

# UTILITY CONSTRUCTION GENERAL NOTES

## SEQUENCE OF CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL PHASE ALL WORK IN A MANNER WHICH WILL MINIMIZE IMPACTS TO TRAFFIC AND LIMIT THE TOTAL AREA OF EARTH DISTURBANCE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, EROSION CONTROL NARRATIVE, PLANS AND DETAILS AND THE CGP 3-9020 (2006) FOR THIS PROJECT.
2. THE CONTRACTOR SHALL COMPLETE THE SEPARATION OF THE EXISTING STORMWATER FROM THE EXISTING SANITARY SEWER SYSTEM WITHIN THE PROJECT LIMITS BY COMPLETING: (1) PROPOSED STORMWATER OUTFALLS AND TRUNK LINE AND (2) SIDE STREET DRAINAGE CONNECTIONS TO THE NEW STORMWATER TRUNK LINE PRIOR TO OCTOBER 3, 2008.
3. IN ORDER TO ACCOMPLISH THE SEPARATION OF THE STORMWATER FROM THE EXISTING SANITARY SEWER SYSTEM PRIOR TO OCTOBER 3, 2008 AND MINIMIZE IMPACTS TO TRAFFIC, THE FOLLOWING CONSTRUCTION SEQUENCE FOR MAJOR ITEMS, IS SUGGESTED:
  - A. INSTALL U.S. RTE. 5 GROUND ANCHORED SOLDIER PILE WALL AND REGRADE THE AREA BETWEEN THE WALL AND EXISTING US ROUTE 5.
  - B. INSTALL THE PROPOSED OUTFALL AT WHITE RIVER.
  - C. INSTALL THE PROPOSED DRAINAGE TRUNK LINE AND MANHOLES AND MAKE THE PROPOSED SIDE STREET DRAINAGE CONNECTIONS.
  - D. INSTALL THE PROPOSED OUTFALL NORTH OF HEWITT STREET.
  - E. INSTALL THE PROPOSED DRAINAGE SYSTEM DISCHARGING TO THE OUTFALL NORTH OF HEWITT STREET.
4. TO MINIMIZE TRAFFIC AND UTILITY IMPACTS THE FOLLOWING IS A SUGGESTED CONSTRUCTION SEQUENCE TO COMPLETE THE REMAINING MAJOR ITEMS:
  - A. REGRADE THE AREA BETWEEN STATION 38+00 AND STATION 61+00, IN ORDER TO ALLOW INSTALLATION OF THE NEW WATER AND SEWER MAINS AND TO MAINTAIN TRAFFIC DURING INSTALLATION OF THE NEW WATER AND SEWER MAINS.
  - B. INSTALL THE PROPOSED WATER MAIN AND CONNECT NEW WATER SERVICES. THE NEW WATER MAIN AND SERVICES SHALL BE INSTALLED SUCH THAT THERE WILL BE NO CONFLICT WITH SUBSEQUENT SEWER MAIN AND SERVICE INSTALLATION. IT SHOULD BE NOTED THAT CONFLICTS EXIST BETWEEN THE EXISTING WATER MAINS AND PROPOSED SEWER MAIN. IF THE CONTRACTOR CHOOSES TO INSTALL THE PROPOSED SEWER MAIN AND SERVICES PRIOR TO THE INSTALLATION OF THE NEW WATER MAIN, THERE SHALL BE NO COST TO THE AGENCY FOR THE CONTRACTOR TO TEMPORARILY MAINTAIN THE REQUIRED FLOW OF THE EXISTING WATER MAINS.
  - C. INSTALL THE PROPOSED SEWER MAIN, MANHOLES AND SERVICES. IT MAY BE NECESSARY TO PERFORM THE PROPOSED ROADWAY WIDENING PRIOR TO INSTALLATION OF THE NEW SEWER MAIN IN ORDER TO MAINTAIN REASONABLE TRAFFIC FLOW ALONG US ROUTE 5.
  - D. INSTALL ROADWAY SAND BORROW, SUBBASE, CURBING, BASE COURSE AND BINDER COURSE.
  - E. INSTALL PRECAST MEDIAN BARRIERS BETWEEN STATION 24+19 AND 37+08.
  - F. INSTALL THE PROPOSED SIDEWALK AND LANDSCAPE FEATURES.
  - G. INSTALL THE PROPOSED TRAFFIC SIGNAL SYSTEMS AT HIGHLAND AVENUE AND WORCESTER AVENUE.
  - H. SET ALL CASTINGS TO FINISHED GRADE AND PAVE WITH FINAL SURFACE COURSE.

## PROPOSED SEWER CONSTRUCTION NOTES

1. THE LOCATION, DEPTH, SIZE AND MATERIAL OF THE EXISTING UNDERGROUND SEWER SYSTEM PIPING AND BUILDING SERVICES ARE BASED ON INFORMATION OF RECORD, VIDEO INSPECTION AND LIMITED TOPOGRAPHICAL SURVEY OF AT-GRADE FEATURES SUCH AS MANHOLES. THE LOCATION, DEPTH, SIZE AND MATERIAL OF THESE UNDERGROUND PIPES ARE NOT GUARANTEED TO BE EXACT. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE EXISTING PIPES TO WHICH NEW CONNECTIONS ARE PROPOSED. NO ADDITIONAL PAYMENT FOR PIPE AND TRENCH EXCAVATION SHALL BE MADE WHERE THE CONTRACTOR HAS FAILED TO FIELD VERIFY THE LOCATIONS AND DEPTHS OF EXISTING PIPES.
2. ALL NEW BUILDING SERVICES SHALL BE 6" PVC PIPE JOINED TO THE EXISTING SERVICE WITH A FLEXIBLE RUBBER TRANSITION COUPLING AS SHOWN ON THE DETAILS. THE CONTRACTOR SHALL VERIFY THE SIZE OF THE EXISTING SERVICE IN THE FIELD PRIOR TO INSTALLING THE NEW SERVICE. IF THE EXISTING SERVICE IS LARGER THAN 6", THE CONTRACTOR SHALL INSTALL NEW PIPE OF THE SAME SIZE AS THE EXISTING SERVICE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR OTHERWISE INDICATED ON THE PLANS.
3. THE CONTRACTOR SHALL MAINTAIN FLOWS IN THE EXISTING SEWER SYSTEM UNTIL THE PROPOSED SYSTEM IS CONSTRUCTED AND SHALL COORDINATE ALL WORK WITH THE TOWN OF HARTFORD UTILITIES SUPERINTENDENT.
4. THE CONSTRUCTION OF ALL SEWER IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THESE PLANS, CHAPTERS 1 AND 21 OF THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION ENVIRONMENTAL PROTECTION RULES AND THE TOWN OF HARTFORD ENACTMENT OF SEWAGE AND SEWERAGE ORDINANCE.
5. ALL EXISTING SEWER PIPE TO BE ABANDONED AND NOT IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHALL BE CUT AND PLUGGED AND ABANDONED IN-PLACE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. WHERE THE EXISTING PIPE DIAMETER IS 10-INCHES OR GREATER, THE CONTRACTOR SHALL COMPLETELY FILL THE ENTIRE LENGTH OF THE EXISTING PIPE WITH AN APPROVED MATERIAL SUCH AS CONTROLLED DENSITY FILL (100 PSI MAX) OR SAND SO THAT ALL VOIDS WITHIN THE PIPE ARE FILLED. PAYMENT FOR ABANDONMENT OF EXISTING PIPE AND STRUCTURES SHALL BE MADE UNDER THE CONCRETE, CLASS D (MOD. - FLOWABLE FILL) ITEM. EXCAVATION REQUIRED TO INSTALL PLUGS ON EXISTING SEWERS SHALL BE PAID UNDER TRENCH EXCAVATION OF EARTH.
6. AN EXISTING SANITARY SEWER FORCEMAIN DISCHARGES INTO THE EXISTING GRAVITY SYSTEM BEING REPLACED UNDER THIS PROJECT AT MANHOLE #B98 NEAR HEWITT STREET. THE CONTRACTOR SHALL AT NO TIME IMPEDE THE DISCHARGE FROM THE EXISTING SEWER FORCEMAIN AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT ADEQUATE BYPASS CAPACITY IS PROVIDED. PEAK FLOWS FROM THE FORCEMAIN ARE ESTIMATED TO BE 1200GPM.

## PROPOSED WATER CONSTRUCTION NOTES

1. THE LOCATION, SIZE AND MATERIAL OF THE EXISTING UNDERGROUND WATER SYSTEM PIPING AND BUILDING SERVICES ARE BASED ON INFORMATION OF RECORD AND LIMITED TOPOGRAPHICAL SURVEY OF AT-GRADE FEATURES SUCH AS GATE VALVES. THE LOCATION, SIZE AND MATERIAL OF THESE UNDERGROUND PIPES ARE NOT GUARANTEED TO BE EXACT. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND SIZE OF THE EXISTING PIPES TO WHICH NEW CONNECTIONS ARE PROPOSED.
2. ALL NEW BUILDING SERVICES SHALL BE 3/4" SEAMLESS COPPER WATER TUBE UNLESS OTHERWISE INDICATED ON THE PLANS.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE TOWN OF HARTFORD UTILITIES SUPERINTENDENT. ONLY TOWN OF HARTFORD OFFICIALS OR THEIR DESIGNATED REPRESENTATIVES SHALL OPERATE THE WATER SYSTEM VALVES.
4. THE CONSTRUCTION OF ALL WATER IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THESE PLANS, CHAPTERS 1 AND 21 OF THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION ENVIRONMENTAL PROTECTION RULES AND THE TOWN OF HARTFORD ENACTMENT OF WATER RULES.
5. THE CONTRACTOR SHALL MAINTAIN THE FOLLOWING MINIMUM DISTANCES OF SEPARATION FROM THE PROPOSED WATER LINES AND SERVICES:
  - TO EDGE OF DRAIN PIPES AND STRUCTURES = 5' HORIZ. ; 1.5' VERT.
  - TO EDGE OF SEWER PIPES AND MANHOLES = 10' \* HORIZ. ; 1.5' VERT.
  - \* EXCEPT AS SHOWN ON PLANS WHERE SEWER IS MORE THAN 5' BELOW PROPOSED WATER LINES.
6. ALL EXISTING WATER PIPE SHALL BE CUT AND CAPPED AND ABANDONED IN-PLACE OR REMOVED IF REQUIRED TO FACILITATE THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS AS DIRECTED BY THE ENGINEER. THE PLANS DO NOT NECESSARILY INDICATE ALL OF THE LOCATIONS WHERE CAPS ARE REQUIRED TO BE INSTALLED.
7. LIMITS OF PAYMENT FOR TRENCH EXCAVATION OF EARTH FOR THE INSTALLATION NEW WATER PIPE SHALL BE IN ACCORDANCE WITH SECTIONS 204 AND 629 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
8. PAYMENT FOR WORK ASSOCIATED WITH CAPPING AND ABANDONING EXISTING WATER LINES SHALL BE MADE UNDER THE CONCRETE, CLASS D (MOD. - FLOWABLE FILL) ITEM.
9. THE CONTRACTOR SHALL COORDINATE THE TRANSFER OF SERVICE FROM THE EXISTING WATER SYSTEM TO THE NEW WATER SYSTEM WITH THE TOWN OF HARTFORD WATER DEPARTMENT.
10. THE CONTRACTOR SHALL LIMIT THE DURATION THAT THE EXISTING WATER IS SHUT DOWN TO NO MORE THAN 4-HOURS.
11. CONTRACTOR SHALL COORDINATE SHUT-DOWNS WITH THE TOWN OF HARTFORD AT LEAST ONE-WEEK IN ADVANCE OF SHUT-DOWN DATE.
12. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS AT LEAST 48 HOURS PRIOR TO ANY ANTICIPATED WATER SHUT-DOWN OR AS DIRECTED BY THE TOWN.
13. ALL PIPES, VALVES, FITTINGS, HYDRANTS, ETC. SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND THE TOWN OF HARTFORD WATER ORDINANCES.

## PROPOSED STORM DRAINAGE CONSTRUCTION NOTES

1. THE LOCATION, DEPTH, SIZE AND MATERIAL OF THE EXISTING UNDERGROUND STORM DRAIN SYSTEM PIPING ARE BASED ON INFORMATION OF RECORD, VIDEO INSPECTION AND LIMITED TOPOGRAPHICAL SURVEY OF AT-GRADE FEATURES SUCH AS DROP INLETS. THE LOCATION, DEPTH, SIZE AND MATERIAL OF THESE UNDERGROUND PIPES ARE NOT GUARANTEED TO BE EXACT. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE EXISTING PIPES WHERE NEW CONNECTIONS ARE PROPOSED. NO ADDITIONAL PAYMENT FOR PIPE AND TRENCH EXCAVATION SHALL BE MADE WHERE THE CONTRACTOR HAS FAILED TO FIELD VERIFY THE LOCATIONS AND DEPTHS OF EXISTING PIPES.
2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES TO PROTECT THE NEW DRAIN SYSTEM IN ACCORDANCE WITH THE EROSION CONTROL PLANS.
3. ALL EXISTING DRAIN PIPE TO BE ABANDONED AND NOT IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHALL BE CUT AND PLUGGED AND ABANDONED IN-PLACE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. WHERE THE EXISTING PIPE DIAMETER IS 10-INCHES OR GREATER, THE CONTRACTOR SHALL COMPLETELY FILL THE ENTIRE LENGTH OF THE EXISTING PIPE WITH AN APPROVED MATERIAL SUCH AS CONTROLLED DENSITY FILL (100 PSI MAX) OR SAND SO THAT ALL VOIDS WITHIN THE PIPE ARE FILLED. PAYMENT FOR ABANDONMENT OF EXISTING PIPE AND STRUCTURES SHALL BE MADE UNDER THE CONCRETE, CLASS D (MOD. - FLOWABLE FILL) ITEM. EXCAVATION REQUIRED TO INSTALL PLUGS ON EXISTING STORM DRAIN PIPES SHALL BE PAID UNDER TRENCH EXCAVATION OF EARTH.
4. STATION AND OFFSET LOCATIONS OF PROPOSED DRAINAGE STRUCTURES ARE GIVEN TO THE BACK CENTER (AT THE EDGE OF THE CURB) OF THE GRATES EXCEPT FOR MANHOLES AND STRUCTURES IN DITCHES WHICH ARE GIVEN TO THE CENTER OF THE GRATE OR MANHOLE COVER.
5. CONTRACTOR SHALL MAINTAIN EXISTING FLOWS OR PROVIDE MEASURES TO BY-PASS FLOWS IN EXISTING DRAINAGE UNTIL PROPOSED DRAINAGE IMPROVEMENTS HAVE BEEN COMPLETED.

## LEGEND

### WATER

- PROPOSED CAP
- ⊥ PROPOSED TEE
- ▲ PROPOSED REDUCER/INCREASER
- CS● PROPOSED CURB STOP
- GV PROPOSED GATE VALVE
- ▬ PROPOSED MECHANICAL TRANSITION COUPLING
- HYD● PROPOSED HYDRANT
- PROPOSED WATER HOUSE SERVICE
- ⊙ PROPOSED METER PIT
- WSO● EXISTING WATER SHUT OFF

### SEWER

- PROPOSED PLUG/BULKHEAD
- ≡ PROPOSED FLEXIBLE RUBBER COUPLING
- ⊙ PROPOSED MANHOLE
- CO● PROPOSED SEWER CLEANOUT

### ABBREVIATIONS

- DICL DUCTILE IRON CEMENT LINED PIPE
- CI CAST-IRON
- PVC POLYVINYL CHLORIDE
- AC ASBESTOS CEMENT
- VC VITRIFIED CLAY
- RCP REINFORCED CONCRETE PIPE

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

1 ADDENDUM #1: REVISED APRIL 18, 2007

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