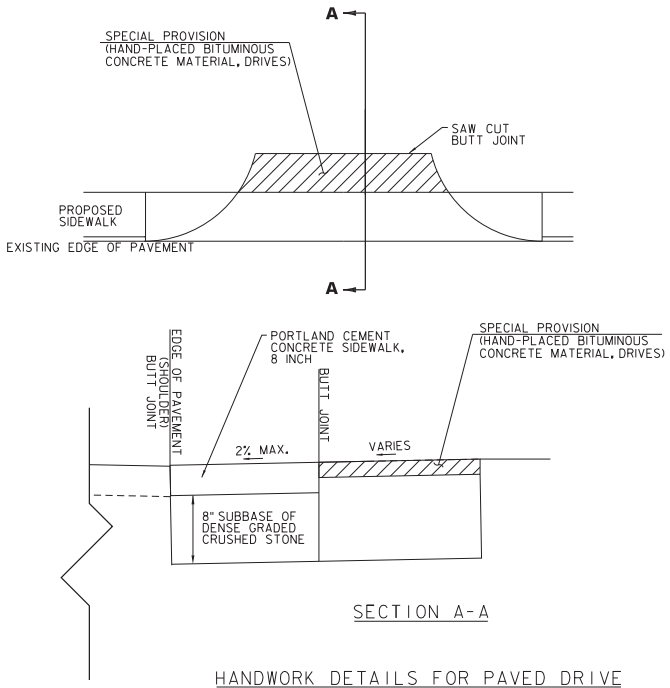
PLAN



SECTION C-C

PAVEMENT UTILITY TRENCH

N.T.S.



SECTION A-A

HANDWORK DETAILS FOR PAVED DRIVE

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790det.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
DETAILS SHEET (2 OF 2)	SHEET 9 OF 48

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	CONSTRUCTION ADD-ALTERNATE	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				**BITUMINOUS CONCRETE PAVEMENT**
																		US 5 / VT ROUTE 12 SOUTH
						1100			215	1315		CY	COMMON EXCAVATION	203.15		**91.0**	TON	WEARING COURSE (TYPE IV)
						15				15		CY	SOLID ROCK EXCAVATION	203.16		**35.0**	TON	BINDER COURSE (TYPE II)
						210				210		CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28		**49.1**	TON	BASE COURSE (TYPE I)
						117			112	229		CY	TRENCH EXCAVATION OF EARTH	204.20				US 5 / VT ROUTE 12 NORTH (EAST-WEST)
						2300				2300		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		**127.5**	TON	WEARING COURSE (TYPE IV)
						615			165	780		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35		**17.8**	TON	BINDER COURSE (TYPE II)
						32			2	34		CWT	EMULSIFIED ASPHALT	404.65		**24.9**	TON	BASE COURSE (TYPE I)
						770			65	835		TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25				QUECHEE ROAD
						1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50		**78.5**	TON	WEARING COURSE (TYPE IV)
						80			70	150		LF	15" CPEP(SL)	601.2610		**126.2**	TON	BINDER COURSE (TYPE II)
						40				40		LF	18" CPEP(SL)	601.2615		**176.7**	TON	BASE COURSE (TYPE I)
						3			1	4		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18		**32.4**	TON	PARKING LOT (TYPE IV)
									1	1		EACH	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	604.21				US 5 / VT ROUTE 12 SOUTH (ADD-ON)
						150				150		MGAL	DUST CONTROL WITH WATER	609.10		**10.0**	TON	WEARING COURSE (TYPE IV)
						145				145		LF	GRANITE SLOPE EDGING	616.20		**24.3**	TON	BINDER COURSE (TYPE II)
						1020			275	1295		LF	VERTICAL GRANITE CURB	616.21		**30.0**	TON	BASE COURSE (TYPE I)
						280				280		LF	REMOVING AND RESETTING CURB	616.40				
						480				480		LF	REMOVAL OF EXISTING CURB	616.41		**823.4**	TON	SUBTOTAL
						370			150	520		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10		**11.6**	TON	ROUNDING
									76	76		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH	618.11				
						73			12	85		SF	DETECTABLE WARNING SURFACE	618.30		**835**	**TON**	**TOTAL**
									65	65		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
						150				150		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
						800				800		HR	FLAGGERS	630.15				
								1		1		LS	FIELD OFFICE, ENGINEERS	631.10				
								1		1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
												LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
								3000		3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
						1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
						1				1		LS	TRAFFIC CONTROL	641.10				
						1500				1500		LF	DURABLE 4 INCH WHITE LINE	646.400				
						1600				1600		LF	DURABLE 4 INCH YELLOW LINE	646.410				
						90				90		LF	DURABLE 24 INCH STOP BAR	646.480				
						16				16		EACH	DURABLE LETTER OR SYMBOL	646.490				
						190			30	220		LF	DURABLE CROSSWALK MARKING	646.500				
							260			260		SY	GEOTEXTILE FOR SILT FENCE	649.51				
							55			55		LB	SEED	651.15				
							430			430		LB	FERTILIZER	651.18				
							2			2		TON	AGRICULTURAL LIMESTONE	651.20				

PROJECT NAME: HARTLAND
PROJECT NUMBER: 57790.00

FILE NAME: 57790qs.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: O.DARISSE
QUANTITY SHEET (1 OF 2)

PLOT DATE: 5/31/2017
DRAWN BY: O.DARISSE
CHECKED BY: D.M. PECK
SHEET 10 OF 48

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	FULL C.E. ITEMS	CONSTRUCTION ADD-ALTERNATE	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							2			2		TON	HAY MULCH	651.25				
						210			20	230		CY	TOPSOIL	651.35				
							15			15		CY	VEHICLE TRACKING PAD	653.35				
							5		1	6		EACH	INLET PROTECTION DEVICE, TYPE II	653.41				
						700				700		LF	PROJECT DEMARCATION FENCE	653.55				
						26				26		SF	TRAFFIC SIGNS, TYPE A	675.20				
						230				230		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
						61				61		EACH	REMOVING SIGNS	675.50				
						47				47		EACH	ERECTING SALVAGED SIGNS	675.60				
						1				1		EACH	SETTING SALVAGED POSTS	675.61				
						1				1		LS	SPECIAL PROVISION (RELOCATE TOWN MONUMENT)	900.645				
									75	75		SY	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	900.675				

PROJECT NAME:	HARTLAND
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PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.DARISSE
DESIGNED BY: O.DARISSE	CHECKED BY: D.M. PECK
QUANTITY SHEET (2 OF 2)	SHEET II OF 48

ITEM DETAIL SHEET

CURB

BEGIN STATION	END STATION	POSITION LEFT FT	POSITION RIGHT FT	REMARKS
VERTICAL GRANITE CURB				
200+24.3	201+96.7	181.4		17.5' @ 498.5' R 11.1' @ 10' R 9.2' @ 20' R
202+29.5	202+53.5	24.0		
203+12.0	203+79.0	67.0		55.2' @ 500'R
	SUBTOTAL AD ALT:	**272.4**		
	ROUINDING:	2.6		
	TOTAL:	**275**		
101+06.4	206+47.2	259.2		18.1' @ 984'R 83.0' @ 40'R 72.6' @ 384'R 16.0' @ 15'R 6.3' @ 3'R
101+20.7	101+40.8		20.2	
101+79.3	204+10.6		76.1	57.9' @ 55'R 18.2' @ 500'R
201+94.7	104+60.3		440.1	34.1' @ 35'R 65.7' @ 125'R 104.4' @ 416'R
103+30.1	3+42.7	130.5		28.7' @ 10'R 26.0' @ 15'R 57.6' @ 40'R 18.2' @ 384'R
205+48.3	206+33.0		92.9	43.4' @ 15'R 49.5' @ 436'R
	SUBTOTAL:	**1019.0**		
	ROUINDING:	1.0		
	TOTAL:	**1020**		
GRANITE SLOPE EDGING				
3+17.5	3+82.2	62.0		62.0' @ 95'R
3+42.7	3+75.3		80.6	15.7' @ 10'R
	SUBTOTAL:	**142.6**		
	ROUINDING:	2.4		
	TOTAL:	**145**		

SIDEWALK

BEGIN STATION	END STATION	POSITION LEFT SY	POSITION RIGHT SY	REMARKS
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH				
200+24.8	201+96.7	98.9		
202+29.5	202+53.4	13.3		
203+12.0	203+78.9	37.1		
	SUBTOTAL AD ALT:	**149.3**		
	ROUNDING:	0.7		
	TOTAL:	**150**		
203+84.7	204+40.4		54	
204+10.6	101+79.3	40.5		
101+20.7	101+40.8		11.2	
101+06.4	206+44.1	154.2		
205+53.4	205+89.9	31.9		
205+27.0	103+30.1	73.2		
	SUBTOTAL:	**365.0**		
	ROUNDING:	5.0		
	TOTAL:	**370**		
PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH				
201+96.7	202+29.5	20.1		
202+53.5	203+12.0	35.8		
203+78.4	204+10.6	19.5		
	SUBTOTAL AD ALT:	**75.4**		
	ROUNDING:	0.6		
	TOTAL:	**76**		

GUARD RAIL

BEGIN STATION	END STATION	POSITION LEFT FT	POSITION RIGHT FT	END TREATMENT BEGIN EA	END TREATMENT END EA

UNDERDRAIN

BEGIN STATION	END STATION	TYPE	POSITION	DIA. IN	LENGTH FT	TRENCH EARTH CF	TRENCH ROCK CF	GRAN BKFLL CF	FB EA	MKR PST EA

vhb

PROJECT NAME: HARTLAND
PROJECT NUMBER: 57790.00

FILE NAME: 57790qs.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: O.DARISSE
QUANTITY SHEET (1 OF 2)

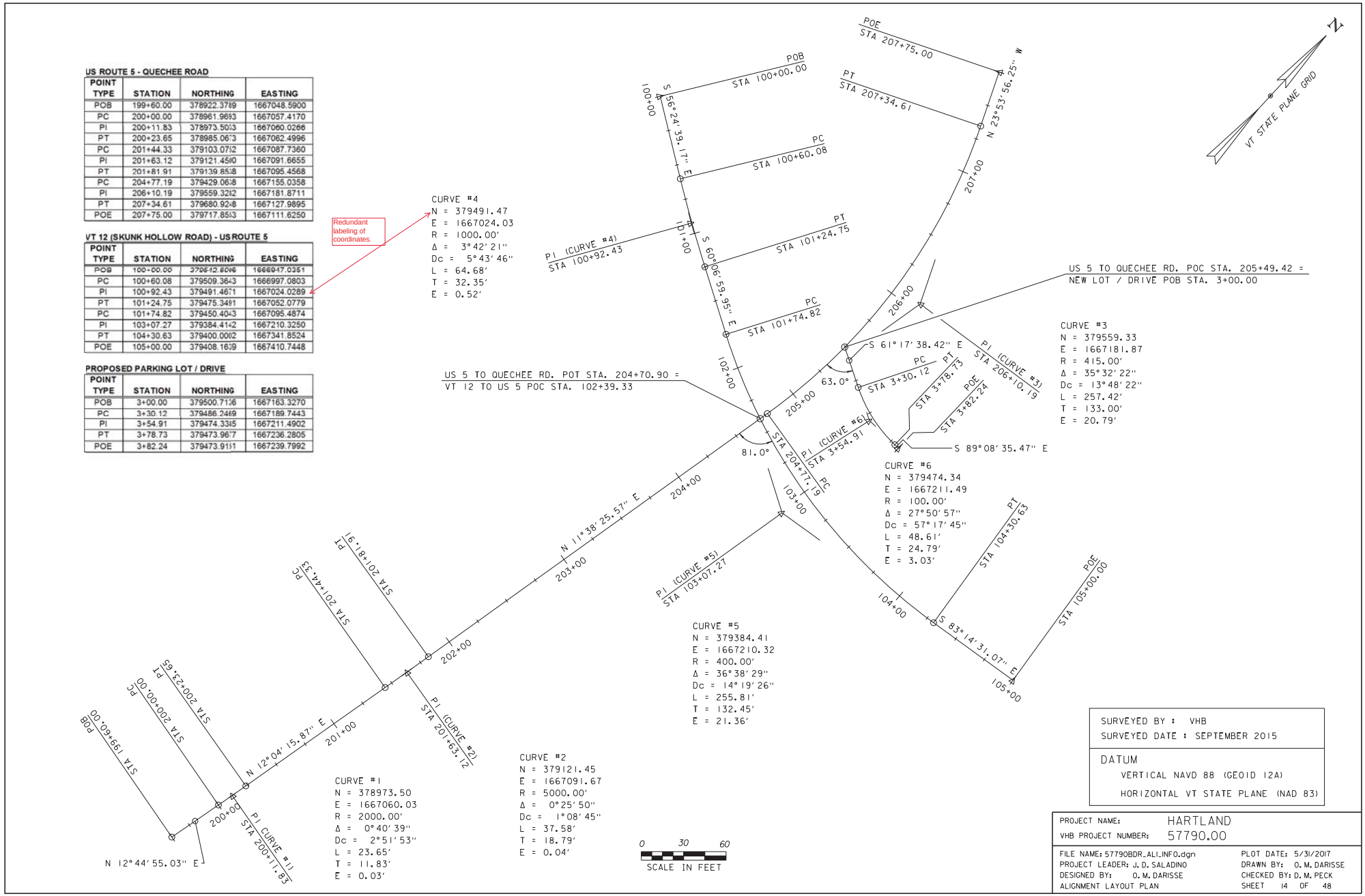
PLOT DATE: 5/31/2017
DRAWN BY: O.DARISSE
CHECKED BY: D.M. PECK
SHEET 12 OF 48

DRAINAGE DETAIL SHEET

LAYOUT CODE (#)	STATION	STATION	POS.	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS					PIPE ELBOW	ES	DMH	CB	DI	K FACTOR	DEPTH DI / DMH	FLOWABLE FILL	REINF STEEL	GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		REMARKS
				NO. DEG.	INLET	OUTLET	IN	OUT	SPAN IN	RISE IN	L FT	D IN	L FT	PCCSP TH	RCP	CLASS	CPEP SL	PVC	NO. DEG.	EA	EA	EA	EA		FT	CY	LBS	TYPE	EA	CY	EARTH CY	ROCK CY	CY	CY	CY	CY	CY	SY	CY	TYPE	LT EA	RT EA	
1	199+65.0		LT		DMH																X				8			MH COVER			14.3										1		CONST. DMH OVER EXIST. 12" CMP
2	200+36.4	199+65.0	LT-LT		DI	DMH						15	68				X						X		7			D			97.0												NEW 15" CPEP SL WITH RCDI
3	204+08.2		RT		DI																		X		5			D			10.0												CONST. RCDI OVER EXIST. DRAIN PIPE. REMOVE EXIST DI (SUBSID.)
4	103+19.2	204+08.2	RT-RT		DI	DI						15	76				X						X		7			D			66.3												NEW 15" CPEP(SL) WITH RCDI
5	103+31.2	103+19.2	LT-RT		DI	DI						18	38				X						X		5			D			39.4												NEW 18" CPEP(SL) WITH RCDI
																					1	0	4					4														TYPE D GRATES
																												1														MANHOLE COVERS
DRAINAGE DETAIL SHEET SUBTOTALS:												15	144				X																									
												18	38				X													227.0	0.0				0.0					1		

vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790qs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.DARISSE
DESIGNED BY: O.DARISSE	CHECKED BY: D.M. PECK
DRAINAGE DETAIL SHEET	SHEET 13 OF 48



US ROUTE 5 - QUECHEE ROAD

POINT TYPE	STATION	NORTHING	EASTING
POB	199+60.00	378922.3789	1667048.5900
PC	200+00.00	378961.9693	1667057.4170
PI	200+11.83	378973.5003	1667060.0266
PT	200+23.65	378985.0613	1667062.4996
PC	201+44.33	379103.0712	1667087.7360
PI	201+63.12	379121.4580	1667091.6655
PT	201+81.91	379139.8538	1667095.4568
PC	204+77.19	379429.0618	1667155.0358
PI	206+10.19	379559.3282	1667181.8711
PT	207+34.61	379680.9248	1667127.9895
POE	207+75.00	379717.8503	1667111.6250

VT 12 (SKUNK HOLLOW ROAD) - US ROUTE 5

POINT TYPE	STATION	NORTHING	EASTING
POB	100+00.00	379542.6046	1666947.0351
PC	100+60.08	379509.3643	1666997.0803
PI	100+92.43	379491.4671	1667024.0289
PT	101+24.75	379475.3491	1667052.0779
PC	101+74.82	379450.4043	1667095.4874
PI	103+07.27	379384.4142	1667210.3250
PT	104+30.63	379400.0002	1667341.8524
POE	105+00.00	379408.1639	1667410.7448

PROPOSED PARKING LOT / DRIVE

POINT TYPE	STATION	NORTHING	EASTING
POB	3+00.00	379500.7136	1667163.3270
PC	3+30.12	379486.2469	1667189.7443
PI	3+54.91	379474.3385	1667211.4902
PT	3+78.73	379473.9677	1667236.2805
POE	3+82.24	379473.9151	1667239.7992

Redundant labeling of coordinates.

CURVE #4
N = 379491.47
E = 1667024.03
R = 1000.00'
Δ = 3°42'21"
Dc = 5°43'46"
L = 64.68'
T = 32.35'
E = 0.52'

POB STA 100+00.00
PC STA 100+60.08
PI (CURVE #4) STA 100+92.43
PT STA 101+24.75
PC STA 101+74.82
POE STA 207+75.00
PT STA 207+34.61
S 56°24'39.17" E
S 60°06'59.95" E
N 23°53'56.25" W
100+00
101+00
102+00
206+00
207+00

VT STATE PLANE GRID

US 5 TO QUECHEE RD. POC STA. 205+49.42 = NEW LOT / DRIVE POB STA. 3+00.00

US 5 TO QUECHEE RD. POT STA. 204+70.90 = VT 12 TO US 5 POC STA. 102+39.33

CURVE #3
N = 379559.33
E = 1667181.87
R = 415.00'
Δ = 35°32'22"
Dc = 13°48'22"
L = 257.42'
T = 133.00'
E = 20.79'

S 61°17'38.42" E
63.0°
PC STA 3+30.12
PT STA 3+78.73
POE STA 3+82.24
PI (CURVE #3) STA 206+10.19
S 89°08'35.47" E
205+00

81.0°
PI (CURVE #6) STA 3+54.91
STA 204+77.19 PC
103+00

CURVE #6
N = 379474.34
E = 1667211.49
R = 100.00'
Δ = 27°50'57"
Dc = 57°17'45"
L = 48.61'
T = 24.79'
E = 3.03'

PT STA 104+30.63
POE STA 105+00.00
S 83°14'31.07" E
104+00
105+00

PI (CURVE #5) STA 103+07.27

CURVE #5
N = 379384.41
E = 1667210.32
R = 400.00'
Δ = 36°38'29"
Dc = 14°19'26"
L = 255.81'
T = 132.45'
E = 21.36'

N 11°38'25.57" E
PT STA 201+81.91
PC STA 201+44.33
203+00
204+00
202+00

CURVE #2
N = 379121.45
E = 1667091.67
R = 5000.00'
Δ = 0°25'50"
Dc = 1°08'45"
L = 37.58'
T = 18.79'
E = 0.04'

PT STA 200+23.65
PC STA 200+00.00
POB STA 199+60.00
N 12°04'15.87" E
201+00
200+00
PI (CURVE #1) STA 200+11.83
N 12°44'55.03" E

CURVE #1
N = 378973.50
E = 1667060.03
R = 2000.00'
Δ = 0°40'39"
Dc = 2°51'53"
L = 23.65'
T = 11.83'
E = 0.03'

0 30 60
SCALE IN FEET

SURVEYED BY : VHB
SURVEYED DATE : SEPTEMBER 2015

DATUM
VERTICAL NAVD 88 (GEOID 12A)
HORIZONTAL VT STATE PLANE (NAD 83)

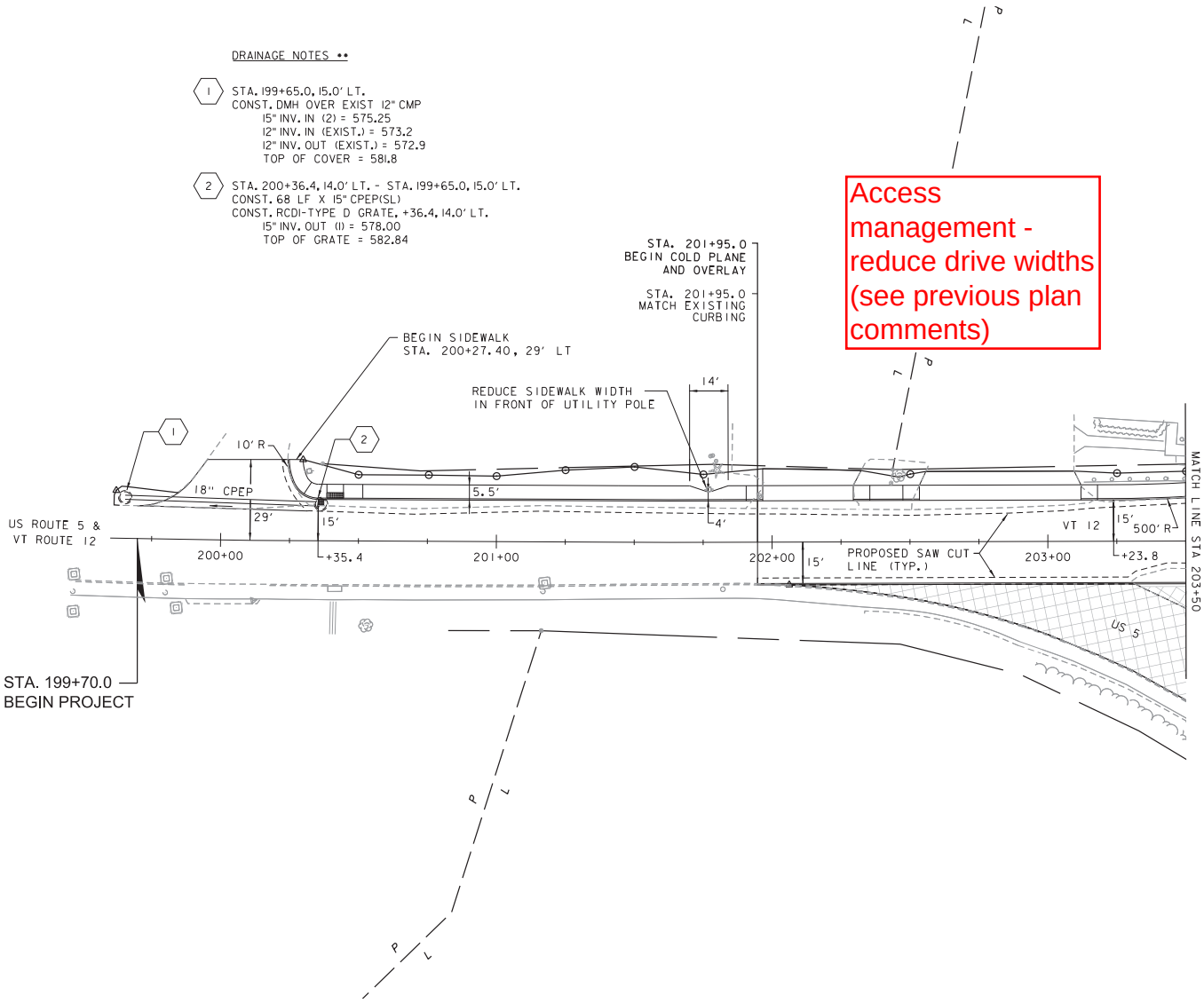
PROJECT NAME: HARTLAND
VHB PROJECT NUMBER: 57790.00

FILE NAME: 57790BDR_ALI_INFO.dgn
PROJECT LEADER: J. D. SALADINO
DESIGNED BY: O. M. DARISSE
ALIGNMENT LAYOUT PLAN
PLOT DATE: 5/31/2017
DRAWN BY: O. M. DARISSE
CHECKED BY: D. M. PECK
SHEET 14 OF 48

DRAINAGE NOTES **

1 STA. 199+65.0, 15.0' LT.
CONST. DMH OVER EXIST 12" CMP
15" INV. IN (2) = 575.25
12" INV. IN (EXIST.) = 573.2
12" INV. OUT (EXIST.) = 572.9
TOP OF COVER = 581.8

2 STA. 200+36.4, 14.0' LT. - STA. 199+65.0, 15.0' LT.
CONST. 68 LF X 15" CPEP(SL)
CONST. RCDI-TYPE D GRATE, +36.4, 14.0' LT.
15" INV. OUT (1) = 578.00
TOP OF GRATE = 582.84



Access management - reduce drive widths (see previous plan comments)

VT STATE PLANE GRID

CONSTRUCTION NOTES:

VERTICAL GRANITE CURB
STA. 200+24.30 - 201+96.00, LT. **
STA. 202+29.60 - 202+53.50, LT. **
STA. 203+12.10 - 203+50.00, LT. **
STA. 201+95.00 - 203+50.00, RT.

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA. 200+24.30 - 201+96.70, LT. **
STA. 202+29.60 - 202+53.50, LT. **
STA. 203+12.10 - 203+50.00, LT. **

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH
STA. 201+96.70 - 202+29.60, LT. **
STA. 202+53.50 - 203+12.10, LT. **

DETECTABLE WARNING SURFACE **
STA. 200+41.30, LT.

TYPE 2 DRIVE ENTRANCE, 5.5' WIDE **
STA. 202+14.00
STA. 202+83.00

TYPE 6 SIDEWALK RAMP **
STA. 200+42.00, LT.

EXCAVATION OF SURFACES AND PAVEMENTS
STA. 202+00.00 - 203+50.00, RT.

REMOVAL OF EXISTING CURB
STA. 201+95.00 - 203+50.00, RT.

REMOVAL AND DISPOSAL OF GUARDRAIL **
STA. 203+13.00 - 203+50.00, LT.

** ITEMS INCLUDED AS PART OF THE AD-ALTERNATE

EXISTING PAVEMENT SURFACE TO BE REMOVED

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_ALL.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
ROADWAY LAYOUT (1 OF 2)	SHEET 15 OF 48

VHB 57790.00

CONSTRUCTION NOTES:

VERTICAL GRANITE CURB
STA. 101+06.0, LT. - 206+47.2, LT.
STA. 101+20.7 - 101+40.8, RT.
STA. 203+50.0, RT. - 104+60.3, RT. **
STA. 101+79.3, RT. - 204+10.6, LT.
STA. 103+30.1, LT. - 3+42.7, RT.
STA. 205+48.3 - 206+33.0, RT.

GRANITE SLOPE EDGING
STA. 3+17.5 - 3+82.2, LT.
STA. 3+42.7 - 3+75.3, RT.

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA. 101+06.00 - 206+43.90, LT.
STA. 102+53.00 - 103+30.10, LT.
STA. 101+20.70 - 101+40.80, RT.
STA. 101+79.30 - 102+10.00, RT.
STA. 102+83.60 - 104+60.00, RT.
STA. 203+90.20 - 204+37.20, RT.
STA. 203+50.00 - 204+38.00, RT.
STA. 203+50.00 - 203+78.90, LT. **
STA. 204+10.50 - 204+50.00, LT.
STA. 205+00.00 - 205+25.00, RT.
STA. 205+50.00 - 206+32.80, RT.

PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH **
STA. 203+78.90 - 204+10.50, LT.

DETECTABLE WARNING SURFACE
STA. 101+95, LT
STA. 101+97, RT.
STA. 102+88, LT.
STA. 102+88, RT.
STA. 204+33, LT.
STA. 204+31, RT.

REMOVAL OF EXISTING CURB
STA. 101+20.60 - 101+40.80, RT.
STA. 101+79.30 - 102+09.20, RT.
STA. 103+21.50 - 104+60.00, RT.
STA. 101+06.00 - 101+47.10, LT.
STA. 204+15.60 - 204+50.00, LT.
STA. 205+48.20 - 205+94.70, LT.
STA. 205+16.70 - 205+59.10, LT.
STA. 205+16.70 - 205+76.60, RT.

TYPE 2 DRIVE ENTRANCE, 5.5' WIDE **
STA. 203+94.00, LT.

TYPE 6 SIDEWALK RAMP
STA. 101+97, RT
STA. 102+88, LT.
STA. 204+33, LT.

TYPE 5 SIDEWALK RAMP
STA. 101+96.00, LT.

TYPE 3 SIDEWALK RAMP
STA. 102+82, RT.

EXCAVATION OF SURFACES AND PAVEMENTS
STA. 205+35.00 - 206+50.00, RT.
STA. 102+50.00 - 103+75.00, LT.
STA. 102+60.00 - 104+60.00, RT.
STA. 203+50.00 - 204+00.00, RT.
STA. 205+00.00 - 206+00.00, LT.

REMOVAL AND DISPOSAL OF GUARDRAIL**
STA. 203+50.00 - 203+75.00, LT.

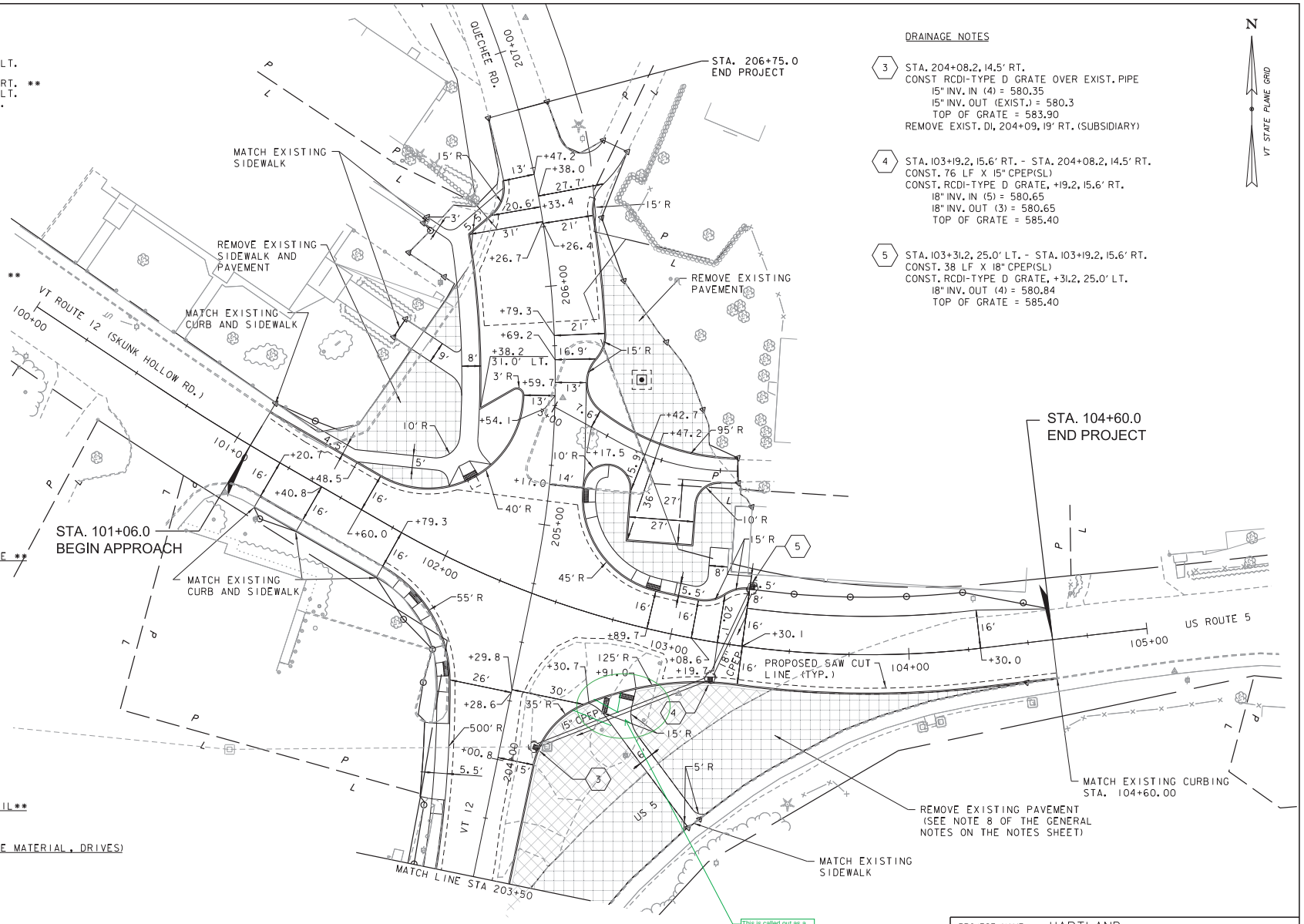
SPECIAL PROVSION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)
STA. 203+94.0, LT. **

DRAINAGE NOTES

3 STA. 204+08.2, 14.5' RT.
CONST RCDI-TYPE D GRATE OVER EXIST. PIPE
15" INV. IN (4) = 580.35
15" INV. OUT (EXIST.) = 580.3
TOP OF GRATE = 583.90
REMOVE EXIST. DI, 204+09, 19' RT. (SUBSIDIARY)

4 STA. 103+19.2, 15.6' RT. - STA. 204+08.2, 14.5' RT.
CONST. 76 LF X 15" CPEP(SL)
CONST. RCDI-TYPE D GRATE, +19.2, 15.6' RT.
18" INV. IN (5) = 580.65
18" INV. OUT (3) = 580.65
TOP OF GRATE = 585.40

5 STA. 103+31.2, 25.0' LT. - STA. 103+19.2, 15.6' RT.
CONST. 38 LF X 18" CPEP(SL)
CONST. RCDI-TYPE D GRATE, +31.2, 25.0' LT.
18" INV. OUT (4) = 580.84
TOP OF GRATE = 585.40



** ITEMS INCLUDED AS PART OF THE AD-ALTERNATE

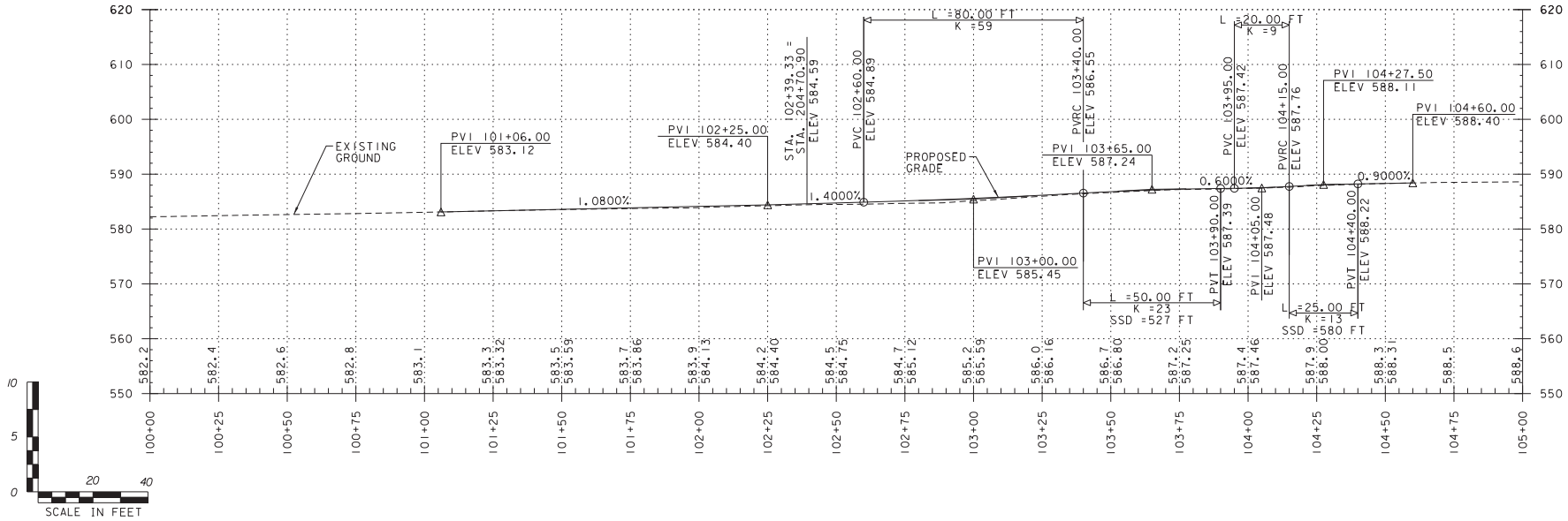
EXISTING PAVEMENT SURFACE TO BE REMOVED

0 20 40
SCALE IN FEET

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_ALI.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
ROADWAY LAYOUT (2 OF 2)	SHEET 16 OF 48

VHB 57790.00

VT 12 (SKUNK HOLLOW ROAD) - US 5

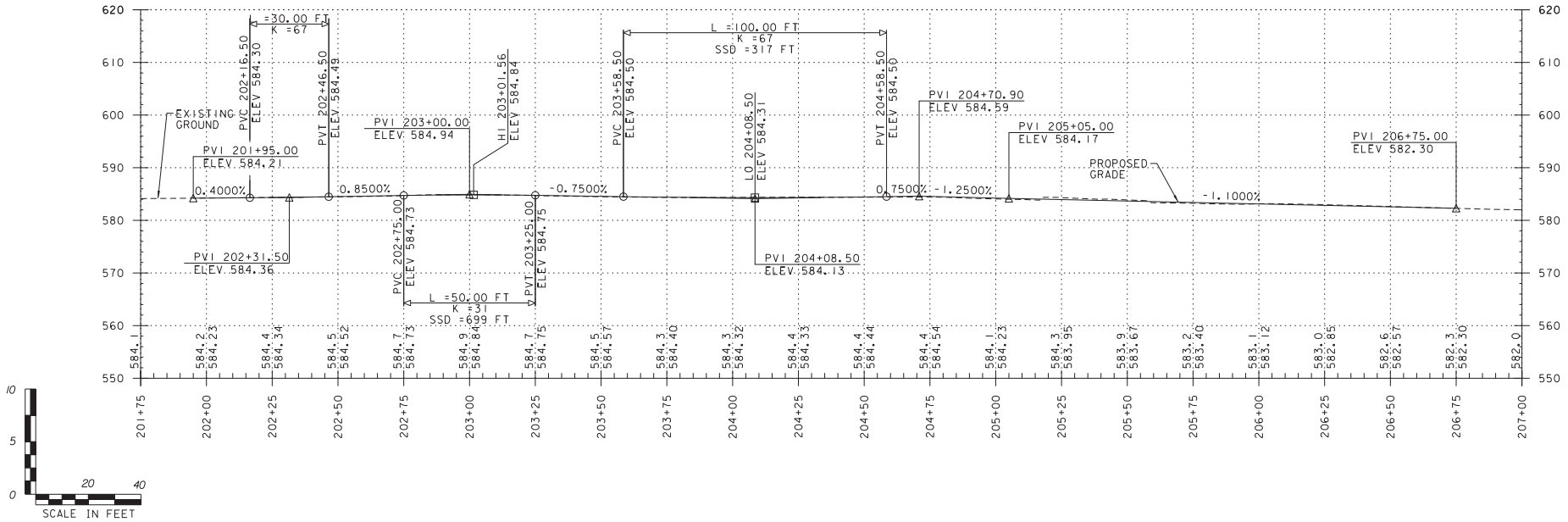


EXISTING ELEVATIONS TO NEAREST TENTH
PROPOSED ELEVATIONS TO NEAREST HUNDREDTH

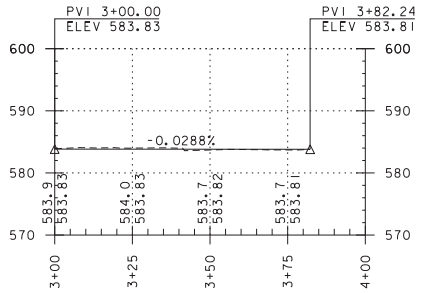
vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790pro.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
PROFILE SHEET 1 OF 2	SHEET 17 OF 48

US ROUTE 5 - QUECHEE RD



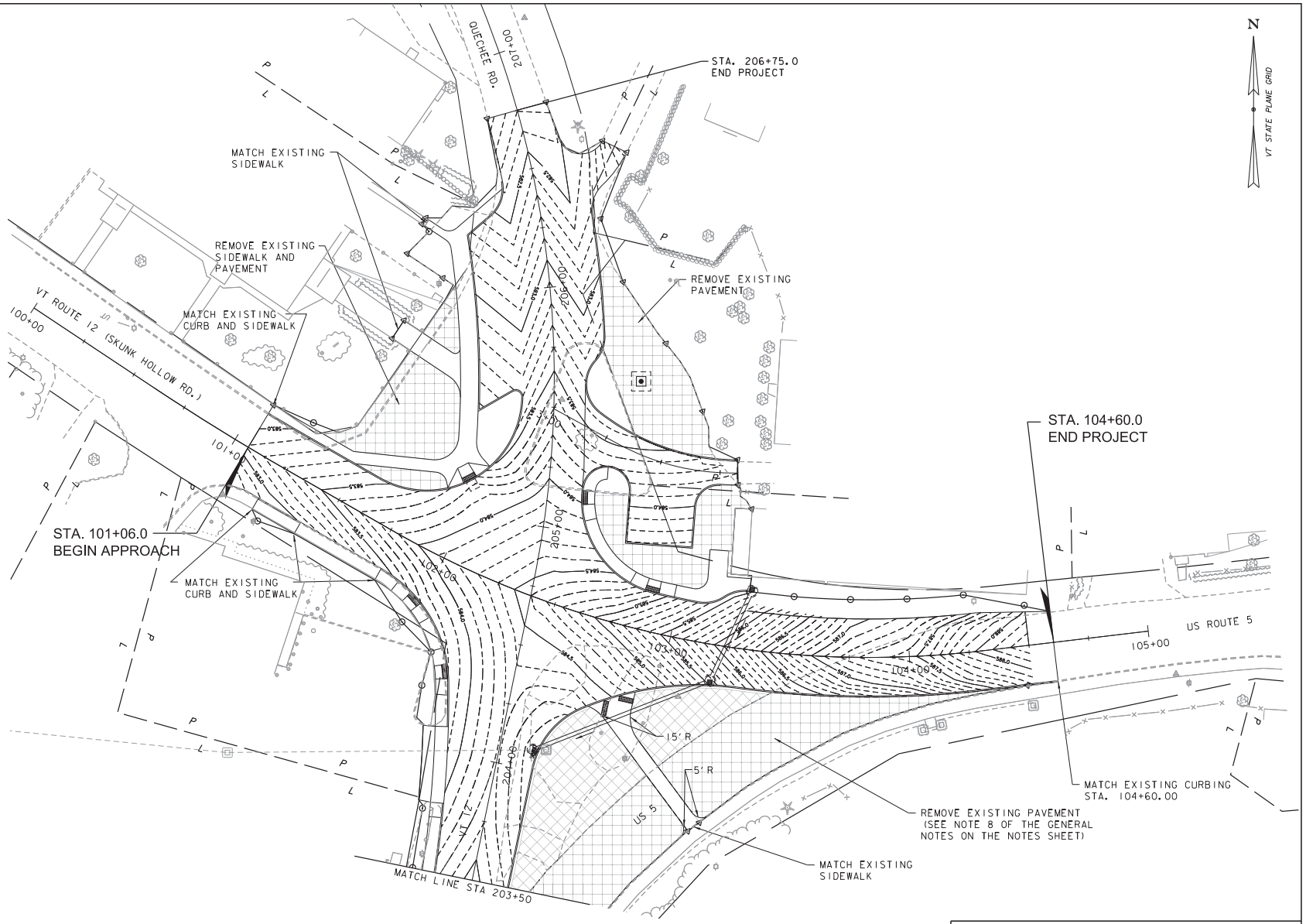
PARKING LOT



EXISTING ELEVATIONS TO NEAREST TENTH
PROPOSED ELEVATIONS TO NEAREST HUNDREDTH

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790pro.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
PROFILE SHEET 2 OF 2	SHEET 18 OF 48

VHB 57790.00



PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_INT-GRADING.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
INTERSECTION GRADING	SHEET 19 OF 48

VHB 57790.00

CONSTRUCTION NOTES:

DURABLE 4" SINGLE WHITE LINE
STA. 200+46 - 203+50, LT.
STA. 200+46 - 203+50, RT.

DURABLE 4" DOUBLE YELLOW LINE
STA. 200+46 - 203+50, CL

DURABLE CROSSWALK MARKING **
STA. 200+42, LT.-RT.

REMOVING SIGNS
STA. 200+70, LT. (2 SIGNS)
STA. 201+02, RT. (2 SIGNS)
STA. 201+84, LT. (5 SIGNS)
STA. 202+49, LT. (PRIVATE SIGN)
STA. 203+25, LT. (2 SIGNS)
STA. 203+49, RT. (6 SIGNS)

ERECTING SALVAGED SIGNS
STA. 200+50, LT. (2 SIGNS)
STA. 201+84, LT. (5 SIGNS)
STA. 202+49, LT. (PRIVATE SIGN)

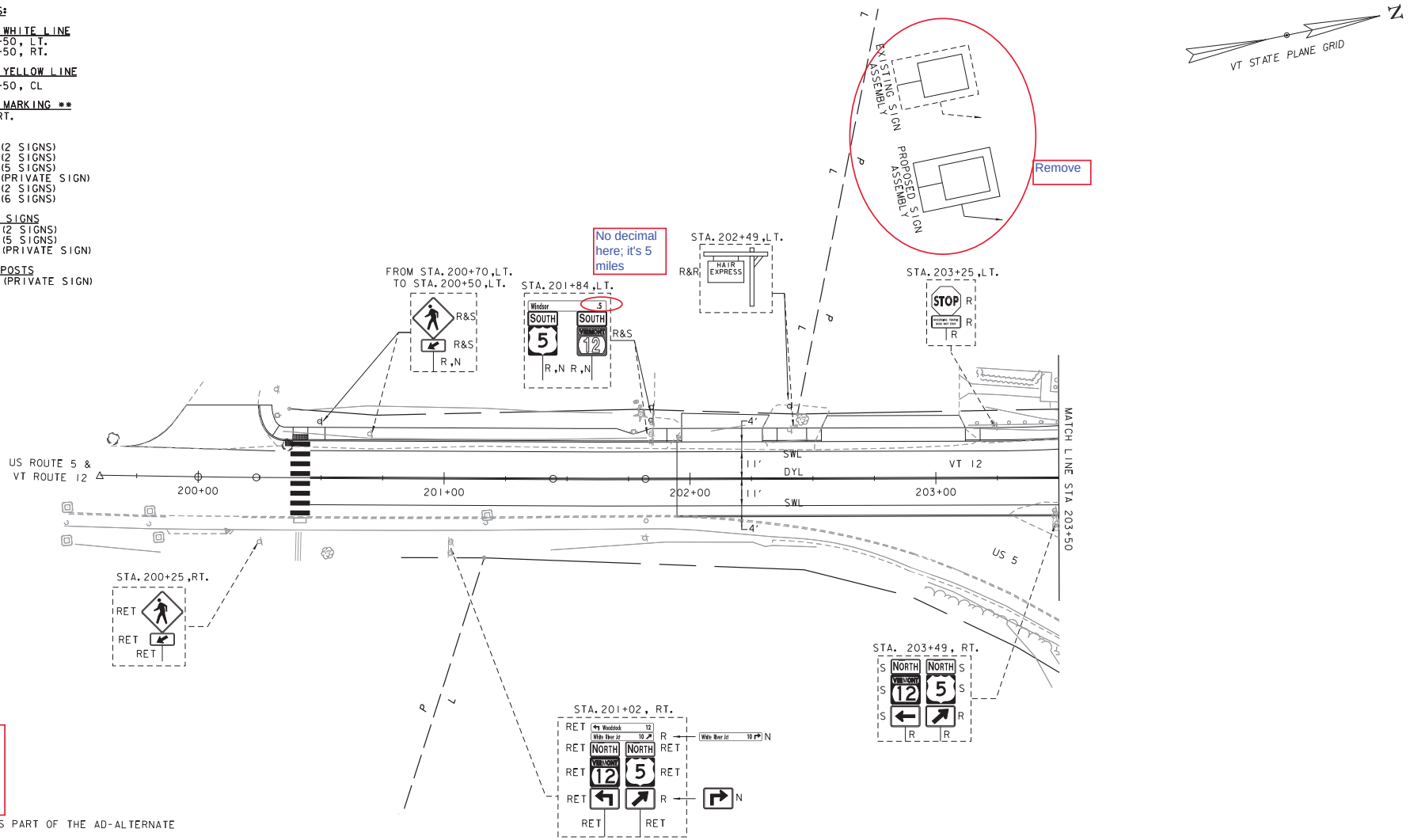
SETTING SALVAGED POSTS
STA. 202+49, LT. (PRIVATE SIGN)

** ITEM INCLUDED AS PART OF THE AD-ALTERNATE

STRIPING LEGEND
SYL = SINGLE YELLOW LINE
DYL = DOUBLE YELLOW LINE

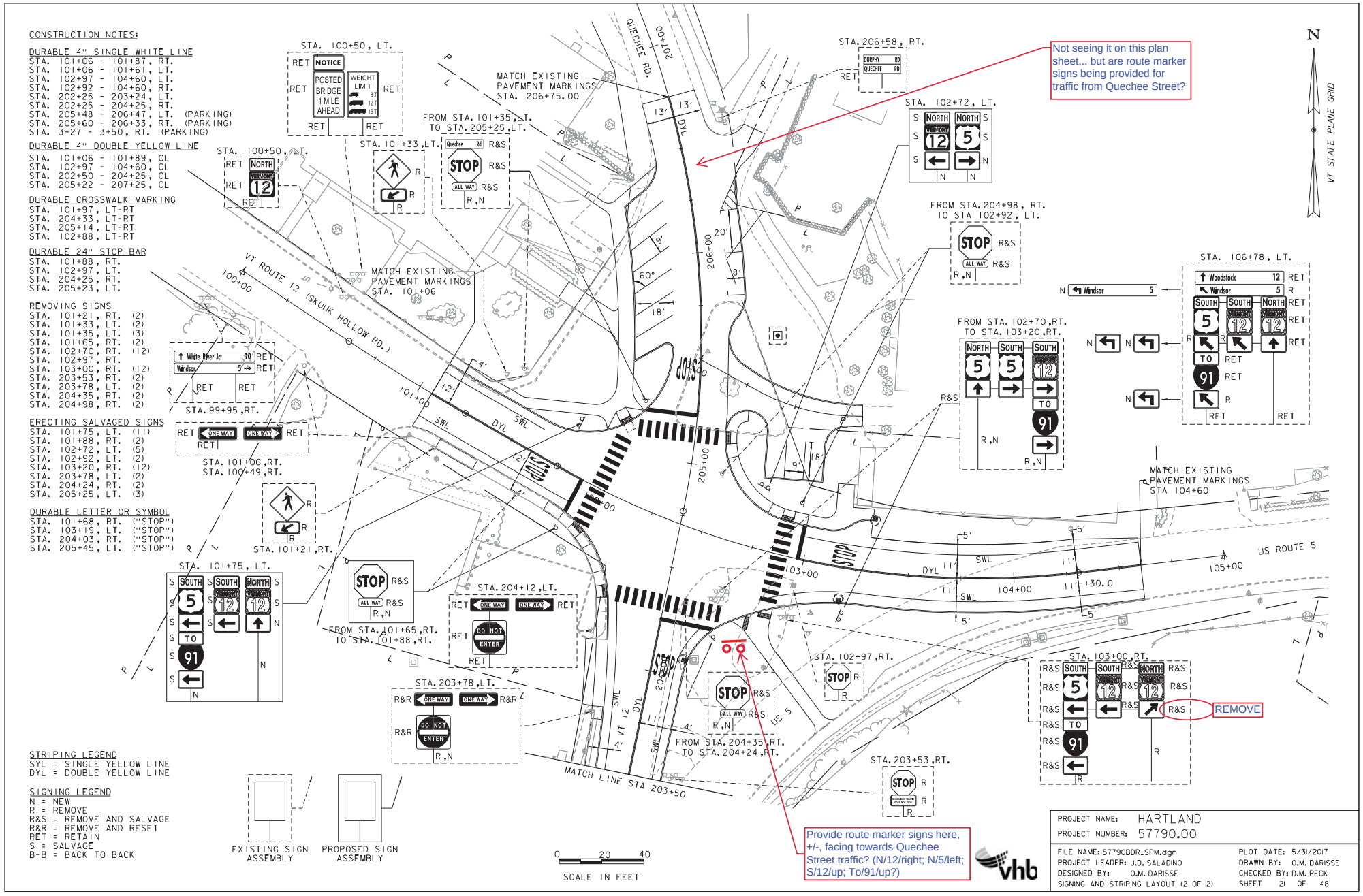
SIGNING LEGEND
N = NEW
R = REMOVE
R&S = REMOVE AND SALVAGE
R&R = REMOVE AND RESET
RET = RETAIN
S = SALVAGE
B-B = BACK TO BACK

What's the difference between these two? Isn't the action basically the same, if a new post is being provided? (TYP)



PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_SPM.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
SIGNING AND STRIPING LAYOUT (1 OF 2)	SHEET 20 OF 48

VHB 57790.00


CONSTRUCTION NOTES:
DURABLE 4" SINGLE WHITE LINE
STA. 101+06 - 101+87, RT.
STA. 101+06 - 101+61, LT.
STA. 102+97 - 104+60, LT.
STA. 102+92 - 104+60, RT.
STA. 202+25 - 203+24, LT.
STA. 202+25 - 204+25, RT.
STA. 205+48 - 206+47, LT. (PARKING)
STA. 205+60 - 206+33, RT. (PARKING)
STA. 3+27 - 3+50, RT. (PARKING)
DURABLE 4" DOUBLE YELLOW LINE
STA. 101+06 - 101+89, CL
STA. 102+97 - 104+60, CL
STA. 202+50 - 204+25, CL
STA. 205+22 - 207+25, CL
DURABLE CROSSWALK MARKING
STA. 101+97, LT-RT
STA. 204+33, LT-RT
STA. 205+14, LT-RT
STA. 102+88, LT-RT
DURABLE 24" STOP BAR
STA. 101+88, RT.
STA. 102+97, LT.
STA. 204+25, RT.
STA. 205+23, LT.
REMOVING SIGNS
STA. 101+21, RT. (2)
STA. 101+33, LT. (2)
STA. 101+35, LT. (3)
STA. 101+65, RT. (2)
STA. 102+70, RT. (12)
STA. 102+97, RT.
STA. 103+00, RT. (12)
STA. 203+53, RT. (2)
STA. 203+78, LT. (2)
STA. 204+35, RT. (2)
STA. 204+98, RT. (2)
ERECTING SALVAGED SIGNS
STA. 101+75, LT. (11)
STA. 101+88, RT. (2)
STA. 102+72, LT. (5)
STA. 102+92, LT. (2)
STA. 103+20, RT. (12)
STA. 203+78, LT. (2)
STA. 204+24, RT. (2)
STA. 205+25, LT. (3)
DURABLE LETTER OR SYMBOL
STA. 101+68, RT. ("STOP")
STA. 103+19, LT. ("STOP")
STA. 204+03, RT. ("STOP")
STA. 205+45, LT. ("STOP")
STRIPING LEGEND
SYL = SINGLE YELLOW LINE
DYL = DOUBLE YELLOW LINE
SIGNING LEGEND
N = NEW
R = REMOVE
R&S = REMOVE AND SALVAGE
R&R = REMOVE AND RESET
RET = RETAIN
S = SALVAGE
B-B = BACK TO BACK
EXISTING SIGN ASSEMBLY
PROPOSED SIGN ASSEMBLY
SCALE IN FEET
0 20 40
N
VT STATE PLANE GRID
VT ROUTE 12 (SKUNK HOLLOW RD.)
QUECHEE RD.
US ROUTE 5
MATCH LINE STA 203+50
MATCH EXISTING PAVEMENT MARKINGS STA. 206+75.00
MATCH EXISTING PAVEMENT MARKINGS STA. 101+06
MATCH EXISTING PAVEMENT MARKINGS STA 104+60
STA. 100+50, LT.
STA. 100+50, LT.
STA. 101+33, LT.
FROM STA. 101+35, LT. TO STA. 205+25, LT.
STA. 206+58, RT.
STA. 102+72, LT.
FROM STA. 204+98, RT. TO STA 102+92, LT.
FROM STA. 102+70, RT. TO STA. 103+20, RT.
STA. 106+78, LT.
STA. 99+95, RT.
STA. 101+06, RT.
STA. 100+49, RT.
STA. 101+21, RT.
STA. 101+75, LT.
FROM STA. 101+65, RT. TO STA. 101+88, RT.
STA. 204+12, LT.
STA. 203+78, LT.
FROM STA. 204+35, RT. TO STA. 204+24, RT.
STA. 102+97, RT.
STA. 203+53, RT.
STA. 103+00, RT.
REMOVE
Not seeing it on this plan sheet... but are route marker signs being provided for traffic from Quechee Street?
Provide route marker signs here, +/-, facing towards Quechee Street traffic? (N/12/right; N/5/left; S/12/up; To/91/up?)
PROJECT NAME: HARTLAND
PROJECT NUMBER: 57790.00
FILE NAME: 57790BDR_SPM.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: O.M. DARISSE
SIGNING AND STRIPING LAYOUT (2 OF 2)
PLOT DATE: 5/31/2017
DRAWN BY: O.M. DARISSE
CHECKED BY: D.M. PECK
SHEET 21 OF 48
VHB 57790.00

TRAFFIC SIGN SUMMARY SHEET #1

MILE MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (IN)	HEIGHT (IN)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL LB/FT 1.12	2.0	3.0	SQUARE STEEL (IN) LB/FT 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLIP BASE	TUBULAR ALUMINUM Ø (IN) LB/FT 3.0 1.3	4.0 1.7	4.0 MOD 1.7	WOOD POST (LF) COLLAR	TYPE 1	TYPE 2	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN REMOVED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
OPTION ITEMS																																			
200+50, LT							1 1				1					X		X												RESET SALVAGE SIGNS ON NEW POST		
201+02, RT	Woodstock 12 / White River Jct 10	1	72	12	6.00																									REPLACE EXIST. GUIDE SIGN VD1-1	T-93	
201+02, RT											1																						
201+02, RT		1	21	15	2.19						1																				REPLACE EXISTING M6-2(R) SIGN WITH M5-1(R) (BOW) ON EXISTING SIGN ASSEMBLY Detail is in SHSM		
201+84, LT	Windsor .5						1																							RESET SALVAGE SIGNS ON NEW POSTS		
201+84, LT							1 1				1					X		X												RESET SALVAGE SIGNS ON NEW POST		
201+84, LT							1 1				1					X		X												RESET SALVAGE SIGNS ON NEW POST		
												FT	FT	FT	FT	FT 45	FT	EA	LB	LB	LB		TYPE 1	TYPE 2								
TOTALS TSS SHEET 1		SF 8.19	SF	EA. 7	SF							FT			FT 45				LB			EA.	WOOD POSTS (FT)		EA.	EA.	LB					

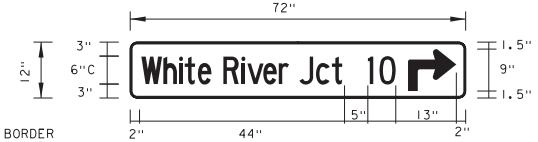
Remove decimal

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE ROADWAY, TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

X = POST LENGTH AVERAGES 15 FEET

X+ = POST LENGTH WITH '+' AVERAGES 20 FEET

BOW = BLACK LEGEND ON WHITE BACKGROUND - PLAQUE
GOW = GREEN LEGEND ON WHITE BACKGROUND - PLAQUE
WOB = WHITE LEGEND ON BLUE BACKGROUND - PLAQUE
WOG = WHITE LEGEND ON GREEN BACKGROUND
FYG = BLACK LEGEND ON FLUORESCENT YELLOW-GREEN BACKGROUND
SHSM = FHWA STANDARD HIGHWAY SIGNS AND MARKINGS BOOK (WITH 2012 SUPPLEMENT)



BORDER
R=1.5"
TH=0.375"
WOG

STA. 201+02, RT

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_TSSS.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
TRAFFIC SIGN SUMMARY SHEET 1 OF 3	SHEET 22 OF 48

VHB 57790.00

TRAFFIC SIGN SUMMARY SHEET #2

MILE MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (IN)	HEIGHT (IN)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST SALVAGE RETAIN	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL LB/FT 1.12	2.0	3.0	SQUARE STEEL (IN) LB/FT 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLIP BASE	TUBULAR ALUMINUM Ø (IN) LB/FT 3.0 1.3	4.0 1.7	4.0 MOD 1.7	WOOD POST (LF) COLLAR	TYPE 1	TYPE 2	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	REFLECTORIZED SIGN PANEL	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
OPTION ITEMS																																	
203+78, LT	ONE WAY ONE WAY DO NOT ENTER						2			1					X		X													RESET SALVAGE SIGNS ON NEW POST		
204+24, RT	STOP ALL WAY						1			1					X		X													RESET SALVAGE SIGNS ON NEW POST		
205+25, LT	Quechee Rd STOP ALL WAY						1			1					X		X													RESET SALVAGE SIGNS ON NEW POST		
101+75, LT	SOUTH 5 TO 91						1			1					X	X	X													RESET SALVAGE SIGNS ON NEW POST		
101+75, LT	SOUTH 12						1																							RESET SALVAGE SIGNS ON NEW POST		
101+75, LT	NORTH 12	1	21	15	2.19		1			1					X+		X													RESET SALVAGE SIGNS ON NEW POST REPLACE EXISTING M6-2 SIGN WITH M6-3(GOW) ON SIGN ASSEMBLY Detail is in SHSM		
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE ROADWAY, TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."											FT	FT	FT	FT	FT 85	FT	EA	LB	LB	LB		TYPE 1	TYPE 2								
	TOTALS TSS SHEET 2	SF			SF 2.19	SF	EA. 19	SF			FT			FT 85				LB			EA.	WOOD POSTS (FT)		EA.	EA.	LB						

Different road now... any way to differentiate?

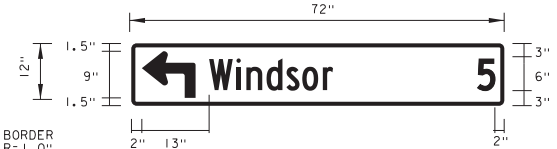
Install this monster on 2.5" square steel posts. Slip bases may be required; see T-45.

Need a sign frame for this assembly; see T-92 for information on which size frame is required

X = POST LENGTH AVERAGES 15 FEET

X+ = POST LENGTH WITH '+' AVERAGES 20 FEET

BOW = BLACK LEGEND ON WHITE BACKGROUND - PLAQUE
GOW = GREEN LEGEND ON WHITE BACKGROUND - PLAQUE
WOB = WHITE LEGEND ON BLUE BACKGROUND - PLAQUE
WOG = WHITE LEGEND ON GREEN BACKGROUND
FYG = BLACK LEGEND ON FLUORESCENT YELLOW-GREEN BACKGROUND
SHSM = FHWA STANDARD HIGHWAY SIGNS AND MARKINGS BOOK (WITH 2012 SUPPLEMENT)



BORDER
R=1.0"
TH=0.75"
WOG

STA. 106+78, LT

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_TSSS.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
TRAFFIC SIGN SUMMARY SHEET 2 OF 3	SHEET 23 OF 48

VHB 57790.00

TRAFFIC SIGN SUMMARY SHEET #3

MILE MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (IN)	HEIGHT (IN)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST SALVAGE RETAIN	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL LB/FT 1.12	2.0	3.0	SQUARE STEEL (IN) 1.75 LB/FT 1.88	2.0 LB/FT 2.42	2.5 LB/FT 3.35	ANCHOR	SLIP BASE	TUBULAR ALUMINUM Ø (IN) 3.0 LB/FT 1.3	4.0 LB/FT 1.7	4.0 MOD LB/FT 1.7	WOOD POST (LF) COLLAR	TYPE 1	TYPE 2	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	REFLECTORIZED SIGN MEMBER	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
101+88, RT	STOP ALL WAY						1			1					X		X														RESET SALVAGE SIGNS ON NEW POST		
102+72, LT	NORTH 12						1			1					X		X														RESET SALVAGE SIGNS ON NEW POST		
102+72, LT	NORTH 5	1	21	15	2.19		1			1					X		X														RESET SALVAGE SIGNS ON NEW POST REPLACE EXISTING M6-2(R) SIGN WITH M6-1(R) (BOW) ON EXISTING SIGN ASSEMBLY	Detail is in SHSM	
102+92, LT	STOP ALL WAY						1			1					X		X														RESET SALVAGE SIGNS ON NEW POST		
103+20, RT	NORTH 5 / SOUTH 5 / SOUTH 12 / TO 91						9			2					~~X~~ X+	X	X														RESET SALVAGE SIGNS ON NEW POSTS		
106+78, LT	Windsor 5	1	72	12	6.00																										REPLACE EXIST. GUIDE SIGN VDI-1	T-93	
106+78, LT		1	21	15	2.19					2																					REPLACE EXISTING M6-2(L) SIGN WITH M5-1(L) (BOW) ON EXISTING SIGN ASSEMBLY	Detail is in SHSM	
106+78, LT		1	21	15	2.19																										REPLACE EXISTING M6-2(L) SIGN WITH M5-1(L) (GOW) ON EXISTING SIGN ASSEMBLY	Detail is in SHSM	
106+78, LT		1	21	15	2.19																										REPLACE EXISTING M6-2(L) SIGN WITH M5-1(L) (WOB) ON EXISTING SIGN ASSEMBLY	Detail is in SHSM	
											FT	FT	FT	FT	FT 100	FT	EA	LB	LB	LB		TYPE 1	TYPE 2								
TOTALS TSS SHEET 3		SF 14.76	SF	EA. 21	SF			FT		FT 100				LB		EA.	WOOD POSTS (FT)			EA.	EA.	LB										
TOTALS TSS SHEET 2		SF 2.19	SF	EA. 19	SF			FT		FT 85				LB		EA.	WOOD POSTS (FT)			EA.	EA.	LB										
TOTALS TSS SHEET 1		SF 8.19	SF	EA. 7	SF			FT		FT 45				LB		EA.	WOOD POSTS (FT)			EA.	EA.	LB										
TOTALS TSS		SF 25.14	SF	EA. 47	SF			FT		FT 230				LB		EA.	WOOD POSTS (FT)			EA.	EA.	LB										

Include a new sign frame; see T-92

Install this monster on 2.5" square steel posts. Slip bases may be required; see T-45.

Include a new sign frame; see T-92

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE ROADWAY, TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

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FYG = BLACK LEGEND ON FLUORESCENT YELLOW-GREEN BACKGROUND
SHSM = FHWA STANDARD HIGHWAY SIGNS AND MARKINGS BOOK (WITH 2012 SUPPLEMENT)

vhb

PROJECT NAME: HARTLAND
PROJECT NUMBER: 57790.00

FILE NAME: 57790_TSSS.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: O.M. DARISSE
TRAFFIC SIGN SUMMARY SHEET 3 OF 3

PLOT DATE: 5/31/2017
DRAWN BY: O.M. DARISSE
CHECKED BY: D.M. PECK
SHEET 24 OF 48

TRAFFIC CONTROL NOTES

It should be noted that the Agency has 14 days to review the plans, but that does not include any additional time necessary to correct and resubmit plans. this note is a repeat of page 3 of 48.

GENERAL

1. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT ENGINEER. THE CONTRACTOR SHALL ALLOW AT LEAST TWO (2) WEEKS FOR REVIEW AND APPROVAL. ALL CHANGES TO THE TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE TOWN OF HARTLAND, VTRANS MAINTENANCE DISTRICT, AND THE ENGINEER. MODIFICATIONS TO THE APPROVED TRAFFIC CONTROL PLAN FOR VEHICLES OR PEDESTRIANS SHALL BE SUBMITTED TO THE ENGINEER AT LEAST TWO WEEKS PRIOR TO THE IMPLEMENTATION OF THE CHANGE.

2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THE 2011 EDITION OF VTRANS STANDARD SPECIFICATIONS SECTION 641 - TRAFFIC CONTROL AND IN CONFORMANCE WITH THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH LATEST INTERIMS. THE PLAN SHALL ACCOMMODATE VEHICLE TRAFFIC, BICYCLE TRAFFIC, PEDESTRIAN TRAFFIC, AND EMERGENCY SERVICES. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL TEMPORARY SIGNS, PAVEMENT MARKINGS, CHANNELIZING DEVICES, PORTABLE MESSAGE BOARDS, ARROW PANELS, AND OTHER DEVICES REQUIRED TO PROVIDE COMPLETE MANAGEMENT OF TRAFFIC. ANY SIGNS NOT INCLUDED IN THE FHWA STANDARD HIGHWAY SIGNS BOOK SHALL INCLUDE SIGN FACE DIMENSIONS AND LAYOUT.

3. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE WORK SHALL INCLUDE ERECTING, MAINTAINING, AND REMOVING ALL TEMPORARY SIGNING AS SHOWN IN THE PLANS, AS REQUIRED BY SITE SPECIFIC WORK, AND AS DIRECTED BY THE ENGINEER.

4. DURING THE STAGED CONSTRUCTION, TRAFFIC CONTROL PLANS SHALL BE ESTABLISHED TO MAINTAIN THE CONTINUITY OF VEHICLE, BICYCLE, AND PEDESTRIAN TRAFFIC THROUGH THE CORRIDOR. SIGNS SHALL BE ADJUSTED AT THE COMPLETION OF EACH CONSTRUCTION PHASE AS SHOWN ON THE TRAFFIC CONTROL PLANS AND AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN TEMPORARY SIGNING, AND OTHER SUPPORTING TRAFFIC CONTROLS THROUGHOUT CONSTRUCTION. INSTALLING, MAINTAINING, ADJUSTING, MODIFYING, AND REMOVING TRAFFIC CONTROLS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10 TRAFFIC CONTROL.

5. TRAFFIC SHALL NOT BE CHANGED FROM ONE PHASE TO THE NEXT UNTIL ALL TEMPORARY SIGNING REQUIRED FOR THE SUBSEQUENT PHASE IS COMPLETED. ANY CONFLICTING PAVEMENT MARKINGS SHALL BE MASKED WITH PAVEMENT MARKING MASK OR REMOVED BY GRINDING. EXISTING PAVEMENT MARKINGS THAT ARE TO REMAIN FOR LATER USE SHALL BE MASKED WITH PAVEMENT MARKING MASK. PAVEMENT MARKING MASK AND/OR REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10 TRAFFIC CONTROL.

6. EACH SEGMENT OF ROADWAY CONSTRUCTED SHALL ALLOW FOR ALL UTILITY INSTALLATION AND DRAINAGE INSTALLATION. EACH SEGMENT SHALL PROVIDE INTERIM PLACEMENT OF DRAINAGE GRATES AS NEEDED. TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED ON ALL RECONSTRUCTED ROADWAY SEGMENTS PRIOR TO OPENING THAT SEGMENT TO TRAFFIC. AT THE COMPLETION OF ALL CONSTRUCTION PHASES, THE CONTRACTOR SHALL APPLY THE TOP COURSE PAVEMENT AND APPLY THE FINAL PAVEMENT MARKINGS.

7. REFLECTORIZED DRUMS SHALL BE USED TO DELINEATE THE WORK ZONE FROM THE TRAVELED WAY FOR VERTICAL DROP OFFS OF NOT MORE THAN THREE INCHES. FOR VERTICAL GRADE CHANGES GREATER THAN THREE INCHES, THE SLOPE ADJACENT TO THE TRAVELED WAY SHALL BE AT LEAST 4H:1V OR FLATTER WHEN UNATTENDED AND SHALL BE SEPARATED FROM THE TRAVELED WAY BY THREE HORIZONTAL FEET AND REFLECTORIZED DRUMS. FOR SHORT DURATIONS OF NOT MORE THAN THREE DAYS, THE SLOPE ADJACENT TO THE TRAVELED WAY MAY BE 3H:1V BEHIND DRUMS. DURING ACTIVE AND ATTENDED CONSTRUCTION ACTIVITIES, AND IN THE PRESENCE OF UNIFORMED TRAFFIC OFFICERS, THE ADJACENT STREET TRAFFIC SHALL BE A MINIMUM OF THREE FEET FROM THE EDGE OF THE EXCAVATION AND DELINEATED BY REFLECTORIZED DRUMS. IF THE GRADE CHANGE ADJACENT TO THE TRAVELED WAY IS MORE SEVERE THAN THESE CONDITIONS IN A WORK AREA , TEMPORARY CONCRETE BARRIER WALL SHALL BE USED TO SEPARATE THE WORK ZONE FROM ADJACENT TRAFFIC. ALL TEMPORARY CONCRETE BARRIER WALL SHALL HAVE THE BLUNT ENDS THAT FACE ON-COMING TRAFFIC PROTECTED IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE AND VAOT STANDARDS. TEMPORARY CONCRETE BARRIER WILL BE SUBSIDIARY TO ITEM 641.10, TRAFFIC CONTROL.

Concrete barrier side exposed to traffic to be delineated. Delineation color to match corresponding temporary pavement marking.

8. EXISTING SIGNS SHALL REMAIN UNTIL THEY ARE NO LONGER REQUIRED. EXISTING SIGNS WHICH CONFLICT WITH TEMPORARY TRAFFIC CONTROLS SHALL BE COMPLETELY COVERED WITH SOLID COVERS PAINTED BLACK OR REMOVED/RELOCATED AS NEEDED. TEMPORARY SIGNS SHALL BE INSTALLED AS SHOWN IN THE PLANS AND THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLANS. NEW SIGNING SHALL BE INSTALLED AS IT BECOMES APPLICABLE. ALL PROPOSED SIGNING SHALL BE INSTALLED AND ALL SIGNS TO BE REMOVED SHALL BE REMOVED PRIOR TO THE APPLICATION OF THE FINAL PAVEMENT MARKINGS.

9. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS TO ALL COMMERCIAL AND MUNICIPAL PROPERTIES DURING BUSINESS HOURS. PEDESTRIAN ACCESS SHALL MEET ALL APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. POSITIVE GUIDANCE SHALL BE PROVIDED TO SEPARATE PEDESTRIAN ACCESS FROM THE WORK AREA AND VERTICAL GRADE CHANGES. ACCESS TO PROPERTIES MAY BE RESTRICTED FOR SHORT DURATIONS OF NOT MORE THAN TWO HOURS WITH THE PERMISSION AND PRIOR NOTIFICATION FOR THE OWNER DURING BUSINESS HOURS. CONTRACTOR SHALL COORDINATE MAJOR WORK ADJACENT TO COMMERCIAL AND MUNICIPAL ACCESS AREAS WITH THE OWNER AND TOWN AT LEAST ONE WEEK PRIOR TO STARTING THE WORK IN THE AREA.

10. SPECIAL CARE MUST BE TAKEN TO PROVIDE ACCESS THROUGH THE WORK ZONES FOR EMERGENCY VEHICLES. THE CONTRACTOR SHALL COORDINATE WITH BOTH POLICE AND FIRE DEPARTMENTS TO DETERMINE THEIR MINIMUM ACCESS REQUIREMENTS BEFORE PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION. CONTRACTOR SHALL ENSURE THAT ACCESS IS AVAILABLE TO ALL PROPERTIES AT ALL TIMES FOR EMERGENCY VEHICLES.

11. ALL REASONABLE EFFORTS SHALL BE MADE TO ACCOMMODATE PEDESTRIAN TRAVEL AT ALL TIMES. PEDESTRIANS SHALL NOT BE LED INTO CONFLICTS WITH WORK SITE VEHICLES, EQUIPMENT, AND OPERATIONS. PEDESTRIANS SHALL NOT BE LED INTO CONFLICT WITH VEHICLES MOVING THROUGH AND AROUND THE WORK SITE. PEDESTRIANS SHALL BE PROVIDED WITH A SAFE, CONVENIENT PATH THAT REPLICATES AS NEARLY AS PRACTICAL THE MOST DESIRABLE CHARACTERISTICS OF THE EXISTING SIDEWALKS OR FOOTPATHS.

12. ACCOMMODATIONS SHALL BE PROVIDED TO ENSURE THAT OBSTACLES, EQUIPMENT, CONSTRUCTION MATERIALS, TRAFFIC CONTROL DEVICES, ETC. DO NOT ENCROACH INTO THE BICYCLE PATH OF TRAVEL. IT IS IMPORTANT THAT BICYCLE ROUTES ARE FREE OF RUTS, SAND, AND MUD TO PREVENT CRASHES.

13. CONCRETE BARRIER EXPOSED TO TRAFFIC SHALL BE DELINEATED AND ENDS TO BE PROTECTED OR EXTEND OUTSIDE THE CLEAR ZONE. REFLECTORS SHALL BE MOUNTED EVERY 20 FEET ALONG THE SIDE OF THE BARRIER EXPOSED TO TRAFFIC, WITH YELLOW ON THE DRIVER'S LEFT AND WHITE ON THE DRIVER'S RIGHT.

COORDINATION WITH ADJACENT TOWN PROJECTS

1. THE CONTRACTOR SHALL BE AWARE THAT THERE MAY BE OTHER STATE, TOWN AND PRIVATE CONSTRUCTION PROJECTS PLANNED TO BE UNDER CONSTRUCTION EITHER ADJACENT TO OR IN THE VICINITY OF THIS PROJECT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION SEQUENCING AND TRAFFIC CONTROL MEASURES WITH THE TOWN AND THE RESIDENT ENGINEER TO MINIMIZE CONFLICTS BETWEEN PROJECTS. RESTRICTIONS TO LANE, STREET OR SIDEWALK CLOSURES MAY BE REQUIRED BETWEEN PROJECTS TO EFFICIENTLY MOVE VEHICLE AND PEDESTRIAN TRAFFIC THRU THE CONSTRUCTION AREA.

TRAFFIC MANAGEMENT AND ROADWAY CONSTRUCTION SEQUENCING

1. IT IS POSSIBLE THAT THE WORK WILL NOT ALL BE COMPLETED IN THE FIRST CALENDAR YEAR AND THIS COULD REQUIRE ONE (1) WINTER SHUTDOWN PERIOD WHEN THE WEATHER IS NOT CONDUCIVE TO CONTINUED CONSTRUCTION ACTIVITIES. THE CONTRACTOR AND ENGINEER SHALL COORDINATE THE BEGINNING AND ENDING OF THE WINTER SHUTDOWN PERIODS IN ACCORDANCE WITH VAOT PROCEDURES. AT LEAST TWO (2) WEEKS PRIOR TO THE ANTICIPATED WINTER SHUTDOWN, THE CONTRACTOR SHALL PREPARE ALL WORK AREAS TO BE REOPENED TO TRAFFIC. THIS INCLUDES PROVIDING A PAVED SURFACE FOR ALL STREETS AND SIDEWALKS, FRESH PAINTED PAVEMENT MARKINGS, AND ALL NECESSARY TRAFFIC SIGNS.

2. FINAL PAVING SHALL BE PERFORMED AT NIGHT WITH THE DATES AND HOURS OF OPERATION COORDINATED WITH AND APPROVED BY THE ENGINEER AND THE TOWN.

PEDESTRIAN TEMPORARY TRAFFIC CONTROL NOTES

If a temporary ped facility is provided, and has channelizing devices, they shall be detectable. I don't like the language about "when it is determined..."

1. 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 (NOT A FLAGGER ON DUTY), SIGNAGE, AND CONED OFF WALKWAYS THE MEET ADA REQUIREMENTS. ANY SIDEWALK CLOSURES SHALL MEET THE REQUIREMENTS OF THE MUTCD, PART 6.

2. INDIVIDUAL CHANNELIZING DEVICES, TAPE, OR ROPE USED TO CONNECT INDIVIDUAL DEVICES, AND OTHER DISCONTINUOUS BARRIERS AND DEVICES, PAVEMENT MARKINGS ARE NOT DETECTABLE BY PERSONS WITH VISUAL DISABILITIES. THESE MEASURES DO NOT PROVIDE ACCEPTABLE PATH GUIDANCE ON TEMPORARY OR RE-ALIGNED SIDEWALKS OR OTHER PEDESTRIAN FACILITIES. WHEN IT IS DETERMINED THAT A FACILITY SHOULD BE ACCESSIBLE TO AND DETECTABLE BY PEDESTRIANS WITH VISUAL DISABILITIES, A CONTINUOUSLY DETECTABLE EDGING SHALL BE PROVIDED THROUGHOUT THE LENGTH OF THE FACILITY SUCH THAT IT CAN BE FOLLOWED BY PEDESTRIANS USING LONG CANES FOR GUIDANCE.

3. 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.

???

4. IF EXISTING 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.

7. IF THE TPAR IS ADJACENT TO MOVING TRAFFIC, CONSTRUCTION OPERATIONS/EQUIPMENT, OR DROP-OFFS, THEN CRASH WORTHY CHANNELIZING DEVICES THAT MEET THE REQUIRMENTS OF THE MUTCD SHALL BE USED.

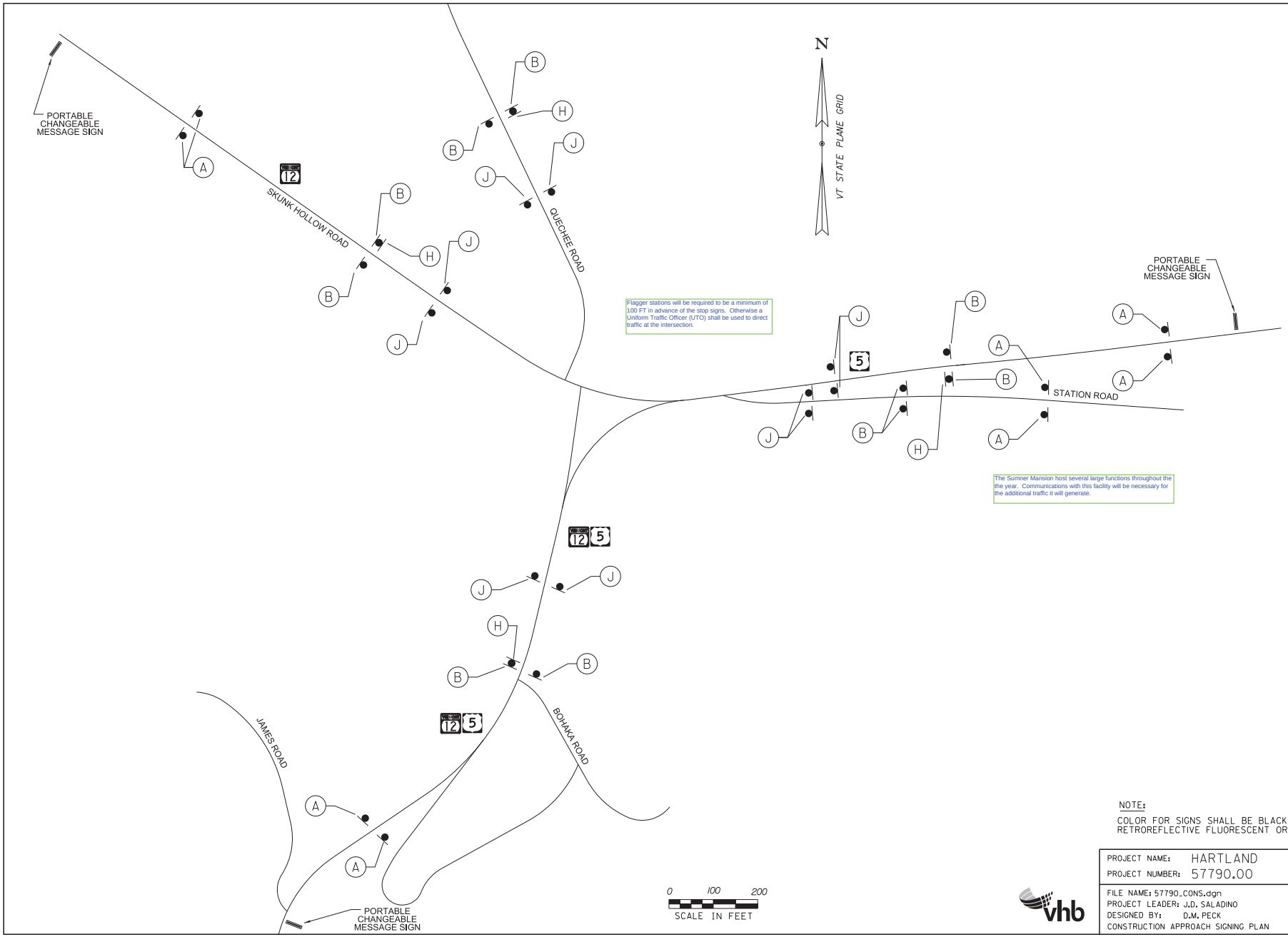
8. THE CONTRACTOR SHALL NOT STORE OR PLACE ANY CONSTRUCTION MATERIALS, EQUIPMENT OR SIGNS IN THE PEDESTRIAN PATH OF TRAVEL.

9. THE CONTRACTOR'S OPERATIONS SHALL NOT OCCUPY SIDEWALKS EXCEPT WHERE PROPER PROTECTION AND A TPAR HAVE BEEN PROVIDED.

10. THE CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN TRAFFIC CONTROL PLAN FOR REVIEW AND WRITTEN APPROVAL A MINIMUM OF TWO 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.

vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_TC_Notes.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: B.M. ROBERTS
DESIGNED BY: D.M. PECK	CHECKED BY: D.M. PECK
TRAFFIC CONTROL NOTES	SHEET 25 OF 48



A — ROAD WORK AHEAD — W20-1A (48"X48")

B — ROAD WORK 500 FT — W20-1B (48"X48")

C — SIDE ROAD WORK AHEAD — VC-869C (48"X48")

E — SIDE ROAD WORK LEFT — VC-869E (48"X48")

F — SIDE ROAD WORK RIGHT — VC-869F (48"X48")

H — END ROAD WORK — G20-2A (36"X18")

I — W1-6L (48"X24")

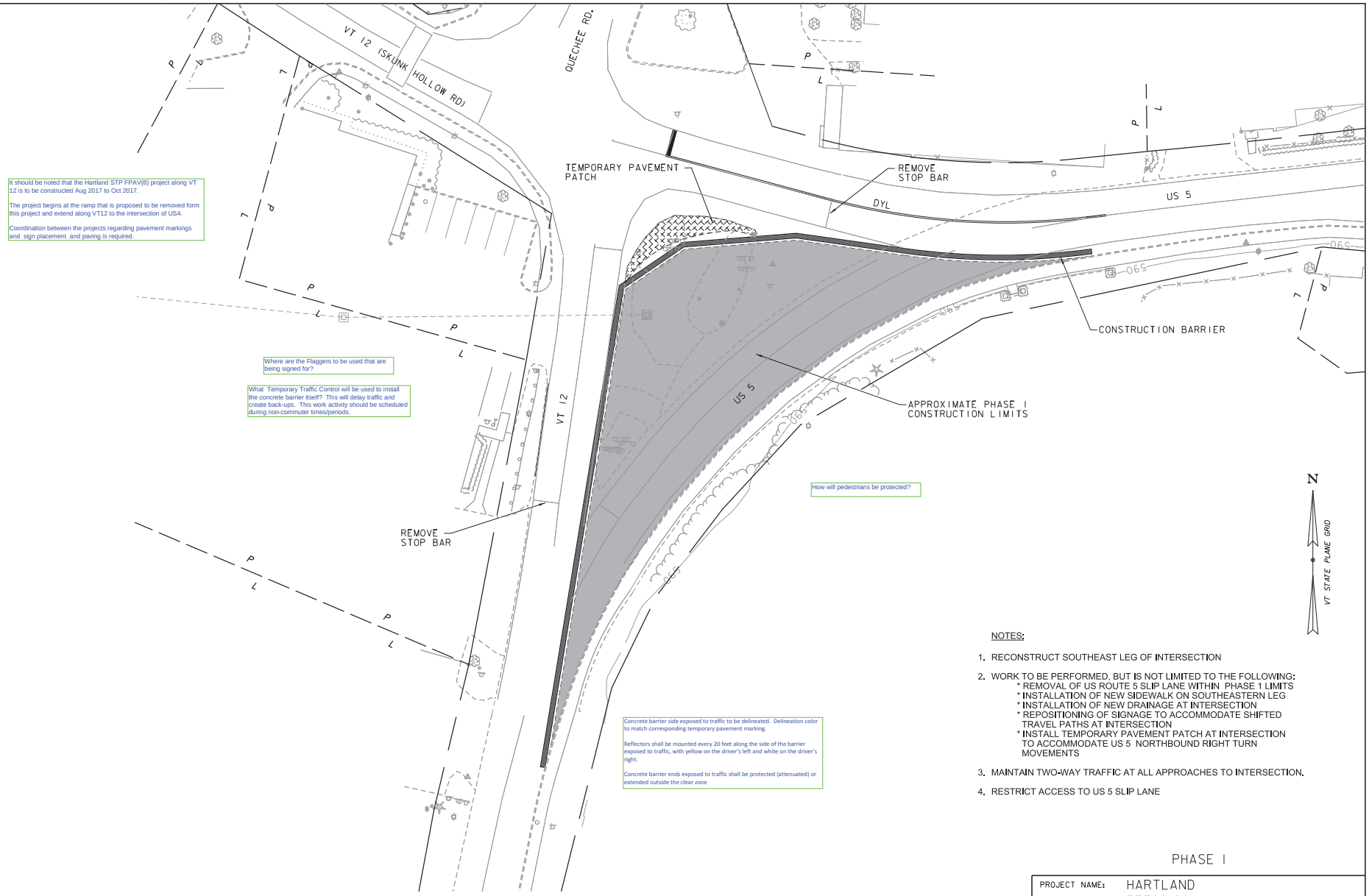
J — W20-7A (48"X48")

NOTE:

COLOR FOR SIGNS SHALL BE BLACK TEXT AND BORDER ON RETROREFLECTIVE FLUORESCENT ORANGE BACKGROUND.

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_CONS.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: G.A. GOMEZ
DESIGNED BY: D.M. PECK	CHECKED BY: D.M. PECK
CONSTRUCTION APPROACH SIGNING PLAN	SHEET 26 OF 48

vhb



It should be noted that the Hartland STP FPAV(8) project along VT 12 is to be constructed Aug 2017 to Oct 2017.

The project begins at the ramp that is proposed to be removed form this project and extend along VT12 to the intersection of US4.

Coordination between the projects regarding pavement markings and sign placement and paving is required.

Where are the Flaggers to be used that are being signed for?

What Temporary Traffic Control will be used to install the concrete barrier itself? This will delay traffic and create back-ups. This work activity should be scheduled during non-commuter times/periods.

How will pedestrians be protected?

Concrete barrier side exposed to traffic to be delineated. Delineation color to match corresponding temporary pavement marking.

Reflectors shall be mounted every 20 feet along the side of the barrier exposed to traffic, with yellow on the driver's left and white on the driver's right.

Concrete barrier ends exposed to traffic shall be protected (attenuated) or extended outside the clear zone

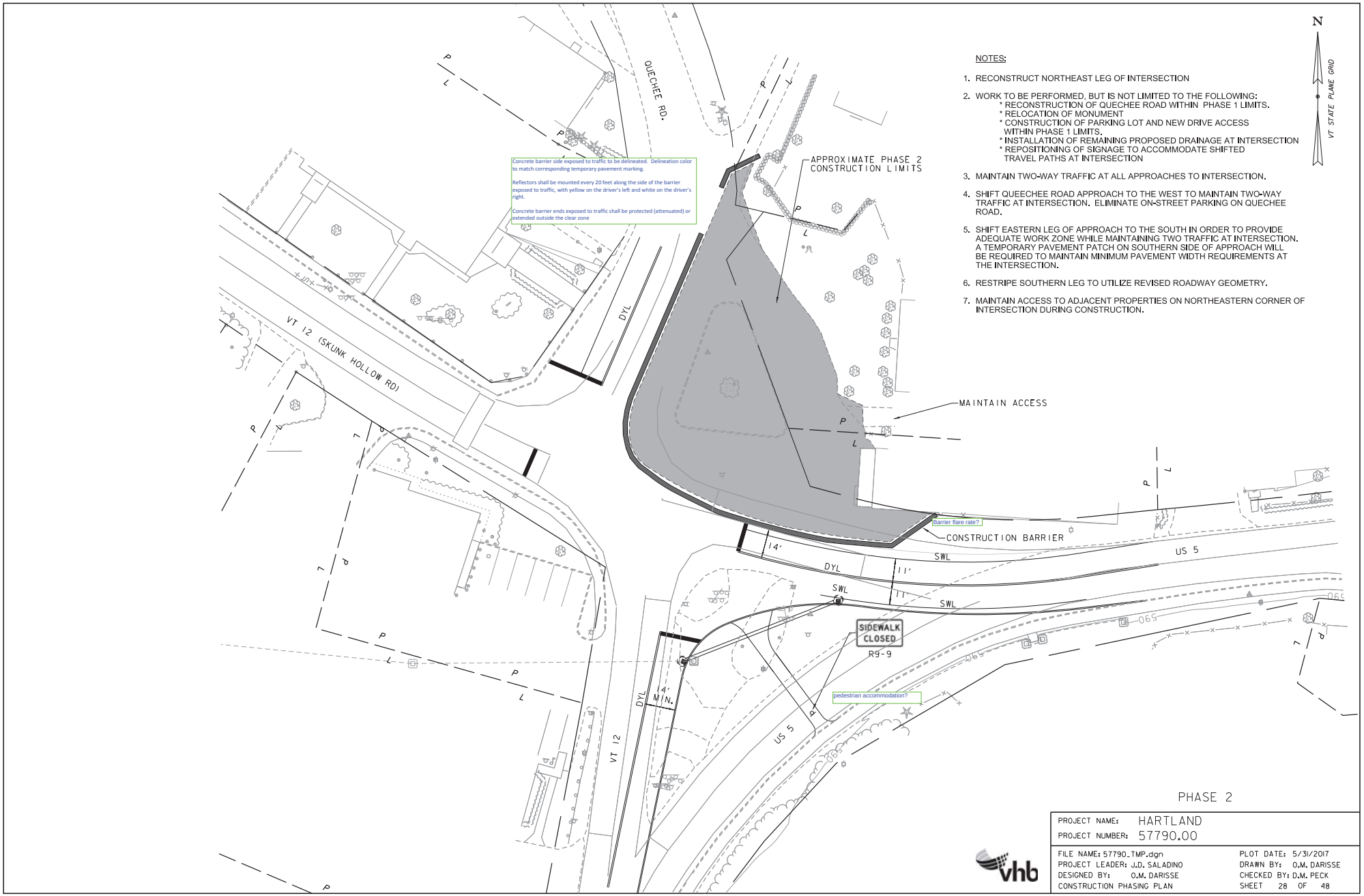
NOTES:

1. RECONSTRUCT SOUTHEAST LEG OF INTERSECTION
2. WORK TO BE PERFORMED, BUT IS NOT LIMITED TO THE FOLLOWING:
   * REMOVAL OF US ROUTE 5 SLIP LANE WITHIN PHASE 1 LIMITS
   * INSTALLATION OF NEW SIDEWALK ON SOUTHEASTERN LEG
   * INSTALLATION OF NEW DRAINAGE AT INTERSECTION
   * REPOSITIONING OF SIGNAGE TO ACCOMMODATE SHIFTED TRAVEL PATHS AT INTERSECTION
   * INSTALL TEMPORARY PAVEMENT PATCH AT INTERSECTION TO ACCOMMODATE US 5 NORTHBOUND RIGHT TURN MOVEMENTS
3. MAINTAIN TWO-WAY TRAFFIC AT ALL APPROACHES TO INTERSECTION.
4. RESTRICT ACCESS TO US 5 SLIP LANE

PHASE I

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_TMP.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CONSTRUCTION PHASING PLAN	SHEET 27 OF 48

vhb



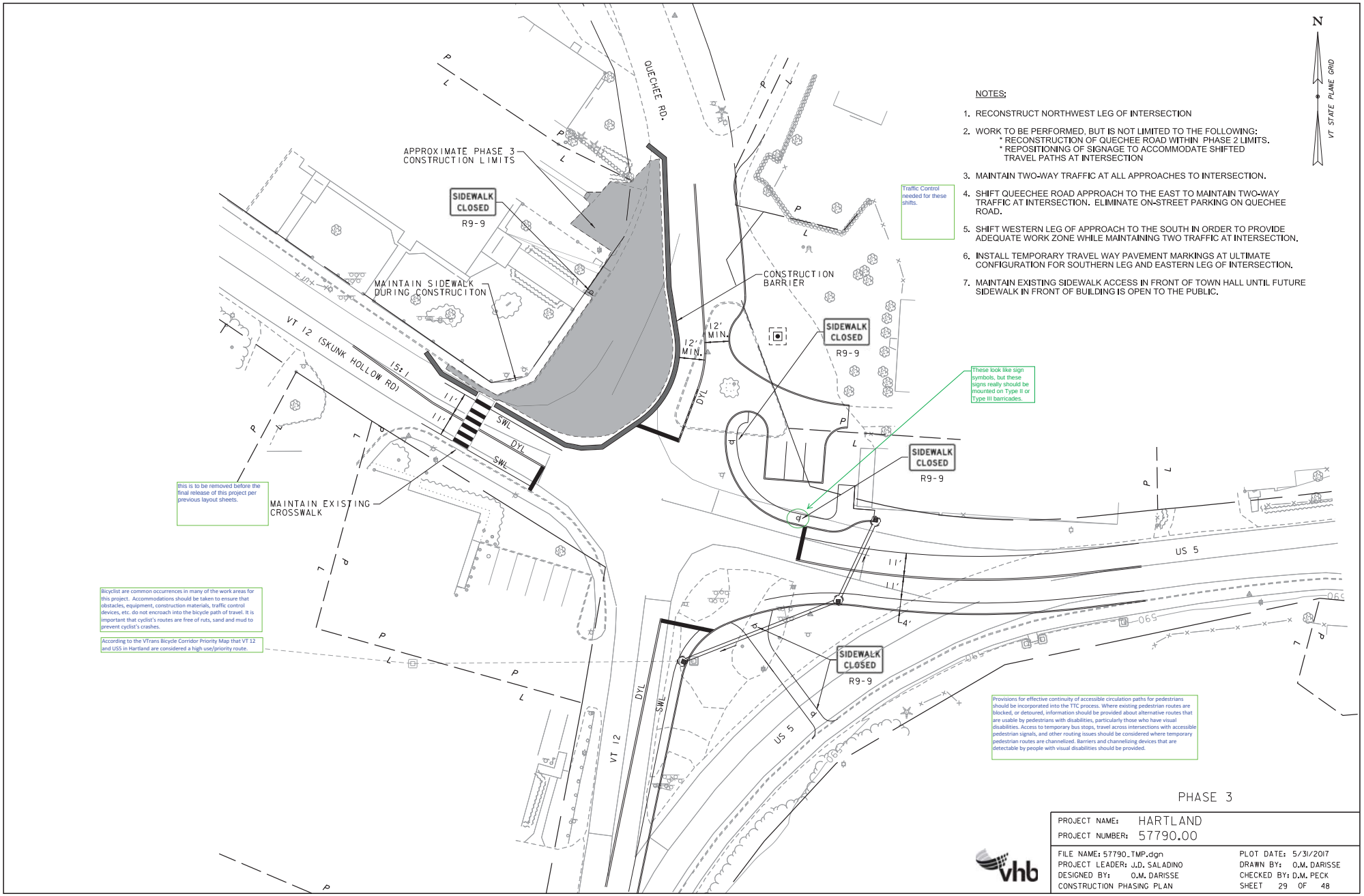
NOTES:

1. RECONSTRUCT NORTHEAST LEG OF INTERSECTION
2. WORK TO BE PERFORMED, BUT IS NOT LIMITED TO THE FOLLOWING:
   * RECONSTRUCTION OF QUECHEE ROAD WITHIN PHASE 1 LIMITS.
   * RELOCATION OF MONUMENT
   * CONSTRUCTION OF PARKING LOT AND NEW DRIVE ACCESS WITHIN PHASE 1 LIMITS.
   * INSTALLATION OF REMAINING PROPOSED DRAINAGE AT INTERSECTION
   * REPOSITIONING OF SIGNAGE TO ACCOMMODATE SHIFTED TRAVEL PATHS AT INTERSECTION
3. MAINTAIN TWO-WAY TRAFFIC AT ALL APPROACHES TO INTERSECTION.
4. SHIFT QUEECHEE ROAD APPROACH TO THE WEST TO MAINTAIN TWO-WAY TRAFFIC AT INTERSECTION. ELIMINATE ON-STREET PARKING ON QUECHEE ROAD.
5. SHIFT EASTERN LEG OF APPROACH TO THE SOUTH IN ORDER TO PROVIDE ADEQUATE WORK ZONE WHILE MAINTAINING TWO TRAFFIC AT INTERSECTION. A TEMPORARY PAVEMENT PATCH ON SOUTHERN SIDE OF APPROACH WILL BE REQUIRED TO MAINTAIN MINIMUM PAVEMENT WIDTH REQUIREMENTS AT THE INTERSECTION.
6. RESTRIPE SOUTHERN LEG TO UTILIZE REVISED ROADWAY GEOMETRY.
7. MAINTAIN ACCESS TO ADJACENT PROPERTIES ON NORTHEASTERN CORNER OF INTERSECTION DURING CONSTRUCTION.

PHASE 2

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_TMP.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CONSTRUCTION PHASING PLAN	SHEET 28 OF 48

vhb



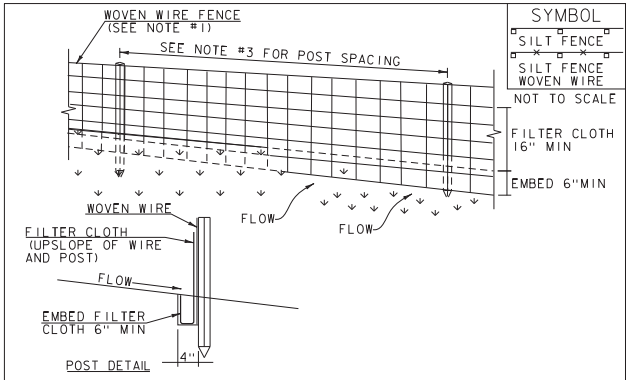
NOTES:

1. RECONSTRUCT NORTHWEST LEG OF INTERSECTION
2. WORK TO BE PERFORMED, BUT IS NOT LIMITED TO THE FOLLOWING:
   * RECONSTRUCTION OF QUECHEE ROAD WITHIN PHASE 2 LIMITS.
   * REPOSITIONING OF SIGNAGE TO ACCOMMODATE SHIFTED TRAVEL PATHS AT INTERSECTION
3. MAINTAIN TWO-WAY TRAFFIC AT ALL APPROACHES TO INTERSECTION.
4. SHIFT QUEECHEE ROAD APPROACH TO THE EAST TO MAINTAIN TWO-WAY TRAFFIC AT INTERSECTION. ELIMINATE ON-STREET PARKING ON QUECHEE ROAD.
5. SHIFT WESTERN LEG OF APPROACH TO THE SOUTH IN ORDER TO PROVIDE ADEQUATE WORK ZONE WHILE MAINTAINING TWO TRAFFIC AT INTERSECTION.
6. INSTALL TEMPORARY TRAVEL WAY PAVEMENT MARKINGS AT ULTIMATE CONFIGURATION FOR SOUTHERN LEG AND EASTERN LEG OF INTERSECTION.
7. MAINTAIN EXISTING SIDEWALK ACCESS IN FRONT OF TOWN HALL UNTIL FUTURE SIDEWALK IN FRONT OF BUILDING IS OPEN TO THE PUBLIC.

PHASE 3

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790_TMP.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CONSTRUCTION PHASING PLAN	SHEET 29 OF 48

VHB 57790.00



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

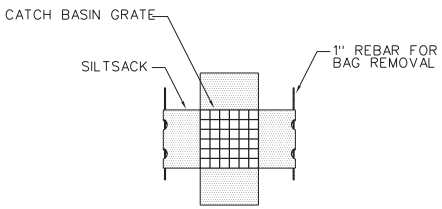
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

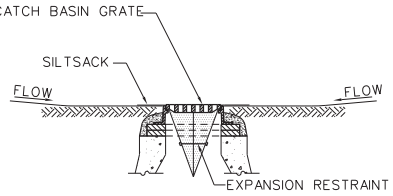
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

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



PLAN VIEW



SECTION VIEW

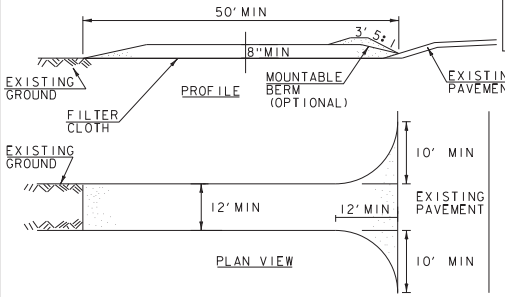
INLET PROTECTION DEVICE, TYPE II

NTS

Not familiar with this Detail and don't see a pay item; we have standard inlet protection details--perhaps use that instead.

Notes:

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

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

STABILIZED CONSTRUCTION ENTRANCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS		
MARCH 24, 2008		WHF
JANUARY 13, 2009		WHF

vhb

PROJECT NAME:

PROJECT NUMBER: HPP 8000(17)/PHASE 1

FILE NAME: 57790_EPSC_DET.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: VTRANS
EPSC DETAILS (1 of 2)

PLOT DATE: 5/31/2017
DRAWN BY: O.M. DARISSE
CHECKED BY: D.M. PECK
SHEET 30 OF 48

VHB 57790.00

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

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

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

CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651FOR SEED (PAY ITEM 651.15)

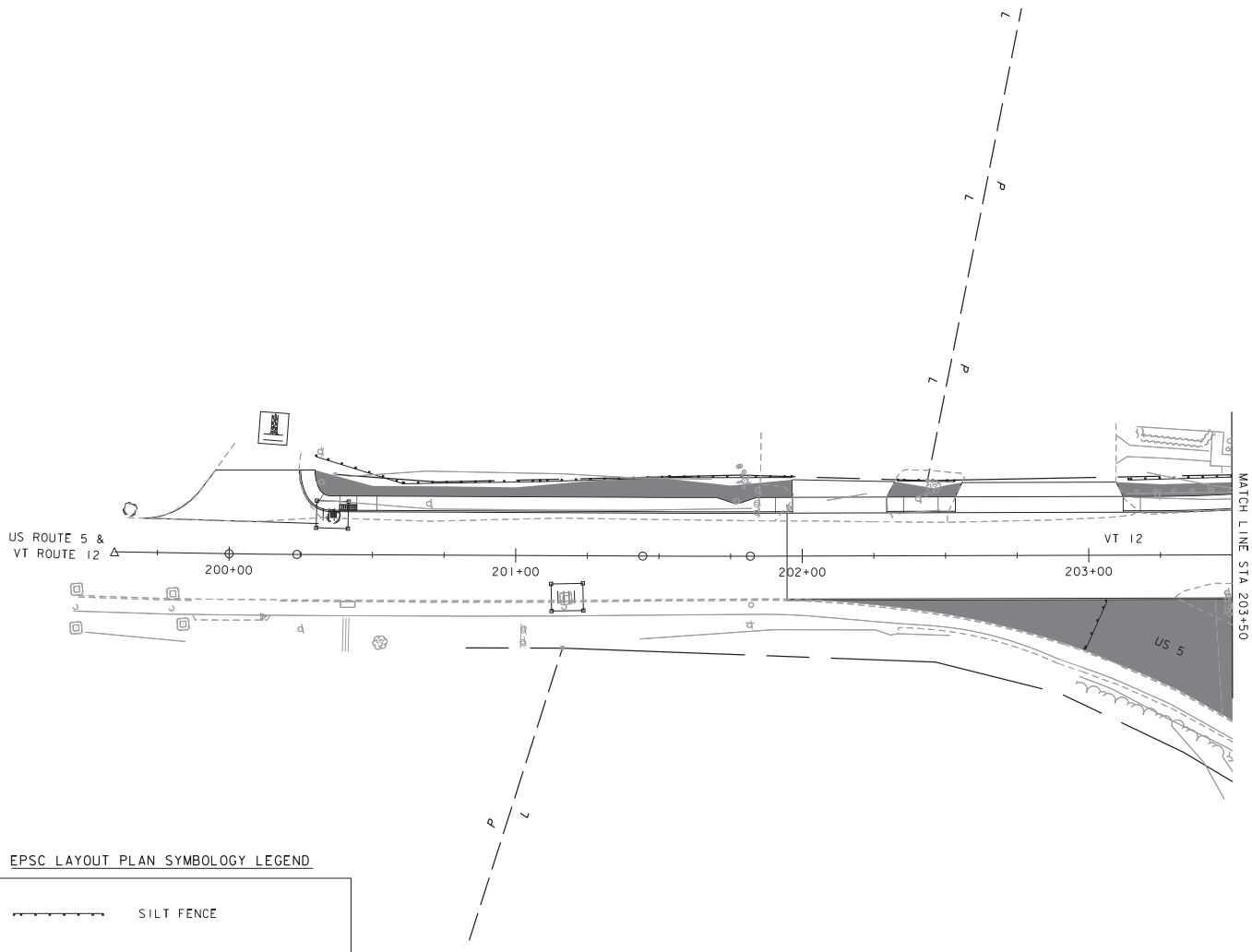
REVISIONS	
JANUARY 12, 2015	WHF

vhb

PROJECT NAME: HARTLAND
PROJECT NUMBER: 57790.00

FILE NAME: 57790_EPSC_DET.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: VTRANS
EPSC DETAILS (2 OF 2)

PLOT DATE: 5/31/2017
DRAWN BY: O.M. DARISSE
CHECKED BY: D.M. PECK
SHEET 31 OF 48



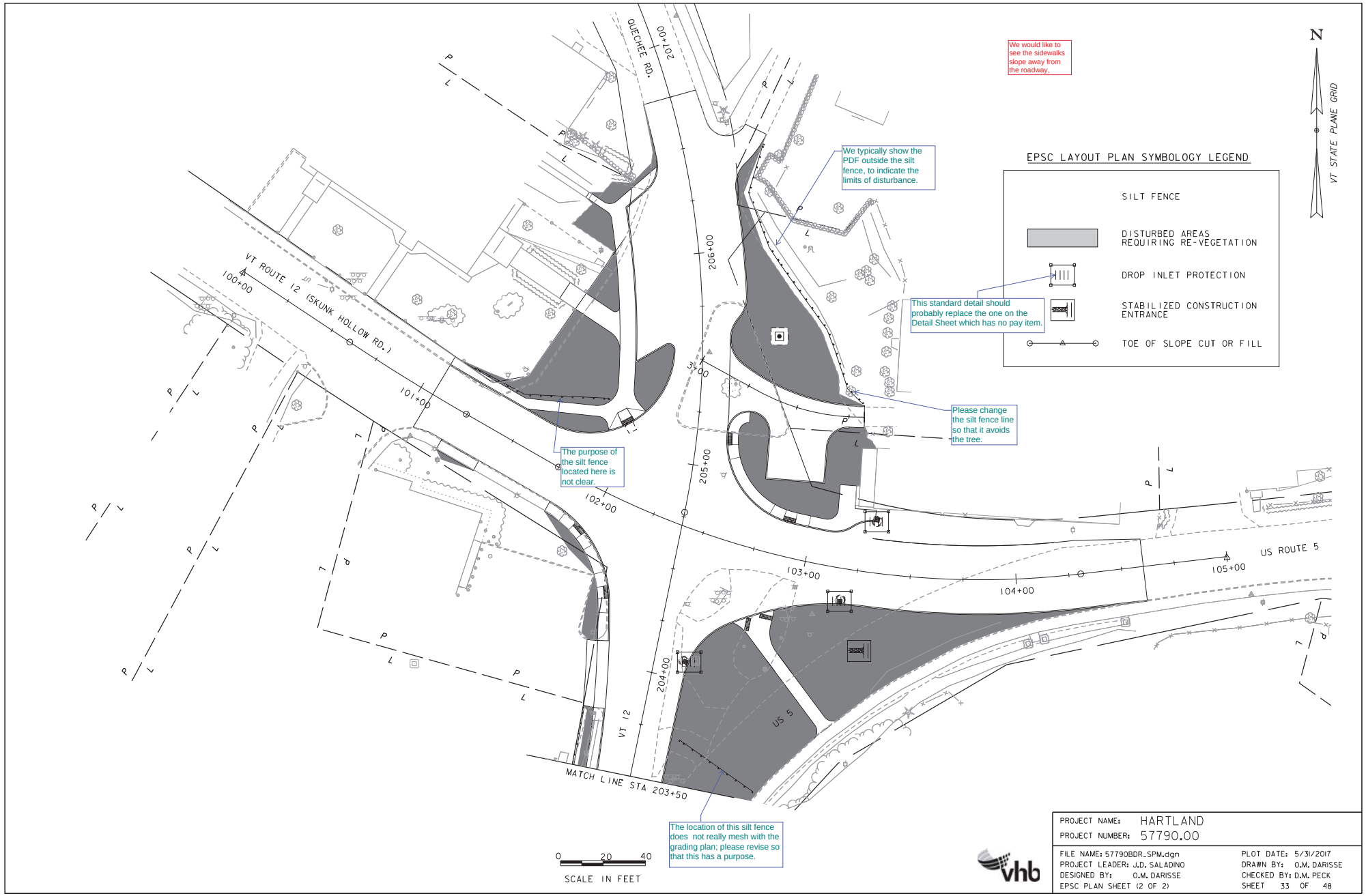
EPSC LAYOUT PLAN SYMBOLOGY LEGEND

- SILT FENCE
- DISTURBED AREAS REQUIRING RE-VEGETATION
- DROP INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- TOE OF SLOPE CUT OR FILL

0 20 40
SCALE IN FEET

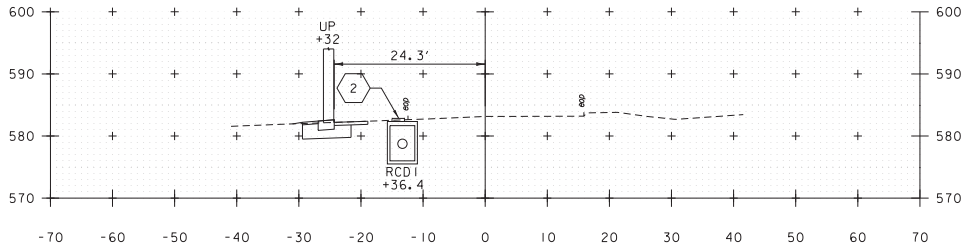
vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_SPM.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
EPSC PLAN SHEET (1 OF 2)	SHEET 32 OF 48



PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_SPM.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
EPSC PLAN SHEET (2 OF 2)	SHEET 33 OF 48

VHB 57790.00



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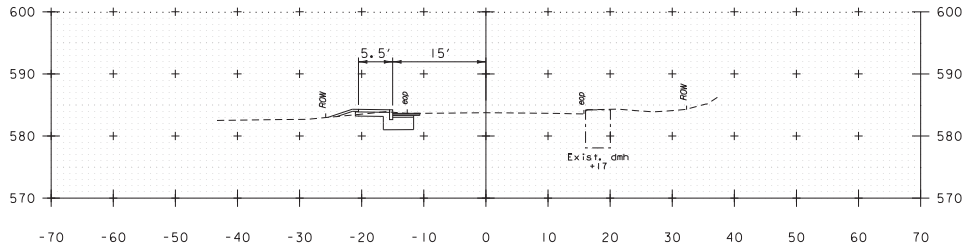

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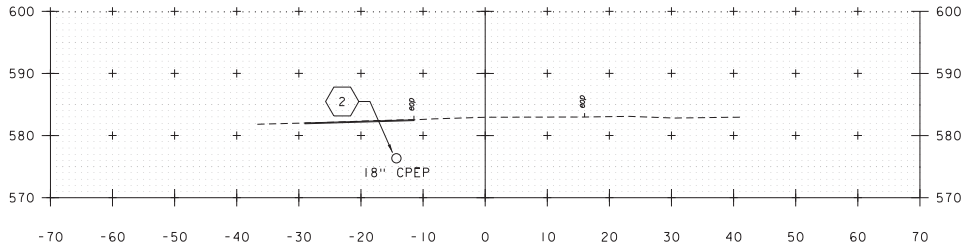

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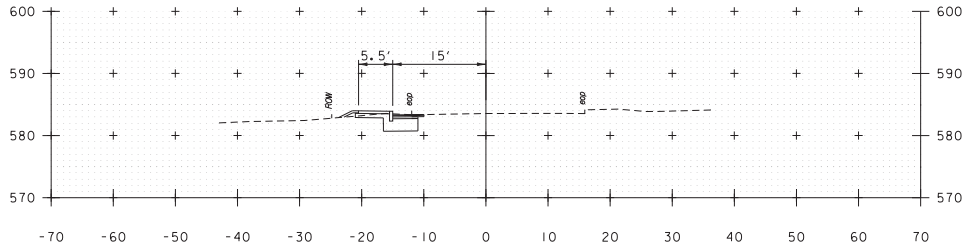

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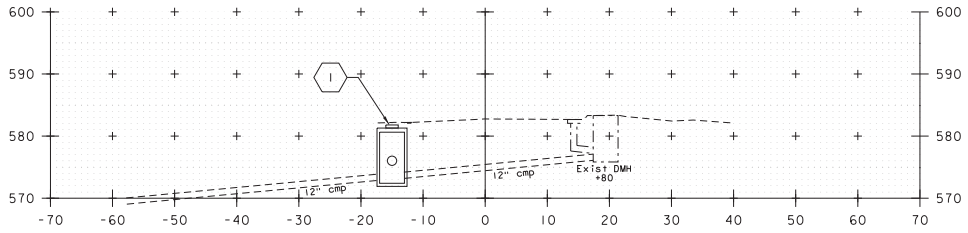

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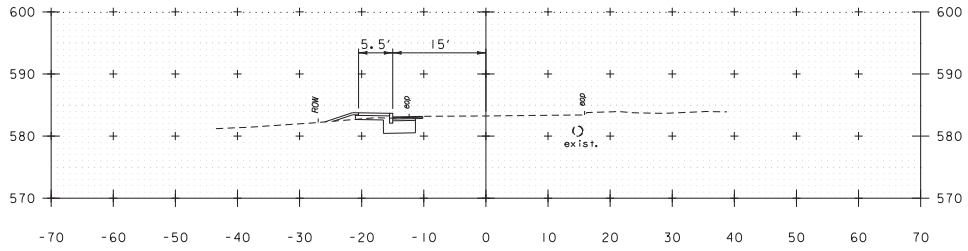


200+50

BEGIN PROJECT
STA. 199+70

0 10 20
SCALE IN FEET

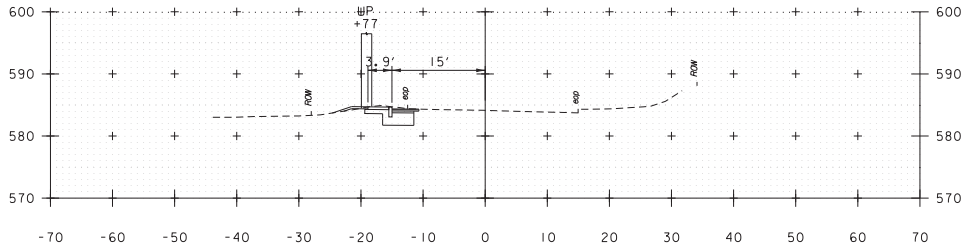
US ROUTE 5 TO QUECHEE ROAD

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00

FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (1 OF 7)	SHEET 34 OF 48

VHB 57790.00

BEGIN MILL/OVERLAY
STA. 201+95



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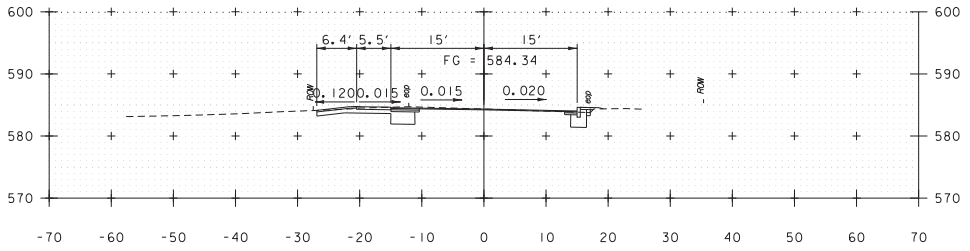

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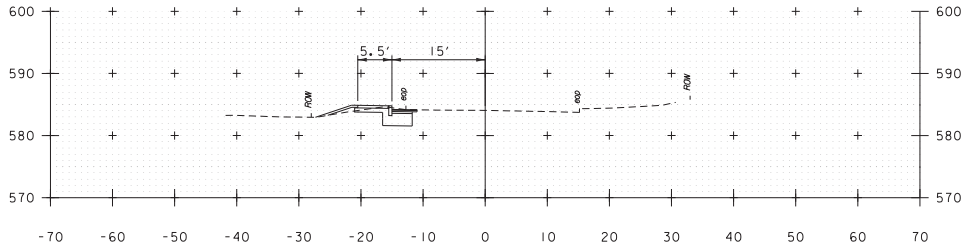

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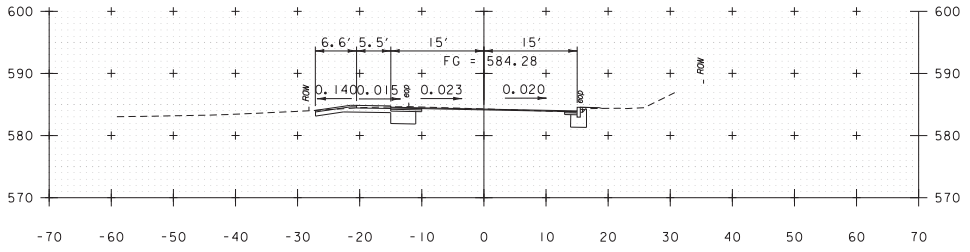

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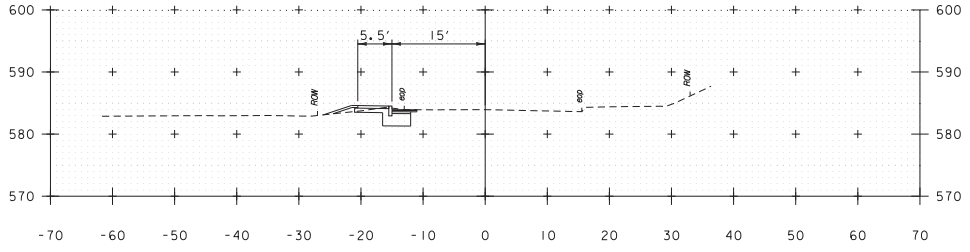

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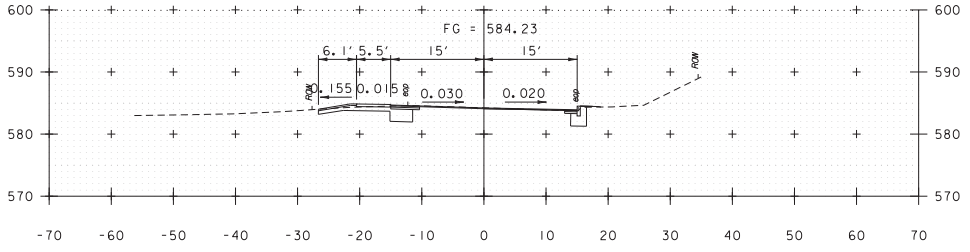
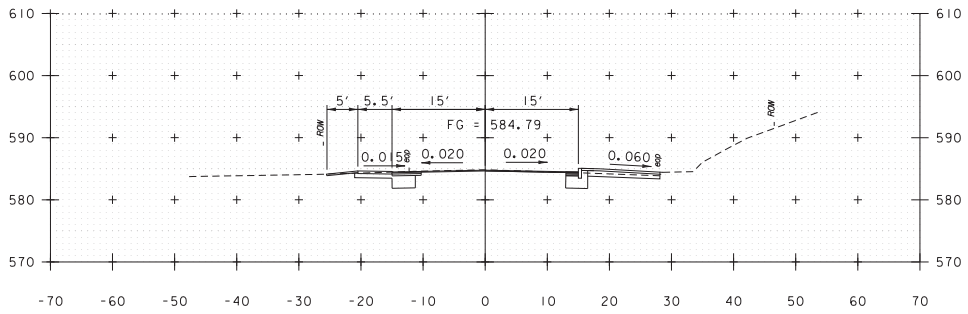


202+00

0 10 20
SCALE IN FEET

US ROUTE 5 TO QUECHEE ROAD

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (2 OF 7)	SHEET 35 OF 48



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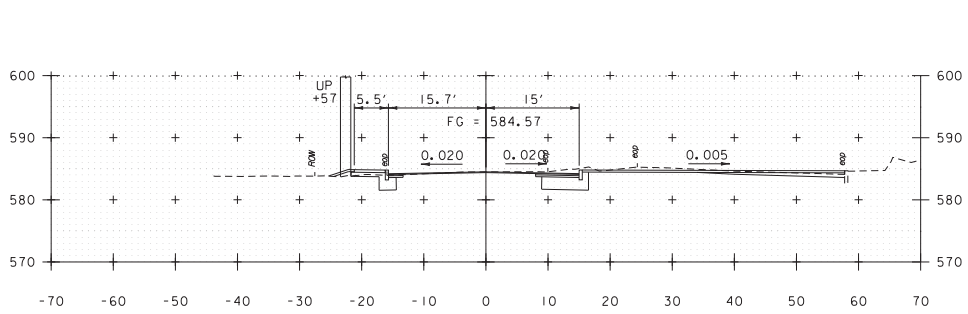

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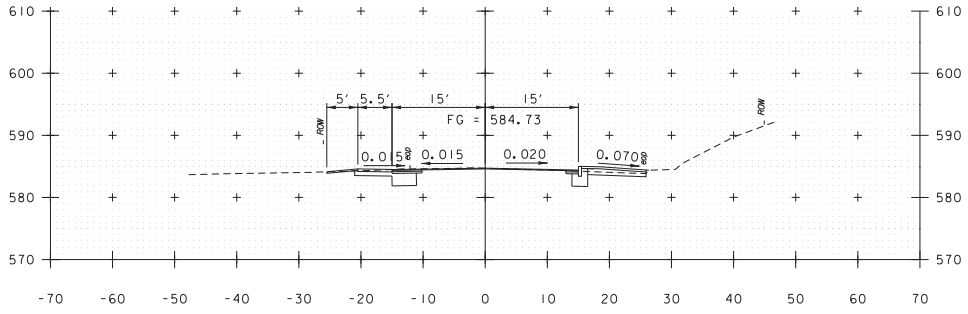

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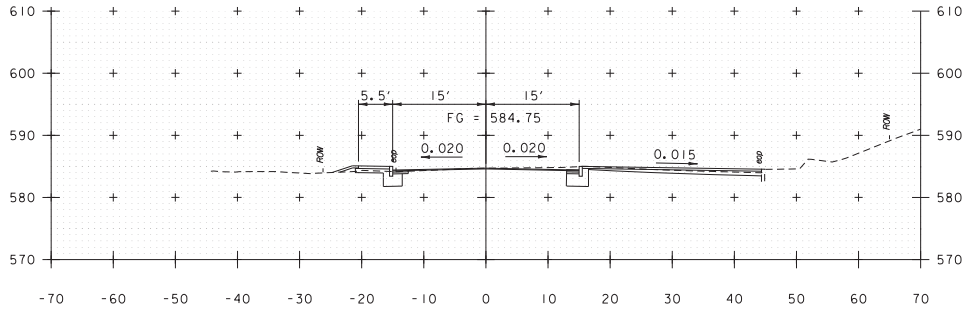

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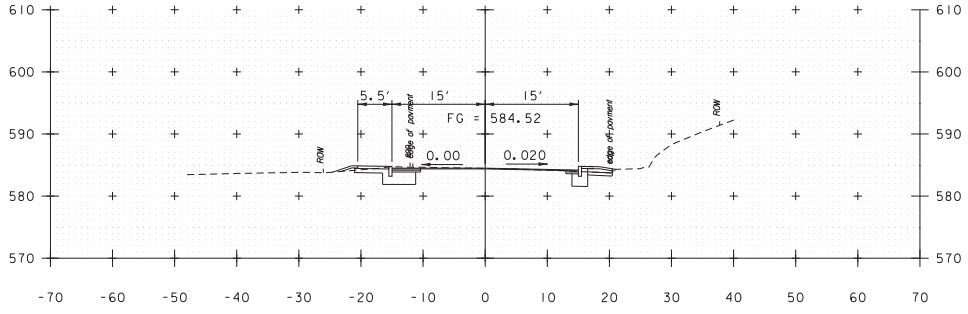
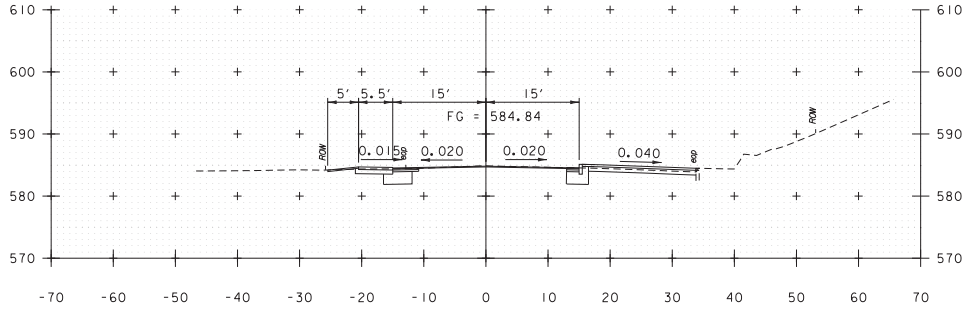


202+50

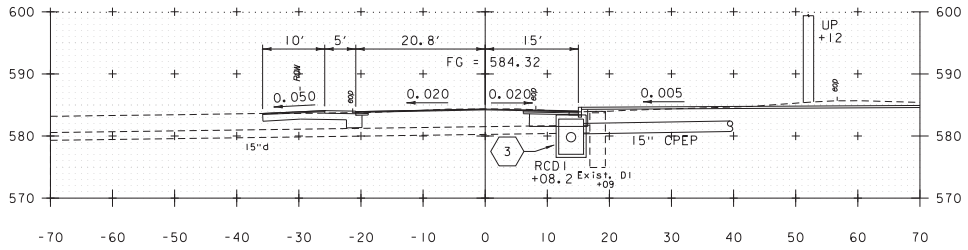


203+00

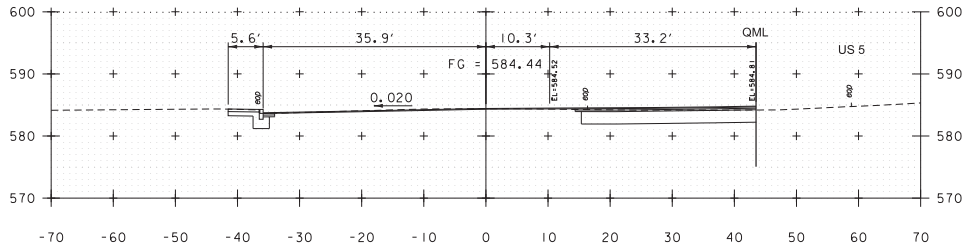
0 10 20
SCALE IN FEET

US ROUTE 5 TO QUECHEE ROAD

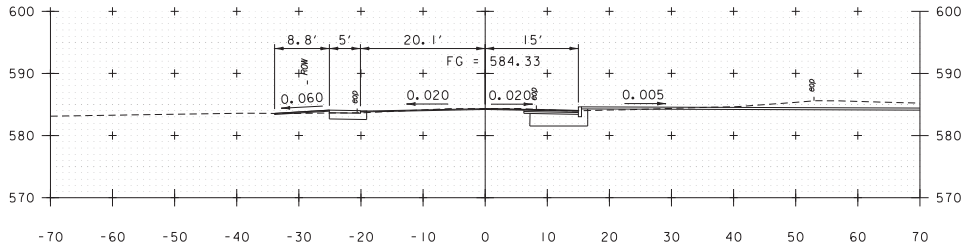
PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (3 OF 7)	SHEET 36 OF 48



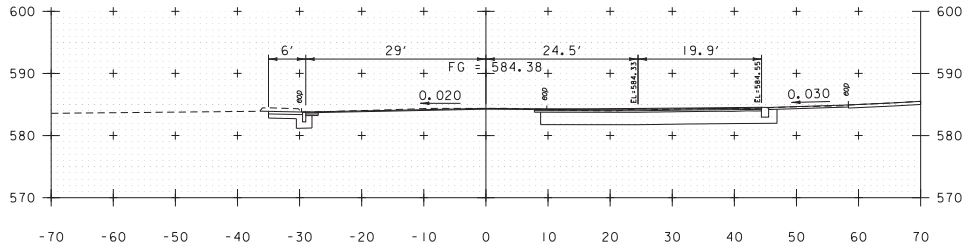
204+00



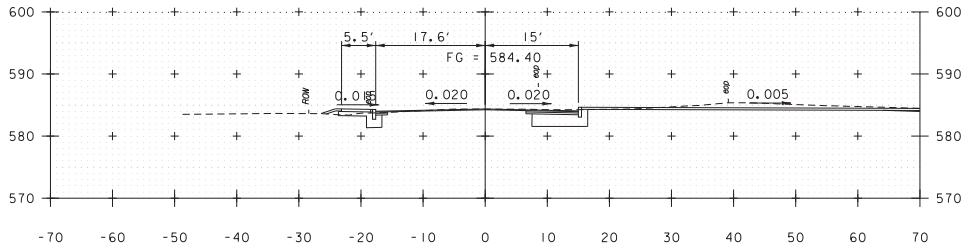
204+50



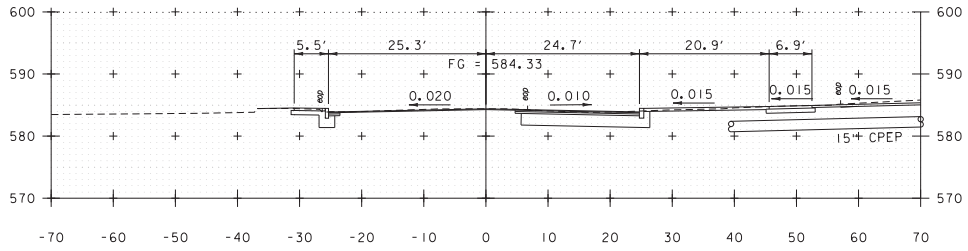
203+95



204+38



203+75



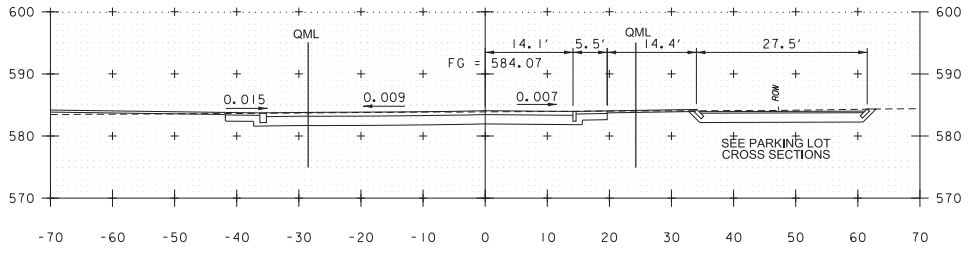
204+25

0 10 20
SCALE IN FEET

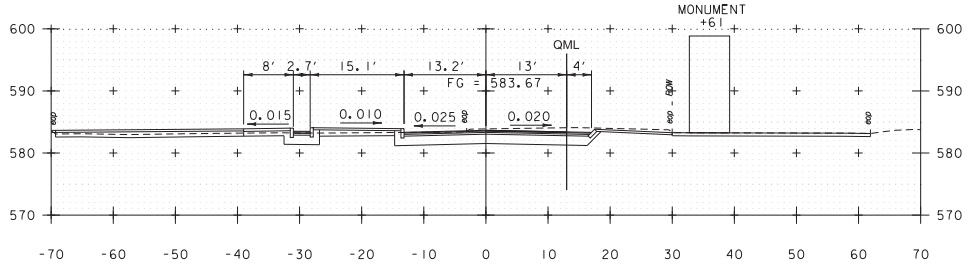
US ROUTE 5 TO QUECHEE ROAD

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00

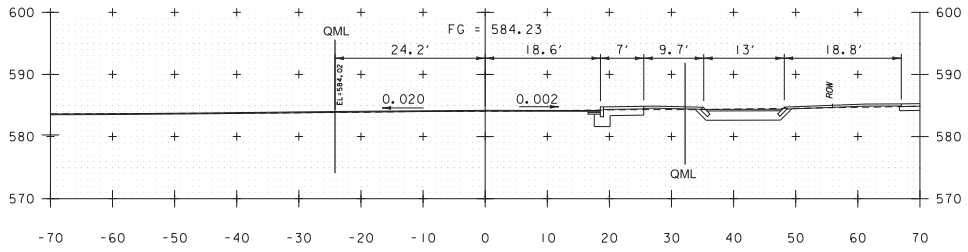
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (4 OF 7)	SHEET 37 OF 48



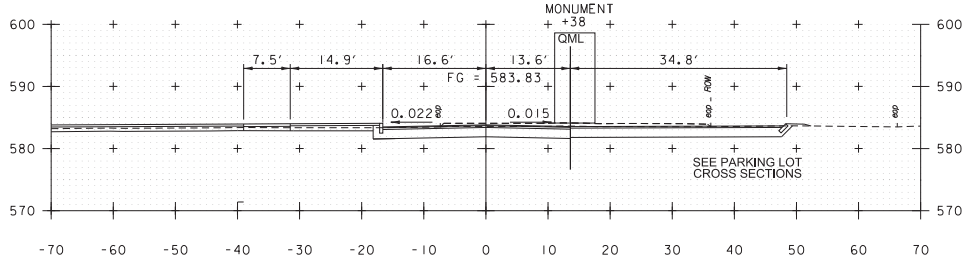
205+14



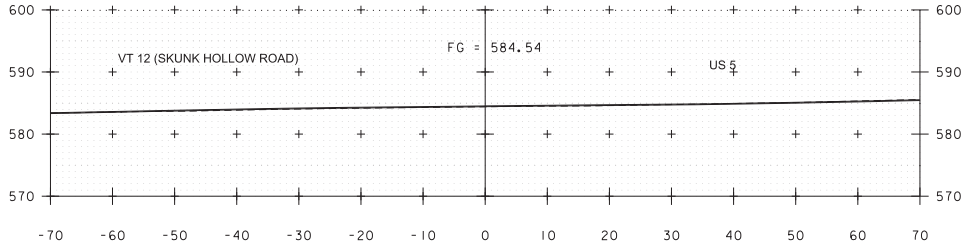
205+50



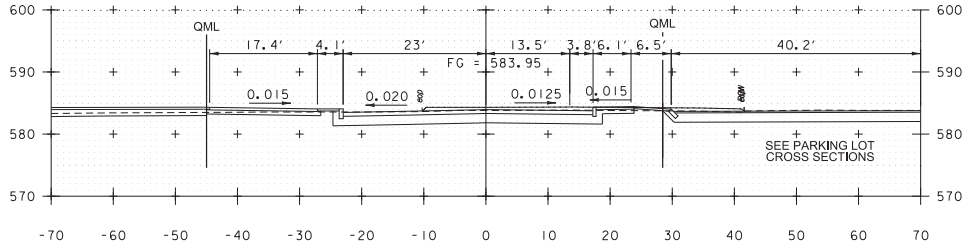
205+00



205+36



204+75



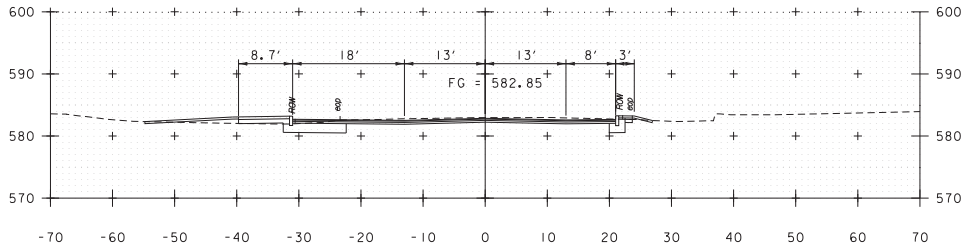
205+25

US ROUTE 5 TO QUECHEE ROAD

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00

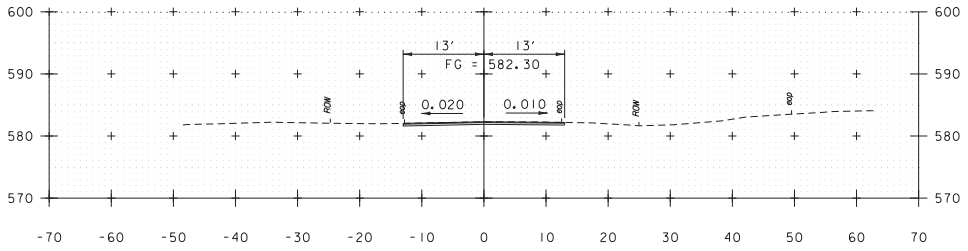
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (5 OF 7)	SHEET 38 OF 48

VHB 57790.00

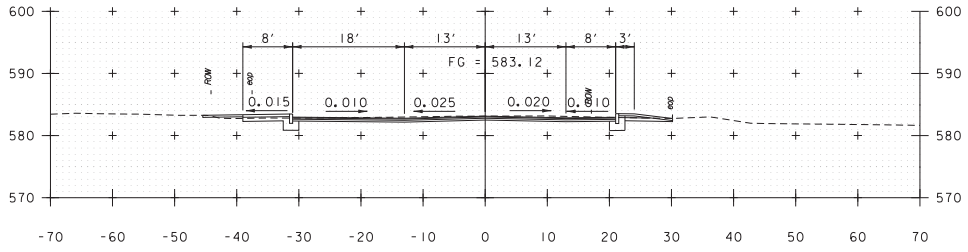


206+25

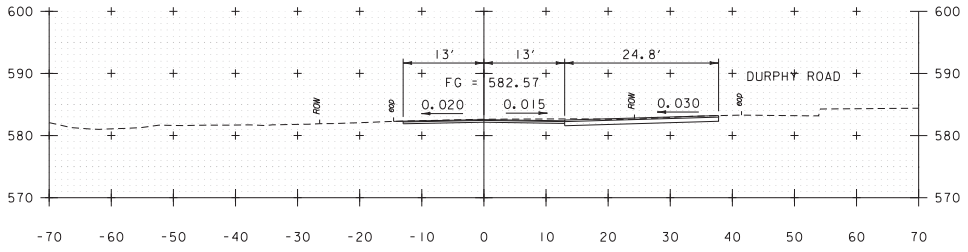
END PROJECT
STA. 206+75



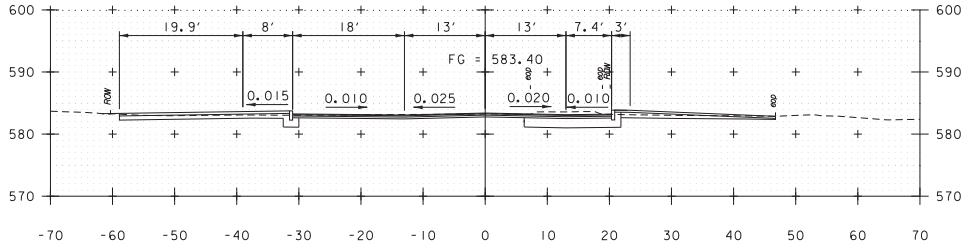
206+75



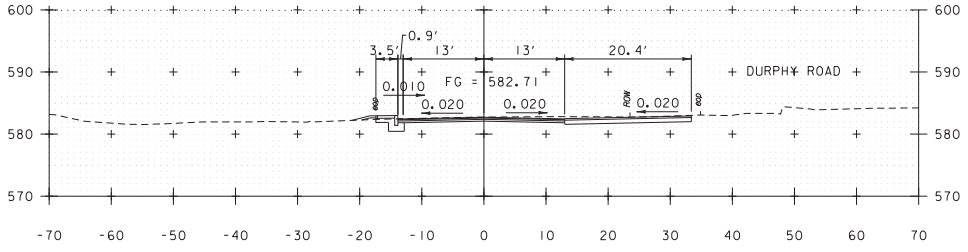
206+00



206+50



205+75



206+42

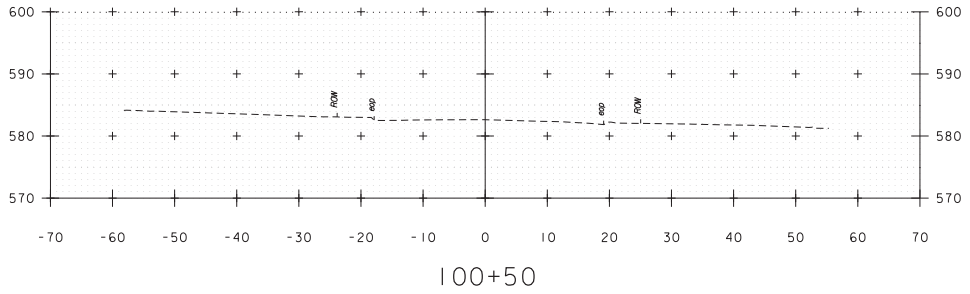
0 10 20
SCALE IN FEET

US ROUTE 5 TO QUECHEE ROAD

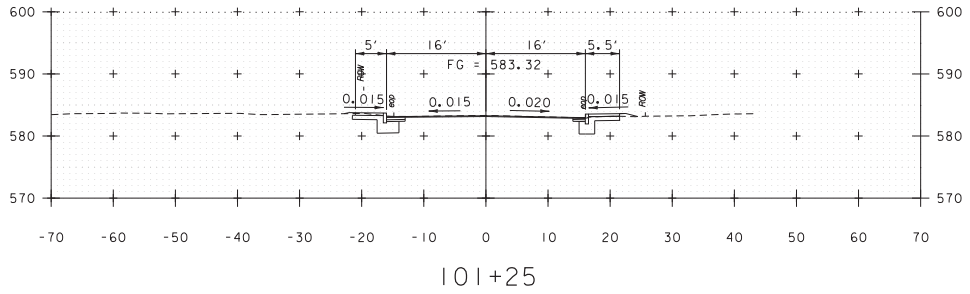
PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00

FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (6 OF 7)	SHEET 39 OF 48

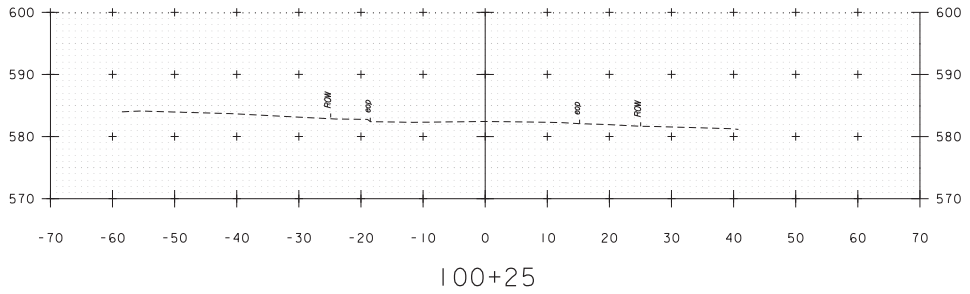
VHB 57790.00



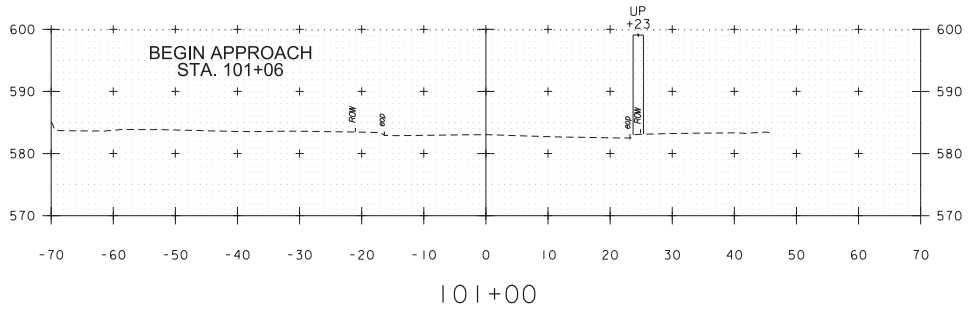
100+50



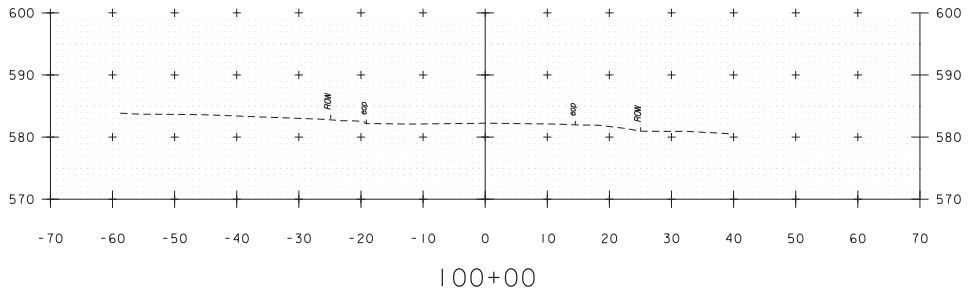
101+25



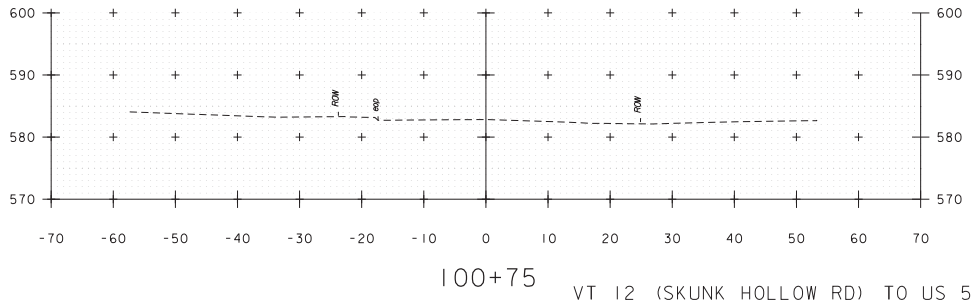
100+25



101+00



100+00



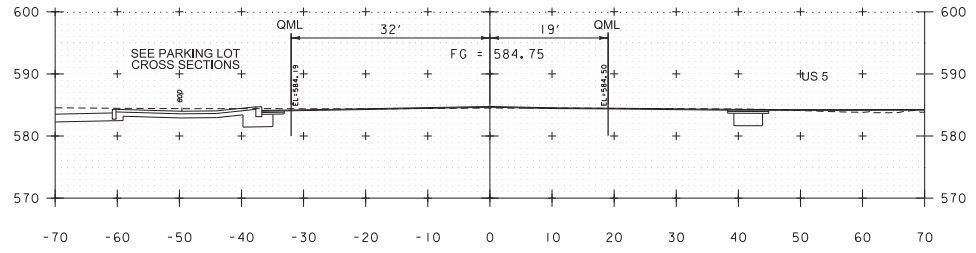
100+75

VT 12 (SKUNK HOLLOW RD) TO US 5

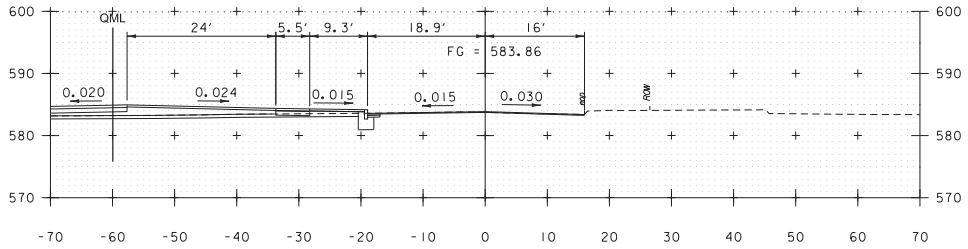
0 10 20
SCALE IN FEET

vhb

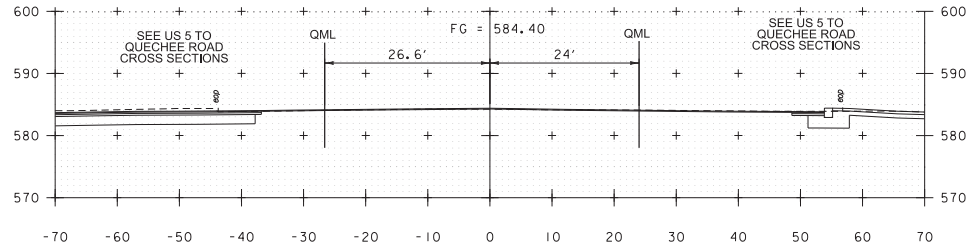
PROJECT NAME: HARTLAND	
PROJECT NUMBER: 57790.00	
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (1 OF 4)	SHEET 40 OF 48



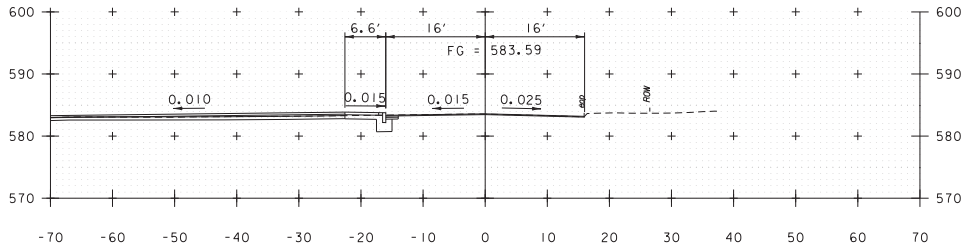
102+50



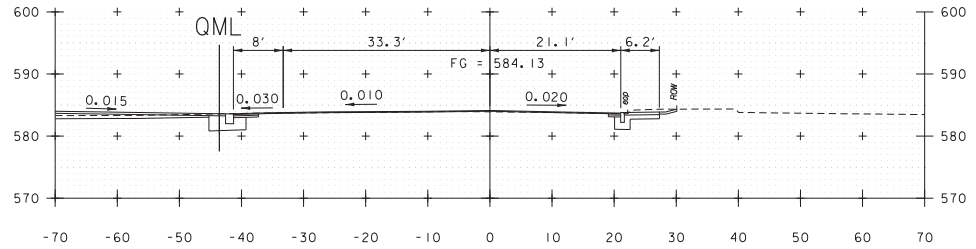
101+75



102+25



101+50



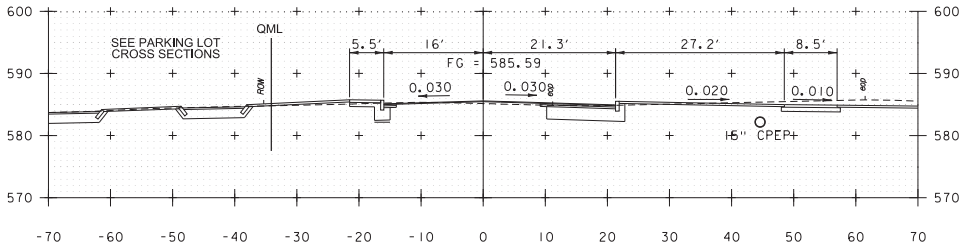
102+00

VT 12 (SKUNK HOLLOW RD) TO US 5

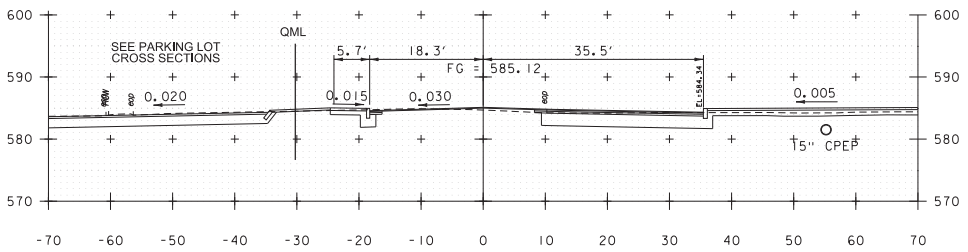
0 10 20
SCALE IN FEET

vhb

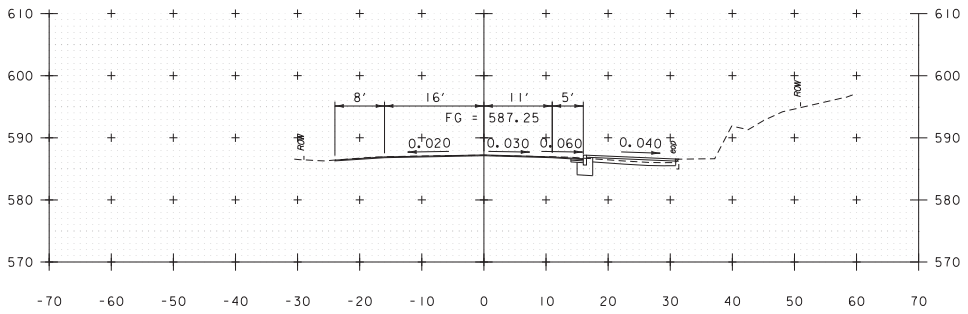
PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (2 OF 4)	SHEET 41 OF 48



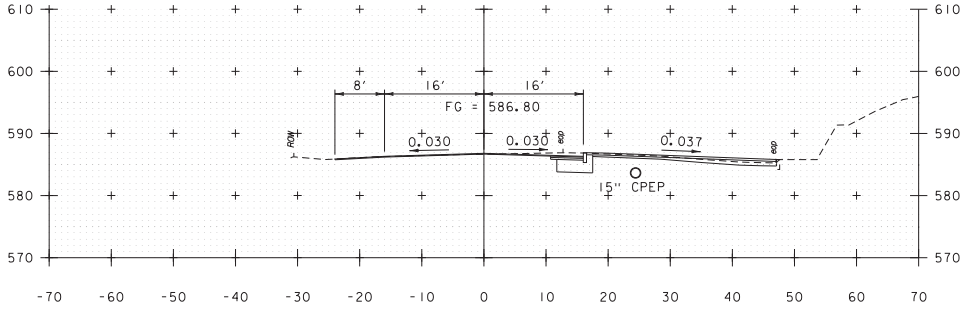
103+00



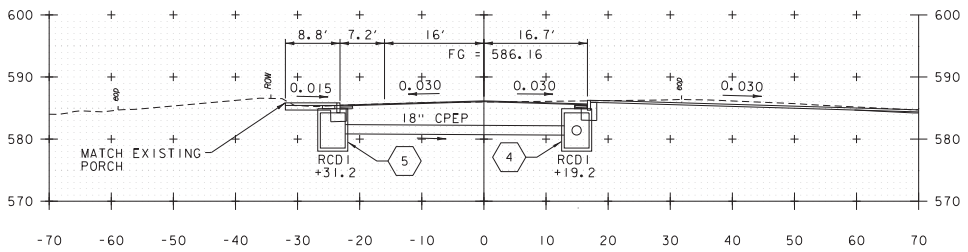
102+75



103+75



103+50



103+25

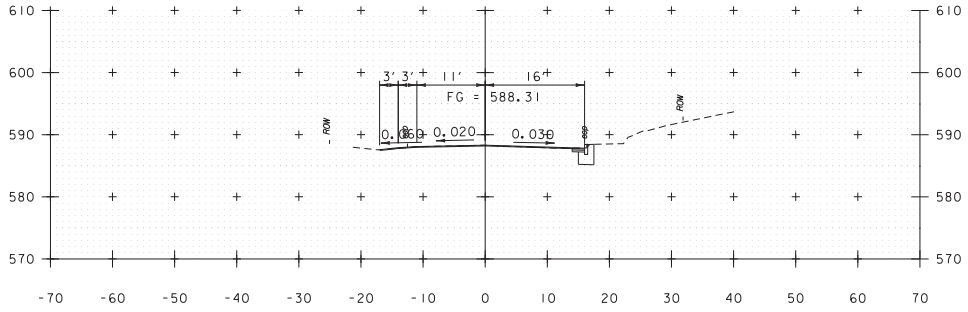
VT 12 (SKUNK HOLLOW RD) TO US 5

0 10 20
SCALE IN FEET

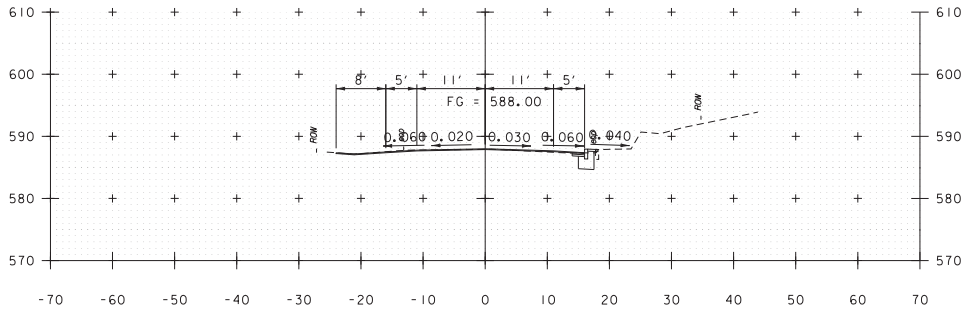
vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (3 OF 4)	SHEET 42 OF 48

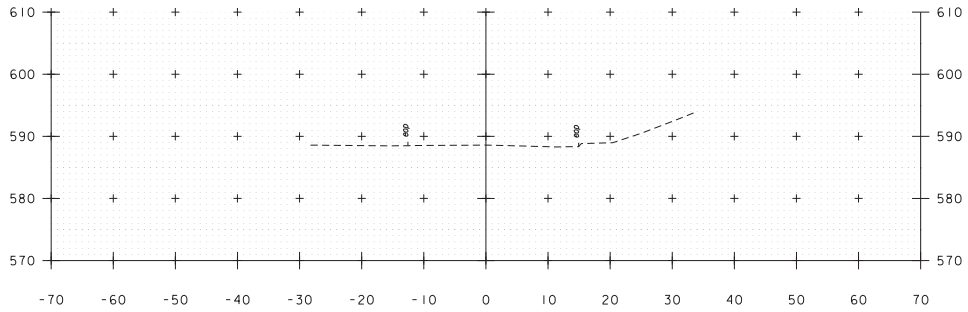
END PROJECT
STA. 104+60



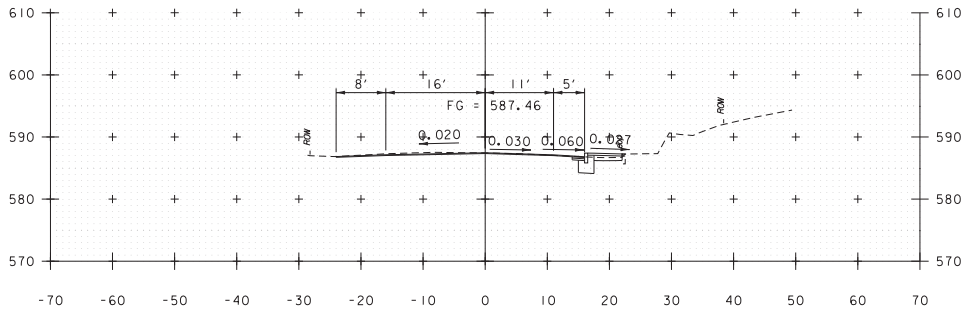
104+50



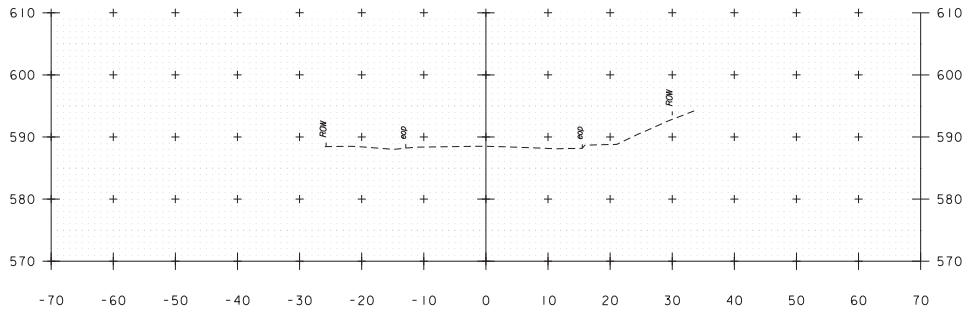
104+25



105+00



104+00



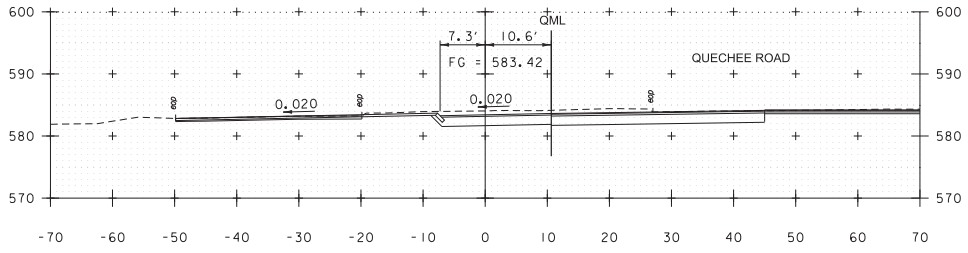
104+75

VT 12 (SKUNK HOLLOW RD) TO US 5

0 10 20
SCALE IN FEET

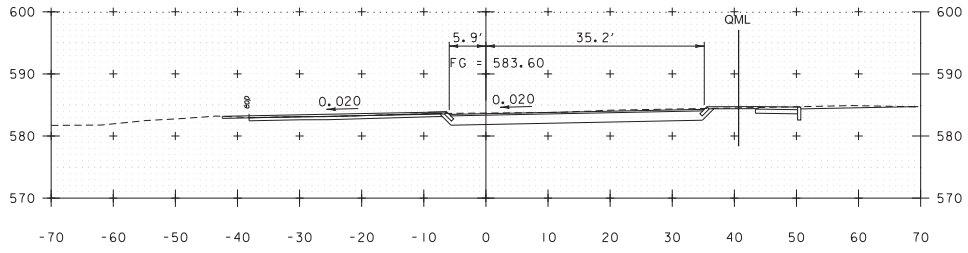
vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
CROSS SECTIONS (4 OF 4)	SHEET 43 OF 48

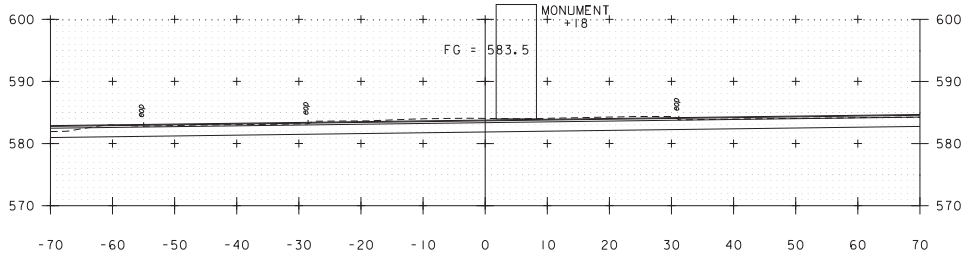


MATCH ROADWAY GRADE
STA. 3+15.00

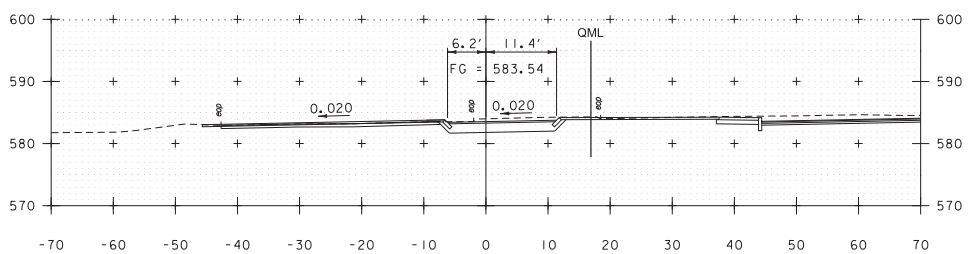
3+20



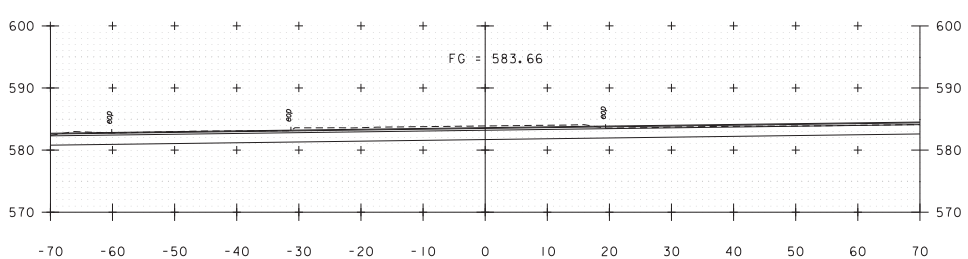
3+50



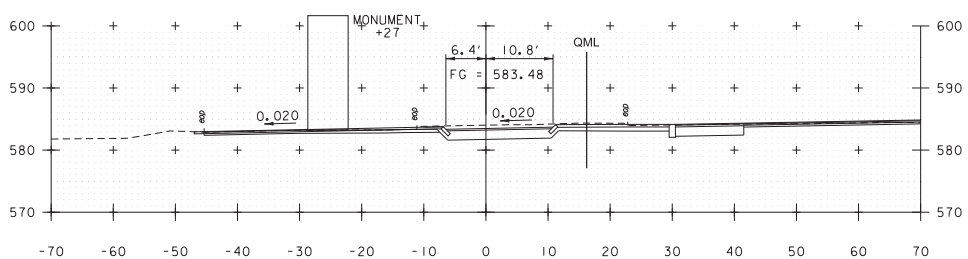
3+10



3+40



3+00

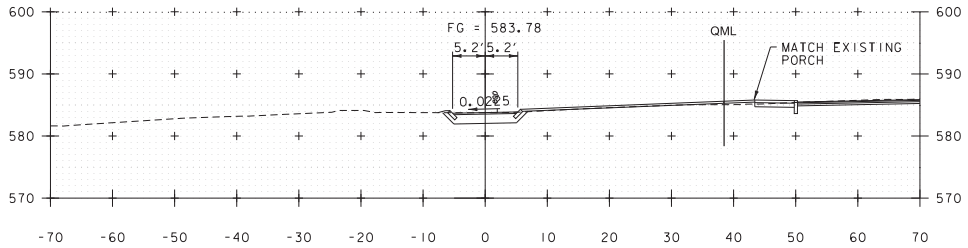


3+30

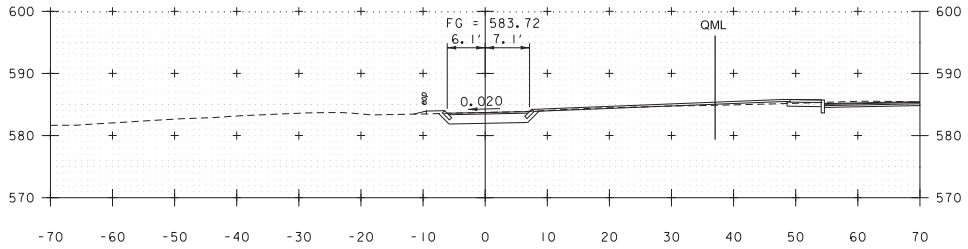
0 10 20
SCALE IN FEET

vhb

PROJECT NAME: HARTLAND	
PROJECT NUMBER: 57790.00	
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
PARKING LOT CROSS SECTIONS (1 OF 2)	SHEET 44 OF 48

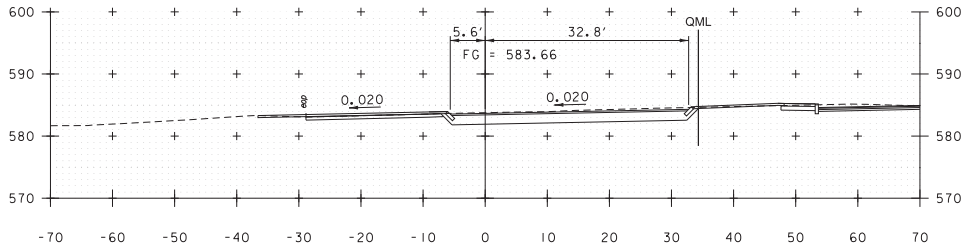


3+80

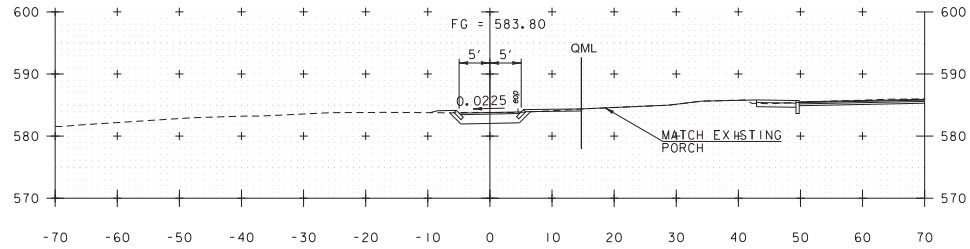


3+70

MATCH EXISTING DRIVEWAY
STA 3+82.00



3+60



3+82

0 10 20
SCALE IN FEET

vhb

PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790xs.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
PARKING LOT CROSS SECTIONS (2 OF 2)	SHEET 45 OF 48

RIGHT - OF - WAY DETAIL SHEET

Temporary easements are called to the nearest foot. 101+81

Permanent easements are called to the nearest hundredth 204+05.20

TABLE OF PROPERTY ACQUISITION

Contact me if you need help filling out the remarks column.

Easements should be spelled completely - SLOPE, CONSTRUCTION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE AREA±	REMAINDER AREA±	RIGHT TYPE	(T)/(P)	AREA ±	RECORDING DATA TITLE	DATE	TOWN / CITY	BOOK	PAGE	REMARKS
	MASCOMA SAVINGS BANK	34	101+81.1 RT	102+09.3 RT			CONST	(T)	118 SF						TEMPORARY CONSTRUCTION EASEMENT
			101+92.1 RT	102+07.7 RT			SR	(T)	32 SF						TEMPORARY SLOPE RIGHT
			203+79.5 LT	204+09.4 LT			DRIVE	(T)	MISSING AREA						TEMPORARY DRIVEWAY RIGHT (PAVED)
			204+09.3 LT (204+9.1 LT This should be rounded to 204+9)	204+35.6 LT			SR	(T)	~~325 SF~~ I get 98 SF verify						TEMPORARY SLOPE RIGHT
			204+05.2 LT	204+50.1 LT			SIDEWALK	(P)	173 SF						PERMANENT EASEMENT TO INSTALL & MAINTAIN NEW SIDEWALK
2	DICKE, ERIC F. & HELEN C.	34	204+96.2 RT	205+22.4 RT			CONST	(T)	817 SF						TEMPORARY CONSTRUCTION EASEMENT
3	GARTHWAITE, GENE R.	34	205+21.5 RT (205+21.49 RT)	206+15.4 RT (206+15.37 RT)	1468 SF (1,468 SF (add comma))										PARTIAL TAKE OF PARCEL
			205+21.5 RT	205+33.0 RT			DRIVE	(T)	MISSING AREA						TEMPORARY DRIVEWAY RIGHT (PAVED)
			205+21.5 RT	205+86.0 RT			SR	(T)	1240 SF (1,240 SF (add comma))						TEMPORARY SLOPE RIGHT
			205+33.4 RT	206+00.0 RT			CONST	(T)	381 SF						TEMPORARY CONSTRUCTION EASEMENT
4	WHITE, THOMAS M. & ANNE A.	34	206+15.4 RT (206+15.37 RT)	206+35.8 RT (206+35.81 RT)	105 SF										PARTIAL TAKE OF PARCEL
			206+23.2 RT	206+48.4 RT			CONST	(T)	136 SF						TEMPORARY CONSTRUCTION EASEMENT
			206+28.3 RT	206+48.5 RT			SR	(T)	68 SF						TEMPORARY SLOPE RIGHT
			206+34.4 RT	206+51.6 RT			DRIVE	(T)	MISSING AREA						TEMPORARY DRIVEWAY RIGHT (PAVED)
5	MILOWSKY, MARC S. & PATRICIA M.	34	206+35.8 RT	206+54.7 RT			DRIVEWAY	(T)	MISSING AREA						TEMPORARY DRIVEWAY RIGHT (PAVED)
			206+51.4 RT	206+59.4 RT			CONST	(T)	32 SF						TEMPORARY CONSTRUCTION EASEMENT

Stations should match whats on the layout sheet

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

This is not the State of Vermont AOT standard detail sheet. Please use the correct formatted sheet from the AOT Website. VHB has done project for VTrans in the past using the correct sheet.

PLAN LEGEND

EXISTING RIGHT-OF-WAY	TOE OF SLOPE
TAKING WITH ACCESS	TOP OF CUT
TAKING WITHOUT ACCESS	SR (P) SLOPE RIGHT
CZ CLEAR ZONE	CONST. (T) CONSTRUCTION RIGHT
P L PROPERTY LINE	PDF PROJECT DEMARCATION FENCE

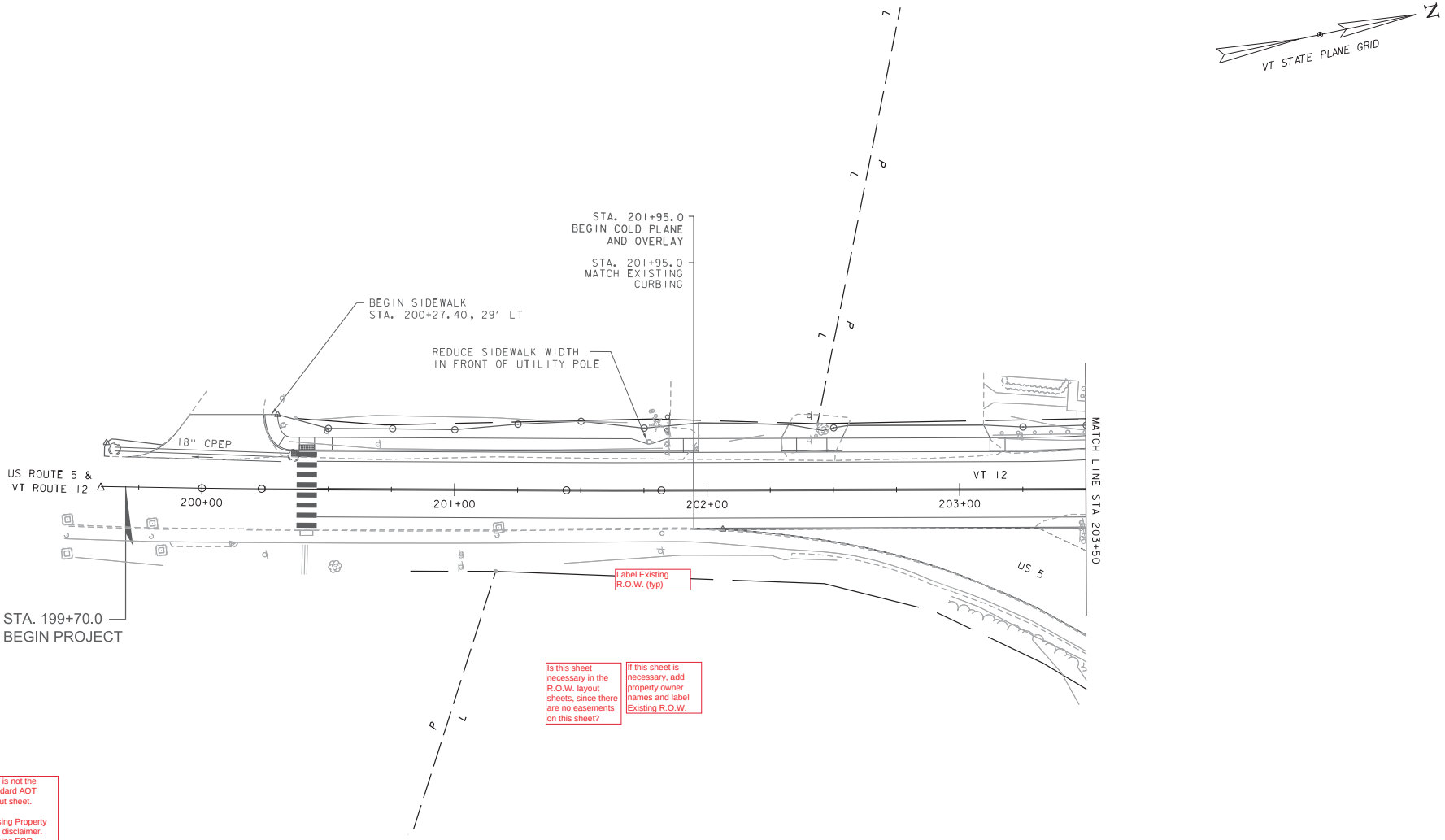
EC -EROSION CONTROL
(P) -PERMANENT
(T) -TEMPORARY
DR. -DRAINAGE RIGHT
DIT. -DITCHING RIGHT
CH. -CHANNEL RIGHT
DRIVE -DRIVE RIGHT
CUL. -CULVERT RIGHT
C&T -CLEARING & TRIMMING RIGHT
SR -SLOPE RIGHT
UE -UTILITY EASEMENT

vhb

PROJECT NAME: HARTLAND
PROJECT NUMBER: 57790.00

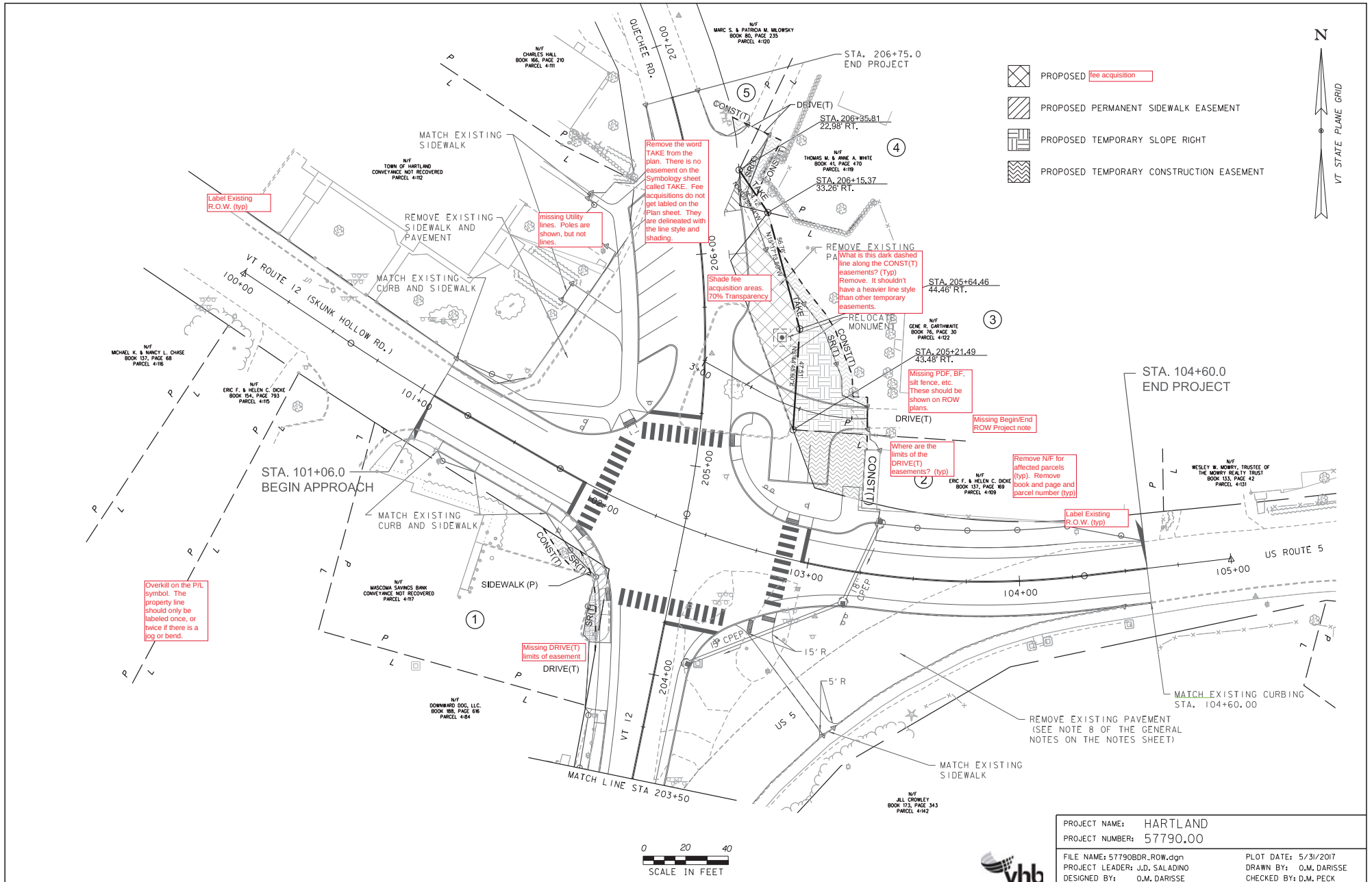
FILE NAME: 57790typ.dgn
PROJECT LEADER: J.D. SALADINO
DESIGNED BY: O.M. DARISSE
RIGHT-OF-WAY-DETAIL SHEET

PLOT DATE: 5/31/2017
DRAWN BY: O.M.DARISSE
CHECKED BY: D.M. PECK
SHEET 46 OF 48



PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_ROW.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
ROW LAYOUT (SHEET 1 OF 2)	SHEET 47 OF 48

VHB 57790.00



PROJECT NAME:	HARTLAND
PROJECT NUMBER:	57790.00
FILE NAME: 57790BDR_ROW.dgn	PLOT DATE: 5/31/2017
PROJECT LEADER: J.D. SALADINO	DRAWN BY: O.M. DARISSE
DESIGNED BY: O.M. DARISSE	CHECKED BY: D.M. PECK
ROW LAYOUT (SHEET 2 OF 2)	SHEET 48 OF 48

VHB 57790.00

NEED TO USE NEWEST CATALOG AND UPDATE ALL PRICES. ALL ITEMS NEED TO BE IN CORRECT NUMERICAL ORDER.

Estimate VHB 57790.00

Estimated Cost:$511,617.26

Contingency: 0.00%

Estimated Total: $511,617.26

REALIGNMENT OF THE US ROUTE 5 / VT ROUTE 12 / QUECHEE ROAD INTERSECTION

Base Date: 05/26/17

Spec Year: 11

Unit System: E

Work Type: ROADS & HIGHWAY CONSTRUCTION

Highway Type: MINOR ARTERIAL

Urban/Rural Type: RURAL

Season: CONSTRUCTION SEASON BIDS (4/15 - 10/15)

County: HARTLAND

Midpoint of Latitude: 433228

Midpoint of Longitude: 0722357

District: SE

Federal/State Project Number: HARTLAND THREE CORNERS

Estimate Type: FINAL PLANS

Prepared by KELLY C. BARRY on 05/25/17
Checked by DANIEL M. PECK on 05/26/17

Line #	Item Number	Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
Group 1011: ROADWAY						
0005	201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	1.000	LS	$2,500.00000	$2,500.00
0006	203.15	COMMON EXCAVATION	1,100.000	CY	$13.00000	$14,300.00
0007	203.16	SOLID ROCK EXCAVATION	15.000	CY	$47.39688	$710.95
0008	203.28	EXCAVATION OF SURFACES AND PAVEMENTS	210.000	CY	$20.08210	$4,217.24
0009	204.20	TRENCH EXCAVATION OF EARTH	117.000	CY	$25.00000	$2,925.00
0010	210.10	COLD PLANING, BITUMINOUS PAVEMENT	2,300.000	SY	$7.37228	$16,956.24
0011	301.35	SUBBASE OF DENSE GRADED CRUSHED STONE	615.000	CY	$35.00000	$21,525.00
0012	404.65	EMULSIFIED ASPHALT	32.000	CWT	$74.00000	$2,368.00
0013	406.25	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	770.000	TON	$150.00000	$115,500.00
0014	406.50	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	1.000	LU	$1.00000	$1.00
0015	601.2610	15" CPEP(SL)	80.000	LF	$30.00000	$2,400.00
0016	601.2615	18" CPEP(SL)	40.000	LF	$57.95975	$2,318.39
0017	604.18	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	3.000	EACH	$2,680.64692	$8,041.94
0018	609.10	DUST CONTROL WITH WATER	150.000	MGAL	$23.54806	$3,532.21
0019	616.20	GRANITE SLOPE EDGING	145.000	LF	$35.25118	$5,111.42
0020	616.21	VERTICAL GRANITE CURB	1,020.000	LF	$35.00000	$35,700.00
0021	616.40	REMOVING AND RESETTING CURB	280.000	LF	$40.66844	$11,387.16
0022	616.41	REMOVAL OF EXISTING CURB	480.000	LF	$8.60163	$4,128.78
0023	618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	370.000	SY	$50.00000	$18,500.00
0024	618.30	DETECTABLE WARNING SURFACE	73.000	SF	$16.00000	$1,168.00
0025	630.10	UNIFORMED TRAFFIC OFFICERS	150.000	HR	$74.44906	$11,167.36
0026	630.15		800.000	HR	$24.61487	$19,691.90

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
	FLAGGERS				
0027	635.11 MOBILIZATION/DEMOBILIZATION	1.000	LS	$46,446.02800	$46,446.03
0028	641.10 TRAFFIC CONTROL	1.000	LS	$40,000.00000	$40,000.00
0029	646.400 DURABLE 4 INCH WHITE LINE	1,500.000	LF	$3.20030	$4,800.45
0030	646.410 DURABLE 4 INCH YELLOW LINE	1,600.000	LF	$1.47061	$2,352.98
0031	646.480 DURABLE 24 INCH STOP BAR	90.000	LF	$8.89784	$800.81
0032	646.490 DURABLE LETTER OR SYMBOL	16.000	EACH	$60.00000	$960.00
0033	646.500 DURABLE CROSSWALK MARKING	190.000	LF	$10.00000	$1,900.00
0034	651.35 TOPSOIL	210.000	CY	$60.00000	$12,600.00
0035	653.55 PROJECT DEMARCATION FENCE	700.000	LF	$0.98564	$689.95
0036	675.61 SETTING SALVAGED POSTS	1.000	EACH	$117.83322	$117.83
0037	675.20 TRAFFIC SIGNS, TYPE A	26.000	SF	$12.65624	$329.06
0038	675.341 SQUARE TUBE SIGN POST AND ANCHOR	230.000	LF	$7.44024	$1,711.26
0039	675.50 REMOVING SIGNS	61.000	EACH	$8.04162	$490.54
0040	675.60 ERECTING SALVAGED SIGNS	47.000	EACH	$9.87799	$464.27
0041	900.645 SPECIAL PROVISION (RELOCATE TOWN MONUMENT)	1.000	LS	$5,000.00000	$5,000.00

MOVE ITEMS 651.35 AND 653.55 TO EROSION CONTROL CATEGORY

Total for Group 1011:$422,813.77

Group 1051: EROSION CONTROL

0042	649.51 GEOTEXTILE FOR SILT FENCE	260.000	SY	$8.55186	$2,223.48
0043	651.15 SEED	55.000	LB	$12.85918	$707.25
0044	651.18 FERTILIZER	430.000	LB	$6.88563	$2,960.82
0045	651.20 AGRICULTURAL LIMESTONE	2.000	TON	$670.31428	$1,340.63
0046	651.25 HAY MULCH	2.000	TON	$948.93268	$1,897.87

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
0047	653.35 VEHICLE TRACKING PAD	15.000	CY	$47.17910	$707.69
0048	653.41 INLET PROTECTION DEVICE, TYPE II	5.000	EACH	$165.00000	$825.00

Total for Group 1051:$10,662.74

Group 1999: FULL C.E. ITEMS

0049	631.10 FIELD OFFICE, ENGINEERS	1.000	LS	$12,000.00000	$12,000.00
0050	631.16 TESTING EQUIPMENT, CONCRETE	1.000	LS	$750.00000	$750.00
0051	631.17 TESTING EQUIPMENT, BITUMINOUS	0.000	LS	$750.00000	$0.00
0052	631.26 FIELD OFFICE TELEPHONE (N.A.B.I.)	3,000.000	DL	$1.00000	$3,000.00

1

Total for Group 1999:$15,750.00

Group 2011: CONSTRUCTION AD-ALTERNATE

ITEMS FOR THE ADDITIONAL WORK PROPOSED ON SOUTHBOUND SIDE OF US 5 / VT ROUTE 12 FROM THE INTERSECTION SOUTH TO LIBRARY ROAD

0053	203.15 COMMON EXCAVATION	215.000	CY	$13.00000	$2,795.00
0054	204.20 TRENCH EXCAVATION OF EARTH	112.000	CY	$25.00000	$2,800.00
0055	301.35 SUBBASE OF DENSE GRADED CRUSHED STONE	165.000	CY	$35.00000	$5,775.00
0056	404.65 EMULSIFIED ASPHALT	2.000	CWT	$74.00000	$148.00
0057	406.25 BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	65.000	TON	$150.00000	$9,750.00
0058	601.2610 15" CPEP(SL)	70.000	LF	$30.00000	$2,100.00
0059	604.18 PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	1.000	EACH	$3,638.87857	$3,638.88
0060	604.21 PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	1.000	EACH	$4,335.85200	$4,335.85
0061	616.21 VERTICAL GRANITE CURB	275.000	LF	$35.00000	$9,625.00
0062	618.10 PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	150.000	SY	$50.00000	$7,500.00
0063	618.11 PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH	76.000	SY	$84.10567	$6,392.03
0064	618.30 DETECTABLE WARNING SURFACE	12.000	SF	$16.00000	$192.00

Line #	Item Number / Description / *Supplemental Description*	Quantity	Units	Unit Price	Extension
0065	621.80 REMOVAL AND DISPOSAL OF GUARDRAIL	65.000	LF	$0.75369	$48.99
0066	646.500 DURABLE CROSSWALK MARKING	30.000	LF	$10.00000	$300.00
0067	653.41 INLET PROTECTION DEVICE, TYPE II	1.000	EACH	$165.00000	$165.00
0068	651.35 TOPSOIL	20.000	CY	$60.00000	$1,200.00
0069	900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	75.000	SY	$75.00000 ← Update $40.00	$5,625.00

Total for Group 2011:$62,390.75

BID DOCUMENTS AND TECHNICAL SPECIFICATIONS

HARTLAND 3 CORNERS

TOWN OF HARTLAND

COUNTY OF WINDSOR

PREPARED FOR

THE TOWN OF HARTLAND
1 QUECHEE ROAD
HARTLAND, VT 05048

June 1, 2017

Table of Contents

INVITATION TO BID

Sealed bids from pre-qualified contractors shall be accepted until **12:00 pm**, prevailing time on **Tuesday April 25, 2017** at Damon Hall, 1 Quechee Road, Hartland, VT 05048, for construction of the project hereinafter described. Bid 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: **HARTLAND 3 CORNERS**

Each BID must be accompanied by a certified check payable to the Town of Hartland (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(ies) Roads and Highway Construction 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 802-828-2643.

LOCATION: The project is located at the intersection of VT Route 12 / US Route 5 and Quechee Road in Hartland, VT.

TYPE OF CONSTRUCTION: Work to be performed under this project the realignment of the intersection, new surface pavement, new sidewalk, new drainage, striping, signage, landscaping, and other incidental items needed for construction.

CONTRACT COMPLETION DATE: The Contract shall be substantially complete on or before November 15, 2017.

OBTAINING PLANS: A copy of the CONTRACT DOCUMENTS and PLANS may be examined after 10:00 am on 6/30/2017 at the Town Clerk's office, Hartland, VT 05048. Plans and contract documents may be obtained from VHB by contacting Jeanne Willson (contact information provided below).

Hard copies (11"x17" Plans / 8.5"x11" contract documents) may be purchased for $100.00 per set. Electronic (PDF) copies may be obtained at no cost. Prospective bidders must formally request contract documents and will be included on the list of contractors taking out plans. This list shall be used to distribute addendums or toehr pertinent information as needed.

Plan and Contact Document Requests:
VHB
Jeanne Wilson
40 IDX Drive, Building 100
Suite 200
South Burlington, VT 05403
Email: jwilson@vhb.com

Questions (via email only) Due:
May 4, 2017 @ 5:00 PM
Bob Stacey, Town Manager
1 Quechee Road
Hartland, VT 05048
Email: bstacey@hartlandvt.org
With subject line "Hartland 3 Corners"

PREBID CONFERENCE: A non-mandatory pre-bid conference will be held for the project on **Tuesday April 11, 2017 at 1:00 pm** in Damon Hall, 1 Quechee Road, Hartland, VT 05048.

STANDARD SPECIFICATIONS: This contract is governed by the Vermont Agency of Transportation ("VTrans") 2011 Standard Specifications for Construction.

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).

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. All subcontractors for bidder must also submit this affidavit before commencement of their portion of work.

NON-DISCRIMINATION IN FEDERALLY ASSISTED CONTRACTS: The Hartland, VT 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. Bidder will also ensure that all subcontractors abide by the Davis Bacon Wage Rate Schedule. Bidder and subcontractors must submit timely records of wages paid to workers and submit to periodic interviews of workers concerning their wages.

BUY AMERICA REQUIREMENTS: Buy America requirements of 23 CFR 635.410 are not applicable, but are encouraged.

INSTRUCTIONS TO BIDDERS
HARTLAND 3 CORNERS

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.

This is not an MAB project.

k. Electronic Bids are not permitted for Municipal Assistance Bureau Projects at this time.

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) 828 2643. Please note that applications for pre-qualification must be made at least 10 working days prior to the bid opening.

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”) 2011 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 schedule of items for a contract contains one or more pay items which have a quantity of one (1) and a unit price and total price entered, the Municipality has set a unit price in the event that such item is used. If such item is determined to be needed by the Engineer, the work will be performed by the contractor according to the contract documents at the unit price listed.

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, proposal, specifications, and/or contract documents immediately upon discovery of such error or inconsistency.

b. 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 found in the plans, proposal, 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, proposal, 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 proposal 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

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 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 Hartland Select Board. Such notice shall be provided: (a) no earlier than the day of Town of Hartland issuance of the Notice of Award; and (b) no later than five (5) business days after Town of Hartland 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 Hartland Select Board, 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 Hartland Select Board 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 Hartland Select Board concludes that the Bidder submitting the protest has established a basis for protest, the Hartland Select Board 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 Proposals

a. The Municipality may declare a Proposal “Informal” and hence rejected if the proposal shows any alteration of form, omissions or additions not called for in the proposal, lacks proper signatures, is a conditional bid, has alternate bids unless required in the proposal, has irregularities of any kind, has changes to the printed 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 proposal at the time of bid opening or following analysis to confirm the proposal.

c. The Municipality may reject any or all proposals, waive any or all technicalities, and/or advertise for new proposals if the municipality, in consultation with VTrans, determines that the best interests of the Municipality, or the awarding authority, will be served.

d. The Municipality will reject a proposal submitted without a completed Debarment and Non-Collusion Affidavit.

e. The Municipality will reject a proposal submitted without a signed Contractors Equal Employment Certification Form.

f. The Municipality will reject a proposal submitted without a Bid Bond.

g. 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.

h. 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. Proposals 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.

i. 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 proposals will be considered and submitted bids confirmed on the basis of the summation of the products of the quantities shown in each proposal'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 proposals if the municipality 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. Proposal guarantees of the two lowest bidders that have submitted proposals 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 proposals 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 proposal shall provide the Town and the State of Vermont 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 with the State of Vermont named as an additional issued on the bond, 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 the Municipality within 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 proposal 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 proposal that complies with all the provisions required to make it formal, the

proposal guaranty accompanying the proposal 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 proposal 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 2011 Standard Specifications for Construction.. For this project the following limits for Commercial Liability and Automobile coverage apply:

Commercial Liability:

$2,000,000	Per Occurrence
$2,000,000	General Aggregate applying, in total, to this project only
$2,000,000	Products/completed Operations Aggregate
$50,000	Fire Damage Legal Liability

Automobile Liability:

Bodily Injury	$1,000,000	Each Person
	$1,000,000	Each Occurrence
Property Damage	$1,000,000	Each Occurrence
	OR	
Combined Single Limit	$1,000,000	Each Occurrence

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

No federal funds involved, so I'm not sure this is applicable?

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, 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 Design Consultant 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, 2011 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 Engineer. 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://vtransengineering.vermont.gov/sections/environmental/off_site_activity**

20. DBE Requirements

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

21. Contaminated Soils

a. If contaminated soils are encountered during the course of construction, the Contractor is directed to immediately notify the Engineer and to contact: Mr. Andy Shively, Hazardous Material and Waste Coordinator, of the Vermont Agency of Transportation at (802) 229-8740.

22. Contract Documents

The following documents are included in this proposal and are effective for this contract. Proposal holders are reminded to check the contents of this proposal against the following index. In the event that you suspect or determine the proposal is incomplete, notify Mr. Bob Stacey, Town of Hartland, PO Box 349, Hartland, VT 05048, bstacey@hartlandvt.org, Ph☹802)436-2119

- Invitation for Bids
- Instruction to Bidders
- Bid Proposal Form
- Special Provisions
- VTrans 2011 Standard Specifications for Construction
- Contractors EEO Certification Form CA-109 – **Appendix A**
- Debarment & Non-Collusion Affidavit CA-91 – **Appendix B**
- Vermont Minimum Labor & Truck Rates – **Appendix C**
- Vermont Agency of Transportation Contractor Workforce Reporting Requirements CA-26A – **Appendix D**
- Vermont Agency of Transportation General Special Provisions for All Projects dated October 12, 2016 – **Appendix E**.
- Example Performance and Payment Bond Forms – **Appendix F**
- Project Change Order Form – **Appendix G**
- Work Zone Safety and Mobility Guidance Document – **Appendix H**
- US Department of Labor Davis-Bacon Rates - **Appendix I**
- Right of Way, Utility, and Design Clearance – **Appendix J**
- Examples: Notice of Award, Notice to Proceed, Agreement, Certificate of Substantial Completion, Contractor Release, Certificate of Final Completion of Work – **Appendix K**

BID FORM
HARTLAND 3 CORNERS

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 Hartland, VT (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 signed or the Bid itself will be invalid:

- Contractors EEO Certification Form CA-109 – Appendix A
- Debarment & Non-Collusion Affidavit CA-91 – Appendix B

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.

Bidder hereby agrees to commence Work under this contract on the date of issuance of the Notice to Proceed and that the Substantial Completion date for this contract is **November 15, 2017**.

Bidder acknowledges receipt of the following Addenda (if any):____

_____
(Authorized Contractor signature)

ITEM NUMBER	ITEM DESCRIPTION	UNIT	UNIT PRICE	EST. QTY	TOTAL PRICE
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	$	1	$
	Unit Price in Words:				
203.15	COMMON EXCAVATION	CY	$	1100	$
	Unit Price in Words:				
203.16	SOLID ROCK EXCAVATION	CY	$	15	$
	Unit Price in Words:				
203.28	EXCAVATION OF SURFACES AND PAVEMENTS	CY	$	210	$
	Unit Price in Words:				
204.20	TRENCH EXCAVATION OF EARTH	CY	$	117	$
	Unit Price in Words:				
210.10	COLD PLANING, BITUMINOUS PAVEMENT	SY	$	2300	$
	Unit Price in Words:				
301.35	SUBBASE OF DENSE GRADED CRUSHED STONE	CY	$	615	$
	Unit Price in Words:				
404.65	EMULSIFIED ASPHALT	CWT	$	32	$
	Unit Price in Words:				
406.25	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	TON	$	770	$
	Unit Price in Words:				

ITEM NUMBER	ITEM DESCRIPTION	UNIT	UNIT PRICE	EST. QTY	TOTAL PRICE
406.50	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	LU	$1.00	1	**$1.00**
	Unit Price in Words: **ONE DOLLAR AND NO CENTS**				
601.2610	15" CPEP(SL)	LF	$	80	$
	Unit Price in Words:				
601.2615	18" CPEP(SL)	LF	$	40	$
	Unit Price in Words:				
604.18	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	EACH	$	3	$
	Unit Price in Words:				
609.10	DUST CONTROL WITH WATER	MGAL	$	150	$
	Unit Price in Words:				
616.20	GRANITE SLOPE EDGING	LF	$	145	$
	Unit Price in Words:				
616.21	VERTICAL GRANITE CURB	LF	$	1020	$
	Unit Price in Words:				
616.40	REMOVING AND RESETTING CURB	LF	$	280	$
	Unit Price in Words:				
616.41	REMOVAL OF EXISTING CURB	LF	$	480	$
	Unit Price in Words:				

ITEM NUMBER	ITEM DESCRIPTION	UNIT	UNIT PRICE	EST. QTY	TOTAL PRICE
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	$	370	$
	Unit Price in Words:				
618.30	DETECTABLE WARNING SURFACE	SF	$	73	$
	Unit Price in Words:				
630.10	UNIFORMED TRAFFIC OFFICERS	HR	$	150	$
	Unit Price in Words:				
630.15	FLAGGERS	HR	$	800	$
	Unit Price in Words:				
635.11	MOBILIZATION/DEMOBILIZATION	LS	$	1	$
	Unit Price in Words:				
641.10	TRAFFIC CONTROL	LS	$	1	$
	Unit Price in Words:				
646.400	DURABLE 4 INCH WHITE LINE	LF	$	1500	$
	Unit Price in Words:				
646.410	DURABLE 4 INCH YELLOW LINE	LF	$	1600	$
	Unit Price in Words:				
646.480	DURABLE 24 INCH STOP BAR	LF	$	90	$
	Unit Price in Words:				

ITEM NUMBER	ITEM DESCRIPTION	UNIT	UNIT PRICE	EST. QTY	TOTAL PRICE
646.490	DURABLE LETTER OR SYMBOL	EACH	$	16	$
	Unit Price in Words:				
646.500	DURABLE CROSSWALK MARKING	LF	$	190	$
	Unit Price in Words:				
651.35	TOPSOIL	CY	$	210	$
	Unit Price in Words:				
653.55	PROJECT DEMARCATION FENCE	LF	$	700	$
	Unit Price in Words:				
675.20	TRAFFIC SIGNS, TYPE A	SF	$	26	$
	Unit Price in Words:				
675.341	SQUARE TUBE SIGN POST AND ANCHOR	LF	$	230	$
	Unit Price in Words:				
675.50	REMOVING SIGNS	EACH	$	61	$
	Unit Price in Words:				
675.60	ERECTING SALVAGED SIGNS	EACH	$	47	$
	Unit Price in Words:				
675.61	SETTING SALVAGED POSTS	EACH	$	1	$
	Unit Price in Words:				

ITEM NUMBER	ITEM DESCRIPTION	UNIT	UNIT PRICE	EST. QTY	TOTAL PRICE
900.645	SPECIAL PROVISION (RELOCATE TOWN MONUMENT)	LS	$	1	$
	Unit Price in Words:				

TOTAL BASE BID: $ _____

TOTAL BASE BID WRITTEN: _____

The above unit prices shall include all labor, materials, removal, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for on the drawings and specifications. We hereby certify that we did not enter any agreement, participate in any collusion, or otherwise take any action in restraint of free competitive bidding.

The lowest responsive bidder will be determined by the Total Base Bid.

BID ALTERNATE

The following bid alternate items are for the additional curb and sidewalk work on US Route 5 / VT Route 12 south of the intersection as shown in the Plans and Contract Documents. The Contractor shall not do this work unless written authorization is received from the Town of Hartland.

HARTLAND 3 CORNERS 5/31/2017

Item Number	Item Description	Unit	Unit Price	Amount	Total Price
203.15	COMMON EXCAVATION	CY	$	215	$
	Unit Price in Words:				
204.20	TRENCH EXCAVATION OF EARTH	CY	$	112	$
	Unit Price in Words:				
301.35	SUBBASE OF DENSE GRADED CRUSHED STONE	CY	$	165	$
	Unit Price in Words:				
404.65	EMULSIFIED ASPHALT	CWT	$	2	$
	Unit Price in Words:				
406.25	BITUMINOUS CONCRETE PAVEMENT	TON	$	65	$
	Unit Price in Words:				
601.2610	15" CPEP(SL)	LF	$	70	$
	Unit Price in Words:				
604.18	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	EACH	$	1	$
	Unit Price in Words:				
604.21	PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER	EACH	$	1	$
	Unit Price in Words:				
616.21	VERTICAL GRANITE CURB	LF	$	275	$
	Unit Price in Words:				

HARTLAND 3 CORNERS 5/31/2017

Item Number	Item Description	Unit	Unit Price	Amount	Total Price
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	$	150	$
	Unit Price in Words:				
618.11	PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH	SY	$	76	$
	Unit Price in Words:				
618.30	DETECTABLE WARNING SURFACE	SF	$	12	$
	Unit Price in Words:				
621.80	REMOVAL AND DISPOSAL OF GUARDRAIL	LF	$	65	$
	Unit Price in Words:				
646.500	DURABLE CROSSWALK MARKING	LF	$	30	$
	Unit Price in Words:				
651.35	TOPSOIL	CY	$	20	$
	Unit Price in Words:				
653.41	INLET PROTECTION DEVICE, TYPE II	EACH	$	1	$
	Unit Price in Words:				
900.675	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	SY	$	75	$
	Unit Price in Words:				

TOTAL BASE BID WITH BID ALTERNATE: $ _____

TOTAL BASE BID WITH BID ALTERNATE WRITTEN: _____

_____

THE ABOVE PROPOSAL IS HEREBY RESPECTFULLY SUBMITTED BY:

_____

CONTRACTOR

_____

BY

_____

TITLE

_____

BUSINESS ADDRESS

_____

CITY **STATE** **ZIP**

_____

DATE

_____

ATTEST

LS = LUMP SUM
EA = EACH
SY = SQUARE YARD
SF = SQUARE FOOT
CWT = HUNDRED WEIGHT
GAL = US GALLON
HR = HOUR

LU = LUMP UNIT
CY = CUBIC YARD
LF = LINEAR FOOT
TON = US TON
MGAL = THOUSAND GALLONS
LB = US POUND

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**.**

STANDARD SPECIFICATIONS. The provisions of the most current VTrans STANDARD SPECIFICATIONS FOR CONSTRUCTION, as modified herein, shall apply to this Contract.

CONTRACT COMPLETION DATE. The Contract shall be substantially complete on or before **November 15, 2017**.

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.

Current utility contact information is provided as follows, and Contractor may maintain additional and/or more up to date contact information as needed.

Town of Hartland
Bob Stacey
(802) 436-2113
bstacey@hartlandvt.org

Green Mountain Power
Dan Austin
dan.austin@greenmountainpower.com

First Light
802-460-9116

Comcast
Timothy Dent
Timothy_dent@cable.comcast.com
Dan Dezafra
Dan_dezafra@comcast.com

The Contractor is advised to use caution while working around underground utility lines. **The contractor is also advised that temporary shoring and support of underground utilities may be required when performing trench excavations so as to prevent damage to these utilities.**

Employees or agents of those owning aerial or underground facilities 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 the owners of these utility facilities.

The Contractor is advised that exploratory excavation to locate existing underground facilities will be necessary to protect these facilities from damage. Where approved by the Engineer, these utilities shall be located and/or exposed by methods such as air/vacuum excavation and/or hand digging to determine their exact location. This exploratory work shall be classified as Trench Excavation of Earth, Exploratory and payment will be made under Contract item 204.22.

If gas line relocations are necessary the Contractor shall accommodate the gas company needs with respect to excavation and backfill for the existing and relocated gas lines. This work shall be paid under the respective contract items for trench excavation and backfill.

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. All temporary construction signs shall meet the following requirements:

A. All sign stands and post installation shall be National Cooperative Highway Research Program Report (NCHRP) 350 compliant.

B. As a minimum, roll up sign material shall have ASTM D 4956-01 Type VI fluorescent orange retroreflective sheeting.

C. All post-mounted signs and solid substrate portable signs shall have ASTM D 4956-01 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 Type III sheeting.

E. All stationary signs shall be mounted on two 3 lb/ft flanged channel posts or 2 inch square steel inserted in 2 ¼" galvanized square steel anchors. No sign posts shall extend over the top edge of sign installed on said posts.

F. Prior to placing temporary work zone signs on the project, the Contractor must furnish for the Engineer's approval a detail for temporary work zone signs on steel posts showing stubs projecting a maximum of 4 inches above ground level and bolts for sign post.

G. 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.

H. Speed zones, if used, should be a maximum of 10 mph below existing posted speeds. Temporary speed limit certificates must be approved by the Hartland Select Board.

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.

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 roadway.

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.

NOTICE TO BIDDERS – VTRANS 1111 PERMIT. A majority of the work required will be within State jurisdictional right-of-way. As such, the Vermont Agency of Transportation has issued a conditional 19 V.S.A. §1111 Permit for this project. The Contractor shall be required to be co-applicant with the Town of Hartland on the final issued permit application. The co-signed application shall be submitted to VTrans prior to the start of construction.

Additionally, as a condition of the VTrans 1111 permit, the Vermont Agency of Transportation is requiring a certificate of insurance for work undertaken on their State highways. A copy of the conditions will be contained in the permit, with the minimums below required:

> *Independence; Liability: The Permit Holder will act in an independent capacity and not as officers or employees of the State.*
>
> *The Permit Holder shall defend the State and its officers and employees against all claims or suits arising in whole or in part from any act or omission of the Permit Holder or of any agent of the Permit Holder. The State shall notify the Permit Holder in the event of any such claim or suit, and the Permit Holder shall immediately retain counsel and otherwise provide a complete defense against the entire claim or suit.*
>
> *After a final judgement or settlement, the Permit Holder may request recoupment of specific defense costs and may file suit in the Washington Superior Court requesting recoupment. The Permit Holder shall be entitled to recoup costs only upon showing that such costs were entirely unrelated to the defense of any claim arising from an act or omission of the Permit Holder.*
>
> *The Permit Holder shall indemnify the State and its officers and employees in the event that the State, its officers or employees become legally obligated to pay any damages or losses arising from any act or omission of the Permit Holder.*

Workers' Compensation: With respect to all operations performed under the Permit, the Permit Holder shall carry workers' compensation insurance in accordance with the laws of the State of Vermont.

General Liability and Property Damage: With respect to all operations performed under the Permit, the Permit Holder shall carry general liability insurance having all major divisions of coverage including, but not limited to:

Premises - Operations

Products and Completed Operations

Personal Injury Liability

Contractual Liability

The policy shall be on an occurrence form and limits shall not be less than:

$2,000,000 Per Occurrence

$2,000,000 General Aggregate

$2,000,000 Products/Completed Operations Aggregate

$ 50,000 Fire/Legal Liability

Permit Holder shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Permit.

Automotive Liability: The Permit Holder shall carry automotive liability insurance covering all motor vehicles, including hired and non-owned coverage, used in connection with the Permit. Limits of coverage shall not be less than: $1,000,000 combined single limit.

Permit Holder shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Permit.

NOTICE TO BIDDERS – ROADWAY LIGHTING. The Contractor shall provide continuous adequate roadway lighting within the project limits to at least the existing illumination levels for the duration of the project, including adequate temporary street lighting during the changeover from the existing to the new street lighting systems. The Contractor shall coordinate with Green Mountain Power (GMP) if using any functional existing utility poles during a phased electrification of the existing and proposed lights to provide the required

continuous lighting. Maintaining adequate lighting during the project will be considered incidental to the work under the Contract.

NOTICE TO BIDDERS – DEWATERING FOR DRAINAGE WORK. Dewatering for installing new drainage facilities, if required, shall be incidental to the respective drainage items.

NOTICE TO BIDDERS – REQUIREMENTS FOR NIGHTTIME WORK. Upon approval from the State of Vermont, the Contractor is hereby notified that all final (surface course) paving operations that take place in 2017 may be performed at night at the same contract unit prices as daytime work.

In order to minimize daytime traffic disruptions, night work or restricted work durations may be required for certain disruptive work, including underground utility installations across the roadway and other work that will cause constrained travel ways.

If traffic delays exceed 15 minutes through the work zones due to the Contractor's operations, the Engineer may suspend daytime work and the operations shall be completed during nighttime work hours at the standard daytime contract prices.

For the purposes of this Contract, "night" shall mean from the hours of 8:00 p.m. until 7:00 a.m. of the following day. Any deviation from these hours of operation must be approved in advance by the Engineer. With prior approval of the Engineer, night work may be performed on Sunday nights.

The Contractor is required to maintain two-way traffic on US Rotue 5 and VT Route 12 during non-nighttime hours from 6:00 a.m. to 8:00 p.m. except where one-way traffic is called for in the VTrans approved traffic control plans and as allowed by the Engineer.

Night work shall be performed in accordance with the National Cooperative Highway Research Program (NCHRP) Report 476 – "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance and Construction". A copy of this guideline specification may be downloaded from the following website: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_476.pdf.

Prior to beginning night work, the Contractor shall design a lighting system and present it to the Engineer for approval. The Contractor shall not perform any night work or activities within the project limits until the lighting system has been fully approved and is in place on the project.

The designed lighting system shall be mobile, shall be mounted separately from other construction equipment, shall illuminate the entire work area to daylight intensity with minimal glare, and shall be a surrounding design that minimizes shadows in the work area as much as possible. The locations at which Flaggers and/or Uniformed Traffic Officers are

stationed, whether within, on the edge of, or outside of the work area, shall be separately illuminated to the same intensity, minimal glare, and minimal shadow requirements as the work area.

All costs associated with the lighting system will be considered incidental to Contract item 641.10 – Traffic Control.

NOTICE TO BIDDERS – TRAFFIC CONTROL. Uniform traffic officers, flaggers and portable message signs will be required for this project. A Traffic Control Plan (including phasing) shall be submitted to the Vermont Agency of Transportation, the Engineer and the Town for approval prior to the Contractor beginning construction. The Contractor shall allow a minimum of two (2) weeks for review and comment prior to beginning construction.

Uniform officers may be used to control traffic movement thru the intersection whenever lanes and/or traffic movement restrictions are employed. Portable message signs will be required on approaches to roadways where lane or movement restrictions will be used.

SPECIAL CONSTRUCTION REQUIREMENTS.

A. Standard Hours of Operation for this project shall be **7:00 a.m. through 8:00 p.m., Monday through Friday**. (Equipment shall not start prior to 7:00 a.m)

Unless otherwise permitted in writing by the Engineer, The Contractor shall not work during the holiday periods for Memorial Day, July Fourth and Labor Day. The Engineer shall give a written order designating the time of observance of these holidays and of any additional holidays required by the season, anticipated traffic, and local custom.

Designated holiday periods shall begin at 12:00 noon on the day before the weekend or holiday, whichever applies, and shall end at 7:00 a.m. on the day after the holiday or the weekend, as appropriate.

In addition, the Contractor is hereby notified that the Town of Hartland may have special events throughout the year that may require suspending work or limiting work so as not to interfere with the events. The Town will advise the Engineer and Contractor of the specifics of each event and the Engineer will direct the Contractor on what actions, if any, are necessary on its part to minimize impacts to the event. This Notice constitutes adequate warning of potential suspension of construction activities due to the events and Contractor's project schedule shall consider such potential, and special events shall therefore not constitute cause for claims of delay.

B. The Contractor shall maintain a minimum of two-way traffic through the project at all times except during approved traffic control phases that include one-way traffic.

The Contractor shall coordinate with businesses to schedule access for their delivery vehicles in active work zones. To the extent possible, the Contractor shall minimize the amount of on street parking disrupted at any one time, depending on the available width and extents of the ongoing construction during each phase.

C. The Contractor shall maintain a safe access to all commercial drives during business hours and intersecting side roads at all times during the construction of this project with the exception of unavoidable short duration (less than 8 hours) closures for work directly in front of the entrances.

D. Private drive access shall be maintained at all times unless approved prior by the Engineer. Surface of private drives and aprons shall be maintained such that access is smooth and flat at the end of each day free of potholes and drop-offs.

E. If erodible surfaces are left as primary surface that surface shall be maintained such that it is free of pot holes and dust control measures are implemented.

F. Pavement drop-offs at the end of driveway aprons and side road approaches shall be backfilled the same working day as the apron is placed using either the aggregate materials designated for shoulders and/or road surfaces or shall have additional bituminous concrete pavement placed to provide a smooth transition from the new pavement to the existing surface beyond the apron.

E. The Contractor shall position Portable Changeable Message Signs at locations determined by the Engineer properly warning motorists of the roadway conditions ahead. As directed by the Engineer, these locations may change during construction as needs arise based on daily work activities. The message to be displayed shall be submitted to the Engineer in advance for approval. The displayed message should accurately reflect what motorists can expect to encounter through the project area. The cost of providing the Portable Changeable Message Signs shall be paid for under Contract item 641.15. The Contractor shall also install and maintain appropriate construction signing warning the traveling public of the expected roadway conditions.

F. Damage by the Contractor’s equipment, including tracked or wheeled vehicles, to new or existing pavement areas to remain shall be repaired by the Contractor by resurfacing the pavement to the satisfaction of the Engineer at no additional cost to the Town.

G. Unless otherwise directed by the Engineer, the Contractor shall begin and end the wearing course of pavement for the project with a full depth butt joint constructed as directed by the Engineer. The costs of cutting the butt joint will

not be paid for directly, but will be considered incidental to Contract item 210.10.

H. Except as directed by the Engineer, all work outside the paved portion of the roadways, including excavation, pipe extensions, grading, filling, curbing, sidewalks, trees, lights, sign installation, guardrail construction, topsoil, and turf establishment shall be completed prior to placing the wearing course of pavement.

I. Where possible, a 50 mm (2 inch) space should be maintained between all final pavement markings and parallel joints in bituminous concrete pavement. The Contractor shall conduct paving operations such that the paving joint between the travel lane and adjacent shoulder will be outside of the 100 mm (4 inch) white line.

J. At the end of each day's work, all excavated pavement shoulder areas adjacent to travel ways that will be open to traffic shall be backfilled up to and level with the existing edge of pavement with properly compacted shoulder roadway base materials as directed by the Engineer, or alternately protected as detailed on Standard Drawing T-35. The Contractor may alternatively utilize steel plates to temporarily cover trench excavations rather than backfilling at the end of each day. The Contractor assumes all responsibility for providing plates of adequate size and strength to completely and safely cover exposed excavations, and shall take measures to ensure that the plates do not move under traffic. Excavations in paved roadway areas and drive accesses that are open to traffic shall be paved smooth within 48 hours of backfilling and in all cases before opening to weekend or holiday traffic. Excavations in sidewalk areas shall be backfilled up to a smooth and stable surface prior to allowing pedestrian traffic on them, and shall be paved with temporary pavement within 48 hours of backfilling.

K. Two-way radios shall be provided by the Contractor when requested by the Engineer for use by traffic control personnel, and the Contractor shall provide the Engineer two additional two-way radios for the duration of the project. All costs for furnishing and using two-way radios will not be paid for directly, but will be considered incidental to Contract item 641.10.

L. The Contractor shall have available on the project the current editions of the Manual on Uniform Traffic Control Devices (MUTCD) and the Standard Highway Signs (SHS) Book. Information for obtaining these publications may be found at: http://mutcd.fhwa.dot.gov/index.htm.

M. The Contractor shall make provisions to allow oversized vehicles through the work zones where possible and when provided 24-hour advance notice.

N. The Contractor shall at all times make provisions for emergency vehicles to access the work zones, and shall also allow delivery vehicles to make deliveries to businesses within the work zones, where possible and where delivery trucks will not obstruct emergency or local vehicle access. The Contractor shall meet with abutting businesses to coordinate their delivery schedules (if any) with the construction operations within the lane closure zones to allow deliveries while minimizing disruption to the construction.

O. The Contractor shall minimize unnecessary obstructions to on-street parking along, especially outside the work zones, where construction is not taking place. The Contractor shall not park employee vehicles or construction vehicles in on-street parking spaces that are outside of the defined work zones. The Contractor may park construction vehicles and equipment within the work zones during non-work hours at its own risk.

P. The Contractor shall coordinate with the Town of Hartland, VT for the use of Town owned land near the project that will be made available for the Contractor to use for staging, construction trailer and mobilization purposes.

SECTION 101 – DEFINITIONS

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

ACTUAL COMPLETION DATE – Date noted in the Completion and Acceptance memorandum on which designated responsible Municipal personnel have reviewed the project and determined that all Contract work is complete and all Contract requirements have been met, generally considered to be the last day the Contractor performed physical work on any contract item.

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 Hartland, VT, 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.

CHIEF OF CONTRACT ADMINISTRATION – Wherever the term Chief of Contract administration appears on the plans, in any specification, or in the contract, it shall be read as, and shall mean, the Local Project Manager.

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 Local Project Manager and/or Full Time Employee in Responsible Charge.

COMPLETION – Completion of the project occurs when the Contractor has completed all work required by the Contract and has satisfactorily executed and delivered to the Engineer all documents, certificates and proofs of compliance required by the contract. (Also see Substantial Completion)

CONTRACT – The written agreement between the Municipality and a contractor setting out the obligations of the parties to the contract for the performance of the work described therein.

CONTRACT BOND(S) – The approved forms of security signed and furnished by the contractor and the contractor's surety or sureties, guaranteeing signatures on the contract, performance of and compliance with the contract, and the payment of all legal debts pertaining to the construction of the contracted project.

CONTRACTOR(S) – An entity that has Annual Prequalification status and/or an entity that has a contract with the Municipality to perform construction work, including but not limited to an individual, partnership, firm, organization, association, corporation, or joint venture; a representative, trustee, or receiver of a contractor appointed by any court of competent jurisdiction.

DIRECTOR OF PROJECT DEVELOPMENT – Wherever the terms Director of Project Development, director of Engineering and Construction, Director of Construction and Maintenance, Director, or Chief Engineer appear on the plans, in any specification, or in the Contract, they shall be read as and shall mean; the Director of the Program Development Division of the Agency of Transportation.

DIRECTOR OF PROGRAM DEVELOPMENT – Wherever the term Director of Program Development appears on the plans, in any specification, or in the contract it shall read as , and shall mean; The Director of the Program Development Division of the Agency of Transportation.

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).

FINAL ACCEPTANCE DATE – Wherever the term Final Acceptance Date appears on the plans, in any specification, or in the Contract, it shall mean the date that the Municipality signs the Final Completion Certificate.

GENERAL SPECIAL PROVISIONS – Approved additions and revisions to the Standard Specifications for Construction.

MATERIALS AND RESEARCH ENGINEER – Whenever the term Materials and Research Engineer appears on the plans, in any specification, or in the Contract, it shall be read as, and shall mean; the Resident Engineer.

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 Resident Engineer **OR** other municipally appointed representative who is acting on behalf of the municipality responsible for administering and overseeing the construction contract.

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

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 Local Project Manager.

SPECIAL PROVISIONS – Additions and revisions to the Standard Specifications for Construction, Supplemental Specifications, General Special Provisions, Plans, or other documents that are part of a particular contract.

SPECIFICATIONS – The compilation of provisions and requirements for the performance of prescribed work including the Standard Specifications for Construction, Supplemental Specifications, General Special Provisions, Special Provisions, Plans, and other documents that are part of a particular contract.

STANDARD SPECIFICATIONS – 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 Hartland, VT or the Vermont Agency of Transportation.

SURETY – An individual or legal entity acceptable to the Town and the State 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 – A calendar day during which normal construction operations could proceed for a major part of the daylight hours, and specifically excluding Saturdays, Sundays, and those days of the standard work week on which holidays are celebrated.

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.

AWARD – The formal acceptance by the Municipality of a proposal.

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

BID BOND – A proposal 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 proposals for all work and/or materials on which bids are invited from prospective contractors.

LOCAL 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 Hartland, VT

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.

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.

SUBSTANTIAL COMPLETION – The contract will be considered substantially complete when all paving, curbing, sidewalks, utilities, signing, pavement markings, traffic controls, landscaping and miscellaneous items have been completed, but work may remain on minor agreed upon items and punch list items prior to final Completion and acceptance.

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.

Since VTrans has no involvement in overseeing this project, would Kevin Marshia be involved in Claims or solely the town?

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 and the cost will be incidental to the project bid. The Contractor will be responsible for the accuracy and preservation of the staking for the duration of the work.

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 Local 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 Local 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 Director of Program Development.

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

SECTION 106 – CONTROL OF MATERIAL

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

A qualified independent testing firm hired directly by the Municipality *or* indirectly by the Municipality through its Resident Engineer 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 qualified 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 for level 3.

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.

Notice to Bidders: This project shall be subject to Avoidance and Minimization Measures to protect the habitat and hibernacula of the northern long-eared bat. Measures applicable to this project include, Time-of-Year (TOY) restrictions for any potential impacts to suitable bat habitat, which include, but are not limited to trees ≥ 3” and/or habitat features on bridge structures.

The Contractor is hereby made aware of the potential for TOY restrictions related to proposed Waste, Borrow and Staging areas. Cutting trees ≥ 3” in diameter outside of the contract project limits shall require review under Section 105.25 Control of Waste, Borrow, and Staging Areas.

RELOCATE TOWN MONUMENT

DESCRIPTION. This work shall consist of removing and resetting the Town monument off Quechee Road at the location indicated in the Contract Documents and as directed by the Engineer.

MATERIALS. Concrete for the monument foundation (if deemed necessary) shall conform to the requirements of Section 541 for Concrete, Class B.

CONSTRUCTION REQUIREMENTS. The Contractor shall submit the moving procedure and bracing details to the Engineer for approval. The Contractor shall ensure the existing monument is adequately secured and protected prior to moving. The moving of the monument shall be performed slowly and with care so not to induce large structural forces.

The Contractor shall re-use all existing materials to the greatest extent possible for the resetting of the monument. The Contractor shall construct the foundation for the monument to be reset matching the size and depth of the existing foundation. The Contractor shall supply new hardware and accessories as needed for resetting and anchoring of the monument.

If the existing foundation is undamaged during removal, the Contractor may re-use it at the Engineer's discretion, provided the monument can be securely re-attached at the new location.

Any damage to the existing monument due to the carelessness or negligence of the Contractor shall be repaired at no additional cost. All repairs shall be completed in kind and shall be approved by the Engineer and the Town of Hartland.

METHOD OF MEASUREMENT. The measured quantity of Special Provision (Relocate Town Monument) to be measured for payment will be on a lump sum basis for removing the existing monument and setting it in its new location.

BASIS OF PAYMENT. The accepted quantity of Special Provision (Relocate Town Monument) will be paid for at the Contract lump sum price. Payment will be full compensation for removing the monument (and foundation as required); for transporting, bracing, handling; for providing new hardware and accessories as needed; for resetting the monument at the location indicated in the Plans or as directed by the Engineer; for performing any required excavation, foundation construction, and backfilling; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
900.675	Special Provision (Relocate Town Monument)	Lump Sum

HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES

DESCRIPTION. This work shall consist of the placement of one or more courses of bituminous concrete material by hand (non-mechanical) methods on a prepared foundation in conformance with the Plans or as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans and Section 406 or Section 490 of the Standard Specifications, as appropriate.

GENERAL. This work will include only that bituminous concrete material placed by hand methods as required at public and/or private drives measured from the outside edge of shoulder to outside limit of drive, within the project limits as identified on the Plans or as directed by the Engineer. Bituminous concrete material placed by mechanical methods at these locations is excluded.

All other bituminous materials placed within the project limits, whether by hand or mechanical methods, shall be paid under the appropriate Contract pay item for bituminous mix or as otherwise specified in the Contract Documents.

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

Subbase, RAP.....301.02
Aggregate Shoulders, RAP.....402.02
Performance-Graded Asphalt Binder.....702.02
Emulsified Asphalt.....702.04
Crushed Gravel for Subbase.....704.05
Aggregate for Surface Course and Shoulders.....704.12

Bituminous concrete material of the type specified in the Contract or as specified by the Engineer shall meet the requirements of Section 406 or Section 490, as applicable. For the purpose of this Section, bituminous concrete material to be used shall be of the type specified in the Contract or, by default, of a matching material to that adjacent material placed by mechanical methods.

CONSTRUCTION REQUIREMENTS. The existing surface and/or bed (subbase) upon which the bituminous concrete material is to be placed shall be compacted to the line, grade, and shape shown on the Plans or as directed by the Engineer. All vegetation and soft, yielding, or unsuitable material shall be excavated and replaced with properly compacted material meeting the requirements of Section 301 for Subbase of Crushed Gravel, Fine Graded. Crushed RAP generated from the project may be substituted for Subbase of Crushed Gravel, Fine Graded.

The existing edge of pavement shall be saw cut to provide a vertical edge for placing the hand-placed bituminous concrete material.

Emulsified asphalt shall be applied uniformly and completely to all vertical and horizontal surfaces to be paved. All surfaces shall be free of moisture, dust, and debris prior to applying emulsified asphalt.

If cross slope allows, as determined by the Engineer, existing paved

drives shall be cold planed the entire drive width to the depth of the wearing course, not to exceed 50 mm (2 inches). Unless the drive is to be paved that day, all cold planed vertical edges shall have temporary fillets placed the same day cold planing takes place.

All existing paved drives shall have all temporary fillets removed; any existing joints, cracks, and holes cleaned; all vertical and horizontal surfaces to be paved coated with emulsified asphalt; all holes filled with bituminous concrete material compacted to the level of the existing surface; and be thoroughly cleaned and dried prior to any hand-placed bituminous concrete material being placed.

Hand-Placed bituminous concrete material shall be rolled with a 1 metric ton (1 ton) mechanical roller with steel drums, or approved equal, until compacted to the satisfaction of the Engineer.

METHOD OF MEASUREMENT. The quantity of Special Provision (Hand-Placed Bituminous Concrete Material, Drives) to be measured for payment will be the number of square meters (square yards) complete in place in the accepted work.

Hand-placed bituminous concrete material placed less that 12.5 mm (½ inch) thick will not be measured for payment.

When any portion or all of Special Provision (Hand-Placed Bituminous Concrete Material, Drives) is removed from the project under any provisions of the Contract or as directed by the Engineer, no payment will be made for the removal, disposal, or replacement of said material.

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

Emulsified asphalt used as specified and backfill material meeting the requirements specified in the Plans will be considered incidental to Special Provision (Hand-Placed Bituminous Concrete Material, Drives).

When not specified for payment under separate Contract item(s), the costs of placing subbase material, cleaning existing paved surfaces, including power equipment, and for filling joints, cracks, and holes will not be paid for directly, but will be considered incidental to Special Provision (Hand-Placed Bituminous Concrete Material, Drives).

Payment will be made under:

Pay Item		Pay Unit
900.675	Special Provision (Hand-Placed Bituminous Concrete Material, Drives)	Square Yard

Appendix A
Contractors EEO Certification Form A-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___

_____L.S.
(Name of Individual, Partnership or Corporation)

_____L.S.
(Signature of Official Authorized to Sign Contracts)

_____
(Notary Public)

_____L.S
(Name of Individual Signing Affidavit)

(My commission expires _____)

_____L.S
(Title of Individual Signing Affidavit)

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

Vermont Minimum Labor & Truck Rates CA-101

APPENDIX C

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:

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

Appendix D

Vermont Agency of Transportation Contractor Workforce Reporting Requirements CA-26A

***APPENDIX* D**

CA-26A

VERMONT AGENCY OF TRANSPORTATION
CONTRACTOR WORKFORCE REPORTING REQUIREMENTS

The Contractor/Subcontractor shall submit to the State Resident Engineer assigned to this project, monthly and cumulative workforce information, on reporting forms provided herein. The monthly and cumulative workforce information shall be listed by construction trade category with the percentage of minority and female project hours in each category indicated. Failure to provide this information to the Resident Engineer on a monthly basis will result in suspension of bi-weekly progress payments, or part thereof due under the contract, until such time as the Contractor or Subcontractor demonstrates compliance with these contract terms.

Note: In lieu of using the reporting forms provided herein, the Contractor may use U.S. Department of Labor form CC-257, "Monthly Employment Utilization Report".

APPENDIX E

VERMONT AGENCY OF TRANSPORTATION

GENERAL SPECIAL PROVISIONS

FOR ALL PROJECTS

GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS
2011 STANDARD SPECIFICATIONS

SECTION 101 – DEFINITIONS AND TERMS

1. 101.01 ABBREVIATIONS, is hereby modified by adding the following new abbreviation directly after "ABS":

ACL	Advanced Certification List

2. 101.01 ABBREVIATIONS, is hereby further modified by adding the following new abbreviation directly after "ANSI":

APL	Approved Products List

3. 101.01 ABBREVIATIONS, is hereby still further modified by adding the following new abbreviation directly after "CPM":

CPPP	Corrugated Polypropylene Pipe

4. 101.02 DEFINITIONS, HOLIDAYS, is hereby modified by deleting the ninth row in the listing (for "Columbus Day").

5. 101.02 DEFINITIONS, HOLIDAYS, is hereby further modified by adding the following as the twelfth row in the listing (directly after "Thanksgiving Day"):

Day After Thanksgiving	Fourth Friday in November

SECTION 103 – TAXES AND INSURANCE

6. 103.04 INSURANCE REQUIREMENTS, part (e) General Insurance Conditions, is hereby modified by deleting the second paragraph in its entirety.

SECTION 105 – CONTROL OF THE WORK

7. 105.03 PLANS AND WORKING DRAWINGS, part (a) Contract Plans, is hereby modified by deleting the second paragraph in its entirety.

8. 105.03 PLANS AND WORKING DRAWINGS, part (a) Contract Plans, is hereby further modified by deleting the first sentence of the third paragraph.

9. 105.03 PLANS AND WORKING DRAWINGS, part (a) Contract Plans, is hereby still further modified by adding the phrase "in an accessible format" at the end of the third paragraph.

10. 105.03 PLANS AND WORKING DRAWINGS, part (b) Working Drawings, subpart (4) List of Working Drawings, is hereby modified by deleting the phrase "Roadway, Traffic, and Safety Engineer" and replacing it with the phrase "Project Manager" in the twenty-third row (beginning "641").

11. 105.14 SUNDAY AND HOLIDAY WORK, part (b) Holidays, is hereby corrected by deleting punctuation "," at the end of the paragraph and replacing it with punctuation ".".

12. 105.16 LOAD RESTRICTIONS, part (a) General, is hereby modified by being deleted in its entirety and replaced with the following:

(a) General. All Contractors, subcontractors, suppliers, or others involved in any project-related activities shall comply with all legal load restrictions specified in Title 23 VSA § 1392 in the hauling of equipment or material on public roads, including that beyond the limits of the project. The application for and possession of any hauling or related permit will not relieve the Contractor or others involved in any project-related activities of any liability that may arise due to any damage resulting from the use or moving of equipment, vehicles, or any other project- related activity.

13. 105.16 LOAD RESTRICTIONS, part (b) Limitations or Use of Equipment and Vehicles, is hereby modified by being deleted in its entirety and replaced with the following:

(b) Limitations on Use of Equipment and Vehicles. Use of equipment and vehicles is subject to the following:

(1) No vehicle or equipment exceeding the load restrictions cited in Title 23 VSA § 1392 will be permitted on any structure as defined by the Engineer.

(2) The operation of any equipment or vehicle of such mass (weight) or any other project-related equipment loaded so as to cause damage to structures, the roadway, or to any other type of active construction will not be permitted, regardless of the limits set forth in Title 23.

(3) Hauling or operation of said vehicles or equipment over any permanent course of any bituminous pavement or any structure during active construction will not be permitted.

(4) No loads of any category will be permitted on a concrete pavement or concrete structure prior to expiration of the curing period and until the concrete reaches its specified 28-day compressive strength.

(5) Notwithstanding those restrictions above, the Contractor shall be responsible for any and all damages incurred to any public roadway as defined in Title 23 due to the use of any equipment or vehicles related to project activities.

14. 105.26 OPENING WASTE, BORROW, AND STAGING AREAS, part (f), is hereby corrected by deleting punctuation "." at the end of the paragraph.

SECTION 108 – PROSECUTION AND PROGRESS

15. 108.09 TEMPORARY SUSPENSION OF THE WORK, part (d) Seasonal Closure, is hereby modified by deleting the phrase "of the Engineer, and only under such conditions as specified therein" and replacing it with the phrase "from the Regional Construction Engineer".

16. 108.09 TEMPORARY SUSPENSION OF THE WORK, part (d) Seasonal Closure, is hereby further modified by adding the following:

Permission will only be granted for work which will result in a direct benefit to the State or the traveling public. Items which may be considered as a benefit include but are not limited to shorter Contract duration, a cost savings, increased safety for the traveling public, and an ability to ensure the quality of work. The Contractor shall request permission in writing, detailing what Contract items may be affected, a schedule of work, and the benefits to the State or traveling public.

17. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (8), is hereby modified by deleting the phrase ", delays in submittals, errors in submittals, and the Contractor's means and methods of construction".

18. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (9), is hereby modified by deleting the phrase ", including but not limited to the Contractor's means and methods of construction".

19. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (11), is hereby modified by being deleted in its entirety and by replacing it with the following.

(11) The days from April 15th to December 1st, inclusive, on which the weather or condition of the ground caused suspension of the work.

20. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (13), is hereby modified by adding the following as the first sentence:

Industry-wide material or supply shortages not reasonably anticipated by the Contractor at the time the Contract was entered.

21. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (13), is hereby further modified by changing the word "Delay" to the word "Delays" at the beginning of the first sentence.

22. 108.12 FAILURE TO COMPLETE WORK ON TIME, part (c) Liquidated Damages; General; Days Charged, is hereby modified by deleting the DAILY CHARGE FOR LIQUIDATED DAMAGES FOR EACH WORKING DAY OF DELAY table in its entirety and replacing it with a new table as follows:

DAILY CHARGE FOR LIQUIDATED DAMAGES
FOR EACH WORKING DAY OF DELAY

Original Contract Amount		
From More Than ($)	To and Including ($)	Daily Charge Per Day of Delay ($)
0	300,000	1,400.00
300,000	500,000	1,500.00
500,000	1,000,000	1,600.00
1,000,000	1,500,000	1,700.00
1,500,000	3,000,000	2,100.00
3,000,000	5,000,000	2,600.00
5,000,000	10,000,000	3,800.00
10,000,000	20,000,000	6,300.00
20,000,000+	---------	11,200.00

SECTION 109 – MEASUREMENT AND PAYMENT

23. SECTION 109 – MEASURMENT AND PAYMENT, is hereby corrected by deleting pages 1-141 and 1-142 in their entirety.

SECTION 203 – EXCAVATION AND EMBANKMENTS

24. 203.01 DESCRIPTION, is hereby modified by adding the phrase "performing test borings for the purpose of determining areas of roadway and embankment subsurface voids;" after the phrase "trimming and shaping of slopes;" in the first sentence of the first paragraph.

25. 203.01 DESCRIPTION, is hereby further modified by adding the following new part (l):

(l) Test Borings. Test Borings shall consist of an investigative and planned approach to determining areas of roadway and embankment subsurface voids and repairing bored areas.

26. 203.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

PVC Plastic Pipe……710.06

27. 203.02 MATERIALS, is hereby further modified by adding the following paragraphs:

Concrete for backfilling subsurface voids shall meet the requirements of Controlled Density (Flowable) Fill of Section 541.

Bituminous concrete pavement shall conform to the requirements of Section 406 or 490, as applicable for the Contract, with the exception that the mix design submittal and plant inspection requirements set forth in Section 406 or 490 will not apply.

28. 203.03 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the following as the eighth paragraph:

Prior to the construction of Test Borings and the placement of Controlled Density (Flowable) Fill, the Contractor shall submit to the Engineer site-specific plans, detailing the schedule of work (for these two items), type and location of drilling, sleeve installation, pumping system, confirmatory boring operation, method of filling bore hole (with or without voids being encountered), and repair of the roadway section (sand, gravel, and pavement).

29. 203.11 EMBANKMENTS, is hereby modified by adding the following new part (e):

(e) Test Borings. Test borings shall be performed at the approximate locations indicated in the Plans and/or as directed by the Engineer.

When used adjacent to culverts, test borings shall extend to a depth equal to the bottom of the culvert using casing advanced drilling methods. Alternate drilling equipment that provides a suitably clean, open hole may be submitted to the Engineer for approval.

If void(s) are encountered, Controlled Density (Flowable) Fill shall be placed to completely fill the void(s). Confirmatory borings shall be performed in these locations as directed by the Engineer.

The roadway surface at boring hole locations shall be backfilled and then patched using Bituminous Concrete Pavement.

30. 203.13 METHOD OF MEASUREMENT, is hereby modified by adding the following new part (e):

(e) Test Borings. The quantity of Test Borings to be measured for payment will be the number of meters (linear feet) of test boring performed in the complete and accepted work.

31. 203.14 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Test Borings" after the phrase "Shoulder Berm Removal" in the first sentence of the first paragraph.

32. 203.14 BASIS OF PAYMENT, is hereby further modified by adding the phrase "submitting site-specific plans as required, performing test borings, installing sleeves, backfilling, patching with bituminous concrete pavement," after the phrase "work specified," in the second sentence of the first paragraph.

33. 203.14 BASIS OF PAYMENT, is hereby corrected by adding a period at the end of the sixth paragraph.

34. 203.14 BASIS OF PAYMENT, is hereby still further modified by adding the following paragraph and pay item:

Filling of subsurface voids encountered in performing Test Borings will be paid for under Contract item 541.45.

Payment will be made under:

Pay Item	Pay Unit
203.45 Test Borings	Meter (Linear Foot)

SECTION 310 – RECLAIMED STABILIZED BASE

35. 310.04 CONSTRUCTION, is hereby modified by deleting the phrase "or dust control" after the word "stabilizing" in the third paragraph.

36. 310.04 CONSTRUCTION, is hereby further modified by adding the following sentence to the third paragraph:

When a dust control agent is not exclusively specified on the Plans, water and/or Calcium Chloride shall be used as that agent to meet all requirements of this Section.

37. 310.10 BASIS OF PAYMENT, is hereby modified by adding the following as the fourth paragraph:

Calcium Chloride used for dust control after the reclamation will not be paid for directly, but will be considered incidental to the Reclaimed Stabilized Base item.

SECTION 402 AGGREGATE SHOULDERS

38. 402 AGGREGATE SHOULDERS, is hereby deleted in its entirety and replaced with the following:

SECTION 402 AGGREGATE SHOULDERS

402.01 DESCRIPTION. This work shall consist of furnishing, placing and compacting material for Aggregate Shoulders on a prepared surface.

402.02 MATERIALS. Materials for Aggregate Shoulders and Aggregate Shoulders, RAP, shall meet the requirements of the following Subsection:

Aggregate for Surface Course and Shoulders……704.12(a)
Aggregate Shoulders, RAP……704.12(b)

402.03 PLACEMENT. Aggregate Shoulders shall be placed with equipment capable of placing the material in accordance with the Plans. The Contractor shall demonstrate to the Engineer the proposed placement procedures. If deemed necessary by the Engineer the procedures shall be adjusted to avoid damage to the wearing course. It shall be the Contractor's responsible to repair any damage to the wearing course to the satisfaction of the Engineer, at no additional cost to the Agency.

Unless otherwise directed by the Engineer or shown on the Plans, Aggregate Shoulders shall be placed in one course and shall not be placed until the adjacent wearing course has been completed. The maximum layer thickness for placement of material shall be 150 ± 50 mm (6 ± 2 inches) after compaction. When multiple layers are required, all layers shall be placed in approximately equal thicknesses.

All layers of Aggregate Shoulders shall be compacted to 95 percent of the maximum dry density determined by AASHTO T 99, method C or to the satisfaction of the Engineer.

The Contractor shall correct any segregated material, to the satisfaction of the Engineer, at no additional cost to the Agency.
All material shall have a true and even surface as shown in the Plans. All holes or depressions found prior to acceptance of the project shall be filled with additional material, reworked and compacted as necessary.

A printed load ticket, indicating truck identification, date and time of delivery, and weight shall be furnished to the Engineer with each load delivered to the project.

402.04 METHOD OF MEASUREMENT. The quantity of Aggregate Shoulders and Aggregate Shoulders, RAP to be measured for payment will be the number of metric tons (tons) used in the complete and accepted work, as determined from load tickets. Partial loads shall be paid for on a pro-rated basis.

402.05 BASIS OF PAYMENT. The accepted quantity of Aggregate Shoulders and Aggregate Shoulders, RAP will be paid for at the Contract unit price per metric ton (ton). Payment will be full compensation for performing the work specified and for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.

Water used for obtaining the required compaction will not be paid for separately but will be considered incidental to the Aggregate Shoulders item in the Contract.

Payment will be made under:

Pay Item	Pay Unit
402.12 Aggregate Shoulders	Metric Ton (Ton)
402.13 Aggregate Shoulders, RAP	Metric Ton (Ton)

SECTION 406 – MARSHALL BITUMINOUS CONCRETE PAVEMENT

39. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D – MINIMUM QUALITY CONTROL GUIDELINES, is hereby modified by deleting footnote designation "(1)" after "Cold Feed Gradation" in the fourth row.

40. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D – MINIMUM QUALITY CONTROL GUIDELINES, is hereby further modified by adding the following as the fifth row:

Cold Feed % Fractured Face & Thin and Elongated Particles(1)	Day of initial paving and 1 per week(4)	ASTM D5821 ASTM D4791

41. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D – MINIMUM QUALITY CONTROL GUIDELINES, is hereby still further modified by deleting footnote 1 in its entirety and replacing it as follows:

1 – "Fractured faces" (for gravel sources only). "Thin and elongated" of particles retained on the No. 4 (4.75 mm) sieve and above.

42. 406.03 COMPOSITION OF MIXTURE, part (f) Boxed Samples, is hereby corrected by adding the word "Engineer" to the end of the second (last) sentence.

43. 406.05 BITUMINOUS MIXING PLANT AND TESTING, part (a) Requirements for All Plants, subpart (12) Testing Facilities, is hereby modified by adding the following as the fourth paragraph:

The laboratory shall be equipped with a monitoring system readout that provides real-time access to active Agency project(s) production status. The system shall accumulate and provide the following information via digital display: Project name and number, truck number, ticket number, product description, and accumulated project daily quantity and load quantity accurate to the nearest metric ton (ton). The display shall be continually updated by the plant's recording system. Waivers may be considered for plants with production capacities not capable of exceeding 150 metric tons (tons) per hour.

44. 406.16 SURFACE TOLERANCE, is hereby modified by adding the phrase ", with the exception of all limited access highway on and off ramps," after the phrase "miscellaneous mix" in the second (last) sentence of the sixth (last) paragraph.

SECTION 490 – SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

45. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby modified by deleting the fourth row (for "Dust Proportion") in its entirety and replacing it with the following:

Dust Proportion (Filler/Asphalt Ratio)	0.60 – 1.20 (Wet Sieve) (Dry Sieve for Production – Types IS and IIS: 0.50 – 1.20 Types IIIS, IVS, and VS: 0.50 – 1.00)

46. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby further modified by deleting the sixth row (for "Voids in Mineral Aggregate") in its entirety and replacing it with the following:

Voids in Mineral Aggregate (VMA)%	12.5 min.	13.5 min.	14.5 min	15.5 min.	16.5 min.	17.5 min.

47. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby still further modified by deleting the ninth row (for "Voids Filled with Asphalt") in its entirety.

48. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby still further modified by deleting footnotes (3), (4), and (5) in their entirety.

49. 490.03 COMPOSTION OF MIXTURE, part (b) Design Criteria, is hereby modified by deleting the heading "Voids Filled with Asphalt (VFA)" and the equation "VFA = 100 x ((VMA – V_a)/VMA)" in the second paragraph.

50. 490.03 COMPOSITION OF MIXTURE, part (c) Mix Design, is hereby modified by deleting the phrase ", and a single percentage for VFA" in the first sentence of the third paragraph.

51. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03C – PRODUCTION TESTING TOLERANCES is hereby modified by deleting the seventh (last) row (for "VFA") in its entirety.

52. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03C – PRODUCTION TESTING TOLERANCES is hereby further modified by deleting footnote 2 in its entirety.

53. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D – MINIMUM QUALITY CONTROL GUIDELINES, is hereby modified by deleting footnote designation "(1)" after "Cold Feed Gradation" in the fourth row.

54. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D – MINIMUM QUALITY CONTROL GUIDELINES, is hereby further modified by adding the following as the fifth row:

Cold Feed % Fractured Face & Thin and Elongated Particles(1)	Day of initial paving and 1 per week(4)	ASTM D5821 ASTM D4791

55. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D – MINIMUM QUALITY CONTROL GUIDELINES, is hereby still further modified by deleting footnote 1 in its entirety and replacing it as follows:

1 – "Fractured faces" (for gravel sources only). "Thin and elongated" of particles retained on the No. 4 (4.75 mm) sieve and above.

56. 490.05 BITUMINOUS MIXING PLANT AND TESTING, part (a) Requirements for All Plants, subpart (12) Testing Facilities, is hereby modified by adding the following as the third paragraph:

The laboratory shall be equipped with a monitoring system readout that provides real-time access to active Agency project(s) production status. The system shall accumulate and provide the following information via digital display: Project name and number, truck number, ticket number, product description, and accumulated project daily quantity and load quantity accurate to the nearest metric ton (ton). The display shall be continually updated by the plant's recording system. Waivers may be considered for plants with production capacities not capable of exceeding 150 metric tons (tons) per hour.

57. 490.14 COMPACTION, part (c) Coring Protocol, is hereby corrected by deleting text "0" and replacing it with text ")" in the first sentence of the seventh paragraph.

58. 490.16 SURFACE TOLERANCE, is hereby modified by adding the phrase ", with the exception of all limited access highway on and off ramps," after the phrase "miscellaneous mix" in the second (last) sentence of the sixth (last) paragraph.

SECTION 501 – HPC STRUCTURAL CONCRETE

59. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby modified by deleting the fourth column (with header "Max. Slump (mm)") in its entirety and replacing it with the following:

Max.[7] Slump (mm)

N/A
---

60. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby further modified by adding the following footnote:

[7] The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 200 mm, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

61. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby modified by deleting the fourth column (with header "Max. Slump (in)") in its entirety and replacing it with the following:

Max.[7] Slump (mm)

N/A
---

62. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby corrected by deleting text "700 mm" and replacing it with text "28 inches" in footnote 4.

63. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby further modified by adding the following footnote:

[7] The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 8 inches, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

64. 501.03 CLASSIFICATION AND PROPORTIONING, ninth paragraph (beginning "A minimum of thirty (30)…"), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence.

65. 501.11 DEPOSITING CONCRETE UNDERWATER, part (a) General, subpart (1), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the second paragraph.

SECTION 505 - PILING

66. 505.09 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

Pay Item	Pay Unit
505.12 Steel Piling, HP 250 x 85 (HP 10 x 57)	Meter (Linear Foot)

SECTION 506 – STRUCTURAL STEEL

67. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby modified by deleting the tenth paragraph (Beginning "Bolts shall be tightened…") in its entirety and replacing it with the following:

Bolts shall be tightened to develop a tension not less than 5 percent in excess of the minimum bolt tension specified in Table 506.19A. Bolts shall not be tightened to more than the maximum tension specified in Table 506.19A.

68. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby further modified by deleting subparts (1) Calibrated Wrench Method, (2) Turn of the Nut Method, and (3) Torque Method in their entirety.

69. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (4) Tension Control Assembly Method, is hereby modified by being re-designated as part (1).

70. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (5) Direct Tension Indicator Method, is hereby modified by being re-designated as part (2).

71. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby still further modified by deleting TABLE 506.19B (including associated paragraphs) in its entirety.

72. 506.19 BOLTING AND CONNECTIONS, part (d) Acceptance of Bolt Tensioning, is hereby modified by deleting the second and third sentences of the first paragraph.

73. 506.19 BOLTING AND CONNECTIONS, part (d) Acceptance of Bolt Tensioning, is hereby further modified by deleting the fourth, fifth, ninth, eleventh, and twelfth paragraphs in their entirety.

SECTION 507 – REINFORCING STEEL

74. 507.01 DESCRIPTION, is hereby modified by adding the phrase "of the level specified" after the phrase "bar reinforcement".

75. 507.01 DESCRIPTION, is hereby further modified by adding the following paragraphs:

Levels and associated types of reinforcing steel are specified as follows:

(a) Level I (Limited Corrosion Resistance). Level I reinforcing includes plain, low alloy, and epoxy coated reinforcing steel.

(b) Level II (Improved Corrosion Resistance). Level II reinforcing includes stainless clad and dual-coated reinforcing steel.

(c) Level III (Exceptional Corrosion Resistance). Level III reinforcing includes solid stainless reinforcing steel.

The location, level, and when specified, type of reinforcing shall be as indicated in the Plans. Reinforcing supplied shall meet the requirements of the level specified or any higher level. Only one type of reinforcing steel shall be used for each level for the Contract work, unless permitted in writing by the Engineer.

76. 507.02 MATERIALS, is hereby modified by deleting the sixth (final) entry in the Subsection listing.

77. 507.03 FABRICATION AND SHIPMENT, part (a) General, is hereby modified by adding the phrase "deformed bar" after the phrase "shall be" in the first paragraph.

78. 507.03 FABRICATION AND SHIPMENT, part (a) General, is hereby corrected by deleting punctuation ".." and replacing it with punctuation "." at the end of the first paragraph.

79. 507.04 PROTECTION OF MATERIAL, is hereby modified by adding the following as the second sentence in the first paragraph:

When multiple levels of reinforcing steel are used on a project, they shall be stored separately, including during transport in order that there is no direct contact between the bars.

80. 507.04 PROTECTION OF MATERIAL, is hereby further modified by deleting the phrase "The epoxy coating" and replacing it with the word "Coatings" in the third sentence of the third paragraph.

81. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by deleting the phrase "as required for damaged areas" and replacing it with the phrase "per the coating manufacturer's recommendations and to the satisfaction of the Engineer" in the third sentence of the fifth (last) paragraph.

82. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by adding the following paragraph:

Ends of Level II reinforcing steel where the mild steel is exposed shall be repaired in the following manner:

(a) Cut ends of dual-coated reinforcing steel shall be coated with a two-part epoxy patching material as specified by the coating manufacturer. The materials and procedures shall be approved by the Engineer prior to the repairs being performed.

(b) Cut ends of stainless clad reinforcing steel shall be epoxied and capped in accordance with the manufacturer's recommendations with either stainless steel caps or plastic caps. Caps shall be sealed to prevent the intrusion of moisture.

83. 507.05 PLACING AND FASTENING REINFORCING STEEL, is hereby modified by deleting the sixth paragraph in its entirety and replacing it with the following:

Tie wires and supports used for installation of reinforcement shall be composed of the same material as any steel being contacted or shall be plastic. When forms are to be removed in their entirety, uncoated steel chairs equipped with snug-fitting, high-density, polyethylene tips which provide 3 mm (1/4 inch) clearance between the metal and any exposed surface may be used.

84. 507.10 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase ", Epoxy Coated Reinforcing Steel, and Galvanized Reinforcing Steel" and replacing it with the phrase "of the type and size specified" in the first paragraph.

85. 507.10 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase "of the type specified" at the end of the second paragraph (beginning "The quantity of Drilling and Grouting Dowels…").

86. 507.11 BASIS OF PAYMENT, is hereby modified by deleting the following pay items:

Pay Item	Pay Unit
507.15 Reinforcing Steel	Kilogram (Pound)
507.17 Epoxy Coated Reinforcing Steel	Kilogram (Pound)
507.18 Galvanized Reinforcing Steel	Kilogram (Pound)

87. 507.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay items:

Pay Item	Pay Unit
507.11 Reinforcing Steel, Level I	Kilogram (Pound)
507.12 Reinforcing Steel, Level II	Kilogram (Pound)
507.13 Reinforcing Steel, Level III	Kilogram (Pound)

SECTION 509 – LONGITUDINAL DECK GROOVING

88. 509.03 CONSTRUCTION DETAILS, is hereby modified by deleting the last line of the second paragraph (beginning "Depth: 4 mm…") and replacing it with the following:

Depth: 6 mm (±2 mm)((1/4")(±1/16"))

SECTION 510 – PRESTRESSED CONCRETE

89. 510.12 INSTALLATION, part (a) Prestressed Concrete, subpart (2) Initial Post-tensioning, is hereby modified by deleting the first sentence in its entirety.

SECTION 516 – EXPANSION DEVICES

90. 516.01 DESCRIPTION, is hereby modified by adding the phrase ", or partially removing and modifying," after the word "installing".

91. 516.05A PARTIAL REMOVAL AND MODIFICATION, is hereby made a new Subsection of the Standard Specifications as follows:

516.05A PARTIAL REMOVAL AND MODIFICATION. The Contractor shall partially remove and modify the existing bridge joint at the locations indicated in the Plans and as directed by the Engineer.

Steel for new joint plates shall meet the requirements of Subsection 714.02.

The Contractor shall remove and dispose of existing joint plates, drain troughs, and associated hardware.

The Contractor shall grind existing steel plates and/or shoulder concrete to the configuration shown on the Plans. The final surface shall be to the satisfaction of the Engineer.

92. 516.06 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Partial Removal and Modification of Bridge Joint to be measured for payment will be the number of meters (linear feet) of bridge joint removed and modified in the complete and accepted work, measured along its centerline.

93. 516.07 BASIS OF PAYMENT, is hereby modified by adding the following paragraph and pay item:

The accepted quantity of Partial Removal and Modification of Bridge Joint will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for partially removing and modifying the existing joint as specified and as detailed in the Plans, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
516.20 Partial Removal and Modification of Bridge Joint	Meter (Linear Foot)

SECTION 525 – BRIDGE RAILINGS

94. 525.02 MATERIALS, is hereby modified by adding the following as the third entry in the Subsection listing:

Structural Steel……714.02

95. 525.06 INSTALLATION, part (a) General, is hereby modified by adding the following as the sixth (last) paragraph:

Concrete railing shall receive an aesthetic finish in accordance with Subsection 501.16. Cracks in concrete railing shall be repaired by a method approved by the Engineer. Cracks in concrete greater than 0.25 mm (0.01 inch) may be cause for rejection.

96. 525.08 BASIS OF PAYMENT, is hereby modified by adding the phrase "for furnishing all forms, joint filler, admixtures, trial batches, and connection plates for approach railing terminal connectors; for satisfactory completion of any necessary repairs, surface finishing, and curing;" after the phrase "for all work necessary for verifying and adjusting post height and/or bolt spacing of existing posts;" in the second (last) sentence of the third paragraph.

97. 525.08 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Pay Item	Pay Unit
525.45 Bridge Railing, Galvanized Steel Tubing/ Concrete Combination	Meter (Linear Foot)

SECTION 531 – BRIDGE BEARING DEVICES

98. 531.04 FABRICATION, part (b) Surface Protection, is hereby corrected by deleting punctuation ",." at the end of the paragraph and replacing it with punctuation ".".

SECTION 540 – PRECAST CONCRETE

99. 540.02 MATERIALS, is hereby modified by deleting the fourteenth entry (beginning "Coated Bar Reinforcement…") in the Subsection listing.

100. 540.02 MATERIALS, is hereby further modified by adding the following as the twenty-ninth entry in the Subsection listing:

Sheet Membrane Waterproofing, Preformed Sheet……726.11

101. 540.07 FABRICATION, part (e) Placing Concrete, is hereby modified by deleting the phrase "done with care" and replacing it with the phrase "performed in accordance with Subsection 501.10(f)" in the third (last) sentence.

102. 540.10 INSTALLATION, is hereby modified by adding the following new part (c):

(c) Sheet Membrane Waterproofing. A reinforced asphalt, synthetic resin, or coal-tar based preformed sheet membrane shall be placed over the joints of precast concrete units in accordance with the Contract Documents. All work performed shall be in accordance with the manufacturer's recommendations.

Material for membrane shall meet the requirements of Subsection 726.11.

Waterproofing shall not be performed in wet weather or when the temperature is below 5°C (40°F), without the authorization of the Engineer.

The concrete surfaces that are to be waterproofed shall be reasonably smooth and free from projections or holes and shall be cleaned of dust and loose material. The surfaces shall be visibly dry prior to and during application of the membrane system.

103. 540.14 BASIS OF PAYMENT, is hereby modified by adding the following paragraph:

Furnishing and placing preformed sheet membrane waterproofing, including primer, mastic, polyurethane membrane sealant, and surface preparation, is considered incidental to the work for Precast Concrete Structure.

SECTION 541 – STRUCTURAL CONCRETE

104. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby modified by deleting footnote designation "*" in the first and fourth entries of the third row (for "Class A" concrete).

105. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby further modified by deleting footnote "*" and associated text (beginning "* When this class of concrete…").

106. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby still further modified by deleting the fourth (with header "Range in Slump (mm)") and fifth (with header "Air Cont. (%)") columns in their entirety and replacing them with the following:

Range* in Slump (mm)	Air Content (%)
---	7.0 ± 1.5
---	7.0 ± 1.5
---	7.0 ± 1.5
---	5.5 ± 1.5
---	5.5 ± 1.5
---	7.0 ± 1.5

107. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby still further modified by adding the following footnote:

* The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 200 mm, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

108. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric) is hereby still further modified by adding the following as the eighth (bottom) row with the included footnotes:

Controlled Density (Flowable) Fill	To be designed ***	To be designed ****	To be designed *****	10 min.	704.01 (Fine Aggregate)	0.85 max. ******	---

*** A mineral admixture may be used to replace a portion of the cement.
**** The minimum amount of water shall be used to produce the desirable flow for the intended use without showing segregation.
***** The slump (flowability) shall be such that material is able to completely fill the voids or area as needed without segregation.
******A minimum of 3 cylinders per test age required to constitute a test. If average strength at 28 days exceeds 115% of max. strength, then payment for Contract item 541.45 will be 85% of the Contract bid price.

109. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby modified by deleting footnote designation "*" in the first and fourth entries of the third row (for "Class A" concrete).

110. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby further modified by deleting footnote "*" and associated text (beginning "* When this class of concrete…").

111. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby still further modified by deleting the fourth (with header "Range in Slump (in.)") and fifth (with header "Air Cont. (%)") columns in their entirety and replacing them with the following:

Range* in Slump (mm)	Air Content (%)
---	7.0 ± 1.5
---	7.0 ± 1.5
---	7.0 ± 1.5
---	5.5 ± 1.5
---	5.5 ± 1.5
---	7.0 ± 1.5

112. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby still further modified by adding the following footnote:

* The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 8 inches, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

113. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English) is hereby modified by adding the following as the eighth (bottom) row with the included footnotes:

Controlled Density (Flowable) Fill	To be designed ***	To be designed ****	To be designed *****	10 min.	704.01 (Fine Aggregate)	125 max. ******	---

*** A mineral admixture may be used to replace a portion of the cement.
**** The minimum amount of water shall be used to produce the desirable flow for the intended use without showing segregation.
***** The slump (flowability) shall be such that material is able to completely fill the voids or area as needed without segregation.
******A minimum of 3 cylinders per test age required to constitute a test. If average strength at 28 days exceeds 115% of max. strength, then payment for Contract item 541.45 will be 85% of the Contract bid price.

114. 541.10 PLACING CONCRETE, part (c) Placement Limitations, is hereby modified by adding the following paragraphs:

Flowable fill shall be applied to voids and other locations as specified in the Contract Documents and as directed by the Engineer. Flowable fill shall be able to completely fill the existing voids.

If voids are discovered, the Engineer may direct the Contractor to submit a plan for filling the remaining voids. This work, including preparing and submitting the plan and filling any remaining voids, will be at the Contractor's expense.

115. 541.11 DEPOSITING CONCRETE UNDERWATER, part (a) General, subpart (1), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the second paragraph.

116. 541.19 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "or LW" and replacing it with the phrase "LW, or Flowable Fill" in the first sentence of the first paragraph.

117. 541.20 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
541.45 Controlled Density (Flowable) Fill	Cubic Meter (Cubic Yard)

SECTION 580 – STRUCTURAL CONCRETE REPAIR

118. 580.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Polymer Concrete Repair Material……780.05

119. 580.03 PROPORTIONING AND MIXING, is hereby modified by deleting the last sentence of the first paragraph in its entirety and replacing it with the following:

The product shall not be extended with sand or gravel, except for Rapid Setting Concrete Repair Material with Coarse Aggregate and Polymer Concrete Repair Material when mixed with approved aggregates in conformance with the manufacturer's recommendations.

120. 580.04 SURFACE PREPARATION FOR REPAIRS, OVERLAYS AND MEMBRANES, is hereby modified by adding the word "abrasive" after the phrase "shall be" and before the phrase "blast cleaned" in the first sentence of the third paragraph.

121. 580.04 SURFACE PREPARATION FOR REPAIRS, OVERLAYS AND MEMBRANES, is hereby further modified by adding the phrase ", or Polymer Concrete Repair Material," after the word "Aggregate" in the sixth paragraph.

122. 580.08 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "and not for new patches, which will be the responsibility of the Contractor" and replacing it with the phrase ", with no deductions made for areas of new patches" in the second sentence of the ninth paragraph.

123. 580.08 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase ", and Polymer Concrete Repair Material" after the word "Aggregate" in the first sentence of the tenth paragraph.

124. 580.09 BASIS OF PAYMENT, is hereby modified by adding the phrase ", and Polymer Concrete Repair Material" after the word "Aggregate" in the seventh paragraph.

125. 580.09 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
580.21 Polymer Concrete Repair Material	Cubic Meter (Cubic Yard)

SECTION 601 – CULVERTS AND STORM DRAINS

126. 601.02 MATERIALS, is hereby modified by adding the following as the sixth entry in the Subsection listing:

Corrugated Polypropylene Pipe……710.07

127. 601.07 JOINING PIPE, is hereby modified by adding the following new part (d) as follows:

(d) Corrugated Polypropylene Pipe. Corrugated Polypropylene pipe shall be joined by a system designed and approved by the pipe manufacturer. Couplings and fittings shall provide sufficient longitudinal strength to preserve pipe alignment and prevent separation at the joints.

128. 601.11 BASIS OF PAYMENT, is hereby modified by changing the end of the pay item number range for CPEP Elbow from 601.5999 to 601.5899.

129. 601.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay items:

Payment will be made under:

Pay Item	Pay Unit
601.2800 to 601.2999 CPPP(SL)	Meter (Linear Foot)
601.5900 to 601.5999 CPPP Elbow	Each
601.7100 to 601.7199 CPPPES	Each

SECTION 608 – EQUIPMENT RENTAL

130. 608.02 GENERAL REQUIREMENTS, is hereby modified by adding the following new part (i):

(i) Truck-Mounted Attenuator, Advanced Warning Vehicle/Protection Vehicle (AWV/PV). Truck-Mounted Attenuator, AWV/PV shall consist of a Truck-Mounted Attenuator meeting the requirements of Subsection 608.02(h) and be equipped with a Changeable Message Sign in accordance with the MUTCD. The Changeable Message Sign shall be mounted so as to be clearly visible to the traveling public and shall be capable of being controlled from inside the cab of the vehicle, with capable controls including but not limited to turning the sign on and off, changing between preset messages, and inserting new messages when approved by the Engineer. Phases of signing shall have the ability to change automatically when required.

131. 608.04 BASIS OF PAYMENT, is hereby modified by changing the word "item" to "items" and by adding the phrase "and Truck-Mounted Attenuator, AWV/PV" after the phrase "Truck-Mounted Attenuator" in the second (last) paragraph.

132. 608.04 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
608.50 Truck-Mounted Attenuator, AWV/PV	Hour

SECTION 613 – STONE FILL, RIPRAP, AND SLOPE PAVING

133. 613.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Rock Fill for Gabions……706.06
Gabion Baskets……712.04

134. 613.04 PLACING, is hereby modified by adding the following new part (d):

(d) Rock Fill for Gabions. The furnishing and installing of gabion baskets shall be performed in accordance with the manufacturer's recommendations.

The Contractor should expect to perform some manual stone placement to minimize voids and to create a neat, flat vertical surface of gabions.

135. 613.05 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Gabion Wall to be measured for payment will be the number of cubic meters (cubic yards) of Rock Fill for Gabions placed in the complete and accepted work.

136. 613.06 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Gabion Wall" after the word "specified" in the first sentence of the first paragraph.

137. 613.06 BASIS OF PAYMENT, is hereby modified by adding the phrase ", including gabion baskets," after the word "material" in the third (last) sentence of the first paragraph.

138. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the phrase "or rock" after the word "stone" in the first sentence of the second paragraph.

139. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the following paragraph:

Geotextile fabric and bedding material for Gabion Wall will be paid for under the appropriate Contract items.

140. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
613.25 Gabion Wall	Cubic Meter (Cubic Yard)

SECTION 616 – CURBS AND GUTTERS

141. 616.05 REPOINTING GRANITE BRIDGE CURB, is hereby made a new Subsection of the Standard Specifications as follows:

616.05 REPOINTING GRANITE BRIDGE CURB. The existing mortar bed and vertical curb joints shall be repointed as shown on the Plans. Mortar shall meet the requirements of Subsection 707.01.

142. 616.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the second paragraph:

The quantity of Repointing Granite Bridge Curb to be measured for payment will be the number of liters (gallons) of mortar applied in the completed and accepted work, measured to the nearest liter (gallon).

143. 616.14 METHOD OF MEASUREMENT, is hereby corrected by changing the word "portland" to "Portland" in the fifth (last) paragraph.

144. 616.15 BASIS OF PAYMENT, is hereby modified by adding the following as the second paragraph:

The accepted quantity of Repointing Granite Bridge Curb will be paid for at the Contract unit price per liter (gallon). Payment will be full compensation for furnishing, transporting, handling, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

145. 616.15 BASIS OF PAYMENT, is hereby corrected by changing the word "portland" to "Portland" in the fourth paragraph.

146. 616.15 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
616.225 Repointing Granite Bridge Curb	Liter (Gallon)

SECTION 620 – FENCES

147. 620.02 MATERIALS, is hereby modified by deleting subsection "753.05" for Grounding Electrodes and replacing it with "752.15".

SECTION 621 – TRAFFIC BARRIERS

148. 621.01 DESCRIPTION, is hereby modified by adding the phrase "repairing," after the phrase "removing,".

149. 621.02 MATERIALS, is hereby modified by adding the following as the fifth entry in the Subsection listing:

Wire Rope or Cable……713.03

150. 621.09 TERMINALS, is hereby modified by adding the following paragraph:

All new terminal installations shall include a permanent identification of the year of installation and model identified on the Approved Product List or the standard drawing used. Payment will be incidental to the traffic barrier items.

151. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby modified by deleting the phrase "post assemblies and panel units" and replacing it with the phrase "guardrail components" in the second sentence of the first paragraph.

152. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby further modified by deleting the first sentence of the second paragraph in its entirety and replacing it with the following:

Those sections in which height over an extensive portion of the section is greater than 760 mm (30 inches) or less than 675 mm (26 ½ inches) shall be adjusted to a nominal height of 735 mm ±25 mm (29 inches ± 1 inch).

153. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GUARDRAIL OR GUIDE POSTS, is hereby still further modified by deleting the phrase "post assembly replacement or guardrail beam replacement occur" and replacing it with the phrase "guardrail component replacement occurs" in the fourth paragraph.

154. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby still further modified by adding the following as the sixth and seventh paragraphs:

Offset blocks designated for replacement shall be replaced in-kind. Materials shall be in conformance with the applicable requirements of Subsection 728.01 for either wood, steel, or alternative blockouts.

Cable guardrail repair shall be performed in accordance with VTrans Standard Drawing G-6 and as directed by the Engineer.

155. 621.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the fourth and fifth paragraphs of the Subsection text:

The quantities of Cable Guardrail J-Bolt, Galvanized and Cable Guardrail Splice Unit to be measured for payment will be the number of units installed in the complete and accepted work.

The quantity of Replacement of Guardrail Cable to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work.

156. 621.14 METHOD OF MEASUREMENT, is hereby further modified by adding the following as the sixth paragraph of the Subsection text:

The quantities of Steel Beam Guardrail Delineator and Steel Beam Guardrail Offset Block to be measured for payment will be the number of each component replaced in the complete and accepted work.

157. 621.15 BASIS OF PAYMENT, is hereby modified by adding the following as the second, third, and fourth paragraphs of the Subsection text:

The accepted quantities of Cable Guardrail J-Bolt, Galvanized and Cable Guardrail Splice Unit will be paid for at the Contract unit price for each.

The accepted quantity of Replacement of Cable Guardrail will be paid for at the Contract unit price per meter (linear foot).

The accepted quantities of Steel Beam Guardrail Delineator and Steel Beam Guardrail Offset Block will be paid for at the Contract unit price for each.

158. 621.15 BASIS OF PAYMENT, is hereby further modified by adding the phrase "removing and disposing of damaged guardrail component(s)," after the phrase "specified," in the first sentence of the seventh paragraph.

159. 621.15 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

Pay Item		Pay Unit
621.173	Cable Guardrail J-Bolt, Galvanized	Each
621.174	Cable Guardrail Splice Unit	Each
621.175	Replacement of Guardrail Cable	Meter (Linear Foot)
621.218	Steel Beam Guardrail Delineator	Each
621.219	Steel Beam Guardrail Offset Block	Each
621.70	Guardrail Approach Section, Galvanized Type I	Each
621.71	Guardrail Approach Section, Galvanized Type II	Each
621.726	Guardrail Approach Section, Galvanized 3 Rail Box Beam w/Curb	Each
621.735	Guardrail Approach Section, Steel Beam	Each
621.736	Guardrail Approach Section, Steel Beam w/2.4 m (8 feet) Posts	Each
621.737	Guardrail Approach Section, Galvanized HD Steel Beam	Each

621.738	Guardrail Approach Section, Galvanized HD Steel Beam w/2.4 m (8 feet) Posts	Each
621.748	Guardrail Approach Section to Concrete Combination Bridge Railing, TL-3	Each

SECTION 630 – UNIFORMED TRAFFIC OFFICERS AND FLAGGERS

160. 630.03 CLOTHING AND EQUIPMENT, part (b) For Flaggers, subpart (1), is hereby modified by replacing the phrase "ANSI 107-1999" with the phrase "ANSI 107-2004" in the first sentence.

161. 630.03 CLOTHING AND EQUIPMENT, part (d) For All Traffic Control Personnel, subpart (2), is hereby modified by deleting the word "The" and replacing it with the phrase "When deemed necessary by the Engineer, or when noted in the Plans, the" at the beginning of the first sentence.

SECTION 641 - TRAFFIC CONTROL

162. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the phrase "implement that plan or" after the phrase "the Contractor may" in the first sentence of the fourth paragraph.

163. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby further modified by adding the following as the second sentence of the fourth paragraph:

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.

164. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by changing the word "This" to the word "An" in the second sentence of the fourth paragraph.

165. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by adding the following paragraph:

When the Contract Documents specify that a site-specific traffic control plan be submitted by the Contractor, Construction Drawings shall be submitted 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; and 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 UTO's. All pertinent dimensions, such as taper lengths, sign spacing, temporary lane widths, and distance(s) from existing traffic control devices shall be labeled.

166. 641.03 TRAFFIC CONTROL DEVICES, is hereby modified by deleting the phrase "have three (3) lines of eight (8) characters per line and conform to Section 6F.55 of the MUTCD" and replacing it with the phrase "be used with a maximum of two phases, each consisting of a maximum of 3 lines of 8 characters" in the sixth paragraph.

167. 641.03 TRAFFIC CONTROL DEVICES, is hereby further modified by deleting the phrase "requirements in Section 6F.56 of" and replacing it with the phrase "Portable Arrow Board requirements in" in the seventh paragraph.

SECTION 646 – RETROREFLECTIVE PAVEMENT MARKINGS

168. 646.02 MATERIALS, is hereby modified by deleting the Subsection listing in its entirety and replacing it with the following:

Polyurea Pavement Markings	708.08(a)
Low VOC Chlorinated Rubber Traffic Paint	708.08(b)
Low VOC Acetone Based Traffic Paint	708.08(b)
Epoxy Paint	708.08(c)
Waterborne Traffic Paint	708.08(d)
Methyl-methacrylate Paint	708.08(e)
Glass Beads	708.09(a)
Premium Optics	708.09(b)
Wet Recoverable and Wet Reflective Optics	708.09(c)
Thermoplastic Pavement Markings, Type A	708.10(a)
Thermoplastic Pavement Markings, Type B	708.10(b)
Raised Pavement Markers, Type I	708.11
Pavement Marking Tape, Type A	708.12(a)
Pavement Marking Tape, Type B	708.12(b)
Pavement Marking Tape, Type C	708.12(c)
Pavement Marking Tape, Type D	708.12(d)
Line Striping Targets	708.13(a)
Raised Pavement Markers, Type II	708.13(b)
Temporary Pavement Marking Tape	708.13(c)
Pavement Marking Mask	708.13(d)

169. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby modified by deleting the first paragraph in its entirety.

170. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby further modified by deleting the seventh paragraph in its entirety.

171. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by deleting the word "interim" and replacing it with the phrase "permanent or temporary" in the first sentence of the eighth paragraph.

172. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by adding the phrase "edgeline," after the phrase "centerlines," in the first sentence of the eighth paragraph.

173. 646.04 APPLICATION OF MARKINGS, GENERAL, part (a) Placement of Markings, is hereby still further modified by deleting the ninth paragraph in its entirety.

174. 646.04 APPLICATION OF MARKINGS, GENERAL, part (c) Weather Limitations, subpart (2), is hereby modified by being deleted in its entirety and replaced as follows:

(2) At the time of application of durable pavement markings, the pavement surface and ambient air temperatures shall be as per the manufacturer's published specified application temperatures, and the dew point shall be 5°F or more below the ambient air temperature. If the manufacturer's published recommendations are unavailable, the pavement surface and ambient air temperatures shall be a minimum of 10°C (50°F).

175. 646.04 APPLICATION OF MARKINGS, GENERAL, part (c) Weather Limitations, subpart (3), is hereby modified by being the word "October" and replacing it with the word "November".

176. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (1) Centerline Markings, is hereby modified by deleting the number "100" and replacing it with the phrase "the same width as the lines" in the fourth sentence of the first paragraph.

177. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (1) Centerline Markings, is hereby further modified by deleting the second (last) paragraph in its entirety.

178. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (2) Edgeline Markings, is hereby modified by deleting the second (last) paragraph in its entirety.

179. 646.04 APPLICATION OF MARKINGS, GENERAL, part (d) Layout and Control, subpart (3) Dotted Line, is hereby modified by deleting the second (last) paragraph in its entirety.

180. 646.06 PAINT PAVEMENT MARKINGS, is hereby modified by being re-named WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS.

181. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby modified by changing the word "Retroflective" to "Retroreflective" in the first sentence of the first paragraph.

182. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby further modified by deleting the phrase "shall have a dry film thickness of 380 ±25 µm (15 ±1 mil) for paint, unless otherwise specified, and" in the third (last) sentence of the first paragraph.

183. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby still further modified by adding the following as the third paragraph:

The markings shall be applied at a rate to create a uniform wet film thickness of 558.8 µm (22 mils) with an allowable range of ±50.8 µm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon) with glass beads applied at a rate of 960 grams per liter (8.0 lb per gallon) of paint. The Contractor shall provide the Engineer and the Materials Section with the optic drop on rates of all optic materials and daily binder application rates.

184. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby still further modified by deleting the fourth and fifth (last) paragraphs in their entirety.

185. 646.07 DURABLE PAVEMENT MARKINGS, is hereby modified by adding the following as the third sentence of the first paragraph:

Durable pavement markings shall be installed within two weeks of the placement of the wearing course.

186. 646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by changing punctuation at the end of the third sentence of the first paragraph from ":" to ".".

187. 646.07 DURABLE PAVEMENT MARKINGS, is hereby still further modified by adding the following at the end of the first paragraph:

The Contractor shall select optics that conform with Subsections 708.09(a), 708.09(b), and 708.09(c). The Contractor shall provide the Engineer and the Materials Section with the daily optic drop on rates of all optic materials and daily binder application rates. The Contractor shall perform all quality control activities and provide to the Engineer on a daily basis all retroreflectivity measurements collected. The Agency will perform all acceptance testing activities. The Engineer will select an evaluation section(s) for the purpose of collecting pavement marking retroreflectivity measurements. Retroreflectivity measurements shall be performed in accordance with ASTM D7585, as modified by Table 646.07A.

TABLE 646.07A – EVALUATION SECTION CRITERIA

PAVEMENT MARKING TYPE	EVALUATION SECTION(S) REQUIRED*	EVALUATION SECTION LENGTH m (feet)	MEASUREMENTS REQUIRED
Long Lines	1 per 3.2 km (2 miles)	120 (400)	20
Dashed Lines	1 per 3.2 km (2 miles)	120 (400)	20 (2 per dashed line)

*Projects less than 3.2 km (2 miles) in length shall have a minimum of one (1) evaluation section.

Each spot measurement for all yellow centerline retroreflectivity shall be performed in both directions at each spot location and averaged for acceptance. For long lines and dashed lines, if the average retroreflectivity as determined in accordance with ASTM D7585 fails to meet the minimum retroreflectivity requirements, or if 25% of the individual tests fail to meet the minimum retroreflectivity requirements, the entire length represented by the evaluation section shall be re-marked and re-tested until in compliance, at no additional cost to the Agency.

188. 646.07 DURABLE PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type I, is hereby modified by being deleted in its entirety and replaced as follows:

(a) Pavement Marking Tape, Type A. Type A tape for pavement markings is classified as high performance or high durable, and non-removable. Type A tape shall conform to the requirements of Subsection 708.12(a).

Type A tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

189. 646.07 DURABLE PAVEMENT MARKINGS, part (b) Epoxy Paint, is hereby modified by being re-designated as part (e).

190. 646.07 DURABLE PAVEMENT MARKINGS, part (c) Thermoplastic, is hereby modified by being re-designated as part (f) Extruded Thermoplastic.

191. 646.07 DURABLE PAVEMENT MARKINGS, part (d) Polyurea Paint, is hereby modified by being re-designated as part (h).

192. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Methyl-methacrylate Paint, is hereby modified by being re-designated as part (i).

193. 646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by adding the following new parts (b), (c), and (d):

(b) Pavement Marking Tape, Type B. Type B tape for pavement markings is classified as non-removable, used in long line applications. Type B tape shall conform to the requirements of Subsection 708.12(b).

Type B tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

(c) Pavement Marking Tape, Type C. Type C tape for pavement markings is classified as non-removable, used in intersection applications. Type C tape shall conform to the requirements of Subsection 708.12(c).

Type C tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements.

(d) Pavement Marking Tape, Type D. Type D tape for pavement markings is classified as non-removable, used for symbols and legends applications. Type D tape shall conform to the requirements of Subsection 708.12(d).

Type D tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

194. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby modified by deleting the fifth (last) sentence in its entirety.

195. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby further modified by adding the following sentences:

Epoxy paint shall be applied at a rate to create a uniform wet film in place thickness of 558.8 µm (22 mils) with an allowable range of ±50.8 µm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon). Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

196. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, is hereby modified by replacing the phrase "708.10" with the phrase "708.10(a)" at the end of the first paragraph.

197. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, is hereby further modified by adding the following as the third paragraph:

Thermoplastic markings shall be applied at a rate to create a uniform hot film in place thickness of 2667 µm (105 mils) with an allowable range of ± 127 µm (±5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.36 square meters per liter (15 square feet per gallon).

198. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (1) Thermoplastic Application Equipment, a. Mobile Applicator Equipment, is hereby modified by deleting the phrase ", between 2.4 and 2.5 mm (96 and 100 mils) thick" and replacing it with the phrase "with a uniform hot film in place thickness of 2667 µm (105 mils), with an allowable range of ± 127 µm (±5 mils)" in the second sentence of the second paragraph.

199. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (1) Thermoplastic Application Equipment, b. Portable Applicator Equipment, is hereby modified by deleting the phrase "between 2 and 2.5 mm (80 and 100 mils) thick" and replacing it with the phrase "with a uniform hot film in place thickness of 2667 µm (105 mils) with an allowable range of ± 127 µm (±5 mils)" in the fourth sentence.

200. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, b. Thermoplastic Composition, is hereby modified by replacing the phrase "708.10" with the phrase "708.10(a)".

201. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, d. Extruded Markings, is hereby modified by deleting the phrase "thickness between 2.4 and 2.5 mm (96 and 100 mils)" and replacing it with the phrase "uniform hot film in place thickness between 2.54 and 2.794 mm (100 and 110 mils)".

202. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Beads, is hereby modified by being re-named Optics.

203. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby modified by adding the phrase "shall be" after the phrase "Type I".

204. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby further modified by adding the phrase "intermix of the" after the phrase "incorporated into the".

205. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby still further modified by deleting the numbers "28" and "30" and replacing them with the numbers "30" and "40", respectively.

206. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 2., is hereby modified by being deleted in its entirety and replaced as follows:

2. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

207. 646.07 DURABLE PAVEMENT MARKINGS, is hereby still further modified by adding the following new part (g):

(g) Preformed Thermoplastic. Approved preformed thermoplastic marking materials shall be one of the preformed thermoplastic markings listed on the Approved Products List on file with the Agency's Research and Development Section under Subsection 708.10(b).

208. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby modified by deleting the second sentence in its entirety.

209. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby further modified by adding the following sentences:

Polyurea paint shall be applied at a rate to create a uniform wet film in place thickness of 558.8 µm (22 mils) with an allowable range of ±50.8 µm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon). Initial dry retroreflectivity minimums for surface-applied polyurea shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings. Initial dry retroreflectivity minimums for recessed polyurea shall be 600 mcdl/lx/m^2 for yellow markings and 800 mcdl/lx/m^2 for white markings.

210. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby modified by deleting the second sentence in its entirety.

211. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby further modified by adding new subpart (1) as follows:

(1) Application Requirements.

a. Spray Applied Markings. All spray applied markings shall be applied at a rate to create a uniform wet film in place thickness of 762 µm (30 mils) with an allowable range of ±50.8 µm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.4 square meters per liter (55 square feet per gallon). Initial dry retroreflectivity minimums for surface spray applied methyl-methacrylate shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings. Initial dry retroreflectivity minimums for recessed methyl-methacrylate shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

b. Extruded Markings. All extruded markings shall be applied at a rate to create a uniform wet film in place thickness of 2286 µm (90 mils) with an allowable range of ±127 µm (±5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.45 square meters per liter (18.3 square feet per gallon). Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

c. Structured Markings. All structured markings shall be applied at a rate to create a uniform wet film in place thickness as per the manufacturer's recommendations unless otherwise specified in the Contract Documents. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

212. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby modified by deleting the phrase "Type II" (first entry) and replacing it with the phrase "Temporary Pavement Marking" in the first sentence.

213. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type II, is hereby modified by being re-named Temporary Pavement Marking Tape.

214. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Temporary Pavement Marking Tape, is hereby modified by deleting the first sentence in its entirety and replacing it as follows:

This tape for pavement markings is classified as temporary and is removable.

215. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Temporary Pavement Marking Tape, second sentence, is hereby modified by deleting the phrase "Type II" and replacing it with the word "The" and by deleting the phrase "Subsection 708.12(b)" and replacing it with the phrase "Subsection 708.13(c)".

216. 646.08 TEMPORARY PAVEMENT MARKINGS, part (b) Pavement Marking Mask, is hereby modified by deleting the phrase "Subsection 708.12(c)" and replacing it with the phrase "Subsection 708.13(d)" in the second sentence.

217. 646.08 TEMPORARY PAVEMENT MARKINGS, part (c) Raised Pavement Markers, Type II, is hereby modified by adding the following sentence to the second (last) paragraph:

They shall conform to the requirements of Subsection 708.13(b) and shall be installed in accordance with the manufacturer's requirements.

218. 646.08 TEMPORARY PAVEMENT MARKINGS, part (d) Line Striping Targets, is hereby modified by being deleted in its entirety and replaced as follows:

(d) Line Striping Targets. Line striping targets are intended to be substitutes for pavement markings for not longer than 14 calendar days. Line striping targets shall be maintained and replaced as needed or as directed by the Engineer, until replaced by a temporary or permanent pavement marking.

Line striping targets of the color shown on the Plans or directed by the Engineer shall be installed as described below or as directed by the Engineer.

For solid longitudinal pavement markings, line striping targets shall be placed at 3 m (10 foot) intervals. For double centerline markings, line striping targets shall be paired. For dashed pavement markings, line striping targets shall be placed in groups of 3 spaced at 1.5 m (5 feet), with the groups separated by 10 m (30 foot) spaces, or as determined by the Engineer.

Line striping targets shall not be used to delineate passing zones on two lane non-divided highways.

Line striping targets shall conform to the requirements of Subsection 708.13(a) and shall be installed in accordance with the manufacturer's requirements.

219. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby further modified by deleting the first sentence of the last paragraph in its entirety and replacing it as follows:

Temporary markings on the wearing course of pavement that remain in place for fewer than fourteen calendar days shall be Temporary Pavement Marking Tape, Type II raised pavement markers, or line striping targets.

220. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby still further modified by deleting the word "seven" and replacing it with the word "fourteen" in the second (last) sentence of the last paragraph.

221. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby modified by deleting the phrase "provided is 125% of the material marking thickness" and replacing it with the phrase "meets the requirements of Table 646.09A" in the first sentence.

222. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby further modified by deleting the last sentence in its entirety.

223. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby still further modified by adding the following paragraphs and Table:

The bottom of the recess shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 254 µm (10 mil) rise in the finished groove between the blades.

Recesses shall be clean, dry, and free of laitance, oil, dirt, grease, paint, or other foreign contaminants prior to application of the pavement markings. The Contractor shall re-clean grooves, as necessary, prior to application of any primer or permanent markings. Depth plates shall be provided by the Contractor to assure that desired groove depth is achieved.

TABLE 646.09A – PAVEMENT MARKING RECESS DEPTH

MARKING MATERIAL	STANDARD GLASS BEAD RECESS DEPTH µm (mils)	PREMIUM OPTIC RECESS DEPTH µm (mils)
Permanent Waterborne Paint	762-1016 (30-40)	762-1016 (30-40)
Spray Applied Methyl-methacrylate	1016-1270 (40-50)	1778-2286 (70-90)
Extruded Methyl-methacrylate	2540-2794 (100-110)	2540-2794 (100-110)*
Structured Methyl-methacrylate	As recommended by manufacturer	As recommended by manufacturer*
Thermoplastic	2540-2794 (100-110)	2540-2794 (100-110)*
Polyurea	762-1270 (30-50)	1778-2286 (70-90)
Epoxy	762-1270 (30-50)	1778-2286 (70-90)
Permanent Tape	As recommended by manufacturer	As recommended by manufacturer
*Thermoplastic and Methyl-methacrylate with wet recoverable or wet reflective elements shall have a recess depth of 3048-3302 µm (120-130 mils).		

224. 646.14 BASIS OF PAYMENT, part (a) Paint Pavement Markings, is hereby modified by adding the following pay item ranges:

646.200 to 646.209 100 mm (4 inch) White Line Meter (Linear Foot)
646.2110 to 646.2119 100 mm (4 inch) Yellow Line Meter (Linear Foot)
646.2140 to 646.2149 150 mm (6 inch) White Line Meter (Linear Foot)
646.2150 to 646.2159 150 mm (6 inch) Yellow Line Meter (Linear Foot)
646.221 to 646.229 200 mm (8 inch) White Line Meter (Linear Foot)
646.231 to 646.239 200 mm (8 inch) Yellow Line Meter (Linear Foot)
646.241 to 646.249 300 mm (12 inch) White Line Meter (Linear Foot)

646.251 to 646.259	300 mm (12 inch) Yellow Line	Meter (Linear Foot)
646.261 to 646.269	600 mm (24 inch) Stop Bar	Meter (Linear Foot)
646.300 to 646.309	Letter or Symbol	Each
646.311 to 646.319	Crosswalk Marking	Meter (Linear Foot)
646.321 to 646.329	Railroad Crossing Symbol	Each

SECTION 653 – EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

225. 653.15 BIOTECHNICAL SLOPE PROTECTION, part (a) Erosion Logs, is hereby modified by being deleted in its entirety and replaced with the following:

(a) Erosion Logs. Erosion logs shall be installed to intercept water flow and collect sediment and associated pollutants by settling and filtering. Erosion logs may be placed over bare or mulched soils or rolled erosion control products; around inlet and outlets; as check dams in unvegetated ditches, slope interrupters on steep slopes, and perimeter control; and along stream banks as a base for plantings. Some types of erosion logs (typically those with a heavier filtering medium such as compost) can be used in applications where underlying conditions are unsuitable (frozen ground, paved surfaces, sensitive plantings areas, etc.) for trenching.

Prior to placing erosion logs, the ground surface shall be properly graded and compacted and free of depressions or obstructions such as tree roots, protruding stones, or other foreign matter.

Erosion logs shall be installed in accordance with the manufacturer's installation guidelines, staking pattern guide, and details based upon the intended use on the construction site.

The Contractor shall remove accumulated sediment when it has reached 1/2 of the effective height of the log, or as directed by the Engineer. Alternatively, a new erosion log may be placed on top of and slightly behind the original one creating more sediment storage capacity. Erosion logs shall be maintained until disturbed area above the device has been permanently stabilized and construction activity has ceased.

When used as a temporary erosion prevention and sediment control measure, erosion logs may be cut open and left in place, but only if the fill material and netting are 100% biodegradable and the material is spread or graded flat so as to not cause concentration of future surface runoff.

SECTION 656 – PLANTING TREES, SHRUBS, AND VINES

226. 656.02 MATERIALS, is hereby modified by deleting the first entry in the Subsection listing (for "Barrier Fence") in its entirety.

227. 656.02 MATERIALS, is hereby further modified by adding the following as the second paragraph (directly below the Subsection listing):

Barrier Fence shall meet the requirements of Section 653.

SECTION 677 – OVERHEAD TRAFFIC SIGN SUPPORTS

228. 677.01 DESCRIPTION, is hereby modified by adding the phrase "and removing and disposing of existing overhead traffic sign supports," after the phrase "supports,".

229. 677.02 MATERIALS, is hereby modified by deleting subsection "753.05" for Grounding Electrodes and replacing it with "752.15".

230. 677.03 GENERAL, is hereby modified by adding the following paragraph:

Where existing overhead traffic sign supports are to be removed, the Contractor shall remove and dispose of the entire sign assembly, including concrete footings, to a depth of 450 mm (18 inches) below existing grade. Areas of ground disturbance shall be restored to the satisfaction of the Engineer.

231. 677.04 GROUNDING. is hereby modified by deleting the second and third sentences of the first paragraph, and also deleting the second and third paragraphs in their entirety.

232. 677.04 GROUNDING. is hereby further modified by adding the phrase "in accordance with section 678" at the end of the first sentence of the first paragraph.

233. 677.05 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Remove Existing Overhead Sign Assembly of the type specified to be measured for payment will be the number of each assembly removed in the complete and accepted work.

234. 677.06 BASIS OF PAYMENT, is hereby modified by adding the following paragraphs and pay items:

The accepted quantity of Remove Existing Overhead Sign Assembly of the type specified will be paid for at the Contract unit price per each. Payment will be full compensation for removing and disposing of assembly components, including concrete footings; for performing any excavation necessary; for restoring areas of ground disturbance; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Costs associated with providing traffic control and/or flaggers for performing the work will be paid under the appropriate Contract item(s).

Payment will be made under:

Pay Item	Pay Unit
677.30 Remove Existing Overhead Sign Assembly, Cantilever	Each
677.35 Remove Existing Overhead Sign Assembly, Multi-Support	Each

SECTION 678 – TRAFFIC CONTROL SIGNALS

235. 678.01 DESCRIPTION, is hereby modified by adding the phrase ", and removing existing traffic control systems" after the word "system" in the first paragraph.

236. 678.02 MATERIALS, is hereby modified by deleting the following from the Subsections listing:

Junction Box……752.12
Grounding Electrodes…… 753.05

237. 678.02 MATERIALS, is hereby further modified by adding the following to the Subsection listing at the appropriate location following the subsections sequence:

Pull Box…… 752.12(a)
Junction Box…… 752.12(b)
Grounding Electrodes…… 752.15

238. 678.02 MATERIALS, is hereby further modified by deleting "convers" and replacing it with the word "covers" in the second sentence of the last paragraph of the Subsection text.

239. 678.07 DETECTORS AND CONTROLLERS, is hereby corrected by deleting "manufacturer" and replacing it with the word "manufacturer" in the first sentence of the second (last) paragraph.

240. 678.11 INSTALLATION, sixteenth paragraph, part (a), is hereby modified by adding the following:

The Contractor shall remove any equipment to be salvaged or reused in such a manner that the equipment is not damaged.

241. 678.13 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Removal of Existing Traffic Control Signal System to be measured for payment will be for each traffic control signal system removed in the complete and accepted work.

242. 678.14 BASIS OF PAYMENT, is hereby modified by adding the phrase "all removal, disposal, and salvage and/or reuse of existing system equipment and components," after the phrase "Electrical Wiring," in the second sentence of the first paragraph.

243. 678.14 BASIS OF PAYMENT, is hereby further modified by adding the following paragraph and pay item:

The accepted quantity of Removal of Existing Traffic Control Signal System will be paid for at the Contract unit price per each. Payment will be full compensation for removing and handling the existing traffic control signal system components as specified in the Contract Documents and for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
678.45 Removal of Existing Traffic Control Signal System	Each

SECTION 679-STREET LIGHTING

244. 679 STREET LIGHTING, is hereby modified by deleting in its entirety and replacing with the following:

679.01 DESCRIPTION. This work shall consist of removing, furnishing, and installing the street lighting components necessary to provide a complete and operational system.

Street light assemblies shall consist of Light Pole Foundations, Transformer Bases, Light Poles, Bracket Arms and Luminaires.

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

Grounding Electrodes	752.15
Light Pole Foundations	753.06
Transformer Bases	753.07
Light Poles	753.08
Bracket Arms	753.09
Luminaires	753.10
Highway Illumination Conductor Cable	753.11
Street Lighting Control Device	753.12
Finish	753.13

679.03 GENERAL. Street lights shall be installed as specified in the Contract Documents.

Street Lights shall be designed to withstand an equivalent wind load of 160 KPH (100 MPH) velocity with an allowable angular deflection of 70 minutes or less.

All wiring shall meet the current National Electric Code.

Street lighting design shall conform to the current edition of Standard Specifications for the Structural Supports for Highway Signs, Luminaires and Traffic Signals, published by AASHTO, and its latest revisions.

679.04 SUBMITTALS. The Contractor shall submit Fabrication Drawings in accordance with Subsection 105.03. The submittal shall contain the following information, at a minimum:

(a) Wiring.

(1) Conductor material, insulation type, voltage rating and temperature rating.

(b) Light Pole Foundations.

(1) Dimensions and material specifications for all hardware used to mount the transformer base to the Light Pole Foundation.

(2) For pre-cast Light Pole Foundations: complete design details and material specifications for Light Pole Foundations.

(c) Transformer Bases.

(1) Dimensions for bottom and top of Transformer Base, height of Transformer Base, Transformer Base door dimensions, bolt pattern for mounting the Transformer Base to the Light Pole Foundation and type of Transformer Base. Including documentation indicating the Transformer Base meets the AASHTO standards.

(2) Dimensions and material specifications for all hardware used to mount the Light Pole to the Transformer Base.

(d) Light Poles.

(1) Dimensions for pole height, mounting height, pole diameter (top and bottom), handhole (size and location), anchor base, bolt circle, and mounting bolt size.

(2) Dimensions for the bolt pattern for mounting the light pole to the transformer base.

(a) Material specifications for all components of the light pole.

(b) Welding information in accordance with Subsection 506.10.

(c) The welding process and procedures and the materials used to make the two continuous circumferential welds, one attaching the top of the anchor base to the pole shaft and the other attaching the bottom of the pole shaft to the inside of the shoe base.

(d) Special features as shown on the Plans, such as finish or color.

(e) Bracket Arms.

(1) Dimensions for Bracket Arm length and diameter.

(2) Details for connection of Bracket Arm to Light Pole (details shall be specific to the pole material the arm is to be mounted on).

(3) Welding information in accordance with Subsection 506.10.

(4) Material specifications for Bracket Arm and mounting hardware.

(f) Luminaires.

(1) Luminaire Data

a. Manufacturer

b. Model Number

c. Wattage

d. Lamp type (with number of LEDs)

e. Any other features, such as finish, special wire access, etc.

f. BUG Rating

g. Operating Amperage

h. Street Lighting Control Device

(2) Photometric Data (to be supplied when a street lighting design is not included in the Plans or when changes to the Plans are proposed).

a. IES Distribution type.

b. Utilization curve.

c. Iso-lux curves.

d. Mounting height factor.

e. Maintenance factor.

679.05 BRACKET ARM. Bracket Arms shall be installed as shown in the Contract Documents.

The length and mounting height of Bracket Arms shall be as shown on the approved drawings. The Bracket Arm shall be mounted perpendicular to the centerline of roadway, unless otherwise specified. The Bracket Arm shall be provided with a 50 mm (2inch) slip-fit mounting of sufficient length to accommodate the Luminaire.

All welds shall conform to the requirements of Subsection 506.10, no field welds shall be allowed.

679.06 LUMINAIRE. Luminaires shall meet the requirements of the current VTrans Lighting Design Guide unless otherwise specified in the Plans.

679.07 STREET LIGHT ASSEMBLY. Street Light Assemblies shall be installed as shown in the Contract Documents and shall include the following:

(a) Light Pole Foundation. Light Pole Foundations shall be installed as shown in the Contract Documents.

Excavation and Backfill shall be in accordance with Section 203

(b) Transformer Bases. Transformer Bases shall be installed on Light Pole Foundations as shown in the Contract Documents. The bottom plate of the Transformer Base shall have a grounding bolt and nut, easily accessible from the transformer base door. Transformer Bases, and all wiring contained in the Transformer Bases, shall meet the requirements of the current edition of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, and its latest revisions, for breakaway features.

(C) Light Poles. Light Poles shall be mounted on Transformer Bases as shown in the Contract Documents.

The anchor base shall be attached to the pole shaft by two continuous welds, one inside the base at the end of the shaft and the other on the outside at the top of the anchor base. All welds shall conform to the requirements of Subsection 506.10, no field welding shall be allowed.

Light Poles shall be plumb and level. A 100 by 150 mm (4 inch x 6 inch) handhole, complete with cover and hardware shall be located approximately 450 mm (18 inches) above the top of the Transformer Base directly above the transformer base door. A lip shall be provided around the handhole opening to prevent the cover from tipping and falling inside the hole. A grounding bolt and nut, easily accessible from the handhole, shall be located inside the pole shaft.

The pole cap shall be securely held in place.

(a) Bracket Arms. Bracket Arms shall be as specified herein.

(b) Luminaires. Luminaires shall be as specified herein.

679.08 REMOVE STREET LIGHT ASSEMBLY. The Contactor shall remove the entire Street Light Assembly as identified in the Plans, including the light pole foundation, transformer base, light pole, bracket arm, luminaire, wiring and all other incidentals.

The Street Light Assembly shall become property of the Contractor. All components of the Street Light Assembly shall be removed from the project and properly disposed of by the Contractor.

All voids resulting from this work shall be backfilled in accordance with Subsection 203.

679.09 REMOVE AND RESET LIGHT POLE. The Contractor shall remove, store and reset the transformer base, light pole, bracket arm, luminaire, wiring and other incidentals as shown in the Plans. All light poles shall be carefully separated from the light pole foundation on which they are mounted.

Light poles shall be completely removed from the light pole foundation, transported and stored at locations specified in the Contract Documents or as ordered by the Engineer and reset on the light pole foundation at the original location.

679.10 STREET LIGHTING CONTROL DEVICES. An Astronomical Clock shall be provided for each wired group of Street Lights and installed at the power Stanchion for each group, unless otherwise noted in the Plans.

Astronomical Clocks shall have two circuit scheduling, at least 20 set points for individual programs for each day of the week, be capable of daylight savings time adjustments, have a manual override and a power outage backup system with permanent schedule retention and memory module.

All Astronomical Clocks shall be placed in an enclosure meeting NEMA 3R standards and all shall be the same for the project, a mix of clocks will not be allowed for new installations.

679.11 POWER DROP STANCHION, STREET LIGHTING. Power Drop Stanchion, Street Lighting shall conform to the requirements of Subsection 678.08.

679.12 ELECTRIC WIRING. All wiring shall be in accordance with the NEC and Section 678.

All current carrying conductors shall have a fusible disconnect in the base of each Light Pole accessible from the hand hole or breakaway base.

Conductors shall not have any unnecessary kinks or bends. End caps, when necessary, of the appropriate size for the service conductors shall be installed at all termination points in pull boxes, junction boxes and pole bases.

679.13 FINISH. All Transformer Bases, Light Poles, Bracket Arms and Luminaires shall have either a powder coating or anodized aluminum finish, all finishes shall be factory applied finishes.

Anodized aluminum coatings shall have a minimum coating thickness of 1.0 mil.

Powder coatings shall be a thermosetting material, with a minimum film thickness of 4.0 mil. The powder coating process shall have pre-treatment steps that ensure complete cleaning and adherence of the coating materials, including at least the following steps: hot alkaline wash, rinse, hot phosphoric acid etching, and final rinse. It shall be free of blisters, cracks, stains and similar defects.

679.14 ACCEPTANCE.

(a) Prior to acceptance of the street lighting system the system shall successfully complete a test period. The street lighting systems shall be completely operable and energized for 30 consecutive days without any defects in the system for successful completion of the test period. All required adjustments to the Street Lighting Control Device, if required, shall be completed to the satisfaction of the Engineer prior to acceptance.

(b) The Contractor shall be responsible for all power costs through project acceptance.

679.15 METHOD OF MEASUREMENT.

The quantity of Bracket Arm to be measured for payment will be the number of each bracket arm installed in the complete and accepted work.

The quantity of Luminaire to be measured for payment will be the number of each luminaire installed in the complete and accepted work.

The quantity of Street Light Assembly to be measured for payment will be the number of each Street Light Assembly installed in the complete and accepted work.

The quantity of Remove Street Light Assembly to be measured for payment will be the number of each Street Light Assembly removed in the complete and accepted work.

The quantity of Remove and Reset Light Pole to be measured for payment will be the number of each Salvaged Light Pole removed, stored, and erected in the complete and accepted work.

The quantity for Street Lighting Control Device to be measured for payment will be the number of each Street Lighting Control Device installed in the complete and accepted work.

The accepted quantity of Power Drop Stanchion, Street Lighting to be measured for payment will be the number of each stanchion installed in the complete and accepted work.

679.16 BASIS OF PAYMENT. Street lighting item prices shall be full compensation for furnishing, transporting, handling, and placing the materials specified. When a Power Drop Stanchion, Street Lighting is not a contract item, connections to the power source, circuit testing, and the furnishing of all labor, tools, equipment, and incidentals necessary to complete the work will be incidental to other items.

The accepted quantity of Bracket Arm shall be full compensation for the bracket arm, wiring within the bracket arm, hardware required to mount the bracket are to light pole and other incidentals as necessary to complete the work. Bracket arm shall be paid for at the Contract unit price for each.

The accepted quantity of Luminaire shall be full compensation for the luminaire housing, ballasts, lamps, photoelectric control device and other incidentals as necessary to complete the work. Luminaire shall be paid for at the Contract unit price for each.

The accepted quantity of Street Light Assembly shall be full compensation for the light pole foundation, transformer base, light pole, bracket arm luminaire, wiring within the Street Light Assembly and other incidentals as necessary to complete the work. Street Light Assembly shall be paid for at the Contract unit price for each.

The accepted quantity of Remove Street Light Assembly shall be full compensation for removing and disposing a street light assembly, including light pole foundation, transformer base, light pole, bracket arm, luminaire, wiring and other incidentals. Remove Street Light Assembly shall be paid for at the contract unit price for each.

The accepted quantity of Remove and Reset Light Pole shall be full compensation for removing, storing and installing a salvaged light pole, including transformer base, light pole, bracket arm, luminaire wiring and other incidentals as necessary to complete the work. Remove and Reset Light Pole shall be paid for at the contract unit price for each.

The accepted quantity of Street Lighting Control Device shall be full compensation for installing a fully functional Street Lighting Control Device at the Contract unit price for each.

The accepted quantity of Power Drop Stanchion, Street Lighting shall be full compensation for all work, materials and incidentals necessary to complete the work. Power Drop Stanchion, Street Lighting shall be paid for at the Contract unit price for each.

Circuit testing and connections to power sources will not be paid for separately but will be considered incidental to the Contract items that include the costs of wiring.

The cost of furnishing and installing electrical conduit, wired conduit, electrical wiring, electrical conduit sleeve, pull boxes, and junction boxes, when not covered under the Section 678, shall be considered incidental to items in this section.

Payment will be made under:

Pay Item		Pay Unit
679.24	Remove Street Light Assembly	Each
679.25	Remove and Reset Light Pole	Each
679.46	Street Light Assembly	Each
679.47	Bracket Arm	Each
679.50	Luminaire	Each
679.54	Street Lighting Control Device	Each
679.55	Power Drop Stanchion, Street Lighting	Each

SECTION 700 GENERAL

245. 700.01 GENERAL STATEMENT, is hereby corrected by deleting punctuation ".," at the end of the first sentence of the fourth paragraph and replacing it with punctuation ".".

246. 700.02 MATERIALS CERTIFICATIONS, part (a) General, is hereby modified by deleting subpart (3) in its entirety.

247. 700.02 MATERIALS CERTIFICATIONS, part (a) General, is hereby further modified by adding the following as the seventh paragraph:

All certifications shall be forwarded to the Vermont Agency of Transportation Materials Section.

SECTION 702 – BITUMINOUS MATERIALS

248. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby modified by adding the abbreviation "(PGB)" after the word "binder" in the first sentence.

249. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby further modified by deleting the second sentence of the first paragraph in its entirety and replacing it with the following:

PGB shall be asphalt prepared solely by the refining of crude petroleum and shall meet the requirements of AASHTO M 320 from facilities compliant with AASHTO R 29 without the addition of modifiers.

250. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby still further modified by adding the following as the third and fourth (last) sentences of the second paragraph:

If additives are used for the modification of asphalt, preapproval is required. The addition of any material not normally obtained during the initial refining process shall constitute modified asphalt and shall be labeled appropriately.

251. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (a) Properties, is hereby still further modified by adding the following as the third (last) paragraph:

The performance graded binder shall be manufactured in accordance with the approved Quality Control Plan. The manufacturer shall remain in compliance with the plan, including all notifications, sampling, testing, and reporting requirements.

252. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (b) Pretest, is hereby modified by being re-designated as part (c).

253. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), part (c) Certification, is hereby modified by being re-designated as part (d).

254. 702.02 PERFORMANCE-GRADED ASPHALT BINDER (PREPARED FROM PETROLEUM), is hereby modified by adding the following new part (b):

(b) Effect of Approval. VTrans reserves its right to remove its approval of any PGB lot if, in the sole discretion of the Agency, such approval was based on a material non-disclosure by the PGB supplier.

SECTION 704 – AGGREGATES

255. 704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (a) Aggregate for Marshall Bituminous Concrete Pavement, subpart (1) Grading, c. Recycled Asphalt Pavement (RAP), is hereby modified by deleting the word "four" and replacing it with the word "two" in the seventh sentence of the fifth paragraph.

256. 704.10 AGGREGATE FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (1) Grading, c. Recycled Asphalt Pavement (RAP), is hereby modified by deleting the word "four" and replacing it with the word "two" in the seventh sentence of the sixth paragraph.

257. 704.12 AGGREGATE FOR SURFACE COURSE AND SHOULDERS, is hereby modified by deleting in its entirety and replacing them with the following:

704.12 AGGREGATE FOR SURFACE COURSE AND SHOULDERS.

(a) Aggregate for Aggregate Surface Course and Aggregate Shoulders. Aggregate shall consist solely of crushed gravel or crushed stone. It shall be reasonably free from silt, loam, clay, organic matter or other deleterious materials.

All aggregates shall meet the following requirements:

(1) Grading. The entire gradation shall be uniformly graded and shall meet the gradation requirements of the following table as determined in accordance with AASHTO T 27 and AASHTO T 11:

TABLE 704.12A - AGGREGATE FOR SURFACECOURSE AND SHOULDERS

Sieve Designation	Percentage by Mass (Weight) Passing Square Mesh Sieves
37.5 mm (1 1/2 inch)	100
25.0 mm (1 inch)	90 to 100
4.75 mm (No. 4)	45 to 65
150 µm (No. 100)	0 to 15
75 µm (No. 200)	0 to 12

(2) Percent of Wear. The percent of wear shall not be more than 40 percent for material used as aggregate surface course or not more than 50 percent for material used as aggregate shoulders, excluding bituminous materials. Percent wear shall be in accordance with AASHTO T 96.

(3) Fractured Faces. When crushed gravel is used at least 50 percent by mass (weight), of the material coarser than the 4.75 mm (No. 4) sieve from each stockpile shall have at least two fractured faces. Fractured faces shall be in accordance with Vermont Standard Test Procedures AOT-MRD 23.

(b) Aggregate Shoulders, RAP. Aggregate for Aggregate Shoulders, RAP shall consist solely of Bituminous Concrete Pavement. RAP shall be such that 100% of the material passes the 37.5 mm (1 ½ inch) sieve prior to placement.

SECTION 708 – PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

258. 708.01 GENERAL REQUIREMENTS, part (c) Sampling, Testing, and Certification, subpart (2) Testing, is hereby modified by adding the following:

All other materials may be required to be tested on a cold weather AASHTO National Transportation Product Evaluation Program (NTPEP) pavement marking test deck.

259. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, is hereby modified by adding the following as the first paragraph:

Ready-mixed Low VOC Chlorinated Rubber Traffic Paint shall consist of 100% chlorinated rubber type, fast drying traffic paint that shall contain properly formulated pigment and vehicle to give the desired results.

260. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (1) Materials, is hereby modified by adding the following new subpart d.:

(d) The paint shall contain a maximum of 0.005% w/w (50 ppm w/w) lead. The EPA Method 1311 (TCLP) extract of the paint shall not contain amounts of cadmium, mercury, hexavalent chromium, or other toxic heavy metals in excess of the limits specified in SW-846.

261. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby modified by deleting the phrase "and shall be a 100% acrylic binder" in the first sentence.

262. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby further modified by deleting the phrase "Table 708.08A" and replacing it with the phrase "the following:" in the second (last) sentence.

263. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby still further modified by deleting TABLE 708.08A in its entirety and replacing it with the following:

TABLE 708.08A – LOW VOC CHLORINATED RUBBER TRAFFIC PAINT COMPOSITION

PERFORMANCE CHARACTERISTIC	WHITE	YELLOW/BLUE/ GREEN
Pigment Content, % by Mass (Weight) (ASTM D3723)	55% min. 59% max.	55% min 59% max.
Vehicle Content, % by Mass (Weight)	38% min. 42% max.	38% min. 42% max.
VOC Content, Mass (Weight) per Unit Volume (ASTM D3960)	150 g/L (1.25 lb/gal) max.	150 g/L (1.25 lb/gal) max.
Lead Content, %	0.005% max.	0.005% max.
Yellow Pigment	N/A	Yellow #65 or #75
Titanium Dioxide, Rutile Type II, (ASTM D1394)	120 g/L (1.00 lb/gal) max.	25 g/L (0.21 lb/gal) max.
Total Non-Volatile Content, % by Mass (Weight) (ASTM D2369)	70.0% min.	69.0% min.
Density, (ASTM D1475)	1.50 ± 0.04 kg/L (12.5 ± 0.33) lb/gal	1.46 ± 0.04 kg/L (12.2 +/- 0.33 lb/gal)
Close Cup Flash Point (ASTM D 3278)	4°C (39 °F) min.	4°C (39°F) min.

TABLE 708.08B – LOW VOC ACETONE BASED TRAFFIC PAINT COMPOSITION

PERFORMANCE CHARACTERISTIC	WHITE	YELLOW/BLUE/ GREEN
Pigment Content, % by Mass (Weight) (ASTM D3723)	53% min. 57% max.	51% min 56% max.
Vehicle Content, % by Mass (Weight)	37% min. 42% max.	37% min. 42% max.
VOC Content, Mass (Weight) per Unit Volume (ASTM D3960)	150 g/L (1.25 lb/gal) max.	150 g/L (1.25 lb/gal) max.
Lead Content, %	0.005% max.	0.005% max.
Yellow Pigment	N/A	Yellow #65 or #75
Titanium Dioxide, Rutile Type II, (ASTM D1394)	120 g/L (1.00 lb/gal) max.	25 g/L (0.21 lb/gal) max.
Total Non-Volatile Content, % by Mass (Weight) (ASTM D2369)	70.0% min.	69.0% min.
Density, (ASTM D1475)	1.415 ± 0.04 kg/L (11.8 ± 0.33) lb/gal	1.367 ± 0.04 kg/L (11.4 +/- 0.33 lb/gal)
Close Cup Flash Point (ASTM D 3278)	-20°C (-4°F) min.	-20°C (-4°F) min.

264. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (3) Laboratory Tests, subpart a. Viscosity, is hereby modified by being deleted in its entirety and replaced as follows:

a. Viscosity.

1. Chlorinated Rubber Traffic Paint. The paint viscosity shall not be less than 74 nor more than 90 Krebs units at 25°C (77°F) when tested according to ASTM D562.

2. Acetone Based Traffic Paint. The paint viscosity shall not be less than 70 nor more than 88 Krebs units at 25°C (77°F) when tested according to ASTM D562.

265. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, subpart a. Sampling Size, is hereby modified by deleting the phrase "per batch of each type and color of traffic paint" and replacing it with the phrase "of each traffic paint per batch," in the first sentence.

266. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, subpart c. Sample Delivery, is hereby modified by deleting the first paragraph in its entirety and replacing it as follows:

> All samples shall be delivered to the Materials Engineer, Vermont Agency of Transportation, Materials Section, 2178 Airport Road Unit B, Berlin, Vermont 05641.

267. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (3) Laboratory Tests, d. Drying Time (No Pick Up Time), is hereby modified by deleting the phrase "380 microns" and replacing it with the phrase "381 µm".

268. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (3) Laboratory Tests, e. No Track Time (Field Test), is hereby modified by deleting the phrase "508 microns" and replacing it with the phrase "508 µm" in the second sentence.

269. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (4) Sampling and Testing, c. Sample Delivery, is hereby corrected by deleting the phrase "1716 Barre-Montpelier Road, Berlin, VT 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the first paragraph.

270. 708.09 GLASS BEADS, is hereby modified by being re-named OPTICS.

271. 708.09 OPTICS, is hereby modified by adding new part (a) heading Glass Beads.

272. 708.09 OPTICS, part (a) Properties, is hereby modified by being re-designated as subpart (1) under part (a) heading Glass Beads.

273. 708.09 OPTICS, part (b) Certification, is hereby modified by being re-designated as subpart (2) under part (a) heading Glass Beads.

274. 708.09 OPTICS, is hereby further modified by adding the following new parts (b) and (c):

(b) Premium Optics. Approved premium optics shall be one of the premium optics listed on the Approved Products List on file with the Agency's Research and Development Section.

(c) Wet Recoverable and Wet Reflective Optics. Approved wet recoverable and wet reflective optics shall be one of the wet recoverable and wet reflective optics listed on the Approved Products List on file with the Agency's Research and Development Section.

275. 708.10 THERMOPLASTIC PAVEMENT MARKINGS, is hereby modified by being deleted in its entirety and replaced as follows:

708.10 THERMOPLASTIC PAVEMENT MARKINGS.

(a) Thermoplastic Pavement Markings, Type A. Type A Thermoplastic Pavement Markings shall be one of the Thermoplastic Pavement Markings on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used in long line applications or as specified in the Contract Documents. Thermoplastic composition shall comply with Table 708.10A.

TABLE 708.10A – THERMOPLASTIC PAVEMENT MARKING COMPOSITION
(by mass (weight)

Binder	18% Minimum
Filler	40% Maximum
Glass Beads	30 ±5-40%

(b) Thermoplastic Pavement Markings, Type B. Type B Thermoplastic Pavement Markings shall be one of the Preformed Thermoplastic Pavement Markings on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used in intersection applications for legends, stopbars, or symbols or as specified in the Contract Documents.

276. 708.11 RAISED PAVEMENT MARKERS, is hereby modified by being re-named RAISED PAVEMENT MARKERS, TYPE I.

277. 708.12 PAVEMENT MARKING TAPE, is hereby modified by deleting parts (a) Pavement Marking Tape, Type I, (b) Pavement Marking Tape, Type II, and (c) Pavement Marking Mask in their entirety and replacing them as follows:

(a) Pavement Marking Tape, Type A. Type A Pavement Marking Tape shall be one of the non-removable permanent pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section that exhibit high adhesion, high durability, and high retroreflectivity. These markings shall be used in high AADT locations in long line applications as specified in the Contract Documents.

(b) Pavement Marking Tape, Type B. Type B Pavement Marking Tape shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used in lower AADT locations in long line applications as specified in the Contract Documents.

(c) Pavement Marking Tape, Type C. Type C Pavement Marking Tape shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used at intersection locations only as specified in the Contract Documents.

278. 708.12 PAVEMENT MARKING TAPE, is hereby further modified by adding the following new part (d):

(d) Pavement Marking Tape, Type D. Type D Pavement Marking Tape for legends and symbols shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section. These markings shall be used for preformed traffic markings made of the same material as that of an approved permanent Type A, B, or C tape.

279. 708.13 PREFORMED TRAFFIC MARKINGS AND SYMBOLS, is hereby modified by being deleted in its entirety and replaced as follows:

708.13 TEMPORARY DELINEATION SYSTEMS.

(a) Line Striping Targets. Line Striping Targets shall be one of the Line Striping Targets on the Approved Products List on file with the Agency's Research and Development Section.

(b) Raised Pavement Markers, Type II. Acceptable Raised Pavement Markers shall be one of the Raised Pavement Markers on the Approved Products List on file with the Agency's Research and Development Section.

(c) Temporary Pavement Marking Tape. Pavement Marking Tape shall be one of the removable pavement marking tapes on the Approved Products List on file with the Agency's Research and Development Section.

(d) Pavement Marking Mask. Pavement Marking Mask shall be one of the Masking Marking Tapes on the Approved Products List on file with the Agency's Research and Development Section.

280. 708.14 LINE STRIPING TARGETS, is hereby modified by being deleted in its entirety.

SECTION 710 – CULVERTS, STROM DRAINS, AND SEWER PIPES, NONMETAL

281. 710.03 CORRUGATED POLYETHYLENE PIPE, is hereby modified by adding the following as the last sentence:

In order to maintain approval status, polyethylene pipe manufacturers must participate in, and maintain compliance with, the AASHTO National Transportation Product Evaluation Program (NTPEP), which audits producers of the pipe.

282. 710.07 CORRUGATED POLYPROPYLENE PIPE, is hereby made a new Subsection of the Standard Specifications as follows:

283. 710.07 CORRUGATED POLYPROPYLENE PIPE. Corrugated polypropylene pipe and fittings shall conform to the latest revisions of AASHTO M 330, Type S. Acceptable corrugated polypropylene pipe shall be one of the corrugated polypropylene pipe products on the Approved Products List on file with the Agency's Materials and Research Section. In order to maintain approval status, polypropylene pipe manufacturers must participate in, and maintain compliance with, the AASHTO National Transportation Product Evaluation Program (NTPEP), which audits producers of the pipe.

SECTION 712 – CRIBBING MATERIALS

284. 712.04 GABION BASKETS, part (a) Wire for Gabion Baskets, is hereby modified by changing the word "shall" to the word "may" and by adding the phrase "or welded panels" after the phrase "woven wire mesh" in the first sentence of the first paragraph.

285. 712.04 GABION BASKETS, part (a) Wire for Gabion Baskets, is hereby further modified by adding the following as the third sentence of the first paragraph:

Welded panels shall be coated by hot dip galvanizing after fabrication.

286. 712.04 GABION BASKETS, part (b) PVC Coating for Gabion Baskets, is hereby modified by adding the following new subpart (7):

(7) Punch Test. The mesh shall achieve satisfactory performance on the Punch Test, as described in ASTM A975 13.1.4. This requirement applies to both woven and welded gabion baskets.

SECTION 713 – REINFORCING STEEL, WELDED WIRE REINFORCEMENT, AND REINFORCING STRAND

287. 713.01 BAR REINFORCEMENT, is hereby modified by deleting the phrase "conforming to AASHTO M 31M/M 31, including supplementary requirements" and replacing it with the phrase ", unless otherwise specified in the Contract Documents" in the first paragraph.

288. 713.01 BAR REINFORCEMENT, is hereby further modified by adding the following new parts (a)-(f) and associated paragraphs:

(a) Plain Reinforcing Steel. Plain reinforcing steel shall conform to AASHTO M 31M/M 31, including supplementary requirements.

(b) Low Alloy Reinforcing Steel. Low alloy reinforcing steel shall conform to ASTM A 706/A 706M.

(c) Epoxy Coated Reinforcing Steel. Epoxy coated reinforcing steel shall have an electrostatically applied organic epoxy protective coating, which has been prequalified, fabricated, tested, and installed in accordance with AASHTO M 284M/M 284.

(d) Stainless Clad Reinforcing Steel. Stainless clad reinforcing steel shall meet the requirements of AASHTO M 329M/M 329.

(e) Dual-Coated Reinforcing Steel. Dual-coated reinforcing steel shall meet the requirements of ASTM A 1055/A 1055M.

(f) Solid Stainless Reinforcing Steel. Solid stainless reinforcing steel shall meet the requirements of ASTM A 955/A 955M with one of the following UNS designations: S24100, S30400, S31603, S31653, S32101, S32201, S32205, or S32304. Different designations shall not be mixed within the same project.

Where no core steel requirements are specified in the above specifications, the steel core of the bar reinforcement shall meet the requirements of plain reinforcing steel.

Certification. A Type D Certification shall be furnished in accordance with Subsection 700.02. Certification for Epoxy Coated Reinforcing Steel shall include the coating and coating process.

289. 713.07 COATED BAR REINFORCEMENT, is hereby modified by being deleted in its entirety.

290. 713.02 MECHANICAL SPLICES FOR BAR REINFORCEMENT, is hereby modified by adding the phrase ", except that epoxy coated mechanical splices shall be allowed when Level II reinforcing steel is required" after the phrase "intended to splice" in the second sentence of the first paragraph.

SECTION 714 – STRUCTURAL STEEL

291. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby corrected by deleting ".F" and replacing it with "F" in the first sentence of the first paragraph.

292. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby further corrected by deleting punctuation ".," and replacing it with punctuation "." at the end of the second sentence of the first paragraph.

293. 714.09 ANCHOR BOLTS, TRAFFIC SIGNALS, LIGHTING, AND OVERHEAD SIGN STRUCTURES, is hereby modified by being deleted in its entirety and replaced with the following:

714.09 ANCHOR BOLTS, TRAFFIC SIGNALS, LIGHTING, AND OVERHEAD SIGN STRUCTURES. Anchor bolts for traffic signals, lighting, and overhead sign structures shall conform to the requirements of ASTM F 1554, Grade 55, unless otherwise specified. Nuts shall be heavy hex and conform to the requirements of ASTM A 563. Washers shall conform to the requirements of ASTM A 43 and shall be a minimum of 3/8" unless otherwise indicated on the Plans. All components shall be galvanized in accordance with Section 726.08.

All anchor bolts for traffic signals, lighting, and overhead sign structures furnished for Agency projects shall be manufactured in the United States only. All bolts, nuts, and washers furnished for a particular application shall be furnished by a single supplier.

All bolts, nuts, and washers shall have identifiable manufacturer's marking(s) on each piece.

All galvanized nuts shall be lubricated with a lubricant containing visible dye that will provide visual verification of the lubricant during installation.

All bolts, nuts, and washers shall be tested and certified as meeting the requirements of the Zinc Thickness Test as specified in Subsection 714.05, in addition to any other test and certification requirements.

Anchor bolts shall be swedged or threaded and shall conform to the shape, length, and diameter specified on the Plans.

SECTION 726 – PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

294. 726.10 CONCRETE STAINING AND SEALING SYSTEMS, is hereby made a new Subsection of the Standard Specifications as follows:

726.10 CONCRETE STAINING AND SEALING SYSTEMS. Approved Concrete Staining and Sealing Systems shall be one of the Concrete Staining and Sealing Systems on the Approved Products List on file with the Agency's Materials and Research Section.

295. 726.11 SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET, is hereby made a new Subsection of the Standard Specifications as follows:

726.11 SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET. Approved Preformed Sheet Membrane Waterproofing Systems shall be one of the Preformed Sheet Membrane Waterproofing Systems on the Approved Products List on file with the Agency's Materials and Research Section.

SECTION 731 – BEARING PADS FOR STRUCTURES

296. 731.03 ELASTOMERIC MATERIAL, is hereby modified by deleting the second and third paragraphs in their entirety and replacing them with the following:

Unless noted otherwise, elastomer shall have a design hardness of 50 points and a design shear modulus of 0.8 MPa (110 psi).

Testing of elastomeric material shall be waived for bearings that will be encased in concrete in the final work. All other bearings shall be tested in accordance with the following table:

TABLE 731.03A – REQUIRED TESTS

Material Property	Test Method	Required Result
Hardness	ASTM D 2240	design hardness +/- 5 points
	or	
Shear Modulus	ASTM D 412 with AASTHO M 251 Section 8.8.4	design shear modulus +/- 15%
Low Temperature Brittleness	ASTM D 746 Procedure B	Pass Grade 4 test
Shear Bond Strength	AASHTO M 251 Annex A2 or Appendix X2	Pass
Min Tensile Strength	ASTM D 412	15.6 MPa (2250 psi)
Min Ultimate Elongation	ASTM D 412	(650 - 5 X design hardness)%

SECTION 752-TRAFFIC CONTROL SIGNALS

297. 752.03 TRAFFIC SIGNAL POLES WITH MAST ARMS OR BRACKET ARMS, part (c) Aluminum Poles, Bases, and Mast Arms, is hereby modified by replacing "753.01(b)" in the first sentence with "753.07 and Subsection 753.08".

298. 752.03 TRAFFIC SIGNAL POLES WITH MAST ARMS OR BRACKET ARMS, part (d) Luminaire Bracket Arms, is hereby modified by deleting the second sentence in its entirety and replacing as follows:

"Luminaire Bracket Arms shall conform to the requirements of Subsection 753.09"

299. 752.12 JUNCTION BOX, is hereby modified by being deleted in its entirety and replaced as follows:

752.12 PULL BOX AND JUNCTION BOX

752.12 (a) PULL BOX. Pull boxes shall be constructed of Concrete, Class B. Pull box frames and covers shall be steel plate and conform to the requirements of ASTM A 36/A 36M. Where the cover is exposed to vehicle or pedestrian traffic, it shall have an approved nonskid surface such as diamond plate. Frames and covers shall be galvanized in accordance with AASHTO M 111/M 111 M. Pull boxes shall be designed and constructed to support at least an AASHTO MS-18 (HS 20) loading."

Certification. A type D Certification shall be furnished in accordance with Subsection 700.02.

752.12 (b) JUNCTION BOX. Junction boxes shall be constructed of fiberglass, high density polyethylene (HDPE), or acrylonitrile-butadiene-styrene (ABS). They shall be high-impact resistant at temperatures ranging from -35 to 50 °C (-30 to 120 °F), ultraviolet stabilized, and fire retardant. The side wall shall be ribbed for strength. The cover shall be non-skid and shall be held down with recessed hex-head bolts.

The junction box shall be capable of withstanding a loading of 67 kN (15 kips) over any 250 by 250 mm (10 × 10 inch) area on the cover. The size of the box shall be as specified in the Contract.

Certification. A Type A Certification shall be furnished in accordance with Subsection 700.02.

300. 752.15 GROUNDING ELECTRODES, is hereby made a new subsection of the Standard Specification as follows:

752.15 GROUNDING ELECTRODES. Grounding electrodes shall include grounding rod and grounding conductors.

(a) Grounding rod shall be copperclad steel rods nominally 16 mm (5/8 inch) in diameter by 2.4 m (8 feet) long, minimum, and shall conform to UL No. 467 (ANSI C33.8).

(b) Grounding conductor shall be installed throughout the system back to the power source. The earth shall not be used as the sole equipment grounding conductor. Grounding conductor shall be American Wire Gauge (AWG) #6 soft copper or stranded copper conductor.

(c) A type A Certification shall be furnished in accordance with Subsection 700.02.

SECTION 753 HIGHWAY ILLUMINATION

301. 753 HIGHWAY ILLUMINATION, is hereby modified by deleting in its entirety and replacing with the following:

753.06 LIGHT POLE FOUNDATIONS.

(a) Concrete. Concrete shall conform to the requirements of Section 501 for Concrete, High Performance Class B.

(b) Reinforcing Steel. Reinforcing steel for light pole bases shall conform to the requirements of Section 507 for Reinforcing Steel, Level I.

(c) Electrical Conduit. Electrical conduit for light pole bases shall conform to the requirements of Subsection 752.08(a).

(d) Anchor Bolts. Anchor bolts for light pole bases shall be per the Transformer Base manufacturer's recommendation and conform to the requirements of Subsection 714.09.

(e) Grounding Electrodes. Grounding electrodes for light pole bases shall conform to the requirements of Subsection 752.15.

753.07 TRANSFORMER BASES.

(a) Transformer bases and transformer base doors shall consist of a one-piece aluminum casting conforming to the requirements of ASTM B 26/B 26M or ASTM B 108, Alloy SG70A-T6, 356-T6. Galvanized bolts, nuts, washers and other hardware shall be provided to attach the transformer base to the anchor base of the light pole. Galvanizing shall conform to the requirements of Section 726.08.

(b) Hardware for mounting the transformer base door to the transformer base shall be stainless steel.

(c) A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.08 LIGHT POLES.

(a) Anchor Base. Anchor bases shall consist of a one-piece aluminum casting conforming to the requirements of ASTM B 26/B 26M or ASTM B 108, Alloy SG70A-T6, 356-T6.

(b) Pole Shaft. Pole Shafts shall be aluminum consisting of tapered one-piece seamless tubes conforming to the requirements of ASTM B 221M (ASTM B 221), Alloy 6063-T6, 6061- T6, or 6005-T5. Minimum wall thickness shall be 3.2 mm (0.125 inch) for mounting heights of less than 6 m (20 feet) and 4.8 mm (0.188 inch) for mounting heights of 6 m (20 feet) or more.

(c) Pole Cap. Pole Caps shall consist of a one-piece aluminum casting conforming to the requirements of ASTM B26/B26M or ASTM B108, Alloy SG70A-T6, 356-T6.

(d) A Type A Certification, for all components (individually or as a whole), shall be furnished in accordance with Subsection 700.02.

753.09 BRACKET ARMS.

(a) Single bracket elliptical arms and the main member of truss-type arms shall be seamless tube conforming to the requirements of ASTM B 221M (ASTM B 221), Alloy 6063-T6 or Alloy 6061-T6. Other members of truss- type arms shall conform to the requirements of ASTM B 221M (ASTM B 221), 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

Bracket Arms shall be able to withstand a vertical load of 450 N (100 LBS) and a horizontal load of 225 N (50 LBS) without fracture or permanent deformation.

(b) A Type A Certification shall be furnished in accordance with Subsection 700.02

753.10 LUMINAIRES.

(a) All luminaires shall be 120 V unless otherwise noted in the Plans.

(b) A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.11 HIGHWAY ILLUMINATION CONDUCTOR CABLE.

(a) Highway Illumination Conductor Cable. Highway illumination conductor cable shall be conductors of stranded, soft-drawn copper with a moisture and heat resistant thermoplastic insulation. It shall be rated for 600 V service at 75 °C (167 °F) for either dry or wet locations.

The single conductors shall conform to the National Electrical Code for the intended wire use and existing field conditions. Wire size shall be such that no more than a 3 percent voltage drop will occur anywhere in the secondary circuit. All wiring shall be color-coded.

All conductors within the streetlight pole and bracket arm shall be No. 10 AWG stranded copper wire. Street lighting conductors within strain poles or mast arm poles shall also be No. 10 AWG stranded copper wire. UF cable is allowed in the bottom of the pole below the hand hole.

A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.12 STREET LIGHTING CONTROL DEVICE.

(a) A Type A Certification shall be furnished in accordance with Subsection 700.02.

753.13 FINISH.

(a) Powder Coating. Powder coating shall be a polyester powder coat in the manufacturer's standard black finish. Powder coatings shall be salt spray resistant in accordance with ASTM B117. Powder coating shall exhibit no discoloration, cracking or other visible defects when tested for accelerated weathering as described in ASTM D4587, cycle No. 4, for 300 continuous hours.

The chemical composition of powder coatings shall provide a highly durable UV and salt spray resistant finish in accordance to the ASTM B117-73 standard and humidity proof in accordance to the ASTM D2247-68 standard.

(b) Anodized Aluminum. Anodized aluminum coatings shall be in accordance with ASTM B137, B244, B580 (Type A or B) and B680.

SECTION 755 – LANDSCAPING MATERIALS

302. 755.17 EROSION LOGS, is hereby modified by being deleted in its entirety and replaced with the following:

Erosion logs are available in varying diameters. The Contractor shall follow the manufacturer's recommendations for the material type and size based on the intended use.

Erosion logs shall be composed of weed-seed-free coir, straw, excelsior, compost, or other biodegradable filtering medium encased in a photo-degradable and/or biodegradable netting or mesh.

Netting shall have openings of 13 to 25 mm (1/2 to 1 inch), with the exception of compost filled logs which should be 3 to 10 mm (1/8 to 3/8 inch) or as recommended by the manufacturer and accepted by the Engineer.

Anchors for erosion logs shall be wooden stakes, U-shaped wire or earth anchors, or rebar stakes; the size and length shall be as recommended by the manufacturer.

Compost shall meet the requirements of Table 755.05A, with the exception that particle size shall be 99% < 50 mm (2 inches) and maximum 30% < 10 mm (3/8 inch).

SECTION 780 – CONCRETE REPAIR MATERIALS

303. 780.05 POLYMER CONCRETE REPAIR MATERIAL, is hereby made a new Subsection of the Standard Specifications as follows:

780.05 POLYMER CONCRETE REPAIR MATERIAL. Approved Polymer Concrete Repair Materials shall be one of the Polymer Concrete Repair Materials on the Approved Products List on file with the Agency's Materials and Research Section.

Appendix F

Example Performance and Payment Bond Forms

Appendix F

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 F

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 F

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 F

_____ _____

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 F

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 F

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 F

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 F

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 G
Change Order Form

APPENDIX **G**

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: _____

Probably not needed if we don't have any oversight role.

APPENDIX H–

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 Manager[1], 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.

[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.

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.

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 I

US Department of Labor Davis-Bacon Rates

General Decision Number: VT160046 01/08/2016 VT46

Superseded General Decision Number: VT20150046

State: Vermont

Construction Type: Highway

County: Franklin County in Vermont.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels; building structures in rest areas; railroad construction; bascule, suspension & spandrel arch bridges; bridges designed for commercial navigation; bridges involving marine construction; and other major bridges)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/08/2016

* SUVT2011-031 09/14/2011

	Rates	Fringes
CARPENTER (Form Work Only)	$ 19.21	5.00
IRONWORKER, STRUCTURAL	$ 21.17	0.00
LABORER: Common or General	$ 13.49	0.24
LABORER: Flagger	$ 11.35	0.00
LABORER: Traffic Control-Cone Setter	$ 14.34	5.77
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 17.10	0.00
OPERATOR: Broom	$ 15.33	0.00
OPERATOR: Cold Planer/Milling Machine	$ 23.60	0.00
OPERATOR: Excavator	$ 20.50	0.67
OPERATOR: Loader	$ 19.05	0.00

OPERATOR: Paver.....$ 16.90 0.38

OPERATOR: Roller (All Types)....$ 16.06 0.00

OPERATOR: Screed.....$ 19.84 5.82

PAINTER (Parking Lot and
Highway Striping Only).....$ 16.33 3.62

TRAFFIC SIGNALIZATION:
Traffic Signal Installation.....$ 19.73 0.00

TRUCK DRIVER, Includes All
Dump Trucks.....$ 15.96 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Appendix J

Right of Way, Utility, and Design Clearance

June 1, 2017

Ref: 57790.00

Mr. Bob Stacey
Town Manager
PO Box 349
Hartland, VT 05048

Re: HARTLAND 3 CORNERS

Dear Mr. Stacey,

The noted projects plans, calculations and notes have been reviewed by our personnel and, to the extent required by the professional standard of care, they are both substantially free from errors and omissions and are in conformance with the appropriate standards and specifications.

Sincerely,

Vanasse Hangen Brustlin, Inc.

Daniel M. Peck, PE

Project Manager
dpeck@vhb.com

www.vhb.com

Engineers | Scientists | Planners | Designers

40 IDX Drive, Building 100
Suite 200
South Burlington, Vermont 05403
P 802.497.6100
F 802.495.5130

June 1, 2017

Ref: 57790.00

Re: HARTLAND 3 CORNERS

To Project File,

All necessary arrangements have been made for the utility work to be undertaken and completed as required for proper coordination with physical construction schedules, in accordance with 23 C.F.R. 635.309b, with necessary agreements consummated with the appropriate parties concerned.

Utility adjustments are required by the proposed construction, and those adjustments shall be completed by the contractor awarded the above-mentioned project.

Sincerely,

Vanasse Hangen Brustlin, Inc.

Daniel M. Peck, PE

Project Manager
dpeck@vhb.com

40 IDX Drive, Building 100
Suite 200
South Burlington, Vermont 05403
P 802.497.6100
F 802.495.5130

Appendix K

Examples: Notice of Award, Notice to Proceed, Agreement, Certificate of Substantial Completion, Contractor Release, Certificate of Final Completion of Work

NOTICE OF AWARD

To: _____

_____

_____

PROJECT Description: **HARTLAND 3 CORNERS**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Information for Bidders, dated _____, 20__.

You are hereby notified that your BID has been accepted for all items, in the amount of $_____.

You are required by the Information for Bidders and Special Conditions to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance, within five (5) business days from the date of this Notice to you.

If you fail to execute said Agreement and do not furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20__.

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD for the project is hereby acknowledged.

By: _____ Date: _____

Title: _____

NOTICE TO PROCEED

To: _____

Date: _____

Contractor: _____

PROJECT: **HARTLAND 3 CORNERS**

You are hereby notified to commence WORK in accordance with the AGREEMENT dated _____, 20__ , and you are to complete the WORK within _____ consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 20__ .

Owner: **TOWN OF HARTLAND, VT**

by_____

Title_____

Signature_____

Date_____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED
is hereby acknowledged.

Contractor:_____

Name_____

Title_____

Signature_____

Date_____

AGREEMENT

THIS AGREEMENT, is made this _____ day of _____, 20__,

by and between Town of Hartland, hereinafter called the "OWNER" and

_____, doing business as (an individual) or (a partnership) or (a corporation) hereinafter called "CONTRACTOR". WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of the **HARTLAND 3 CORNERS**_____ as described in the CONTRACT DOCUMENTS.

2. The CONTRACTOR will furnish all the material, supplies, tools, equipment, labor, traffic control measurements, and other services necessary for the construction and completion of the PROJECT described herein.

3. The CONTRACTOR will commence the WORK required by the CONTRACT DOCUMENTS on the date of issuance of the NOTICE TO PROCEED and will complete the same by _____, unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS. The CONTRACTOR acknowledges that the date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the CONTRACTOR further agrees to pay liquidated damages, as defined in Section 108.12 of the 2011 Standard Specifications for Construction for each consecutive calendar day that the CONTRACTOR shall be in default after the time specified in the Agreement.

4. The CONTRACTOR agrees to perform all the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein as shown in the BID schedule. The CONTRACTOR shall perform a minimum of 50% of the work with their own forces.

5. The term "CONTRACT DOCUMENTS" means and includes each and every one of the following, in their individual entireties:

    a. PROJECT MANUAL includes Bidding Requirements, Contract Forms, Special Provisions, and Supplemental Specifications and Permits.

    b. DRAWINGS prepared by VHB, Inc, and Dated _____.

    c. ADDENDA:

        1. Date_____
        2. Date_____
        3. Date_____

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

8. The CONTRACTOR shall guarantee all materials and equipment furnished and work performed for a period of (1) year from the date of SUBSTANTIAL COMPLETION. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make repairs, adjustments, or do other work that may be necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, the Agreement in duplicate, each of which shall be deemed an original on the date first above written.

OWNER: Town of Hartland, VT

Name_____

Signature_____

Title_____

(SEAL)

Attest_____

Name_____

Title_____

CONTRACTOR:

Firm_____

Name and Title_____

Signature_____

Address_____

_____

(SEAL)

Attest_____

Name_____

Title_____

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner's Project No.: _____ Engineer's Project No.: _____

Project: _____

Contractor:_____ Contract Date: _____

Contract For: _____

Project or Specified Part Shall Include _____

_____

DEFINITION OF SUBSTANTIAL COMPLETION

The date of Substantial Completion of a Project or specified part of a Project is the date when the construction is sufficiently completed, in accordance with the Contract Documents, so that the Project or specified part of the Project can be utilized for the purpose for which it was intended.

To: _____
(Owner)

And To: _____
(Contractor)

Date of Substantial Completion: _____

The WORK performed under this contract has been inspected by authorized representatives of the OWNER, CONTRACTOR and Engineer, and the Project is hereby declared to be substantially completed on the above date:

If a tentative list of items to be completed or corrected is appended hereto, the failure to include an item on it does not alter the responsibility of the CONTRACTOR to complete all the WORK in accordance with the Contract Documents and contract time.

Recommended by:

_____	_____	_____
Engineer	Authorized Representative	Date

Approved by:

_____	_____	_____
Contractor	Authorized Representative	Date

The CONTRACTOR accepts the above Certificate of Substantial Completion.

_____	_____	_____
Contractor	Authorized Representative	Date

Exceptions as to Guarantee and Warranties:

Attachments:

CONTRACTOR'S RELEASE

For and in consideration of the receipt of $ _____, in payment for labor

and/or materials furnished, the undersigned does hereby waive, release and relinquish any and all claims, demands and rights of lien for all work, labor, materials, machinery or other goods, equipment or services done, performed or furnished for the construction located at the site hereinafter described, to wit:

_____

(Project Name and Owner)

_____, Vermont as of _____

(Date)

The undersigned further warrants and represents that any and all valid labor and/or materials and equipment bills, now due and payable on the property hereinabove described in behalf of the undersigned, have been paid in full to date of this waiver, or will be paid from these funds.

$_____
Total Paid to Date This Contract

_____
Current Payment Due

$_____
Total Billed to Date This Contract

_____
Contractor/Sub-Contractor

_____
(Witness)

_____
Contractor/Subcontractor

By:_____

_____
(Witness)

Title:_____

CERTIFICATE OF FINAL COMPLETION OF WORK

Contract No.: _____ Agreement Date: _____

Contract Description: _____

_____

FINAL CERTIFICATION OF CONTRACTOR

I hereby certify that the WORK as identified in the Final Estimate of Payment for construction CONTRACT WORK dated _____, represents full compensation for the actual value of WORK completed. All WORK completed conforms to the terms of the AGREEMENT and authorized changes.

CONTRACTOR: _____

Date

Signature: _____

Title: _____

FINAL CERTIFICATION OF ENGINEER

I have reviewed the CONTRACTOR'S Final Payment Request dated _____ and hereby certify that to the best of my knowledge, the cost of the WORK identified on the Final Estimate represents full compensation for the actual value of WORK completed and that the WORK has been completed in accordance with the terms of the AGREEMENT and authorized changes.

ENGINEER: _____

Date

Signature: _____

Title: _____

FINAL CERTIFICATION OF CONTRACTOR

I, as representative of the OWNER, accept the above Final Certifications and authorize Final Payment in the amount of $ _____ .

OWNER: _____

Date: _____

Authorized Representative: _____

Title: _____