

GENERAL NOTES

1. THESE DRAWINGS ARE CONSIDERED TO BE A SUBSET OF A HIGHWAY RECONSTRUCTION PROJECT IDENTIFIED AS:

PROPOSED IMPROVEMENT
US ROUTE 7 (PRINCIPAL ARTERIAL)
BRANDON NH 019-3 (496)

**ENVIRONMENTAL PROTECTION
RULES CHAPTER 21 WATER SUPPLY
RULE REVISION DATE: APRIL 25, 2005**

2. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS OF THE HIGHWAY RECONSTRUCTION CONTRACT. ADDITIONAL REFERENCE IS MADE TO THE FOLLOWING DOCUMENTS:

- STATE OF VERMONT, AGENCY OF TRANSPORTATION-STANDARD DRAWINGS AND STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001-2006
- STATE OF VERMONT, AGENCY OF NATURAL RESOURCES - WATER SUPPLY RULE, DATED JUNE 2002
- STATE OF VERMONT, AGENCY OF NATURAL RESOURCES - WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES, DATED JANUARY 2005
- VERMONT HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL, DATED 2003
- AMERICAN WATER WORKS ASSOCIATION STANDARDS - AWWA STANDARDS, LATEST EDITIONS.
- AMERICAN SOCIETY FOR TESTING AND MATERIALS - ASTM, LATEST EDITIONS.
- CONSTRUCTION STANDARDS OF BRANDON FIRE DISTRICT #1.

CAN BE VIEWED BY CONTACTING THE BRANDON FIRE DISTRICT #1.

3. THE CONTRACTOR SHALL SUPPLY CERTIFICATION THAT ALL MATERIALS INSTALLED COMPLY WITH THESE CONTRACT REQUIREMENTS.

4. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR IN THE GROUND, WITHIN THE CONSTRUCTION AREA, AND SHALL COORDINATE WITH THE OWNERS OF SAID UTILITIES. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL EXISTING UTILITIES. RELOCATION OF ANY UTILITY, IF REQUIRED, SHALL BE ONLY AS DIRECTED BY THE OWNER OF SAID UTILITY. UTILITIES THAT ARE DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS FOR ANCHORING, SUPPORTING, AND/OR RELOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION.

5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS IS APPROXIMATE. THE EXACT LOCATION SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY EXCAVATION. AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT DIG-SAFE AT 1-888-DIG-SAFE.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND PAYMENT OF ALL NECESSARY PERMITS AND INSPECTIONS AS REQUIRED.

7. BY BEGINNING WORK, THE CONTRACTOR ACCEPTS GRADES AND SURFACES.

~~8. THE CONTRACTOR'S ATTENTION IS DIRECTED TO BORING LOGS BY COLDER ASSOCIATES, INC. REGARDING SOIL AND LEDGE CONDITIONS SEE SPECIFICATIONS.~~

9. ALL EXCAVATIONS SHALL COMPLY WITH OSHA AND VERMONT OSHA REQUIREMENTS. SHORING PLANS SHALL BE DEVELOPED BY A VERMONT LICENSED PROFESSIONAL ENGINEER FOR SUBMISSION TO THE ENGINEER. COSTS SHALL BE BORNE BY CONTRACTOR.

10. NO WORK WILL TAKE PLACE UNLESS THE OWNER'S REPRESENTATIVE IS PRESENT. THE OWNER RESERVES THE RIGHT TO REJECT ANY AND ALL WORK NOT MEETING THIS REQUIREMENT.

11. THE CONTRACTOR IS RESPONSIBLE FOR ALL ENGINEERING AND RELATED COSTS ASSOCIATED WITH ANY DESIGN ALTERNATIVES. DESIGN ALTERNATIVES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE.

12. THE CONTRACTOR IS ADVISED THAT UTILITY OWNERS MAY WORK IN THE ROADWAY LIMITS IN CONJUNCTION WITH THE RECONSTRUCTION PROJECT.

13. THE CONTRACTOR SHALL MAINTAIN "RED LINE" DRAWINGS DURING CONSTRUCTION THAT REFLECT LOCATIONS AND ELEVATIONS OF INSTALLED WORK TO INCLUDE AT A MINIMUM, PIPE INVERTS, MANHOLE INVERTS, SEWER SERVICE WYES, WATER CORPORATION STOPS, AND TEE LOCATIONS.

14. WHERE SEPARATION DISTANCE OF WATER MAIN OR SEWER PIPE IS CLOSER THAN 0.5 m TO DRAINAGE PIPE, CONTRACTOR SHALL INSULATE PIPES FOR FROST PROTECTION.

SURVEY NOTES

1. THE BASE MAPPING SHOWN WAS DEVELOPED BY THE STATE OF VERMONT AND SUPPLEMENTED BY VERMONT SURVEY AND ENGINEERING, INC. DATA. SOME SUBSURFACE FEATURES SHOWN WERE INPUT BASED ON THE BEST AVAILABLE DATA SUPPLIED BY THE TOWN OF BRANDON.

2. THE CONTRACTOR WILL ESTABLISH AND MAINTAIN SURVEY CONTROL THROUGHOUT THE PROJECT. THIS WORK IS SUBJECT TO THE CHECKING, APPROVAL, AND SURVEILLANCE BY THE ENGINEER.

3. SEE SURVEY TIE SHEETS FOR BENCHMARK DATA.

WORK LIMITATIONS IN ROADWAY

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC IN ACCORDANCE WITH MUTCD. CONTRACTOR SHALL ERECT AND MAINTAIN DETOUR SIGNAGE THROUGHOUT PROJECT. CONTRACTOR SHALL PROVIDE FLAGGERS WHEN REQUIRED, TO THE SATISFACTION OF THE OWNER.

2. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY THE WORK AT ALL TIMES. ONLY 300 METERS OF ROADWAY MAY BE CLOSED AT ANY TIME.

3. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED WITH STEEL PLATE ON A DAILY BASIS BY THE CONTRACTOR AND AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.

4. MEASUREMENT AND PAYMENT OF TRENCH EXCAVATION (ITEMS 204.20 AND 204.21) QUANTITIES SHALL BEGIN AT THE PROPOSED BOTTOM OF SAND COURSE, REGARDLESS OF THE CONTRACTOR'S WORK METHOD.

5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE TRAFFIC CONTROL PLAN PORTION OF THE HIGHWAY RECONSTRUCTION PROJECT DRAWINGS FOR LANE CLOSURE RESTRICTIONS.

**ENVIRONMENTAL PROTECTION RULES CHAPTER 1
WASTEWATER SYSTEMS AND POTABLE WATER
SUPPLY RULES EFFECTIVE SEPTEMBER 29, 2007**

DEMOLITION

1. MANHOLES AND PIPES THAT ARE NO LONGER NECESSARY SHALL BE COMPLETELY REMOVED TO AN ELEVATION ONE-HALF METER BELOW SAND COURSE WITHIN THE ROADWAY LIMIT.

2. MANHOLES AND PIPES THAT ARE NO LONGER NECESSARY AND EXTEND BEYOND THE ROADWAY LIMIT SHALL BE CAPED OR PLUGGED AND THE LOCATION SHOWN ON RECORD UTILITY DRAWINGS.

BLASTING

1. AFTER CONTRACT AWARD, THE CONTRACTOR SHALL SUBMIT THE QUALIFICATIONS OF THE PROPOSED SEISMOLOGIST. THE SEISMOLOGIST SHALL BE RESPONSIBLE FOR PRODUCING AND IMPLEMENTING THE PREBLAST SURVEY REPORT, BLAST VIBRATION MONITORING PLAN, AND POST-BLAST LOG(S). UNLESS OTHERWISE PERMITTED BY ENGINEER IN WRITING, THE SEISMOLOGIST SHALL BE PRESENT AT THE SITE DURING ALL BLASTS.

2. PRE-DRILLING: BEFORE PRODUCTION DRILLING AND BLASTING IS CONDUCTED, THE BLASTER WILL ADVANCE DRILL STEM TO ESTIMATE THE LEDGE SURFACE. THIS WORK SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER.

3. PAYMENT FOR TRENCH EXCAVATION OF ROCK (ITEM 204.21) SHALL BE BASED ON THE STANDARD SPECIFICATIONS DESCRIPTION, REGARDLESS OF ADDITIONAL ROCK REMOVAL REQUIRED FOR SAFETY AND INSTALLATION REQUIREMENTS.

4. PREBLAST SURVEY REPORT
-THE CONTRACTOR SHALL CONDUCT A SURVEY OF ALL STRUCTURES WITHIN 150 M LIMIT OF PROPOSED BLASTING LOCATIONS. TWO WEEKS PRIOR TO THE START OF BLASTING, SUBMIT TO THE ENGINEER FOR REVIEW A REPORT DESCRIBING THE RESULTS OF THIS SURVEY, INCLUDING ALL INFORMATION PERTINENT TO ANY DEFECTIVE CONDITIONS OF THE STRUCTURES SURVEYED, SUCH AS CRACKS, FOUNDATION PROBLEMS, WELL FUNCTION PROBLEMS, OR THE LIKE.

-THE PREBLAST SURVEY REPORT SHALL INCLUDE PHOTOGRAPHIC OR VIDEO DATA WITH A WRITTEN OR RECORDED COMMENTARY WITH THE WRITTEN REPORT.

-IF PROPERTY OWNERS WITHIN THE 150-M LIMIT REFUSE ENTRY, THE CONTRACTOR SHALL DOCUMENT DISCUSSION IN THE PREBLAST SURVEY REPORT.

5. BLAST VIBRATION MONITORING PLAN. TWO WEEKS PRIOR TO THE START OF BLASTING, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW A DETAILED BLAST VIBRATION PLAN TO ADDRESS SEISMIC VIBRATIONS PRODUCED BY EACH BLAST. THE BLAST VIBRATION MONITORING PLAN SHALL INCLUDE, BUT NOT BE LIMITED TO:

-DESCRIPTION AND IDENTIFICATION OF THE SEISMOGRAPH. SEISMOGRAPH SHALL PRODUCE PRINTED OUTPUT OF VIBRATIONS, RECORDED IN PEAK PARTICLES VELOCITY IN INCHES/SECOND, OCCURRING ALONG THREE MUTUALLY PERPENDICULAR AXES TO THE GROUND LEVEL. THE RECORDING DEVICE SHALL BE CAPABLE OF MEASURING AND RECORDING PARTICLE VELOCITIES UP TO 5.00 INCHES/SECOND.

-PLANNED MONITORING LOCATIONS.

BLASTING (5. BLAST VIBRATION MONITORING PLAN - CONT.)

-PROVISIONS FOR A TEST BLAST OR OTHER NECESSARY PROCEDURES FOR ESTABLISHING BLASTING PROCEDURES SUCH THAT BLAST VIBRATIONS COMPLY WITH THE SPECIFIED LIMITS.

-PLANNED BLASTING PROCEDURES, EXPLOSIVE TYPE, PLANNED STEMMING, ANTICIPATED BLASTING PATTERN, DELAY, EXPLOSIVE QUANTITY PER DELAY, METHODS OF ADJUSTING BLASTING TECHNIQUES TO REDUCE SEISMIC VIBRATIONS, AND ANTICIPATED PROTECTION PLAN FOR LIFE AND PROPERTY ADJACENT TO BLASTING OPERATIONS.

6. POST-BLAST LOG. THE FOLLOWING INFORMATION SHALL BE RECORDED AND SUBMITTED TO THE ENGINEER FOLLOWING EACH BLAST AND PRIOR TO ANY SUBSEQUENT BLAST IN THE AREA:

-NAME OF CONTRACTOR OR SUBCONTRACTOR RESPONSIBLE FOR THE BLASTING OPERATION.

-NAME AND SIGNATURE OF APPROVED SEISMOLOGIST. SEISMOGRAPH OPERATOR, IF OTHER THAN THE APPROVED SEISMOLOGIST.

-NAME AND LICENSE NUMBER OF BLASTER.

-PREVAILING WEATHER CONDITIONS AT THE TIME OF THE SHOT, MAKING PARTICULAR REFERENCE TO CLOUD CONDITIONS AND TEMPERATURE, AND RELATIVE HUMIDITY RANGE.

-SHOT LOCATION (STATIONING AND SKETCH), DATE AND TIME OF DAY OF THE SHOT. NUMBER OF HOLES, BURDEN, AND PATTERN. DIAMETER AND DEPTH OF HOLES.

-SPECIFICATIONS OF EXPLOSIVES BEING USED, WHETHER IN PRODUCTION HOLES OR IN PRESPLIT PORTIONS OF THE SHOT, OR BOTH. TOTAL WEIGHT OF EXPLOSIVES USED. MAXIMUM WEIGHT OF EXPLOSIVES PER DELAY.

-SKETCH OF THE WIRING CIRCUIT USED, TYPE OF CAPS AND DELAY PERIOD USED.

-DEPTH OF SAND BLANKET OR EXTENT OF BLASTING MAT, IF USED.

-SEISMOGRAPH MAKE, MODEL AND SERIAL NUMBER, LOCATION AND DISTANCE (IN FEET) FROM SHOT.

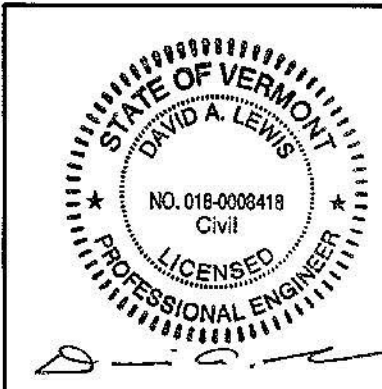
-THE CONTRACTOR SHALL PRESENT TO THE ENGINEER THE REQUIRED POST-BLAST LOG, TOGETHER WITH THE SEISMOGRAM OUTPUT (IN INCHES/SECOND) OF EACH BLAST, IN SUFFICIENT TIME TO ALLOW FOR EVALUATION PRIOR TO THE NEXT BLAST, EVEN IF THE NEXT BLAST IS SCHEDULED FOR THE SAME DAY.

-BASED UPON THE RESULTS OF THIS EVALUATION, THE CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS EITHER IN HIS BLASTING PROCEDURES OR IN HIS BLASTING PLAN, OR BOTH, SO THAT THE MAXIMUM PEAK PARTICLE VELOCITY (IDENTIFIED HEREIN) WILL NOT BE EXCEEDED IN SUBSEQUENT BLASTS. THESE PROPOSED CHANGES SHALL BE SUBJECT TO REVIEW BY THE ENGINEER PRIOR TO THE CONTINUATION OF BLASTING OPERATIONS.

-REVIEW OF CONTRACTOR'S SUBMITTALS BY THE ENGINEER WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITIES FOR THE ACCURACY, ADEQUACY, AND SAFETY OF BLASTING. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK.

7. AFFECTED UTILITY OWNERS MAY REQUIRE AN INDEPENDENT TESTING LABORATORY TO MONITOR NOISE AND VIBRATION LEVELS OF BLASTING OPERATIONS. THE CONTRACTOR SHALL RETAIN AND PAY FOR ANY INDEPENDENT TESTING LABORATORY. PRIOR TO ANY TESTING, THE CONTRACTOR SHALL SUBMIT A QUALIFICATIONS PACKAGE FOR THE TESTING LABORATORY FOR REVIEW AND APPROVAL BY THE ENGINEER AND UTILITY OWNER(S).

8. WHEN THE USE OF EXPLOSIVES IS NECESSARY FOR THE PROSECUTION OF THE WORK, THE CONTRACTOR SHALL EXERCISE THE UTMOST CARE NOT TO ENDANGER LIFE OR PROPERTY, INCLUDING NEW WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM THE USE OF EXPLOSIVES.



4	AUG. 2009	MODIFIED TO ADDRESS CONTRACT ADMINISTRATIONS COMMENTS
3	MAY 2009	MODIFIED TO ADDRESS MAY 14, 2009 MATERIALS & RESEARCH 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 1

PROJECT NAME: BRANDON
PROJECT NUMBER: NH 019-3(496)

FILE NAME: zb008s6-swrdef.dgn
PROJECT LEADER: HJM
DESIGNED BY: DAL
CHECKED BY: DAL
PLOT DATE: 1/9/2006
DRAWN BY: KLS
DEC SHEET 160 OF 437