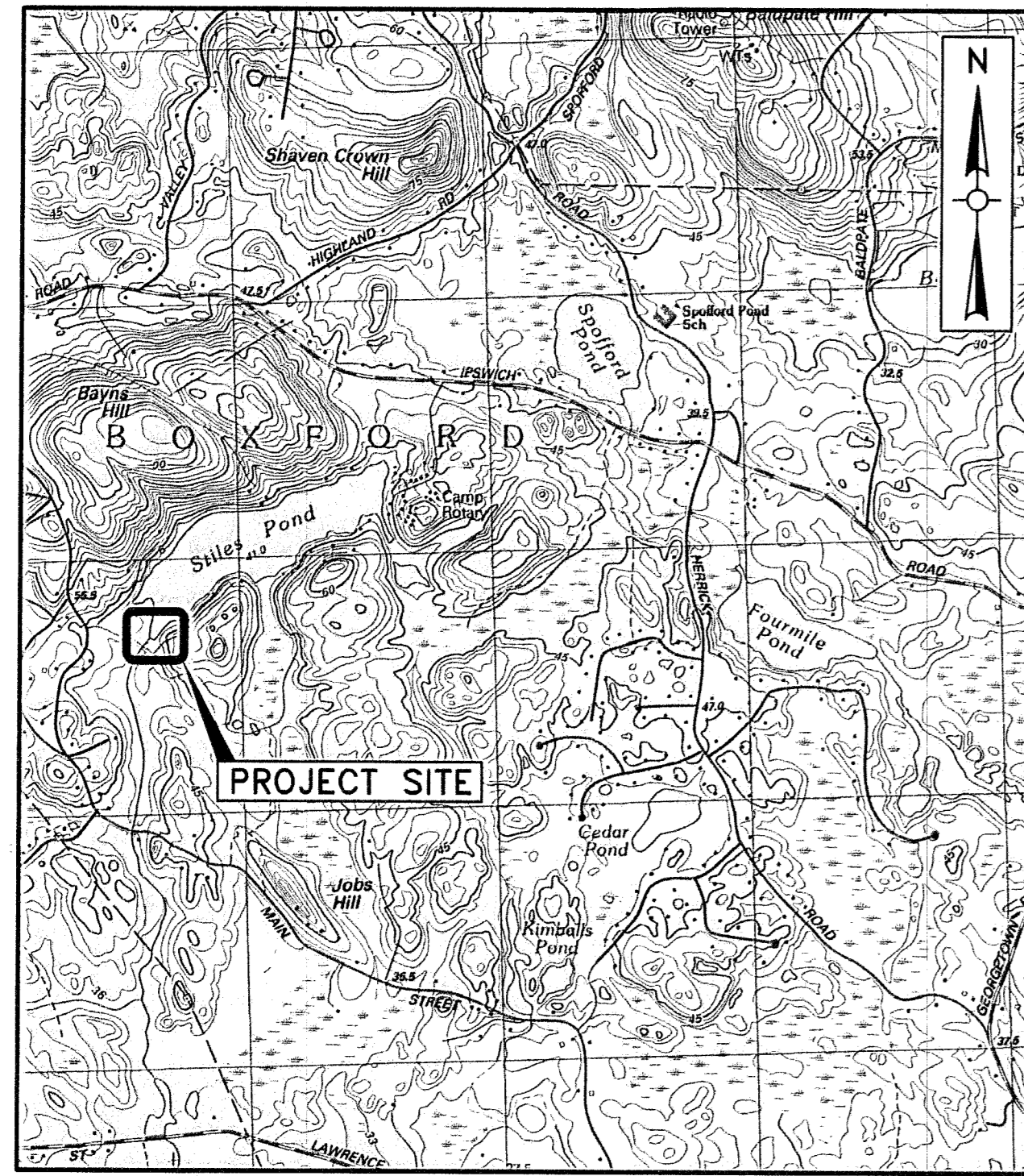


# TOWN OF BOXFORD, MASSACHUSETTS

## PUBLIC WORKS DEPARTMENT

JOHN DOLD, SUPERINTENDENT

# STILES POND DAM REHABILITATION PROJECT



LOCUS MAP

SCALE: 1"=2000'  
0 2000 4000

MASSACHUSETTS OFFICE OF DAM SAFETY ID NO. 5-5-38-3

NATIONAL DAM ID NO. MA00158

MASSACHUSETTS OFFICE OF DAM SAFETY HAZARD RATING: SIGNIFICANT  
MASSACHUSETTS OFFICE OF DAM SAFETY SIZE RATING: INTERMEDIATE

### DRAWING INDEX

SHEET	DESCRIPTION
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C-1	PRE-REHABILITATION CONDITIONS
C-2	POST REHABILITATION CONDITIONS
D-1	CIVIL SECTIONS
D-2	CIVIL DETAILS

**AUGUST 2014**



**Weston & Sampson®**

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RECORD DRAWING

File No. 207-54

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## LEGEND

DESCRIPTION	EXISTING	PROPOSED
TEMPORARY WATER		---4"W---
STORM DRAIN	---D---	---18"D RCP---
GAS	---G---	---4"G---
ELECTRIC	---E---	---E---
TELEPHONE	---T---	---T---
STORM DRAIN MANHOLE	⊙	● SDMH
ELECTRICAL MANHOLE	⊙	● EMH
TELEPHONE MANHOLE	⊙	● TMH
CATCH BASIN	□	■ CB
HYDRANT	⊗	⊕
UTILITY POLE	⊙	+
GUY POLE	⊙	
LIGHT POST	☆	
EDGE OF PAVEMENT	=====	=====
EDGE OF UNPAVED ROAD	=====	=====
CURB	=====	=====
STONE WALL	=====	=====
RETAINING WALL	RET WALL	RET WALL
FENCE	---x---x---	---x---x---
INDIVIDUAL DECIDUOUS TREE	*	*
INDIVIDUAL EVERGREEN TREE	⊙	⊙
TREE LINE	~~~~~	~~~~~
SURVEY MARKER	□	
PROPERTY LINE	---P---	
EASEMENT LINE	---E---	
LIMIT OF WORK		
SPOT ELEVATIONS	x 141.5	x 141.5
CONTOUR LINES	---56---	---56---
DEPRESSION CONTOUR LINES	TTTTT	TTTTT
WETLAND	↓ ↓ ↓	
WETLAND FLAGS	1 2	
RIPRAP	⊗	⊗
BOLLARD	○ B	● B
SIGN	+	
BENCH MARK	⊕	⊕
BORING	⊕ B-10	⊕ B-11
PROBE	⊕ P-10	⊕ P-11
STRAW BALES		⊕
ROCK OUTCROP	⊕	
DRAINAGE DITCH / SWALE	=====	=====
TREE TO BE REMOVED		⊗
SILT CURTAIN		⊕
SURVEY BOUND		⊕

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

## GENERAL NOTES

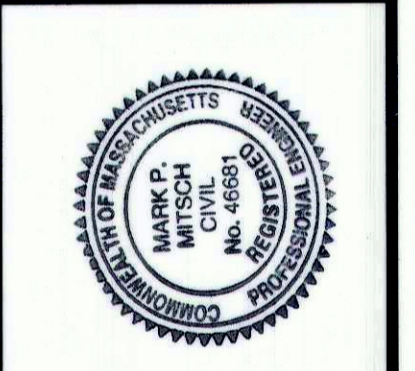
1. THE PLANS AND SPECIFICATIONS FOR THIS PROJECT HAVE BEEN PREPARED WITH THE UNDERSTANDING THAT WORK WILL BE COMPLETED BY THE TOWN OF BOXFORD PUBLIC WORKS DEPARTMENT. THE TOWN IS THEREFORE SYNONYMOUS WITH THE 'CONTRACTOR' AND 'OWNER' IN THESE PLANS AND SPECIFICATIONS.
2. THE TOWN SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION.
3. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
4. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS UNLESS IDENTIFIED ON THE PLANS AS THE STAGING AND STOCKPILE AREA. THIS AREA SHALL BE PROTECTED FROM EROSION AND CONTAMINATION INTO ANY RESOURCE AREA BY EROSION AND SEDIMENTATION CONTROL AS SHOWN ON SHEET D-2.
6. THE BASE PLAN IS BASED ON A SURVEY COMPLETED BY WESTON & SAMPSON IN NOVEMBER 2012 USING TOTAL STATION SURVEY METHODS.
7. THE VERTICAL DATUM IS ASSUMED BASED ON A CHISEL SQUARE ON THE EXISTING UPSTREAM WALLS AS NOTED ON SHEET C-2.
8. THE HORIZONTAL DATUM IS ASSUMED.
9. PROPERTY LINE INFORMATION, WHERE NOTED, IS APPROXIMATE.
10. WETLAND AREAS WERE DELINEATED BY A WESTON & SAMPSON CERTIFIED WETLAND SCIENTIST IN NOVEMBER 2012, THE WETLAND FLAGS WERE LOCATED DURING OUR SURVEY.
11. EXISTING CONDITIONS ARE BASED PRIMARILY ON THE REFERENCED TOPOGRAPHIC SURVEY. CURRENT CONDITIONS MAY VARY FROM THOSE SHOWN ON THE DRAWINGS. ANY VARIATIONS FROM THE CONDITIONS SHOWN, WHICH WILL IMPACT THE CONSTRUCTION COST OR METHOD SHOULD BE BROUGHT TO THE ENGINEER'S ATTENTION IN WRITING.
12. RIGHT AND LEFT IS REFERENCED AS THOUGH STANDING IN STILES POND FACING DOWNSTREAM.
13. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING, THROUGHOUT CONSTRUCTION, ALL EROSION AND SEDIMENTATION CONTROLS AS SHOWN ON SHEETS C-2 AND D-2.
14. INSTALL AND MAINTAIN SITE PERIMETER FENCING WHERE NECESSARY AND PREVENT ACCESS BY THE PUBLIC TO THE SITE AT ALL TIMES DURING CONSTRUCTION.
15. PLAN AND CONDUCT ALL CONSTRUCTION ACTIVITIES TO ACCOMMODATE DISCHARGE FROM THE DAM TO THE DOWNSTREAM CHANNEL, INCLUDING ALL STORM FLOWS.
16. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION DEWATERING AND SURFACE WATER CONTROL TO ACHIEVE FIRM, DRY EXCAVATION SUBGRADE CONDITIONS AND ALLOW ALL CONSTRUCTION IN-THE-DRY.
17. THE CONTRACTOR SHALL MAINTAIN SIDE SLOPES AND DRAINAGE SWALES DURING CONSTRUCTION TO PREVENT PONDING AND EROSION.
18. THE CONTRACTOR SHALL MAINTAIN EXCAVATION SLOPES DURING CONSTRUCTION IN ACCORDANCE WITH THE MINIMUM AND MAXIMUM SLOPES SPECIFIED IN THE CONTRACT AND AS REQUIRED BY STATE OR FEDERAL EXCAVATION SAFETY REGULATIONS. ANY LATERAL SUPPORT SYSTEM USED IN THE FIELD SHALL BE INCIDENTAL TO THE APPROPRIATE WORK ITEM AND CONFORM TO SPECIFICATION 02300.
19. UNSUITABLE MATERIALS MAY BE ENCOUNTERED IN THE EXCAVATIONS. THE CONTRACTOR WILL BE REQUIRED TO OVER-EXCAVATE TO SUITABLE SUBGRADE. THE CONTRACTOR SHALL REPLACE THE EXCAVATED MATERIAL WITH SUITABLE FILL MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS. FILTER FABRIC MAY BE REQUIRED AT THE ENGINEER'S DISCRETION, AND IS CONSIDERED INCIDENTAL TO THE WORK.
20. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND PROPERLY DISPOSING EXCESS FILL, TREES, PAVEMENT, AND DEMOLITION DEBRIS RESULTING FROM CONSTRUCTION ACTIVITIES AT A PROPER OFF-SITE AREA IN ACCORDANCE WITH SPECIFICATION 02300 AND 02230.
21. REFER TO SPECIFICATION SECTION 01014 FOR ADDITIONAL INFORMATION AND REQUIREMENTS REGARDING THE SCOPE AND SEQUENCE OF WORK.
22. WORK SHALL BE SUSPENDED UNTIL WATER LEVELS ARE CONTROLLED DURING AND FOLLOWING STORM EVENTS DURING CONSTRUCTION.

## ABBREVIATIONS

BM CONC DIA ELEV., EL. EXIST FT MIN MISC N P RC SECT SPEC TYP W/O WF	BENCHMARK CONCRETE DIAMETER ELEVATION EXISTING FEET, FOOT MINIMUM MISCELLANEOUS NORTH PROPERTY LINE REINFORCED CONCRETE SECTION SPECIFICATION TYPICAL WITH WITHOUT WETLAND FLAG
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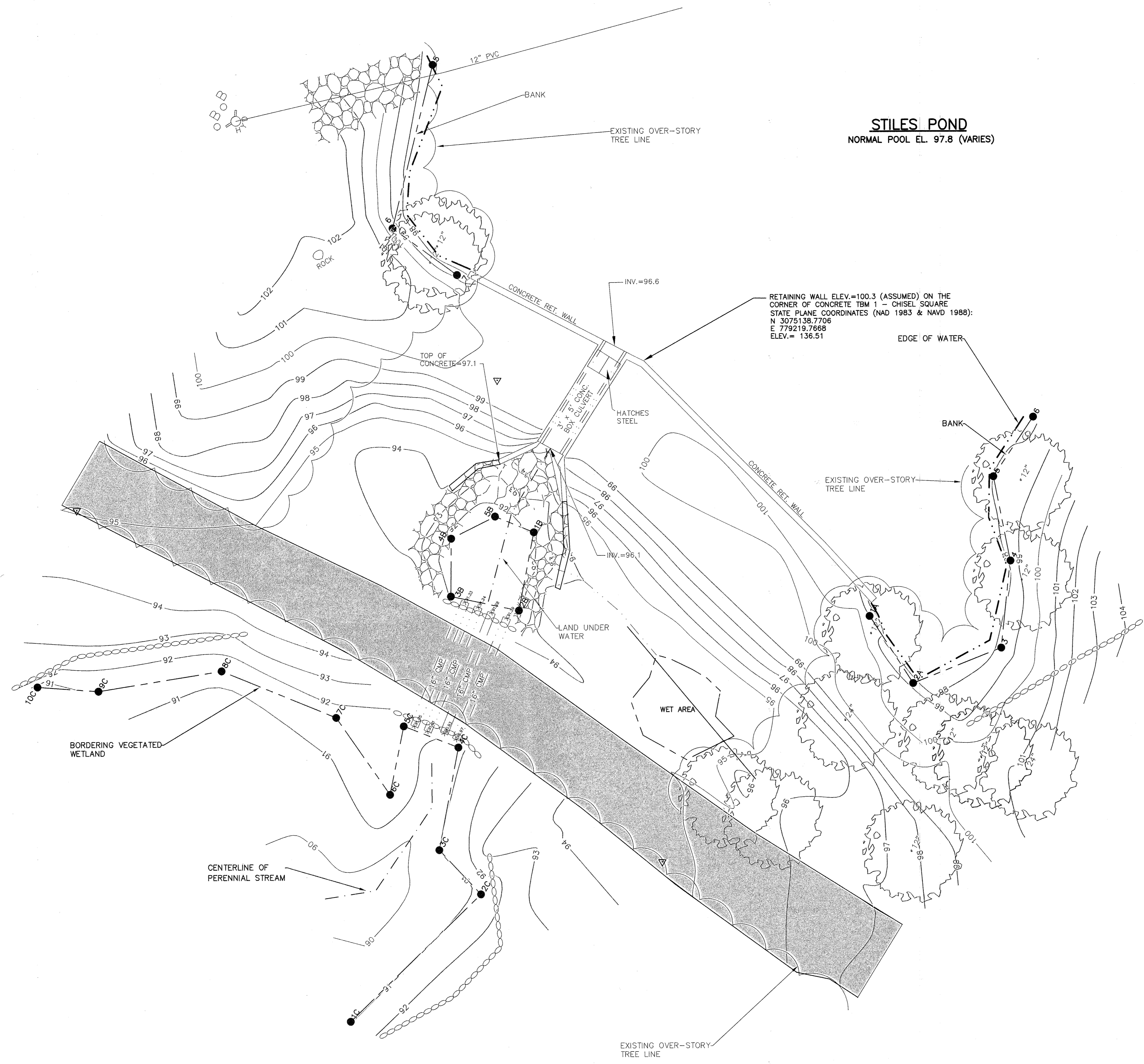


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STILES POND DAM REHABILITATION PROJECT	
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JOB NO. 2120644	JOB NO. 2120644
CADD NO. 207-53	JOB NO. 2120644
FILE NO. 207-53	JOB NO. 2120644
G-1	JOB NO. 2120644

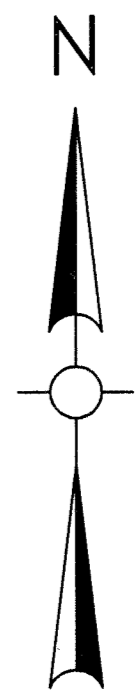
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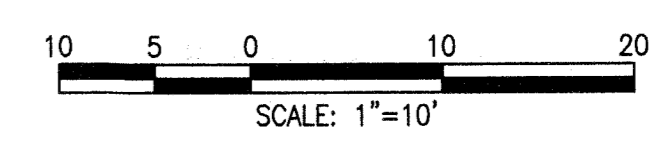
SHEET 2 OF 6



**STILES POND**  
NORMAL POOL EL. 97.8 (VARIES)



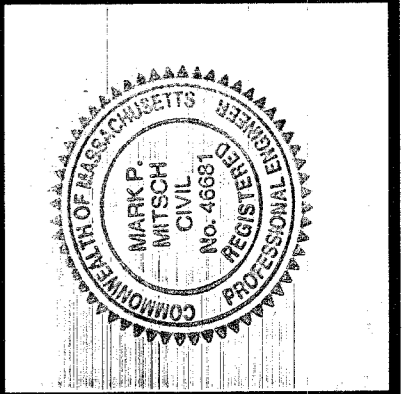
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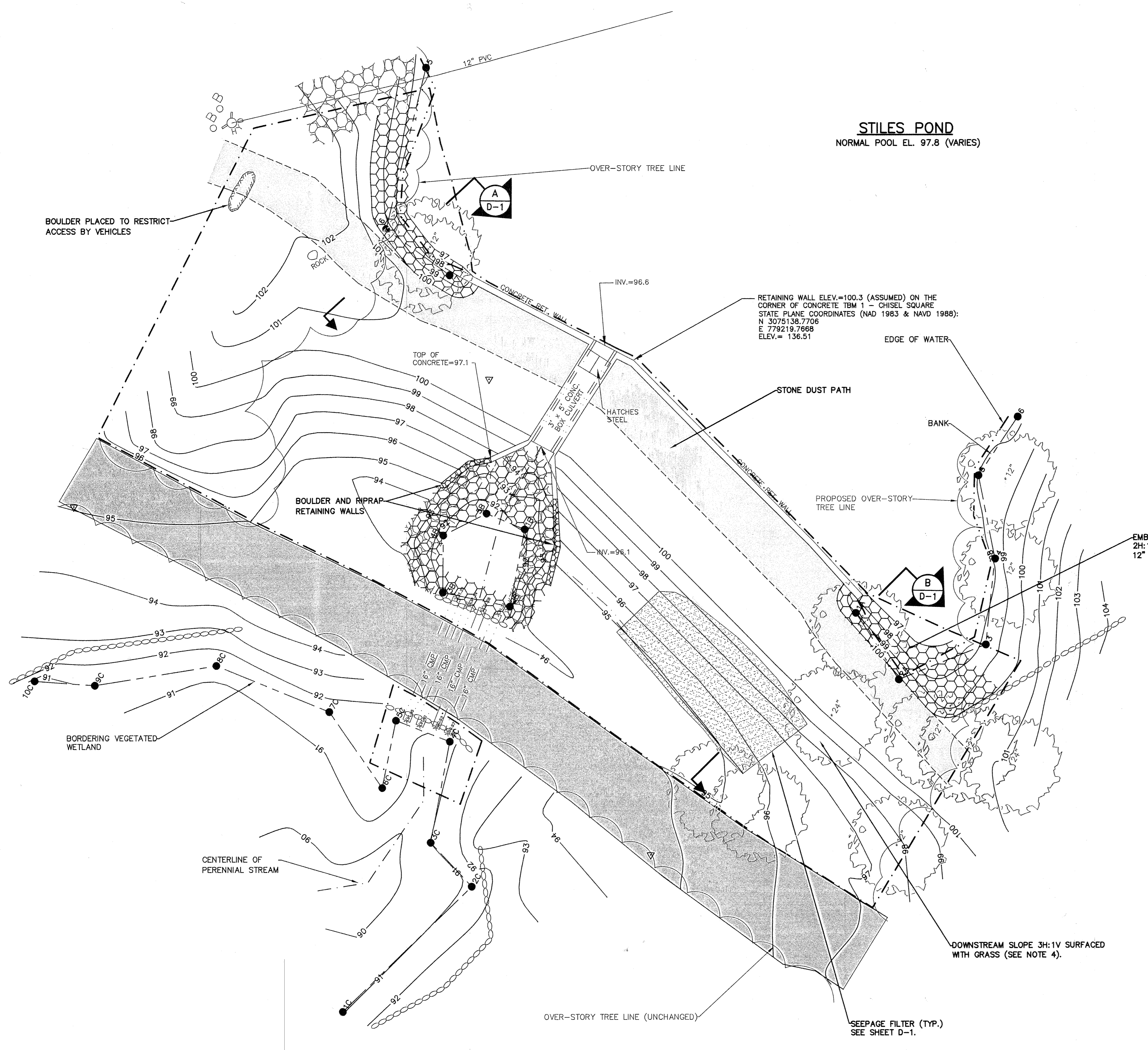
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					10/28/2014



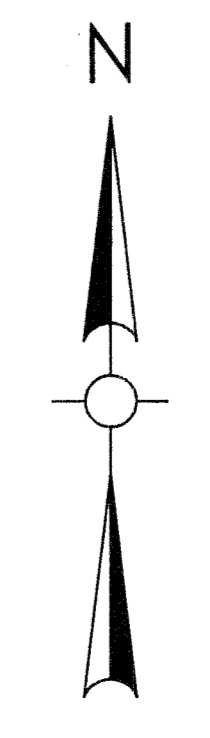
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<b>PRE-REHABILITATION CONDITIONS</b>									
C-1									
SHEET 3 OF 6									

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STILES POND  
NORMAL POOL EL. 97.8 (VARIES)



RETAINING WALL ELEV.=100.3 (ASSUMED) ON THE CORNER OF CONCRETE TBM 1 - CHISEL SQUARE STATE PLANE COORDINATES (NAD 1983 & NAVD 1988):  
N 3075138.7706  
E 779219.7668  
ELEV.= 136.51

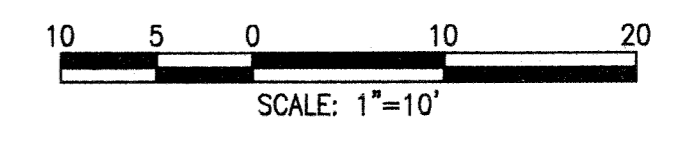
EMBANKMENT SLOPE  
2H:1V SURFACED WITH  
12" TO 18" RIPRAP (TYP)

DOWNSTREAM SLOPE 3H:1V SURFACED WITH GRASS (SEE NOTE 4).

NOTE:

- 1. DOWNSTREAM SLOPE AND AREA COVERED BY THE SEEPAGE FILTER WERE FIELD ADJUSTED TO ADAPT TO ACTUAL CONDITIONS AT THE "WET AREA". SEE DESIGN PLANS FOR COMPARISON.

RECORD DRAWING



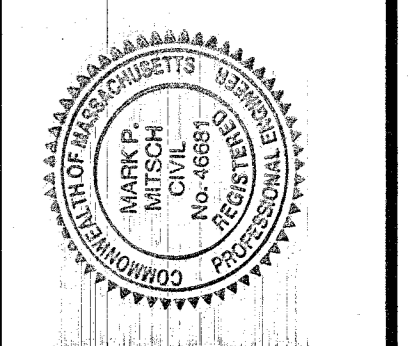
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2	10/14	RWS	CJP	MPM	REVISION
1	9/14	RWS	CJP	MPM	REVISION
No.	Date	Dr. By	Ck. By	App. By	Description

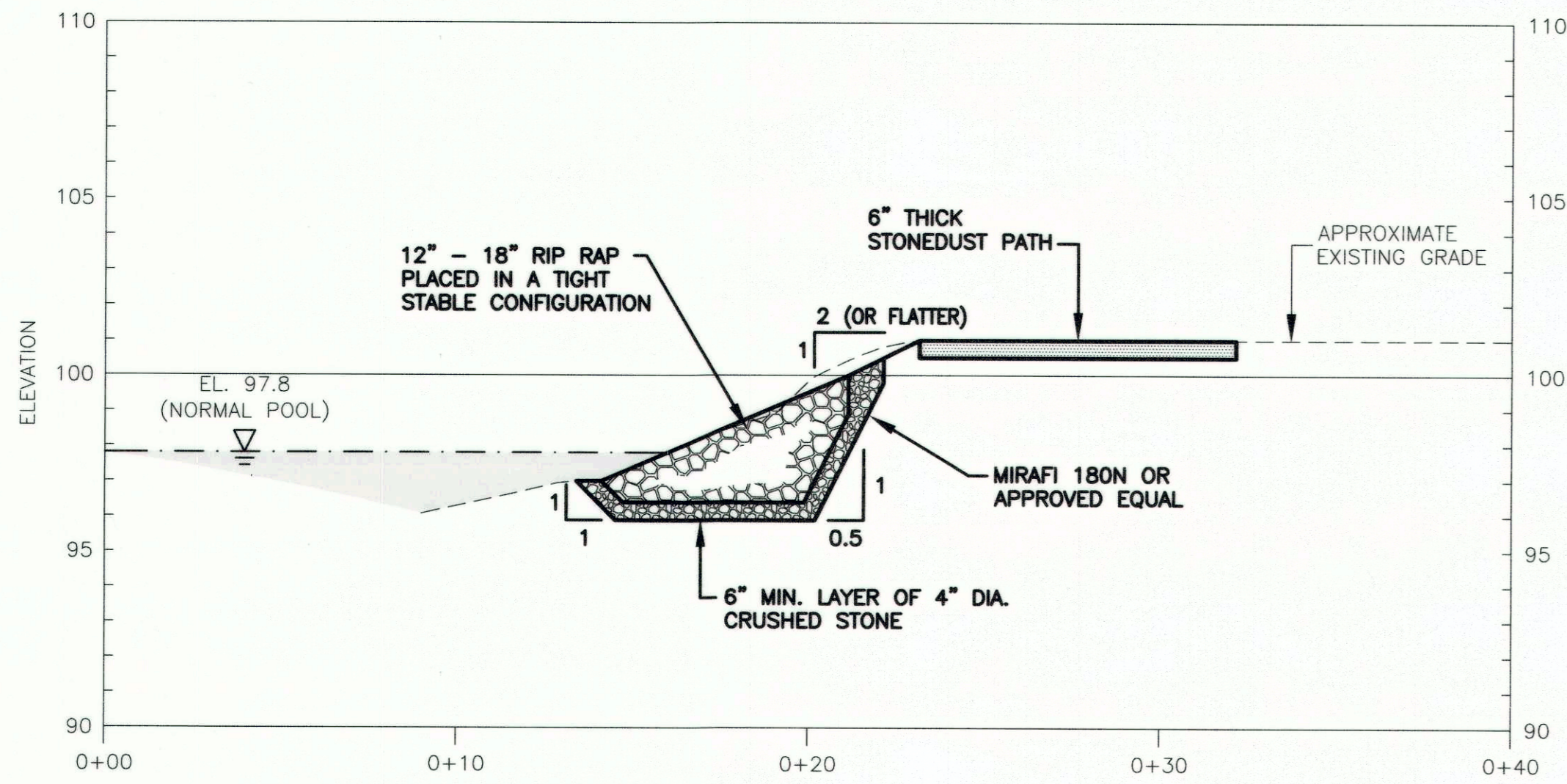
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REGISTERED PROFESSIONAL ENGINEER

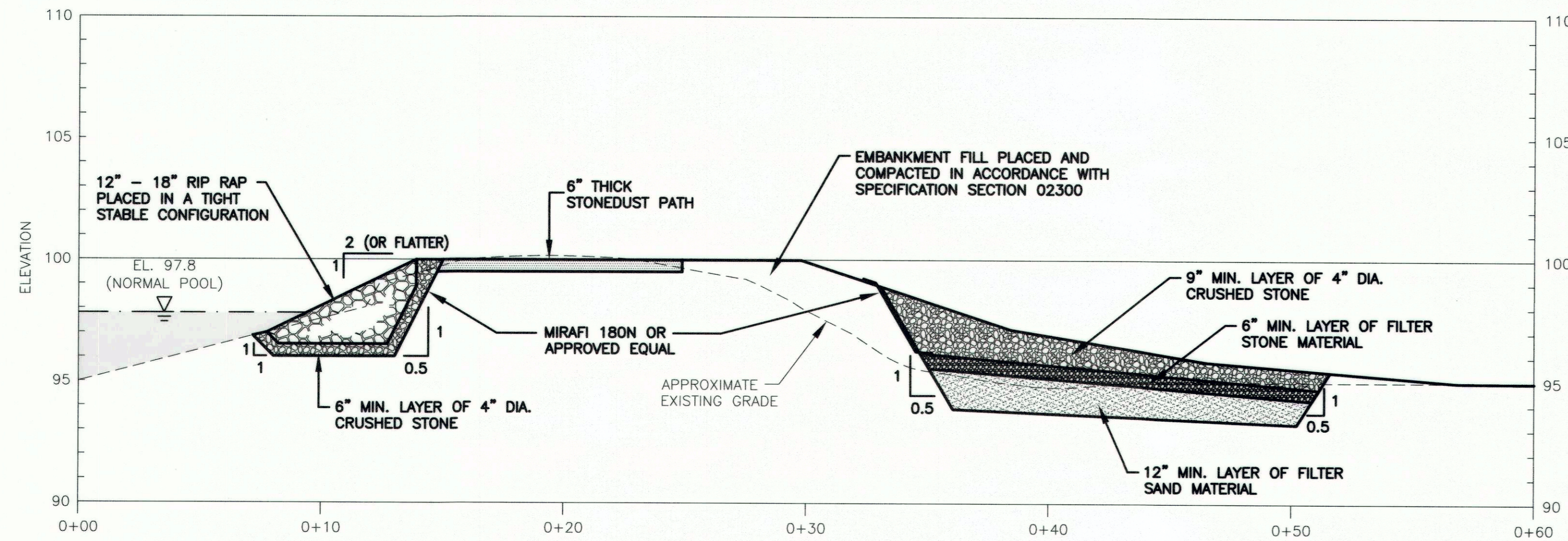


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STILES POND DAM REHABILITATION PROJECT	NOTED	C-1 C-2	SO	CJP	MPM	MPM
POST REHABILITATION CONDITIONS	2120644					
FILE NO. 207-51						

C-2  
SHEET 4 OF 6



SECTION A  
SCALE: 1"=4' HORIZ  
1"=4' VERT



SECTION B  
SCALE: 1"=4' HORIZ  
1"=4' VERT

**NOTES:**

- EXCAVATION SHOULD BE CONDUCTED IN THE PRESENCE OF THE ENGINEER. ADDITIONAL EXCAVATION MAY BE REQUIRED IF ORGANIC MATTER OR OTHER UNSUITABLE SUBGRADE CONDITIONS ARE OBSERVED BY THE ENGINEER.
- THE FILTER FABRIC UNDERLYING CRUSHED STONE SHALL BE MIRAFI 180N OR APPROVED EQUAL.
- RIPRAP SHALL BE PLACED WITH CARE TO ENSURE A TIGHT, STABLE CONFIGURATION. INTERLOCKING OF THE RIPRAP DURING PLACEMENT SHALL BE ACHIEVED TO THE EXTENT PRACTICABLE.
- REFER TO THE PROJECT SPECIFICATION EARTHWORK SECTION FOR ADDITIONAL REQUIREMENTS OF EARTH MATERIALS.

**MATERIALS REQUIREMENTS:**

FILTER SAND	
SIEVE SIZE/No.	PERCENT FINER
3/8 IN.	100
No. 4	95 - 100
No. 8	85 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 100	0 - 10

FILTER STONE	
SIEVE SIZE/No.	PERCENT FINER
1/2 IN.	100
3/8 IN.	85 - 100
No. 4	20 - 50
No. 8	0 - 15
No. 16	0 - 5

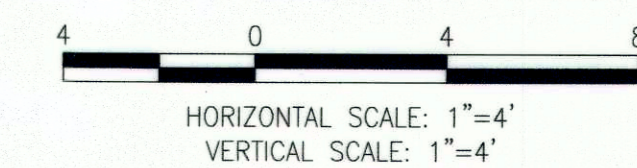
  

4 IN. DIA. CRUSHED STONE	
PARTICLE SIZE (DIAMETER)	PERCENT FINER
4 IN.	90-100
3.5 IN.	80-100
1.0 IN.	40-80
0.75 IN.	25-50
0.5 IN.	10-20
0.187 IN.	0-5

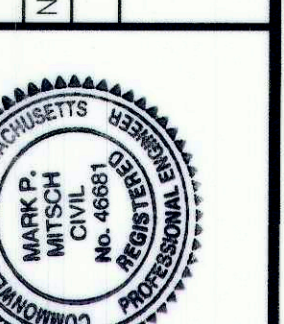
  

12 IN. TO 18 IN. DIA. RIPRAP	
PARTICLE SIZE (DIAMETER)	PERCENT FINER
24 IN.	100
18 IN.	75-100
12 IN.	25-70
9 IN.	15-25
6 IN.	0-5

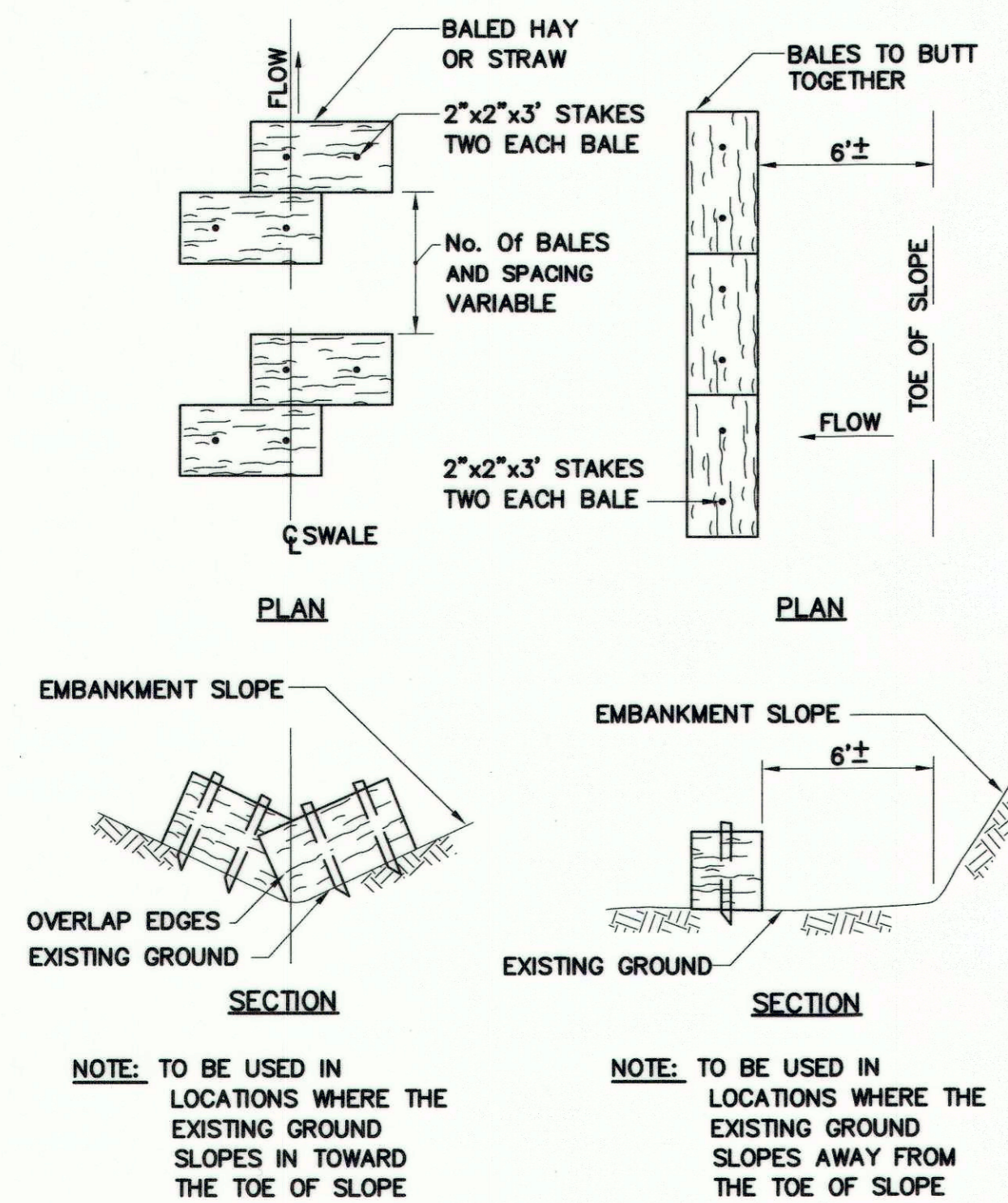
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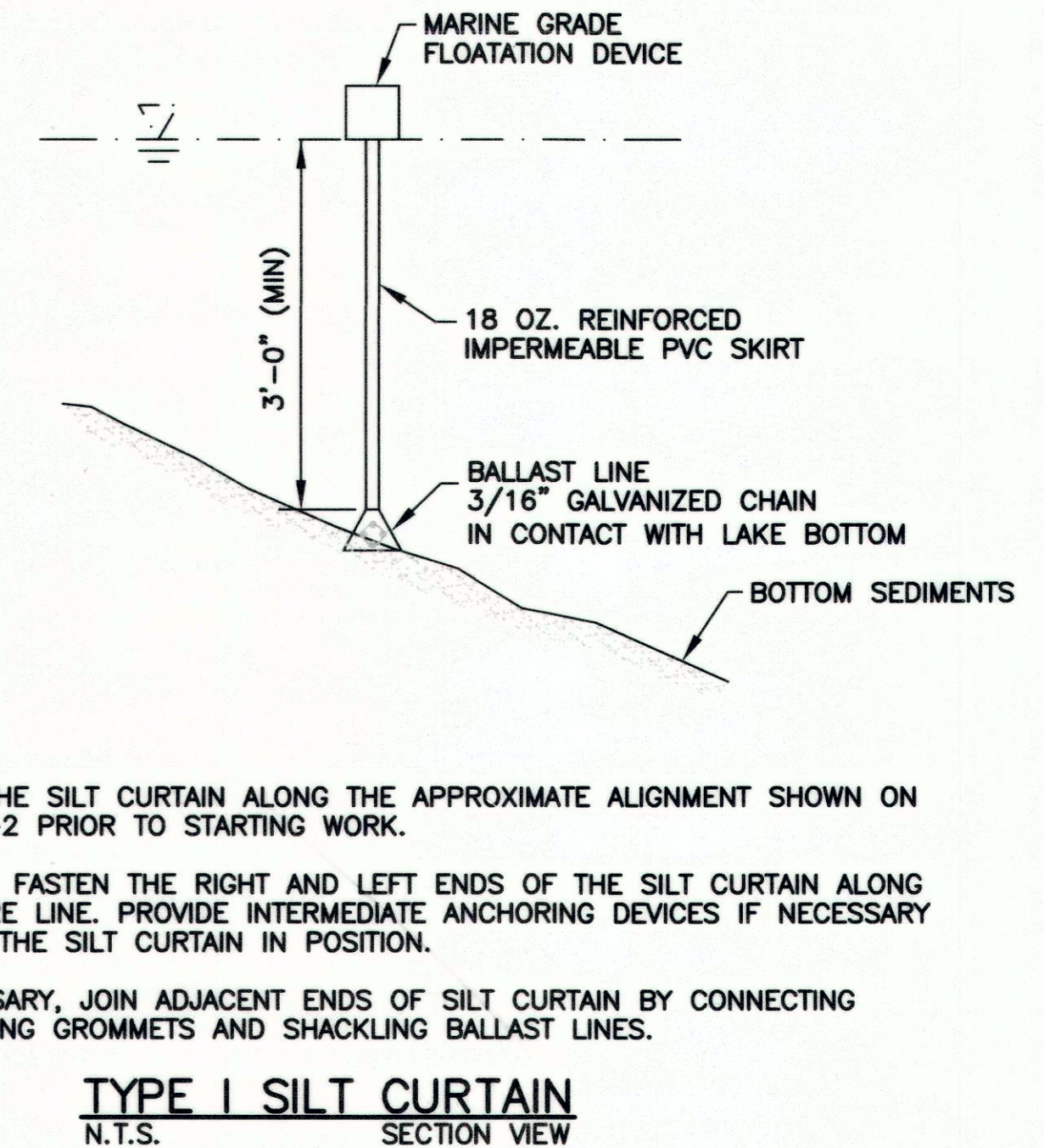
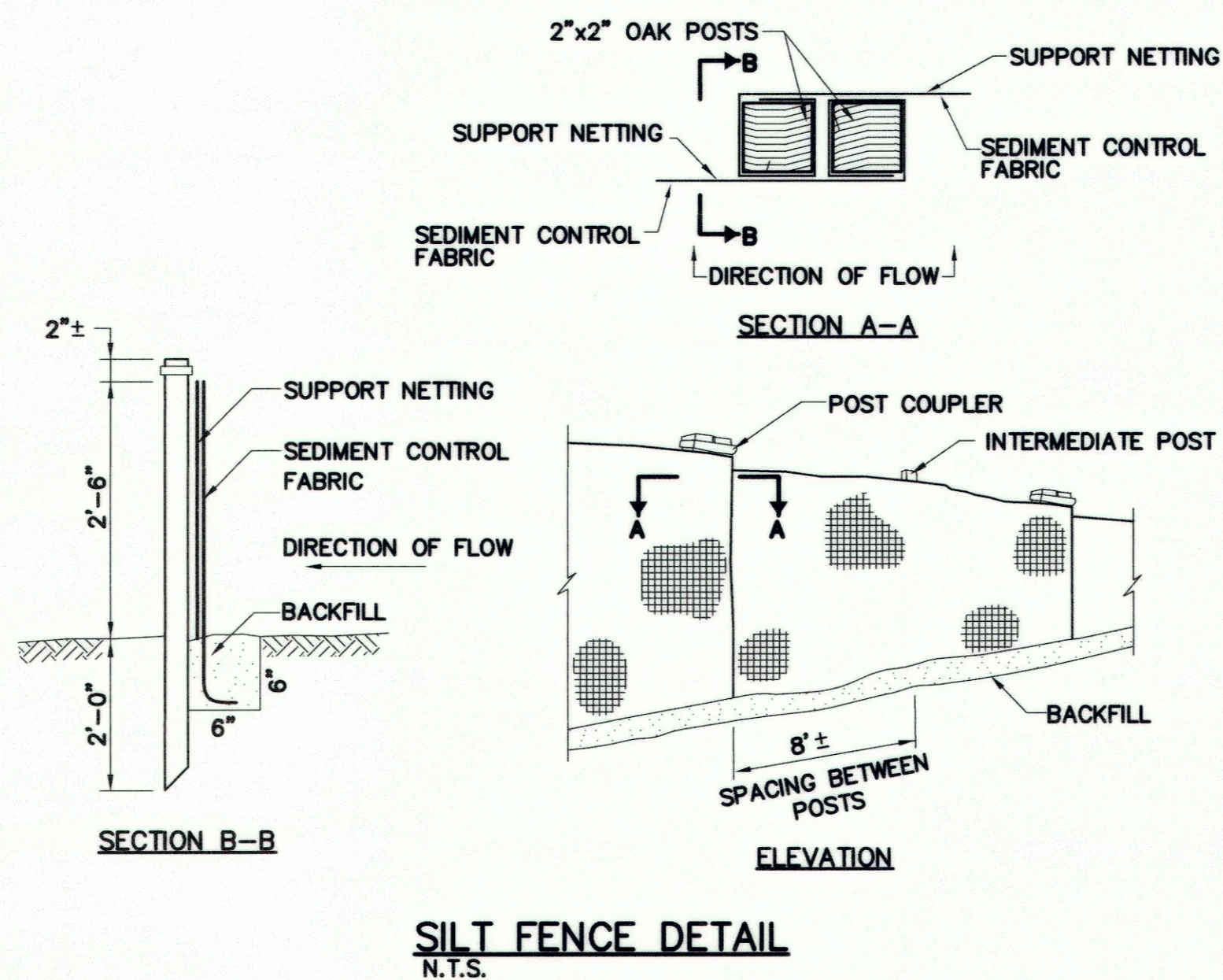
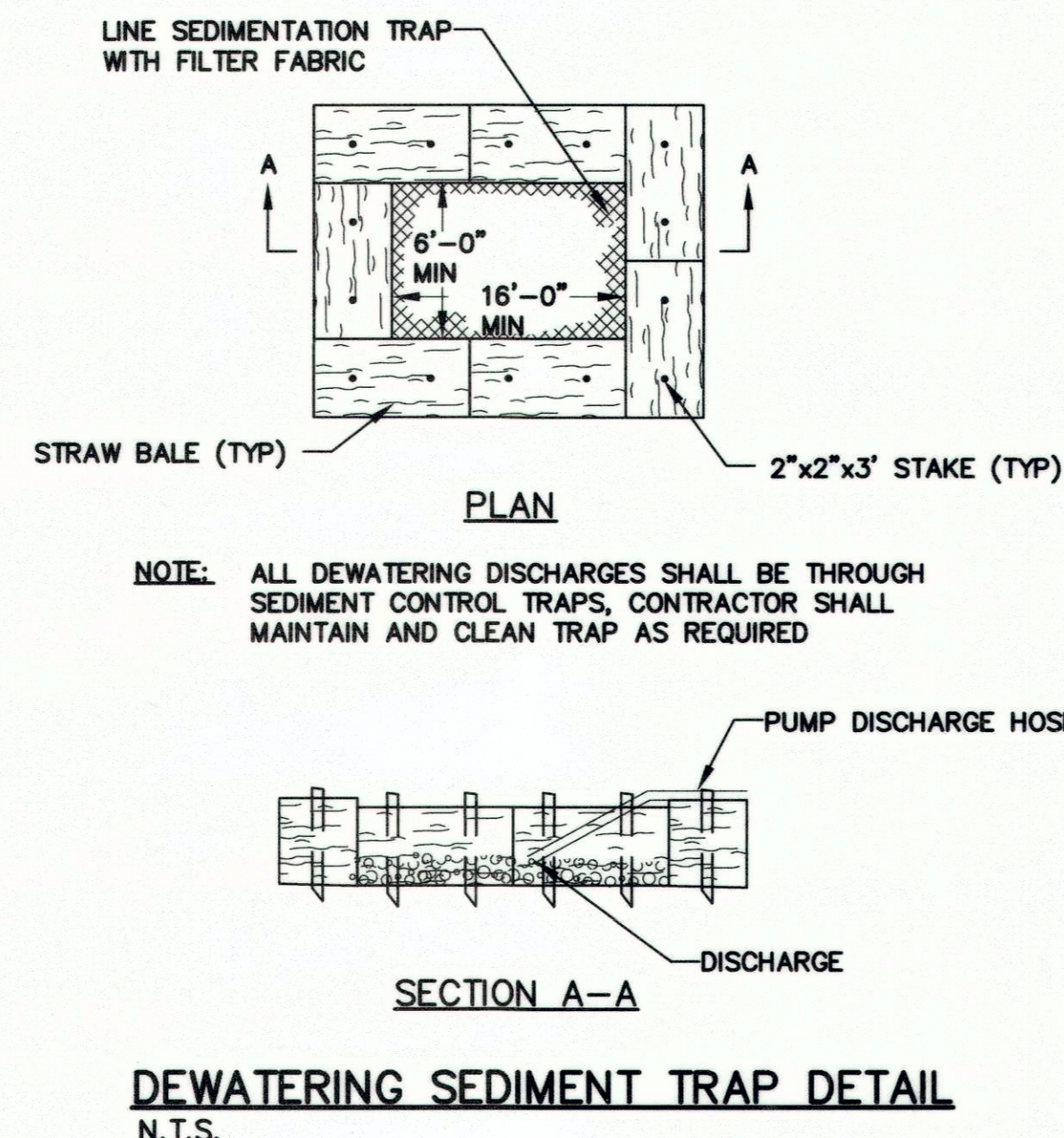
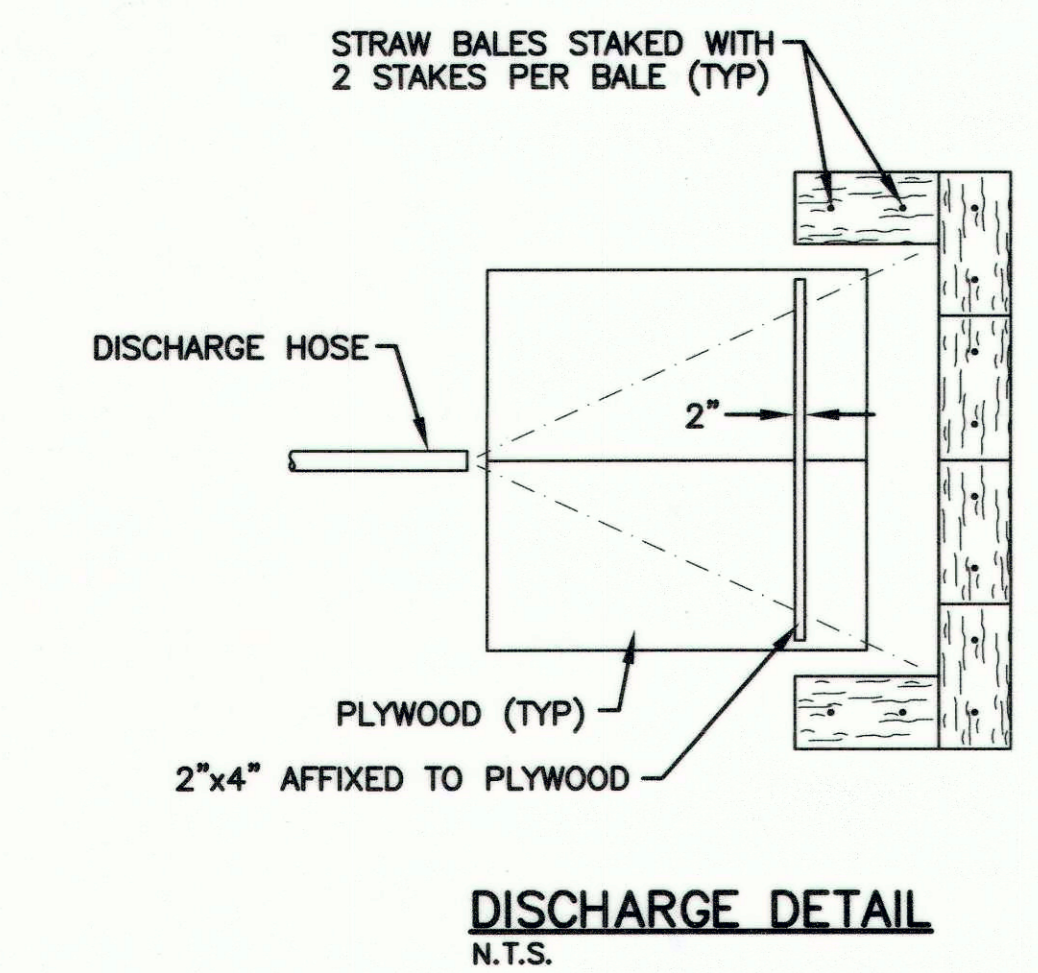
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					P R O V E E D
					DATE: 9/16/2014



TOWN OF BOXFORD, MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS	CONTRACT: NOTED	SCALE: DET-1	CADD NO.: 207-50	FILE NO.: 207-50
STILES POND DAM REHABILITATION PROJECT	CONTRACT: NOTED	SCALE: DET-1	CADD NO.: 207-50	FILE NO.: 207-50
CIVIL SECTIONS	CONTRACT: NOTED	SCALE: DET-1	CADD NO.: 207-50	FILE NO.: 207-50
DESIGNER: RWS	DRY BY: RWS	CHK BY: CJP	APP BY: MPM	MPM

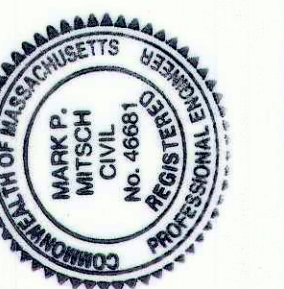


**STRAW BALES DETAIL**  
N.T.S.



No.	Date	Dr. By	Ck. By	App. By	Description
1	9/14	RWS	CJP	MPM	RECORD DRAWING

REGISTERED PROFESSIONAL ENGINEER  
DATE: 9/16/2014



TOWN OF BOXFORD, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS  
STILES POND DAM REHABILITATION PROJECT

**CIVIL DETAILS**

CONTRACT: 2120644  
JOB NO.: 2120644  
SCALE: DET-1  
CADD NO.: 207-49

DR. BY	RWS	DSN. BY	CJP	CHK. BY	MPM	APP. BY	MPM
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