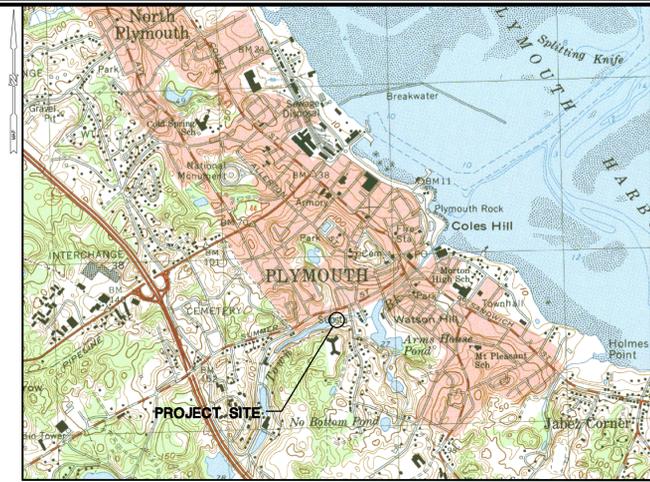


HOLMES PLAYGROUND DAM REMOVAL TOWN BROOK RESTORATION

NEWFIELD STREET
PLYMOUTH, MASSACHUSETTS

PRELIMINARY DESIGN
JANUARY 30, 2015



LOCATION MAP



PREPARED FOR:

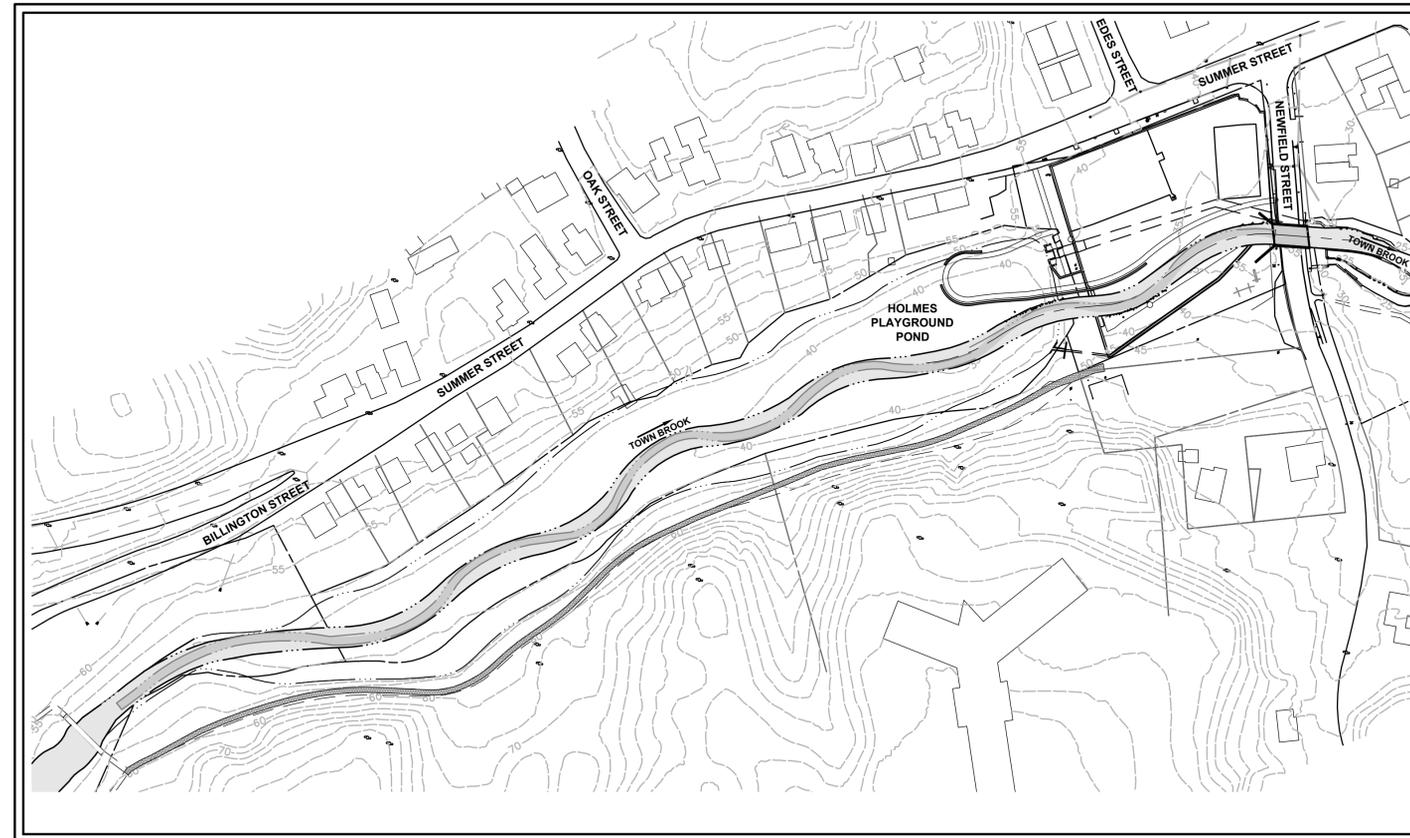


TOWN OF PLYMOUTH, MASSACHUSETTS
11 LINCOLN STREET
PLYMOUTH, MA 02360

TOWN OF PLYMOUTH DEPARTMENT OF MARINE AND ENVIRONMENTAL AFFAIRS
DAVID GOULD, DIRECTOR

MELISSA ARRIGHI, TOWN MANAGER

BOARD OF SELECTMEN
MATTHEW J. MURATORE, CHAIRMAN
BELINDA A. BREWSTER, VICE-CHAIRMAN
JOHN T. MAHONEY, JR.
KENNETH A. TAVARES
ANTHONY F. PROVENZANO, JR.



PROJECT SITE VICINITY MAP:



LIST OF DRAWINGS

NO.	NAME	TITLE
01	--	TITLE SHEET
02	EX-1	OVERALL SITE PLAN - EXISTING CONDITIONS
03	EX-2	SITE PLAN - EXISTING HOLMES DAM
04	RM-1	REMOVALS PLAN
05	PR-1	TOWN BROOK PROFILE
06	LA-1	LAYOUT PLAN
07	GU-1	GRADING AND UTILITIES PLAN
08	CS-1	TOWN BROOK TYPICAL CROSS SECTIONS
09	RR-1	REGULATED RESOURCE AREAS
10	SE-1	SEDIMENT AND EROSION CONTROL PLAN
11	WC-1	WATER CONTROL PLAN
12	RE-1	RESTORATION PLAN
13	D-1	DETAILS (1)
14	D-2	DETAILS (2)

PREPARED BY:



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W. Andrew Greene



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MMT NO.: 1982-05
SUBMITTED: JANUARY 30, 2015

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EXISTING SANITARY SEWER CROSSING
AKA "BOY SCOUT BRIDGE"

UTILITY STATEMENTS

THE LOCATION OF THE UTILITIES AS SHOWN HEREON HAVE BEEN COMPILED FROM VISIBLE STRUCTURES AND INFORMATION OBTAINED FROM VARIOUS SOURCES. THE ACTUAL LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE OWNER PRIOR TO ANY CONSTRUCTION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICES OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

NOTES

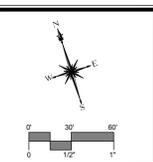
- THIS PLAN WAS COMPILED FROM MAPPING PREPARED BY WSP AND MILONE & MACBROOM, INC.
- GROUND FIELD SURVEY OF THE PROJECT AREA INCLUDING THE DAM AND ALL DOWNSTREAM AREAS CONDUCTED BY WSP ON JUNE 5, 2014 - JUNE 14, 2014. THIS GROUND SURVEY WAS USED TO DEVELOP AN EXISTING CONDITIONS PLAN PREPARED FOR TIGHE & BOND BY WSP TRANSPORTATION AND INFRASTRUCTURE, DATE: JULY 2, 2014.
- BATHYMETRY AND TOPOGRAPHY BETWEEN BOY SCOUT BRIDGE AND HOLMES PLAYGROUND DAM COMPLETED BY MILONE & MACBROOM, INC. ON SEPTEMBER 24, 2014.
- THE HORIZONTAL DATUM SHOWN HEREON REFERENCES MASSACHUSETTS STATE PLANE NAD83.
- THE VERTICAL DATUM SHOWN HEREON REFERENCES NAVD88.
- THE WETLANDS SHOWN DOWNSTREAM OF THE HOLMES PLAYGROUND DAM WERE FLAGGED BY OTHERS AND FIELD LOCATED BY WSP.
- THE WETLANDS SHOWN ADJACENT TO THE HOLMES PLAYGROUND DAM IMPONDMENT WERE FLAGGED BY MMI WETLAND SCIENTIST ON SEPTEMBER 25, 2014.
- PROPERTY LINES AND UTILITY INFORMATION IN SUMMER STREET AND ADJACENT TO IMPONDMENT PROVIDED BY TOWN OF PLYMOUTH GIS.
- LIMITS OF ORDINARY HIGH WATER DELINEATED BY MMI BASED ON HYDRAULIC MODELING OF TOWN BROOK, USING ELEVATIONS ASSOCIATED WITH THE MEAN ANNUAL FLOW (80 CFS).

MAPPING REFERENCES

- "PROPOSED LAYOUT OF PART OF NEWFIELDS STREET", TOWN OF PLYMOUTH, MA, DATED DECEMBER 23, 1922 PREPARED BY DELANO & KEITH, CIVIL ENGINEERS. PLAN #1212.
- "PLAN OF LAND AND EASEMENT" ON NEWFIELD STREET, PLYMOUTH MA. PREPARED FOR JOSEPH F. AND MARY A. SULLIVAN. DATED MARCH 27, 1976 BY FREDERICK J. SMITH, P.E., R.L.S. PLAN BOOK 4200, PAGE 55.
- "LAND IN PLYMOUTH" BELONGING TO NEWFIELD HOUSE, INC. DATED APRIL 11, 1962 BY DELANO & KEITH SURVEYORS. PLAN BOOK 12, PAGE 600.
- "EASEMENT PLAN OF LAND" IN PLYMOUTH, MA. PREPARED FOR TOWN OF PLYMOUTH, MA. DATED APRIL 1, 1993 BY DUE NORTH LAND SURVEYING SERVICES. PLAN BOOK 36 PAGE 161.

LEGEND

	PROPERTY LINE (PER TOWN OF PLYMOUTH GIS)
	CHAIN LINK FENCE
	ORDINARY HIGH WATER (MEAN ANNUAL FLOW)
	EDGE OF WATERCOURSE (PER MMI FIELD SURVEY)
	FEMA 100-YR FLOODPLAIN
	FEMA FLOODWAY
	FEMA 100-YR FLOODPLAIN & FLOODWAY COINCIDENT
	WATER MAIN
	SANITARY MAIN
	OVERHEAD ELECTRIC LINES
	TREELINE
	WETLAND
	EXISTING GRAVEL TRAIL
	TREE/SHRUB
	CATCH BASIN
	WATER VALVE
	HYDRANT
	LIGHT POST
	UTILITY POLE
	SIGN
	MONITORING WELL
	STREET LIGHT
	WATER METER
	SANITARY MANHOLE



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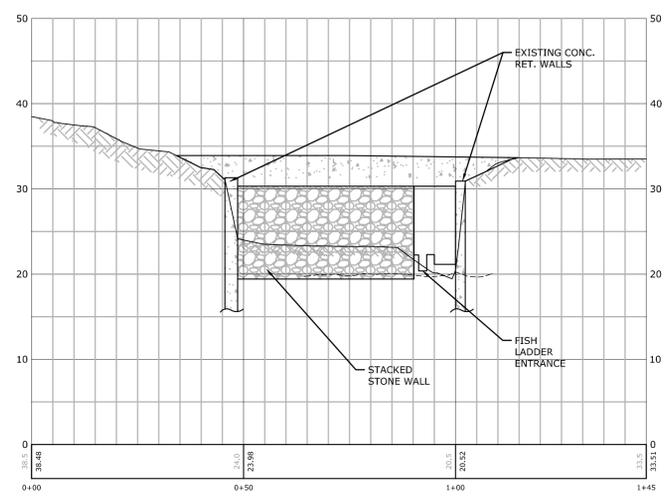
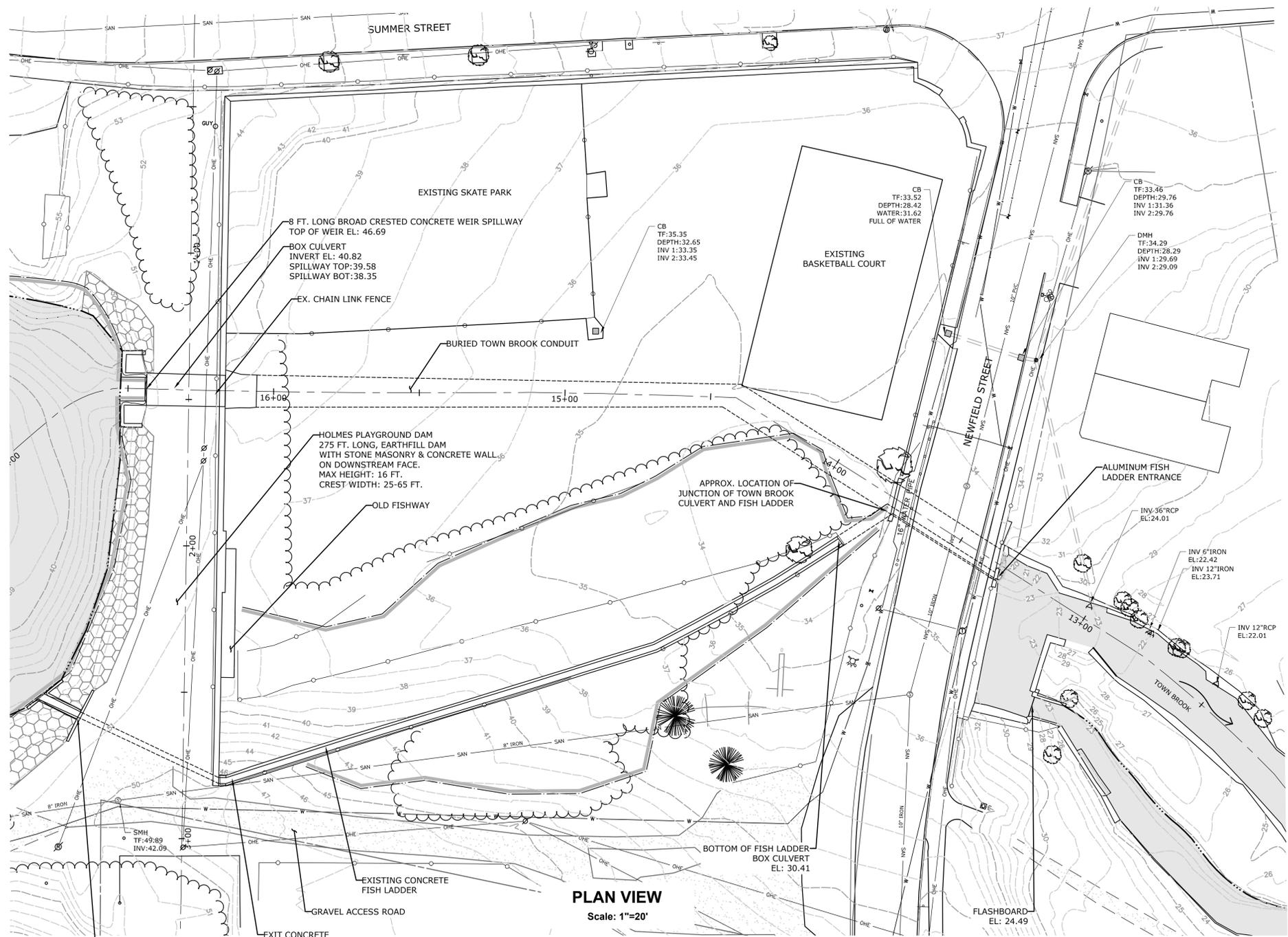
DESCRIPTION	DATE	BY

PRELIMINARY DESIGN

OVERALL SITE PLAN - EXISTING CONDITIONS
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

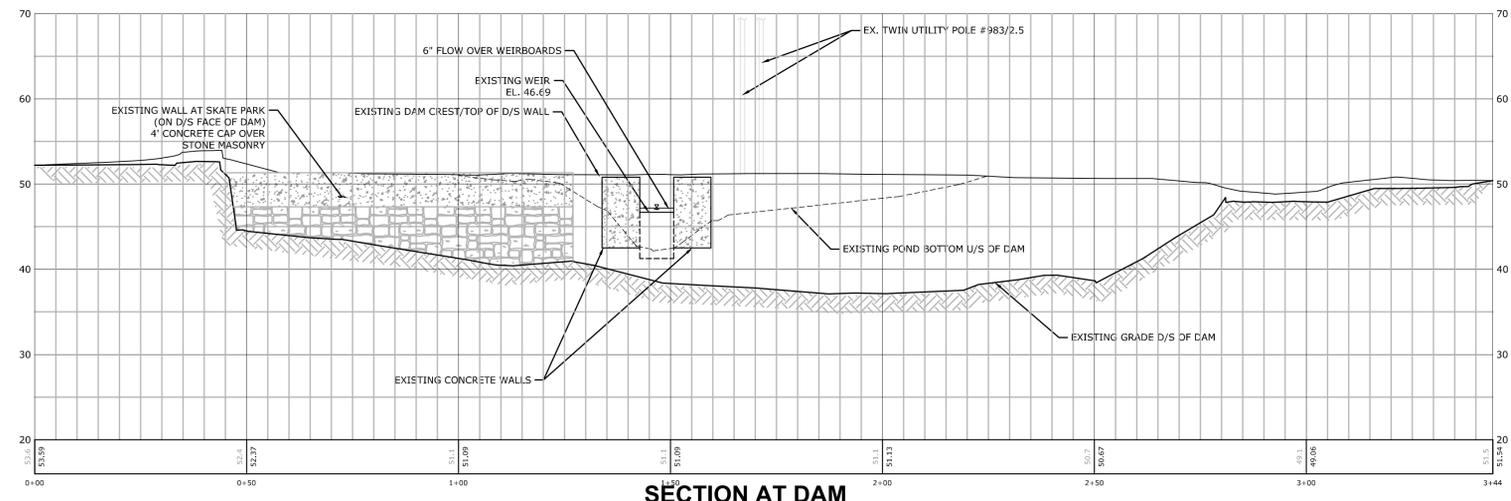
DESIGNED	BAM	WAG
DRAWN		CHECKED
SCALE	1"=60'	
DATE	JANUARY 30, 2015	
PROJECT NO.	1982-05	
SHEET NO.	02 OF 14	
SHEET NAME	EX-1	

10/20/14 - 4.8' Above 2012 City Map No. 10 - 10/20/14 - 4.8' Above 2012 City Map No. 10 - 10/20/14 - 4.8' Above 2012 City Map No. 10



EXIT STRUCTURE FOR EXISTING CONCRETE FISH LADDER
INVERT EL: 44.77

EXIT CONCRETE FISH LADDER
INVERT EL: 40.82



LEGEND

	PROPERTY LINE (PER TOWN OF PLYMOUTH GIS)
	CHAIN LINK FENCE
	EDGE OF WATERCOURSE (PER MMI FIELD SURVEY)
	WATER MAIN
	SANITARY MAIN
	OVERHEAD ELECTRIC LINES
	TREELINE
	WETLAND (SEE NOTE)
	TREE/SHRUB
	CATCH BASIN
	WATER VALVE
	HYDRANT
	LIGHT POST
	UTILITY POLE
	SIGN
	STREET LIGHT
	SANITARY MANHOLE

WETLAND MAPPING NOTE:
 1. WETLANDS SHOWN DOWNSTREAM OF THE HOLMES PLAYGROUND DAM WERE FLAGGED BY OTHERS AND FIELD LOCATED BY WSP. WETLANDS SHOWN ADJACENT TO THE HOLMES PLAYGROUND DAM IMPOUNDMENT WERE FLAGGED BY MMI WETLAND SCIENTIST ON SEPTEMBER 25, 2014.



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DESCRIPTION	DATE

PRELIMINARY DESIGN

SITE PLAN - EXISTING HOLMES DAM
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

DESIGNED	BAM	DRAWN	
		CHECKED	
SCALE	1"=20'		
DATE	JANUARY 30, 2015		
PROJECT NO.	1982-05		
SHEET NO.	03 OF 14		

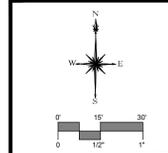
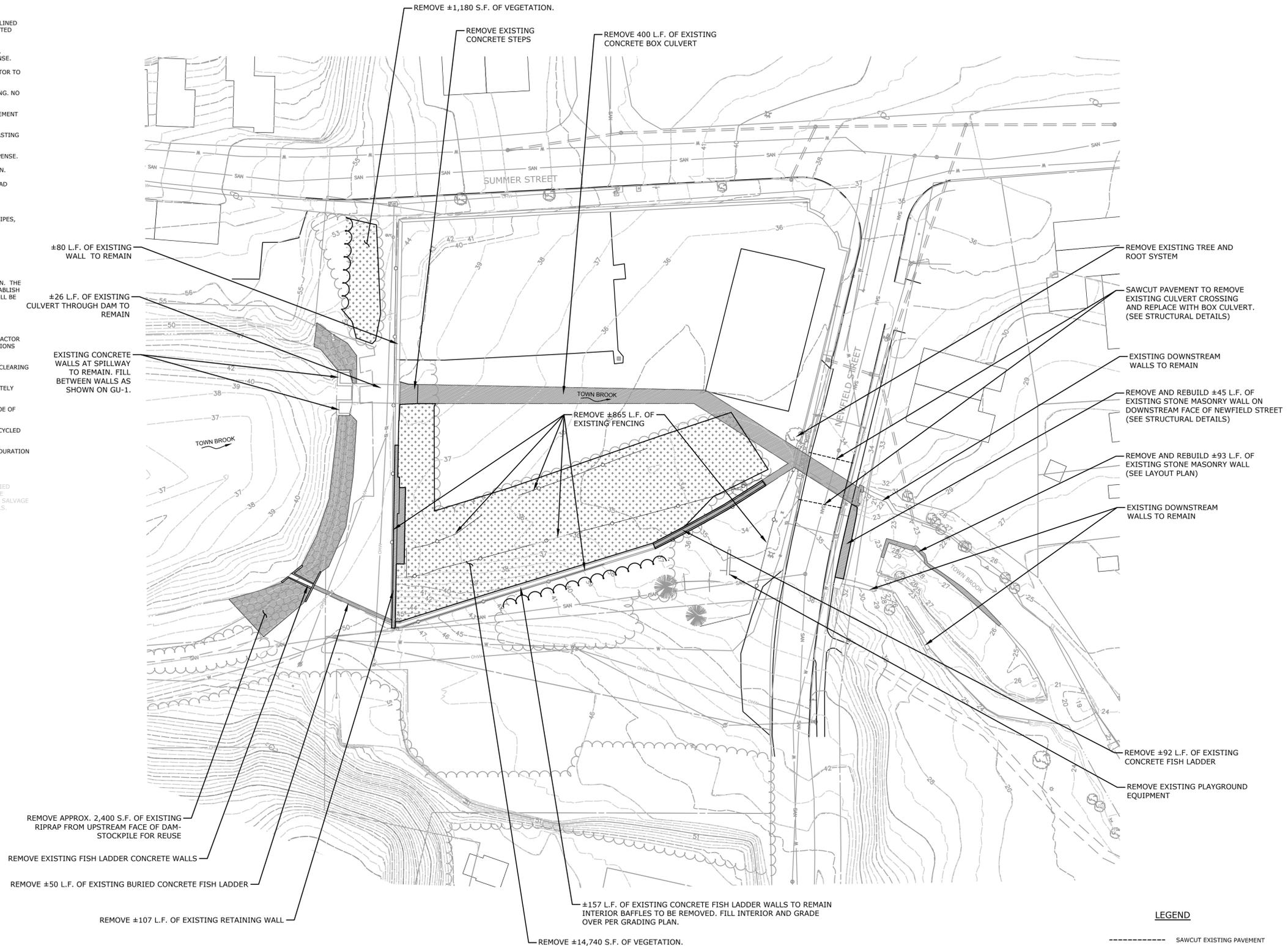
EX-2

DAM REMOVAL NOTES:

- ACCESS ROAD OVER EXISTING TRAIL TO BE GRADED AND WIDENED AS NEEDED BY CONTRACTOR WITH APPROVAL OF ENGINEER.
- ACCESS ROAD TO BE BORDERED WITH SEDIMENT AND EROSION CONTROL FENCES AND HAYBALES. SEE DETAILS.
- STOCKPILE AREAS TO BE ENCLOSED BY FILTER FABRIC AND HAYBALES. SEE DETAILS.
- TEMPORARY COFFERDAMS TO BE CONSTRUCTED OF ROCK FILL, AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS.
- ALL DEWATERING PUMPS ARE TO DISCHARGE TO A TEMPORARY DEWATERING SEDIMENT BASIN.
- TEMPORARY SEDIMENTATION BASINS TO BE CONSTRUCTED WITH SANDBAGS OR JERSEY BARRIERS AND LINED WITH POLYETHYLENE. COLLECTED SEDIMENT TO BE DISPOSED OF AT CONTRACTOR'S EXPENSE.
- SILTY AND SANDY SEDIMENTS TO BE REMOVED TO ORIGINAL STREAMBED ARMOR (APPROXIMATELY 2'-3"). DEWATERED SEDIMENT FROM THE DAM AND EMBANKMENT TO BE DISPOSED OF AT CONTRACTOR'S EXPENSE.
- SAND AND GRAVEL EXCAVATED FROM THE UPSTREAM IMPOUNDMENT MAY BE REUSED AS FILL. CONTRACTOR TO RECEIVE APPROVAL OF MATERIAL TO BE REUSED FROM ENGINEER.
- ONLY NATIVE OR ROUNDED COBBLES SHALL BE ALLOWED FOR THE UPPER LAYER OF RIVER BED ARMORING. NO SHOT OR CRUSHED ANGULAR ROCK WILL BE ALLOWED ON THE RIVERBED SURFACE.
- GRAVEL AND COBBLE FROM TEMPORARY ACCESS ROADS THAT ARE REMOVED CAN BE REUSED TO SUPPLEMENT PLACED STONE FOR BANK ARMORING AREAS, WHERE APPROPRIATE.
- THE CONCRETE FISH LADDERS, DAMS, AND WALLS ARE TO BE REMOVED BY MECHANICAL MEANS. NO BLASTING SHALL BE ALLOWED.
- ALL REINFORCED CONCRETE IS TO BE REMOVED AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE.
- STORAGE AREA AND DEWATERING BASINS ARE TO BE REMOVED AND RESTORED TO ORIGINAL CONDITION.
- REMOVE FULL VERTICAL EXTENT OF CONCRETE FISH LADDER, RETAINING WALLS, STONE WALLS, AND HEAD WALLS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS SO AS TO NOT DISTURB EXISTING AERIAL POWER LINES.
- THE CONTRACTOR SHALL MAINTAIN STREAM FLOW AT ALL TIMES WITH USE OF TEMPORARY CHANNELS, PIPES, AND/OR COFFERDAMS, AS NECESSARY.

DEMOLITION AND REMOVALS NOTES:

- ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER FOR DETERMINATION. THE CONTRACTOR IS EXPECTED TO PROVIDE FIELD ENGINEERING SERVICES DURING CONSTRUCTION TO ESTABLISH AND RECORD GRADES, LINES, AND ELEVATIONS. EXACT ELEVATIONS, SLOPES, AND CHANNEL SHAPES WILL BE APPROVED IN FIELD BY PROJECT ENGINEER.
- ALL UNCONFINED RIVER WORK TO BE COMPLETED BETWEEN JULY 1 AND SEPTEMBER 30.
- THE CONTRACTOR SHALL DESIGNATE A SUPERINTENDENT AT THE START OF CONSTRUCTION AND THE CONTRACTOR'S SUPERINTENDENT SHALL BE ON-SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR AND HIS/HER JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR COMPLYING WITH THE JOB SPECIFICATIONS AND PERMIT REQUIREMENTS.
- ALL STORAGE AND ACCESS ROUTES, PEDESTRIAN FENCES/BARRIERS, WORKING HOURS, AND LIMITS OF CLEARING SHALL BE APPROVED BY THE TOWN OF PLYMOUTH, LANDOWNERS AND THE PROJECT ENGINEER.
- ALL MATERIAL EXCAVATED FROM PROPOSED CHANNEL AREA NOT TO BE REUSED ON SITE TO BE IMMEDIATELY HAULED OFF-SITE AND DISPOSED OF AT THE BOURNE LANDFILL.
- RETAIN ALL EXCAVATED ROUNDED ROCK GREATER THAN 8" FOR USE IN STREAM CHANNEL AND ALONG TOE OF BANK, TO BE APPROVED BY ENGINEER.
- ALL CONCRETE AND REINFORCING STEEL IS TO BE REMOVED BY MECHANICAL MEANS AND DISPOSED/RECYCLED OFF SITE.
- CONTRACTOR MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL PERMITS THROUGHOUT DURATION OF PROJECT.
- NO BEDROCK IS TO BE REMOVED.
- THE NATIONAL MARINE FISHERIES SERVICE (NMFS) WITH THE ASSISTANCE OF A 36 CFR PART 61 QUALIFIED INDUSTRIAL HISTORIAN/ARCHAEOLOGIST WILL MONITOR SITE DISTURBANCES AND EXCAVATIONS AT THE HOLMES DAM SITE. THIS WILL INCLUDE RECORDATION OF ANY STRUCTURAL ELEMENTS, AND POTENTIAL SALVAGE OF ARTIFACTS. OVERSIGHT IS TO BE COORDINATED WITH OWNER PRIOR TO EXCAVATION AND REMOVALS.



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DESCRIPTION	DATE	BY

PRELIMINARY DESIGN

REMOVALS PLAN
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

DESIGNED	BAM	WAG

1"=30'
 JANUARY 30, 2015
 DATE
 PROJECT NO. 1982-05
 SHEET NO. 04 OF 14
RM-1
 SHEET NAME

10/20/14 - 48' APPROX. 100' 200' 300' 400' 500' 600' 700' 800' 900' 1000' 1100' 1200' 1300' 1400' 1500' 1600' 1700' 1800' 1900' 2000' 2100' 2200' 2300' 2400' 2500' 2600' 2700' 2800' 2900' 3000' 3100' 3200' 3300' 3400' 3500' 3600' 3700' 3800' 3900' 4000' 4100' 4200' 4300' 4400' 4500' 4600' 4700' 4800' 4900' 5000' 5100' 5200' 5300' 5400' 5500' 5600' 5700' 5800' 5900' 6000' 6100' 6200' 6300' 6400' 6500' 6600' 6700' 6800' 6900' 7000' 7100' 7200' 7300' 7400' 7500' 7600' 7700' 7800' 7900' 8000' 8100' 8200' 8300' 8400' 8500' 8600' 8700' 8800' 8900' 9000' 9100' 9200' 9300' 9400' 9500' 9600' 9700' 9800' 9900' 10000' 10100' 10200' 10300' 10400' 10500' 10600' 10700' 10800' 10900' 11000' 11100' 11200' 11300' 11400' 11500' 11600' 11700' 11800' 11900' 12000' 12100' 12200' 12300' 12400' 12500' 12600' 12700' 12800' 12900' 13000' 13100' 13200' 13300' 13400' 13500' 13600' 13700' 13800' 13900' 14000' 14100' 14200' 14300' 14400' 14500' 14600' 14700' 14800' 14900' 15000' 15100' 15200' 15300' 15400' 15500' 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MILONE & MACBROOM, INC. 99 REEDY DRIVE, CHELSEA, MASSACHUSETTS 02156

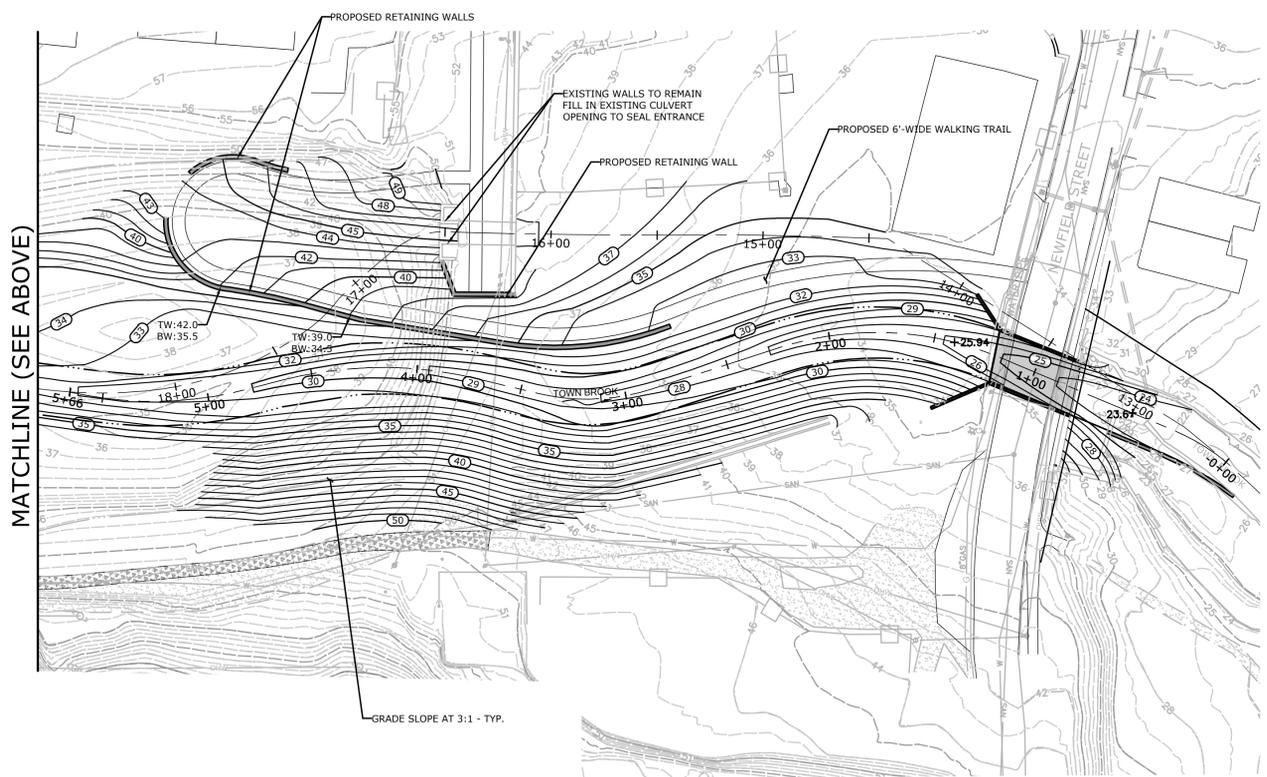


MATCHLINE (SEE BELOW)

CONTRACTOR IS TO TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING SANITARY SEWER AND WATER MAIN, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE DURING CONSTRUCTION

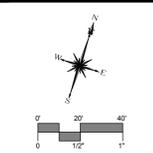
EXCAVATE CHANNEL TO PROPOSED GRADE

- LEGEND**
- PROPERTY LINE
 - (6.6) PROPOSED CONTOUR
 - CLEARING LIMIT
 - PROPOSED EDGE OF WATER (BANKFULL CHANNEL)
 - █ PROPOSED RETAINING WALL
 - PROPOSED SAFETY FENCE



MATCHLINE (SEE ABOVE)

GRADE SLOPE AT 3:1 - TYP.



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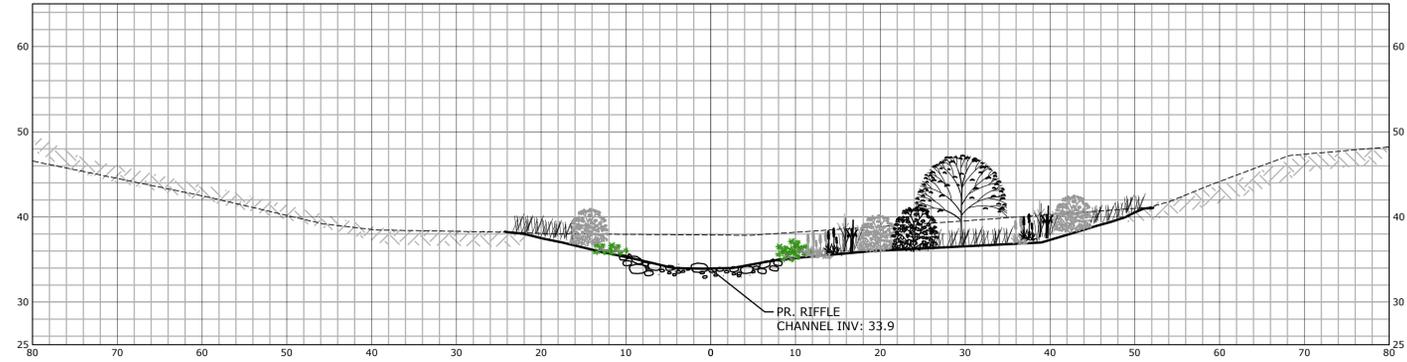
PRELIMINARY DESIGN

GRADING AND UTILITIES PLAN
 HOLMES PLAYGROUND DAM REMOVAL
 TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

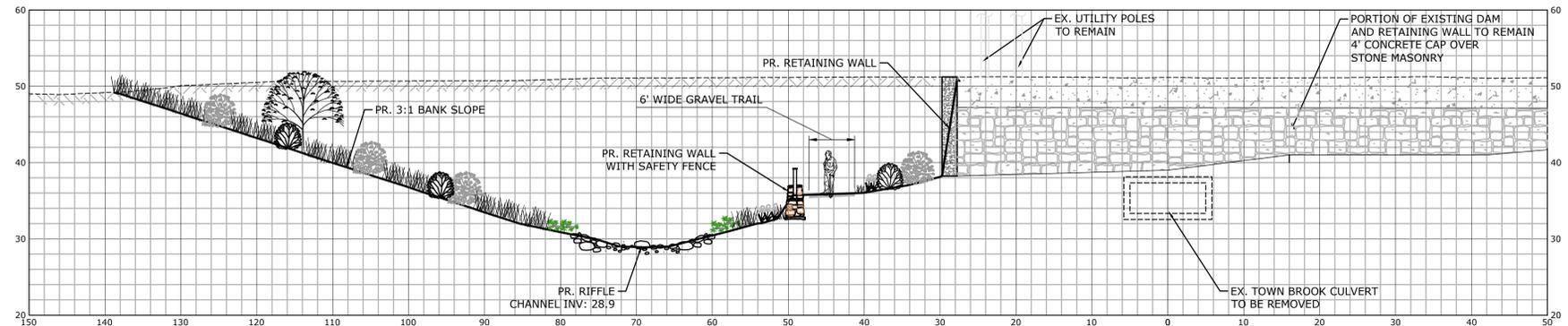
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SCALE		
1"=40'		
DATE		
JANUARY 30, 2015		
PROJECT NO.		
1982-05		
SHEET NO.		
07 OF 14		

SHEET NAME

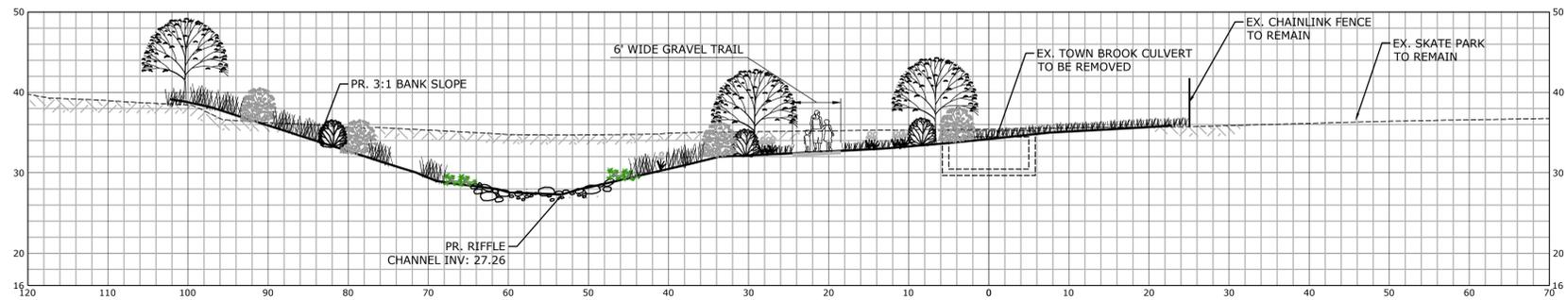
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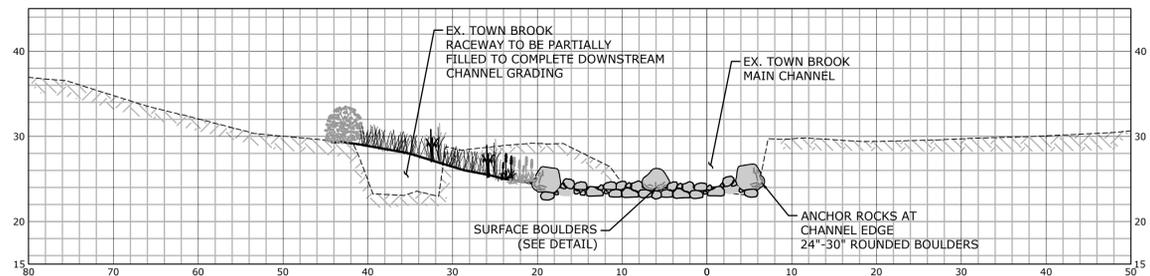
SECTION THROUGH IMPOUNDMENT



SECTION THROUGH DAM

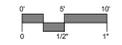


SECTION THROUGH PARK



SECTION THROUGH RAPIDS

NOTE: SECTIONS LOOK UPSTREAM



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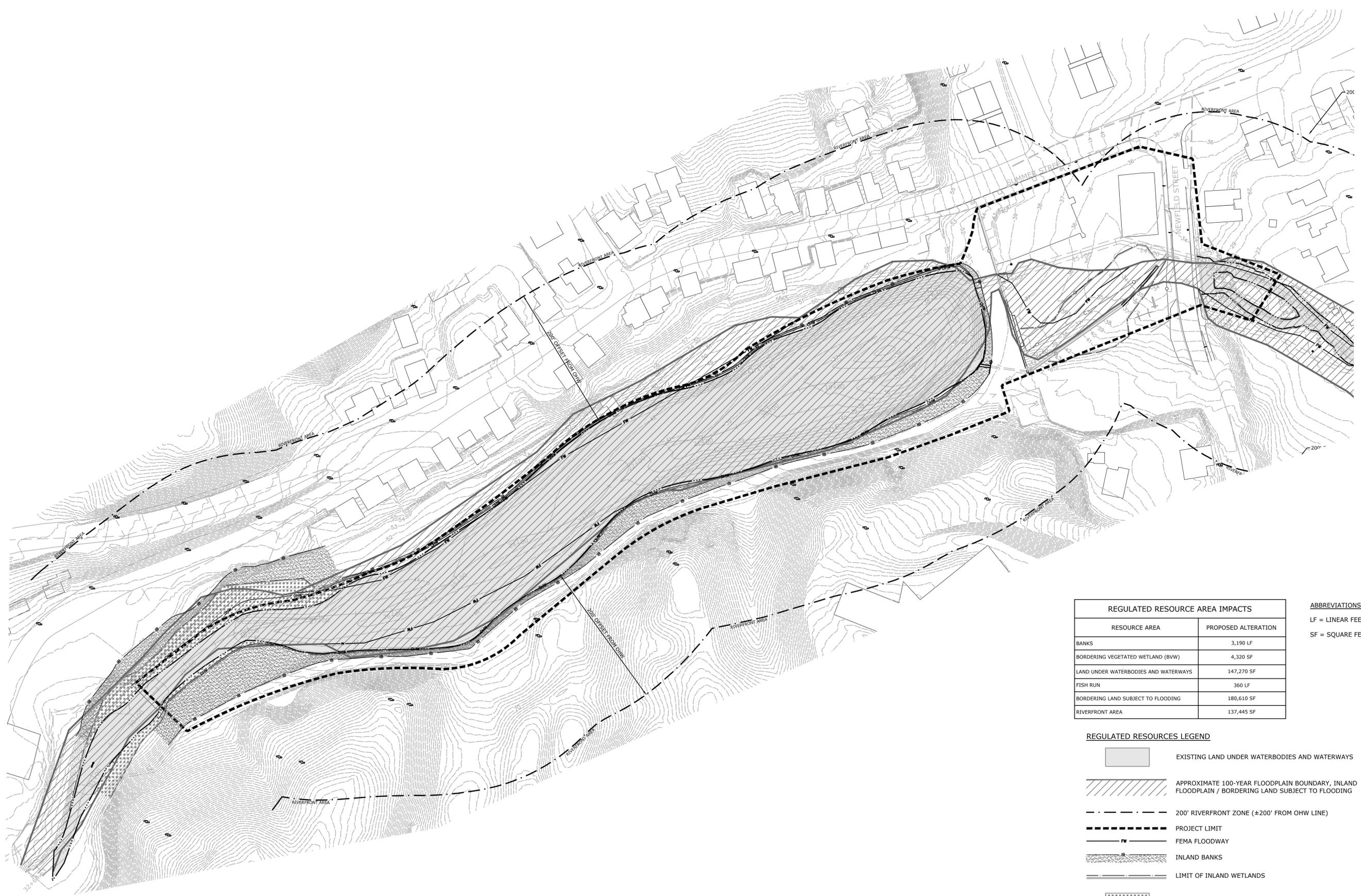
DESCRIPTION	DATE	BY

TOWN BROOK TYPICAL CROSS SECTIONS
 HOLMES PLAYGROUND DAM REMOVAL
 TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

DESIGNED	BAM	WAG
DRAWN	CHECKED	
SCALE 1"=10'		
DATE JANUARY 30, 2015		
PROJECT NO. 1982-05		
SHEET NO. 08 OF 14		

CS-1

MILONE & MACBROOM, INC. 99 REALTY DRIVE, CHELSEA, MASSACHUSETTS 02158

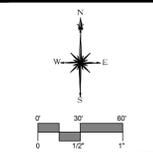


REGULATED RESOURCE AREA IMPACTS	
RESOURCE AREA	PROPOSED ALTERATION
BANKS	3,190 LF
BORDERING VEGETATED WETLAND (BVW)	4,320 SF
LAND UNDER WATERBODIES AND WATERWAYS	147,270 SF
FISH RUN	360 LF
BORDERING LAND SUBJECT TO FLOODING	180,610 SF
RIVERFRONT AREA	137,445 SF

ABBREVIATIONS
 LF = LINEAR FEET
 SF = SQUARE FEET

REGULATED RESOURCES LEGEND	
	EXISTING LAND UNDER WATERBODIES AND WATERWAYS
	APPROXIMATE 100-YEAR FLOODPLAIN BOUNDARY, INLAND FLOODPLAIN / BORDERING LAND SUBJECT TO FLOODING
	200' RIVERFRONT ZONE (±200' FROM OHW LINE)
	PROJECT LIMIT
	FEMA FLOODWAY
	INLAND BANKS
	LIMIT OF INLAND WETLANDS
	BORDERING VEGETATED WETLAND

MAPPING NOTE:
 1. THE WETLANDS SHOWN DOWNSTREAM OF THE HOLMES PLAYGROUND DAM WERE FLAGGED BY OTHERS AND FIELD LOCATED BY WSP. THE WETLANDS SHOWN ADJACENT TO THE HOLMES PLAYGROUND DAM IMPOUNDMENT WERE FLAGGED BY MMI WETLAND SCIENTIST MATTHEW J. SANFORD (PWS #1677) ON SEPTEMBER 25, 2014.



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DESCRIPTION	DATE	BY

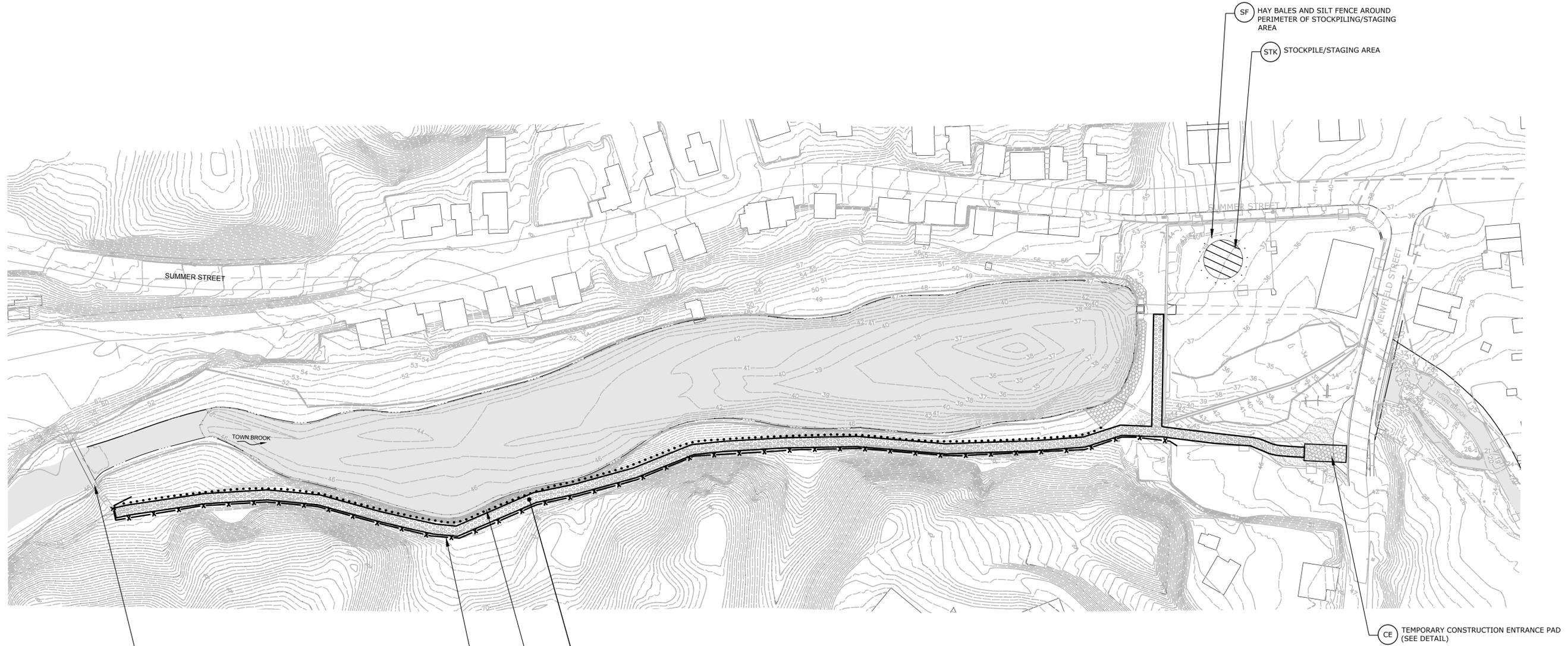
REGULATED RESOURCE AREAS
 HOLMES PLAYGROUND DAM REMOVAL
 TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

PRELIMINARY DESIGN

DESIGNED	BAM	WAG
DRAWN		CHECKED
SCALE		
1"=60'		
DATE		
JANUARY 30, 2015		
PROJECT NO.		
1982-05		
SHEET NO.		
09 OF 14		

RR-1

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 508-848-1111
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MAINTAIN PEDESTRIAN ACCESS ACROSS SANITARY SEWER BRIDGE AND TRAIL. POST CONSTRUCTION SIGNAGE LIMITING ACCESS TO TRAIL ALONG PROPOSED CHANNEL RESTORATION LIMITS.

ESTABLISH TEMPORARY ACCESS AND HAUL ROAD ALONG EXISTING GRAVEL TRAIL. PLACE AND COMPACT GRAVEL BORROW AS NECESSARY TO MAINTAIN ACCESSIBILITY DURING CHANNEL RESTORATION.

SF HAY BALES AND SILT FENCE

OCF INSTALL AND MAINTAIN ORANGE SAFETY FENCE FOR THE DURATION OF CONSTRUCTION

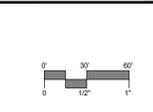
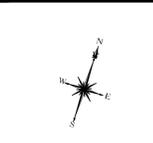
CE TEMPORARY CONSTRUCTION ENTRANCE PAD (SEE DETAIL)

LEGEND

	SF	HAY BALES AND SILT FENCE
	STK	TEMPORARY SOIL STOCKPILE AREA SURROUNDED WITH SILT FENCE
	CE	CONSTRUCTION ENTRANCE PAD
	OCF	ORANGE CONSTRUCTION SAFETY FENCE
		CONSTRUCTION HAUL ROAD
		TEMPORARY CONSTRUCTION ACCESS ROAD

EROSION CONTROL NOTES:

- ACCESS ROADS TO BE GRADED AND WIDENED AS NEEDED BY CONTRACTOR WITH APPROVAL OF ENGINEER.
- ACCESS ROAD AND STOCKPILE AREAS SHALL BE BORDERED WITH SEDIMENT AND EROSION CONTROL FENCES AND HAY BALES. SEE DETAILS.
- STOCKPILE AREAS SHALL BE ENCLOSED BY FILTER FABRIC AND HAYBALES. SEE DETAILS.
- TEMPORARY COFFERDAMS TO BE CONSTRUCTED OF ROCK FILL, SANDBAGS, OR APPROVED EQUAL, AS GIVEN IN THE TECHNICAL SPECIFICATIONS.
- ALL DEWATERING PUMPS ARE TO DISCHARGE TO A TEMPORARY DEWATERING SEDIMENT BASIN.
- TEMPORARY SEDIMENTATION BASINS TO BE CONSTRUCTED WITH SANDBAGS OR JERSEY BARRIERS AND LINED WITH POLYETHYLENE. COLLECTED SEDIMENT TO BE DISPOSED OFFSITE AT A REGULATED AND PERMITTED AREA AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL MAINTAIN ALL STREETS, SIDEWALKS, AND WALKWAYS IN THE AREA FREE OF SOIL, MUD AND CONSTRUCTION DEBRIS. CONSTRUCTION ENTRANCES MUST BE MAINTAINED AT EACH RIVER ACCESS POINT. SEE PLANS AND DETAILS.
- ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED ACCORDING TO THE STANDARDS AND SPECIFICATIONS IN THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- AN EROSION CONTROL BLANKET SHALL BE PLACED OVER ANY DISTURBED AREAS TO PREVENT EROSION DURING PREDICTED LARGE STORMS. SEE PLANS AND DETAILS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES. THE CONSTRUCTION INSPECTOR WILL VERIFY THE MAINTENANCE WEEKLY AND AFTER RAIN EVENTS.
- TEMPORARY STOCKPILE AND STAGING AREAS TO BE FLAGGED BY CONTRACTOR PRIOR TO CONSTRUCTION AND APPROVED BY TOWN, LANDOWNERS AND PROJECT ENGINEER.
- NO CONSTRUCTION VEHICLES SHALL BE STORED, SERVICED, WASHED OR FLUSHED IN A LOCATION WHERE LEAKS, SPILLAGE, WASTE MATERIALS, CLEANERS, OR WATERS WILL BE INTRODUCED OR FLOW INTO WETLANDS OR WATERCOURSES. AN EMERGENCY MANAGEMENT PLAN AND SPILL KIT WILL BE MAINTAINED ON SITE AT ALL TIMES. IN THE EVENT OF AN ACCIDENTAL RELEASE, IMMEDIATELY STOP CONSTRUCTION WORK, CONTAIN THE SPILL, AND NOTIFY THE TOWN, APPROPRIATE AUTHORITIES AND PROJECT ENGINEER.
- THE PROJECT SITE IS SUBJECT TO FLOODING. THE CONTRACTOR SHALL MONITOR WEATHER FORECASTS AND STABILIZE THE CONSTRUCTION SITE AND REMOVE EQUIPMENT FROM FLOOD PRONE AREAS IN THE EVENT OF FLOOD WARNINGS. WORK SHOULD BE PERFORMED DURING LOW WATER AS POSSIBLE. EQUIPMENT AND MATERIALS MUST BE AVAILABLE TO ALLOW A RAPID RESPONSE TO STABILIZE OPEN CONSTRUCTION AREAS, EVACUATE WORKERS, EQUIPMENT, AND ANY STOCKPILED MATERIALS FROM POTENTIALLY IMPACTED AREAS, IF NEEDED.
- ALL STORAGE AND ACCESS ROUTES, PEDESTRIAN FENCES/BARRIERS, WORKING HOURS, AND LIMITS OF CLEARING SHALL BE APPROVED BY THE TOWN OF PLYMOUTH, LANDOWNERS AND THE PROJECT ENGINEER.
- ALL WETLANDS SHALL BE AVOIDED AND PROTECTED FROM CONSTRUCTION ACTIVITIES WITH SEDIMENT CONTROL MEASURES WHERE NECESSARY AS DETERMINED BY THE PROJECT ENGINEER.
- CLEARING OF NATIVE VEGETATION FOR CONSTRUCTION ACCESS SHOULD BE MINIMIZED.

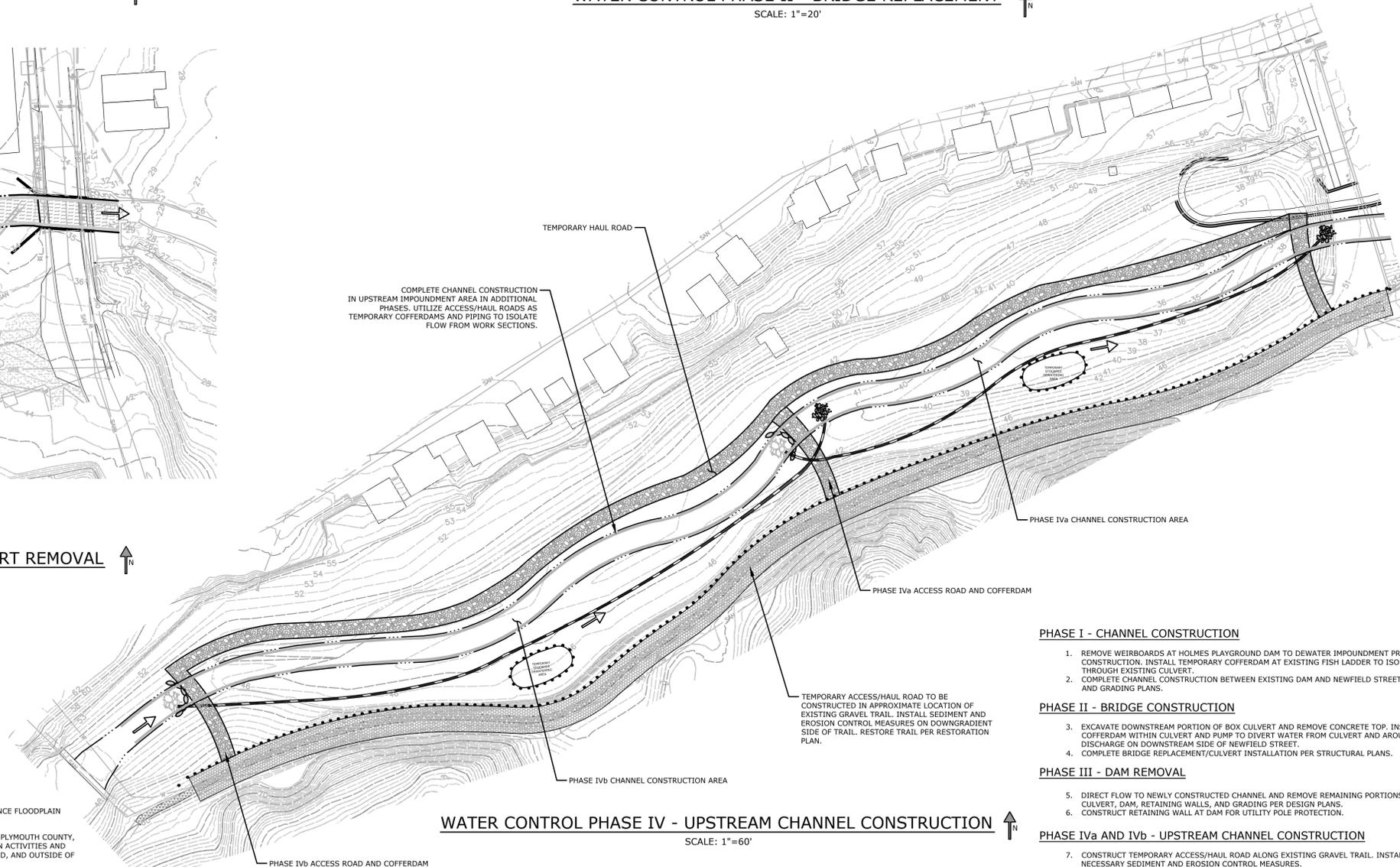
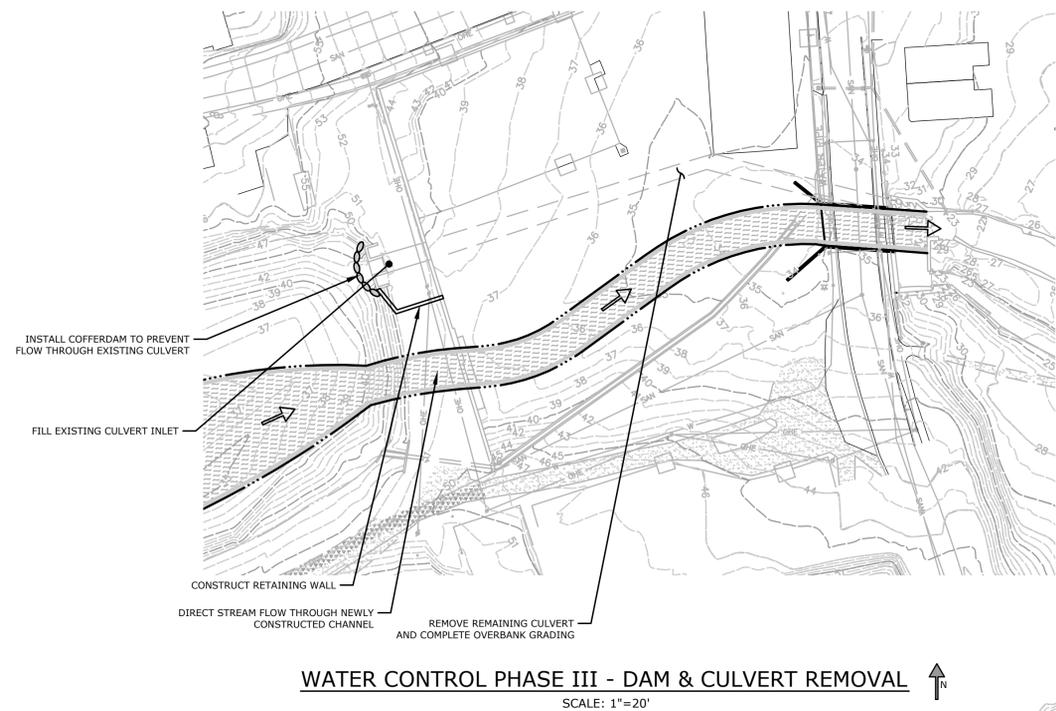
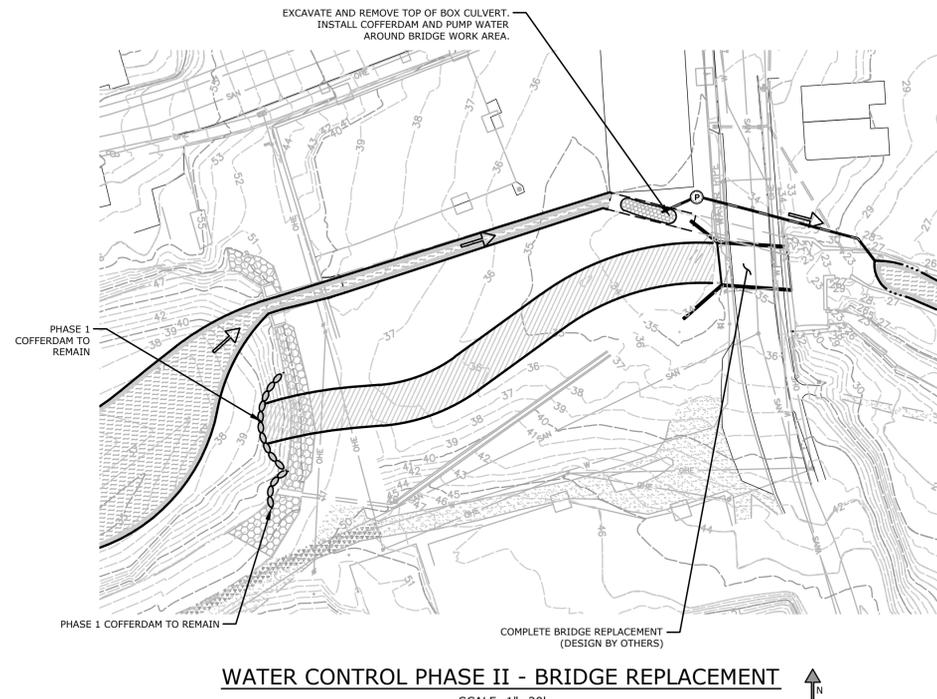
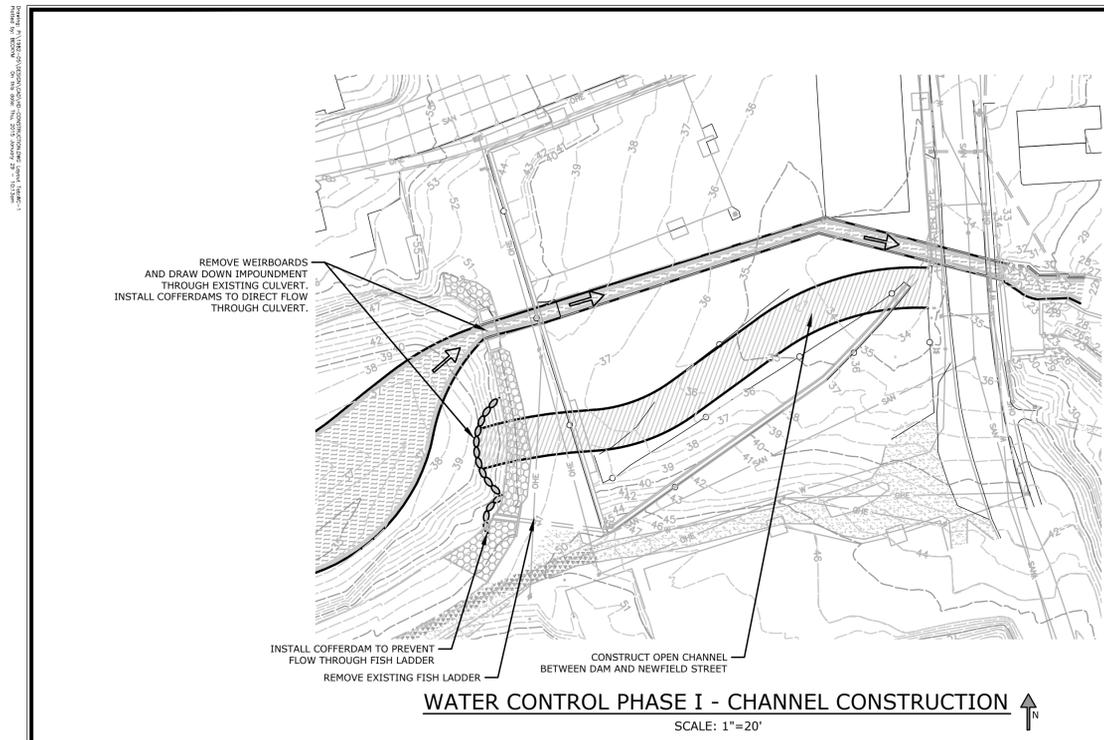


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DESCRIPTION	DATE	BY

SEDIMENT AND EROSION CONTROL PLAN
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS
 PRELIMINARY DESIGN

DESIGNED	BAM	WAG
DRAWN		CHECKED
SCALE		
1"=60'		
DATE		
JANUARY 30, 2015		
PROJECT NO.		
1982-05		
SHEET NO.		
10 OF 14		
SHEET NAME		
SE-1		

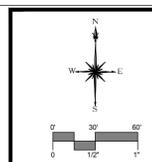


WATER CONTROL NOTES:

1. THE WATER CONTROL PLAN PRESENTED HERE-IN IS PROVIDED AS A RECOMMENDED APPROACH. THE CONTRACTOR IS RESPONSIBLE FOR WATER CONTROL DURING THE PROJECT, AND FOR SUBMITTING A PROPOSED WATER CONTROL PLAN TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.
2. PROJECT SITE IS SUBJECT TO FLOODING. CONTRACTOR SHALL MONITOR WEATHER REPORTS, AND BE PREPARED TO STOP WORK AND STABILIZE SITE IF MORE THAN ONE INCH (1") OF RAINFALL IS PREDICTED BY THE NATIONAL WEATHER SERVICE (70% CHANCE OR HIGHER). WORK SHALL BE HALTED UNTIL PRECIPITATION STOPS, AND CHANCES OF FURTHER RAINFALL FALL BELOW 50%.
3. BYPASS PUMP (OR COMBINATION OF PUMPS) SHALL BE RATED TO HANDLE A MINIMUM FLOW 150% OF THE MEAN SUMMER FLOW, WHICH IS 22 CUBIC FEET PER SECOND (9,900 GALLON/MINUTE).
4. THERE SHALL BE NO CLAIMS FOR EXTRA COMPENSATION DUE TO DELAYS OR DAMAGE ASSOCIATED WITH HIGH WATER LEVELS FROM NATURAL EVENTS SUCH AS HEAVY RAINFALL, FLOODS, SNOW MELT, ETC.
5. THE DISCHARGE FROM THE BYPASS PUMPING SHALL BE CLEAR OF TURBIDITY OR DEBRIS. ANY TURBIDITY SHALL BE ADDRESSED THROUGH THE USE OF A SETTLING BASIN OR FRAC TANK, AS REQUIRED.
6. SEDIMENTS IMPOUNDED BEHIND THE DAM CONTAIN LOW LEVELS OF CONTAMINATION. IN THE EVENT OF A FLOOD OR HIGH WATER ON THE PROJECT SITE, THESE SEDIMENTS WILL BE KEPT FROM WASHING DOWNSTREAM. PROCEDURES TO CONTROL OF SEDIMENT EROSION SHALL BE PART OF THE WATER HANDLING PLAN SUBMITTED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

FLOOD CONTINGENCY NOTES

1. THE PROJECT SITE IS LOCATED WITHIN THE 1% ANNUAL CHANCE FLOODPLAIN ZONE, AND IS SUBJECT TO FLOODING.
2. IF 5" OF RAINFALL OR GREATER IS PREDICTED OR OCCURS IN PLYMOUTH COUNTY, THE CONTRACTOR SHALL IMMEDIATELY CEASE CONSTRUCTION ACTIVITIES AND RELOCATE ALL CONSTRUCTION EQUIPMENT/MATERIALS UPLAND, AND OUTSIDE OF THE 1% ANNUAL CHANCE FLOOD ZONE.
3. NO EQUIPMENT OR MATERIAL SHALL BE MOVED BACK TO THE SITE UNTIL THE TOWN BROOK WATER LEVELS RECEDE, AND ARE CONTAINED WITHIN ITS BANKS.



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DESCRIPTION	DATE	BY

PRELIMINARY DESIGN

WATER CONTROL PLAN
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

DESIGNED	BAM	WAG
DRAWN		
CHECKED		
SCALE	1"=60'	
DATE	JANUARY 30, 2015	
PROJECT NO.	1982-05	
SHEET NO.	11 OF 14	

WC-1

PLANTING NOTES

- EROSION CONTROLS SHALL BE INSTALLED, REPAIRED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD OF THE PROJECT OR UNTIL THE SITE IS FULLY STABILIZED BY VEGETATION (SEED MIX). EROSION CONTROLS SHALL THEN BE REMOVED FROM THE SITE.
- A PROFESSIONAL WETLAND SCIENTIST SHALL BE ON SITE TO MONITOR PLANTING OF FLOODPLAIN AREAS TO ENSURE COMPLIANCE WITH THE APPROVED PLANS.
- GRADING LINES DEPICTED ON THE PLAN FLOODPLAIN WETLAND PLANTING ZONE ARE DRAWN SMOOTHLY, ACTUAL SURFACE GRADES ACROSS FLOOD PLAIN 'FLOOR' SHALL REFLECT HUMMOCK AND HOLLOW TOPOGRAPHY OF NATURAL WETLANDS.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE A 6" MINIMUM DEPTH OF TOPSOIL FOR ALL LAWN AREAS TO BE RESTORED. ALL PLANTING BEDS SHALL HAVE 12" MINIMUM DEPTH OF TOPSOIL.
- THE SURFACE AND GROUNDWATER LEVELS SHALL BE MONITORED PRIOR TO PERMANENT PLANTING. AS A RESULT OF ACTUAL WATER LEVELS, THE CORRESPONDING PLANTINGS MAY NEED TO BE ADJUSTED IN THE FIELD.
- ALL PLANTINGS ARE TO BE PLANTED ONLY AFTER STABILIZATION OF CONTRIBUTING DRAINAGE AREAS.
- WETLAND PLANTINGS SHALL BE LIMITED TO THE PERIODS OF APRIL 15 - JUNE 30, OR SEPTEMBER 15 - OCTOBER 15. ONLY QUALITY NATIVE PLANTS FROM A NURSERY SHALL BE USED.
- ALL WOODY PLANT MATERIAL SHALL BE PROVIDED IN CONTAINERS THAT ARE APPROPRIATELY SIZED FOR THE SPECIFIED PLANT. HERBACEOUS PLANT MATERIAL SHALL BE PLUGS AND CONTAINERIZED. WETLAND PLANTS SHALL HAVE BEEN GROWN IN A LOCAL/REGIONAL NURSERY.
- SUPPLEMENTAL HERBACEOUS PLANTINGS SHALL BE CONCENTRATED IN GROUPINGS, TO BE DETERMINED. HERBACEOUS PLANTINGS TO BE PLUGS TWO FOOT ON CENTER. SHRUB PLANTINGS TO BE 36" O.C. (DEPENDENT UPON SPECIES), OR AS DIRECTED BY THE SUPERVISING WETLAND SCIENTIST.
- ALL TUBERS AND ROOT STOCK SHALL BE PUSHED ONE TO TWO INCHES DEEP INTO THE ORGANIC SOIL & SPACED AS SPECIFIED. PLANTS WITH GROWING STEMS SHALL BE PLANTED SUCH THAT THE GROWING STEM EXTENDS ABOVE THE SOIL SURFACE. WEIGHTING OF TUBERS & ROOT STOCK WITH FENCE STAPLES AND/OR EIGHT PENNY NAILS MAY BE REQUIRED IF DISLODGING & FLOATING IS A PROBLEM.
- THE SOILS IN THE PROJECT AREA SHALL BE SEEDED WITH DESIGNATED NATURALIZED ZONE, RIPARIAN AREA PLANTING ZONE, AND FLOODPLAIN AREA PLANTING ZONE SEED MIXES AS NOTED IN PLANT LIST. ALL PLUGS & SEED MIXES SPECIFIED BY NEW ENGLAND WETLAND PLANTS INC. 800 MAIN ST. AMHERST, MA 01002 (413) 256-1752 OR APPROVED EQUIVALENT.
- ALL PLANT MATERIALS SHALL CARRY A FULL GUARANTEE FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE TOWN AND SUPERVISING WETLAND SCIENTIST, TO INCLUDE PROMPT TREATMENT OR REMOVAL AND REPLACEMENT OF ANY PLANTS FOUND TO BE IN AN UNHEALTHY CONDITION BY THE WETLAND SCIENTIST. ALL REPLACEMENTS SHALL BE OF THE SAME KIND AND SIZE OF PLANTS SPECIFIED IN THE PLANT LIST.
- MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL ACCEPTANCE BY THE WETLAND SCIENTIST. MAINTENANCE SHALL INCLUDE WATERING, MULCHING, TIGHTENING AND REPLACING OF GUYS, REPLACEMENT OF SICK OR DEAD PLANTS, RESETTING PLANTS TO PROPER GRADE OR UPRIGHT (PLUMB) POSITION, RESTORATION OF SAUCERS, AND ALL OTHER CARE NEEDED FOR PROPER GROWTH OF THE PLANTS.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE A 4" MIN. DEPTH OF SHREDDED MULCH OVER ALL PLANTING BEDS AND TREE PLANTINGS.
- ALL PLANT MATERIAL IS SUBJECT TO INSPECTION AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO AND AFTER PLANTING.
- PLANT SPECIES MAY BE ADJUSTED BASED ON AVAILABILITY AT TIME OF PLANTING. ALL PLANT MATERIAL SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
- MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL ACCEPTANCE BY THE LANDSCAPE ARCHITECT. MAINTENANCE SHALL INCLUDE WATERING, MULCHING, TIGHTENING AND REPLACING OF GUYS, REPLACEMENT OF SICK OR DEAD PLANTS, RESETTING PLANTS TO PROPER GRADE OR UPRIGHT (PLUMB) POSITION, RESTORATION OF SAUCERS, AND ALL OTHER CARE NEEDED FOR PROPER GROWTH OF THE PLANTS.
- CONTRACTOR TO REMOVE TREE STAKES AFTER ONE GROWING SEASON.

NEW ENGLAND CONSERVATION/WILDLIFE MIX

1750 sq ft/lb
 SPECIES: Virginia Wild Rye, (Elymus virginicus), Little Bluestem, (Schizachyrium scoparium), Big Bluestem, (Andropogon gerardii), Creeping Red Fescue, (Festuca rubra), Switch Grass, (Panicum virgatum), Partridge Pea, (Chamaecrista fasciculata), Deer Tongue, (Panicum clandestinum), Indian Grass, (Sorghastrum nutans), Ox Eye Sunflower, (Helianthus scaberrimus), Common Milkweed, (Asclepias syriaca), Spotted Joe Pye Weed, (Eupatorium maculatum), Grass Leaved Goldenrod, (Euthamia graminifolia), Blue Vervain, (Verbena hastata), New England Aster, (Aster novae-angliae), Early Goldenrod, (Solidago juncea).

TURF RESTORATION SEED MIX

	PERCENT BY WEIGHT	MIN. PURITY	MIN. GERMINATION
Liberator Kentucky Blue Grass (as manufactured by Jacklin Seed)	40	98	98
*Victory II Chewing Fescue (as manufactured by Burlingham Seeds, LLC)	20	98	85
*Epic Strong Creeping Red Fescue (as manufactured by Proseeds Marketing, Inc.)	20	98	85
Spartan Hard fescue (as manufactured by Pickseed West, Inc.)	20	96	85

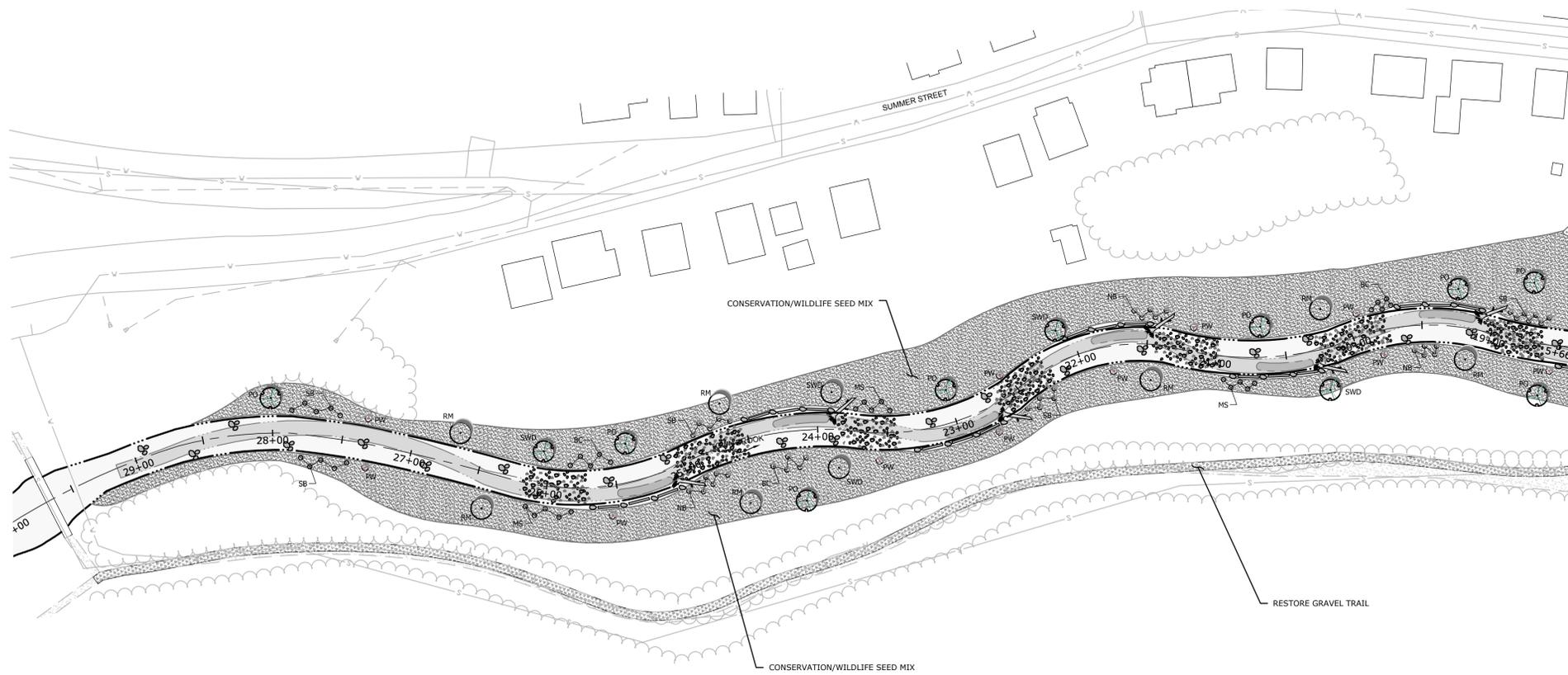
* High Endophyte

Seeding Rate - 220 lb/acre

The seed mixture is to have no noxious weeds. Other cultivars of Perennial Ryegrass, Chewing Fescue and Creeping Fescue with high endophyte, Hard Fescue, and Kentucky Bluegrass may be substituted for the above listed cultivars with the approval of the owner. However, the same number of species and cultivars with their percentage by weight in the mixtures must remain the same as specified above.

RESTORE GRAVEL TRAIL

NOTE: ALL DISTURBED AREAS TO RECEIVE 6" TOPSOIL. CONSTRUCTION HAUL ROADS TO RECEIVE 12" TOPSOIL.



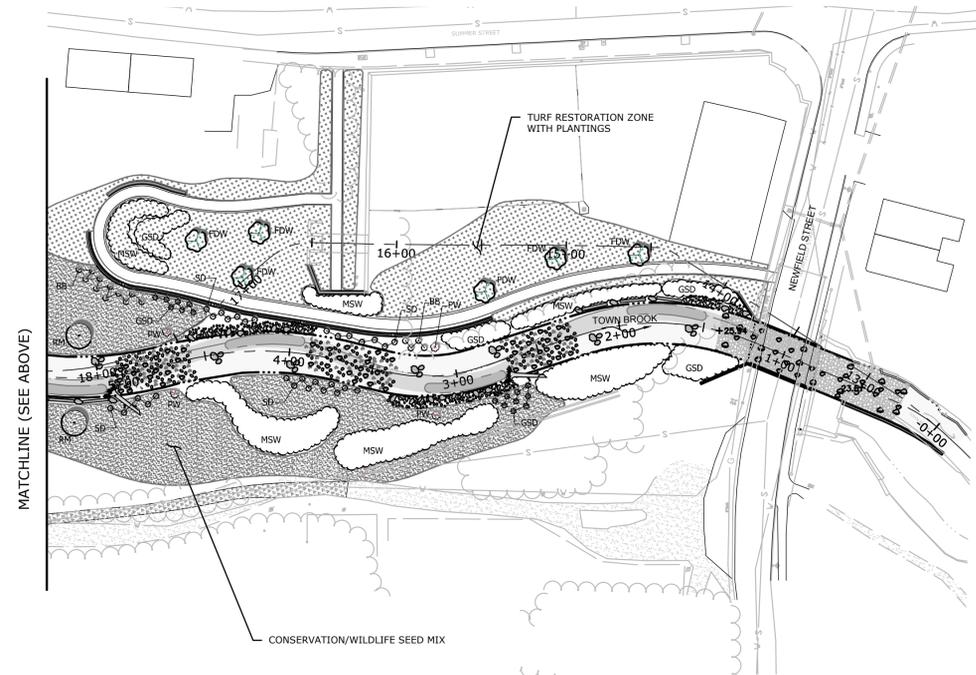
RIPARIAN PLANTINGS

SHRUBS

KEY	BOTANICAL NAME	COMMON NAME	COMMENTS
BB	Morella pensylvanica	Bayberry	3'-4'
BC	Aronia melanocarpa	Black Chokeberry	3'-4'
SB	Amelanchier canadensis	Shadblow	3'-4'
MS	Spiraea latifolia	Meadowsweet	3'-4'
NB	Viburnum lentago	Nannyberry	3'-4'
SA	Ainus rugosa	Speckled Alder	3'-4'
SP	Clethra alnifolia	Sweet Pepperbush	3'-4'
SD	Cornus amomum	Silky Dogwood	3'-4'
LB	Vaccinium Angustifolium	Lowbush Blueberry	2 GALLON, 48" O.C.
GSD	Cornus racemosa	Grey Stemmed Dogwood	3 GALLON, 48" O.C.
PW	Cornus racemosa	Pussy Willow	2 GALLON, 48" O.C.

TREES

KEY	BOTANICAL NAME	COMMON NAME	COMMENTS
PO	Quercus palustris	Pin Oak	2"-2.5" CAL./B&B
SWO	Quercus bicolor	Swamp White Oak	2"-2.5" CAL./B&B
RM	Acer rubrum	Red Maple	2"-2.5" CAL./B&B



GRAPHIC SCALE (IN FEET)
 SCALE 1" = 50'

MILONE & MACBROOM®
 99 Reilly Drive
 Cheshire, Connecticut 06410
 (203) 271-1773 Fax (203) 272-9733
 www.miloneandmacbroom.com

DESCRIPTION	DATE	BY

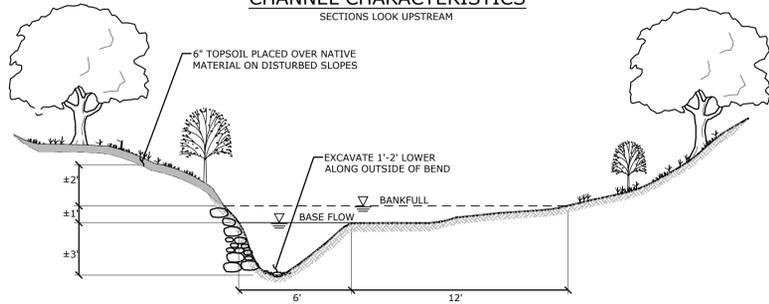
RESTORATION PLAN
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
 NEWFIELD STREET
 PLYMOUTH, MASSACHUSETTS

PRELIMINARY DESIGN

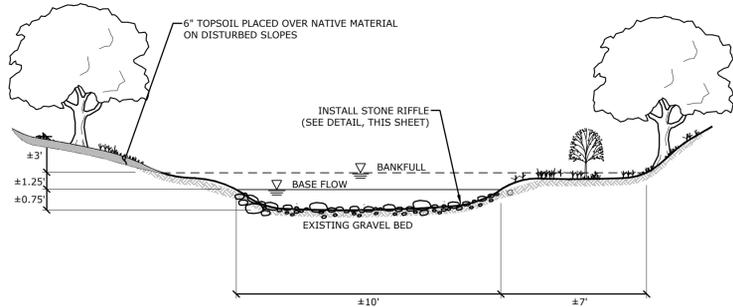
MJS DESIGNED	BAM DRAWN	WAG CHECKED
SCALE 1"=50'		
DATE JANUARY 30, 2015		
PROJECT NO. 1982-05		
SHEET NO. 12 OF 14		
RE-1		

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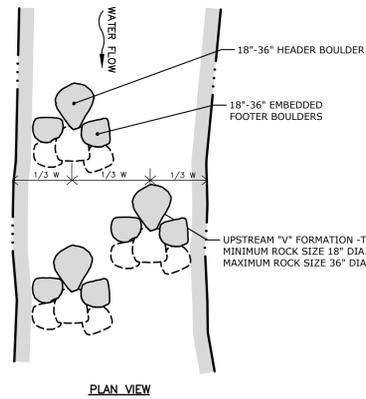
CHANNEL CHARACTERISTICS
SECTIONS LOOK UPSTREAM



POOL FLOW AREA
(SCALE: N.T.S.)
*NOTE: ALL DIMENSIONS WILL VARY



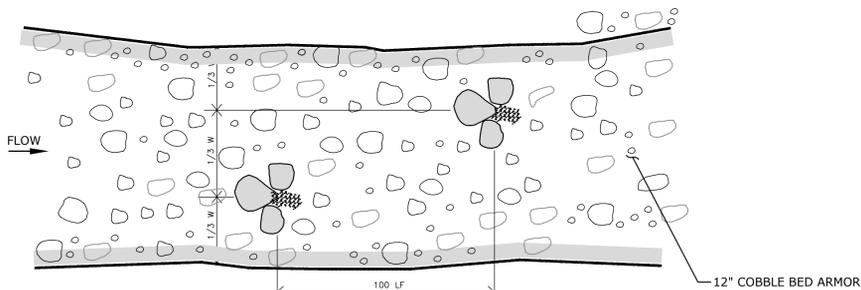
ROCK RIFFLE FLOW AREA
(SCALE: N.T.S.)
*NOTE: ALL DIMENSIONS WILL VARY



RANDOM BOULDER CLUSTER
(SCALE: N.T.S.)

RANDOM BOULDER CLUSTER NOTES:

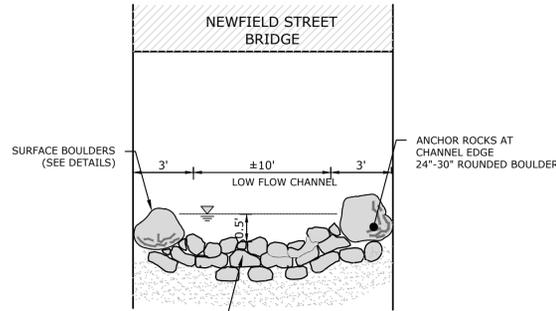
- CLUSTERS SHOULD NOT BE EVENLY SPACED FROM EACH OTHER.
- PLACE 1/3 OF ALL BOULDER CLUSTERS AT TOE OF BANK
- POSITION BOULDER GROUPS IN AN UPSTREAM OR DOWNSTREAM "V" FORMATION.
- BOULDERS SHOULD BE 18" TO 36" IN DIAMETER.
- POSITION BOULDERS WITH THEIR LONG AXIS PARALLEL TO THE STREAM FLOW.
- INSTALL FOOTER BOULDER TO WEDGE HEADER BOULDER IN PLACE FROM DOWNSTREAM.
- INSTALL HEADER BOULDERS AT A LOW PROFILE SUCH THAT THEY ARE PARTIALLY SUBMERGED DURING NORMAL LOW FLOW. INSTALL SUCH THAT 1/2 OF ROCK DIAMETER IS BURIED IN STREAM CHANNEL.
- FINISHED ELEVATION OF THE BOULDERS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.



COBBLE BED ARMOR
(SCALE: N.T.S.)

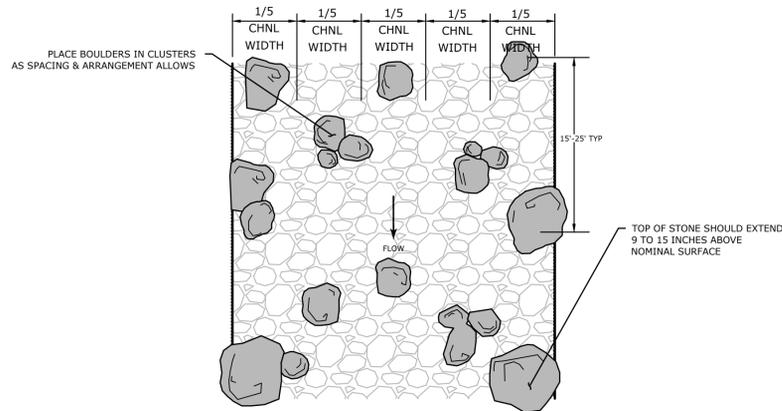
COBBLE BED ARMOR NOTES:

- PLACE 6" TO 9" DIAMETER STONES TO DEPTH SHOWN ON PLAN.
- PLACE 6" DEPTH EXCAVATED CHANNEL MATERIAL OVER COBBLES AND MECHANICALLY WORK SMALLER MATERIAL IN TO COBBLE.
- STONES MAY EXTEND ABOVE NOMINAL CHANNEL GRADE TO CREATE SURFACE ROUGHNESS. STONES SHOULD NOT BLOCK MORE THAN 1/2 OF TOTAL CROSS SECTION.



INSTALL MASS DOT DUMPED RIPRAP (M2.02.2) TO GRADE AS GIVEN ON PROFILE AND SECTIONS.

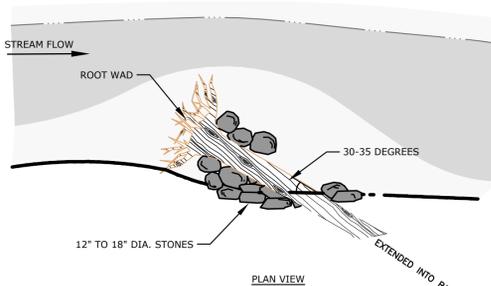
RAPIDS THROUGH NEWFIELD STREET - SECTION
(SCALE: N.T.S.)



SURFACE BOULDERS
(SCALE: N.T.S.)

NOTES:

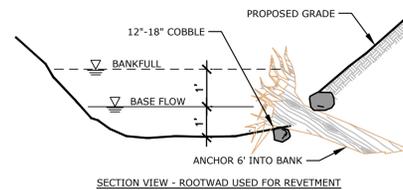
- USE 18" TO 30" INCH DIAMETER ROUNDED BOULDERS.
- BURY BOULDERS IN THE CHANNEL BED MATERIAL 1/2 TO 2/3 THEIR TOTAL HEIGHT.
- PLACE BOULDERS IN EACH OF THE FIVE SECTIONS OF THE RAPIDS. POSITION BOULDERS WITH THE LONG AXIS OF EACH BOULDER PARALLEL TO THE CHANNEL FLOW DIRECTION. THE FINISHED ELEVATION OF THE BOULDERS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PLACE BOULDERS APPROXIMATELY THREE TO FIVE FEET APART IN THE DOWNSTREAM DIRECTION.
- PLACE 24"-36" ROUNDED BOULDERS ALONG CHANNEL EDGE EVERY 15' TO 25'.



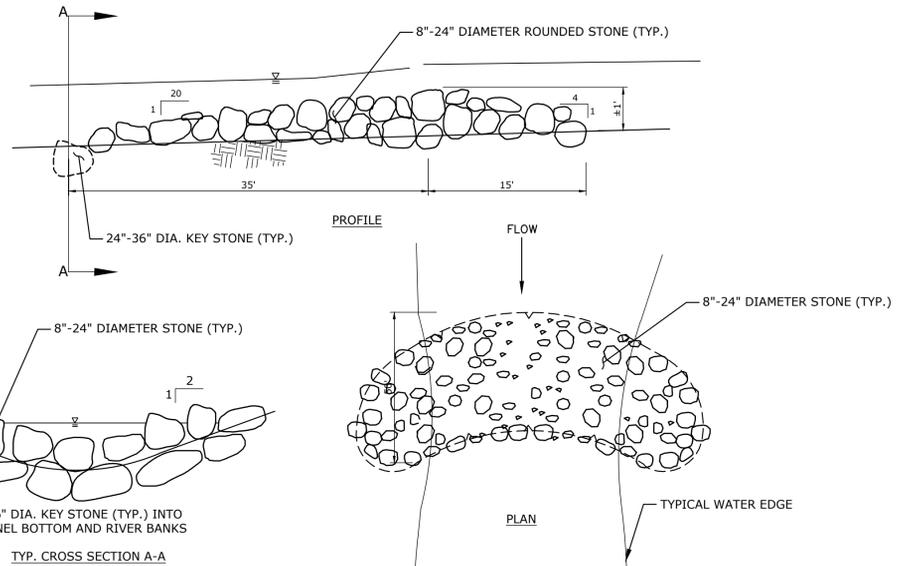
NOTES:

- USE 8 TO 12 INCH DIAMETER LOGS WITH ROOT WADS.
- INSTALL THE LOG WITH ROOT WAD RESTING ON OR DRIVEN DOWN IN TO THE STREAM BOTTOM AT A 30-35 DEGREE ANGLE FROM THE STREAM BANK.
- ANCHOR THE TRUNK AT LEAST 6 FEET INTO THE STREAM BANK.
- USE 12" TO 18" DIAMETER STONES UPSTREAM AND DOWNSTREAM OF THE STRUCTURE TO PROTECT IT FROM EROSION. STONES SHALL BE ROUNDED RIVER STONES, AS APPROVED BY THE ENGINEER.
- INSTALL AT A LOW PROFILE SUCH THAT THE TRUNK IS RESTING ON PROPOSED GRADE.
- FINISHED ELEVATION OF THE ROOT WAD WILL BE DETERMINED IN THE FIELD.
- CONTRACTOR TO FURNISH AND INSTALL ROOT WAD. WORK SHALL BE INCLUDED IN THE ITEM "INSTREAM FEATURES". CONTRACTOR SHALL RECEIVE APPROVAL FROM ENGINEER FOR USE OF SPECIFIC ROOT WADS.

ROOT WAD INSTALLATION



SECTION VIEW - ROOTWAD USED FOR REVETMENT



ROCK RIFFLE
N.T.S.

ROCK RIFFLE NOTES:

- SELECTED CORE BOULDERS SHOULD EXTEND ABOVE PROPOSED GRADE. CORE BOULDERS TO BE BURIED BY MINIMUM 1/2 TOTAL ROCK HEIGHT.
- PLACE RANDOM BOULDERS OVER FACE OF RIFFLE TO CREATE CHANNEL ROUGHNESS. DO NOT BLOCK MORE THAN 1/2 OF TOTAL CROSS SECTION WITH RANDOM BOULDERS.
- USE 10-12 SINGLE RANDOM BOULDERS PER RIFFLE.
- SINGLE RANDOM BOULDERS TO BE 18"-36" ROUNDED STONE, AS FOR RANDOM BOULDER CLUSTERS.
- ROOTWADS INSTALLED WITH RIFFLES SHOULD BE INSTALLED AT THE BANK ADJACENT THE FURTHEST UPSTREAM CREST.

INSTREAM FEATURES - PLACEMENT OF RANDOM BOULDER CLUSTERS, ROOT WADS, AND RANDOM COBBLE
(SCALE: N.T.S.)

NOTES:

- PURPOSE OF INSTREAM FEATURES IS TO MAINTAIN IRREGULARITY IN LOW FLOW CHANNEL.
- FINAL FEATURES PLACEMENT TO BE AT DIRECTION OF ENGINEER IN FIELD.
- 4 BOULDER CLUSTERS AND 2 ROOT WAD DEFLECTORS EVERY 100 FEET OF INDIVIDUAL QUANTITIES, MAY BE MODIFIED AS APPROVED BY ENGINEER. 5-6 TOTAL FEATURES EVERY 100 FEET.
- ROOT WADS SHALL BE 6" MIN. DIA., X 10' LENGTH, ANCHORED MIN. 6" INTO BANK. FINAL PLACEMENT OF LOG TO BE DIRECTED IN FIELD BY ENGINEER.

BY _____ DATE _____ DESCRIPTION _____

PRELIMINARY DESIGN

DETAILS (2)
HOLMES PLAYGROUND DAM REMOVAL
TOWN BROOK RESTORATION
NEWFIELD STREET
PLYMOUTH, MASSACHUSETTS

JGM	BAM	WAG
DESIGNED	DRAWN	CHECKED
SCALE: N/A		
DATE: JANUARY 30, 2015		
PROJECT NO.: 1982-05		
SHEET NO.: 14 OF 14		
SHEET NAME: D-2		

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