

BLASTING CONT.

9. NOTIFICATION
 -THE BRANDON FIRE CHIEF, OR HIS AUTHORIZED REPRESENTATIVE, SHALL BE NOTIFIED WEEKLY OF SCHEDULED BLASTS. ALL PERSONS WITHIN THE DANGER ZONE OF BLASTING OPERATIONS SHALL BE WARNED AND NO BLASTING SHALL BE DONE UNTIL THE ZONE IS CLEARED. SUFFICIENT FLAGGERS SHALL BE STATIONED OUTSIDE THE DANGER ZONE TO STOP ALL APPROACHING TRAFFIC DURING BLASTING OPERATIONS.
 -WRITTEN NOTICE OF THE BLASTING OPERATIONS SHALL BE GIVEN TO ALL PARTIES OWNING OR OPERATING SUBSURFACE UTILITIES 72 HOURS BEFORE COMMENCING BLASTING OPERATIONS. IN AREAS WHERE ROCK IS TO BE EXCAVATED AND UTILITIES OR STRUCTURES ARE SUBJECT TO STRUCTURAL OR ARCHITECTURAL DAMAGE, CONTROLLED BLASTING METHODS AND BLAST MONITORING MAY BE NECESSARY.
10. WORKING HOURS
 -WORKING HOURS SHALL BE RESTRICTED AND OPERATIONS SCHEDULED IN SUCH A MANNER THAT WILL MINIMIZE THE DISTURBANCE TO THE PUBLIC AREAS ADJACENT TO THE WORK AND TO THE OCCUPANTS OF BUILDINGS IN THE VICINITY OF THE WORK. COMPLIANCE WITH THE REQUIREMENTS OF THIS SECTION WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH LOCAL ORDINANCES, REGULATIONS, AND OTHER SECTIONS.
11. BLASTING CRITERIA. THE MAXIMUM PEAK PARTICLE VELOCITY (PPV) AS MEASURED AT THE CLOSEST STRUCTURE OR 60 M, WHICHEVER IS CLOSEST TO THE BLAST, SHALL NOT EXCEED THE FOLLOWING:
 -0.5 INCH/SECOND FOR FREQUENCIES LESS THAN 20 HZ;
 -1.0 INCH/SECOND FOR FREQUENCIES BETWEEN 20 HZ AND 40 HZ;
 -2.0 INCH/SECOND FOR FREQUENCIES GREATER THAN 40 HZ.
 THE MAXIMUM PPV SHALL CONSIST OF THE VECTOR SUM OF THE THREE PERPENDICULAR AXES PPV AT AN INSTANT IN TIME SELECTED TO YIELD THE MAXIMUM VALUE FROM THE BLAST RECORD.
12. PROSECUTION
 -CONDUCT BLASTING WITH A MINIMUM OF EXPLOSIVES AND SO AS TO LEAVE THE ROCK NOT TO BE EXCAVATED UNSHATTERED. TAKE CARE TO AVOID CRACKING ROCK ON WHICH ANY STRUCTURE WILL BE BUILT AND TO PREVENT INJURY TO EXISTING STRUCTURES. ROCK SHALL BE WELL COVERED WITH MATS.
 -ALL BLASTING SHALL BE COMPLETED WITHIN A DISTANCE OF 50 M BEFORE ANY PORTION OF NEW WORK IS INSTALLED OR ANY PIPE IS LAID.
 -EXPLOSIVES SHALL BE USED ONLY DURING DAYLIGHT HOURS, SHALL BE HANDLED ONLY BY COMPETENT WORKMEN, AND PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT NO UNEXPLODED CHARGES REMAIN IN THE WORK.
 -BLASTING OPERATIONS SHALL BE PERFORMED IN A MANNER WHICH WILL MINIMIZE NOISE AND VIBRATIONS. THE CONTRACTOR SHALL USE BLASTING PROCEDURES, COVERS (IN EXPOSED AREAS), PROVIDING EFFECTIVE SUPPRESSION OF NOISE AND VIBRATION, AND EMPLOY OTHER ABATEMENT MEASURES NECESSARY FOR THE PROTECTION OF EMPLOYEES AND THE PUBLIC.
13. AFTER INITIAL BLASTING, WHETHER FROM GROUND SURFACE OR WITHIN THE EXCAVATION, ALL LOOSE ROCK SHOULD BE COMPLETELY REMOVED. IF LOOSE ROCK IS OBSERVED BEHIND OR BENEATH A LATERAL SUPPORT WALL, THAT LOOSE ROCK SHALL BE REMOVED, AND MEASURES TAKEN TO PROTECT THE SAFETY OF THE EXCAVATION AND MINIMIZE ASSOCIATED GROUND LOSS FROM THE SURROUNDING AREA. ROCK ANCHORS TO SECURE WALL STABILITY MAY BE REQUIRED.
14. IF ROCK IS EXCAVATED BEYOND THE LIMITS OF PAYMENT, THE EXCESS EXCAVATION SHALL BE BACKFILLED AND COMPACTED WITH SAND BORROW (ITEM 203.31) AT NO ADDITIONAL COST TO OWNER.

WATER CONSTRUCTION

- ~~1. EXISTING WATER SERVICES SHALL BE CONNECTED TO THE NEW WATER MAIN.~~
2. ALL INSERTION VALVES SHOWN ON DRAWINGS SHALL BE INSTALLED AND ACCEPTED BY BRANDON FIRE DISTRICT #1 PRIOR TO ANY EXCAVATION WORK ELSEWHERE ON THE PROJECT.
- ~~3. THE CONTRACTOR SHALL DEVELOP A PLAN TO ADDRESS TEMPORARY WATER SUPPLY DURING EACH CONSTRUCTION STAGE. THE PLAN SHALL BE PRESENTED TO BRANDON FIRE DISTRICT #1 FOR REVIEW AND ACCEPTANCE AT LEAST TWO WEEKS PRIOR TO EACH STAGE. NO MORE THAN 150 M OF CONTIGUOUS TEMPORARY WATER SUPPLY PIPE SHALL BE IN SERVICE. THE PLAN SHALL PROVIDE FOR CONTINUOUS FIRE PROTECTION EQUAL TO THAT AVAILABLE PRIOR TO CONSTRUCTION.~~
4. THE CONTRACTOR SHALL SUPPLY A TIE-CARD TO BRANDON FIRE DISTRICT #1 AND THE WATER CUSTOMER DOCUMENTING THE LOCATION OF EACH INSTALLED ~~SERVICE CONNECTION.~~ **WATER SHUT OFF.**
5. EXISTING HYDRANTS TO BE REMOVED SHALL BE SALVAGED TO A LOCATION SPECIFIED BY THE BRANDON FIRE DISTRICT #1.
6. WATER-MAIN INSTALLATION SHALL COMPLY WITH AWWA C-600 AND THE VERMONT WATER SUPPLY RULE. HYDROSTATIC TESTING PER AWWA C-600 SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER AND BRANDON FIRE DISTRICT #1 PERSONNEL. THE OWNER RESERVES THE RIGHT TO REJECT WORK NOT COMPLYING WITH THIS REQUIREMENT. NOTE THAT SECTION SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF AT LEAST 1.5 TIMES THE WATER MAIN WORKING PRESSURE FOR A TWO HOUR DURATION.
7. WATER-MAIN DISINFECTION SHALL COMPLY WITH AWWA C-651. CHLORINATED WATER SHALL BE NEUTRALIZED PER APPENDIX C, AWWA C-651, PRIOR TO DISCHARGE TO SANITARY SEWER. COORDINATE WITH BRANDON WASTEWATER TREATMENT PLANT.
8. WATER-MAIN MUST HAVE 1.75 m (5.5 FT) COVER (MIN.) FROM FINAL GRADE.
- ~~9. TO MAINTAIN MAJOR FIRE PROTECTION COVERAGE PRIOR TO AND DURING BLASTING AND EXCAVATION ACTIVITIES FROM STA 21+620 TO STA 21+860 ALONG US 7, THE NEW WATER MAIN SHALL BE INSTALLED BY THE CONTRACTOR AND ACCEPTED BY BRANDON FIRE DISTRICT #1 FROM STA 36+120 THROUGH THE BRANDON INN ALLEY, UNDER THE NESHOBE RIVER, TO STA 21+860 FIRST.~~
10. ALL DUCTILE IRON (DI) PIPE SHALL BE CLASS 52, DOUBLE CEMENT LINED, EXCEPT FOR RIVER CROSSING PIPE WHICH SHALL BE CLASS 56.
11. ALL WATER SERVICE PIPE TO BE TYPE K COPPER.
- ~~12. REPLACEMENT WATER SERVICE SIZES SHALL BE SAME AS EXISTING UNLESS OTHERWISE DIRECTED BY THE ENGINEER AND/OR BRANDON FIRE DISTRICT #1. CONTRACTOR SHALL CONFIRM SERVICE SIZES AT COMMERCIAL LOCATIONS PRIOR TO LAYING WATER MAIN.~~
13. ALL HYDRANTS AND VALVES TO OPEN LEFT.
14. THE OPEN ENDS OF EXPOSED PIPE SHALL BE LEFT PLUGGED IN EXCAVATIONS AT THE CONCLUSIONS OF THE DAY'S WORK. DURING PERIODS OF DELAY AND AT THE CONCLUSION OF THE DAY'S WORK, LENGTHS OF PIPE WITH OPEN ENDS SHALL BE TIGHTLY CLOSED WITH WATERTIGHT PLUGS, SPECIAL SEALS, OR BY OTHER SUITABLE MEANS ACCEPTED BY THE ENGINEER TO PREVENT THE ENTRY OF ANIMALS, FOREIGN MATTER AND TRENCH WATER. TRENCH WATER SHALL BE PUMPED OUT BEFORE THE SEALS, PLUGS, OR OTHER TEMPORARY CLOSURES ARE REMOVED.
- ~~15. EXISTING WATER MAIN THAT WILL NO LONGER REMAIN IN SERVICE SHALL BE ABANDONED IN PLACE WHERE IT EXISTS BEYOND TRENCHING LIMITS FOR NEW PIPE. PIPE ENDS SHALL BE GROUTED AND CAPPED. THE CONTRACTOR SHALL NOTE LOCATIONS AND DEPTHS OF CAPPED ENDS ON THE RED LINE DRAWINGS. WHERE THE EXISTING PIPING IS LOCATED WITHIN THE TRENCH LIMITS FOR NEW PIPING, REMOVAL OF OLD PIPE SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF NEW PIPE.~~
- ~~16. EXISTING HYDRANT ASSEMBLIES SHALL BE COMPLETELY REMOVED TO THE TEE AT THE OLD WATER MAIN. THE TEE SHALL BE GROUTED AND CAPPED.~~
17. THE CONTRACTOR SHALL COORDINATE AND VERIFY THAT FIELD MODIFICATIONS DO NOT RESULT IN CONFLICTS BETWEEN WATER MAIN, SEWER, OR DRAINAGE FEATURES.

SEWER CONSTRUCTION

- ~~1. EXISTING HOUSE SERVICES SHALL BE CONNECTED TO THE NEW SANITARY SEWER. THE CONTRACTOR SHALL EXCAVATE, REMOVE, AND REPLACE ALL EXISTING PIPE THAT IS DAMAGED BACK TO SOLID PIPE OR TO THE RIGHT OF WAY, WHICHEVER IS LESS AS APPROVED BY THE ENGINEER.~~
2. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES, AND SHALL BE MAINTAINED THROUGHOUT THE PROJECT.
- ~~3. NO SEWER SURCHARGING WILL BE PERMITTED. WASTEWATER FLOW SHALL BE MAINTAINED BY BYPASS PUMPING OR OTHER METHODS AS APPROVED BY THE ENGINEER.~~
4. EXISTING UTILITY SERVICES SUCH AS WATER AND WASTEWATER SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE LIFE OF THE PROJECT.
- ~~5. CONTRACTOR TO PERFORM EXPLORATORY EXCAVATION TO EXPOSE DOWNSTREAM SEWER LINE AT EACH SYSTEM PRIOR TO LAYING SEWER PIPE AND TO VERIFY INVERTS ON CONNECTING MANHOLES.~~
6. FLOWS THROUGH STORMWATER CULVERTS AND EXISTING CLOSED DRAINAGE SYSTEMS SHALL BE MAINTAINED DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL SUPPLY A TIE-CARD TO THE TOWN AND BUILDING OWNER FOR DOCUMENTING THE LOCATION OF EACH SERVICE CONNECTION.
8. THE CONTRACTOR SHALL EXCAVATE, REMOVE, AND REPLACE ALL EXISTING PIPE TO REMAIN THAT IS DAMAGED AT HIS OWN COST. THE NEW PIPE SHALL BE THE SAME SIZE AS THE EXISTING PIPE AND SHALL BE CONNECTED TO THE EXISTING PIPE WITH APPROVED REPAIR COUPLINGS.
9. UNLESS OTHERWISE SPECIFIED, MINIMUM PIPE COVER SHALL BE 1.5 M (5 FT).
10. ALL PIPE LENGTHS ARE MEASURED FROM INSIDE MANHOLE WALL TO INSIDE MANHOLE WALL. SLOPES ARE SHOWN IN PERCENT.
11. SEWER LINES SHALL BE LOCATED A MINIMUM OF 3 M HORIZONTALLY FROM ALL PROPOSED AND EXISTING WATER MAINS, AS MEASURED FROM OUTSIDE PIPE WALLS.
12. ALL SANITARY MANHOLES SHALL PASS LEAKAGE TESTING CRITERIA OUTLINED IN SECTION 628 OF THE SPECIFICATIONS. AS AN ALTERNATIVE, THE CONTRACTOR MAY ELECT TO PERFORM VACUUM TESTING ON MANHOLES PRIOR TO BACKFILLING AS FOLLOWS:
 -ALL LIFT HOLES AND INVERT HOLES SHALL BE PLUGGED.
 -THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 254 MM Hg.
 -THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 25 MM Hg DROP TO 229 MM Hg SHALL BE:
 a) NOT LESS THAN 1 MINUTE FOR MANHOLES LESS THAN 4.2 M DEEP;
 b) NOT LESS THAN 2 MINUTES FOR MANHOLES DEEPER THAN 4.2 M.
 -THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE CRITERIA LISTED ABOVE.
13. ALL SMHs TO BE 1.2 m DIAMETER UNLESS OTHERWISE NOTED.
14. CONTRACTOR SHALL FLUSH INSTALLED SEWER AND VIDEOTAPE FOR ENGINEER'S REVIEW PRIOR TO FINAL ACCEPTANCE AND APPLICATION OF WEARING COURSE PAVEMENT.
15. SEWER FORCE-MAIN PIPE SHALL BE PRESSURE CLASS 350.
16. ~~ALL~~ **GRAVITY** PVC SEWER PIPE SHALL BE SDR 35 UNLESS NOTED OTHERWISE. **EXCEPT WHERE WATER AND SEWER CROSSINGS ARE LESS THAN 0.45 M. IN THAT CASE PIPE SHALL BE AWWA C-900 RATED AND SHALL BE TESTED TO WATER MAIN STANDARDS.**

3	AUG. 2009	MODIFIED TO ADDRESS CONTRACT ADMINISTRATIONS COMMENTS
2	MAR. 2009	BRANDON SEGMENT 5 PLAN REVISIONS
1	JAN. 2006	MODIFIED TO ADDRESS APRIL 18, 2005 WATER SUPPLY DIVISION COMMENTS

WATER/SEWER GENERAL NOTES 2

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PROJECT LEADER:	HJM	DRAWN BY: KLS
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SHEET	140 OF 546	DEC SHEET 161 OF 437

