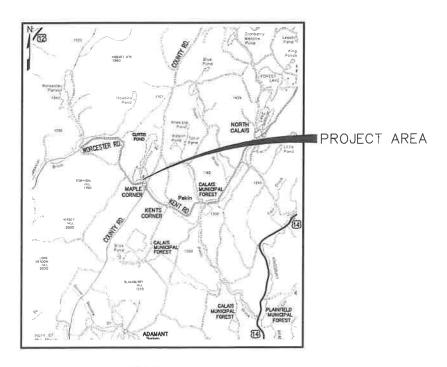


# TOWN OF CALAIS EAST CALAIS, VERMONT

# CURTIS POND DAM REHABILITATION PROJECT

FINAL DESIGN MAY 22, 2013





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LIST OF DRAWINGS

**FINAL DESIGN** NOT FOR CONSTRUCTION

# GENERAL PROJECT NOTES:

- 1. THE PURPOSE OF THIS PROJECT IS TO REHABILITATE COMPONENTS OF THE CURTIS POND DAM AND INSTALL A NEW CONCRETE CUTOFF WALL ALONG THE UPSTREAM FACE OF THE DAM.
- 2. THE PROJECT OWNER IS THE TOWN OF CALAIS, VERMONT, AN OWNER'S REPRESENTATIVE WILL BE APPOINTED PRIOR TO CONSTRUCTION TO REPRESENT THE OWNER DURING THE PROJECT.
- TOPOGRAPHY SHOWN ON THE PLANS IS BASED ON FIELD SURVEY COMPLETED BY THE VERMONT DEPT. OF ENVIRONMENTAL CONSERVATION, FACILITIES ENGINEERING DIVISION IN MAY 2003,
- 4. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION
- 5. THE CONTRACTOR SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS OF THE SITE AND SURROUNDINGS PRIOR BIDDING ON OR PERFORMING THE WORK
- 6. THE CONTRACTOR SHALL BID AND PERFORM THE WORK FROM A COMPLETE SET OF PLANS AND SPECIFICATION, AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS WITHIN THE CONSTRUCTION DOCUMENTS
- AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS WITHIN THE CONSTRUCTION DOCUMENTS.

  THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY DUBOIS & KING DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HERE ON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
- 8. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, STANDARDS, AND DETAILS.
  SUBMIT SHOP DRAWINGS AND PRODUCT LITERATURE (MANUFACTURER'S LITERATURE, CUT SHEETS, APPLICATION
- PROCEDURES, ETC.) FOR ALL PRODUCTS FOR USE IN THE PROJECT, FOR APPROVAL BY THE ENGINEER,
- 10, A SET OF CONSTRUCTION PLANS AND TECHNICAL SPECIFICATIONS SHALL BE ON SITE AND IN GOOD CONDITION AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
- 11 NO DEVIATION OR DEPARTURE FROM THE DESIGN INTENT PRESENTED IN THE CONTRACT DOCUMENTS (PLANS AND SPECIFICATIONS) WILL BE ALLOWED UNLESS AUTHORIZED BY DUBOIS & KING, INC. (D&K) AND APPROVED BY THE VIDEO DAM SAFETY SECTION. D&K CONTACT PERSON FOR NOTIFICATION IS SHAWN R. PATENAUDE, P.E.

# CONSTRUCTION NOTES

- 1. LOCATE STAGING AREAS AWAY FROM SENSITIVE AREAS INCLUDING WETLANDS AND STREAM BUFFERS.
- CONTRACTOR SHALL LAY OUT THE CONSTRUCTION BASELINES AND STAKE OUT LIMITS OF PROPOSED WORK PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING, WATER DIVERSION, AND DEWATERING REQUIREMENTS NEEDED FOR THE PROJECT.
- ALL WORK SHALL TAKE PLACE IN THE DRY. THE CONTRACTOR SHALL DEWATER ALL WORK AREAS PRIOR TO DISTURBANCE. WATER REMOVED FROM WORK AREAS SHALL DE DISCHARGED TO A FILTER BAG LOCATED GREATER THAN 100 FEET FROM ANY FLOWING NON—TURBID WATER.
- SHOULD A FILTER BAG BE USED TO CONTROL SEDIMENT, A REPLACEMENT FILTER BAG SHALL BE ONSITE AT ALL TIMES. THE FILTER BAGS SHALL BE REMOVED FROM THE SITE ONCE USED.
- 6. ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFFSITE AT NO ADDITIONAL COST UNLESS OTHERWISE APPROVED

# MEETINGS, SUBMITTALS, AND REQUIRED INSPECTIONS

- THE CONTRACTOR SHALL PARTICIPATE IN AN ON-SITE PRE-CONSTRUCTION CONFERENCE.
- 2. THE CONTRACTOR SHALL SUBMIT A CONTROL OF WATER PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. AT A MINIMUM THE CONTRACTOR'S CONTROL OF WATER PLAN SHALL CONFORM TO SPECIFICATION SECTION 2401-DEWATERING AND FOLLOW THE GUIDANCE IN THE CONTROL OF WATER NOTES ON THIS SHEET. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER MATERIAL SLIPS FOR ALL MATERIALS AND ITEMS USED ON
- THE PROJECT PER THE SPECIFICATIONS SECTION 1300-SUBMITTALS.
- 4. THE CONTRACTOR SHALL PROVIDE THE ENGINEER 48-HOUR PRIOR NOTICE, FOR ANY PLACEMENT OF CONCRETE AND EMBANKMENT FILL
- THE ENGINEER WILL BE REQUIRED TO OBSERVE AND APPROVE CRITICAL ASPECTS OF THE CONSTRUCTION PRIOR TO EXECUTION. THESE CRITICAL ITEMS WILL BE DISCUSSED AT THE PRE-CONSTRUCTION CONFERENCE. FAILURE OF THE CONTRACTOR TO PROVIDE THE ENGINEER WITH A MINIMUM OF 48—HOUR NOTICE MAY RESULT IN DELAYS

# **PERMITS**

- 1. THE FOLLOWING PERMITS ARE BEING SECURED FOR THIS PROJECT:
- PERMIT TO CONSTRUCT OR ALTER A DAM VTDEC.
- THE CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH THE REQUIREMENTS OF THE PERMITS PRIOR TO BIDDING, AND FOR COMPLYING WITH THEM DURING CONSTRUCTION.
- 3. A COPY OF THE PERMITS SHALL BE ONSITE DURING ALL CONSTRUCTION ACTIVITIES.

- 1. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS, IF ANY, IS APPROXIMATE, AND DUBOIS & KING MAKES NO CLAIM TO ITS ACCURACY OR COMPLETENESS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND DETERMINING ALL UTILITIES (ABOVE AND BELOW GROUND) WITHIN THE PROJECT LIMITS, AND TO TAKE THE NECESSARY PRECAUTIONS TO PROTECT UTILITIES DURING CONSTRUCTION, CONTACT DIG-SAFE AT 1-800-DIG-SAFE (WWW.DIGSAFE.COM).

  4. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED
- CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION BE SHALL BE DETERMINED AND AGREED UPON BEFORE

# RESTORATION OF SURFACES

- 1. THE CONTRACTOR MUST APPLY A COURSE OF CRUSHED GRAVEL TO THE CONSTRUCTION ACCESS DRIVES AND STAGING AREAS AS DIRECTED BY THE ENGINEER TO PREVENT RUTTING, EROSION, AND TRACKING OF MATERIAL OFFSITE. AT THE COMPLETION OF WORK, THE CONTRACTOR MUST REMOVE THE GRAVEL AND RE-GRADE, SEED, AND MULCH THE DISTURBED AREA.
- 2. AT THE COMPLETION OF WORK, THE CONTRACTOR MUST RESTORE ACCESS ROADS AND STAGING AREAS TO PRE—CONSTRUCTION CONDITION. RESTORATION MAY INCLUDE PLACEMENT OF GRAVEL ON EXISTING DRIVES AND / OR APPLICATION OF TOPSOIL, GRASS SEED, FERTILIZER, AND MULCH TO AFFECTED GRASSED AREAS.

# PROPOSED CONSTRUCTION SEQUENCE

- PREPARE STAGING AREA AND STABILIZE ACCESS DAM SITE
- INSTALL SILT FENCE AND EROSION CONTROL MEASURES AT DAM SITE.
- ESTABLISH CONTROL OF WATER MEASURES AND BEGIN LOWERING WATER LEVEL IN CURTIS POND DAM, DRAWDOWN SHALL NOT PROGRESS FASTER THAN 6 INCHES PER ANY 24 HOUR PERIOD,
- 4. CLEAR TREES AND SHRUBS FROM THE DAM EMBANKMENT AND WITHIN THE IDENTIFIED WORK AREA.
- CONSTRUCT THE DESIGN ON THESE PLANS.
- 6. PLACE TOP SOIL, SEED AND MULCH, SEE SPECIFICATIONS SECTION 02483.
- CONDUCT FINAL INSPECTION WITH VT DEC AND ENGINEER.
- INITIATE REFILLING OF THE WORK AREA WHEN THE WORK AREA IS FILLED, REMOVE THE TEMPORARY
- 9. BEGIN RESTORING CURTIS POND TO THE DESIGN WATER LEVEL BY PARTIALLY CLOSING THE LOW LEVEL VALVE.

# MATERIAL NOTES

- THE CONTRACTOR SHALL HAVE A SET OF THE TECHNICAL SPECIFICATION ON SITE DURING ALL CONSTRUCTION ACTIVITIES.
- ALL MATERIALS USED ON THIS PROJECT SHALL CONFORM TO THE SPECIFICATIONS. FOR ANY DISCREPANCY BETWEEN THE PLANS AND MATERIAL SPECIFICATIONS, THE TECHNICAL SPECIFICATIONS SHALL TAKE PRECEDENCE OVER NOTES CONTAINED ON THESE PLANS.
- ALL EARTHEN MATERIAL USED ON SITE SHALL BE PLACE AND COMPACTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. NEW EARTHEN MATERIAL SHALL BE CONSISTENT WITH ON-SITE MATERIAL. THE CONTRACTOR SHALL RECEIVE PRIOR APPROVAL FROM THE ENGINEER BEFORE IMPORTING NEW EARTHEN MATERIAL TO THE SITE.

- NO BACKFILL SHALL BE PLACED AGAINST ANY NEWLY PLACED CONCRETE UNTIL THE ENGINEER HAS APPROVED THE WORK AND SHALL NOT OCCUR PRIOR TO SEVEN (7) DAYS AFTER BEING POURED OR ACHIEVES 85% OF THE SPECIFIED COMPRESSIVE STRENGTH HAS BEEN REACHED.
- 2. THE CONTRACTOR, AT THE EXPENSE OF THE CONTRACTOR, SHALL REPAIR ANY DAMAGE TO NEWLY PLACED CONCRETE
- MINIOR THE CONCRETE IS TO BE PLACED BY PUMPING, THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF ONE WEEK PRIOR TO PLACEMENT FOR REVIEW OF PROCEDURES TO BE USED. THE CONTRACTOR SHALL OBTAIN AND REVIEW ACI 304 PLACING CONCRETE BY PUMPING METHODS. PROVISION FOR BACK-UP PUMPING EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.
- 4. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1-1/2 INCH BY 1-1/2 INCH, UNLESS OTHERWISE
- 5. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- 6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS IN ADVANCE OF ALL CONCRETE OPERATIONS
- FOOTINGS SHALL BE PLACED ON CLEAN, SOUND BEDROCK. THE CONTRACTOR SHALL REMOVE ALL DELETERIOUS MATERIAL, DUST AND PARTICLES FROM THE BEDROCK SURFACE PRIOR TO CASTING CONCRETE.
- 8. IF THE EXISTING TOP OF BEDROCK IS LOCATED ABOVE THE BOTTOM OF FOOTING TWO (2) FEET OR LESS, THE BEDROCK MAY BE EXCAVATED DOWN TO THE INDICATED BOTTOM OF FOOTING OR THE BOTTOM OF FOOTING ELEVATION MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER. ALL OVER BREAKAGE BELOW THE BOTTOM OF FOOTING SHALL BE REPLACED WITH CONCRETE, CLASS C.
- IF THE EXISTING TOP OF BEDROCK IS ABOVE THE BOTTOM OF FOOTING BY MORE THAN TWO (2) FEET, THE FOOTING ELEVATION MAY BE RAISED ACCORDINGLY. BEFORE ANY ADJUSTMENT IS MADE IN THE FOOTING ELEVATION, THE ENGINEER SHALL BE NOTIFIED FOR APPROVAL OF THE ADJUSTMENT.
- 10. IF THE TOP OF EXISTING BEDROCK IS TWO (2) FEET OR LESS BELOW THE BOTTOM OF FOOTING ELEVATION, THE FOOTING SHALL BE PLACED TO THE TOP OF COMPETENT BEDROCK AS SHOWN USING CONCRETE, CLASS C.
- 11. IF THE TOP OF EXISTING BEDROCK IS GREATER THAN TWO (2) FEET BELOW THE BOTTOM OF THE FOOTING, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PREPARE AND SUBMIT A PROFILE OF THE BEDROCK SURFACE IN THE VICINITY OF THE FOOTING. THE CONTRACTOR SHALL NOT PERFORM ANY FURTHER WORK ON THE SUBSTRUCTURE UNTIL NOTIFIED IN WRITING BY THE ENGINEER.
- ALL CONCRETE WORK SHALL COMPLY WITH THE LATEST ACI SPECIFICATIONS (ACI-350).
- 13 ALL CAST—IN—PLACE CONCRETE INCLUDING THE CUT—OFF WALL, SPILLWAY TRAINING WALLS, AND SPILLWAY SLAB SHALL BE CLASS A (4,000 PSI) CAST-IN-PLACE CONCRETE, SEE SPECIFICATIONS SECTION 03300.
- 14. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
- 15. CONTRACTOR SHALL SUBMIT REINFORCING SHOP DRAWINGS FOR REVIEW BY THE ENGINEER.
- 16. HOT WEATHER CONCRETE PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 305R. 17 COLD WEATHER CONCRETE PLACEMENT SHALL BE IN ACCORDANCE WITH ACL 306R.
- 17 PVC WATER STOPS SHALL BE GREENSTREAK, DUMBBELL TYPE, STYLE NO. 705, 724, OR APPROVED EQUAL
- 18 HYDROPHILIC WATER STOPS SHALL BE VOLCLAY, WATERSTOP-RX, TYPE RX-101, GREENSTREAK NO. 594 SWELL STOP, OR APPROVED EQUAL.
- 19 PROVIDE CONSTRUCTION JOINTS AT ALL LOCATIONS OF DISCONTINUOUS CONCRETE PLACEMENT.

# EROSION CONTROL NOTES

- 1. TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES ARE REQUIRED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD
- 2. ALL EPSC ACTIVITIES SHALL CONFORM TO THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL 2006
- 3. ALL EARTHWORK AND GRADING PERFORMED BETWEEN OCTOBER 15 AND APRIL 15 SHALL CONFORM TO APPROVED WINTER CONSTRUCTION PRACTICES, AS PRESENTED IN THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION
- PREVENTION AND SEDIMENT CONTROL.

  4. THE CONTRACTOR SHALL BE AWARE OF ALL DISCHARGE INTO THE OUTLET CHANNEL. SHOULD THERE THE CONTRACTOR SHALL BE AWARE OF ALL DISCHARGE INTO THE OUTLET CHANNEL. SHOULD THERE BE VISUALLY DISCOLORED DISCHARGE ENTERING THE OUTLET CHANNEL THE CONTRACTOR SHALL DETERMINE THE SOURCE OF THE DISCOLORED DISCHARGE. IF THE CAUSE OF THE DISCOLORED DISCHARGE IS FROM CONSTRUCTION ACTIVITIES ALL OPERATIONS MUST CEASE UNTIL THE DISCHARGE IS NO LONGER DISCOLORED. ALTERNATIVE MEANS OF CONSTRUCTION SHALL BE ADMINISTERED AS TO AVOID ADDITIONAL RELEASE OF DISCOLORED DISCOLORED DISCHARGE INTO THE OUTLET CHANNEL.
- 5. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL INSTALL SILT FENCING AND EROSION CONTROL DEVICES AS SHOWN ON THESE PLANS. EROSION CONTROLS SHALL BE LOGICALLY PHASED WITH CONSTRUCTION ACTIVITIES AND AS DIRECTED BY THE ENGINEER OR OWNERS REPRESENTATIVE.
- THE EROSION CONTROLS SHALL BE INSPECTED DAILY PRIOR TO INITIATION OF THE DAY'S ACTIVITIES.
  MAINTENANCE SHALL TAKE PLACE AT THAT TIME.
- 7. THE CONTRACTOR SHALL TOPSOIL, SEED AND MULCH THE DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE, AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORKDAY. ALL AREAS OF DISTURBANCE MUST HAVE PERMANENT STABILIZATION WITHIN 48 HOURS OF REACHING FINAL GRADE. THE FOLLOWING EXCEPTIONS MAY APPLY:
- A) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THAT SAME PERIOD OF TIME.
- B) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, WITH A DEPTH OF 2 FEET OR GREATER AND NO OUTLET.
- 8. ALL SLOPES AND DISTURBED AREAS SHALL BE GRADED SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE
- 9. ALL SLOPES GREATER THAN 1V:2H SHALL BE TREATED WITH BIODEGRADABLE EROSION CONTROL BLANKET, TYL S150BN AS MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL. THE BLANKET SHALL BE STAPLED WITH BIODEGRADABLE STAPLES, OVERLAPPED, AND SHINGLED CORRECTLY RELATIVE TO WATER FLOW, AND INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
- 10. PERMANENT STABILIZATION SHALL BE CONDUCTED ACCORDING TO THE TECHNICAL SPECIFICATIONS SECTION 02483.
- 11. REMOVAL OF EPSC MEASURES SHALL ONLY BE DONE FOLLOWING THE APPROVAL OF THE ENGINEER ALL DISTURBANCES CAUSED BY THE REMOVAL SHALL BE REPAIRED IMMEDIATELY.

# CONTROL OF WATER NOTES

## GENERAL REQUIREMENTS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF WATER THROUGHOUT THE DURATION OF THE PROJECT. ANY CHANGES TO THE CONTROL OF WATER PROCEDURE AS OUTLINED HEREIN WILL BE SUBJECT TO APPROVAL OF THE ENGINEER AND THE VERMONT AGENCY OF NATURAL RESOURCES (VANR). OBTAINING THE APPROVAL FOR ANY CHANGES TO THE PROCEDURES FROM VANR SHALL BE THE RESPONSIBILITY OF THE
- 2. THE NORMAL WATER SURFACE ELEVATION IS 1001.0 FEET, AS CONTROLLED BY THE CREST OF THE SPILLWAY
- 2. THE NORMAL WATER SURFACE ELEVATION IS 1001.0 FEET, AS CONTROLLED BY THE CREST OF THE SPILLWAY SLAB, THE POND MAY BE PARTIALLY LOWERED THROUGHOUT THE CONSTRUCTION PERIOD.

  3. AN UPSTREAM TEMPORARY COFFERDAM AND OUTLET CONTROL SYSTEM WILL BE REQUIRED TO CONTROL THE WATER IN THE POND AT A LOWERED ELEVATION WITHOUT FULLY DEWATERING CURTIS POND WHILE MAINTAINIG A DRY CONDITION IN THE WORK AREA. THE UPSTREAM TEMPORARY COFFERDAM WILL BE A CONCRETE BLOCK OR INFLATABLE COFFERDAM SYSTEM, OR APPROVED EQUAL SEE SHEET CB FOR A SCHEMATIC OF A PROPOSED COFFERDAM LOCATION...
- 4. A DOWNSTREAM STONE OR SANDBAG COFFERDAM WITH A WATER DIVERSION STRUCTURE, BY—PASS PUMPING OR SIMILAR METHOD WILL PROVIDE ADEQUATE PROTECTION AGAINST TURBID WATER DISCHARGE FROM THE WORK AREA INTO THE DOWNSTREAM RECEIVING CHANNEL. SUMP PUMPING WILL BE REQUIRED TO ADEQUATELY CONTROL THE GROUNDWATER WITHIN ANY AND ALL EXCAVATIONS TO ONE (1) FOOT BELOW BOTTOM OF PROPOSED
- 5. THE CONTRACTOR SHALL NOT REGULATE DOWNSTREAM FLOWS NOR ALTER THE NATURAL FLOW REGIME EXCEPT WHEN NECESSARY FOR MAINTENANCE, INSPECTION, CONSTRUCTION, OR PROJECT SAFETY, DURING PERIODS WHEN DOWNSTREAM FLOW REGULATION IS NECESSARY, INCLUDING THE REFILLING OF THE POND, MINIMUM DOWNSTREAM CONSERVATION FLOWS, AS NOTED IN THE FOLLOWING TABLE, SHALL BE RELEASED UNLESS INFLOW IS LESS THAN THE SEASONAL CONSERVATION FLOW.

ANNUAL PERIOD	MINIMUM DISCHARGE, CFS	MINIMUM DISCHARGE, GPM
JUNE 1 TO SEPTEMBER 30	0.69	310
OCTOBER 1 TO MARCH 31	1.38	620
APRIL 1 TO MAY 31	5.52	2,478
NOTE: FLOWS NOTED	CORRESPOND TO A 1.38 SQUARE MILE	(883 ACRES) DRAINAGE AREA

- 6. WHEN INFLOW INTO THE POND IS LESS THAN THE SEASONAL CONSERVATION FLOW, UP TO 10 PERCENT OF THE INSTANTANEOUS INFLOW MAY BE USED TO REFILL THE POND WHILE DISCHARGING THE REMAINDER DOWNSTREAM. UNDER NO CIRCUMSTANCES SHALL DOWNSTREAM FLOWS BE INTERRUPTED.
- DOWNSTREAM FLOWS SHALL BE MAINTAINED AT ALL TIMES. DURING THE INSTALLATION OF THE COFFERDAMS, BYPASS FLOWS SHALL BE MAINTAINED AT ALL TIMES. DURING THE INSTALLATION OF THE COFFERDAMS, BYPASS FLOWS SHALL BE ACHIEVED WITH THE USE OF PUMPS. UPON INSTALLATION OF THE COFFERDAMS AND DEWATERING OF THE WORK AREA, MINIMUM STREAM FLOWS WILL BE MAINTAINED. PUMPS CAPABLE OF MEETING MINIMUM STREAM FLOWS SHALL BE ON SITE AT ALL TIMES DURING CONSTRUCTION TO BE USED IN CASE OF EMERGENCY. DURING PERIODS WHEN THE CONTRACTOR IS USING PUMPS TO MAINTAIN MINIMUM FLOWS, BACKUP SYSTEMS SHALL BE ONSITE IN CASE OF FAILURE OF ANY ONE PUMP.

## INSTALLATION OF CONTROL OF WATER MEASURES

- 8. UPON AUTHORIZATION TO PROCEED WITH THE PROJECT, THE CONTRACTOR SHALL INSTALL THE BY—PASS PUMPS TO MAINTAIN MINIMUM FLOWS WHILE THE COFFERDAMS ARE BEING INSTALLED. THE PUMP AND OUTLET SHALL BE INSTALLED IN LOCATIONS THAT WILL NOT REQUIRE BEING MOVED DURING ITS USE. THIS PUMPING EQUIPMENT SHALL REMAIN IN PLACE THROUGHOUT THE CONSTRUCTION ACTIVITY, BEING AVAILABLE FOR USE ON SHORT
- NOTICE IN THE EVENT OF A SIGNIFICANT STORM OR UNEXPECTED EVENT.

  BOTH OF THE TEMPORARY COFFERDAMS SHALL BE INSTALLED IN THE WET UPON COMPLETION OF THE PUMP INSTALLATION AND THE DOWNSTREAM FLOWS ARE ESTABLISHED.
- INSTALLATION AND THE DOWNSTREAM FLOWS ARE ESTABLISHED.

  10. ONCE THE INSTALLATION OF THE COFFERDAMS AND BY-PASS PIPE IS COMPLETE, THE CONTRACTOR SHALL BEGIN TO DEWATER THE ISOLATED WORK AREA. THE CONTRACTOR SHALL USE PUMPING TO DEWATER THE WORK AREA. THE DEWATERING PUMPS SHALL DISCHARGE TO AN APPROVED UPLAND AREA; HOWEVER ANY CLEAR WATER CAN BE CAREFULLY PUMPED OR SIPHONED DOWNSTREAM, ANY DIRECT DISCHARGE TO THE STREAM SHALL BE SUBJECT TO CONTINUOUS OBSERVATION TO MAKE SURE THAT IT REMAINS CLEAR. THE EQUIPMENT USED TO ACHIEVE THIS DEWATERING SHALL BE SEPARATE FROM THE EQUIPMENT USED TO MAINTAIN MINIMUM STREAM FLOWS
- 11. UPON INSTALLATION OF THE CONTROL OF WATER MEASURES AND DEWATERING OF THE WORK AREA, THE CONTRACTOR SHALL REQUEST APPROVAL FROM THE ENGINEER AND VANR TO INITIATE CONSTRUCTION ACTIVITIES.

# CONTROL OF WATER DURING CONSTRUCTION

- 12. DURING CONSTRUCTION, THE WORK AREA SHALL REMAIN DEWATERED BY MEANS OF PUMPING. THE DISCHARGE SHALL BE PUMPED DIRECTED TO AN APPROVED UPLAND AREA. THE CONTRACTOR IS ENCOURAGED TO PUMP DIRECTLY INTO FILTER BAGS TO FURTHER PREVENT TURBID WATER FROM REACHING THE DOWNSTREAM CHANNEL.
- 13. THE CONTRACTOR SHALL INSPECT THE COFFERDAMS AND BY-PASS EACH MORNING. MAINTENANCE SHALL TAKE PLACE PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES SCHEDULED FOR THAT DAY.

# REFULING REQUIREMENTS

- 14. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO REFILL THE WORK AREA, ALLOWING THE WATER TO REACH THE INVERT OF THE NEW OUTLET GATE VALVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REFILLING OF THE WORK AREA AND SHALL PROVIDE PERSONNEL TO MONITOR THE OPERATION AS NEEDED ON A DAILY BASIS. THE CONTRACTOR SHALL CAREFULLY MONITOR ALL COMPONENTS OF THE DAM FOR SIGNS OF LEAKAGE OR DISTRESS AND REPORT ANY FINDINGS TO THE ENGINEER.
- 15, THE REFILLING OF THE POND TO ITS FULL LEVEL SHALL BE ACHIEVED BY CLOSING THE GATE VALVE INCREMENTALLY. AT A MINIMUM, DOWNSTREAM CONSERVATION FLOWS SHALL BE MAINTAINED, PURSUANT TO ITEM #6 AROVE
- 16, WHEN REFILLING, THE POND SHALL BE CAREFULLY MONITORED AND OUTFLOW ADJUSTMENTS MADE, TAKING SPECIAL CARE TO NOT FURTHER DRAWDOWN THE GREATER POND BY RELEASING FLOW AT A RATE GREATER THAN THE RATE OF FLOW INTO THE POND.
- 77. ONCE THE WATER SURFACE REACHES THE PRINCIPAL CREST THE VALVE CAN BE FULLY CLOSED AND REFILLING SHALL BE CONSIDERED COMPLETE.

# ONGOING MAINTENANCE AND OPERATIONS

- 18. THESE PROCEDURES SHALL BE UTILIZED DURING ALL FUTURE OPERATIONS AND MAINTENANCE ACTIVITIES REQUIRING THE DRAWDOWN AND REFILLING OF THE POND, CONDUCTED BY THE OWNER.
- 19. DURING PERIODS WHEN THE CONTRACTOR AND/OR OWNER IS USING PUMPS TO MAINTAIN MINIMUM FLOWS, BACKUP SYSTEMS SHALL BE ONSITE IN CASE OF FAILURE OF ANY ONE PUMP

NAGEMENT . DEVELOPME 28 NORTH MAIN ST RANDOLPH, VT 05060 TEL (802) 728-3376 FAX: (802) 728-4930 www.dubois-king.com S BURLINGTON VI SPRINGFIELD VT BEDFORD, NH

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# NOT FOR CONSTRUCTION **FINAL PLANS**



3120 PEKIN **BROOK ROAD** EAST CALAIS, VERMONT, 05650

JOHN BRABANT VICE CHAIR SELECTBOARD

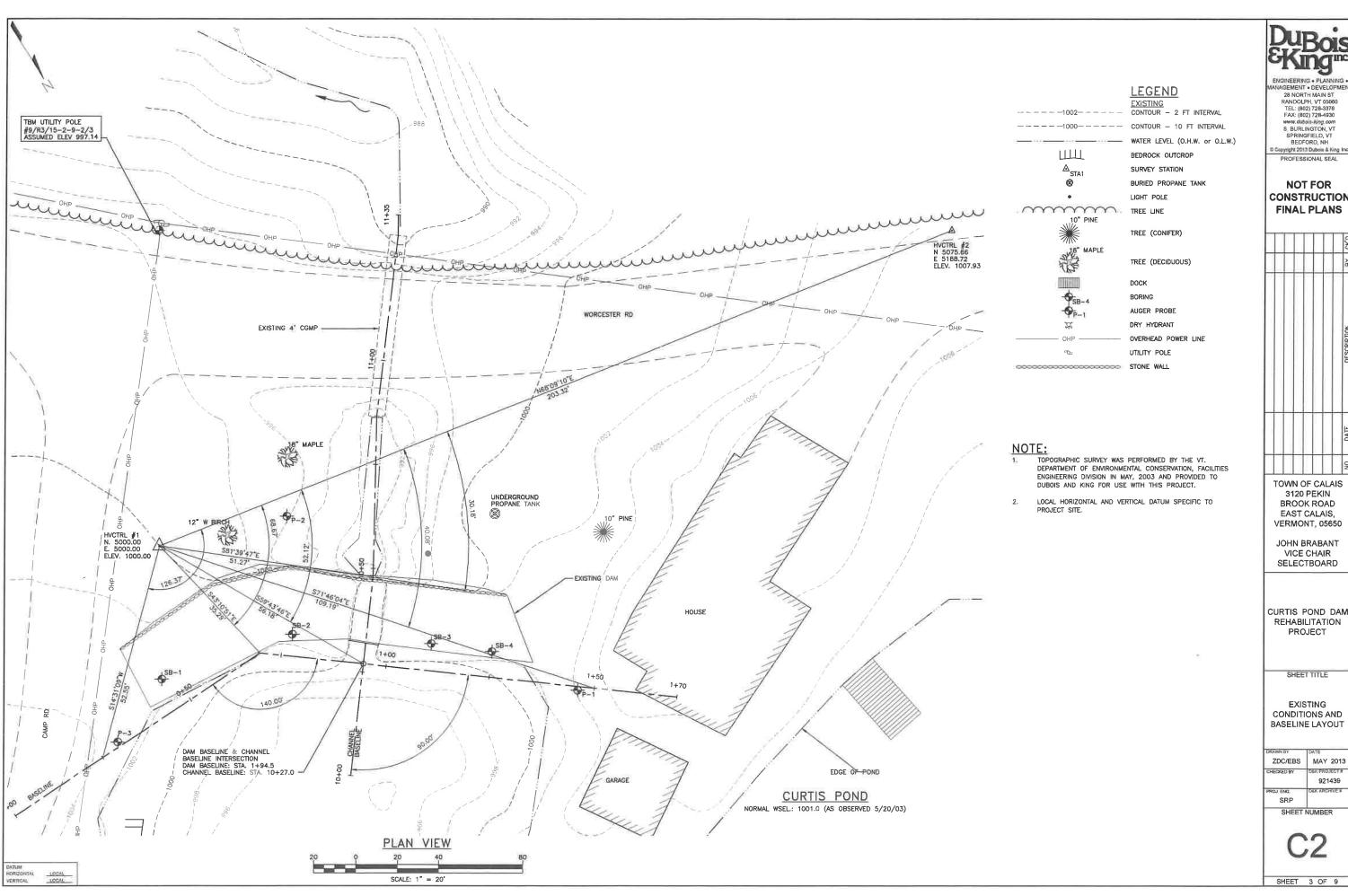
CURTIS POND DAM REHABILITATION PROJECT

SHEET TITLE

**GENERAL NOTES** 

ZDC/FBS MAY 2013 HECAED BY 921439 SHEET NUMBER

SHEET 2 OF 9



PROFESSIONAL SEAL

# **NOT FOR** CONSTRUCTION FINAL PLANS



TOWN OF CALAIS 3120 PEKIN BROOK ROAD EAST CALAIS, VERMONT, 05650

VICE CHAIR SELECTBOARD

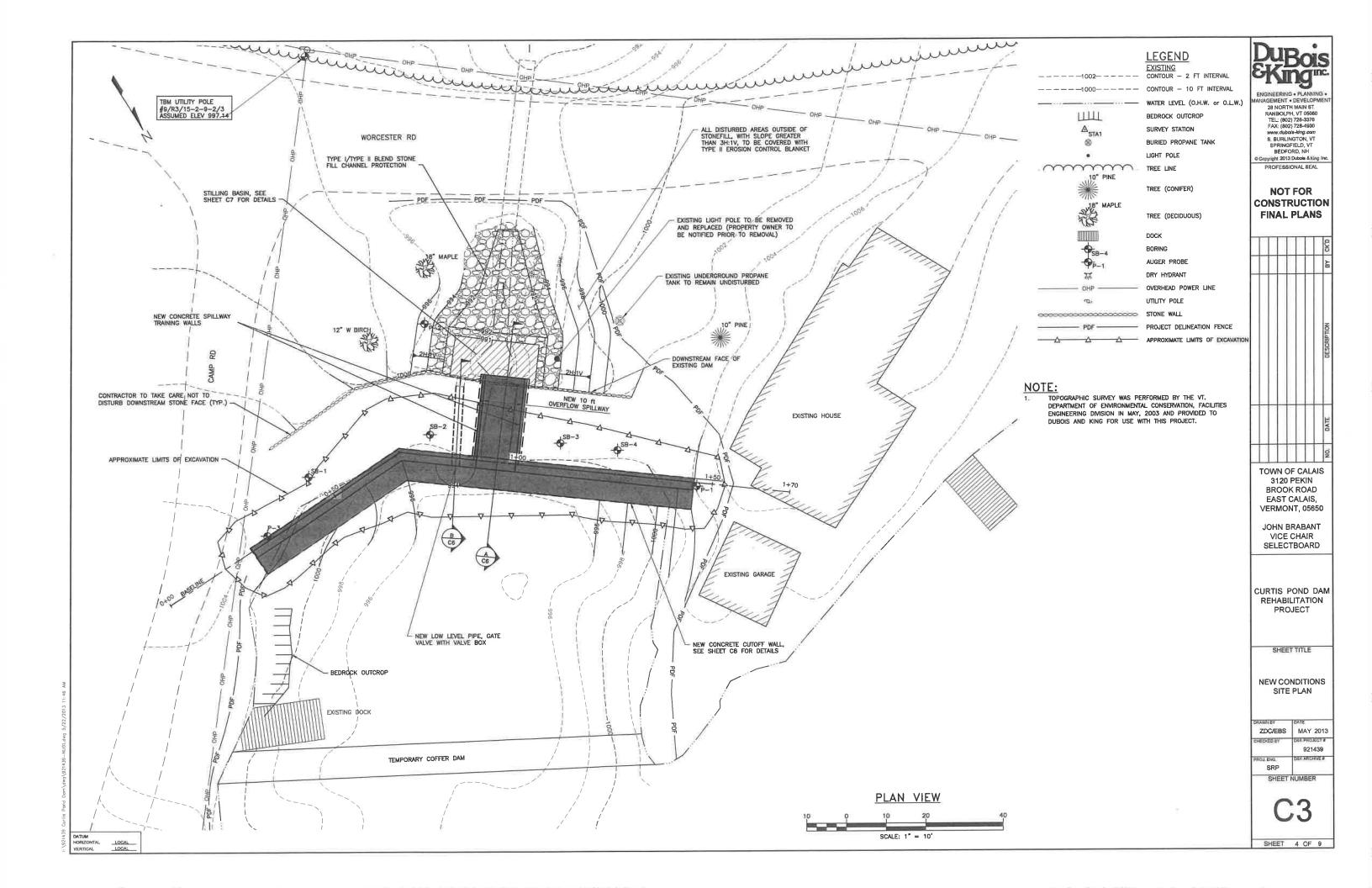
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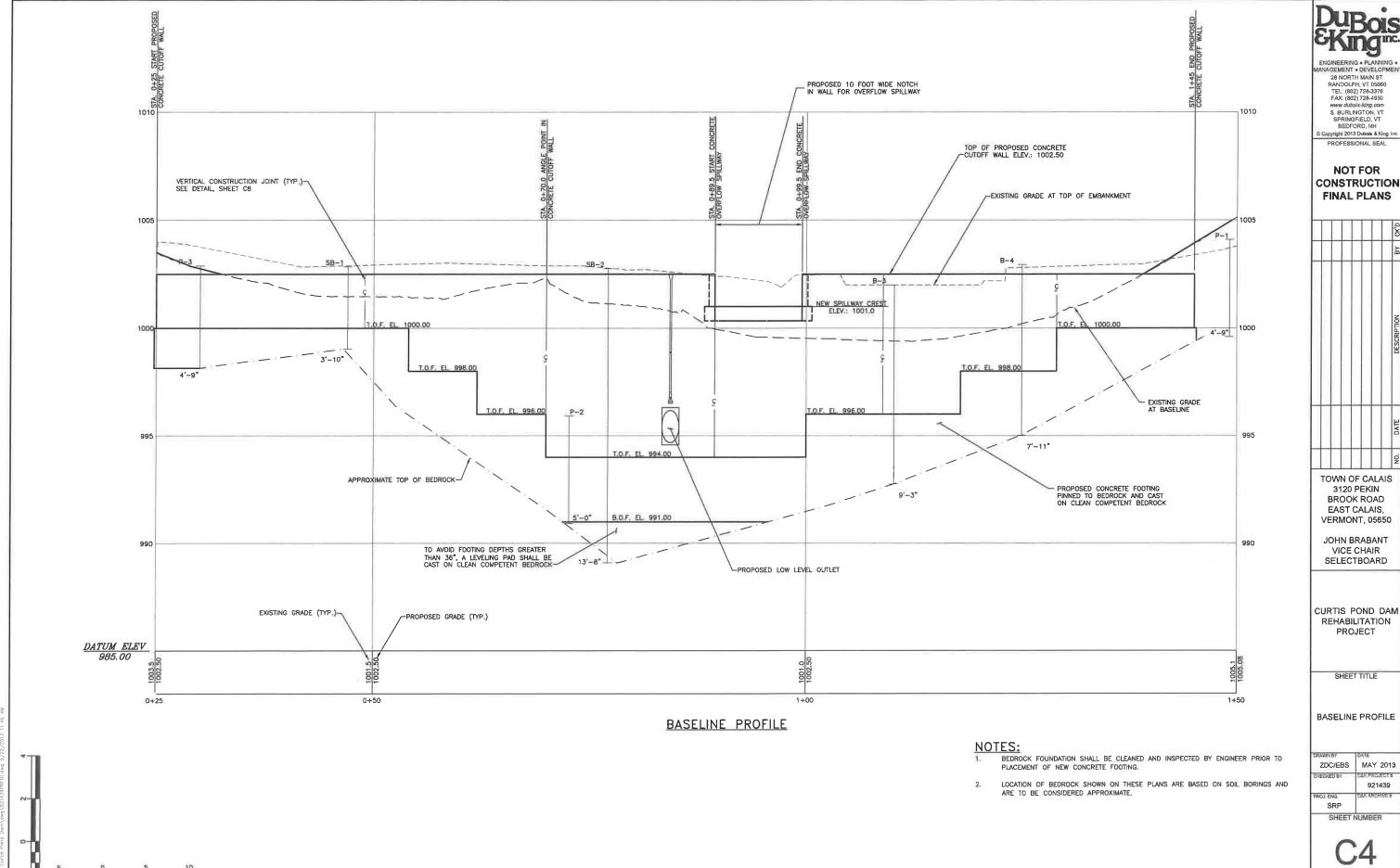
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**EXISTING** CONDITIONS AND BASELINE LAYOUT

SRP	
PROJ ENG,	D&K ARCHIVE #
	921439
CHECKED BY	DER PROJECT #
ZDC/EBS	MAY 2013
DRAWN BY	DATE

SHEET 3 OF 9





NOT FOR CONSTRUCTION **FINAL PLANS** 



TOWN OF CALAIS 3120 PEKIN BROOK ROAD EAST CALAIS, VERMONT, 05650

JOHN BRABANT VICE CHAIR SELECTBOARD

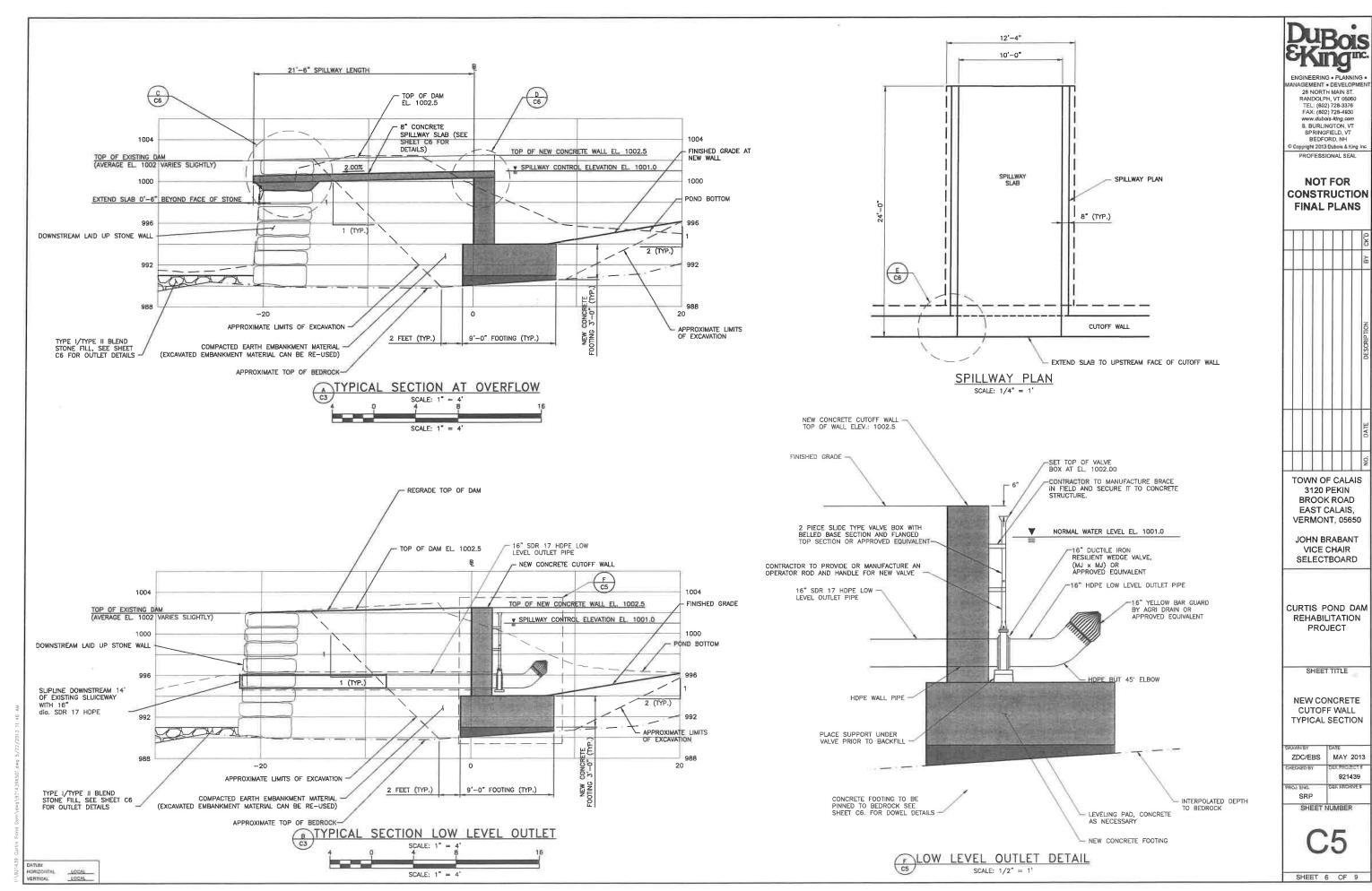
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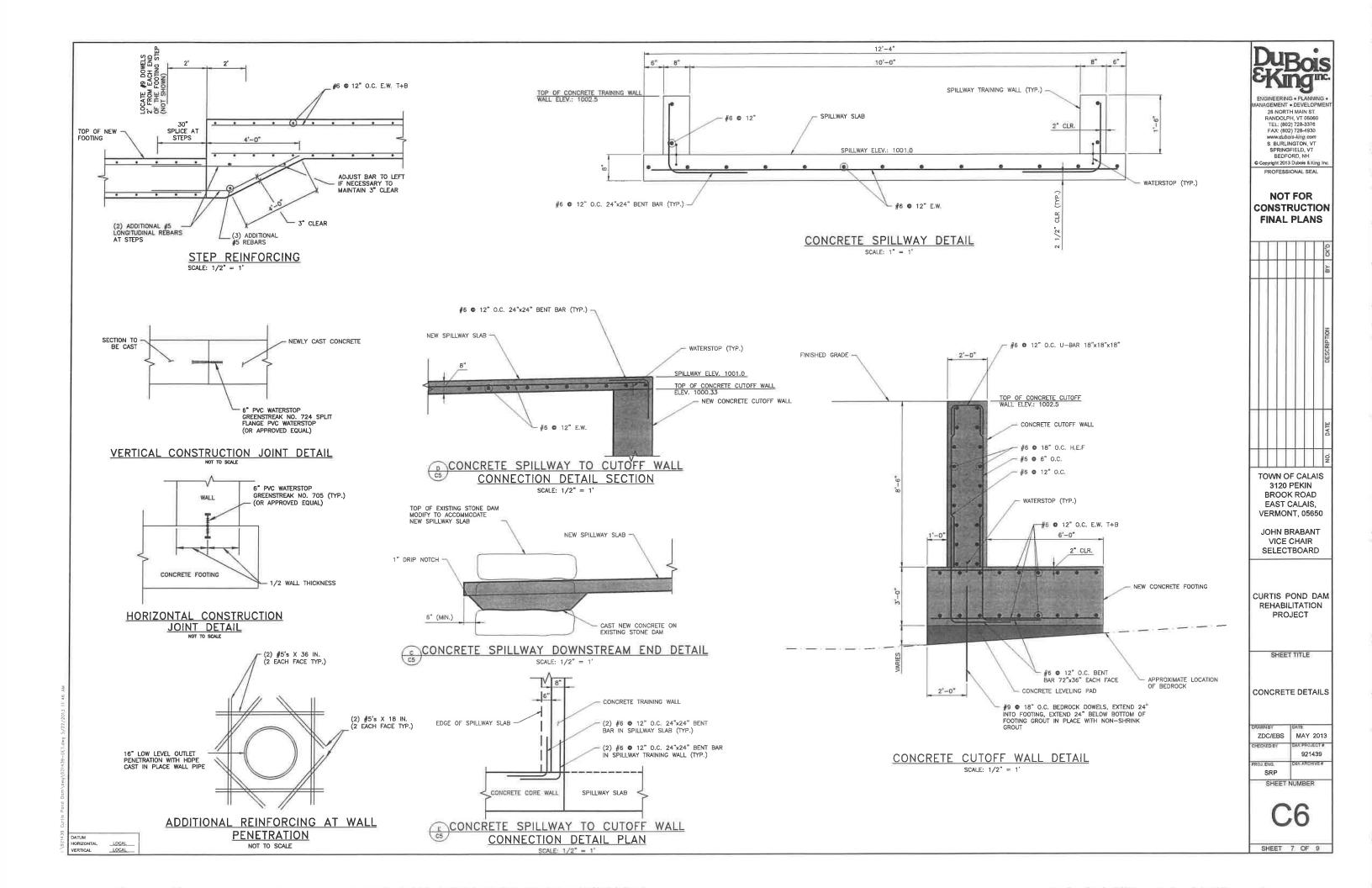
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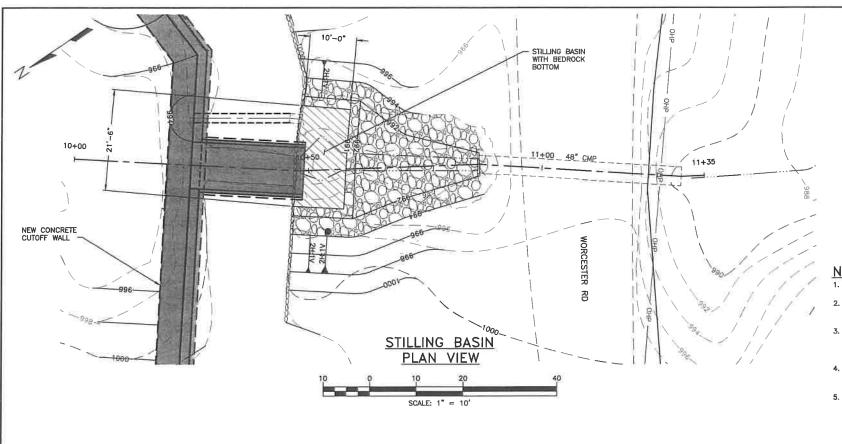
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MAY 2013
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921439
CAR ARCHIVE #

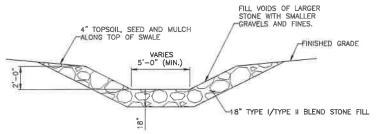
SHEET 5 OF 9











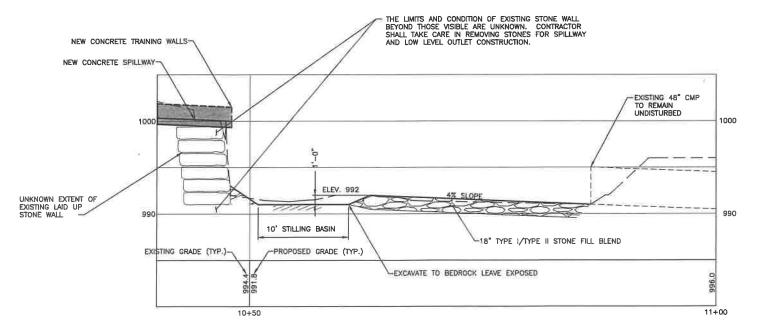
# NOTES:

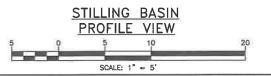
- 1. RIPRAP TO BE TYPE I/TYPE II STONE FILL.
- CONTRACTOR SHALL CHOKE ALL VOIDS IN SURFACE OF RIPRAP TO PROMOTE FLOW OF WATER ON TOP OF RATHER THAN THROUGH THE STONE.

# STONE LINED SWALE DETAIL NOT TO SCALE

# NOTE:

- CONTRACTOR SHALL MAINTAIN THE STABILITY OF THE STONEWALLS NOT TO BE REMOVED THROUGHOUT THE CONSTRUCTION OF THE REHABILITATION.
- 2. THE PORTIONS OF THE STONEWALLS TO BE REMOVED SHALL BE DONE IN A MANNER THAT DOES NOT COMPROMISE OR DESTABILIZE THE PORTIONS OF THE WALL THAT ARE TO REMAIN. TO DO SO FALSEWORK MAY BE REQUIRED TO PREVENT THE DESTABILIZATION OF THE STONEWALLS.
- 3. THE CONTRACTOR AND THE ENGINEER SHALL DISCUSS THE CONSTRUCTION OF THE WORK AND THE INSTABILITY OF EXISTING STONEWALLS. THE CONTRACTOR SHALL PROVIDE SPECIFIC MEANS AND METHODS TO THE ENGINEER THAT WILL RESULT IN MAINTAINING THE STABILITY OF THE WALLS DURING THE CONSTRUCTION OF THE REHABILITATION.
- 4. ANY DAMAGE TO THE STONEWALLS AS A RESULT OF THIS CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR. THE DAMAGED PORTIONS SHALL BE RETURNED TO A LIKE CONDITION AS PRIOR TO THE DAMAGE TO THE SATISFACTION OF THE ENGINEER.
- 5. IF BEDROCK IS FOUND TO BE DEEPER IN STILLING BASIN AREA THAN SHOWN ON CHANNEL BASELINE PROFILE, 18" OF TYPE I/TYPEII STONE FILL SHALL BE USED.

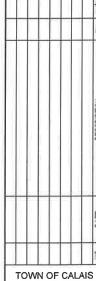




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TOWN OF CALAIS 3120 PEKIN BROOK ROAD EAST CALAIS, VERMONT, 05650

JOHN BRABANT VICE CHAIR SELECTBOARD

CURTIS POND DAM REHABILITATION PROJECT

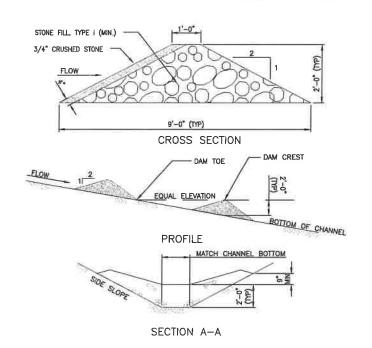
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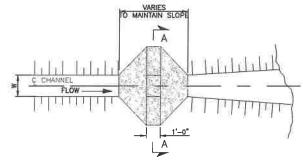
OUTLET CHANNEL PLAN AND DETAILS

ZDC/EBS	MAY 2013
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	921439
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SHEET 8 OF 9

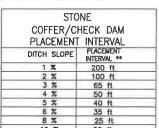


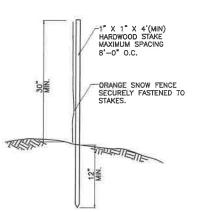


CHECK DAM - TEMPORARY (STONE)

ST	ONE
COFFER/CHECK DAM	
ITEM S	SUFFIXES
SUFFIX (XX)	DITCH BOTTOM WIDTH
01	0.0 TO 3.3vft
02	>v3.3 TO 6.6vff
03	>v6.6 TO 9.9vff
04	>v9.9vft

STONE COFFER/CHECK DAM PLACEMENT INTERVAL			
		DITCH SLOPE	PLACEMENT INTERVAL **
		1.%	200 ft
2 %	100 ft		
3 %	65 ft		
4 %	50 ft		
5 %	40 ft		
6 %	35 ft		
8 %	25 ft		
10 %	20 ft		
** BASED ON 2	ft TYPICAL HEIGHT		





PROJECT DEMARCATION FENCE NOT TO SCALE

IORIZONTAL

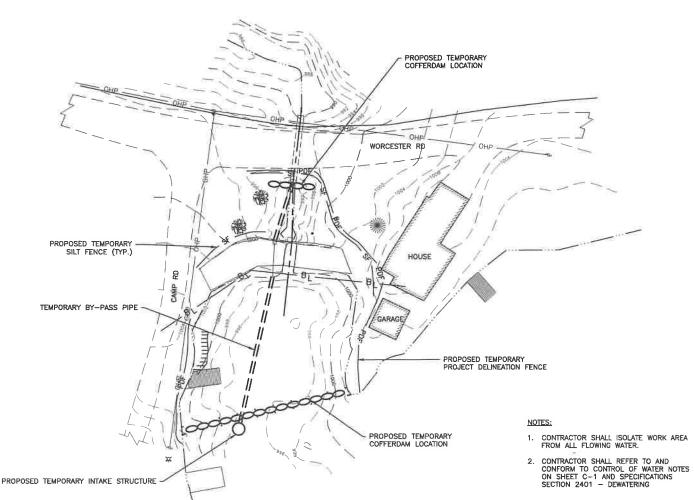
COFFER/CHECK DAM NOTES:

- THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY IN THE
- 2. CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.
- 3. CHECK DAMS ARE NOT INTENDED TO, AND WILL NOT FILTER SEDIMENT FROM TURBID WATER
- 4. SLOPES EXCEEDING 10% SHALL INCLUDE A CHANNEL PROTECTIVE LINING.
- DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.
- MAXIMUM DRAINAGE AREA TRIBUTARY TO STONE CHECK DAM SHALL BE 2.0 ac.
- MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS, AFTER EACH RAINFALL OF 1/2" OR MORE WITHIN A 12 HOUR PERIOD, OR DAILY DURING PROLONGED RAINFALL, MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
- 8. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
- 9. COURSE AGGREGATE FACING MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF SIZE DESIGNATION 3/4" CRUSHED STONE. STONE FILLING CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF VTRANS STONE FILL, TYPE I. SEE SPECIFICATIONS SECTION 2260-EARTH DAM FOR MATERIAL

# **EROSION CONTROL NOTES**

- TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES ARE REQUIRED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
- 2. ALL EPSC ACTIVITIES SHALL CONFORM TO THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL, 2006.
- ALL EARTHWORK AND GRADING PERFORMED BETWEEN OCTOBER 15 AND APRIL 15 SHALL CONFORM TO APPROVED WINTER CONSTRUCTION PRACTICES, AS PRESENTED IN THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL 2006.
- 4. THE CONTRACTOR SHALL BE AWARE OF ALL DISCHARGE INTO THE DUTLET CHANNEL. SHOULD THERE BE VISUALLY DISCOLORED DISCHARGE ENTERING THE OUTLET CHANNEL THE CONTRACTOR SHALL DETERMINE THE SOURCE. IF THE CAUSE IS FROM CONSTRUCTION ACTIVITIES ALL OPERATIONS MUST CEASE UNTILL THE DISCHARGE IS NO LONGER DISCOLORED. ALTERNATIVE MEANS OF CONSTRUCTION SHALL BE ADMINISTERED AS TO AVOID ADDITIONAL RELEASE OF DISCOLORED DISCHARGE INTO THE OUTLET CHANNEL

- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL INSTALL SILT FENCING AND FROSION CONTROL DEVICES AS SHOWN ON THESE PLANS. EROSION CONTROLS SHALL BE LOGICALLY PHASED WITH CONSTRUCTION ACTIVITIES AND AS DIRECTED BY THE ENGINEER OR OWNERS REPRESENTATIVE.
- 6. WATER REMOVED FROM WORK AREAS SHALL BE DISCHARGED TO A FILTER BAG LOCATED GREATER THAN 100 FEET FROM
- SHOULD A FILTER BAG BE USED TO CONTROL SEDIMENT, A REPLACEMENT FILTER BAG SHALL BE ON SITE AT ALL TIMES. THE FILTER BAGS SHALL BE REMOVED FROM THE SITE ONCE USED.
- B. THE EROSION CONTROLS SHALL BE INSPECTED DAILY PRIOR TO INITIATION OF THE DAY'S ACTIVITIES. MAINTENANCE SHALL TAKE PLACE AT THAT TIME.
- THE CONTRACTOR SHALL TOPSOIL, SEED AND MULCH THE DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORKDAY. ALL AREAS OF DISTURBANCE MUST HAVE PERMANENT STABILIZATION WITHIN 48 HOURS OF REACHING FINAL GRADE. THE FOLLOWING EXCEPTIONS MAY APPLY:
  - A) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THAT SAME PERIOD OF TIME.
- B) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, WITH A DEPTH OF 2 FEET OR GREATER AND NO OUTLET.
- ALL SLOPES AND DISTURBED AREAS SHALL BE GRADED SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.
- 11. ALL SLOPES GREATER THAN 1V:2H SHALL BE TREATED WITH BIODEGRADABLE EROSION CONTROL BLANKET, TYPE S150BN AS MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL, THE BLANKET SHALL BE STAPLED WITH BIODEGRADABLE STAPLES, OVERLAPPED, AND SHINGLED CORRECTLY RELATIVE TO WATER FLOW, AND INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS. ALL EROSION CONTROL PRODUCTS SHALL CONFORM TO SPECIFICATIONS SECTION 01575.
- 12. PERMANENT STABILIZATION SHALL BE CONDUCTED ACCORDING TO THE TECHNICAL SPECIFICATIONS SECTION 02483.
- 13. REMOVAL OF EPSC MEASURES SHALL ONLY BE DONE FOLLOWING THE APPROVAL OF THE ENGINEER. ALL DISTURBANCES CAUSED BY THE REMOVAL SHALL BE REPAIRED IMMEDIATELY.



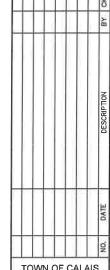
CONTROL OF WATER PLAN

SCALE IN FEET

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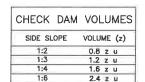
CURTIS POND DAM REHABILITATION PROJECT

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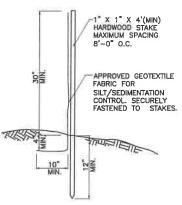
CONTROL OF WATER PLAN/EROSION CONTROL DETAILS

G-11-E
MAY 2013
921439
DEX ARCHIVE #
DOC AND STORY
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SHEET 9 OF 9



\*\* BASED ON V SHAPED DITCH SECTION FOR TRAPEZOIDAL DITCH, ADD 3 z/ft OF DITCH WIDTH



SILT FENCE NOT TO SCALE