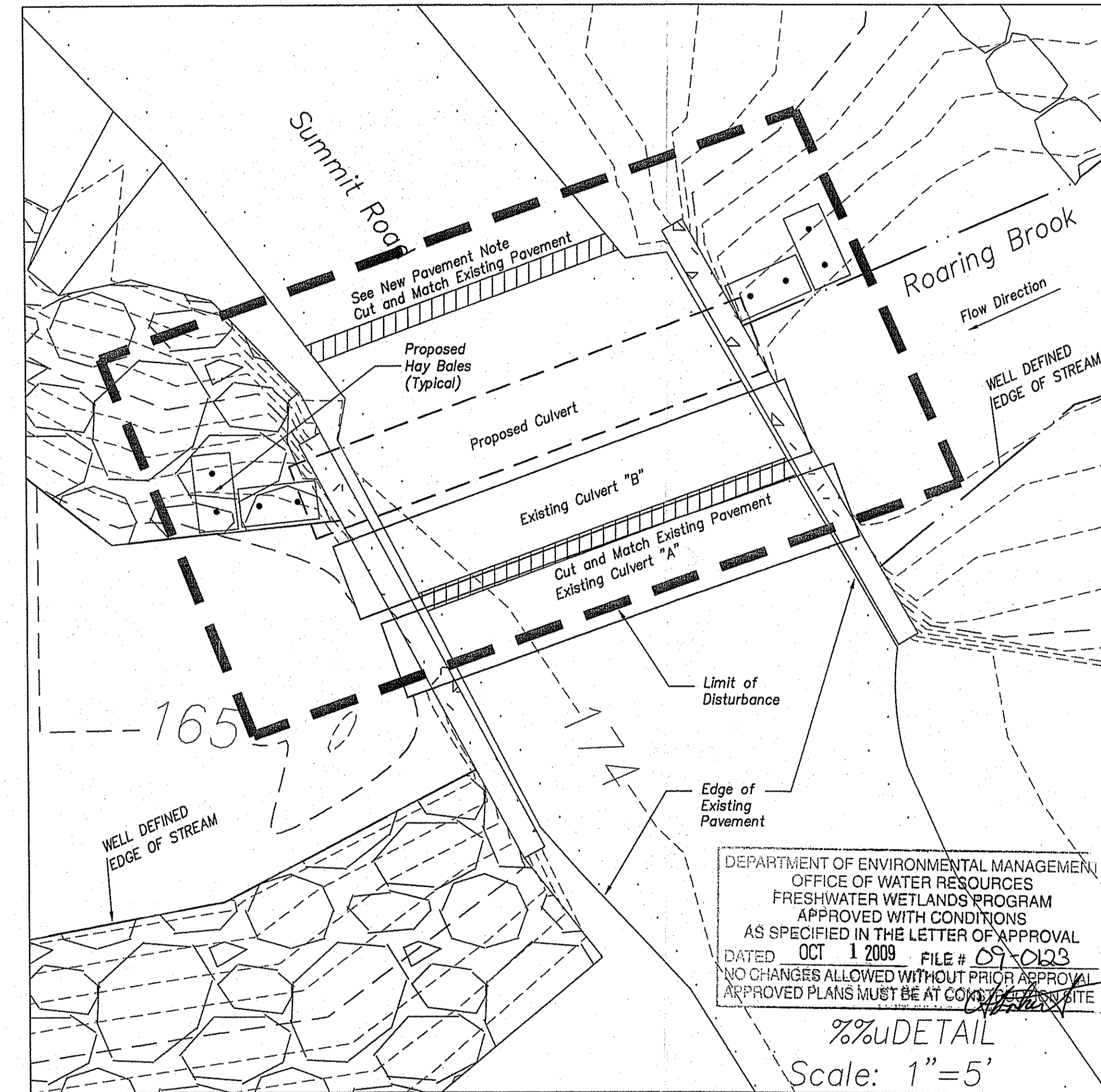
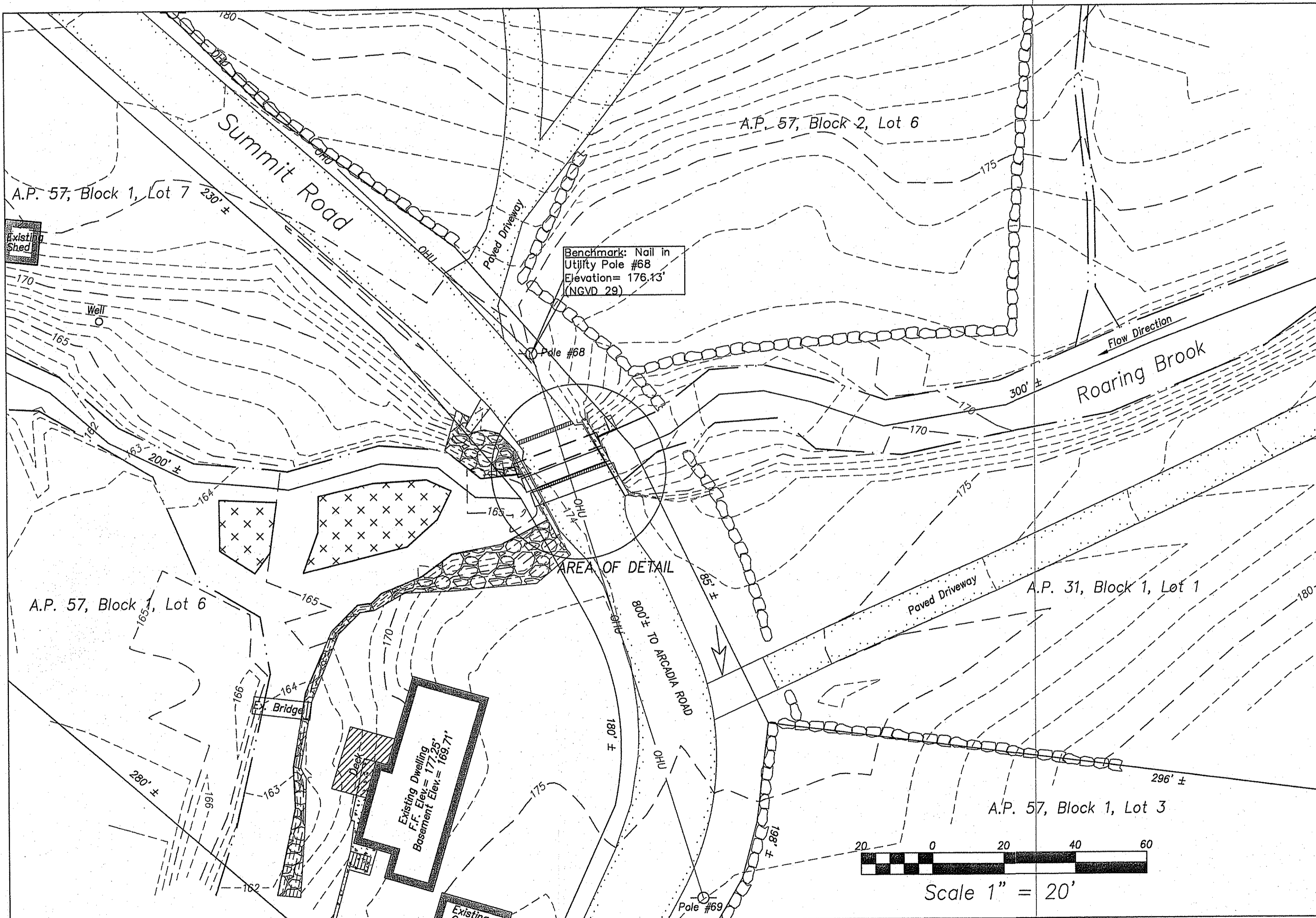
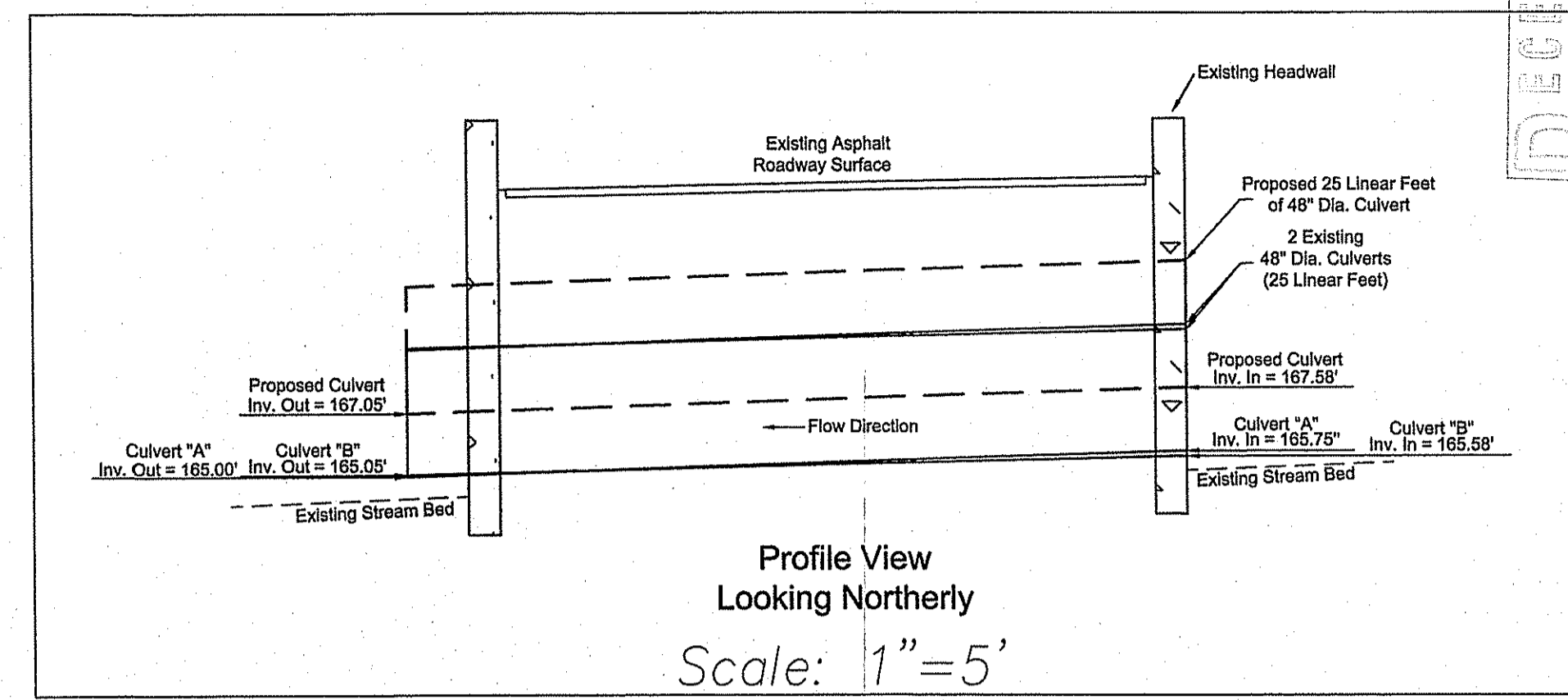
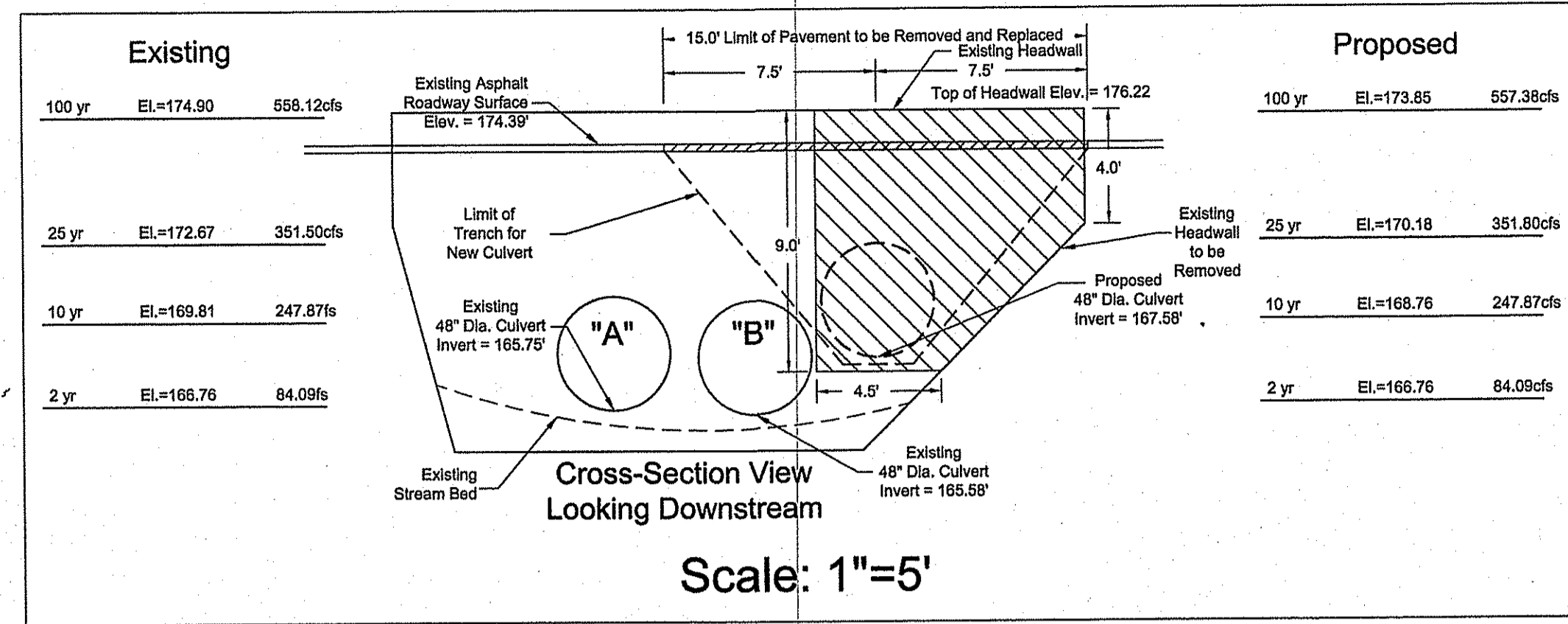


LOCUS MAP
NOT TO SCALE

NEW PAVEMENT NOTE:
15 feet by the width of the road to be cut and removed. After new culvert has been installed, back fill with clean gravel in 6" lifts. A 2 1/2" binder course is to be installed. A 1 1/2" finished course is to be installed.

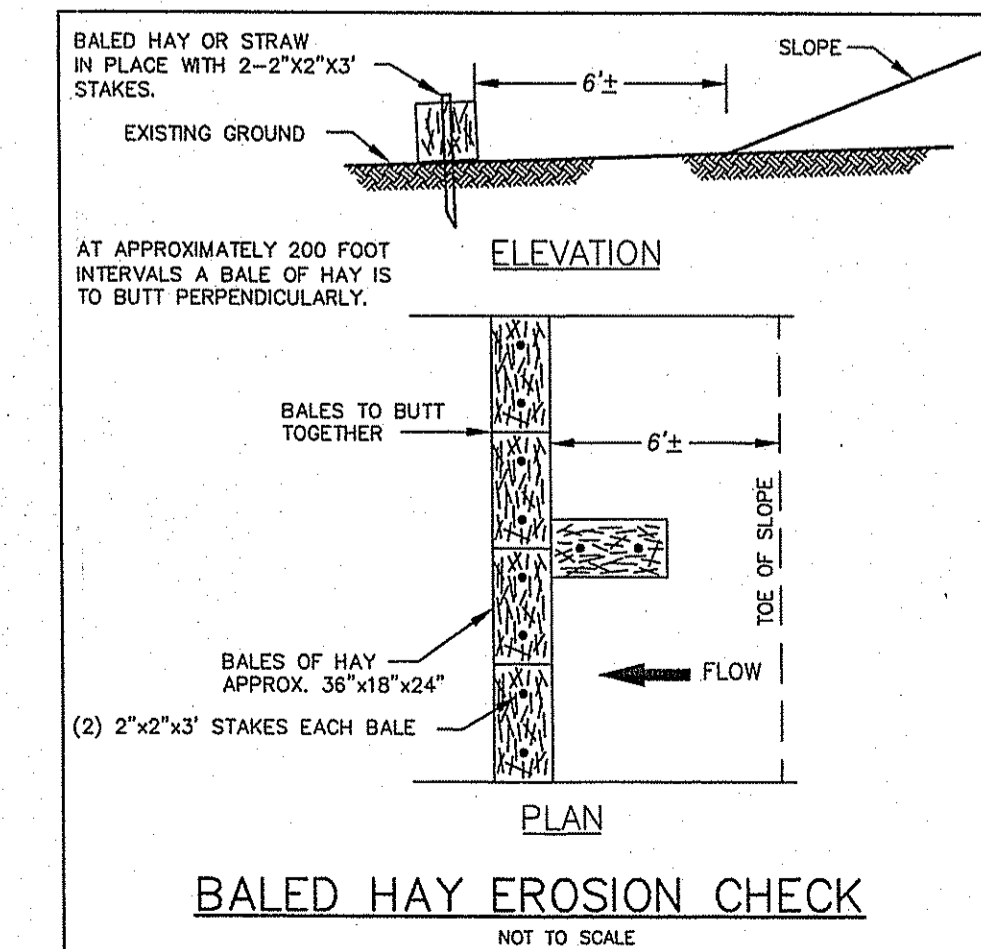
FEMA DETERMINATION
ZONE "C" - AREA OF MINIMAL FLOODING
PANEL NO. - 440032 0010 A
REVISED - MARCH 1, 1992



- NOTES:**
1. Basemap information taken from on-site survey.
 2. No changes to existing grade are proposed for this project.

SCOPE OF WORK

The proposed project involves the installation of an additional 48" diameter concrete culvert to supplement the 2 existing 48" diameter concrete culverts currently in place. The additional culvert will be placed at a higher elevation to serve as an emergency overflow during periods of high flow. The existing roadway will be shut-down during construction. The existing stream will continue to flow through the existing culvert. After the culvert has been installed, the headwall can be reconstructed to accept the new culvert. Then compacted gravel and asphalt can be installed and the roadway reopened.



LEGEND

	Utility Pole
	Edge of River
	Index Contour
	Intermediate Contour
	Stone Wall
	Stone
	Unsubmerged Land
	Concrete

ORDER OF PROCEDURES

1. Proper erosion control shall be placed at edge of stream prior to work beginning. (See Baled Hay Erosion Check Detail)
2. Care shall be taken to prevent any material from entering the existing culvert and/or stream.
3. Saw cut minimum amount of pavement necessary to install the proposed culvert. (Existing roadway shall be closed temporarily during construction.)
4. Excavate and prepare bed for proposed culvert.
5. All excavated material shall be placed directly onto trucks with no stock piling in or around the site.
6. Saw cut minimum amount of headwall concrete necessary to put in proposed culvert.
7. Install proposed culvert to the grades shown on this plan.
8. Headwall shall be replaced back to its original state after installation is complete.
9. Backfill the culvert in lifts ensuring proper compaction between lifts. See RIDPW Standard Specifications, Section 202.
10. Repave to match existing.
11. Remove erosion control once work is complete.

Culvert Upgrade Plan
FOR
Town of Exeter
Roaring Brook
LOCATED AT
Pole #68 - Summit Road
Exeter, R.I. 02822

Drawn By: JLS	Checked By: DrC		
Scale: AS SHOWN	Date: 4/07/2009		
REVISIONS			
NO.	REVISION	BY	DATE
1	REVISED PER WETLANDS COMMENTS	MC	8/10/09

DANIEL R. COTTA
1918
PROFESSIONAL LAND SURVEYOR

DANIEL R. COTTA
5147
REGISTERED PROFESSIONAL ENGINEER

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EROSION CONTROL & SOIL STABILIZATION PROGRAM

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION PERIOD.
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS, AND SHALL CONFORM WITH R. I. STANDARD SPECIFICATION M. 20.
4. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
5. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

PERMANENT SEEDING MIXTURES:

A - MOWED AREA: ALL FLAT OR SLOPES LESS THAN 3:1

MIXTURE	% BY WT.	SEEDING DATES
RED FESCUE	75	APRIL 1 - JUNE 15
KENTUCKY BLUEGRASS	15	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
PERENNIAL RYEGRASS	5	

TOTAL 100#/ACRE

PERMANENT SEEDING MIXTURES:

B - UNMOWED AREA OR INFREQUENTLY MOWED: FLAT OR SLOPES GREATER THAN 3:1

MIXTURE	% BY WT.	SEEDING DATES
RED FESCUE	75	APRIL 1 - JUNE 15
PERENNIAL RYEGRASS	5	AUG. 15 - OCT. 15
COLONIAL BENTGRASS	5	
BIRDSFOOT TREFOIL	15	

TOTAL 100#/ACRE

6. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
7. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3000-4000 LBS/AC.
8. ALL HAYBALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. IF NEEDED, TEMPORARY SEEDING CAN BE USED TO HELP MINIMIZE EROSION. A TEMPORARY SEEDING GUIDE MUST BE INCLUDED AS A REFERENCE. THE FOLLOWING SPECIES ARE RECOMMENDED:

SPECIES	LBS/ACRE	LBS/1,000 SQ. FT.	SEEDING DATES
ANNUAL RYEGRASS	60	1.5	MAR. 15 - JUNE 15
PERENNIAL SUDAN GRASS	40	1.0	MAY 15 - AUGUST 15
MILLET	40	1.0	MAY 15 - AUGUST 15
WINTER RYE	120	3.0	AUGUST 15 - JUNE 15
OATS	120	3.0	MAR. 15 - JUNE 15
WEeping LOVEGRASS	20	0.5	MAY 1 - JUNE 30

9. THE CONTRACTOR MUST REPAIR AND OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
10. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THRU OCT. 15TH.
11. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.P.W. STANDARD SPECIFICATIONS SECTION 202.
12. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
13. STOCKPILES OF TOPSOILS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND/OR STABILIZED.
14. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHOULD BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
15. REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION.
16. THE CULVERT DRAINAGE STRUCTURE BENEATH SUMMIT ROAD SHALL RECEIVE ONE FINAL CLEANING PRIOR TO ACCEPTANCE OF THE OVERALL PROJECT BY THE OWNER. SEDIMENTS SHALL BE DISPOSED OF IN A PROPER MANNER.

NOTE:

THE OWNER OF THIS PROJECT IS THE TOWN OF EXETER.

SEDIMENTATION CONTROL PROGRAM

1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE WETLANDS.
2. ALL DISTURBED AREAS SUBJECT TO EROSION TENDENCIES WHETHER THEY ARE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SUITABLE SLOPE PROTECTION.
3. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
4. CARE SHALL BE TAKEN SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING EITHER EXISTING OR PROPOSED DRAINAGE OR SEWER STRUCTURES.
5. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND AFTER PERIODS OF RAINFALL. SUCH DEVICES SHALL BE REPAIRED OR REPLACED AS NEEDED.
6. CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECT TO STORM WATER FLOW.
7. ADDITIONAL HAYBALES, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
8. ALL SEDIMENTS SHALL BE REMOVED FROM THE EXISTING AND PROPOSED CULVERT BARRELS, AS WELL AS THE UPSTREAM AND DOWNSTREAM ENDS OF THE DRAINAGE STRUCTURE BENEATH SUMMIT ROAD WHEN DIRECTED BY THE ENGINEER OR THE LOCAL CONSERVATION COMMISSION.
9. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, WITH ANY AMENDMENTS, AS A GUIDE.

ORDER OF PROCEDURE

1. IMMEDIATELY UPON COMPLETION OF THE CLEARING AND GRUBBING OPERATION AND PRIOR TO ANY GRADING, TEMPORARY HAYBALES, SILTFENCE OR SANDBAGS SHALL BE PLACED OUTSIDE THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS. (I.E. ALONG NEW ROADWAYS, STREAMBANKS, CRITICAL AREAS, ETC.)
2. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PERIODICALLY CLEANED AND MAINTAINED AS PER THE RESPECTIVE PROGRAMS DURING THE CONSTRUCTION.
3. IF WORK PROGRESS IS TO BE INTERRUPTED AT ANY TIME, REFERENCE EROSION AND SEDIMENTATION CONTROL PROGRAMS FOR TEMPORARY CONTROL.
4. TEMPORARY HAYBALES, SILTFENCE AND SANDBAGS ALONG AND AT THE EDGE OF ROADWAYS MAY BE REMOVED AFTER FINAL SOIL STABILIZATION HAS BEEN ACHIEVED AND APPROVED.
5. EROSION CONTROL MEASURES LOCATED AT DRAINAGE OUTLETS MUST REMAIN UNTIL SUCH TIME THAT A DESIRABLE STAND OF GRASS OR GROUND COVER, HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE ENGINEER.

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE STATE OF RHODE ISLAND AND THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
2. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE MUNICIPAL ENGINEERING DEPARTMENT AND ALL UTILITY INSTALLATIONS AND INSPECTIONS WITH THE APPROPRIATE UTILITY CO.. A 48 HOUR ADVANCE NOTICE IS REQUIRED BEFORE WORK COMMENCEMENT.
4. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE "R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (REVISION OF 1997)," WITH ALL CORRECTIONS AND ADDENDA AND THE 1998 R.I. STANDARD DETAILS WITH ALL CORRECTIONS AND ADDENDA.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE OFF IN COMPUTING ANY ESTIMATES.
6. EMBANKMENT SLOPES AND ALL DISTURBED AREAS ARE TO RECEIVE 4" OF TOPSOIL AND SEED. SEE EROSION CONTROL PROGRAM DETAILS.
7. UNLESS OTHERWISE SPECIFIED, ALL STORM DRAINS SHALL BE REINFORCED CONCRETE CLASS III PIPE WITH MORTAR JOINTS.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS. THAT INCLUDES ANY CONSTRUCTION TO BRING UTILITIES TO THE SITE, ANY REPAIRS, ANY TRENCHING REQUIRED, HYDRANTS, FIRE ALARMS, ANY AND ALL CONSTRUCTION FOR ACCEPTANCE OF ROAD AND EASEMENTS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND SOIL EROSION CONTROL MEASURES.
10. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANIES. CALL DIG-SAFE 1(888)344-7233.
11. IN ALL EXCAVATION AND PLACEMENT OF FILL THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
12. PIPE BEDDING SHALL CONFORM TO R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 701. CLASS B BEDDING WILL BE USED FOR ALL STORM DRAINS UNLESS OTHERWISE SPECIFIED ON THE PLANS.

MAINTENANCE AND RESPONSIBILITY

1. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE SOLE RESPONSIBILITY FOR THE DESIGN IMPLEMENTATION. HE SHALL ALSO BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION WORKERS AND SUB-CONTRACTORS ARE AWARE OF THE PROVISIONS OF THE PLAN AND THE ENGINEER'S REPORT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ASPECTS OF THE DESIGN PRIOR TO FINAL APPROVAL BY THE TOWN. DURING THAT TIME, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHOULD BE CHECKED ON A WEEKLY BASIS AS WELL AS AFTER EACH SIGNIFICANT RAINFALL. ALL SUCH MEASURES SHOULD BE CLEANED OR REPLACED AS NECESSARY.
3. UPON FINAL APPROVAL OF THE PROJECT, THE TOWN OF EXETER SHALL BE RESPONSIBLE FOR THE UPKEEP AND MAINTENANCE OF THE SITE.
4. ALL NON-AQUATIC VEGETATION SHOULD BE MOWED AT LEAST TWICE A YEAR.
5. REPLANTING, REGRADING OR OTHER REPAIRS NEEDED AS A RESULT OF EROSION AND SEDIMENTATION SHOULD BE DONE PROMPTLY.
6. TRASH, DEBRIS, ETC. SHOULD BE REMOVED FROM THE DRAINAGE STRUCTURE BENEATH SUMMIT ROAD AT LEAST TWICE A YEAR.
7. AN INSPECTION OF THE INTEGRITY AND STABILITY OF THE DRAINAGE STRUCTURE BENEATH SUMMIT ROAD SHOULD TAKE PLACE AT LEAST ONCE A YEAR.
8. ALL VEGETATION NOT SURVIVING AT LEAST ONE FULL GROWING SEASON SHALL BE REPLACED AT THE OWNERS EXPENSE.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED OCT 1 2009 FILE # 09-0123
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

EROSION CONTROL PLAN FOR

Town of Exeter
Roaring Brook
LOCATED AT
Pole #68 - Summit Road
Exeter, R.I. 02822

Drawn By: MJC Checked By: DFC
Scale: AS SHOWN Date: 4/07/2009

NO.	REVISION	BY	DATE
1.	REVISED PER WETLANDS COMMENTS	MJC	4/7/09

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Sheet
2
of 2 sheets

Drawing No. _____
Dr. _____ Sh. _____

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