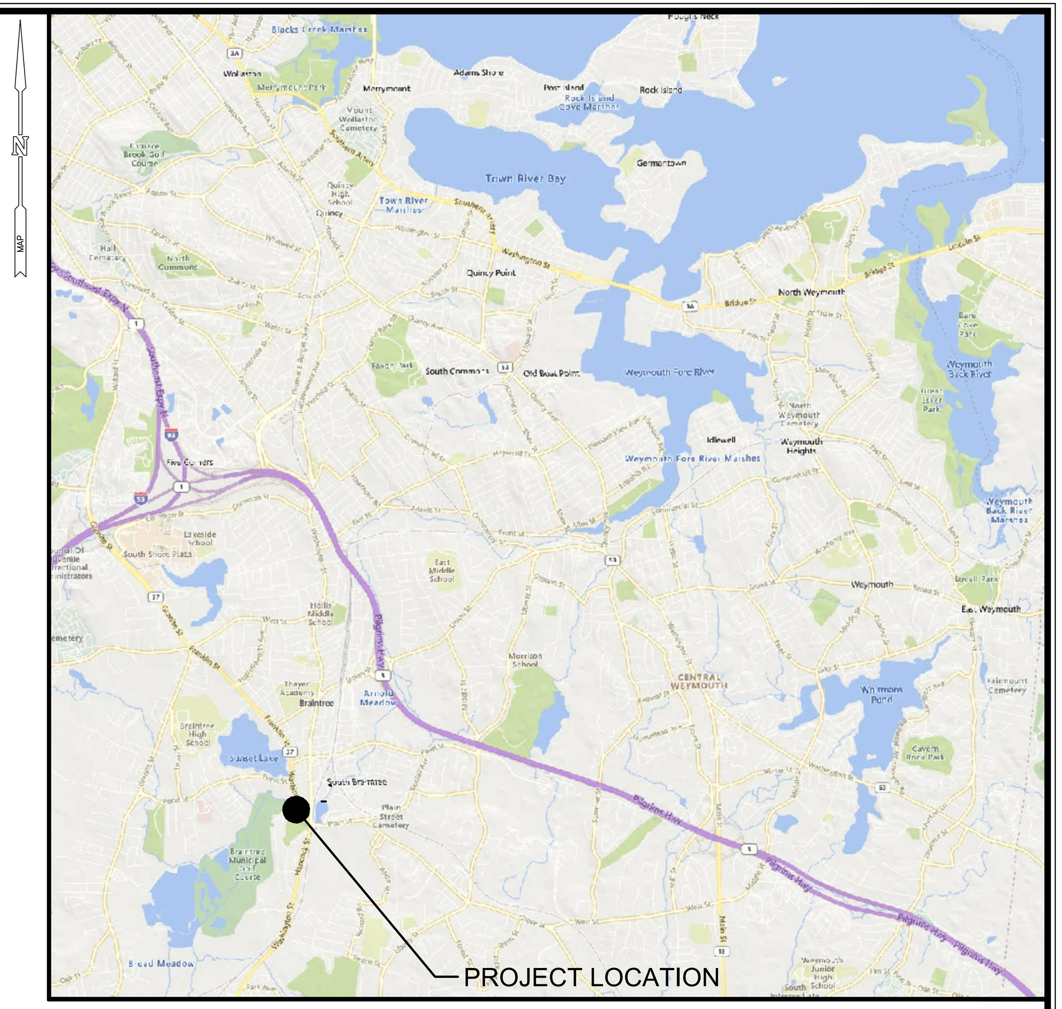
MONATIQUOT RIVER RESTORATION

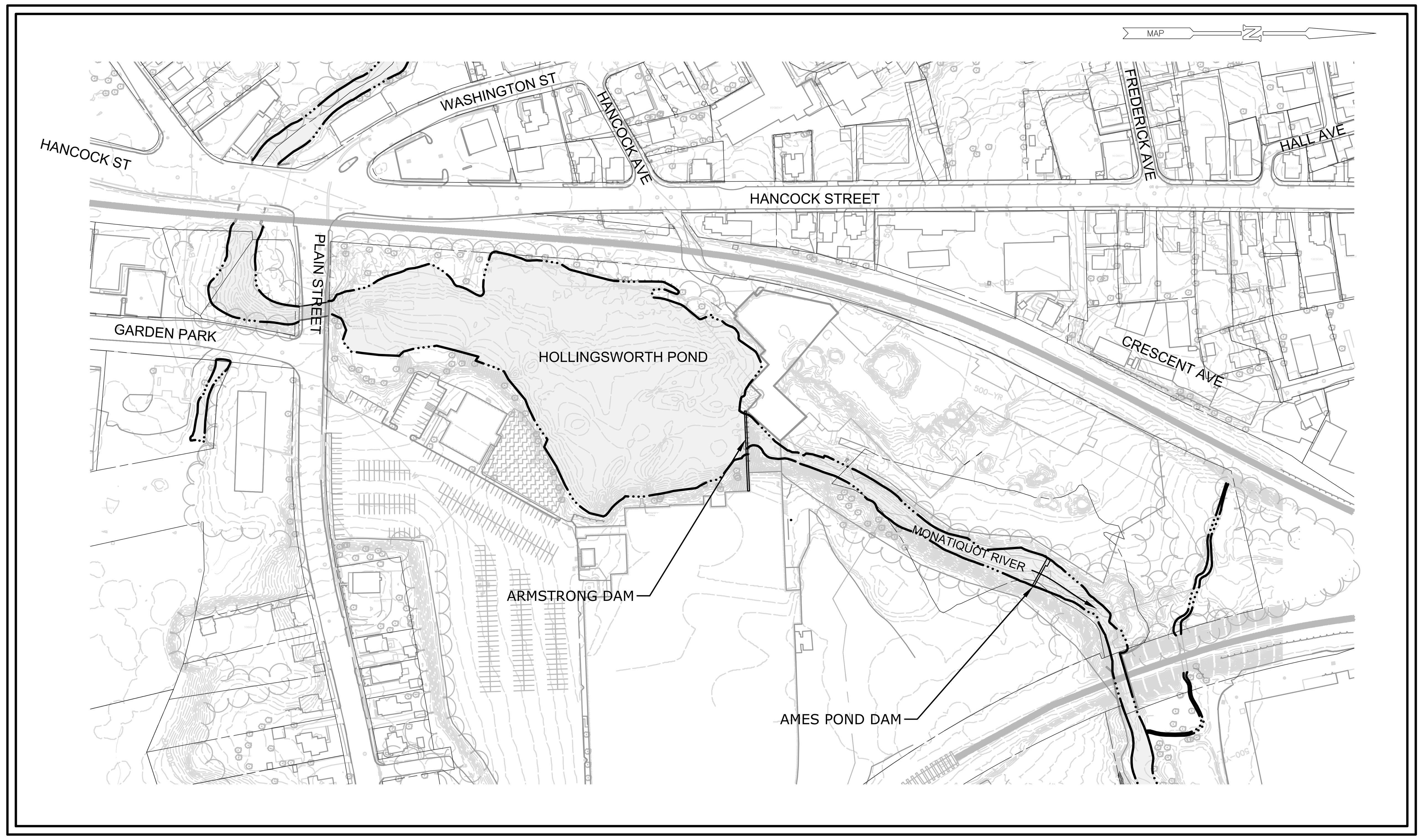
HANCOCK AVE
BRAINTREE, MA

100% FINAL DESIGN
MMI #6998-01
JUNE 30, 2021



LOCATION MAP:

SCALE 1" = 5000'



PROJECT SITE VICINITY MAP:

SCALE 1" = 150'

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PREPARED FOR:

THE TOWN OF BRAINTREE MA
1 JOHN F KENNEDY MEMORIAL DRIVE
BRAINTREE, MA 02184

FX MESSINA ENTERPRISES
400 FRANKLIN STREET
BRAINTREE, MA 02185

PREPARED BY:

SLR
99 REALTY DRIVE
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MAPPING AND SURVEY NOTES:

1. TOPOGRAPHIC INFORMATION IS BASED ON A COMBINATION OF BATHYMETRIC SURVEY, GROUND SURVEY, LIDAR, AND UAS AERIAL TOPOGRAPHY.

   1.1. UPLAND TOPOGRAPHIC CONTOURS AT ONE-FOOT INTERVALS BASED UPON ORTHOPHOTOGRAMMETRIC IMAGERY OBTAINED FROM UNMANNED AERIAL SYSTEM (UAS) FLIGHT PERFORMED BY MILONE AND MACBROOM, INC (MMI) ON JANUARY 14, 2020. GROUND CONTROL POINTS FOR FLIGHT OBTAINED BY MMI ON JANUARY 10, 2020.

   1.2. LIDAR TOPOGRAPHY OBTAINED FROM COMMONWEALTH OF MASSACHUSETTS ONLINE MAPPING TOOL (OLIVER) LIDAR 2011 AND 2014 AND OBTAINED ON FEBRUARY 22, 2018.

   1.3. PLANIMETRIC FEATURES INCLUDING SANITARY SEWER, STORM SEWER, AND WATER DISTRIBUTION SYSTEM INFORMATION PROVIDED BY GOMEZ AND SULLIVAN ENGINEERS AS DEPCITED ON 40% DESIGN PLANSET TITLED "ARMSTRONG AND AMES POND DAM REMOVALS, BRAINTREE, MA," SEPTEMBER 26, 2018.

   1.4. EXISTING WATERCOURSE EDGE, INLAND BANK AND BORDERING VEGETATED WETLANDS DETERMINED BY LEC IN 2016, AS SHOWN ON GOMEZ AND SULLIVAN ENGINEERS (GSE) 40% DESIGN PLANS, DATED SEPTEMBER 26, 2018.

2. HORIZONTAL MAPPING IS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), IN THE MASSACHUSETTS MAINLAND ZONE. ELEVATION DATA IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ALL CONTOURS ARE PRESENTED IN FEET.

3. ADDITIONAL BORDERING VEGETATED WETLANDS FLAGGING COMPLETED BY LEC IN 2016.

4. PROPERTY BOUNDARY INFORMATION WAS PROVIDED BY GOMEZ AND SULLIVAN ENGINEERS, AND IS FOR INFORMATIONAL PURPOSES ONLY. ASSESSORS-LEVEL INFORMATION IS APPROXIMATE, AND SHOULD NOT BE CONSIDERED COMPLETE OR CURRENT FOR PURPOSES OF CONSTRUCTION AND/OR EASEMENT NEGOTIATION.

5. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CONTACT "DIG SAFELY" BY CALLING 811. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.

6. GPR DATA FROM HAGER GEOSCIENCE INC, DATED AUGUST 25, 2017, WAS USED TO MAP THE BEDROCK AND SEDIMENT.

7. SLR INTERNATIONAL CORPORATION (SLR) ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.

8. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR DETERMINATION.

9. FLOOD HAZARD INFORMATION IS AN APPROXIMATE DEPICTION OF THE FLOODWAY, 100- AND 500- YEAR FLOOD BOUNDARY, DERIVED FROM THE FEMA DIGITAL FLOOD INSURANCE RATE MAP (DFIRM) DATED FEBRUARY 21, 2018.

10. THE PROJECT SITE INCLUDES THE MONATIQUOT RIVER AND IS SUBJECT TO FLOODING. INFORMATION DEPICTED HEREIN IS SHOWN AS A REPRESENTATION OF THE PROJECT SITE AT THE TIME IT WAS SURVEYED, AND IS SUBJECT TO CHANGE BASED UPON HIGH FLOWS, FLOOD, EROSION, AND/OR CHANGING SITE CONDITIONS.

11. ALL CONTRACTORS ARE ADVISED TO VISIT THE SITE TO CONFIRM CURRENT CONDITIONS PRIOR TO SUBMITTING BIDS.

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DESCRIPTION	DATE	BY

INDEX

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DESIGNED	DRAWN	CHECKED
DRM	DRM	WAG

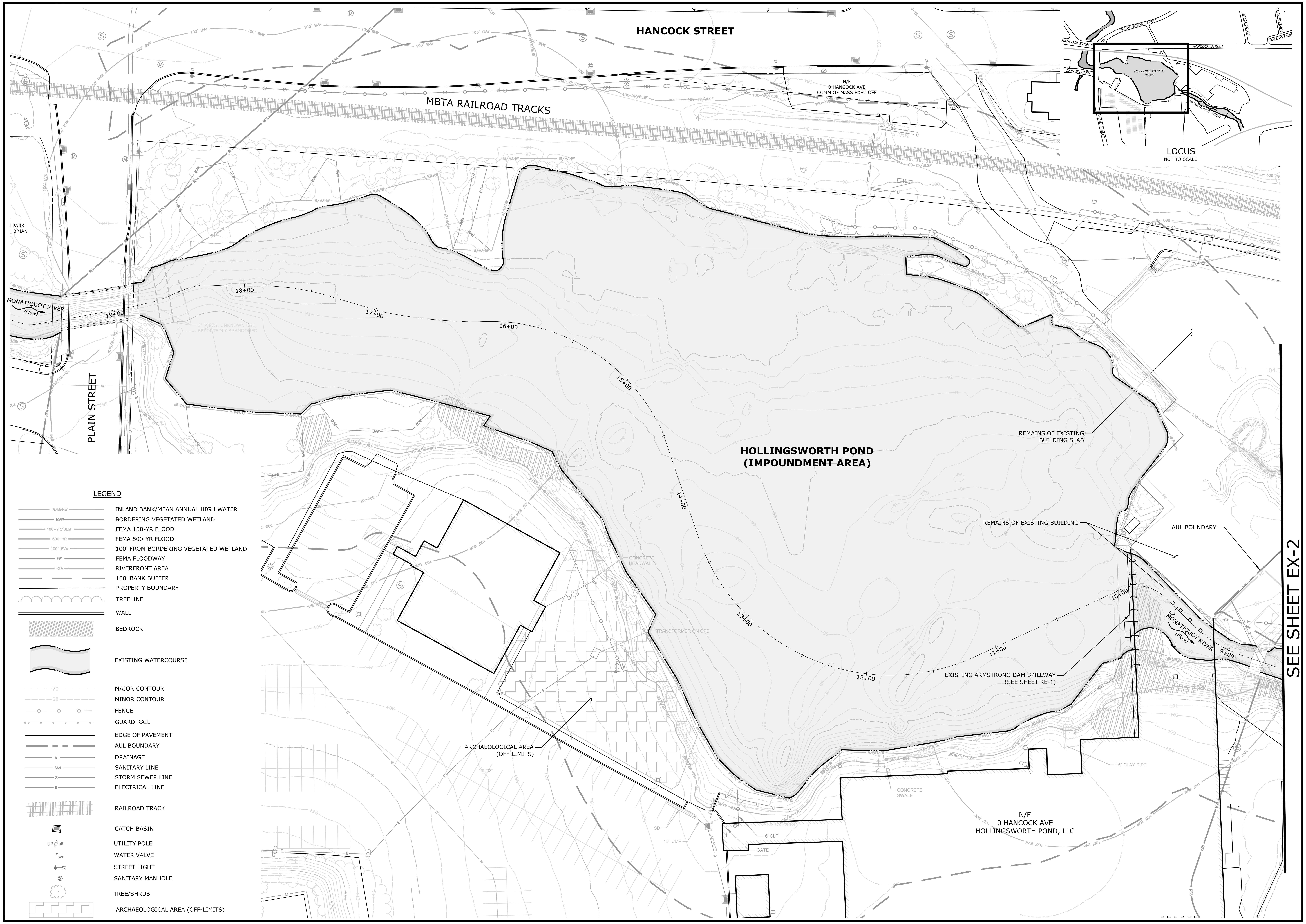
SCALE: 1"=60'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 2 OF 41

SHEET NAME: INDEX



0' 15' 30'
0 1/2" 1"

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DESCRIPTION	DATE	BY

EXISTING CONDITIONS - UPSTREAM

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	CME	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=30'

DATE: JUNE 30, 2021

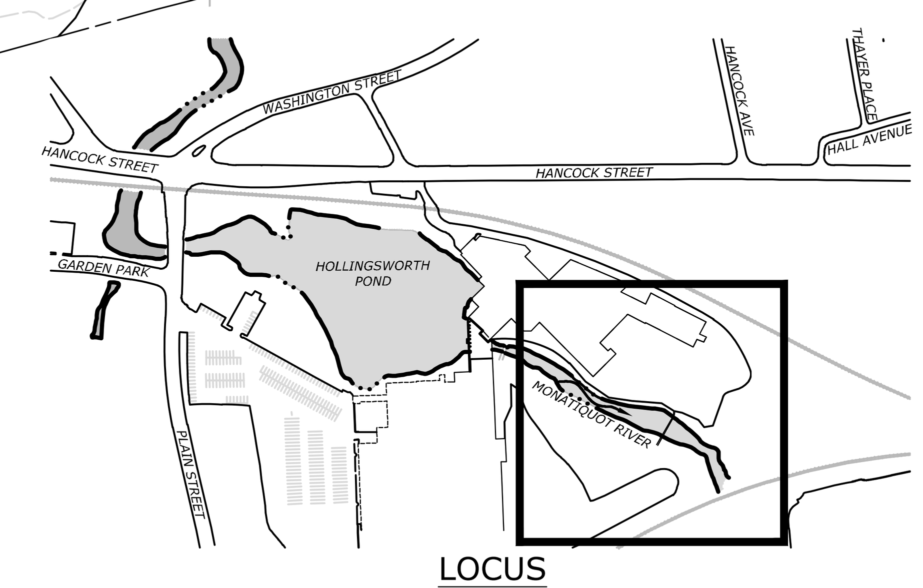
PROJECT NO.: 6998-01

SHEET NO.: 3 OF 41

SHEET NAME: EX-1

LEGEND

IB/MAHW	INLAND BANK/MEAN ANNUAL HIGH WATER
BVW	BORDERING VEGETATED WETLAND
100-YR/BLSF	FEMA 100-YR FLOOD
500-YR	FEMA 500-YR FLOOD
100' BVW	100' FROM BORDERING VEGETATED WETLAND
FW	FEMA FLOODWAY
RFA	RIVERFRONT AREA
	100' BANK BUFFER
	PROPERTY BOUNDARY
	TREELINE
	WALL
	BEDROCK
	EXISTING WATERCOURSE
70	MAJOR CONTOUR
68	MINOR CONTOUR
	FENCE
	GUARD RAIL
	EDGE OF PAVEMENT
	AUL BOUNDARY
D	DRAINAGE
SAN	SANITARY LINE
S	STORM SEWER LINE
E	ELECTRICAL LINE
	RAILROAD TRACK
	CATCH BASIN
UP	UTILITY POLE
WV	WATER VALVE
	STREET LIGHT
S	SANITARY MANHOLE
	TREE/SHRUB



LOCUS
NOT TO SCALE

0' 15' 30'
0 1/2" 1"

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DESCRIPTION	DATE	BY

EXISTING CONDITIONS - DOWNSTREAM

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	CME	WAG
DESIGNED	DRAWN	CHECKED

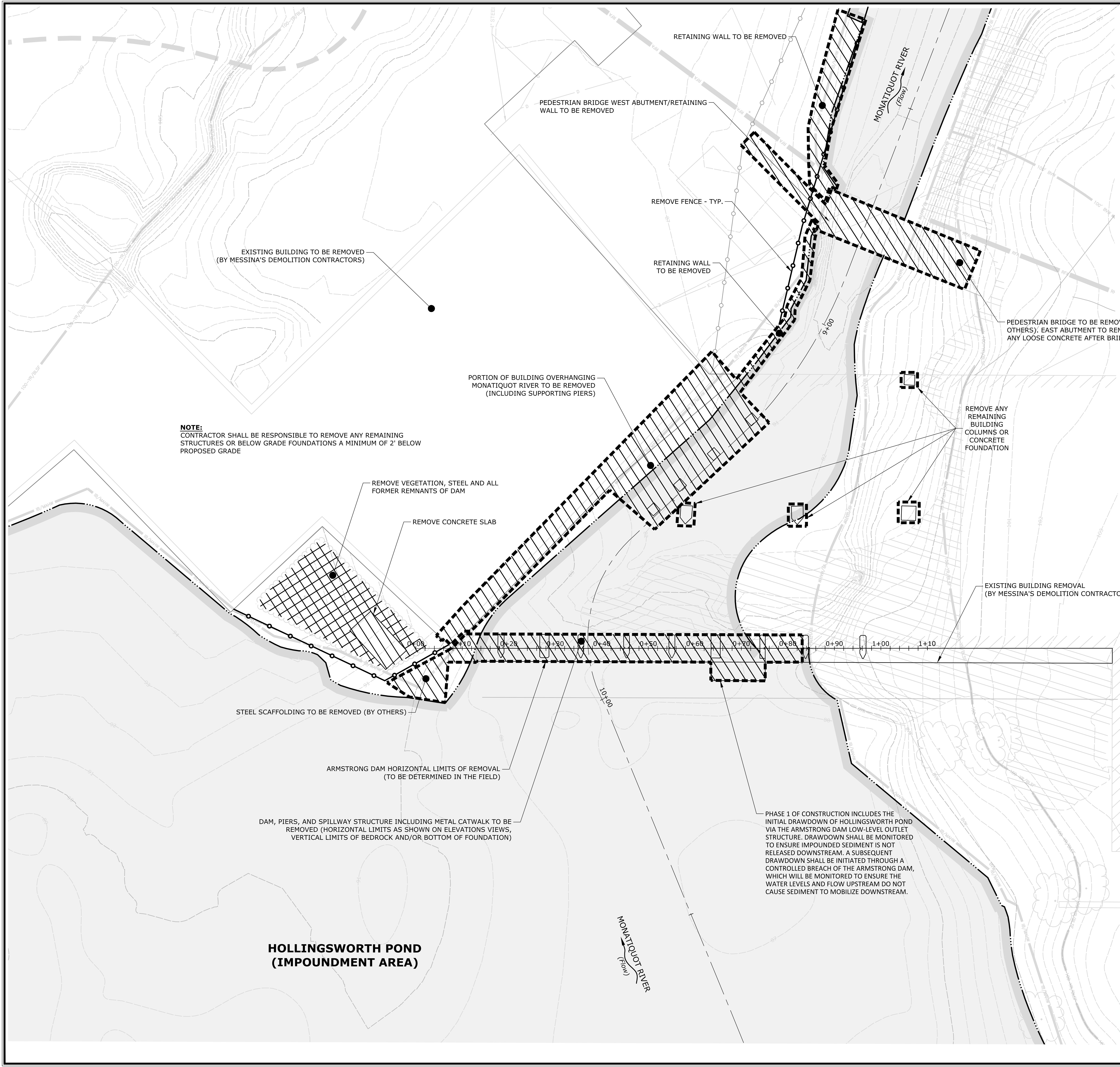
SCALE: 1"=30'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 4 OF 41

SHEET NAME: **EX-2**

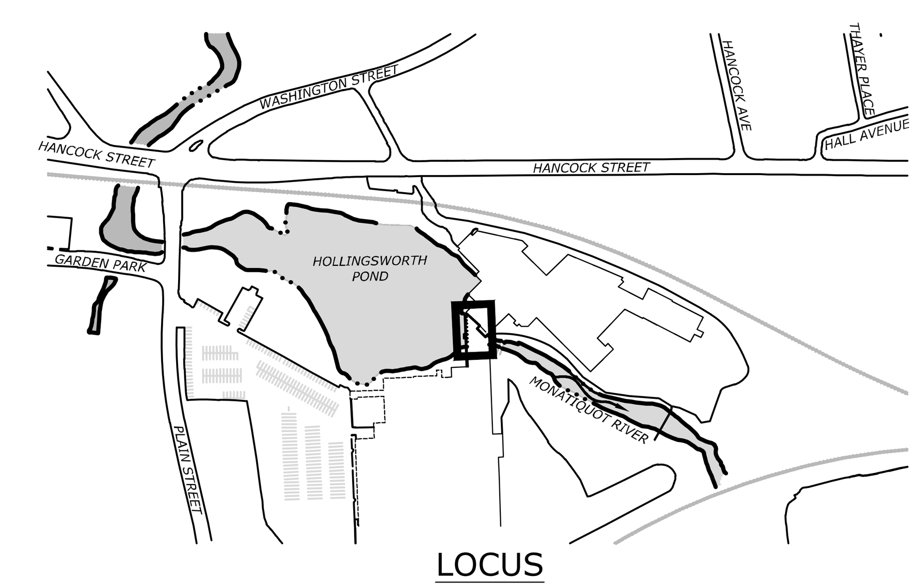


REMOVALS NOTES:

1. DEMOLITION OF THE FOLLOWING WILL BE COMPLETED BY THE PROPERTY OWNER PRIOR TO CONSTRUCTION: THE BUILDING STRUCTURE OVER THE RIVER INCLUDING THE STEEL SUPPORT STRUCTURE (NOT INCLUDING FOOTING PIERS), PEDESTRIAN BRIDGE (INCLUDING STEEL SUPPORT STRUCTURE, STAIRS, AND WOOD DECKING). PORTIONS TO REMAIN INCLUDE THE FOLLOWING: THE EAST ABUTMENT AND ALL POURED CONCRETE, THE FLOOR STRUCTURE OVERHANGING THE RIVER (DOWNSTREAM OF THE DAM), CONCRETE BEAM AND PIERS ATTACHED THE DAM.
2. DEMOLITION MATERIALS SHALL BE RECYCLED WHEN POSSIBLE.

LEGEND

LIMITS OF REMOVAL
FENCE TO BE REMOVED
STRUCTURE TO BE REMOVED
VEGETATION TO BE REMOVED
EXISTING BEDROCK



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REMOVALS PLAN - ARMSTRONG DAM

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DRM	DRM	WAG
DESIGNED	DRAWN	CHECKED

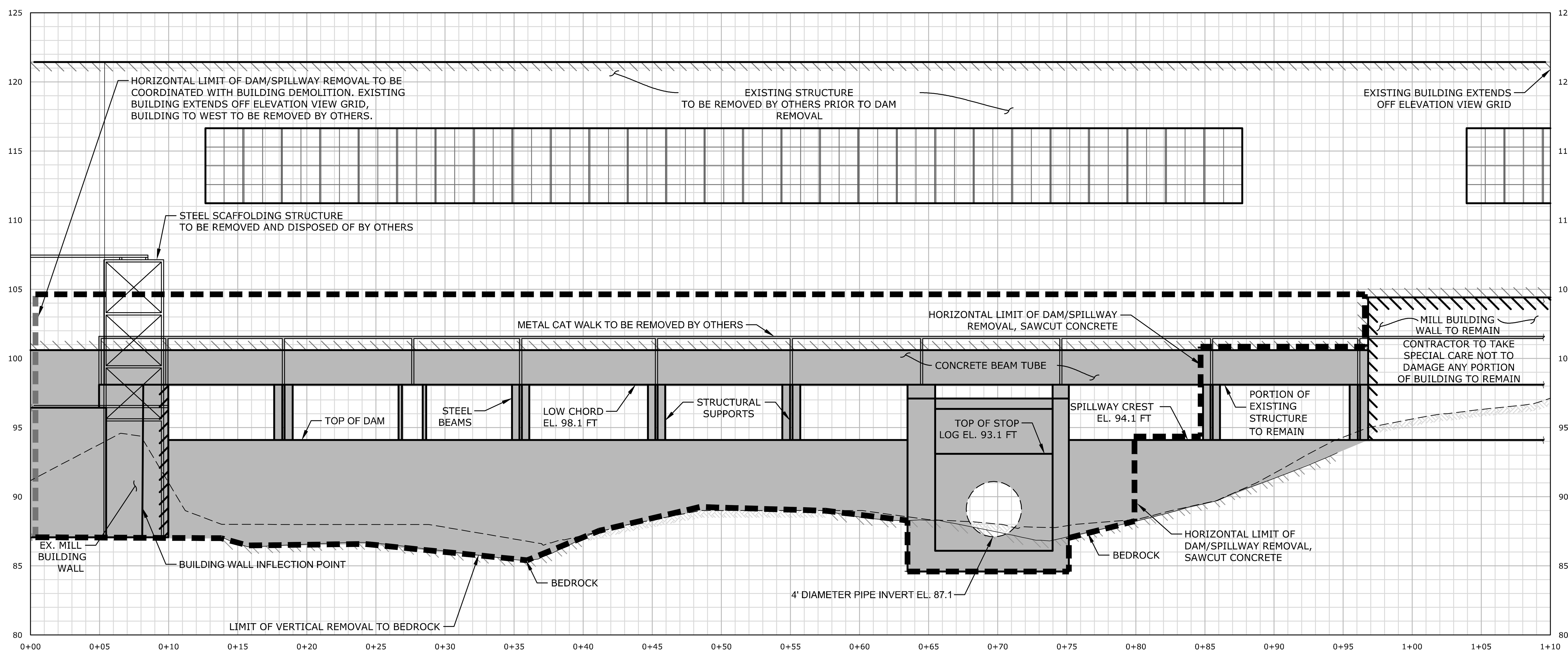
1"=10'
SCALE

JUNE 30, 2021
DATE

6998-01
PROJECT NO.

5 OF 41
SHEET NO.

RE-1
SHEET NAME



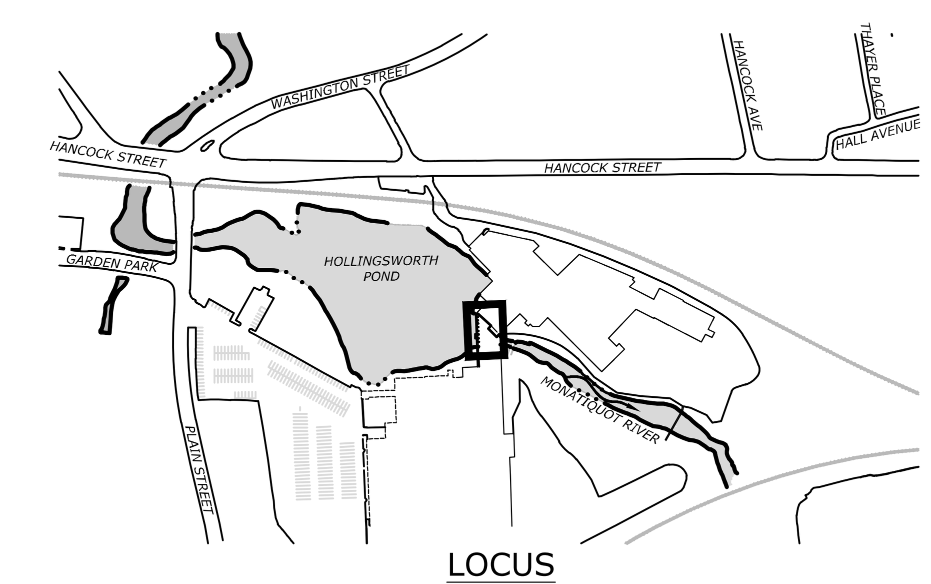
ARMSTRONG DAM - ELEVATION VIEW UPSTREAM FACE
(FACING DOWNSTREAM)
SCALE: 1" = 5'

LEGEND

- LIMITS OF REMOVAL
- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- EXISTING CONCRETE STRUCTURE

REMOVALS NOTES:

1. MATERIAL TO BE REMOVED AND DISPOSED OF OFFSITE.



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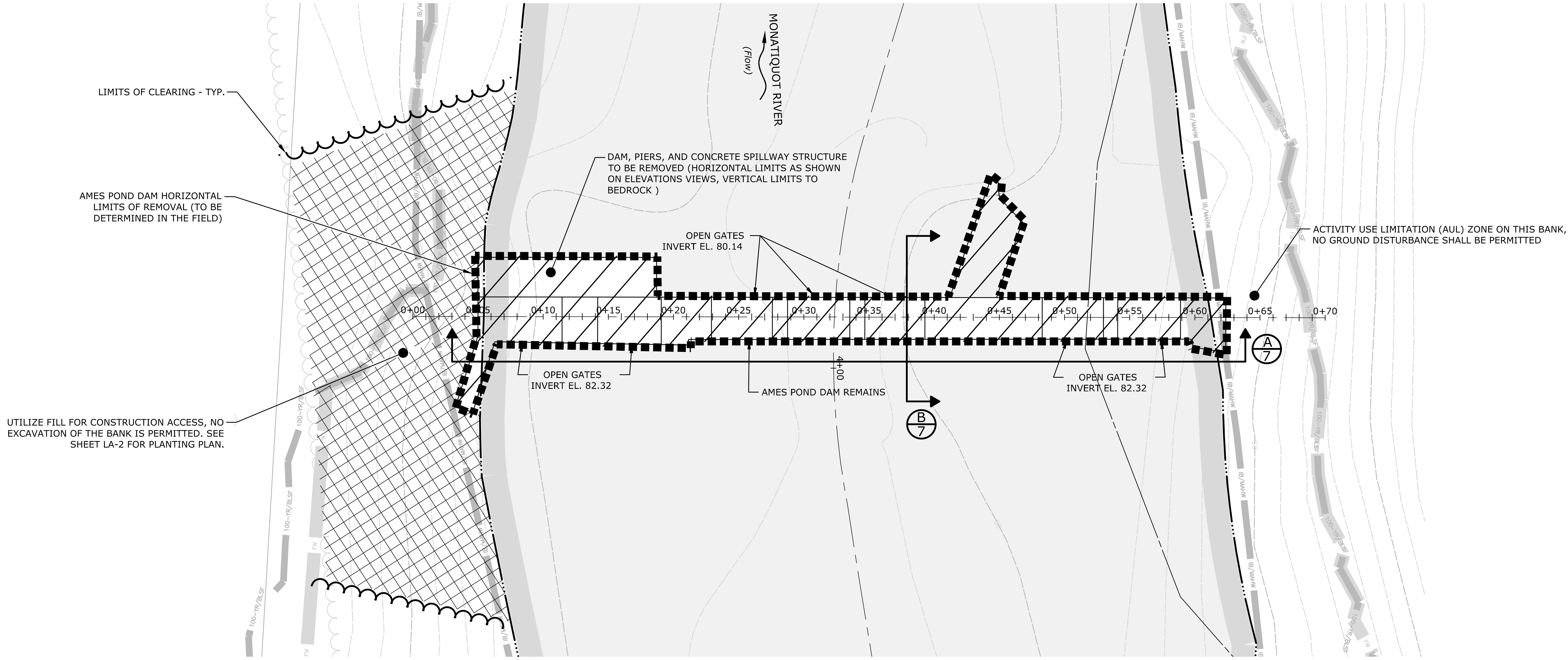
REMOVALS PLAN - ARMSTRONG DAM
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DRM	DRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=5'
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01
SHEET NO.: 6 OF 41
SHEET NAME: RE-2



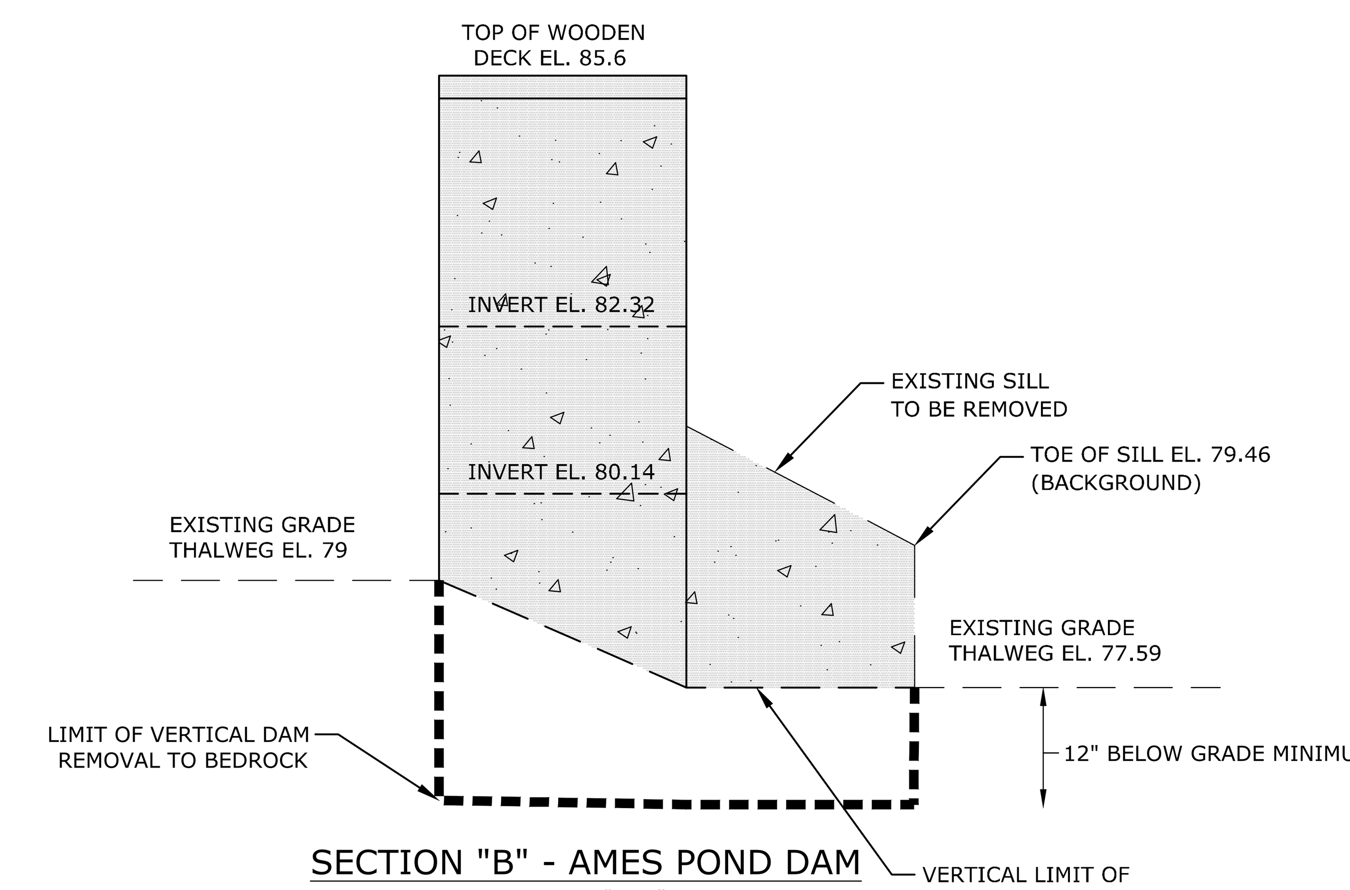
AMES POND DAM - PLAN VIEW
SCALE: 1" = 5'

LEGEND

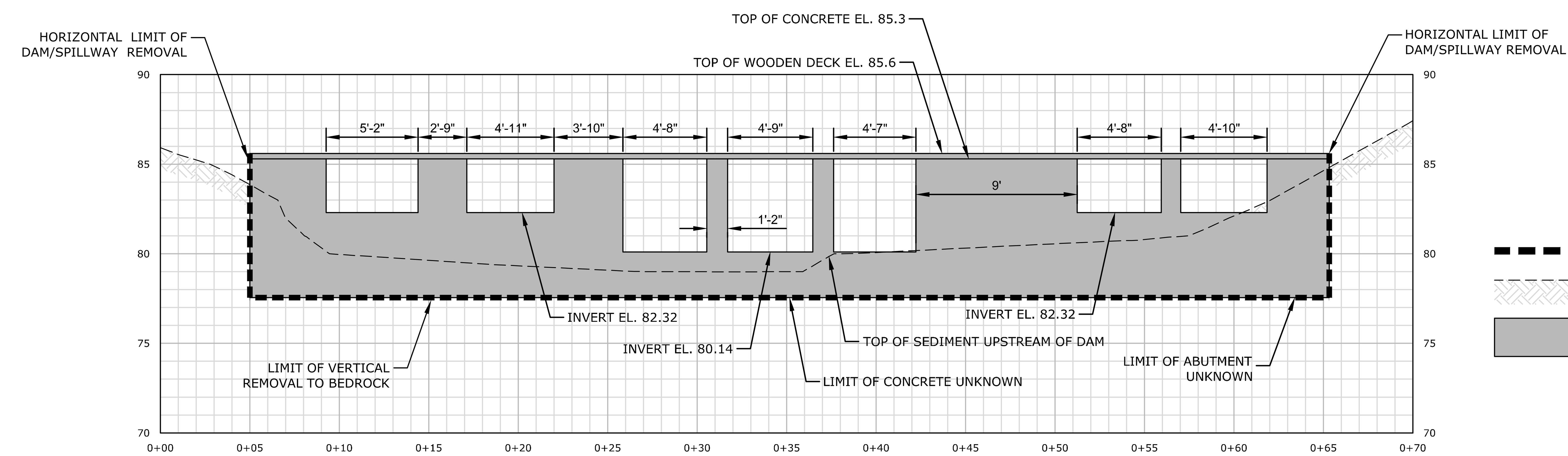
- LIMITS OF CLEARING
- LIMITS OF REMOVAL
- STRUCTURE TO BE REMOVED
- VEGETATION TO BE REMOVED

REMOVALS NOTES:

1. MATERIAL TO BE REMOVED AND DISPOSED OF OFFSITE.



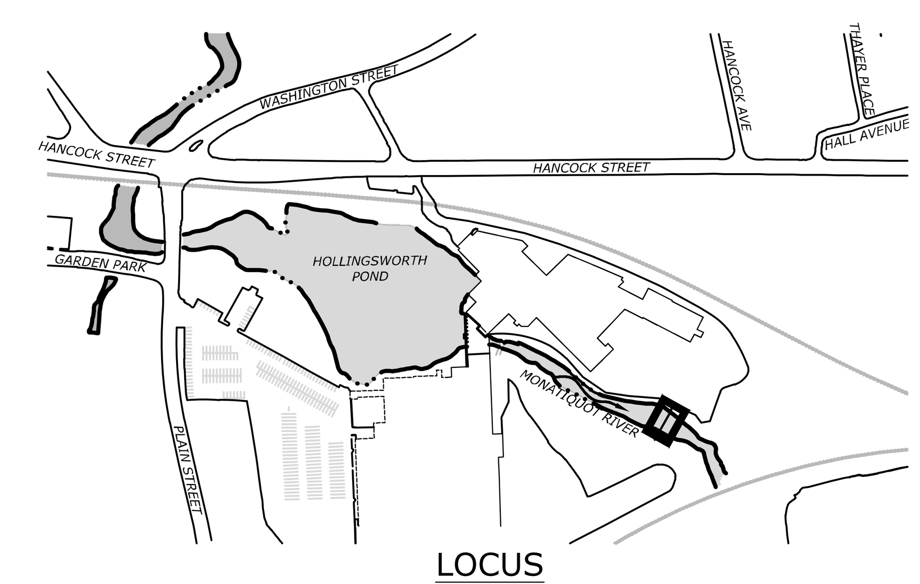
SECTION "B" - AMES POND DAM
SCALE: 1"=10'



ELEVATION "A" - AMES POND DAM
(FACING DOWNSTREAM)
SCALE: 1" = 5'

ELEVATION LEGEND

- LIMITS OF REMOVAL
- EXISTING GRADE
- EXISTING CONCRETE STRUCTURE



LOCUS
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REMOVALS PLAN - AMES POND DAM
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DRM	DRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: AS NOTED
DATE: JUNE 30, 2021
PROJECT NO. 6998-01
SHEET NO. 7 OF 41
SHEET NAME: RE-3

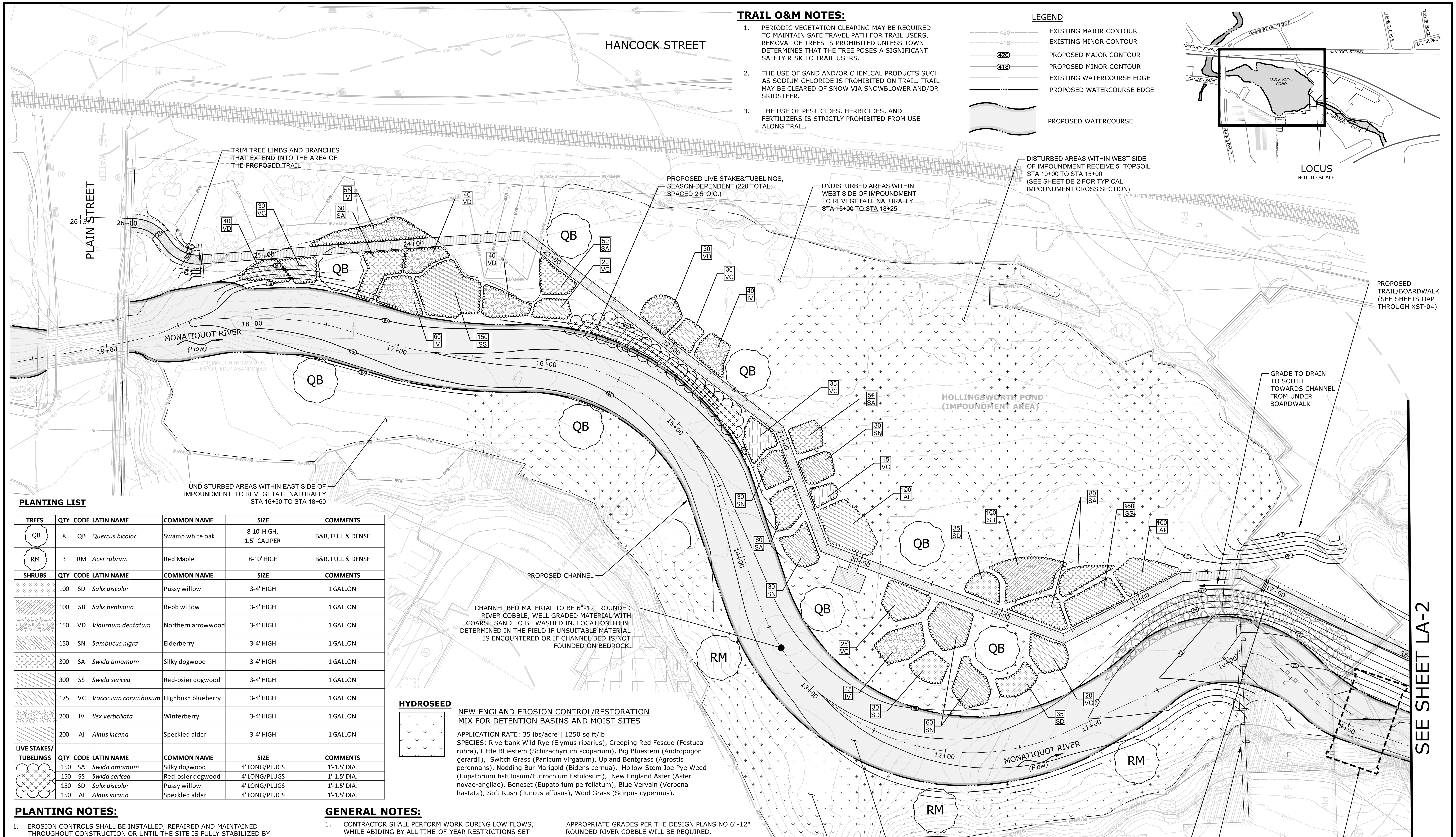
TRAIL O&M NOTES:

1. PERIODIC VEGETATION CLEARING MAY BE REQUIRED TO MAINTAIN SAFE TRAVEL PATH FOR TRAIL USERS. REMOVAL OF TREES IS PROHIBITED UNLESS TOWN DETERMINES THAT THE TREE POSES A SIGNIFICANT SAFETY RISK TO TRAIL USERS.
2. THE USE OF SAND AND/OR CHEMICAL PRODUCTS SUCH AS SODIUM CHLORIDE IS PROHIBITED ON TRAIL. TRAIL MAY BE CLEARED OF SNOW VIA SNOWBLOWER AND/OR SKIDSTEER.
3. THE USE OF PESTICIDES, HERBICIDES, AND FERTILIZERS IS STRICTLY PROHIBITED FROM USE ALONG TRAIL.

LEGEND

- 420 EXISTING MAJOR CONTOUR
- 418 EXISTING MINOR CONTOUR
- 420 PROPOSED MAJOR CONTOUR
- 418 PROPOSED MINOR CONTOUR
- EXISTING WATERCOURSE EDGE
- PROPOSED WATERCOURSE EDGE
- PROPOSED WATERCOURSE

LOCUS
NOT TO SCALE



PLANTING LIST

TREES	QTY	CODE	LATIN NAME	COMMON NAME	SIZE	COMMENTS
QB	8	QB	*Quercus bicolor*	Swamp white oak	8-10' HIGH, 1.5" CALIPER	B&B, FULL & DENSE
RM	3	RM	*Acer rubrum*	Red Maple	8-10' HIGH	B&B, FULL & DENSE
SHRUBS	**QTY**	**CODE**	**LATIN NAME**	**COMMON NAME**	**SIZE**	**COMMENTS**
	100	SD	*Salix discolor*	Pussy willow	3-4' HIGH	1 GALLON
	100	SB	*Salix bebbiana*	Bebb willow	3-4' HIGH	1 GALLON
	150	VD	*Viburnum dentatum*	Northern arrowwood	3-4' HIGH	1 GALLON
	150	SN	*Sambucus nigra*	Elderberry	3-4' HIGH	1 GALLON
	300	SA	*Swida amomum*	Silky dogwood	3-4' HIGH	1 GALLON
	300	SS	*Swida sericea*	Red-osier dogwood	3-4' HIGH	1 GALLON
	175	VC	*Vaccinium corymbosum*	Highbush blueberry	3-4' HIGH	1 GALLON
	200	IV	*Ilex verticillata*	Winterberry	3-4' HIGH	1 GALLON
	200	AI	*Alnus incana*	Speckled alder	3-4' HIGH	1 GALLON
LIVE STAKES/ TUBELINGS	**QTY**	**CODE**	**LATIN NAME**	**COMMON NAME**	**SIZE**	**COMMENTS**
	150	SA	*Swida amomum*	Silky dogwood	4' LONG/PLUGS	1'-1.5' DIA.
	150	SS	*Swida sericea*	Red-osier dogwood	4' LONG/PLUGS	1'-1.5' DIA.
	150	SD	*Salix discolor*	Pussy willow	4' LONG/PLUGS	1'-1.5' DIA.
	150	AI	*Alnus incana*	Speckled alder	4' LONG/PLUGS	1'-1.5' DIA.

HYDROSEED

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES

APPLICATION RATE: 35 lbs/acre | 1250 sq ft/lb
SPECIES: Riverbank Wild Rye (Elymus riparius), Creeping Red Fescue (Festuca rubra), Little Bluestem (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans), Nodding Bur Marigold (Bidens cernua), Hollow-Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum), New England Aster (Aster novae-angliae), Boneset (Eupatorium perfoliatum), Blue Vervain (Verbena hastata), Soft Rush (Juncus effusus), Wool Grass (Scirpus cyperinus).

PLANTING NOTES:

1. EROSION CONTROLS SHALL BE INSTALLED, REPAIRED AND MAINTAINED THROUGHOUT CONSTRUCTION OR UNTIL THE SITE IS FULLY STABILIZED BY VEGETATION (SEED MIX). EROSION CONTROLS SHALL THEN BE REMOVED FROM THE SITE.
2. WETLAND SCIENTIST SHALL BE ON SITE TO MONITOR PLANTING AND GRADING OF THE RIVER CHANNEL TO ENSURE COMPLIANCE WITH THE APPROVED PLANS.
3. WETLAND PLANTINGS SHALL BE LIMITED TO THE PERIODS OF APRIL 15 - JUNE 30, OR SEPTEMBER 15 - OCTOBER 15. ONLY QUALITY NATIVE PLANTS FROM A NORTHERN NURSERY SHALL BE USED.
4. 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.
5. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL ACCEPTANCE BY THE WETLAND SCIENTIST. MAINTENANCE SHALL INCLUDE WATERING, MULCHING, TIGHTENING & 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.

GENERAL NOTES:

1. CONTRACTOR SHALL PERFORM WORK DURING LOW FLOWS, WHILE ABIDING BY ALL TIME-OF-YEAR RESTRICTIONS SET FORTH BY THE REGULATORY APPROVALS.
2. TRAFFIC DETOURS AND TRAFFIC MANAGEMENT SHALL BE COORDINATED WITH THE TOWN OF BRAINTREE.
3. EACH PIECE OF EQUIPMENT SLATED FOR USE DURING CONSTRUCTION SHALL BE INSPECTED FOR ANY MAINTENANCE ISSUES INCLUDING LEAKING OIL, GAS, OR HYDRAULIC FLUID.
4. NO EQUIPMENT SHALL BE REFUELED WITHIN THE LIMITS OF THE WETLANDS OR CHANNEL.
5. ALL DISTURBED AREAS SHALL RECEIVE TOPSOIL, AND BE SEEDED WITH GRASS OR SODDED, AS SHOWN ON THE PLANS.
6. THE USE OF 6"-12" ROUNDED RIVER COBBLE CHANNEL BED MATERIAL WILL BE DETERMINED IN THE FIELD BY THE ON-SITE ENGINEER. THE EXISTING BEDROCK LOCATION SHOWN IS AN APPROXIMATION AND SUBJECT TO FIELD VERIFICATION. THE ON-SITE ENGINEER WILL DETERMINE IF SPECIFIC LOCATIONS WITHIN THE CHANNEL WILL REQUIRE 6"-12" ROUNDED RIVER COBBLE. IF COMPETENT BEDROCK OR NATIVE GRAVEL COBBLE MATERIAL IS FOUND AT APPROPRIATE GRADES PER THE DESIGN PLANS NO 6"-12" ROUNDED RIVER COBBLE WILL BE REQUIRED.
7. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE TOWN OF BRAINTREE'S REQUIREMENTS AND TO THE APPLICABLE SECTIONS OF THE MOST RECENT COMMONWEALTH OF MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
8. ALL FUEL, OIL, CONSTRUCTION EQUIPMENT, OR OTHER HAZARDOUS MATERIALS SHOULD BE STORED ABOVE THE FEMA DESIGNATED 100-YEAR FLOODPLAIN ELEVATION DURING NON-WORK HOURS.
9. 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%.
10. CONTRACTOR SHALL SUBMIT A DEWATERING PLAN, AND A CONSTRUCTION SEQUENCE TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

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DESCRIPTION	DATE	BY

LAYOUT AND RESTORATION PLAN

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	CME	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=30'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NAME: LA-1

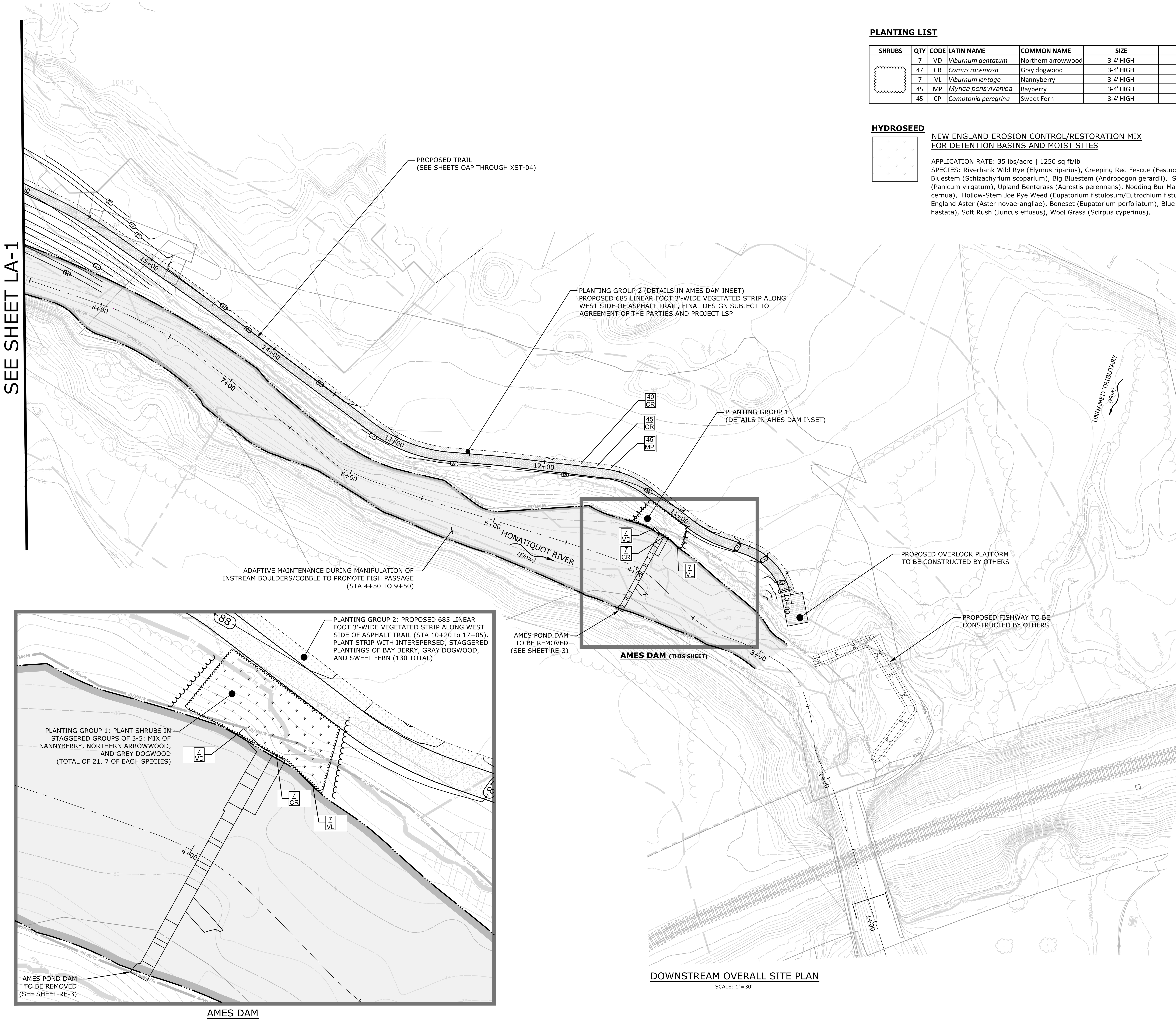
PLANTING LIST

SHRUBS	QTY	CODE	LATIN NAME	COMMON NAME	SIZE	COMMENTS
	7	VD	*Viburnum dentatum*	Northern arrowwood	3-4' HIGH	1 GALLON
	47	CR	*Cornus racemosa*	Gray dogwood	3-4' HIGH	1 GALLON
	7	VL	*Viburnum lentago*	Nannyberry	3-4' HIGH	1 GALLON
	45	MP	*Myrica pensylvanica*	Bayberry	3-4' HIGH	1 GALLON
	45	CP	*Comptonia peregrina*	Sweet Fern	3-4' HIGH	1 GALLON

HYDROSEED

NEW ENGLAND EROSION CONTROL/RESTORATION MIX
FOR DETENTION BASINS AND MOIST SITES

APPLICATION RATE: 35 lbs/acre | 1250 sq ft/lb
SPECIES: Riverbank Wild Rye (Elymus riparius), Creeping Red Fescue (Festuca rubra), Little Bluestem (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans), Nodding Bur Marigold (Bidens cernua), Hollow-Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum), New England Aster (Aster novae-angliae), Boneset (Eupatorium perfoliatum), Blue Vervain (Verbena hastata), Soft Rush (Juncus effusus), Wool Grass (Scirpus cyperinus).

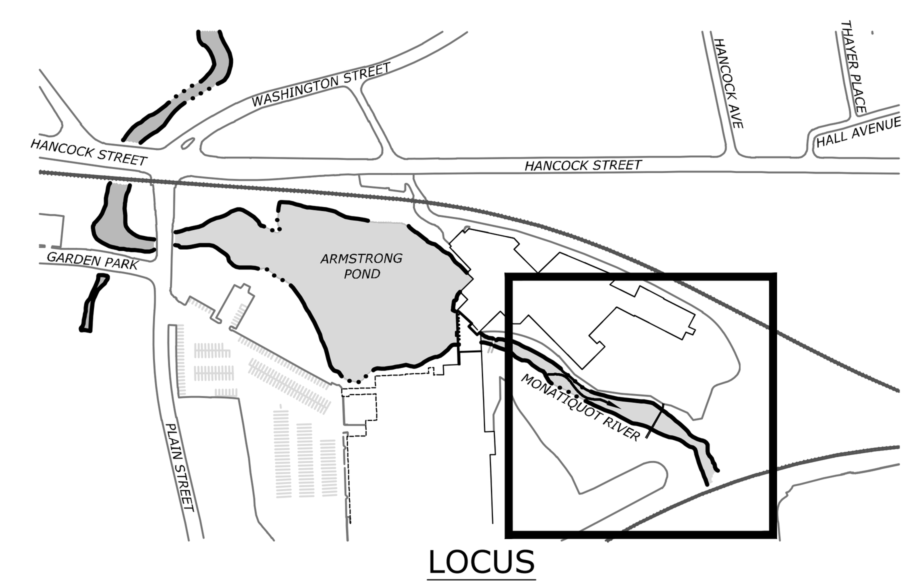


AMES DAM
SCALE: 1"=10'

DOWNSTREAM OVERALL SITE PLAN
SCALE: 1"=30'

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- LIMITS OF CLEARING
- WATERCOURSE EDGE
- WATERCOURSE
- LEDGE



LOCUS
NOT TO SCALE

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DESCRIPTION	DATE	BY

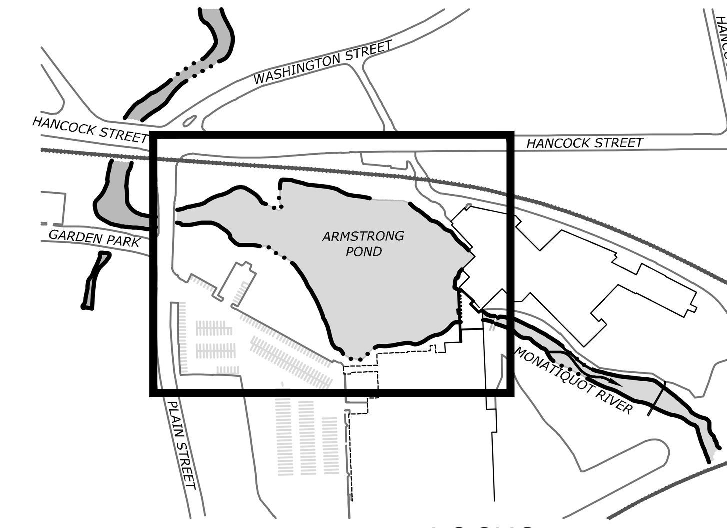
LAYOUT AND RESTORATION PLAN
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	CME	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=30'
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01
SHEET NO.: 9 OF 41
SHEET NAME: LA-2

GRADING NOTES:

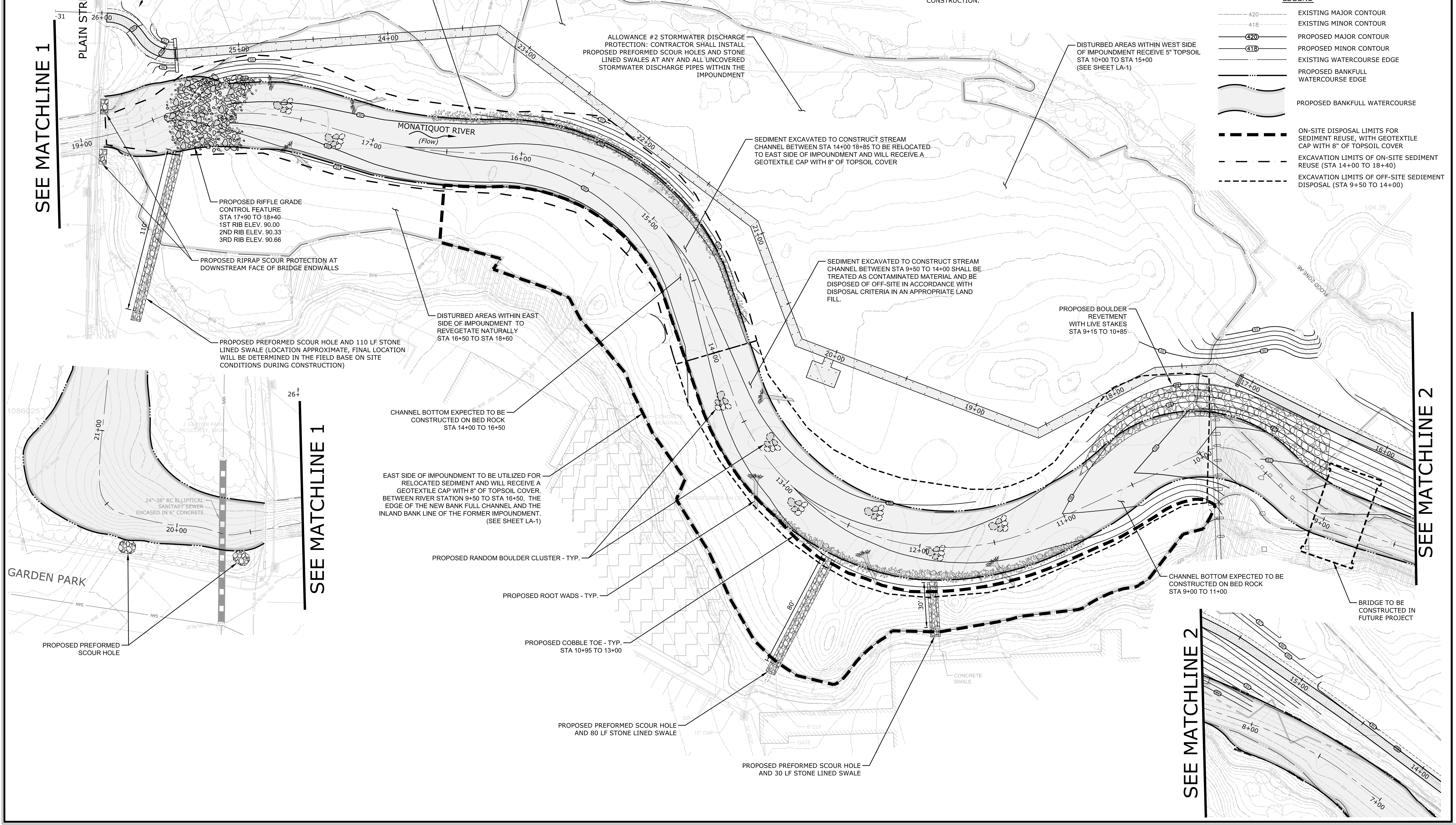
1. PROPOSED CONTOURS AS PRESENTED ON THIS PLAN INDICATE FINAL GRADE AFTER TOPSOIL, ROCKS, AND OTHER PROPOSED STRUCTURES AND FINISH TREATMENTS ARE COMPLETED.
2. MATERIAL GENERATED DURING CONSTRUCTION THAT IS TO BE REMOVED FROM THE SITE MUST BE HAULED TO AN APPROVED LOCATION.
3. ABIDE BY ALL TIME-OF-YEAR RESTRICTIONS SET FORTH BY THE REGULATORY APPROVALS.
4. CONTRACTOR IS REQUIRED TO COORDINATE THE PLACEMENT OF ROCKS AND HABITAT FEATURES WITH THE OWNER AND/OR ENGINEER, FOR STAFF PRESENCE AND OVERSIGHT.
5. TRAFFIC DETOURS AND TRAFFIC MANAGEMENT SHALL BE COORDINATED WITH THE TOWN OF BRAINTREE.
6. EACH PIECE OF EQUIPMENT SLATED FOR USE DURING CONSTRUCTION SHALL BE INSPECTED BY CONTRACTOR UPON ENTRY TO THE CONSTRUCTION SITE FOR ANY MAINTENANCE ISSUES INCLUDING LEAKING OIL, GAS, OR HYDRAULIC FLUID.
7. NO EQUIPMENT SHALL BE REFUELED WITHIN THE RIVER OR FLOODPLAIN.
8. ALL DISTURBED AREAS SHALL RECEIVE TOPSOIL, AND BE SEEDED WITH GRASS OR SODDED, AS SHOWN ON THE PLANS.
9. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE TOWN OF BRAINTREE AND TO THE APPLICABLE SECTIONS OF THE MOST RECENT STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
10. ALL FUEL, OIL, CONSTRUCTION EQUIPMENT, OR OTHER HAZARDOUS MATERIALS SHOULD BE STORED ABOVE THE FEMA DESIGNATED 100-YEAR FLOODPLAIN ELEVATION DURING NON-WORK HOURS.
11. 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%.
12. CONTRACTOR SHALL STAY WITHIN LIMITS OF CONSTRUCTION AT ALL TIMES.
13. CONTRACTOR SHALL SUBMIT A DEWATERING PLAN, AND A CONSTRUCTION SEQUENCE TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.



LOCUS
NOT TO SCALE

LEGEND

420	EXISTING MAJOR CONTOUR
418	EXISTING MINOR CONTOUR
420	PROPOSED MAJOR CONTOUR
418	PROPOSED MINOR CONTOUR
	EXISTING WATERCOURSE EDGE
	PROPOSED BANKFULL WATERCOURSE EDGE
	PROPOSED BANKFULL WATERCOURSE
	ON-SITE DISPOSAL LIMITS FOR SEDIMENT REUSE, WITH GEOTEXTILE CAP WITH 8" OF TOPSOIL COVER
	EXCAVATION LIMITS OF ON-SITE SEDIMENT REUSE (STA 14+00 TO 18+40)
	EXCAVATION LIMITS OF OFF-SITE SEDIEMENT DISPOSAL (STA 9+50 TO 14+00)



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DESCRIPTION	DATE	BY

IMPOUNDMENT IMPROVEMENTS
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	CME	WAG
DESIGNED	DRAWN	CHECKED

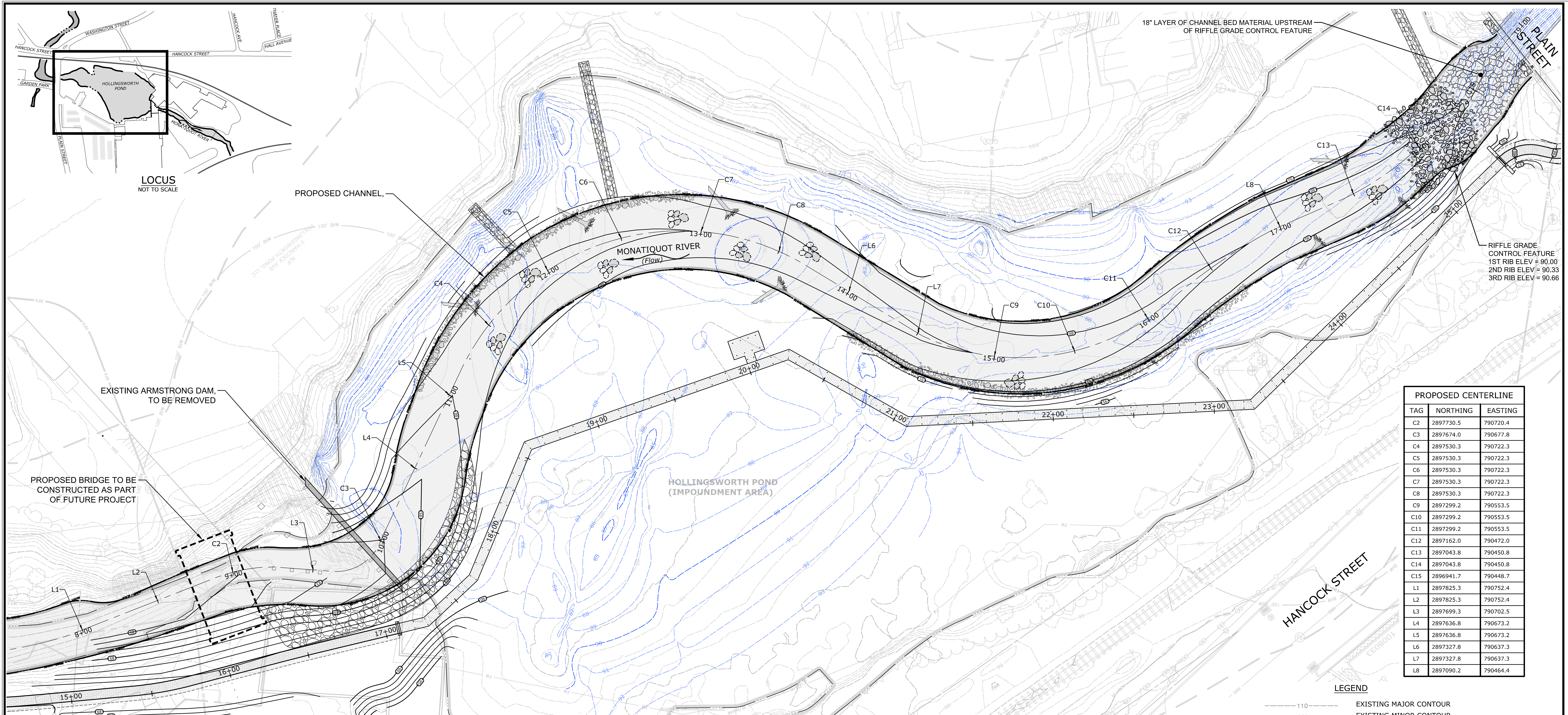
SCALE: 1"=30'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 10 OF 41

SHEET NAME: IM-1



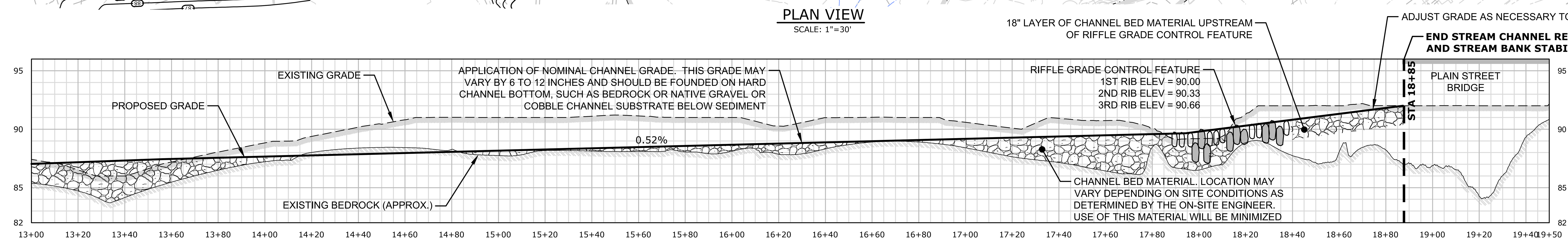
PLAN VIEW

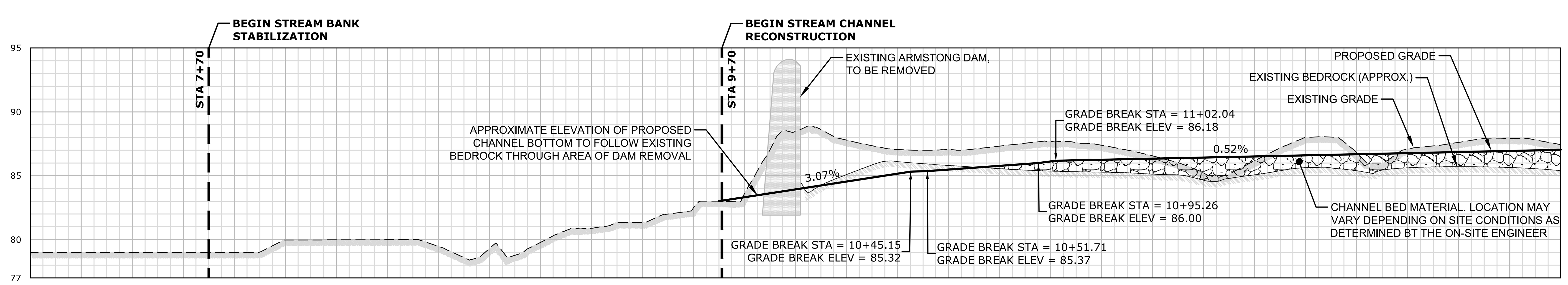
SCALE: 1"=30'

PROPOSED CENTERLINE		
TAG	NORTHING	EASTING
C2	2897730.5	790720.4
C3	2897674.0	790677.8
C4	2897530.3	790722.3
C5	2897530.3	790722.3
C6	2897530.3	790722.3
C7	2897530.3	790722.3
C8	2897530.3	790722.3
C9	2897299.2	790553.5
C10	2897299.2	790553.5
C11	2897299.2	790553.5
C12	2897162.0	790472.0
C13	2897043.8	790450.8
C14	2897043.8	790450.8
C15	2896941.7	790448.7
L1	2897825.3	790752.4
L2	2897825.3	790752.4
L3	2897699.3	790702.5
L4	2897636.8	790673.2
L5	2897636.8	790673.2
L6	2897327.8	790637.3
L7	2897327.8	790637.3
L8	2897090.2	790464.4

LEGEND

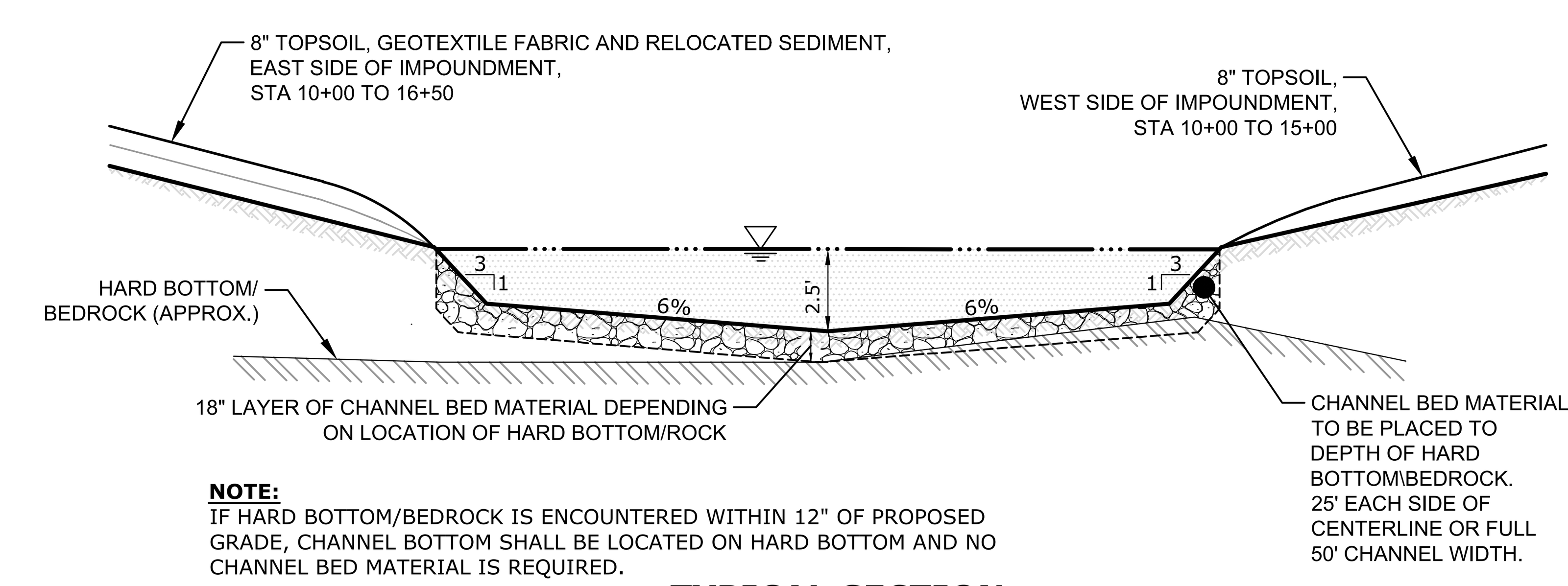
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING BEDROCK (APPROX.), MAJOR CONTOUR
- EXISTING BEDROCK (APPROX.), MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- ORDINARY HIGH WATER
- PROPOSED BANKFULL WATERCOURSE
- EXISTING BEDROCK (APPROX.)
- CHANNEL BED MATERIAL





PROFILE VIEW

SCALE: 1"=30'H; 1"=6'V



NOTE:
IF HARD BOTTOM/BEDROCK IS ENCOUNTERED WITHIN 12" OF PROPOSED GRADE, CHANNEL BOTTOM SHALL BE LOCATED ON HARD BOTTOM AND NO CHANNEL BED MATERIAL IS REQUIRED.

TYPICAL SECTION

(FACING UPSTREAM)
NOT TO SCALE

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DESCRIPTION	DATE	BY

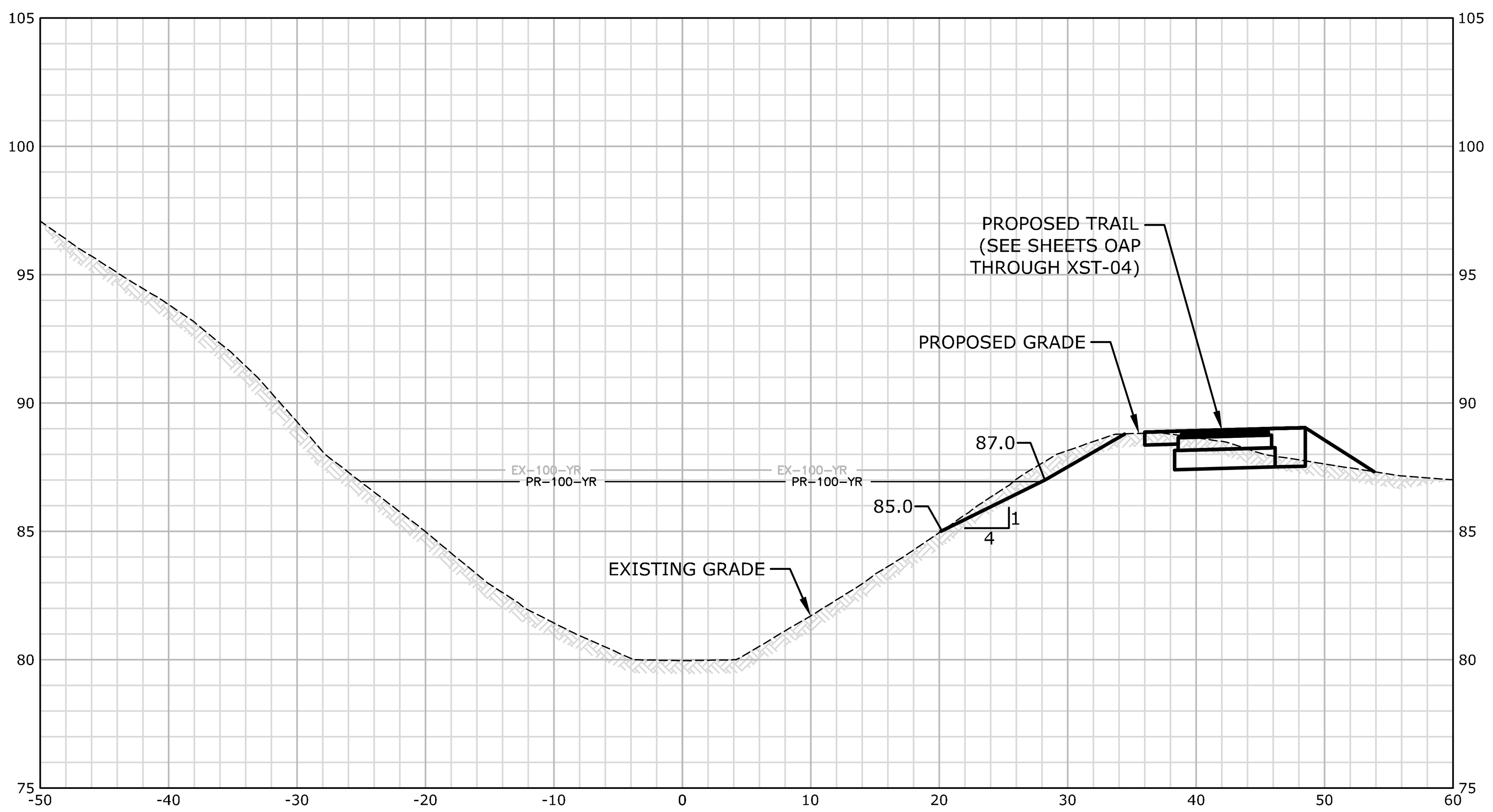
RIVER PROFILE

MONATIQUOT RIVER RESTORATION

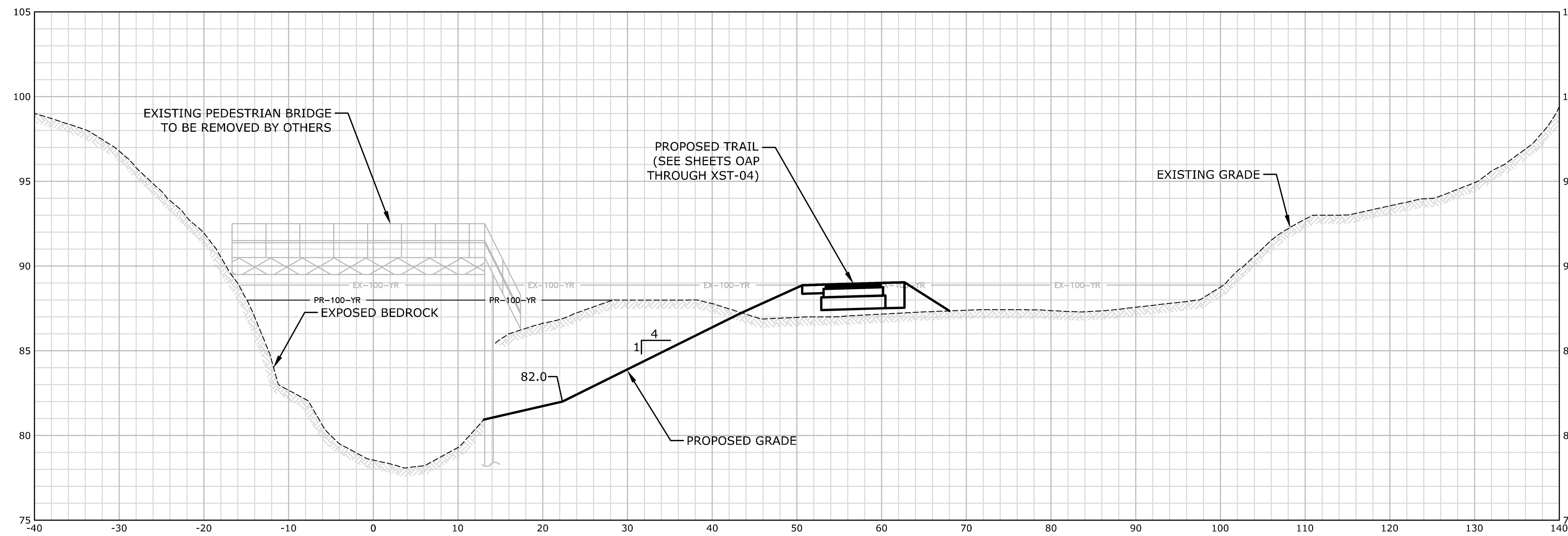
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

WAG	CME	WAG
DESIGNED	DRAWN	CHECKED

SCALE: AS NOTED
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01
SHEET NO.: 11 OF 41
SHEET NAME: PR-1



8+00



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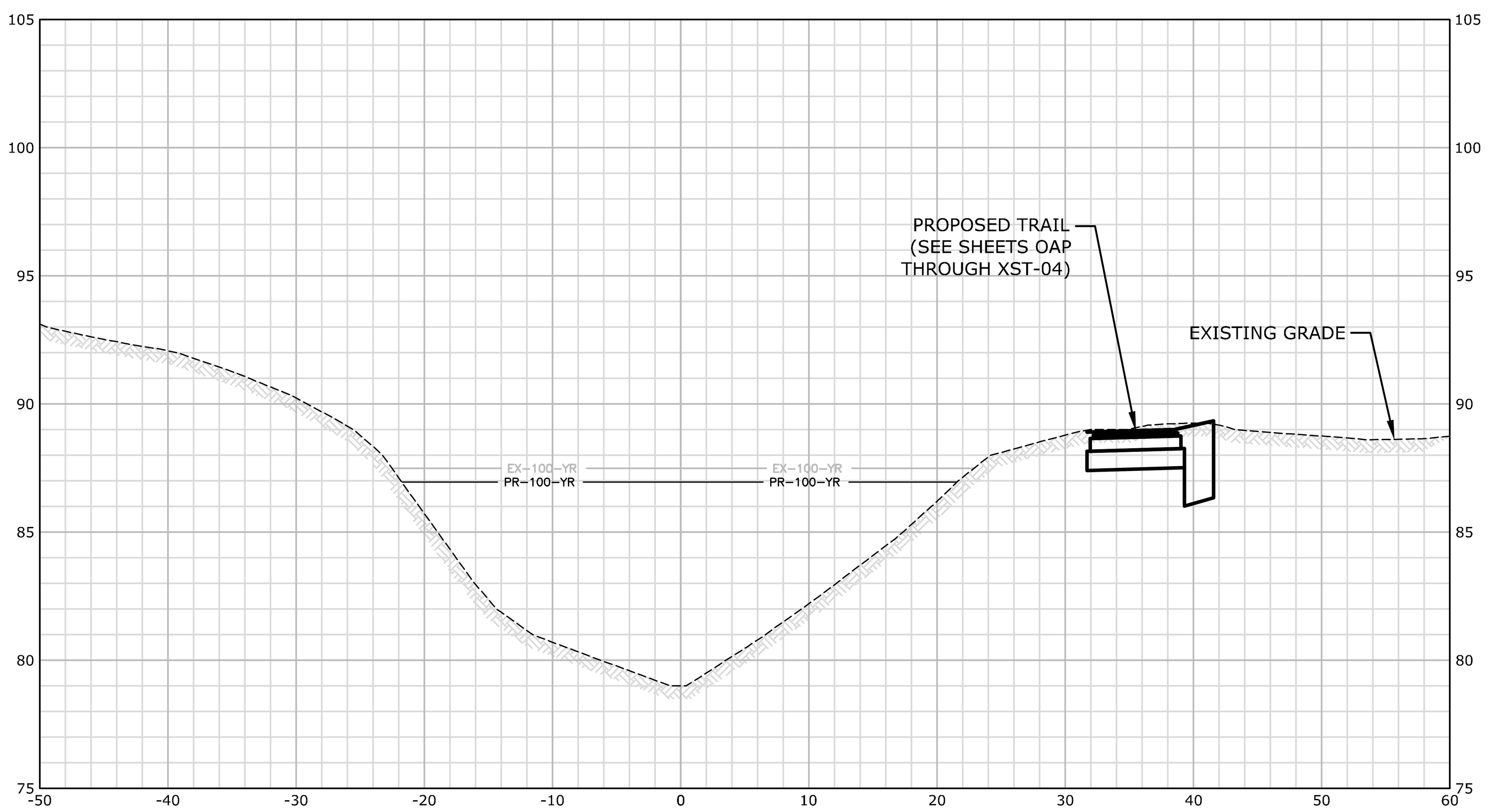

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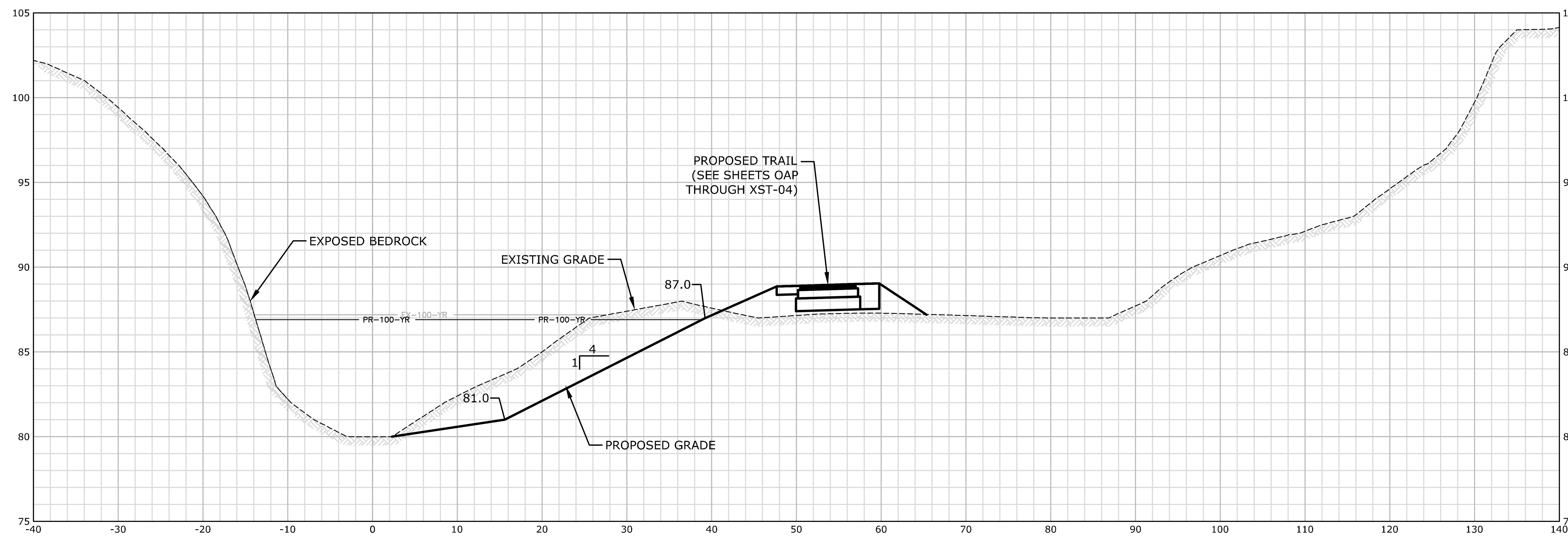

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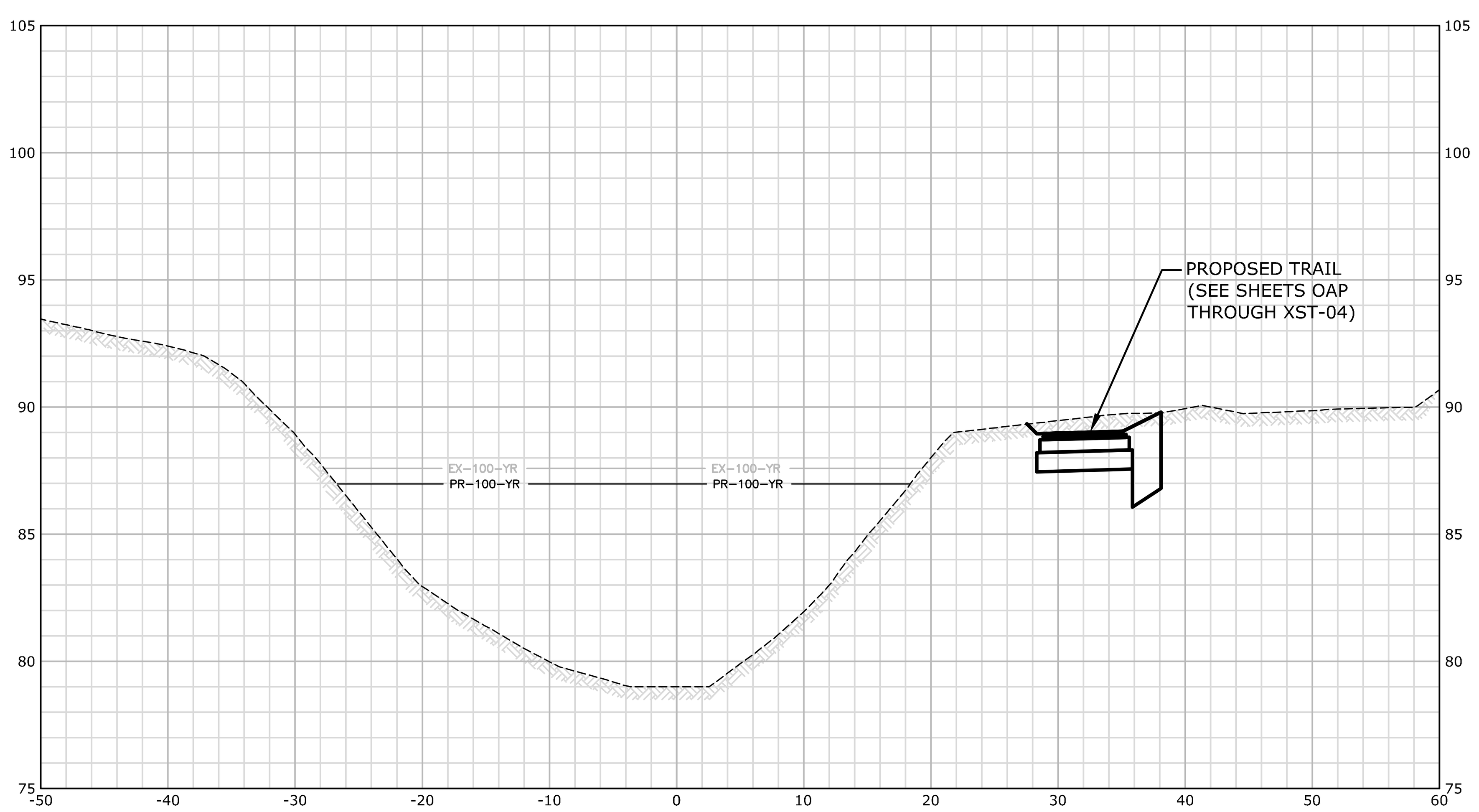

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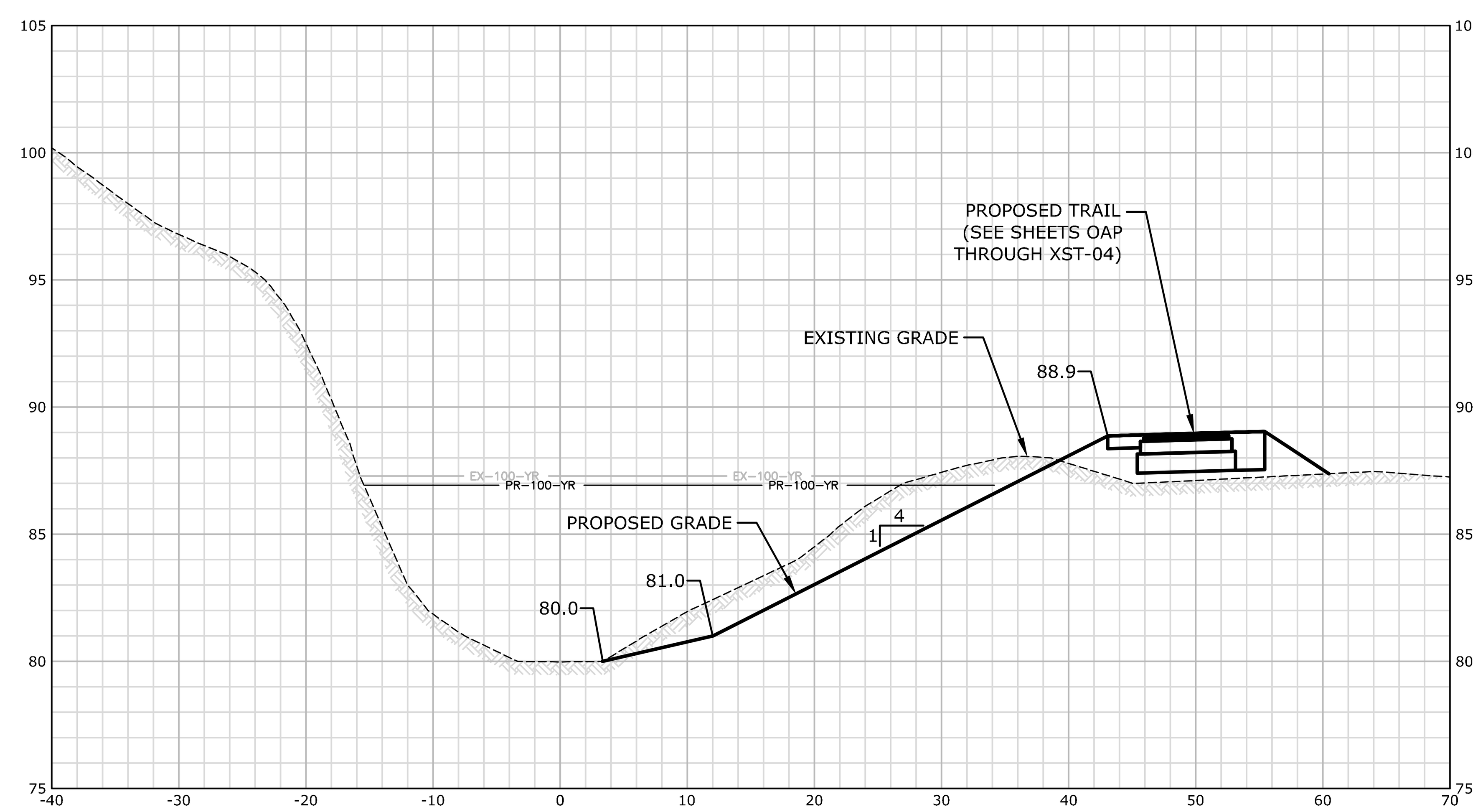

8+25

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

CROSS SECTION NOTES

1. SEE SHEETS XST-01 THROUGH XST-02 FOR CROSS SECTIONS - TRAIL AT GRADE SEGMENT 1.
2. SEE SHEETS XST-03 THROUGH XST-04 FOR CROSS SECTIONS - BOARDWALK SEGMENT 2 AND CROSS SECTIONS - TRAIL AT GRADE SEGMENT 3.
3. ELEVATIONS SHOWN FOR TOP AND BOTTOM OF SEDIMENT, AND TOP OF BEDROCK SHOULD BE CONSIDERED APPROXIMATE WITHIN HOLLINGSWORTH POND IMPOUNDMENT. DATA HAS BEEN PROVIDED FROM GROUND PENETRATING RADAR (GPR).
4. THE LOCATION OF CHANNEL BED MATERIAL MAY VARY DEPENDING ON SITE CONDITIONS AS DETERMINED BY THE ON-SITE ENGINEER, IF UNSUITABLE MATERIAL IS ENCOUNTERED OR IF CHANNEL BED IS NOT FOUNDED ON BEDROCK. CHANNEL BED MATERIAL TO BE 6"-12" ROUNDED RIVER COBBLE, WELL GRADED MATERIAL WITH COARSE SAND TO BE WASHED IN.
5. SEDIMENT CONSOLIDATION IS EXPECTED WITHIN IMPOUNDMENT.

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

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DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

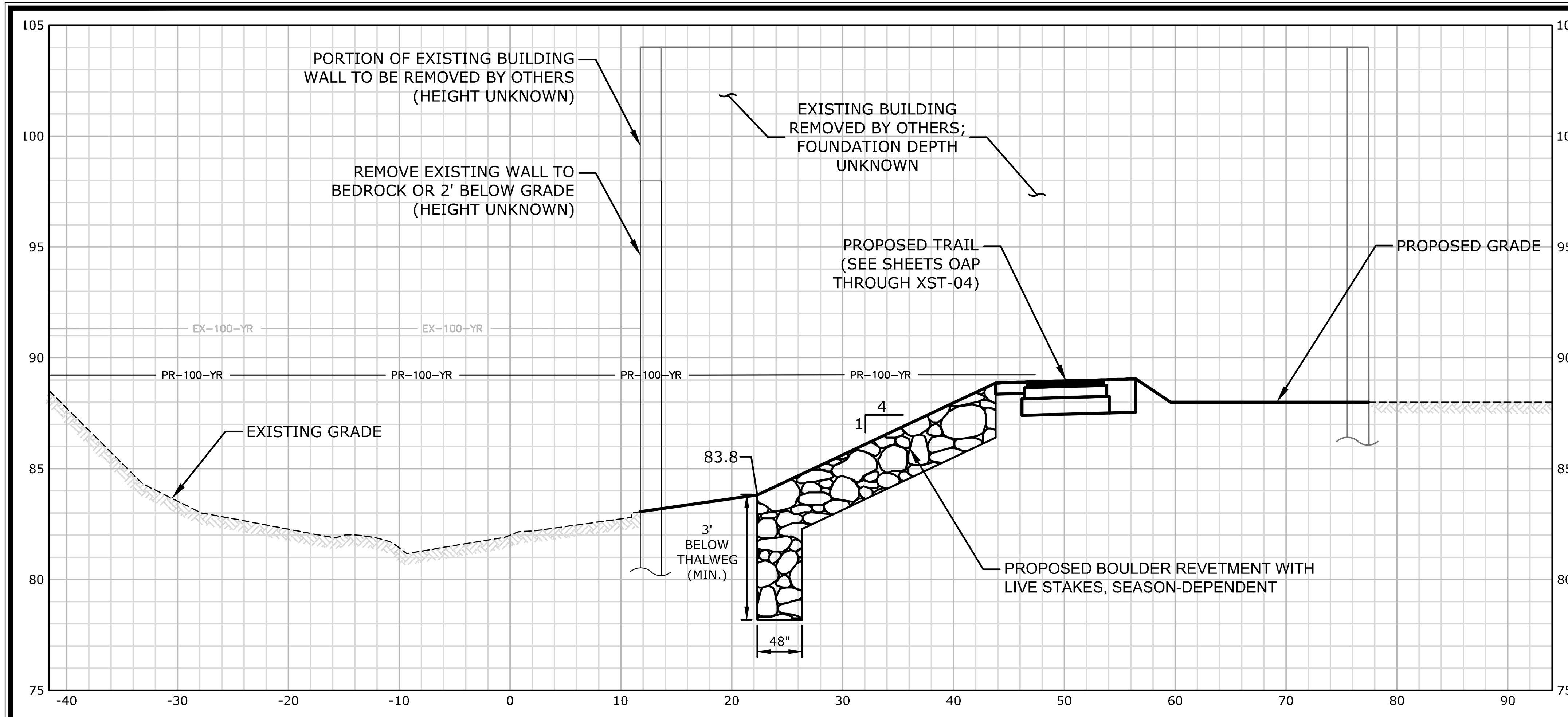
CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=10' (H); 1"=5' (V)

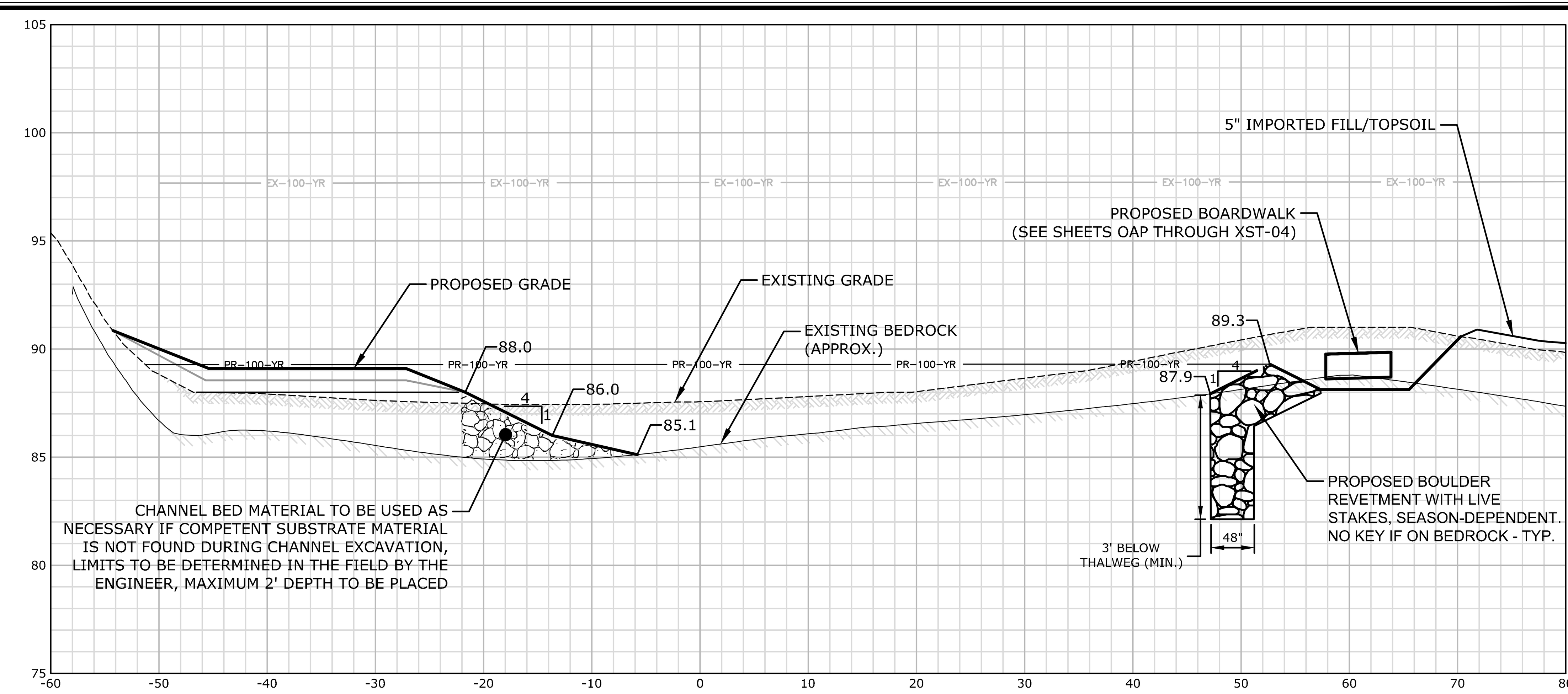
DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

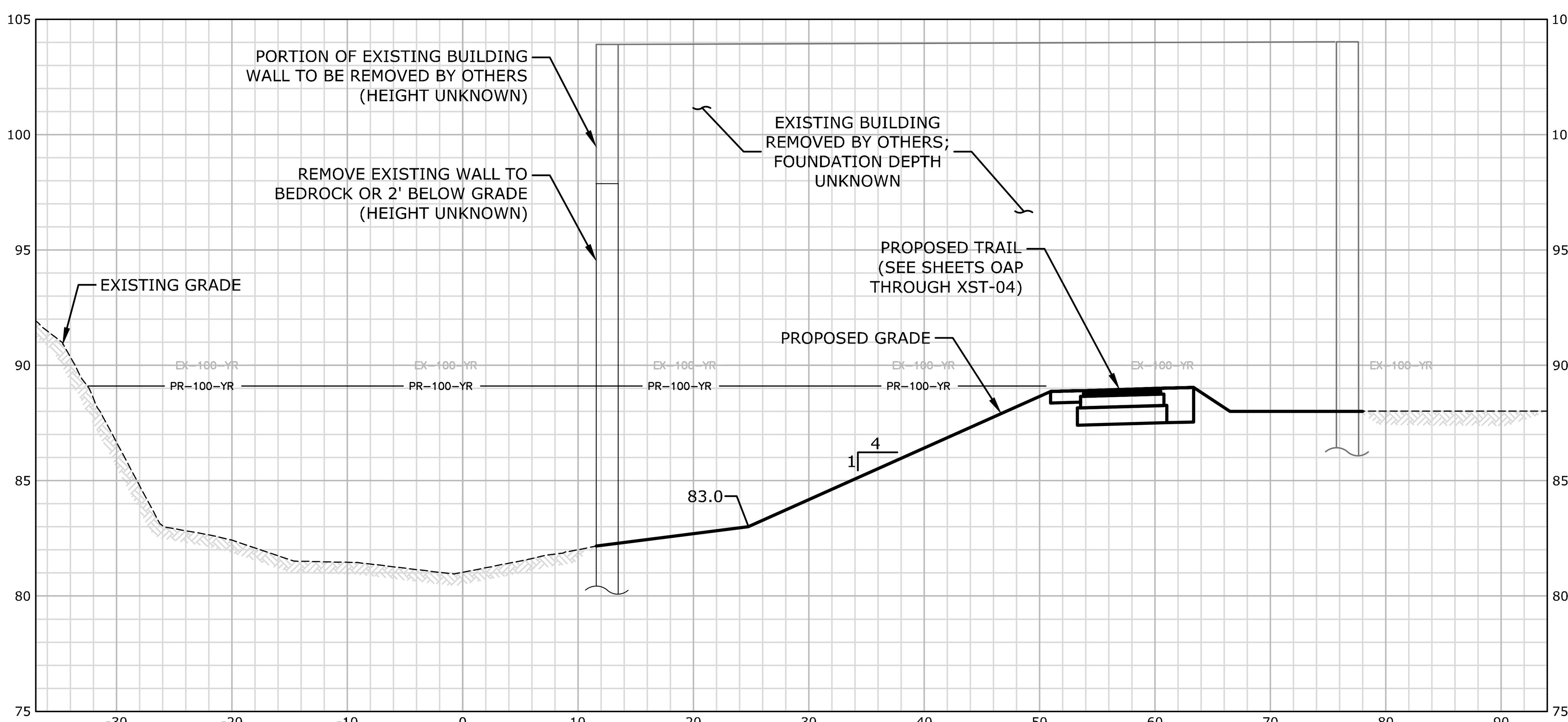
SHEET NAME: CS-1



9+50



10+25



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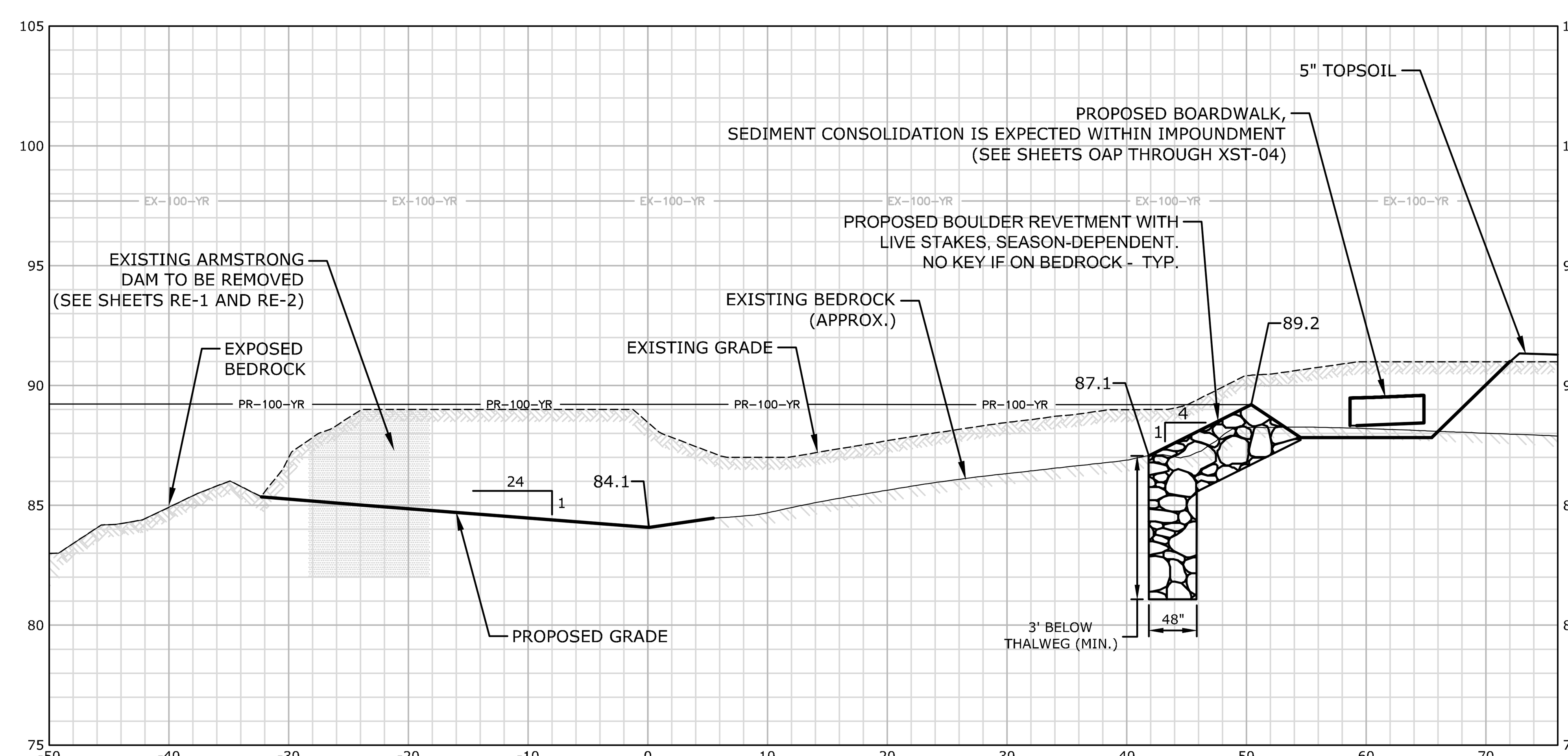
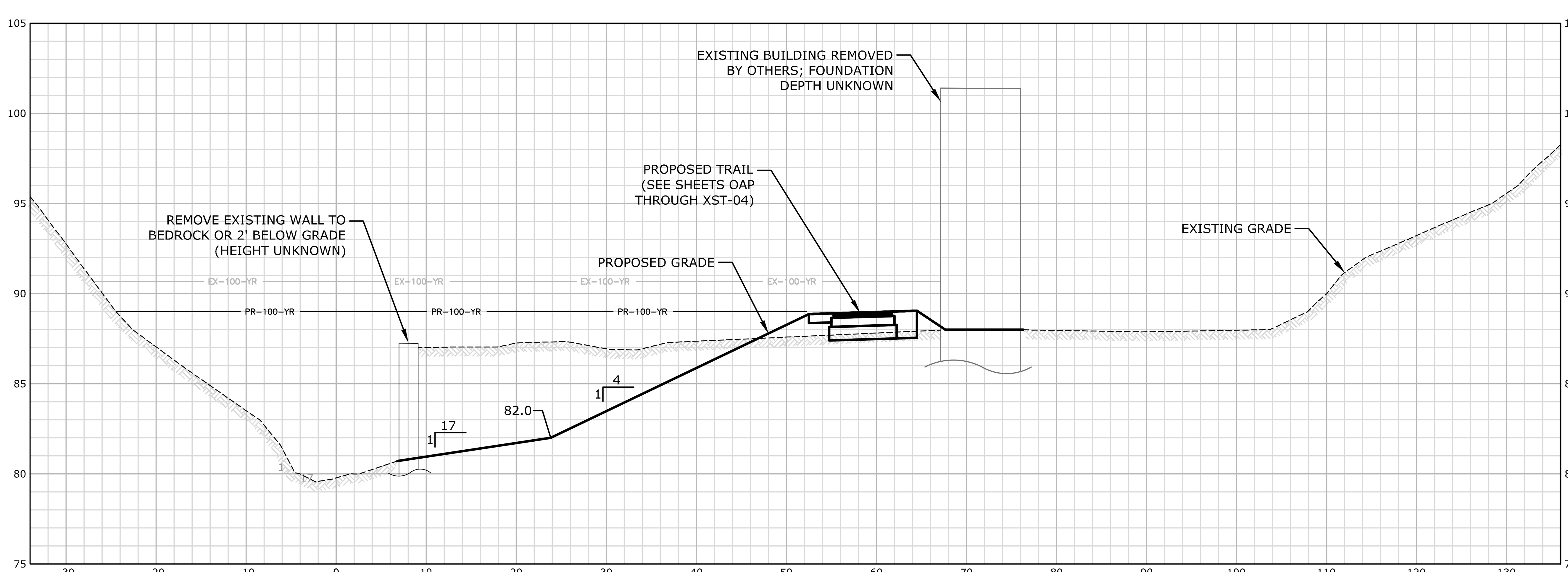


10+00

NOTE: SEE SHEET XS-1 FOR STA 10+00 IMPOUNDMENT CROSS SECTION.



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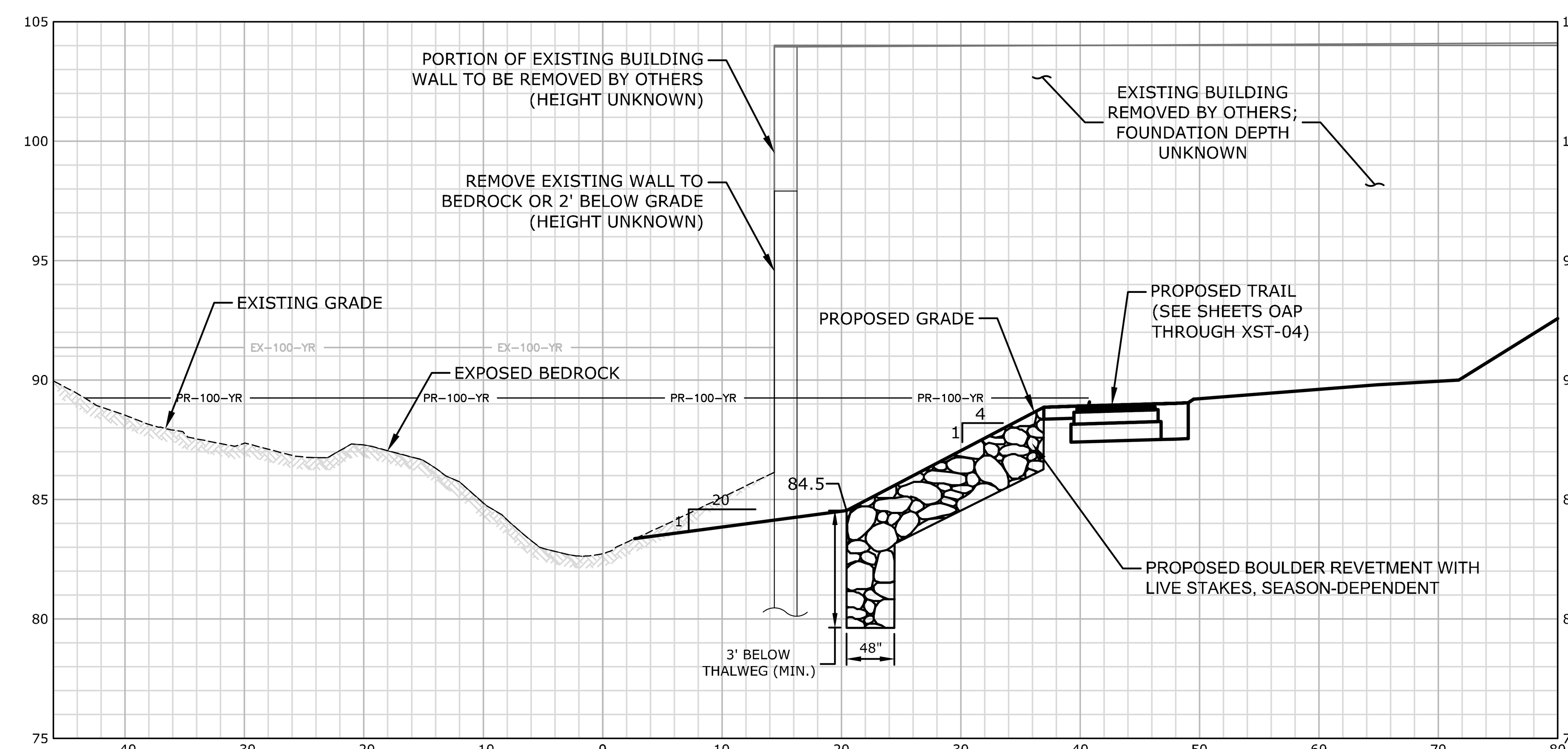

9+75

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EXISTING 100-YR FLOOD ELEVATION
- PROPOSED 100-YR FLOOD ELEVATION

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DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

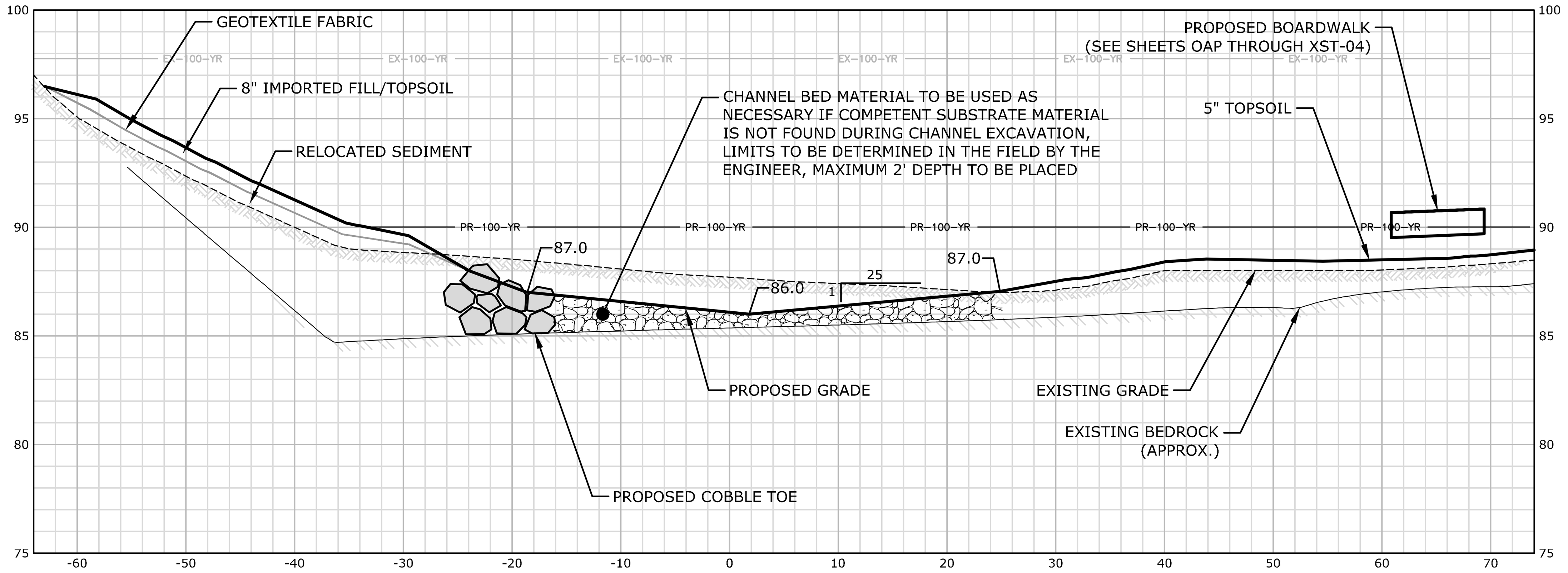
SCALE: 1"=10' (H); 1"=5' (V)

DATE: JUNE 30, 2021

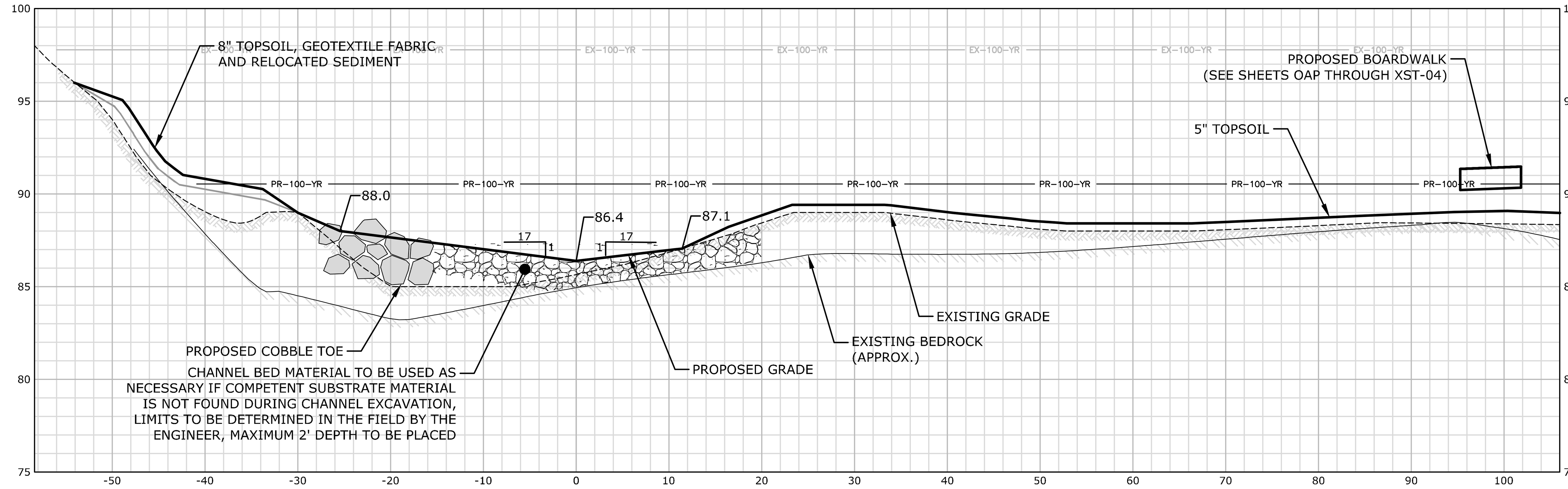
PROJECT NO.: 6998-01

SHEET NO.: 13 OF 41

SHEET NAME: CS-2



11+00



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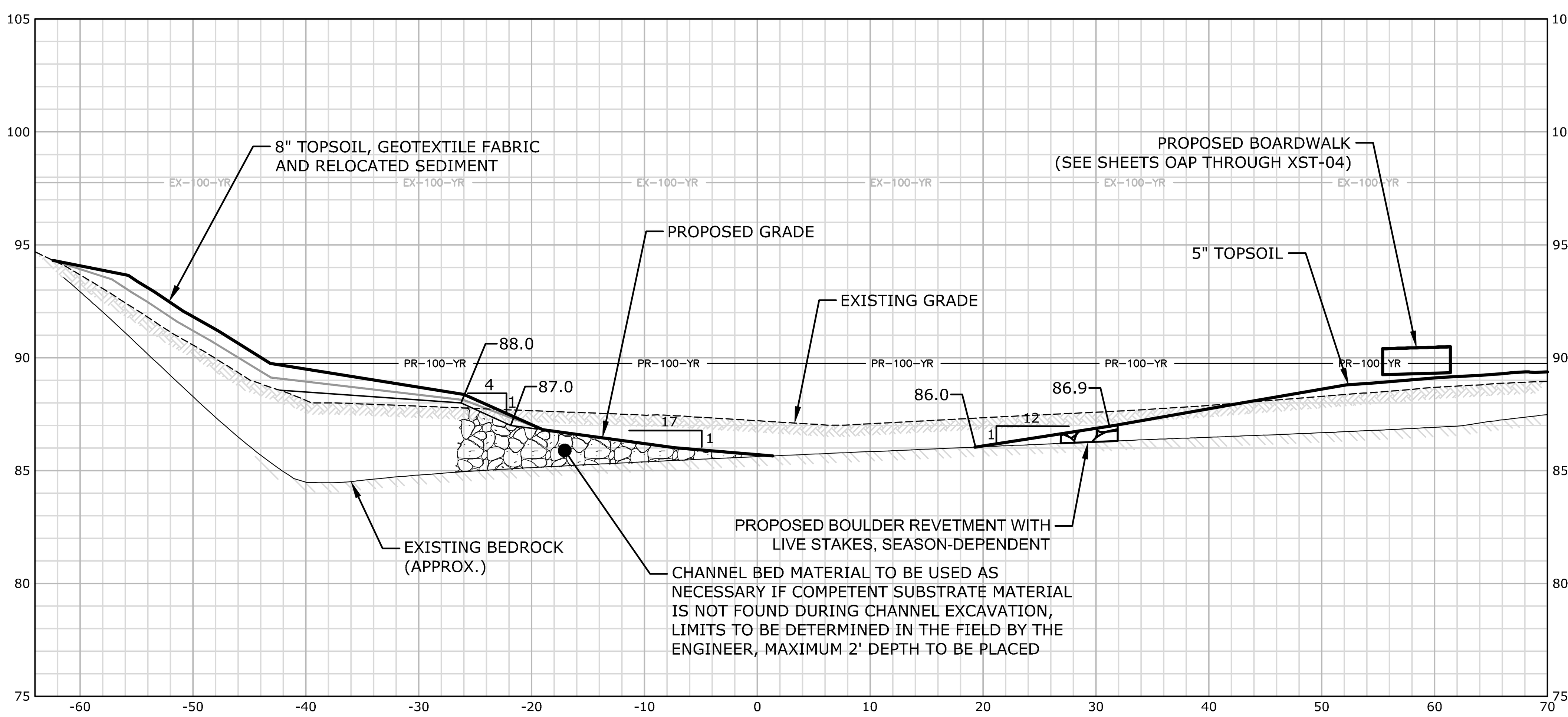

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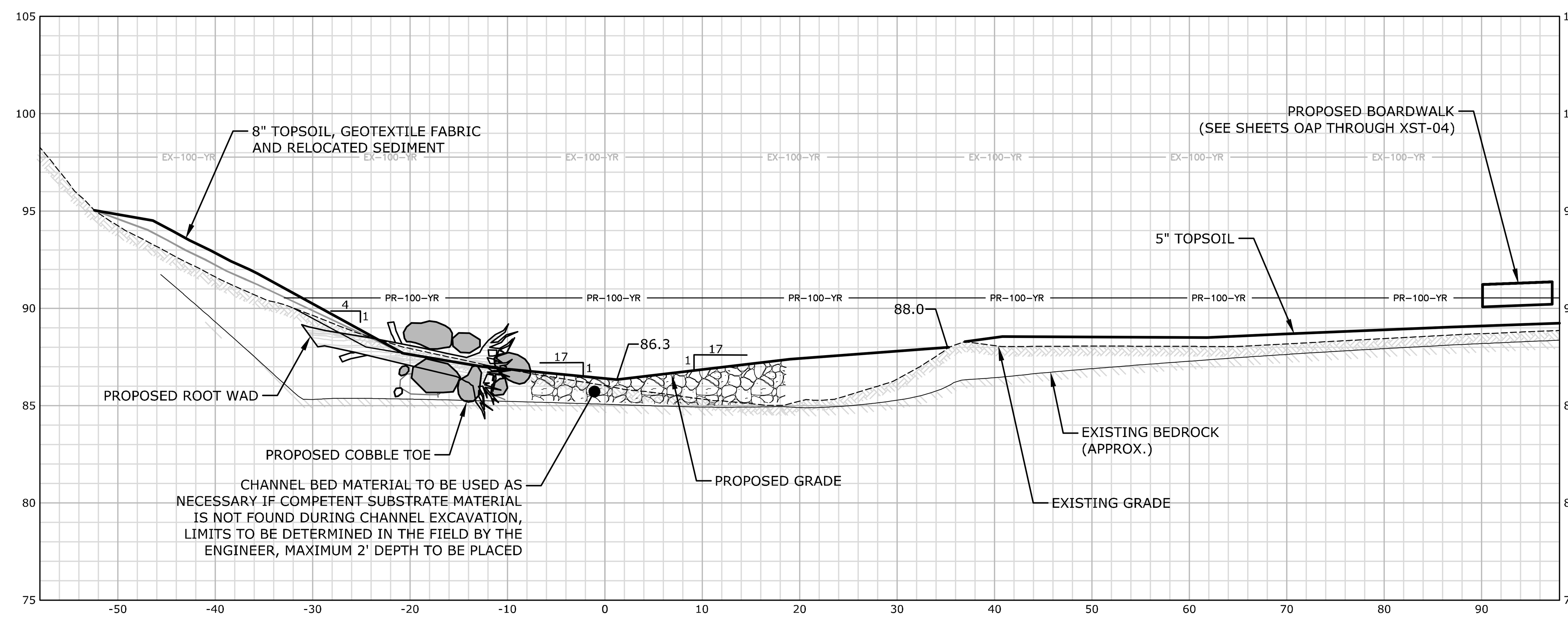
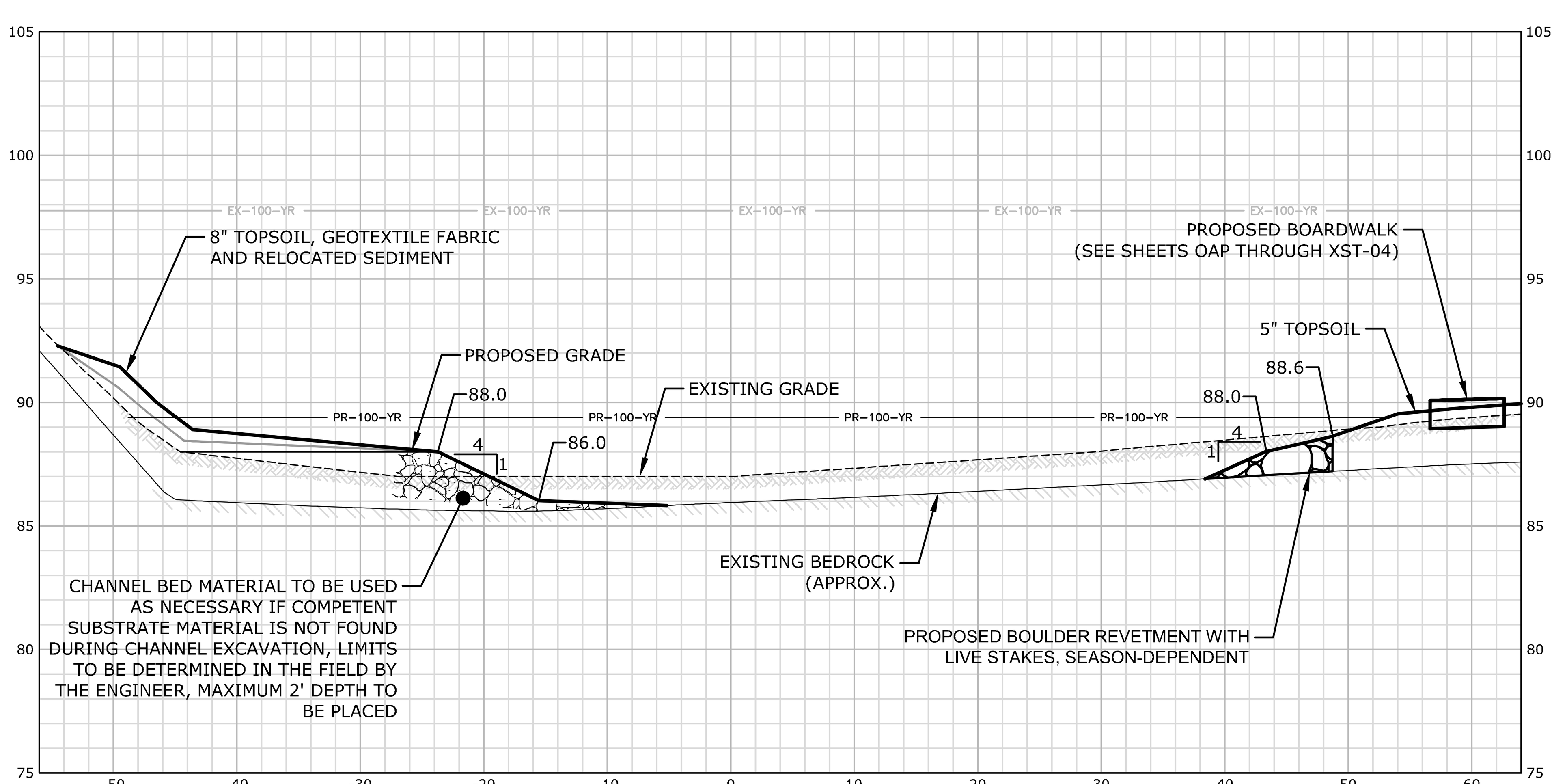


11+50



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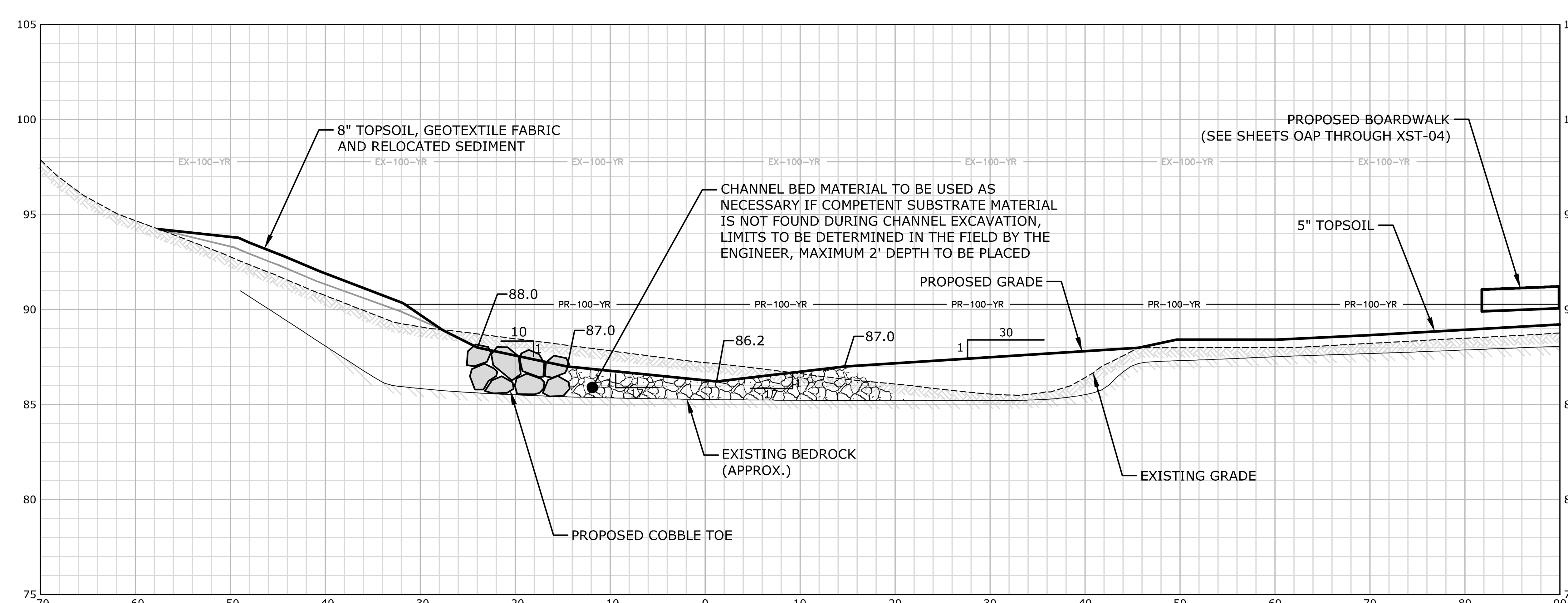

11+25

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EXISTING 100-YR FLOOD ELEVATION
- PROPOSED 100-YR FLOOD ELEVATION

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DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

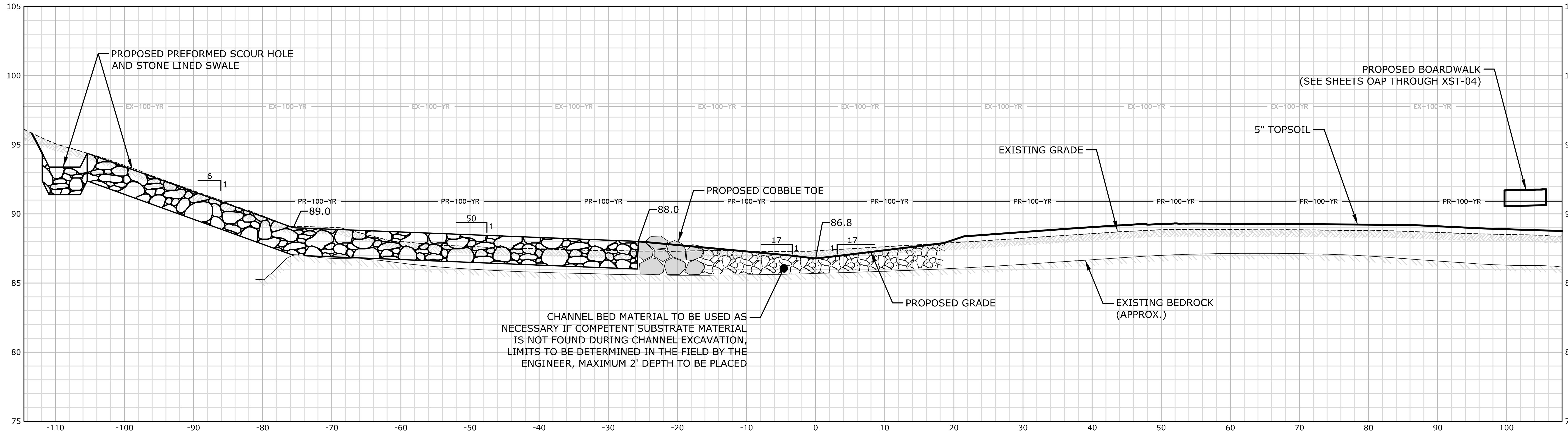
SCALE: 1"=10' (H); 1"=5' (V)

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 14 OF 41

SHEET NAME: CS-3



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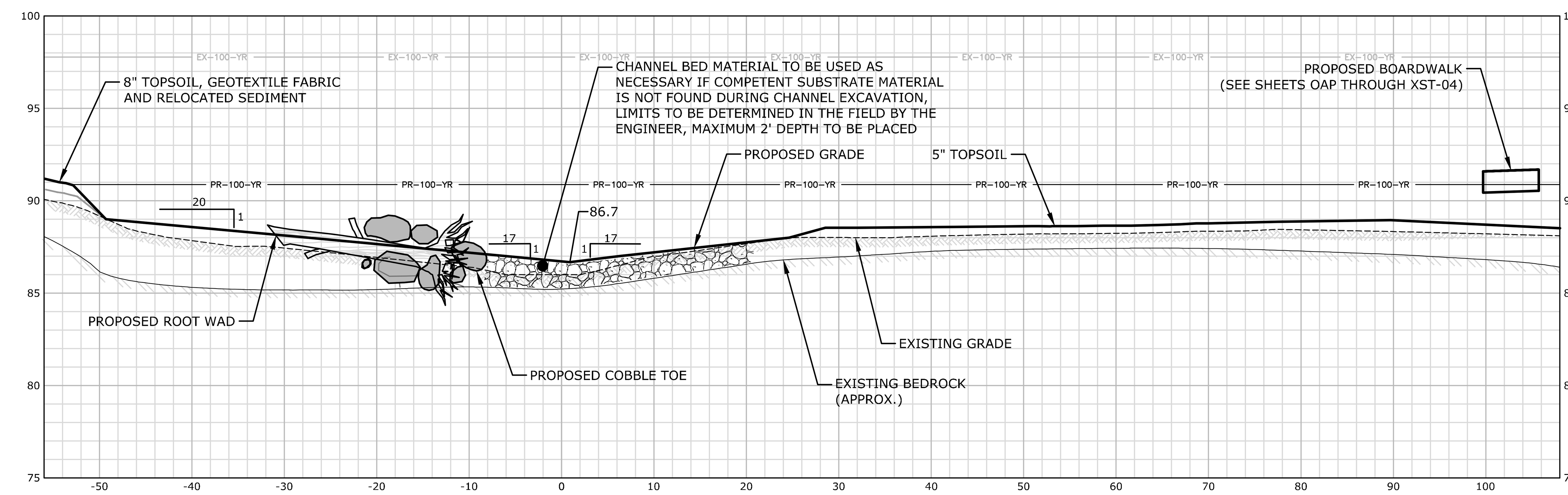
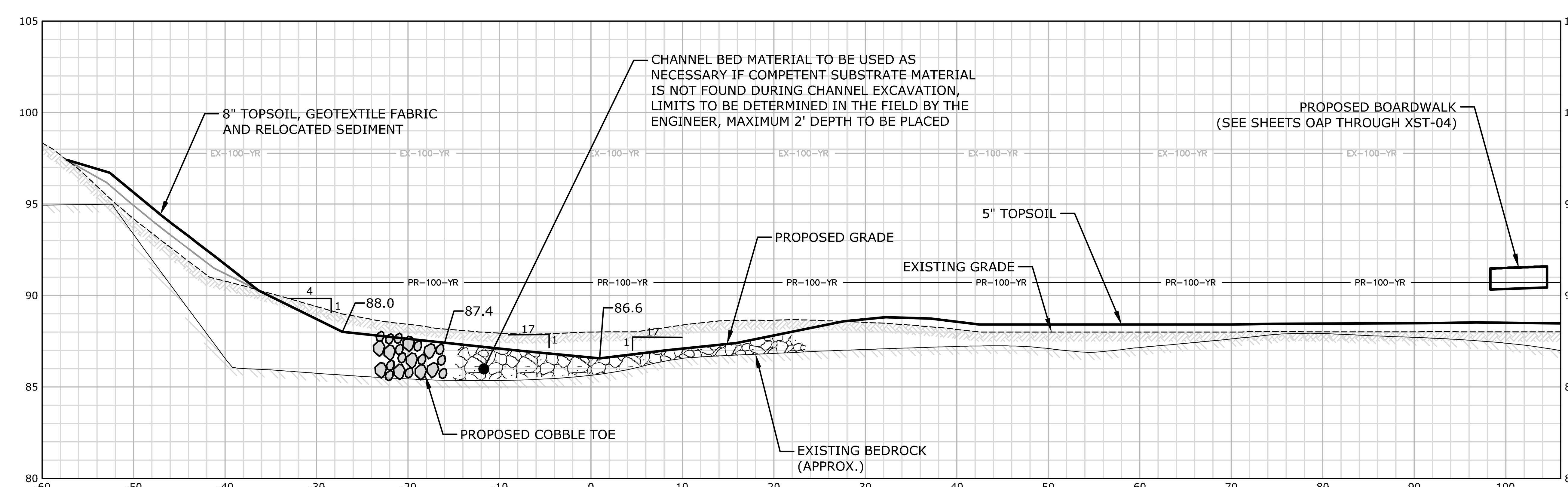


12+25



12+00

NOTE: SEE SHEET XS-1 FOR STA 12+00 IMPOUNDMENT CROSS SECTION.

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

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DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

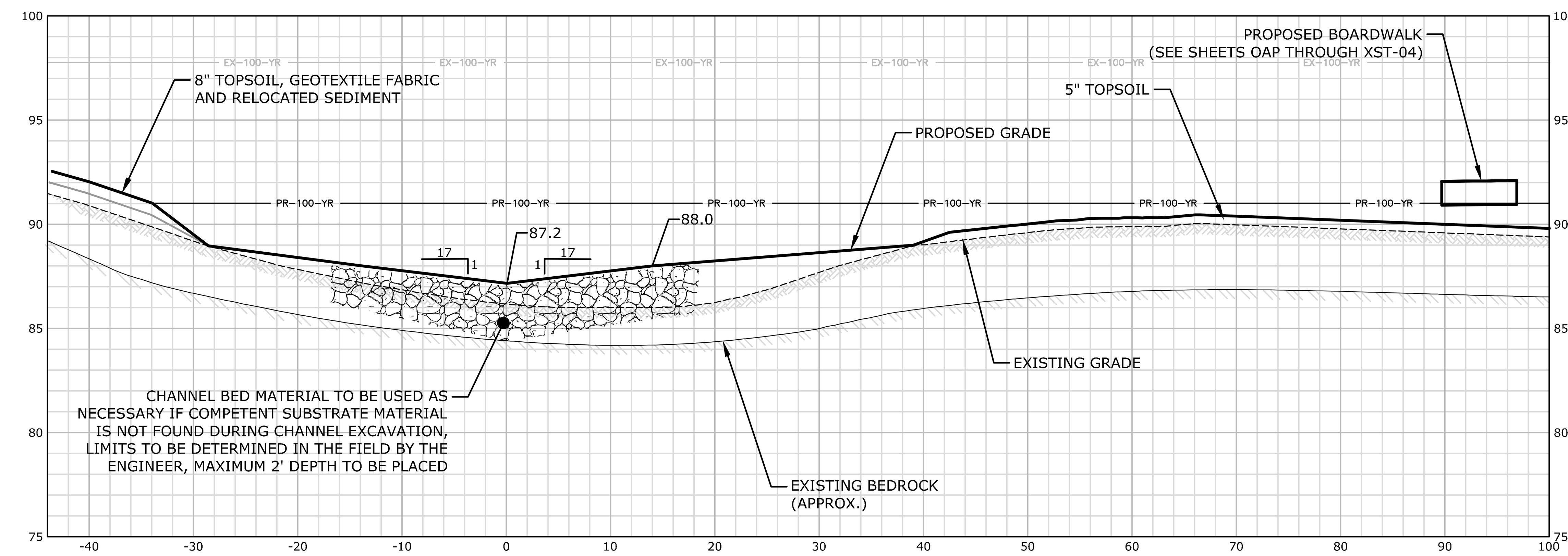
CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=10' (H); 1"=5' (V)

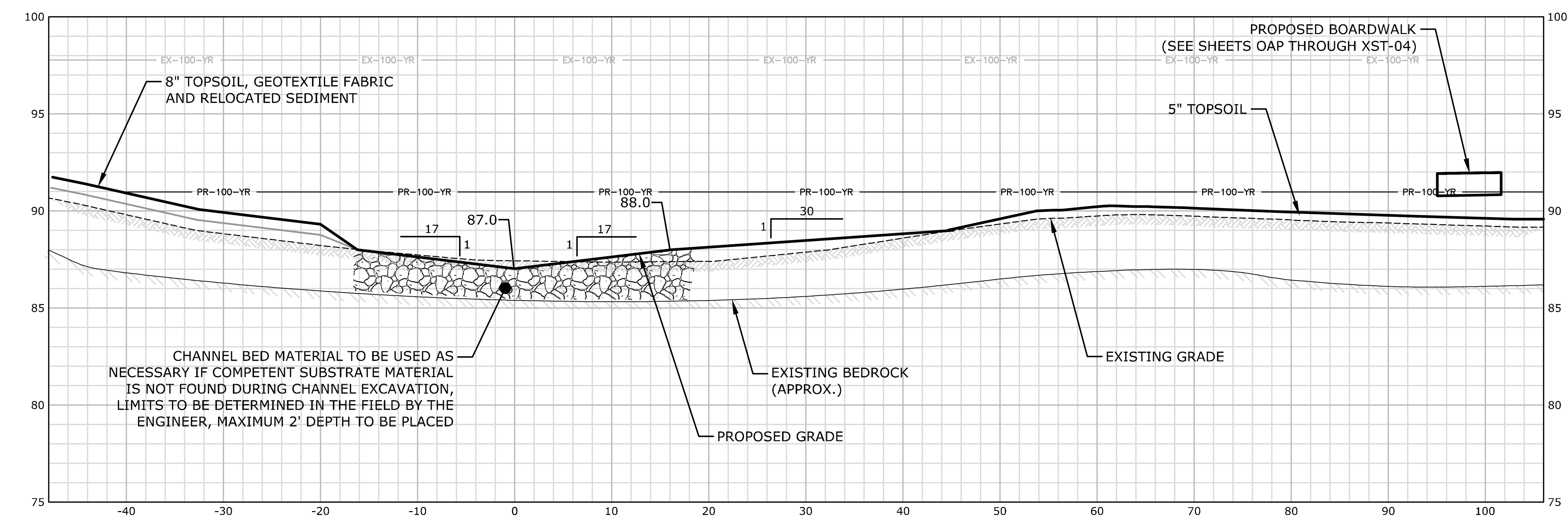
DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

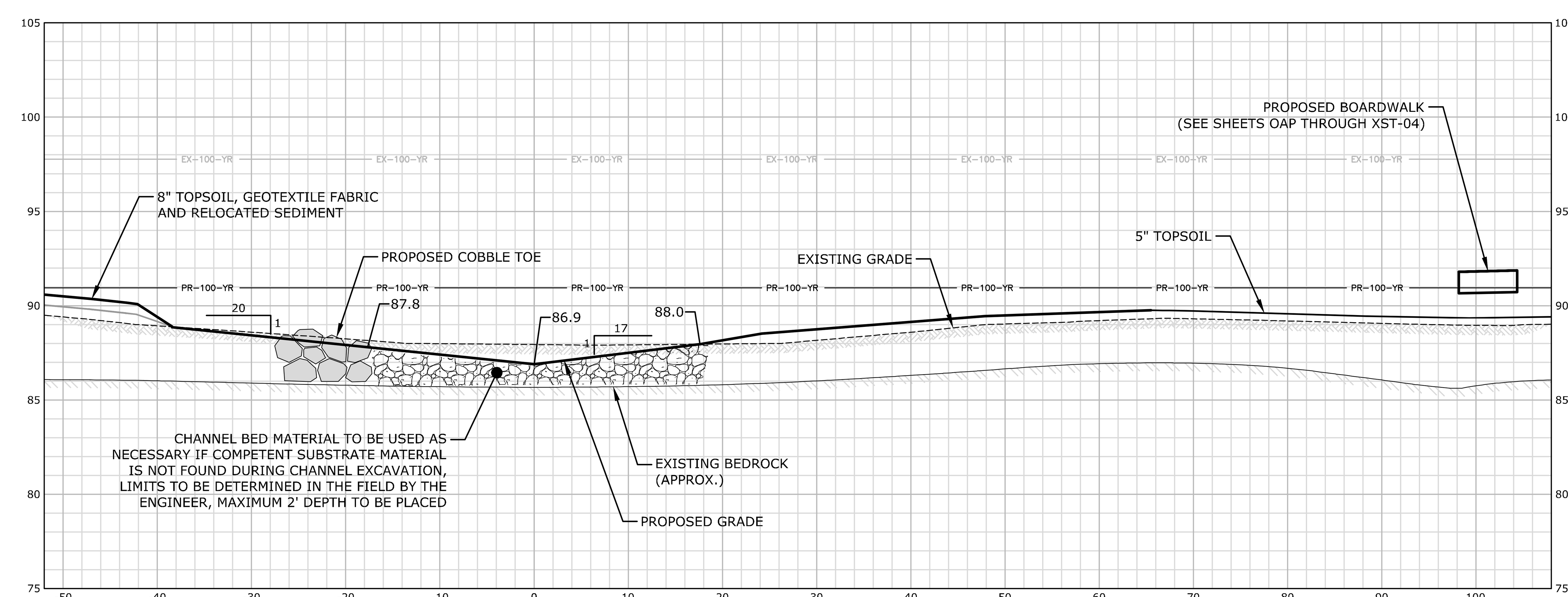
SHEET NAME: CS-4



13+25



13+00



12+75

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

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DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

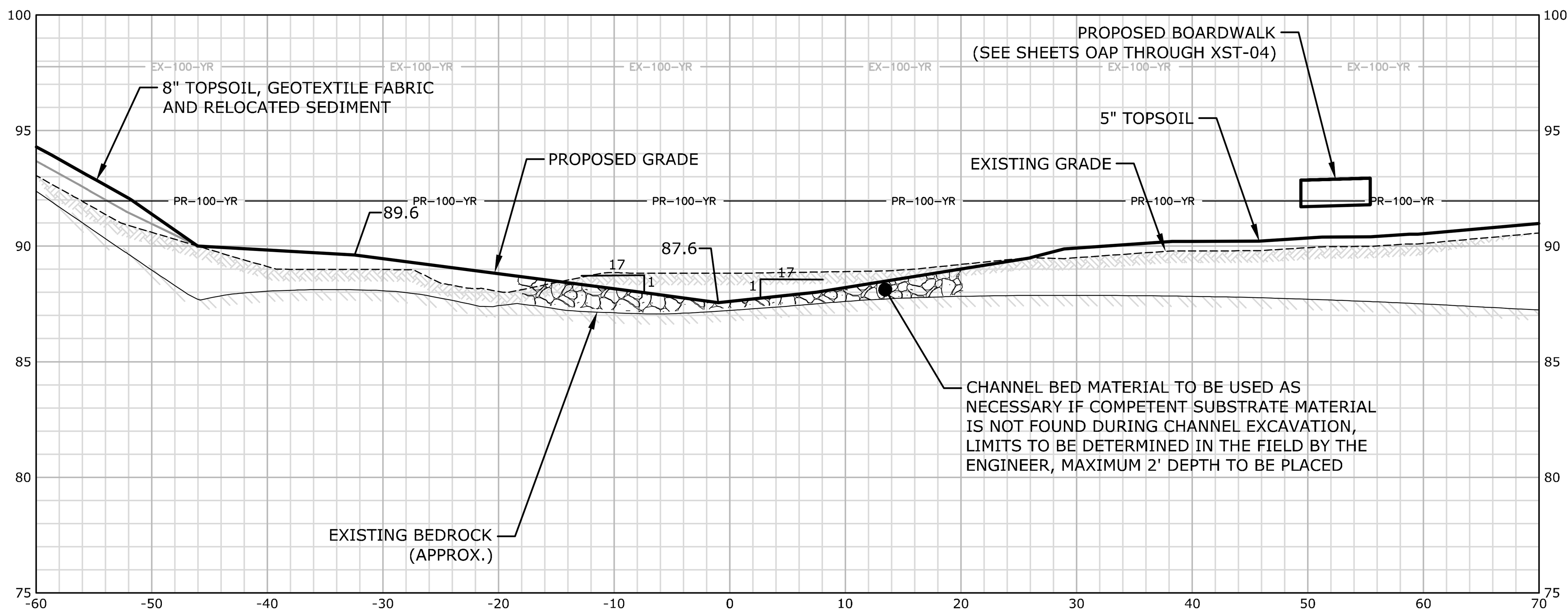
CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=10' (H); 1"=5' (V)

DATE: JUNE 30, 2021

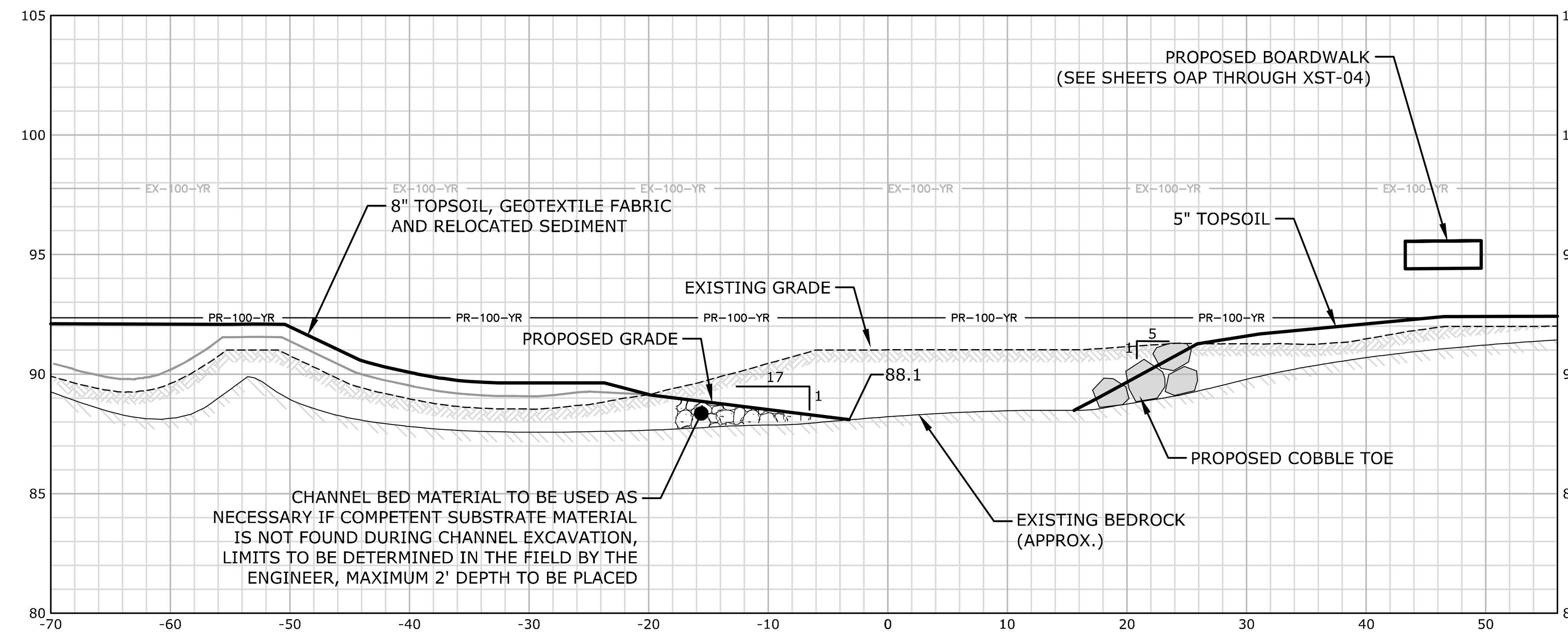
PROJECT NO.: 6998-01

SHEET NAME: CS-5



14+00

NOTE: SEE SHEET XS-1 FOR STA 14+00 IMPOUNDMENT CROSS SECTION.



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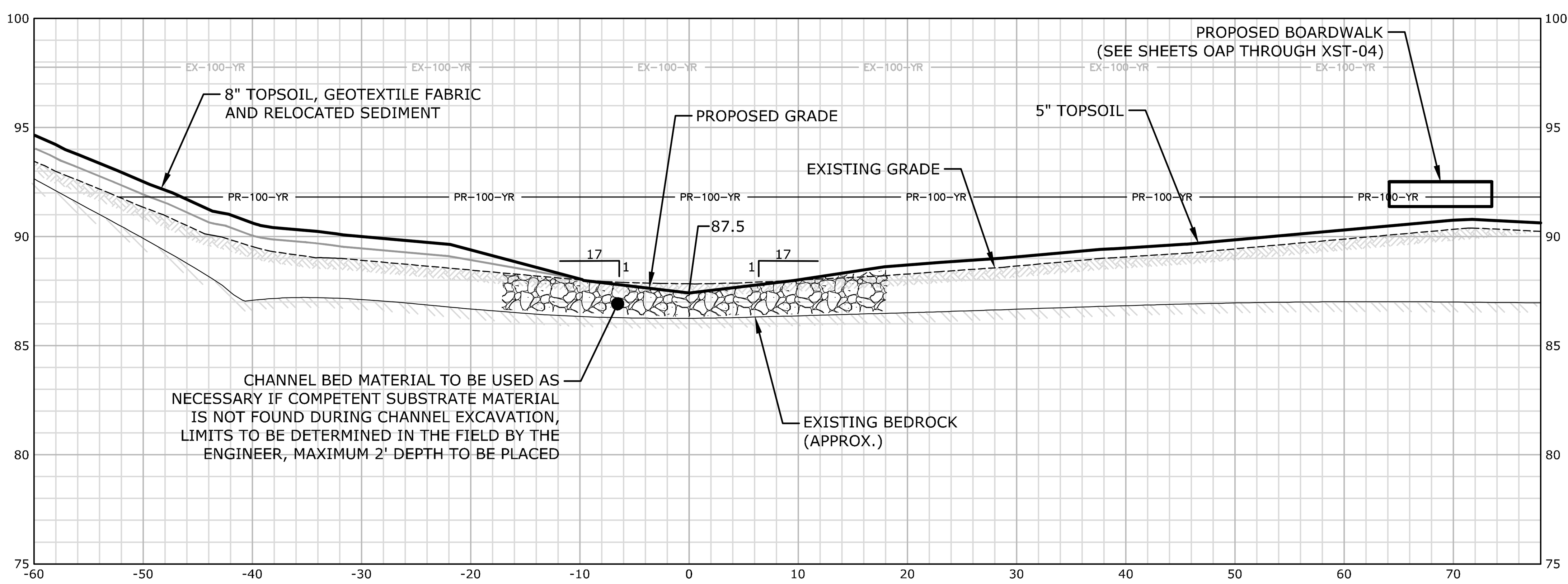

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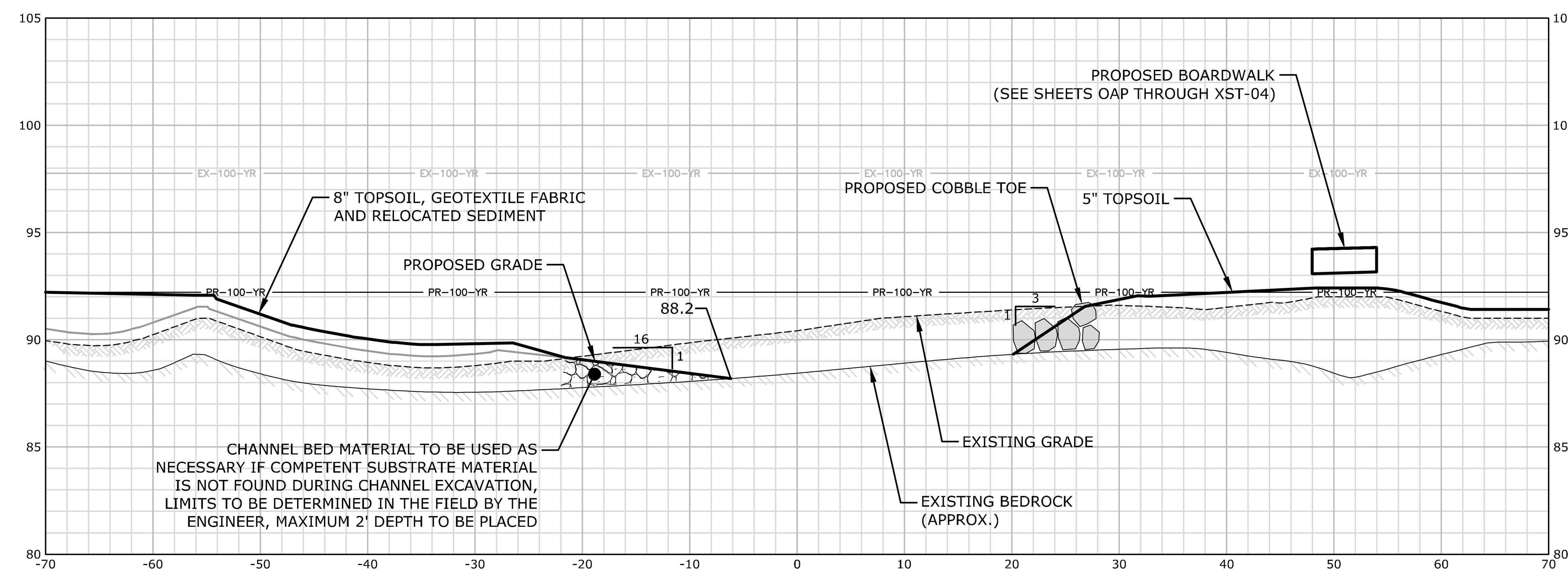

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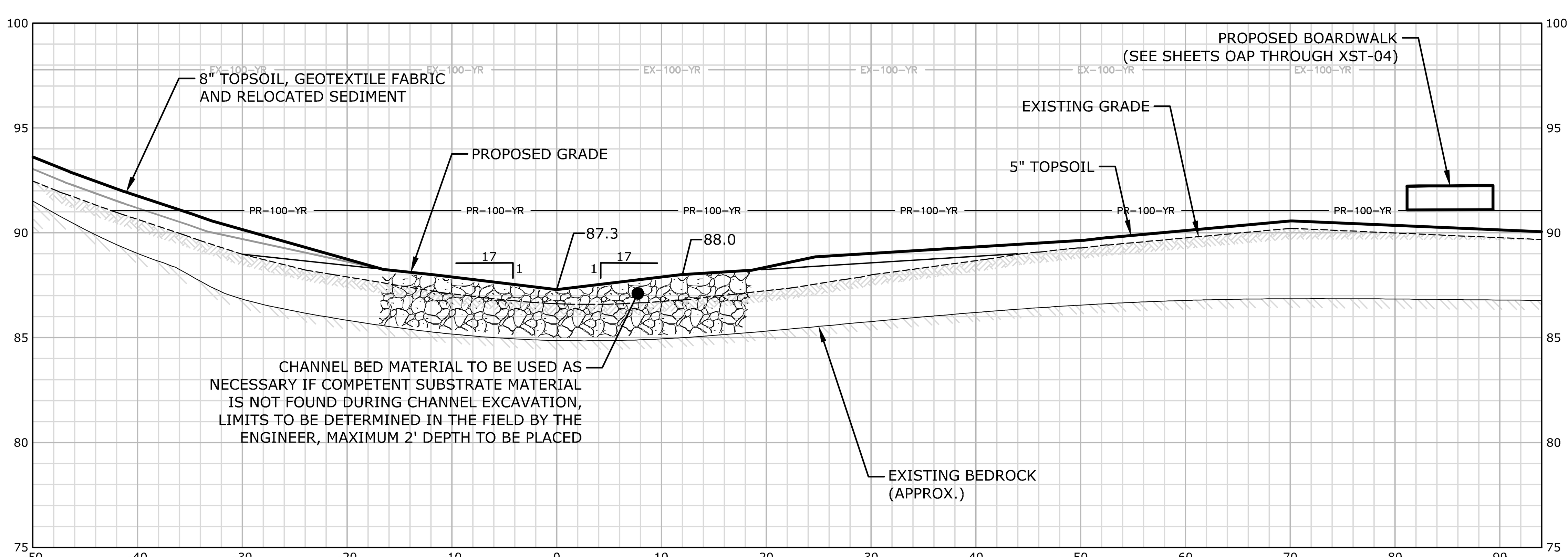
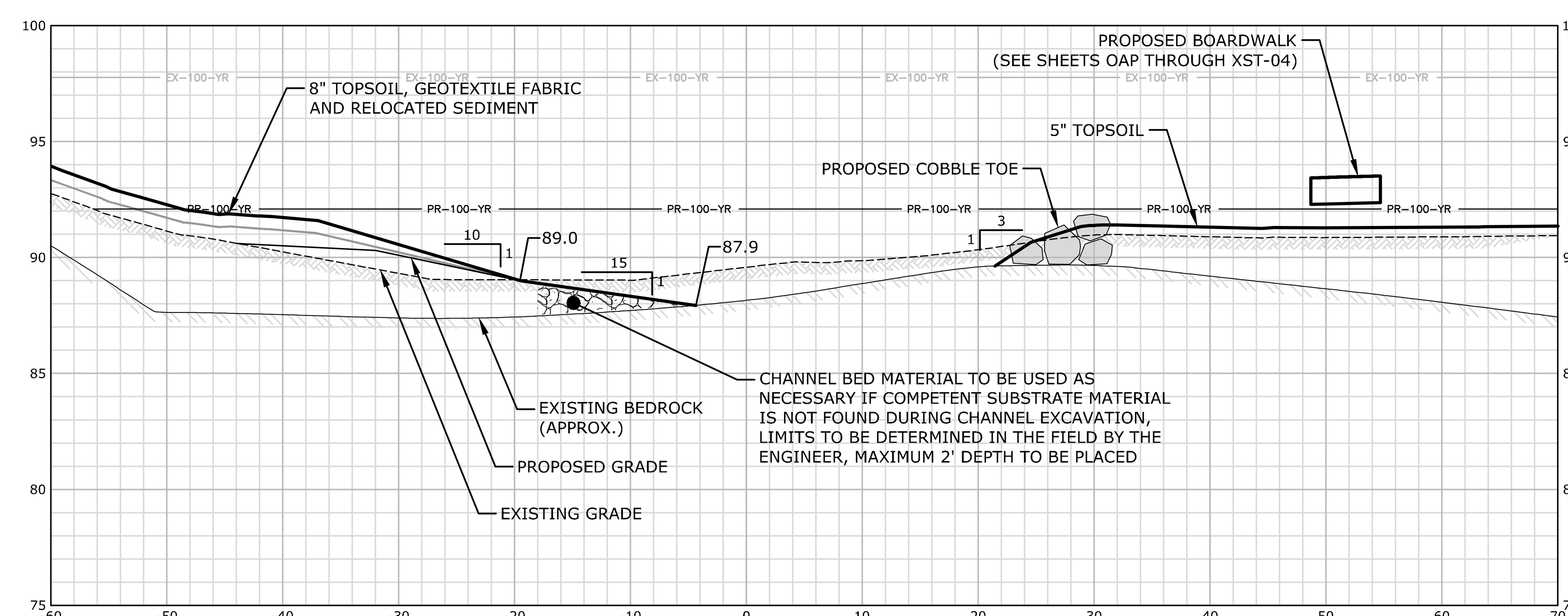


13+50



14+25

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

SLR
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DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

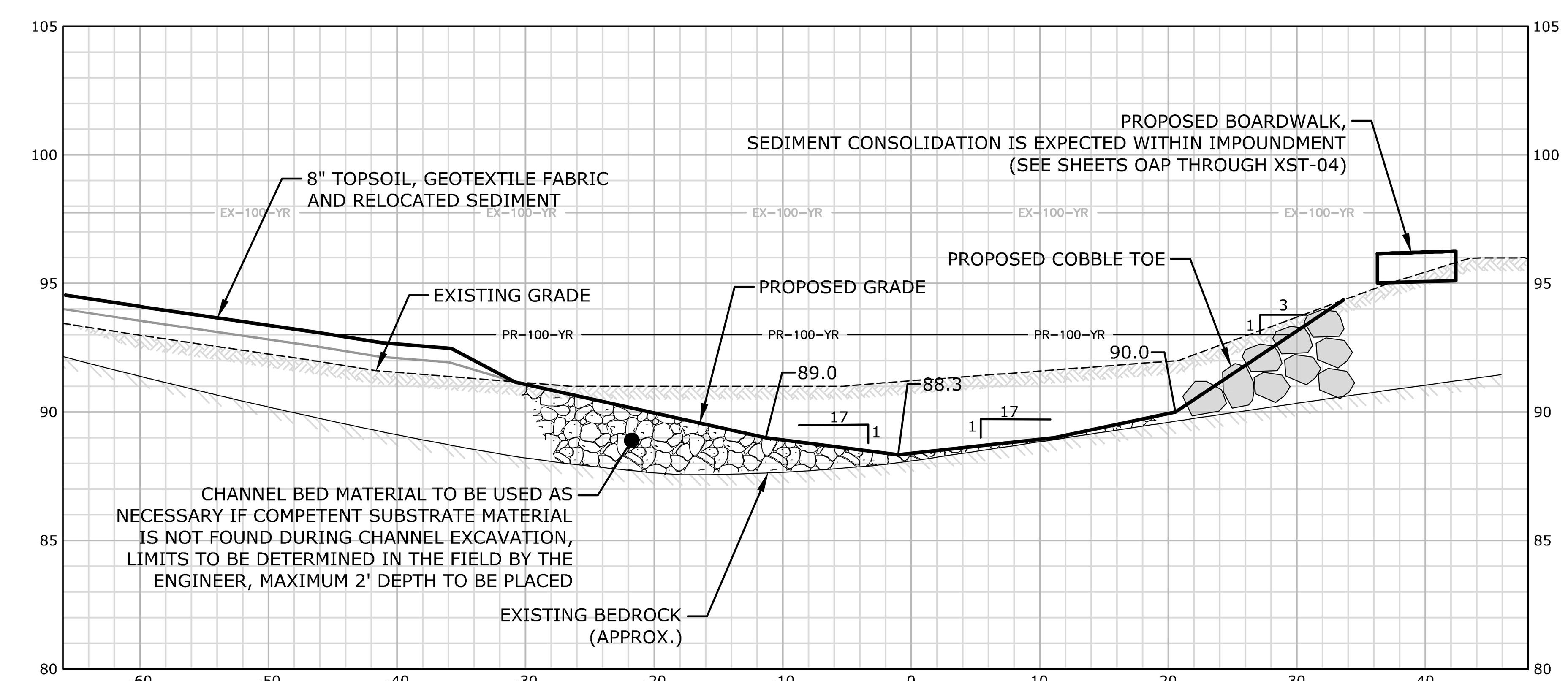
1"=10' (H); 1"=5' (V)
SCALE

JUNE 30, 2021
DATE

6998-01
PROJECT NO.

17 OF 41
SHEET NO.

CS-6
SHEET NAME



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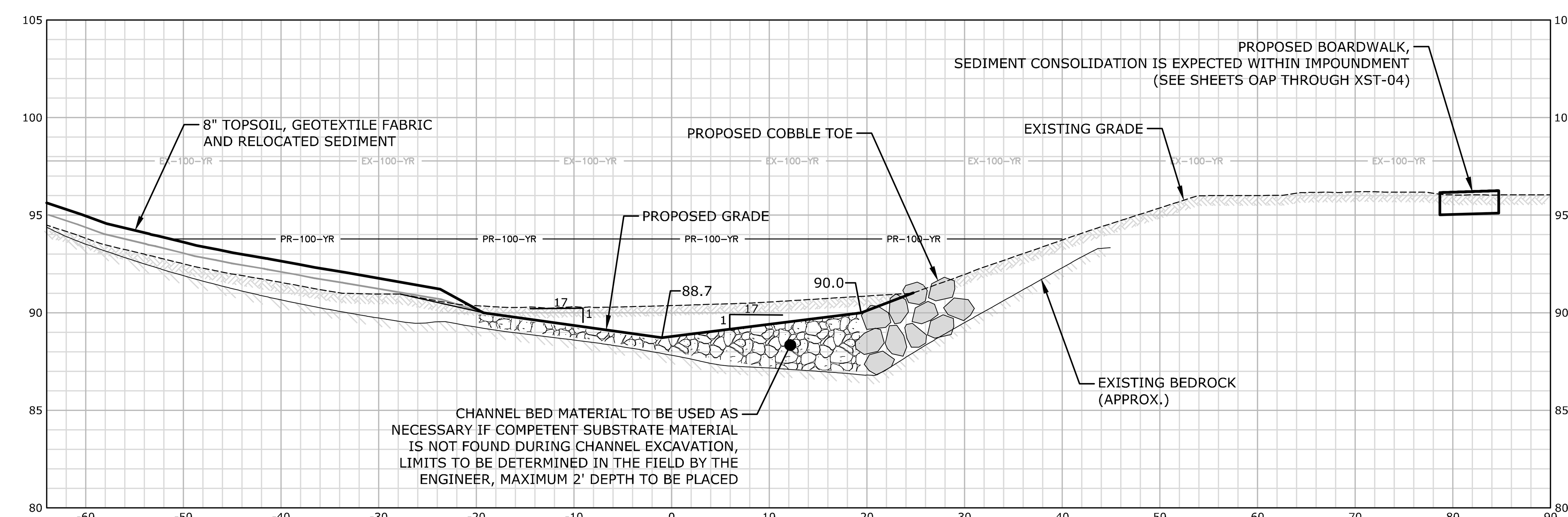

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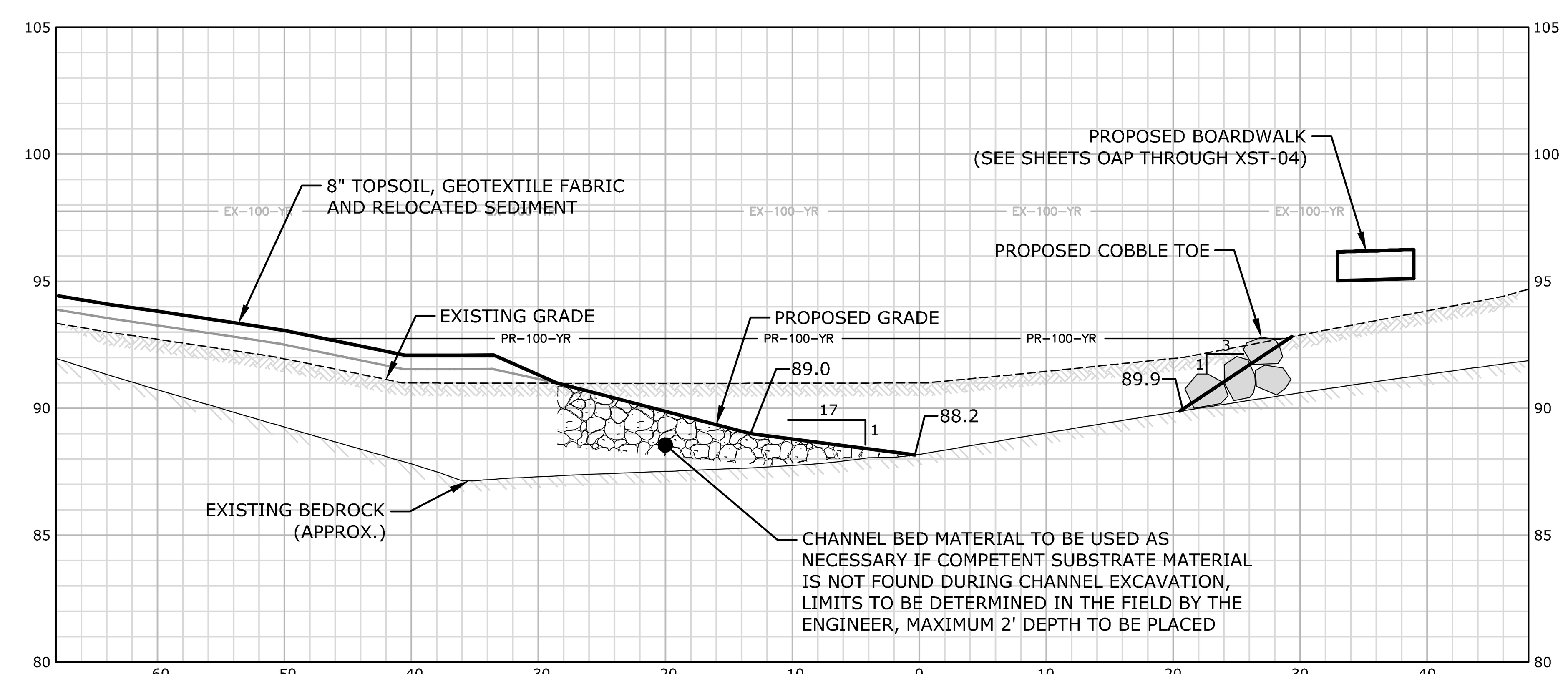

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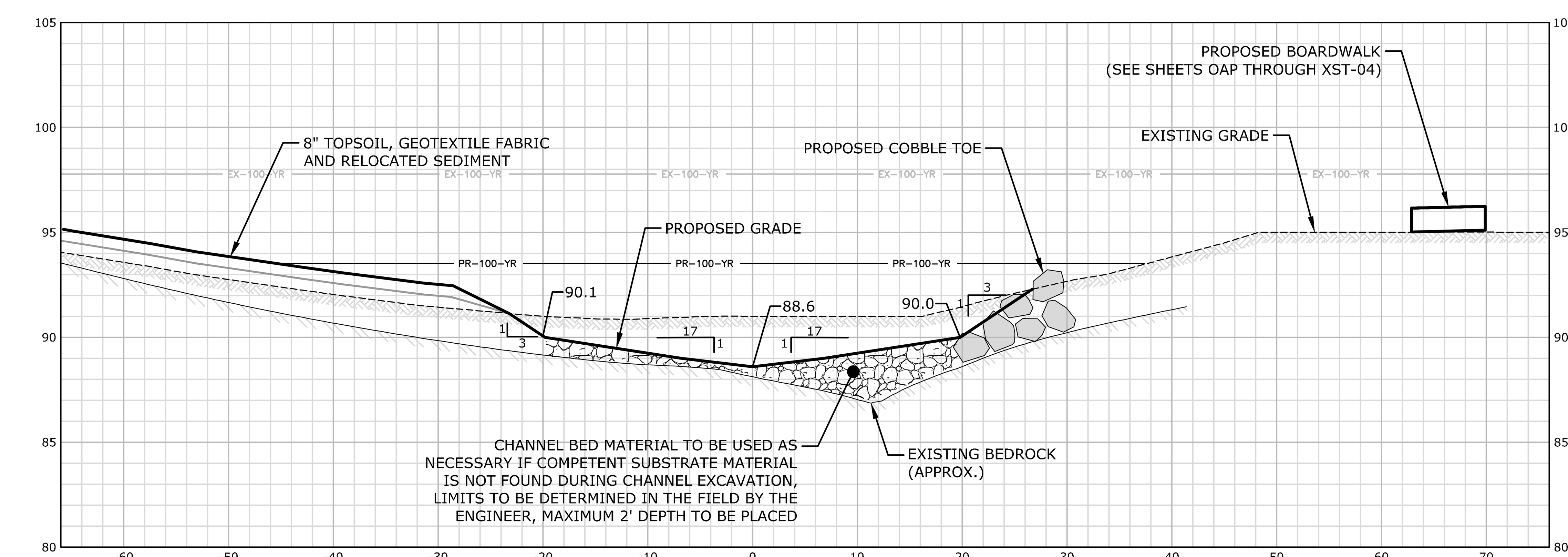
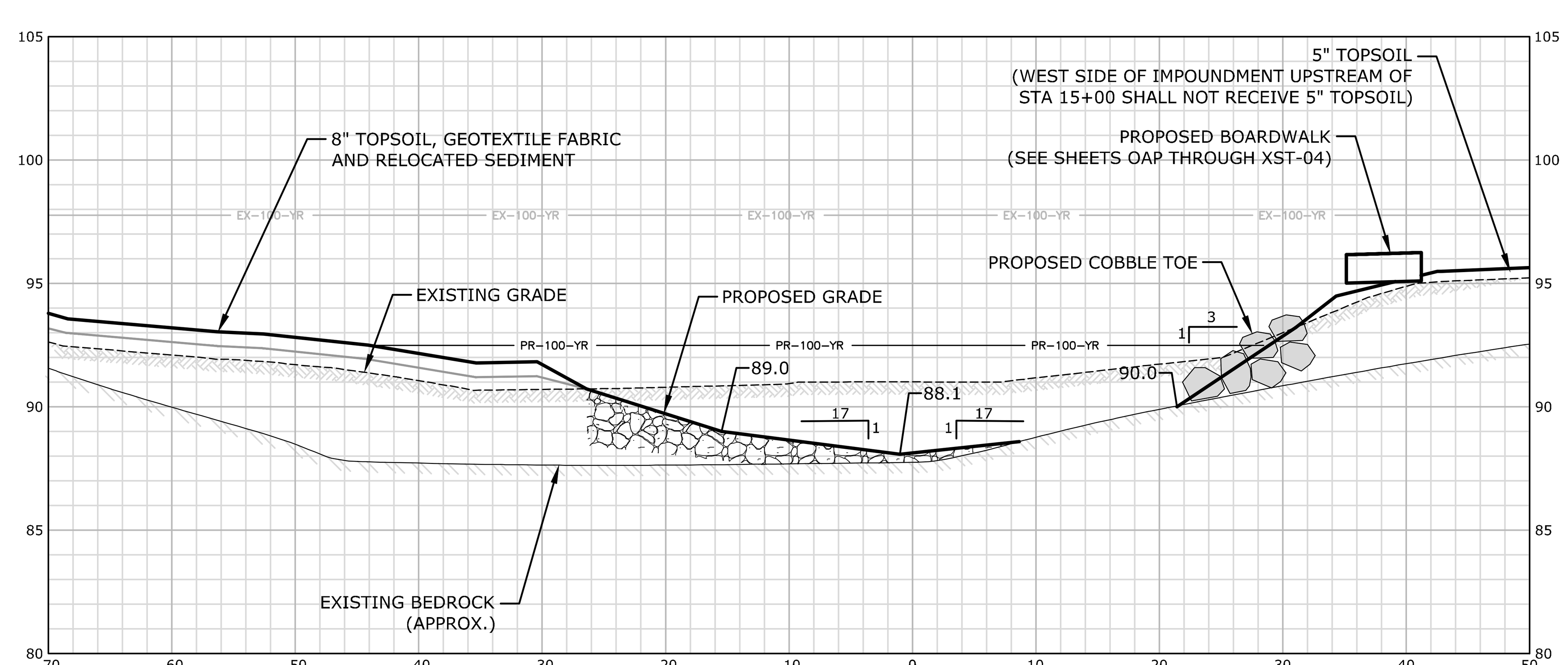


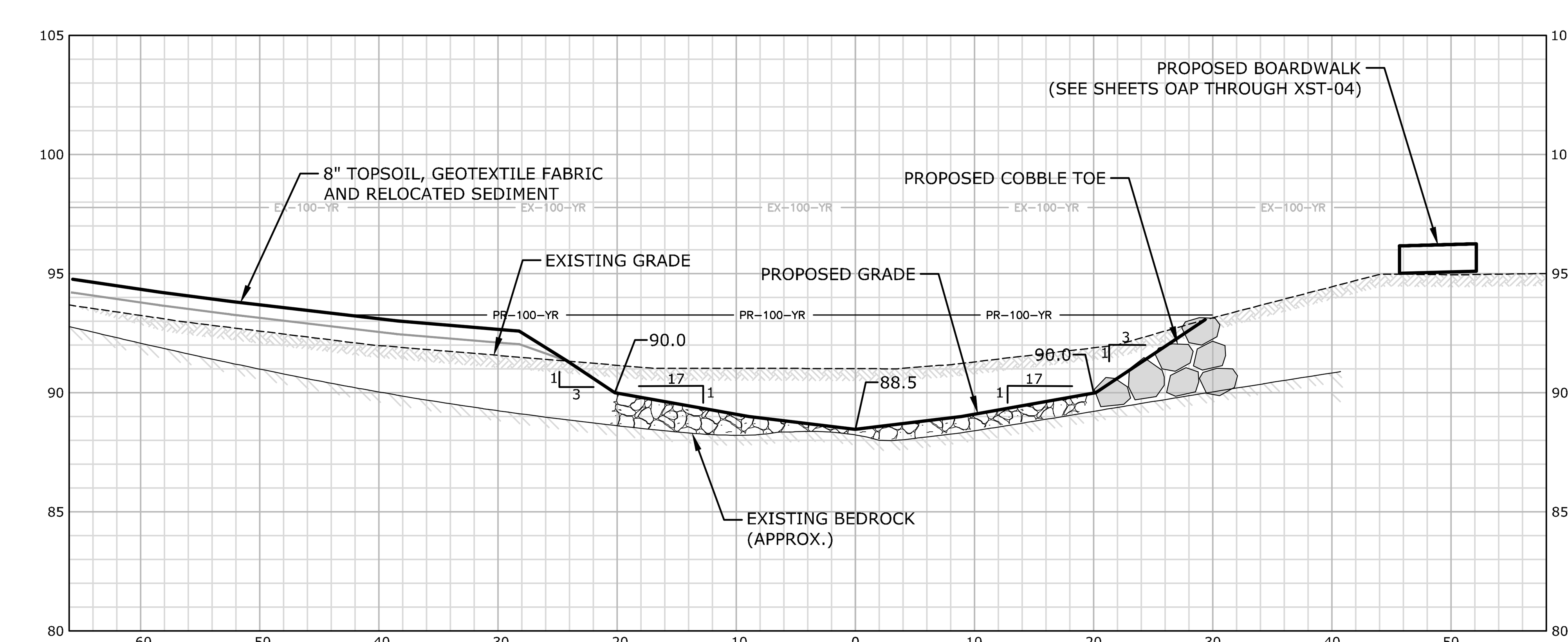
16+00

NOTE: SEE SHEET XS-2 FOR STA 16+00 IMPOUNDMENT CROSS SECTION.



15+00

NOTE: SEE SHEET XS-2 FOR STA 15+00
IMPOUNDMENT CROSS SECTION.



15+75

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

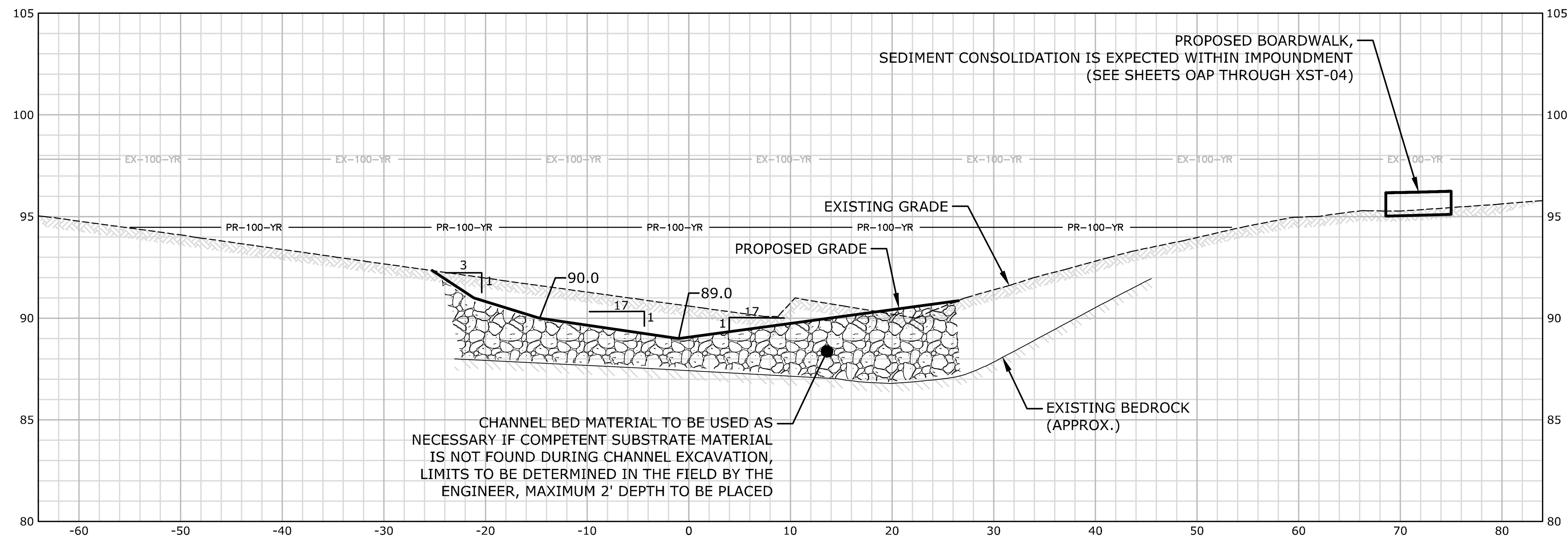
SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

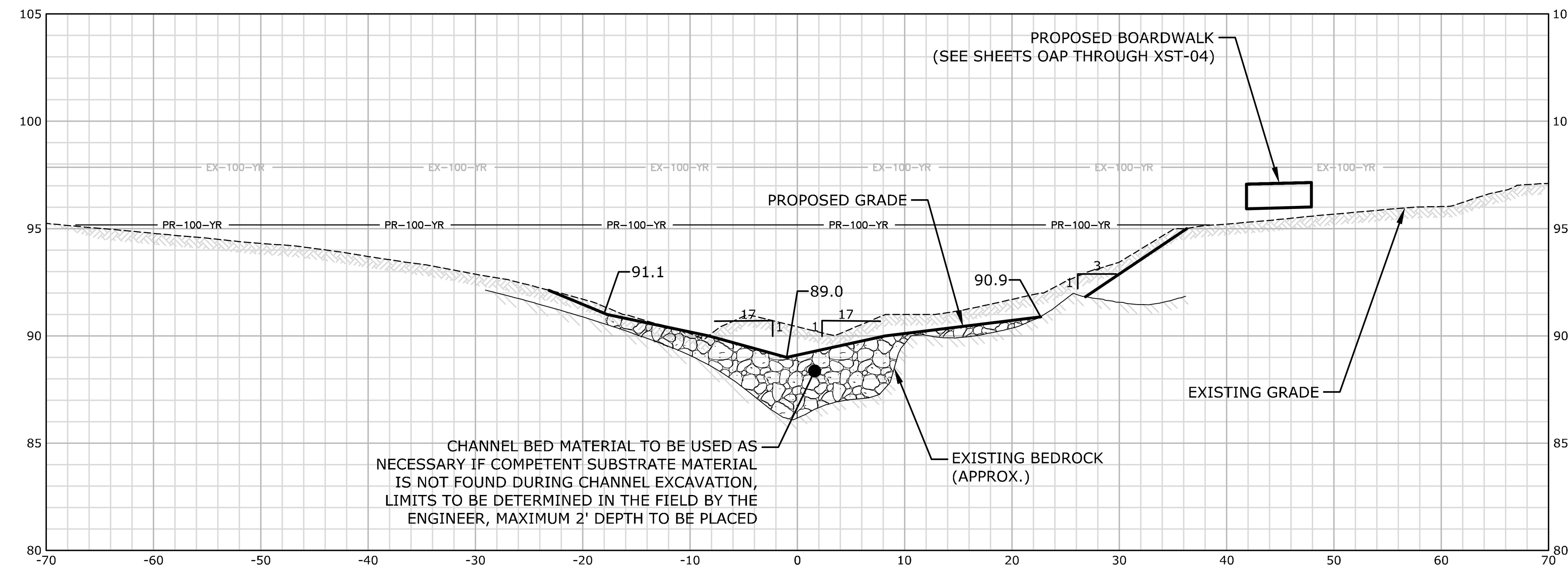
CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=10' (H); 1"=5' (V)
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01
SHEET NO.: 18 OF 41
SHEET NAME: CS-7



17+00

NOTE: SEE SHEET XS-2 FOR STA 17+00 IMPOUNDMENT CROSS SECTION.



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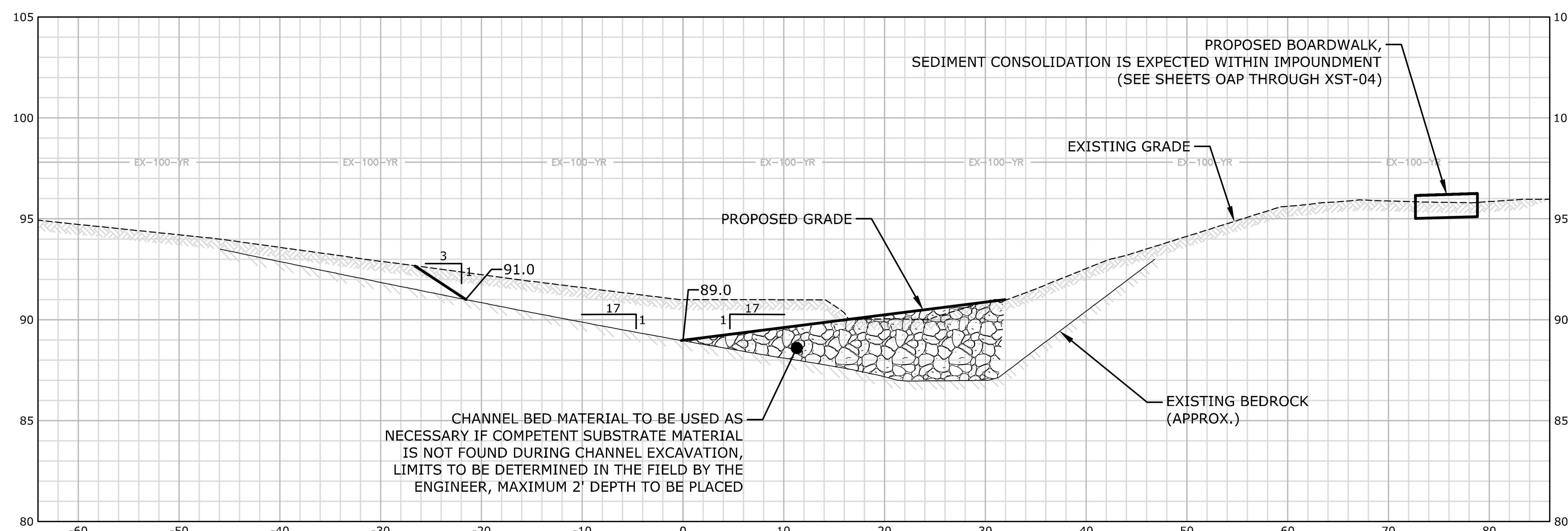

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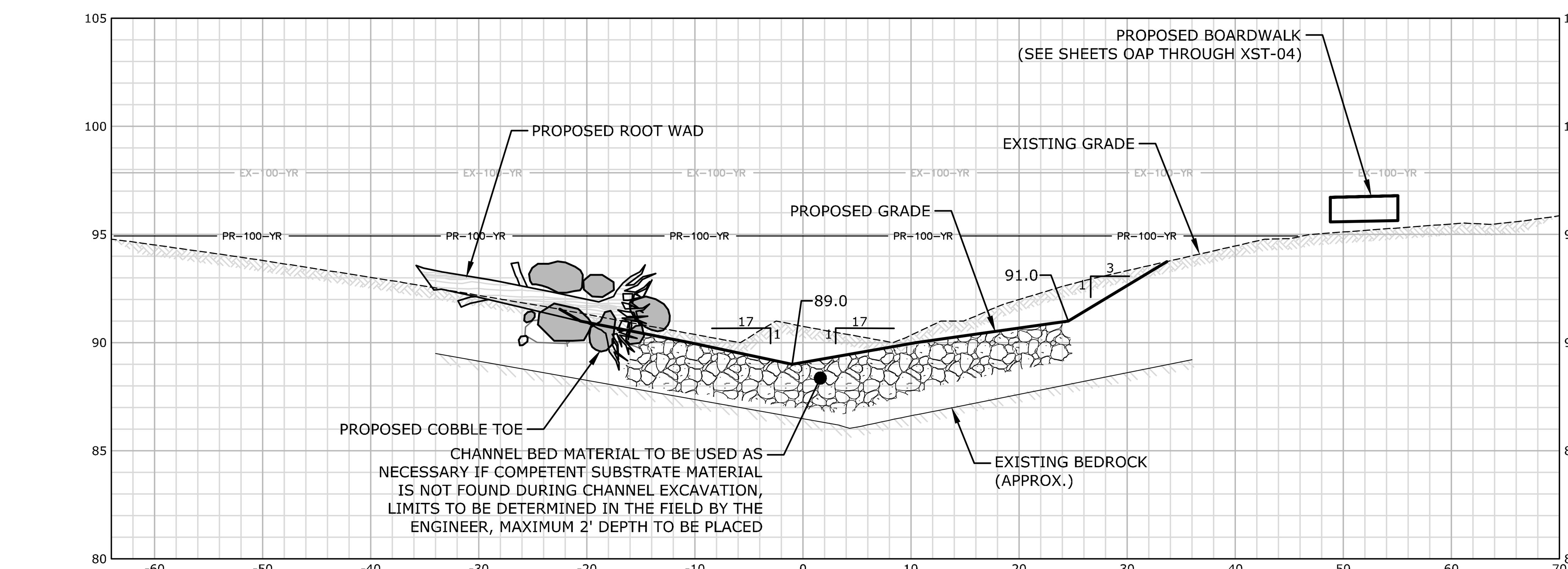

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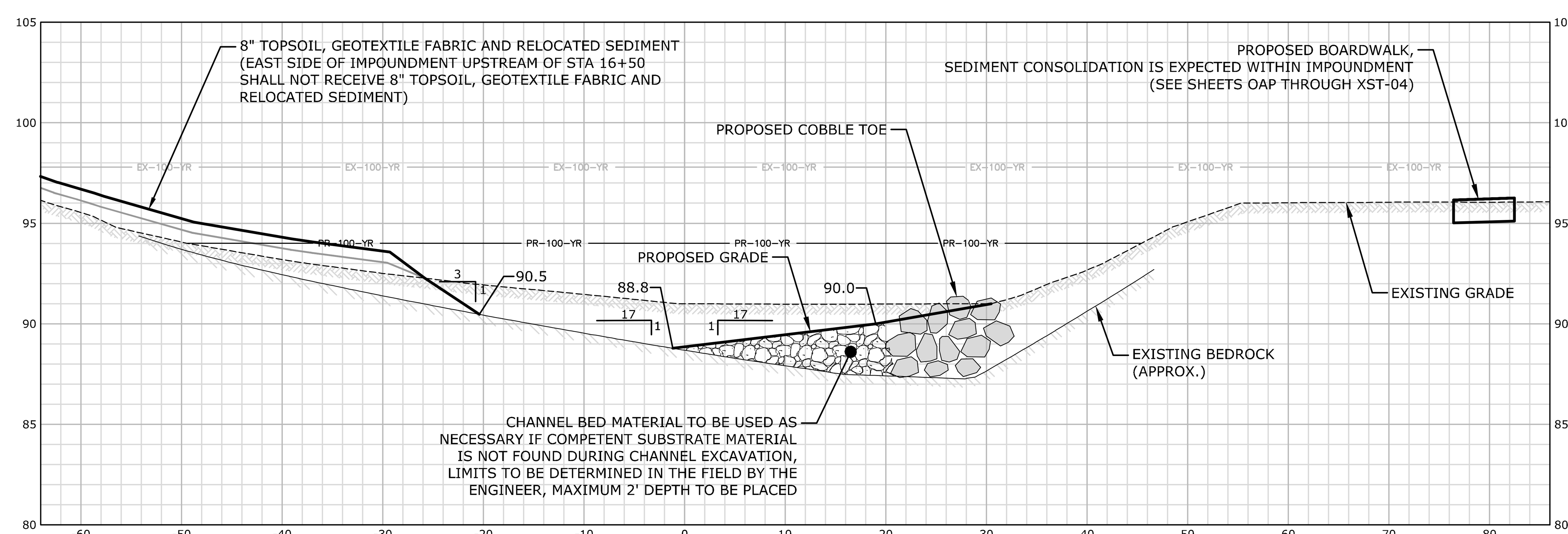

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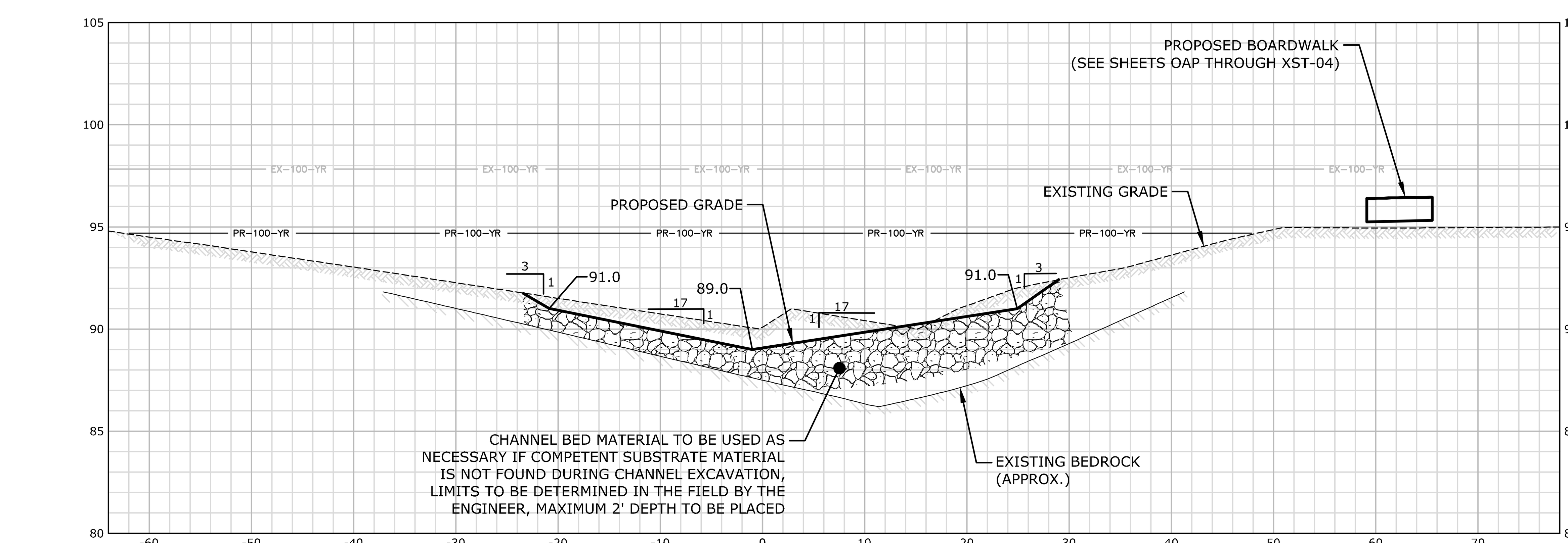


17+25

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EXISTING 100-YR FLOOD ELEVATION
- PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DESIGNED	DRAWN	CHECKED
CME	FRM	WAG

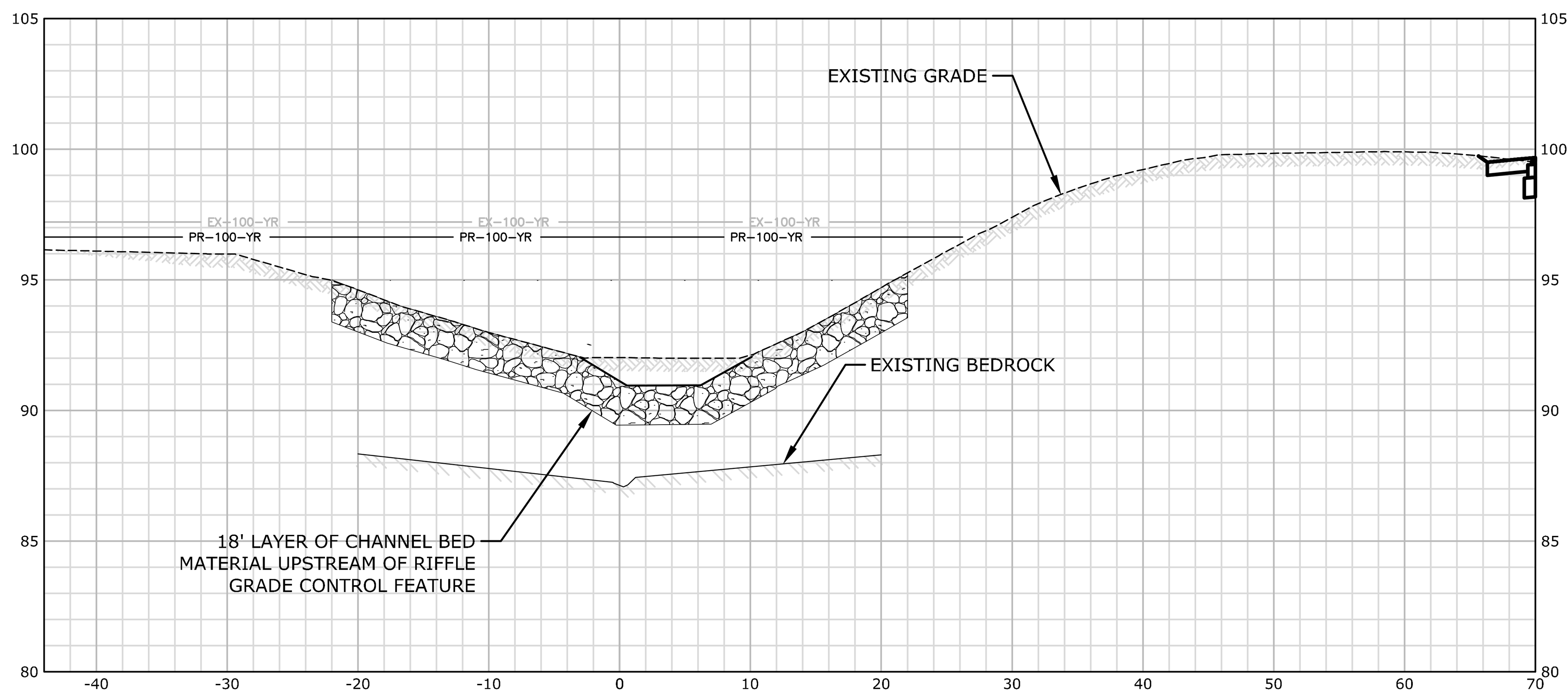
SCALE: 1"=10' (H); 1"=5' (V)

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 19 OF 41

SHEET NAME: CS-8



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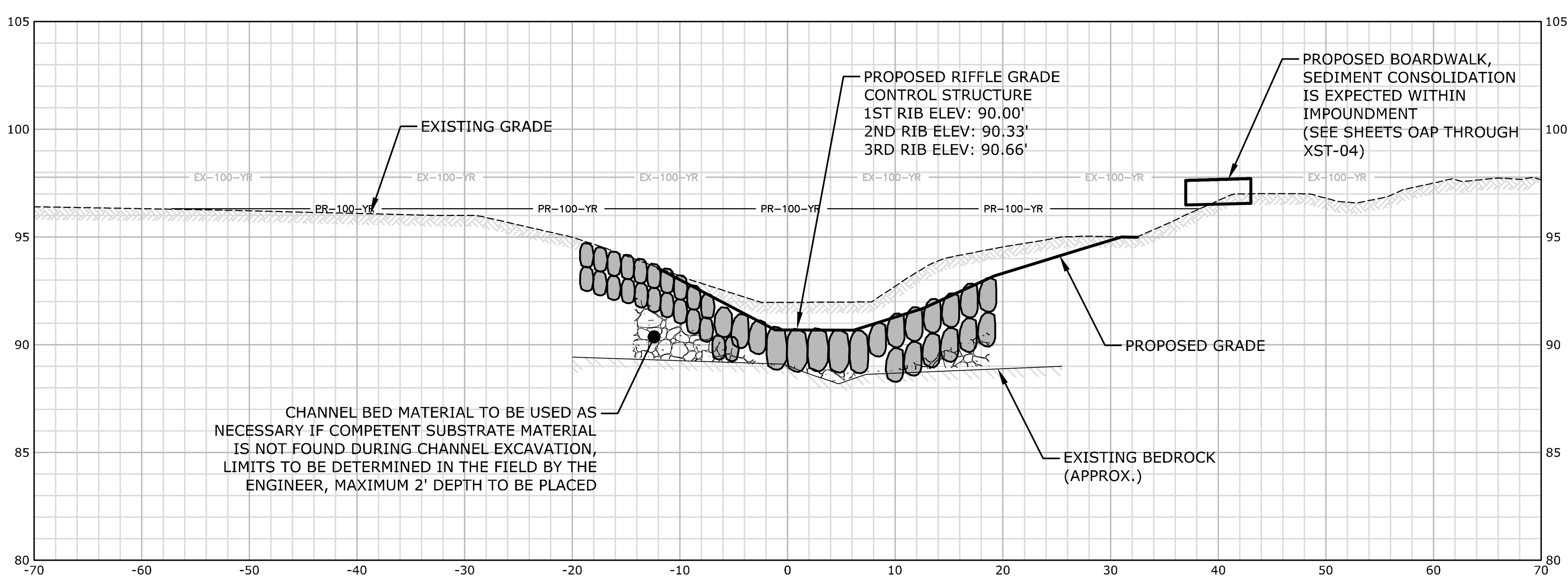

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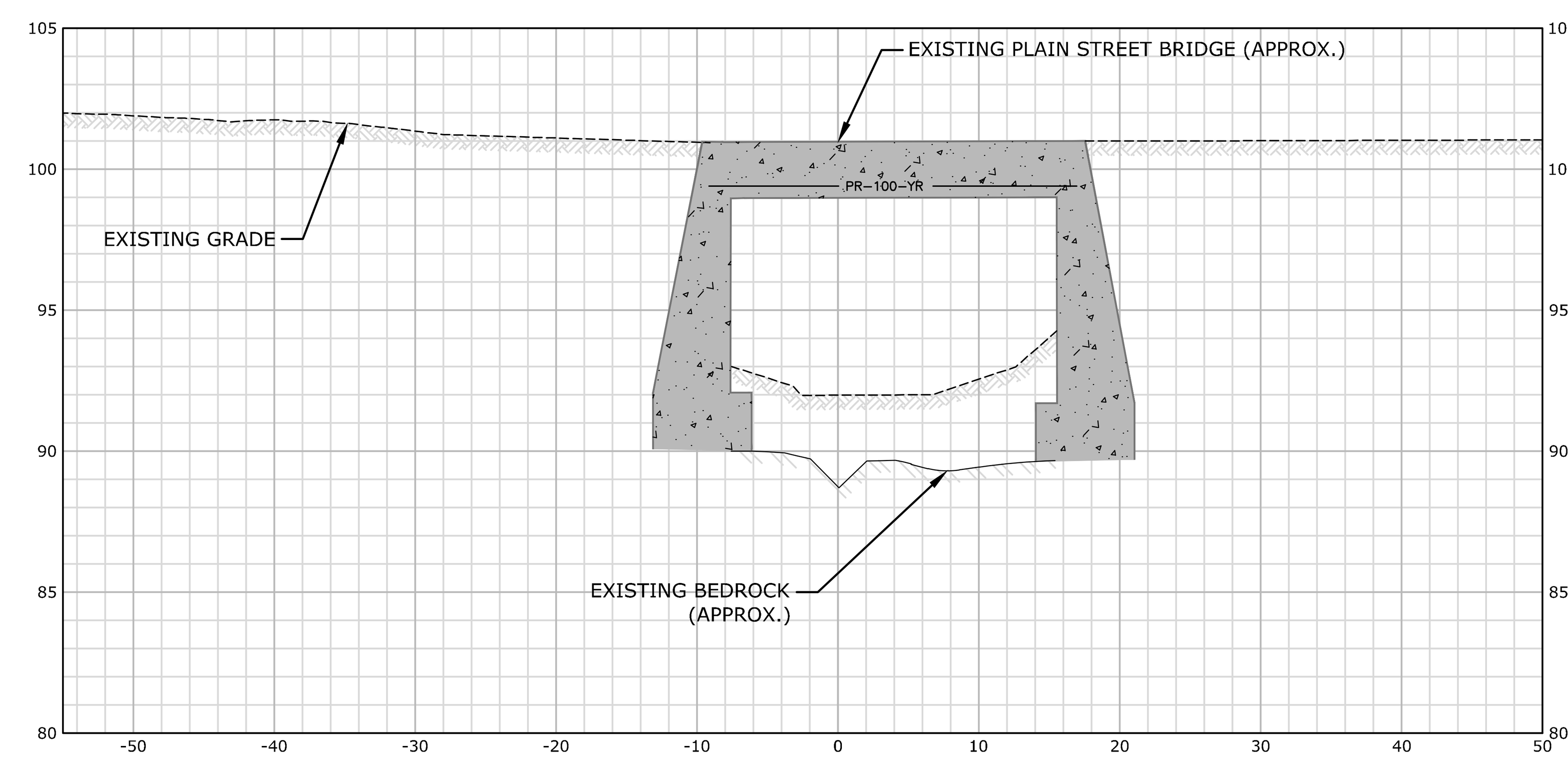

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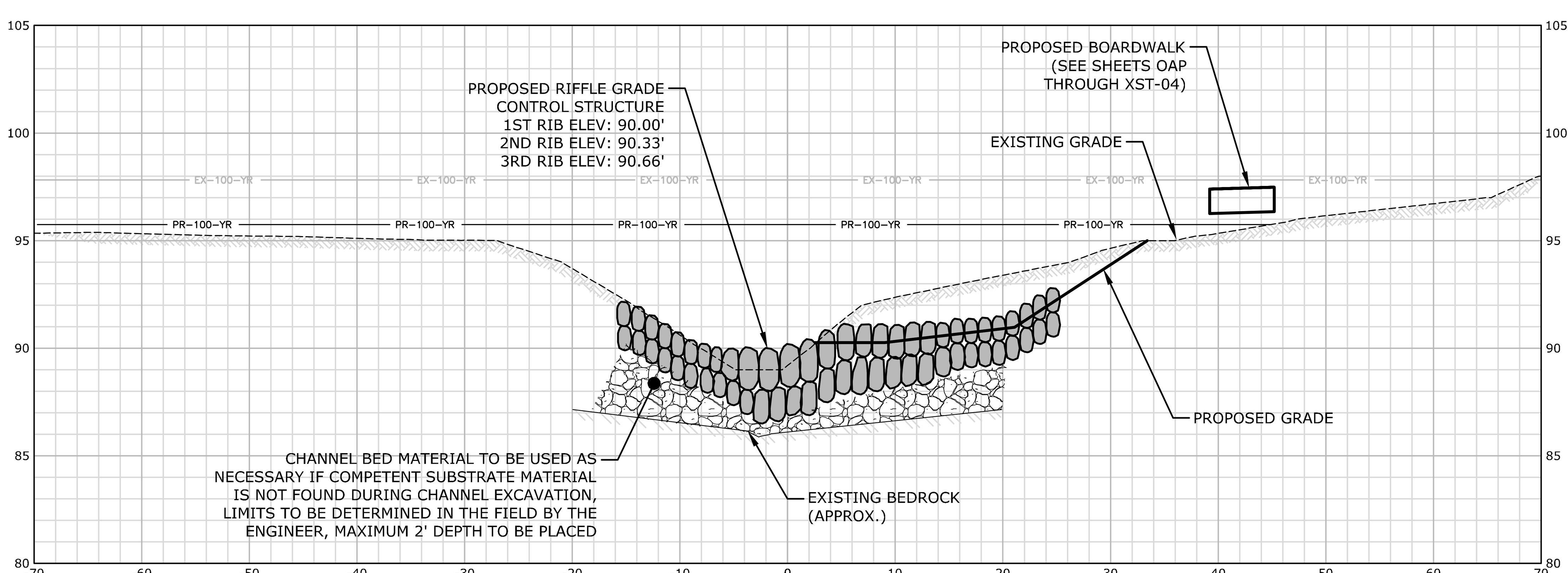

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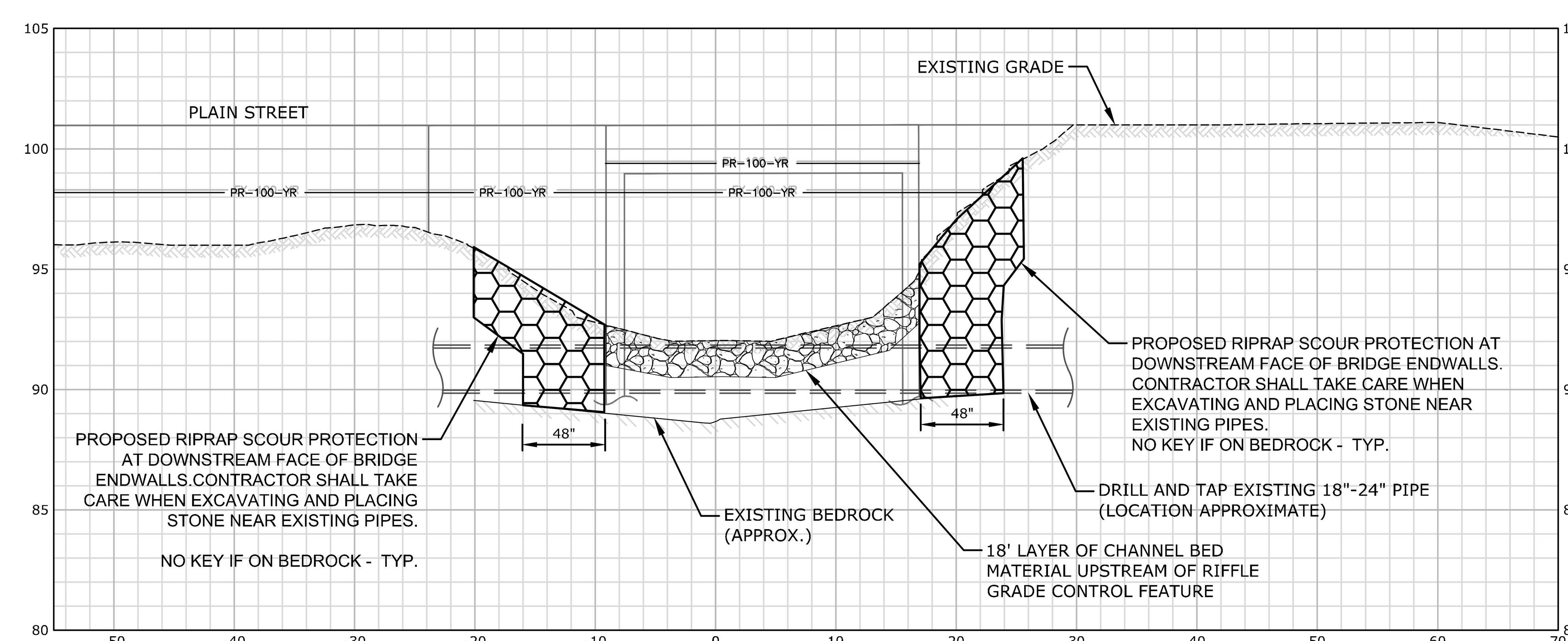


18+75

LEGEND

	EXISTING GRADE
	EXISTING BEDROCK (APPROX.)
	PROPOSED GRADE
	CHANNEL BED MATERIAL
EX-100-YR	EXISTING 100-YR FLOOD ELEVATION
PR-100-YR	PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

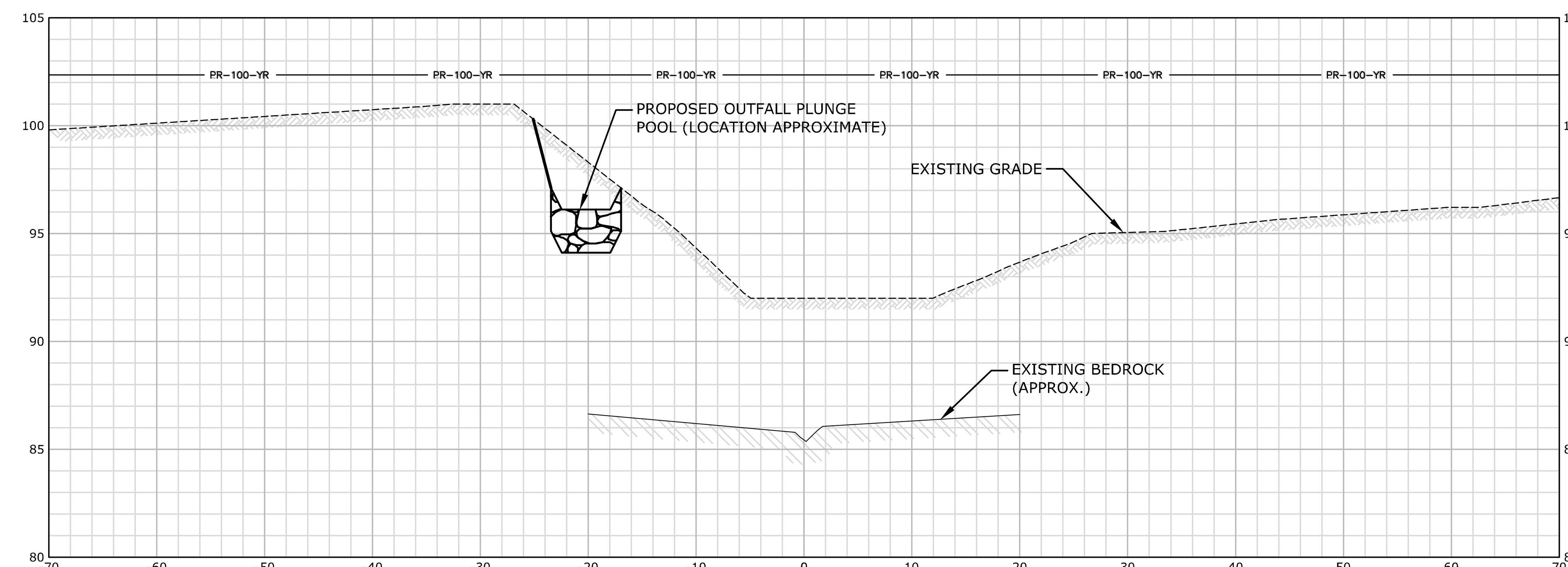
DESIGNED	DRAWN	CHECKED
CME	FRM	WAG

SCALE: 1"=10' (H); 1"=5' (V)

DATE: JUNE 30, 2021

PROJECT NO. 6998-01

SHEET NAME: CS-9



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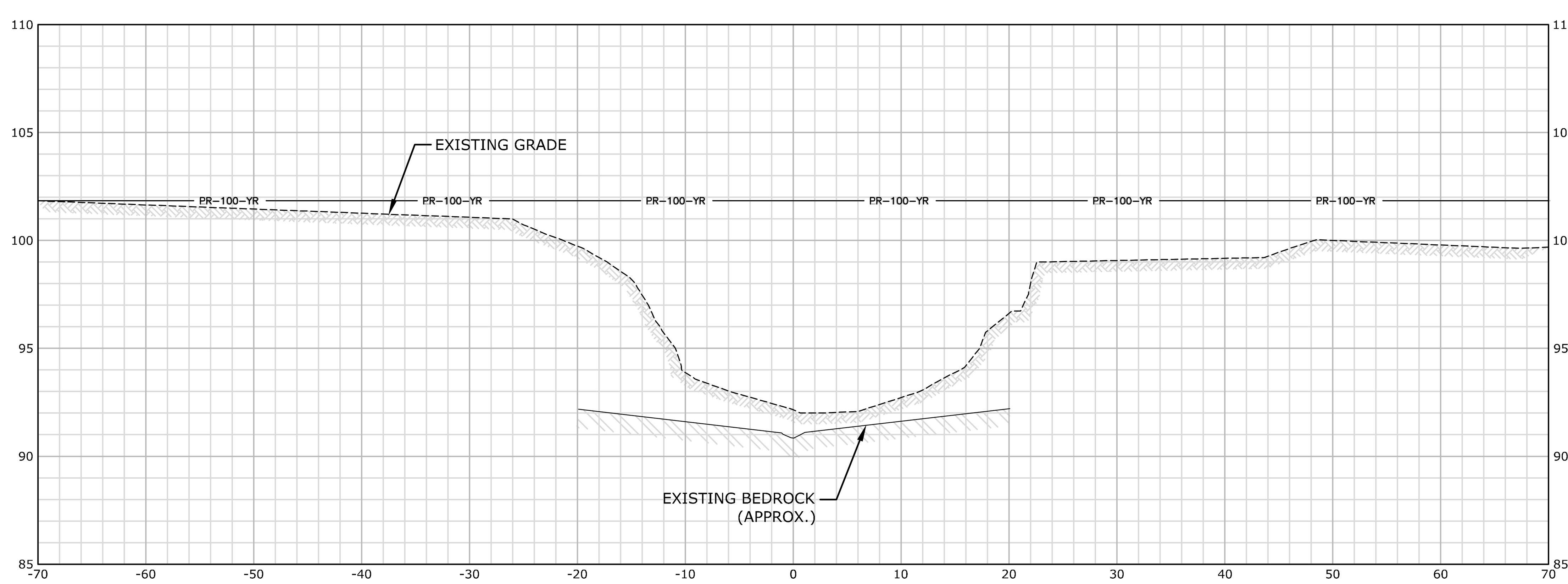

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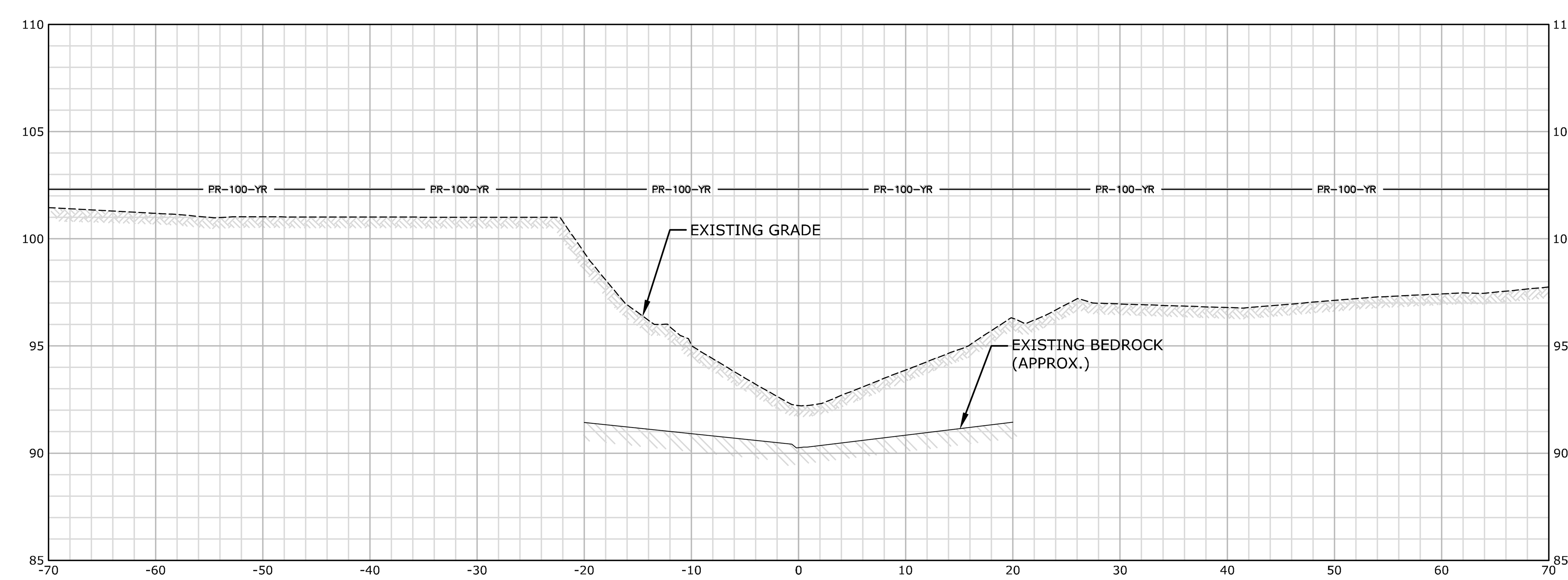


20+00

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER (LOOKING UPSTREAM)

SCALE: 1"=10' (H) ; 1"=5' (V)

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

CHANNEL CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

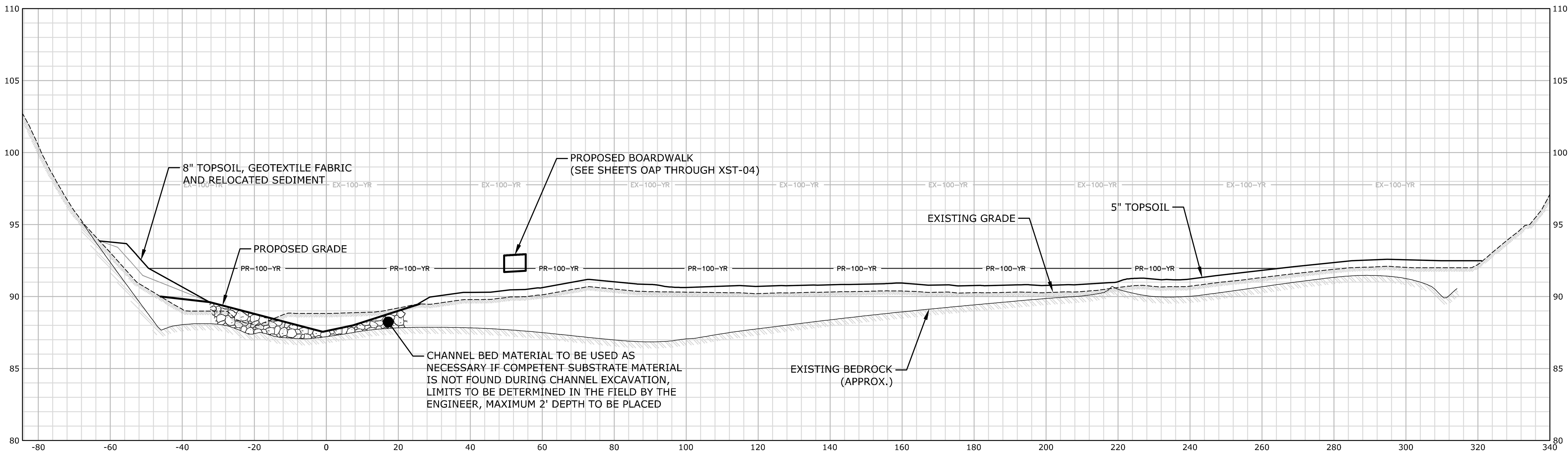
SCALE: 1"=10' (H); 1"=5' (V)

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 21 OF 41

SHEET NAME: **CS-10**



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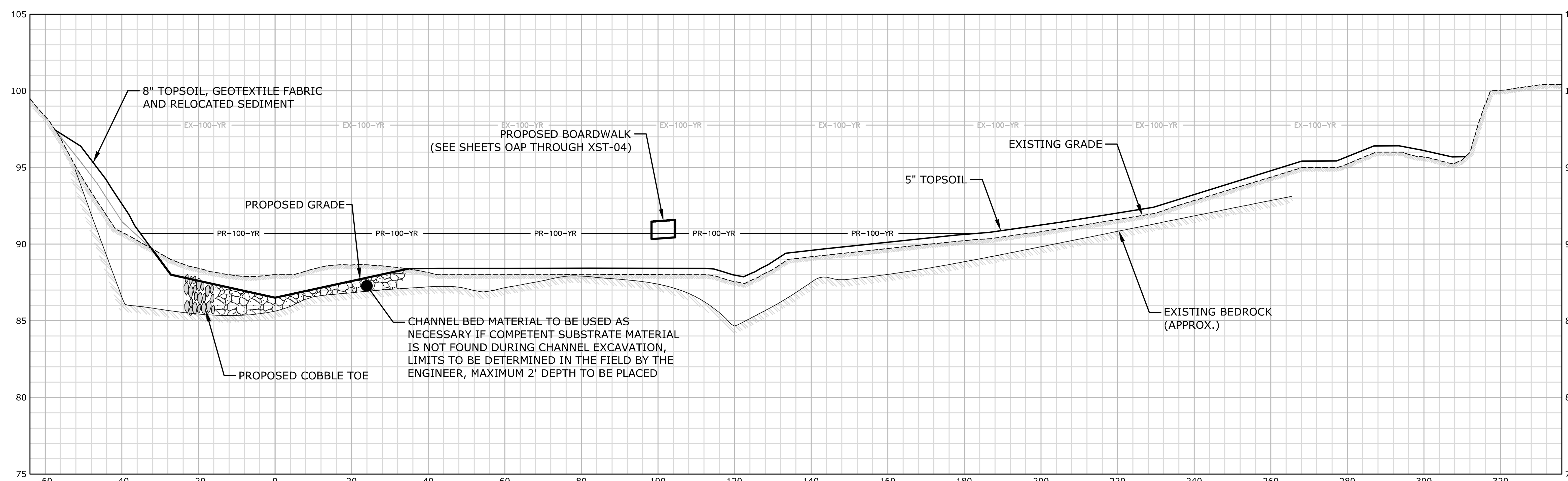

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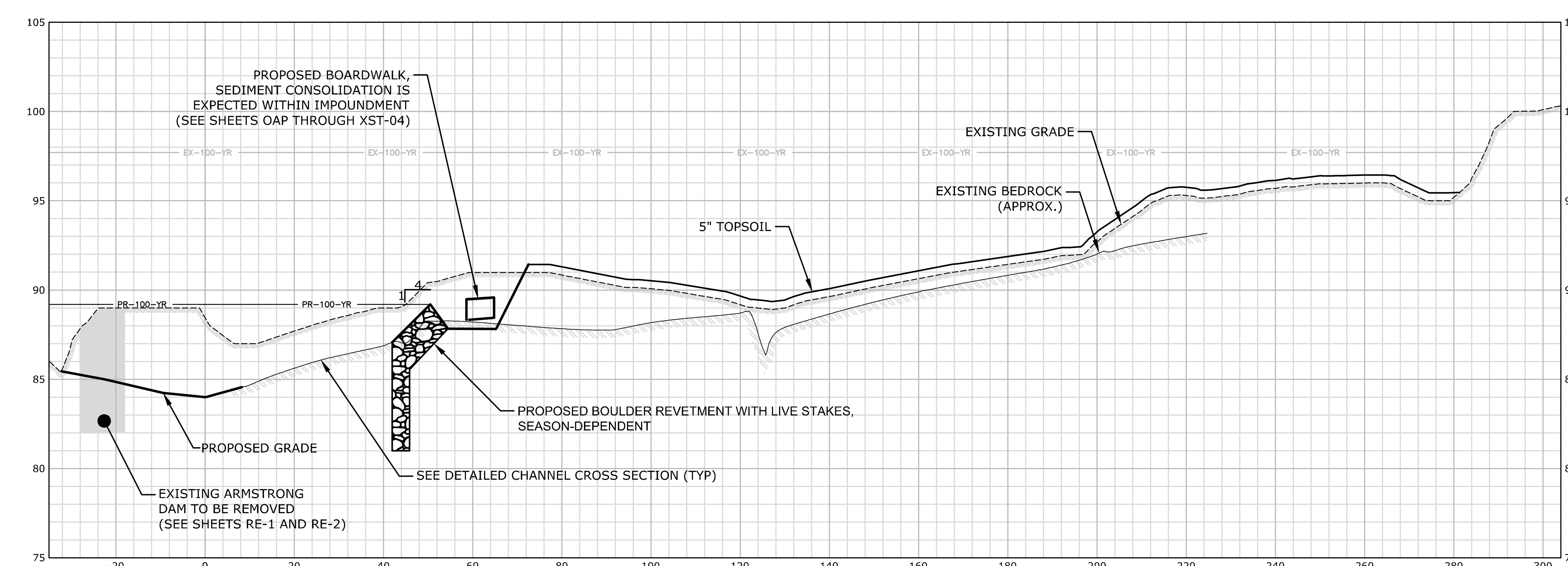

10+00

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER IMPOUNDMENT (LOOKING UPSTREAM)

SCALE: 1"=20' (H) ; 1"=5' (V)

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CHESHIRE, CT 06410
203.271.1773
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DESCRIPTION	DATE	BY

IMPOUNDMENT CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

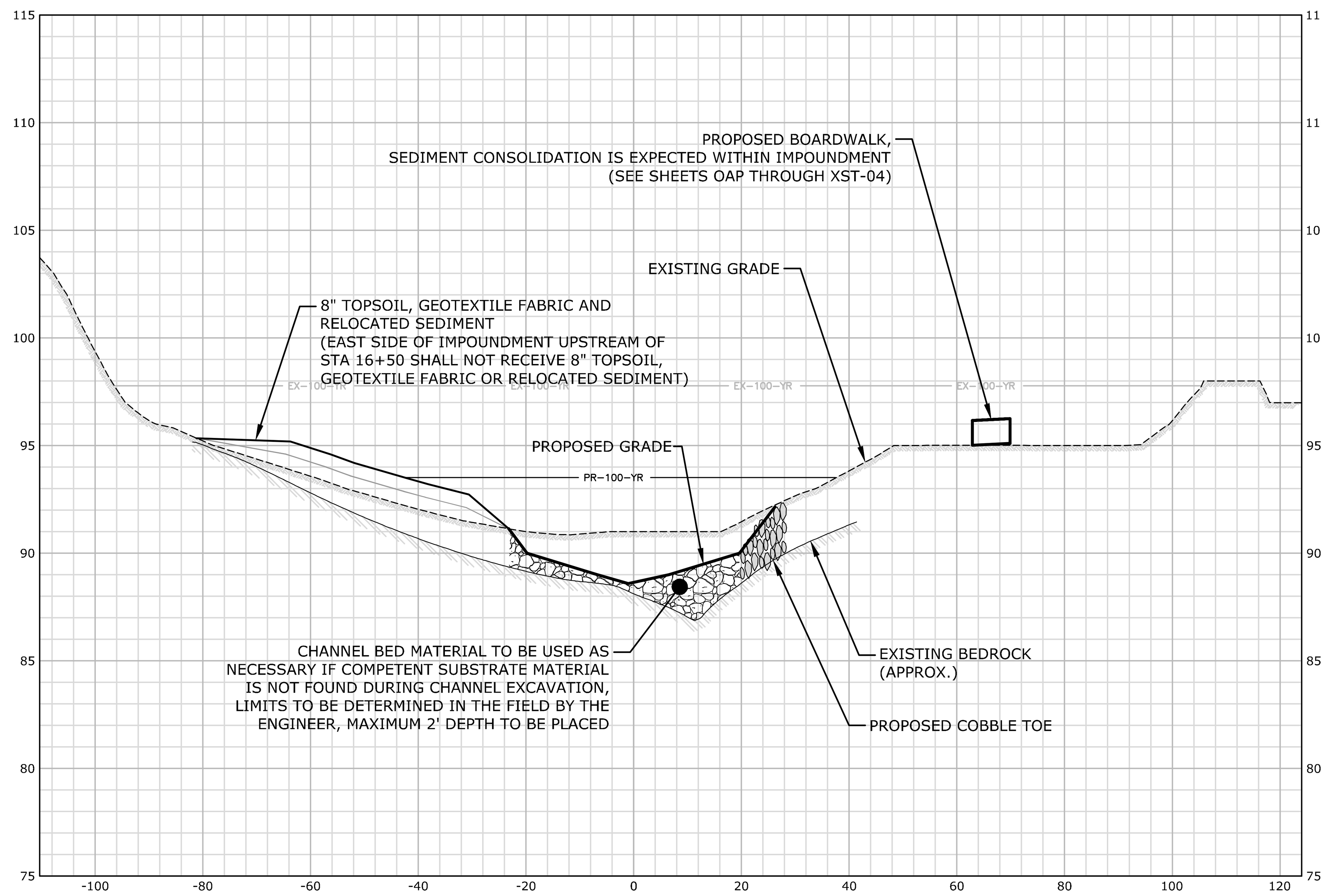
CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=20' (H); 1"=5' (V)

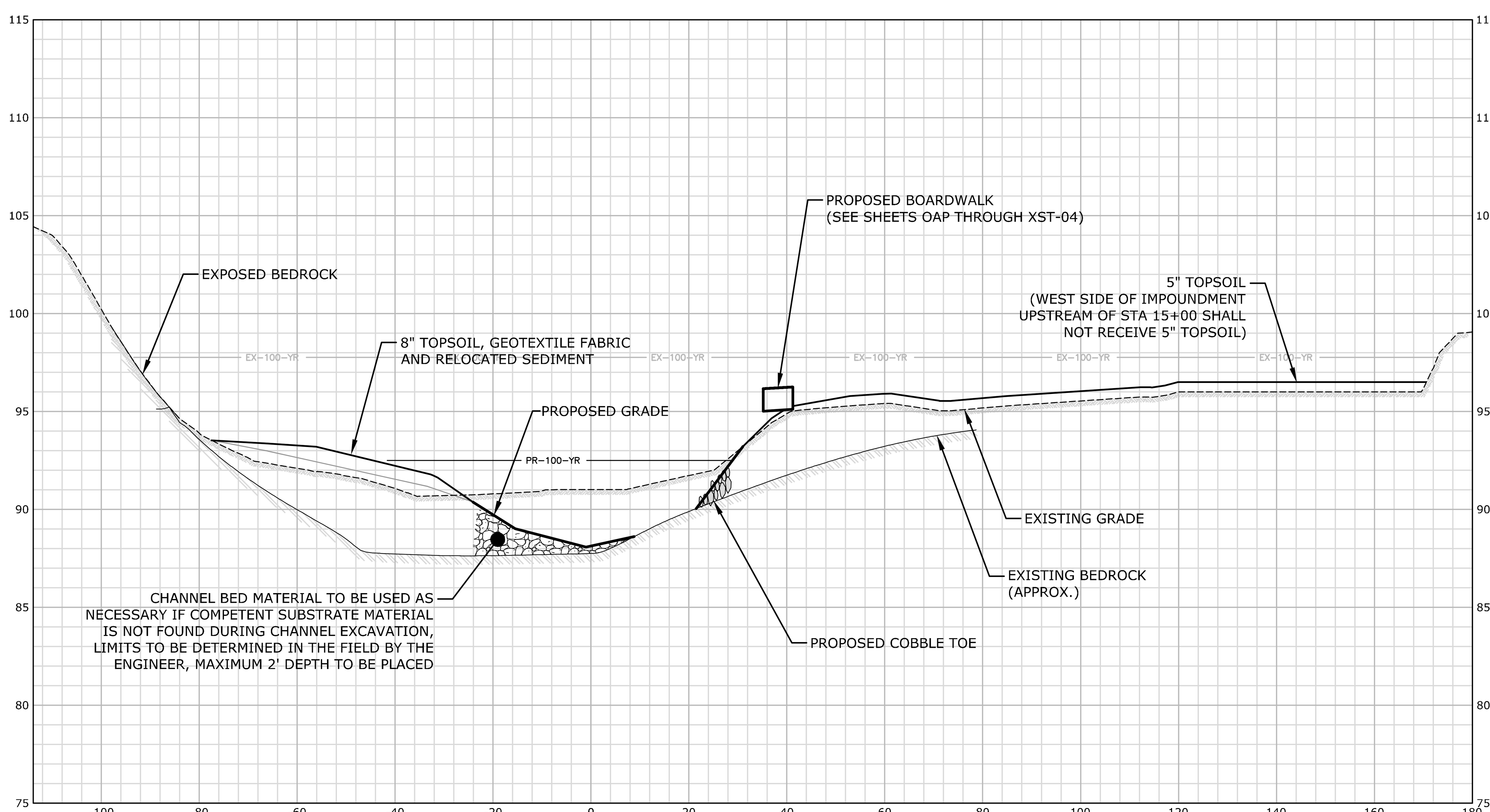
DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NAME: XS-1



16+00



15+00

LEGEND

- EXISTING GRADE
- EXISTING BEDROCK (APPROX.)
- PROPOSED GRADE
- CHANNEL BED MATERIAL
- EX-100-YR — EXISTING 100-YR FLOOD ELEVATION
- PR-100-YR — PROPOSED 100-YR FLOOD ELEVATION

MONATIQUOT RIVER IMPOUNDMENT (LOOKING UPSTREAM)

SCALE: 1"=20' (H) ; 1"=5' (V)

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CHESHIRE, CT 06410
203.271.1773
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DESCRIPTION	DATE	BY

IMPOUNDMENT CROSS SECTIONS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	FRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=20' (H); 1"=5' (V)

DATE: JUNE 30, 2021

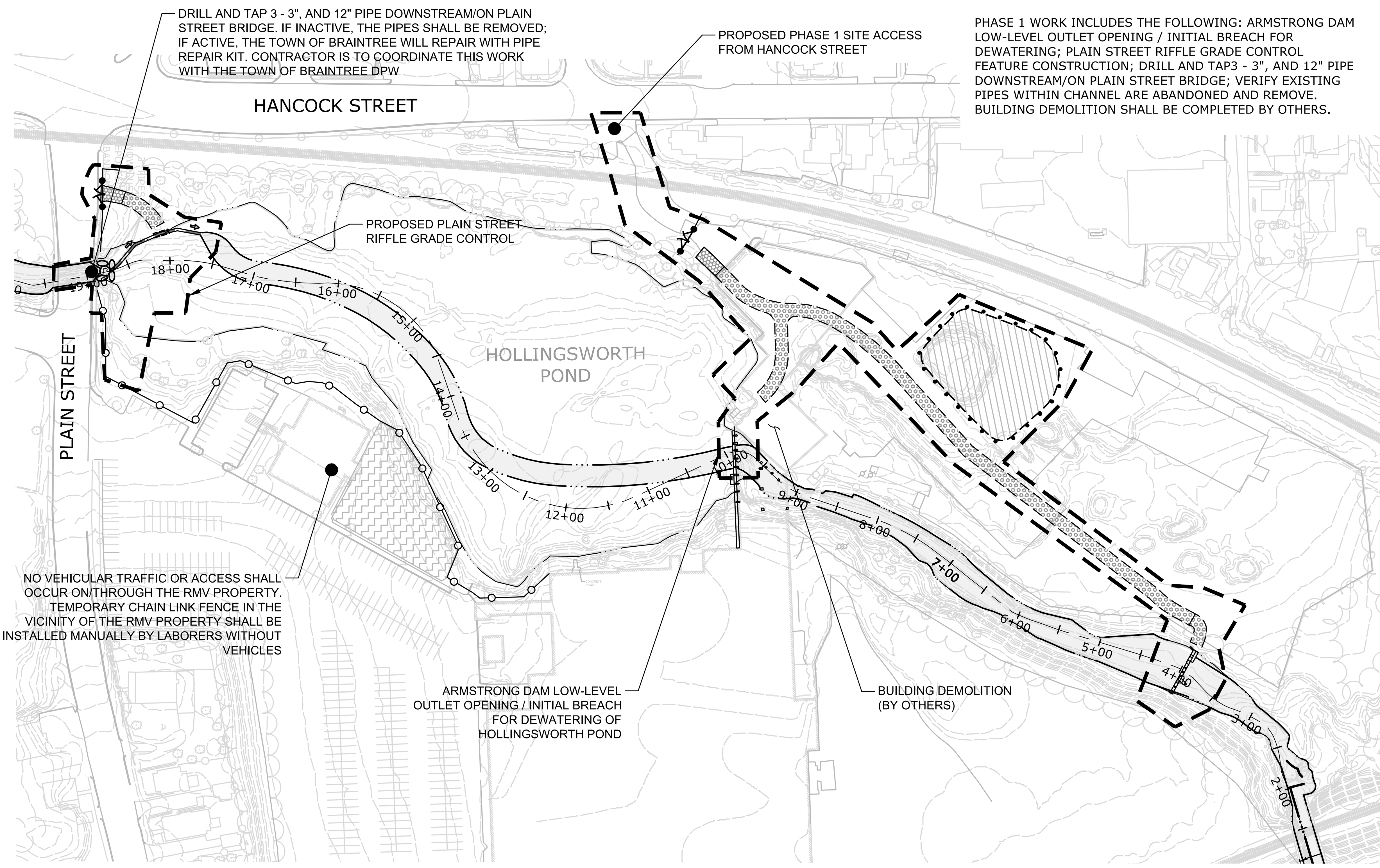
PROJECT NO.: 6998-01

SHEET NO.: 23 OF 41

SHEET NAME: **XS-2**

PHASE 1 NOTES:

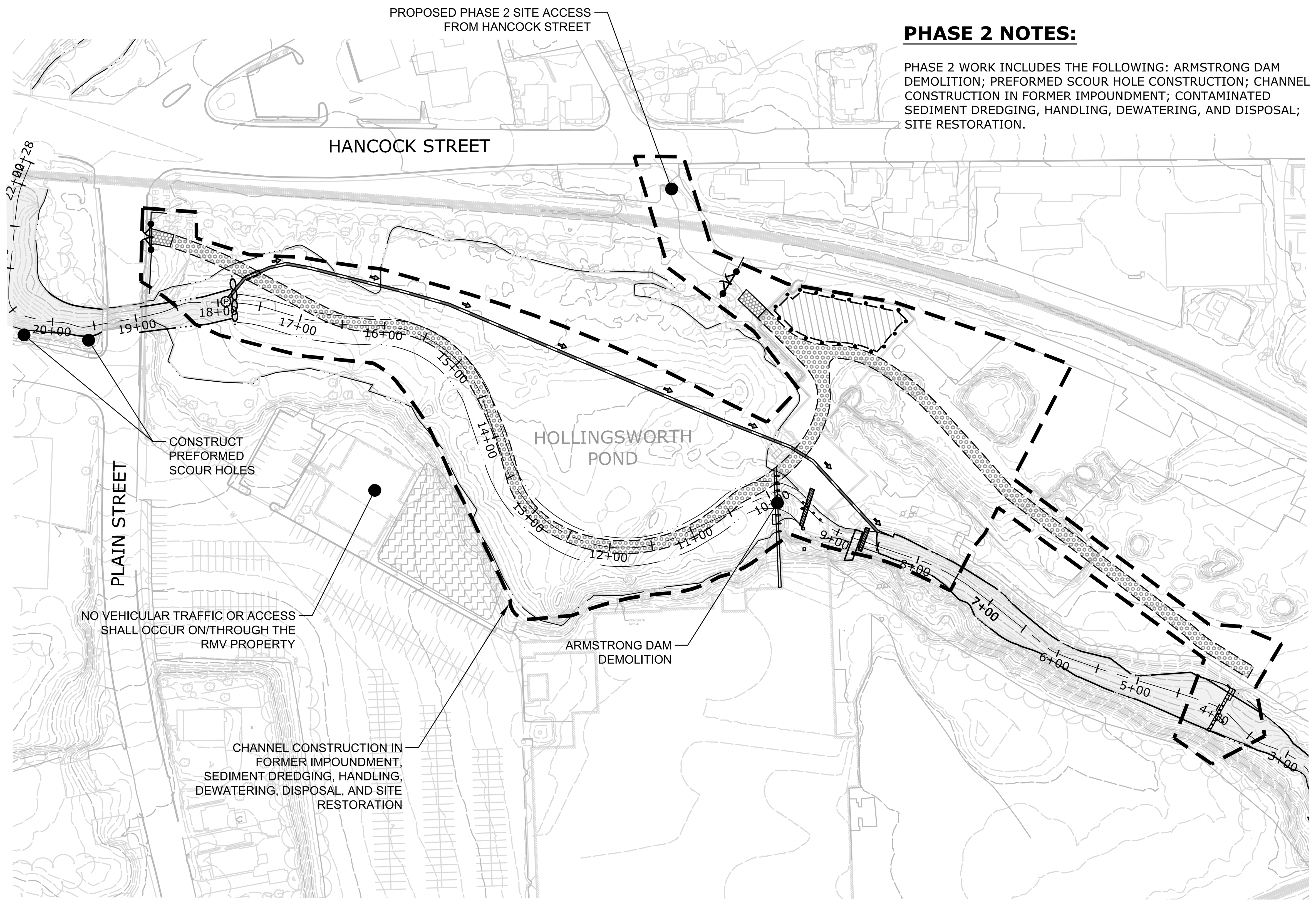
PHASE 1 WORK INCLUDES THE FOLLOWING: ARMSTRONG DAM LOW-LEVEL OUTLET OPENING / INITIAL BREACH FOR DEWATERING; PLAIN STREET RIFFLE GRADE CONTROL FEATURE CONSTRUCTION; DRILL AND TAP3 - 3", AND 12" PIPE DOWNSTREAM/ON PLAIN STREET BRIDGE; VERIFY EXISTING PIPES WITHIN CHANNEL ARE ABANDONED AND REMOVE. BUILDING DEMOLITION SHALL BE COMPLETED BY OTHERS.



PHASE 1

PHASE 2 NOTES:

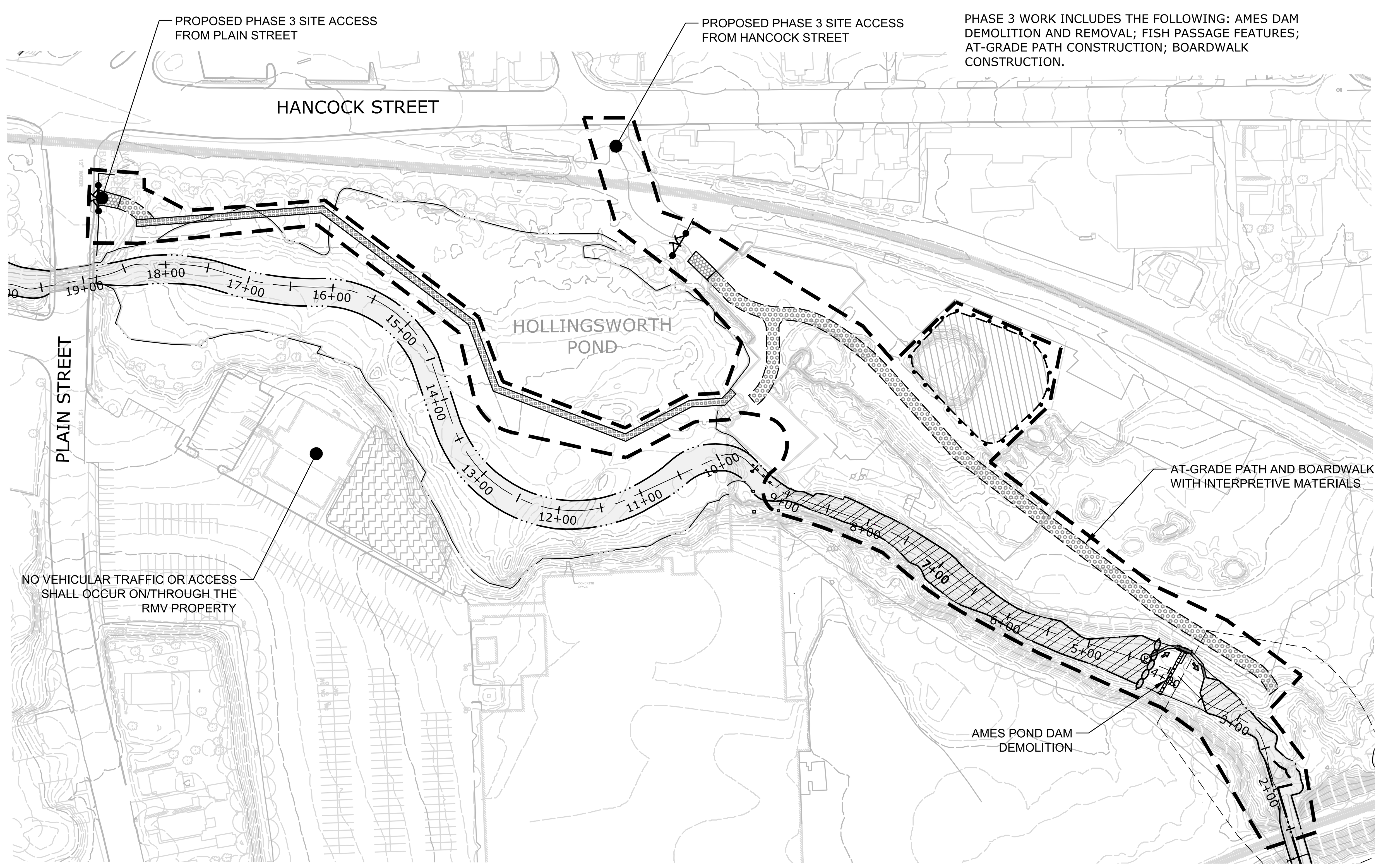
PHASE 2 WORK INCLUDES THE FOLLOWING: ARMSTRONG DAM DEMOLITION; PREFORMED SCOUR HOLE CONSTRUCTION; CHANNEL CONSTRUCTION IN FORMER IMPOUNDMENT; CONTAMINATED SEDIMENT DREDGING, HANDLING, DEWATERING, AND DISPOSAL; SITE RESTORATION.



PHASE 2

PHASE 3 NOTES:

PHASE 3 WORK INCLUDES THE FOLLOWING: AMES DAM DEMOLITION AND REMOVAL; FISH PASSAGE FEATURES; AT-GRADE PATH CONSTRUCTION; BOARDWALK CONSTRUCTION.



PHASE 3

LEGEND

- LIMITS OF CONSTRUCTION PHASE
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY CONSTRUCTION ACCESS ROAD (RIPRAP/MATS)
- CONSTRUCTION STAGING AND STOCKPILE AREA
- WATER BYPASS FLOW ARROWS
- SILT FENCE
- CONCRETE/EARTHEN BARRIER OR COFFERDAM
- CLEAN WATER BYPASS PIPES
- WATER PUMP
- TIMBER MATS
- LOCKING CONSTRUCTION GATE

CONSTRUCTION ACCESS NOTES:

1. CONSTRUCTION ACCESS ROUTES SHOWN ARE SCHEMATIC IN NATURE - FINAL ROUTES TO BE NEGOTIATED WITH PROPERTY OWNERS PRIOR TO START OF CONSTRUCTION.
2. CONSTRUCTION ACCESS ROAD SHALL BE CONSTRUCTED ABOVE GRADE. CONSTRUCTION ACCESS ROADS TO BE RESTORED UPON PROJECT COMPLETION. CONSTRUCTION ACCESS ROADS SHALL NOT BE REQUIRED WHEN ACCESS ROADS ARE LOCATED ON EXISTING PAVEMENT.
3. UNDERGROUND UTILITIES SHALL BE LOCATED AND AVOIDED WHEN PLANNING THE CONSTRUCTION ACCESS ROUTES. ANY DISRUPTION OR DAMAGE TO EXISTING UTILITIES, SHALL BE REPAIRED BY THE CONTRACTOR.
4. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE AND FACILITATE ACCESS TO THE CONSTRUCTION SITE FOR GEOTECHNICAL BORINGS DURING CONSTRUCTION.

0' 50' 100'
0 1/2" 1"

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203.271.1773
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DESCRIPTION	DATE	BY

CONSTRUCTION PHASING AND ACCESS PLAN

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DRM	DRM	WAG
DESIGNED	DRAWN	CHECKED

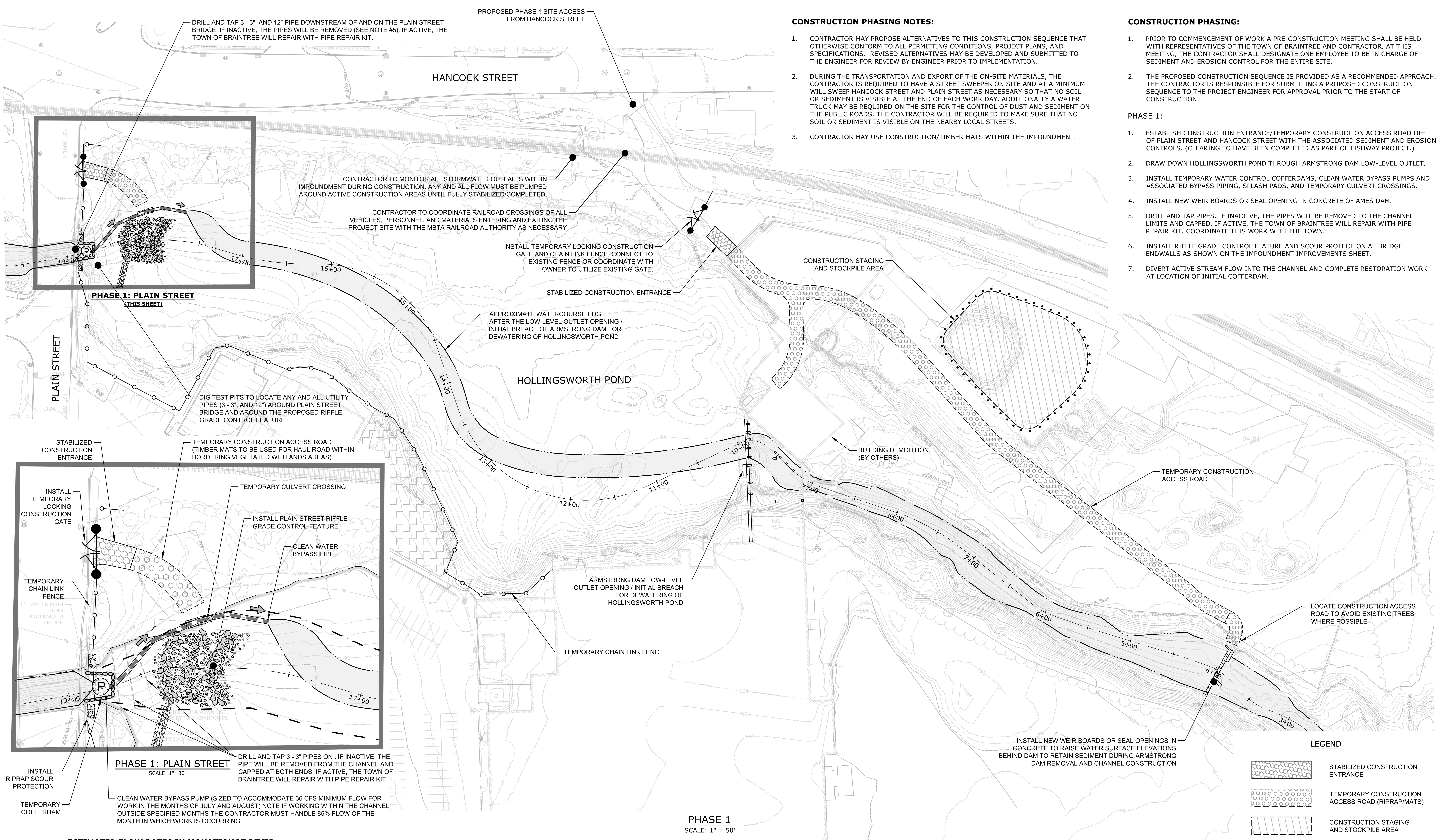
SCALE: 1"=100'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 24 OF 41

SHEET NAME: CP-1



CONSTRUCTION PHASING NOTES:

1. CONTRACTOR MAY PROPOSE ALTERNATIVES TO THIS CONSTRUCTION SEQUENCE THAT OTHERWISE CONFORM TO ALL PERMITTING CONDITIONS, PROJECT PLANS, AND SPECIFICATIONS. REVISED ALTERNATIVES MAY BE DEVELOPED AND SUBMITTED TO THE ENGINEER FOR REVIEW BY ENGINEER PRIOR TO IMPLEMENTATION.
2. DURING THE TRANSPORTATION AND EXPORT OF THE ON-SITE MATERIALS, THE CONTRACTOR IS REQUIRED TO HAVE A STREET SWEEPER ON SITE AND AT A MINIMUM WILL SWEEP HANCOCK STREET AND PLAIN STREET AS NECESSARY SO THAT NO SOIL OR SEDIMENT IS VISIBLE AT THE END OF EACH WORK DAY. ADDITIONALLY A WATER TRUCK MAY BE REQUIRED ON THE SITE FOR THE CONTROL OF DUST AND SEDIMENT ON THE PUBLIC ROADS. THE CONTRACTOR WILL BE REQUIRED TO MAKE SURE THAT NO SOIL OR SEDIMENT IS VISIBLE ON THE NEARBY LOCAL STREETS.
3. CONTRACTOR MAY USE CONSTRUCTION/TIMBER MATS WITHIN THE IMPOUNDMENT.

CONSTRUCTION PHASING:

1. PRIOR TO COMMENCEMENT OF WORK A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF BRAINTREE AND CONTRACTOR. AT THIS MEETING, THE CONTRACTOR SHALL DESIGNATE ONE EMPLOYEE TO BE IN CHARGE OF SEDIMENT AND EROSION CONTROL FOR THE ENTIRE SITE.
2. THE PROPOSED CONSTRUCTION SEQUENCE IS PROVIDED AS A RECOMMENDED APPROACH. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A PROPOSED CONSTRUCTION SEQUENCE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

PHASE 1:

1. ESTABLISH CONSTRUCTION ENTRANCE/TEMPORARY CONSTRUCTION ACCESS ROAD OFF OF PLAIN STREET AND HANCOCK STREET WITH THE ASSOCIATED SEDIMENT AND EROSION CONTROLS. (CLEARING TO HAVE BEEN COMPLETED AS PART OF FISHWAY PROJECT.)
2. DRAW DOWN HOLLINGSWORTH POND THROUGH ARMSTRONG DAM LOW-LEVEL OUTLET.
3. INSTALL TEMPORARY WATER CONTROL COFFERDAMS, CLEAN WATER BYPASS PUMPS AND ASSOCIATED BYPASS PIPING, SPLASH PADS, AND TEMPORARY CULVERT CROSSINGS.
4. INSTALL NEW WEIR BOARDS OR SEAL OPENING IN CONCRETE OF AMES DAM.
5. DRILL AND TAP PIPES. IF INACTIVE, THE PIPES WILL BE REMOVED TO THE CHANNEL LIMITS AND CAPPED. IF ACTIVE, THE TOWN OF BRAINTREE WILL REPAIR WITH PIPE REPAIR KIT. COORDINATE THIS WORK WITH THE TOWN.
6. INSTALL RIFFLE GRADE CONTROL FEATURE AND SCOUR PROTECTION AT BRIDGE ENDWALLS AS SHOWN ON THE IMPOUNDMENT IMPROVEMENTS SHEET.
7. DIVERT ACTIVE STREAM FLOW INTO THE CHANNEL AND COMPLETE RESTORATION WORK AT LOCATION OF INITIAL COFFERDAM.

ESTIMATED FLOW RATES IN MONATIQUOT RIVER:

MONTHLY RIVER FLOWS (CUBIC FEET PER SECOND)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5% FLOW (CFS)	17	21	17	9	13	4	1	1	1	1	2	9
15% FLOW (CFS)	26	26	34	26	18	7	2	1	1	1	5	12
50% FLOW (CFS)	46	55	67	57	31	18	8	4	3	7	21	48
85% FLOW (CFS)	86	92	167	125	63	57	36	18	16	60	82	108
95% FLOW (CFS)	143	135	269	230	95	181	60	32	58	99	165	168

NO INSTREAM WORK (FEB–JUN) NO INSTREAM WORK (SEP–NOV)

NOTES:

STREAM GAGE USED TO DETERMINE FLOWS: USGS GAGE #01105583 LOCATED ON THE MONATIQUOT RIVER IN EAST BRAINTREE, MA. DUE TO THE DISTANCE FROM THE GAGE LOCATION TO THE PROJECT SITE, FLOWS PRESENTED ABOVE HAVE BEEN CALIBRATED FOR THE PROJECT SITE. THE GAGE HAS RECORDED FLOW DATA FROM MARCH 31, 2006 TO PRESENT DAY. THE FLOW DATA IS FOR INFORMATIONAL PURPOSES ONLY THE CONTRACTOR IS REQUIRED TO ADEQUATELY CONVEY ALL FLOW THROUGH THE SITE DURING CONSTRUCTION. INSTREAM WORK INCLUDING WATER CONTROL HANDLING SHALL NOT BE PERMITTED FROM FEBRUARY 15 TO JUNE 30 AND SEPTEMBER 1 TO NOVEMBER 15 (SHADED ABOVE).

SEDIMENT REMOVAL NOTES:

1. ALL SEDIMENT REMOVAL AND MANAGEMENT/DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR IS NOT TO REMOVE ANY SEDIMENT FROM THE SITE OR THE STOCKPILE AREAS UNTIL AFTER APPROVAL FROM THE OWNER OR ENGINEER. THE CONTRACTOR SHOULD BE AWARE THAT THE SEDIMENT WILL NEED TO BE STOCKPILED ON SITE A SUITABLE PERIOD OF TIME TO ALLOW FOR ADEQUATE DEWATERING AS WELL AS SAMPLING, TESTING AND APPROVAL BY THE NECESSARY AUTHORITIES.

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY CONSTRUCTION ACCESS ROAD (RIPRAP/MATS)
- CONSTRUCTION STAGING AND STOCKPILE AREA
- WATER BYPASS FLOW ARROWS
- SILT FENCE
- CONCRETE/EARTHEN BARRIER OR COFFERDAM
- CLEAN WATER BYPASS PIPES
- P WATER PUMP
- TEMPORARY CULVERT CROSSING
- LOCKING CONSTRUCTION GATE

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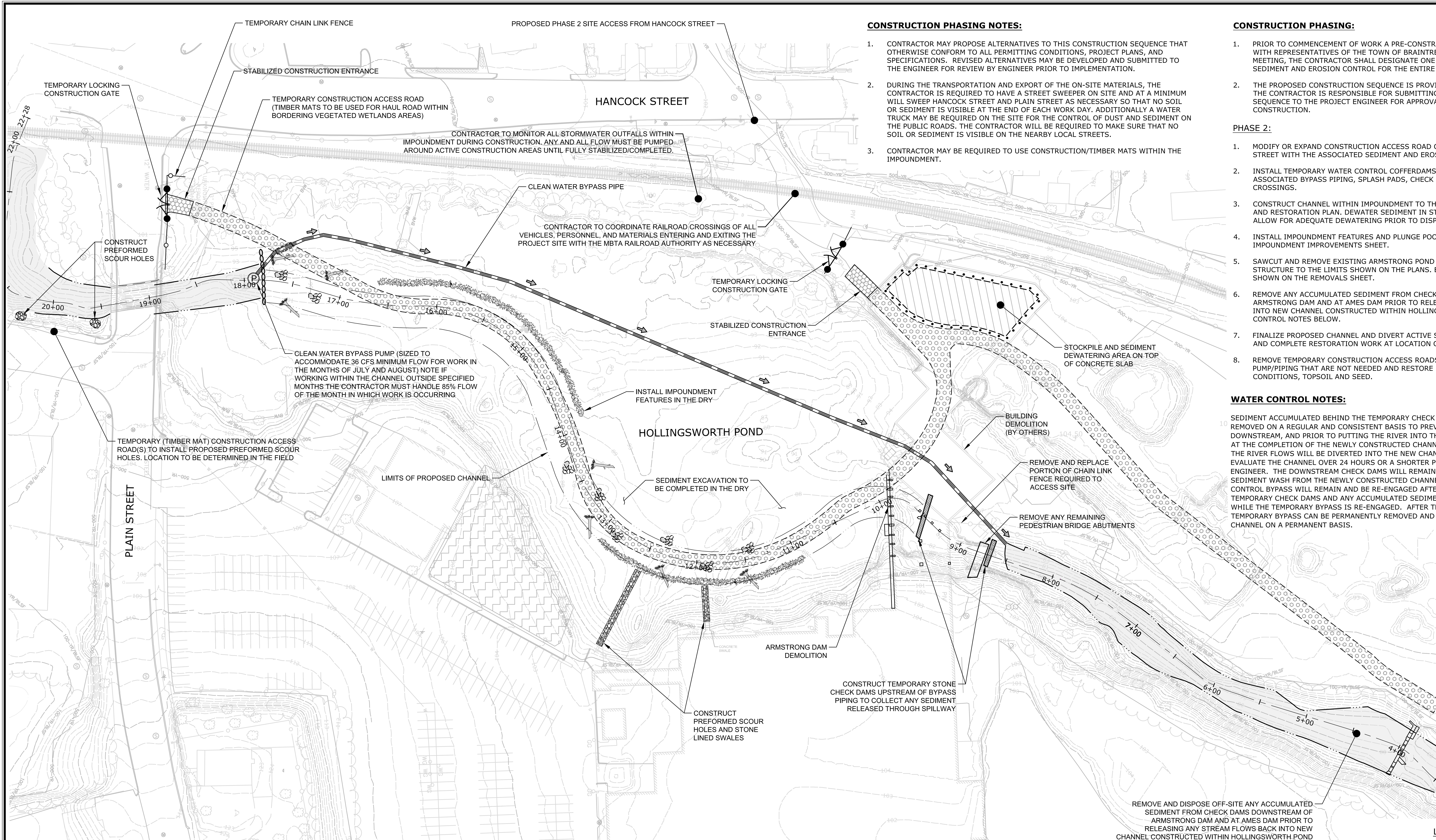
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION	DATE	BY

CONSTRUCTION PLAN - PHASE 1
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DRM	DRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=50'
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01
SHEET NO.: 25 OF 41
SHEET NAME: CP-2



PHASE 2
SCALE: 1" = 50'

CONSTRUCTION PHASING NOTES:

1. CONTRACTOR MAY PROPOSE ALTERNATIVES TO THIS CONSTRUCTION SEQUENCE THAT OTHERWISE CONFORM TO ALL PERMITTING CONDITIONS, PROJECT PLANS, AND SPECIFICATIONS. REVISED ALTERNATIVES MAY BE DEVELOPED AND SUBMITTED TO THE ENGINEER FOR REVIEW BY ENGINEER PRIOR TO IMPLEMENTATION.
2. DURING THE TRANSPORTATION AND EXPORT OF THE ON-SITE MATERIALS, THE CONTRACTOR IS REQUIRED TO HAVE A STREET SWEEPER ON SITE AND AT A MINIMUM WILL SWEEP HANCOCK STREET AND PLAIN STREET AS NECESSARY SO THAT NO SOIL OR SEDIMENT IS VISIBLE AT THE END OF EACH WORK DAY. ADDITIONALLY A WATER TRUCK MAY BE REQUIRED ON THE SITE FOR THE CONTROL OF DUST AND SEDIMENT ON THE PUBLIC ROADS. THE CONTRACTOR WILL BE REQUIRED TO MAKE SURE THAT NO SOIL OR SEDIMENT IS VISIBLE ON THE NEARBY LOCAL STREETS.
3. CONTRACTOR MAY BE REQUIRED TO USE CONSTRUCTION/TIMBER MATS WITHIN THE IMPOUNDMENT.

CONSTRUCTION PHASING:

1. PRIOR TO COMMENCEMENT OF WORK A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF BRAINTREE AND CONTRACTOR. AT THIS MEETING, THE CONTRACTOR SHALL DESIGNATE ONE EMPLOYEE TO BE IN CHARGE OF SEDIMENT AND EROSION CONTROL FOR THE ENTIRE SITE.
2. THE PROPOSED CONSTRUCTION SEQUENCE IS PROVIDED AS A RECOMMENDED APPROACH. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A PROPOSED CONSTRUCTION SEQUENCE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

PHASE 2:

1. MODIFY OR EXPAND CONSTRUCTION ACCESS ROAD OFF OF PLAIN STREET AND HANCOCK STREET WITH THE ASSOCIATED SEDIMENT AND EROSION CONTROLS.
2. INSTALL TEMPORARY WATER CONTROL COFFERDAMS, CLEAN WATER BYPASS PUMPS AND ASSOCIATED BYPASS PIPING, SPLASH PADS, CHECK DAMS, AND TEMPORARY CULVERT CROSSINGS.
3. CONSTRUCT CHANNEL WITHIN IMPOUNDMENT TO THE GRADES SHOWN ON THE LAYOUT AND RESTORATION PLAN. DEWATER SEDIMENT IN STOCKPILE AND DEWATERING AREA TO ALLOW FOR ADEQUATE DEWATERING PRIOR TO DISPOSAL OFF SITE.
4. INSTALL IMPOUNDMENT FEATURES AND PLUNGE POOLS AS SHOWN ON THE IMPOUNDMENT IMPROVEMENTS SHEET.
5. SAWCUT AND REMOVE EXISTING ARMSTRONG POND DAM CONCRETE SPILLWAY STRUCTURE TO THE LIMITS SHOWN ON THE PLANS. EXCAVATE CHANNEL TO THE LIMITS SHOWN ON THE REMOVALS SHEET.
6. REMOVE ANY ACCUMULATED SEDIMENT FROM CHECK DAMS DOWNSTREAM OF ARMSTRONG DAM AND AT AMES DAM PRIOR TO RELEASING ANY STREAM FLOWS BACK INTO NEW CHANNEL CONSTRUCTED WITHIN HOLLINGSWORTH POND. SEE WATER CONTROL NOTES BELOW.
7. FINALIZE PROPOSED CHANNEL AND DIVERT ACTIVE STREAM FLOW INTO THE CHANNEL AND COMPLETE RESTORATION WORK AT LOCATION OF INITIAL COFFERDAM.
8. REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS, CULVERTS, WATER CONTROL PUMP/PIPING THAT ARE NOT NEEDED AND RESTORE DISTURBED AREAS TO EXISTING CONDITIONS, TOPSOIL AND SEED.

WATER CONTROL NOTES:

SEDIMENT ACCUMULATED BEHIND THE TEMPORARY CHECK DAMS AND AT AMES POND SHALL BE REMOVED ON A REGULAR AND CONSISTENT BASIS TO PREVENT ANY FROM MIGRATING DOWNSTREAM, AND PRIOR TO PUTTING THE RIVER INTO THE NEWLY CONSTRUCTED CHANNEL. AT THE COMPLETION OF THE NEWLY CONSTRUCTED CHANNEL THROUGH THE IMPOUNDMENT, THE RIVER FLOWS WILL BE DIVERTED INTO THE NEW CHANNEL ON A TEMPORARY BASIS TO EVALUATE THE CHANNEL OVER 24 HOURS OR A SHORTER PERIOD AS DIRECTED BY THE ENGINEER. THE DOWNSTREAM CHECK DAMS WILL REMAIN IN PLACE TO COLLECT ANY SEDIMENT WASH FROM THE NEWLY CONSTRUCTED CHANNEL. THE TEMPORARY WATER CONTROL BYPASS WILL REMAIN AND BE RE-ENGAGED AFTER THE 24 HOUR TEST PERIOD. THE TEMPORARY CHECK DAMS AND ANY ACCUMULATED SEDIMENT WILL BE REMOVED IN THE DRY WHILE THE TEMPORARY BYPASS IS RE-ENGAGED. AFTER THE CHECK DAMS ARE REMOVED THE TEMPORARY BYPASS CAN BE PERMANENTLY REMOVED AND RIVER FLOWS PUT INTO THE NEW CHANNEL ON A PERMANENT BASIS.

ESTIMATED FLOW RATES IN MONATIQUOT RIVER:

MONTHLY RIVER FLOWS (CUBIC FEET PER SECOND)												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5% FLOW (CFS)	17	21	17	9	13	4	1	1	1	1	2	9
15% FLOW (CFS)	26	26	34	26	18	7	2	1	1	1	5	12
50% FLOW (CFS)	46	55	67	57	31	18	8	4	3	7	21	48
85% FLOW (CFS)	86	92	167	125	63	57	36	18	16	60	82	108
95% FLOW (CFS)	143	135	269	230	95	181	60	32	58	99	165	168

NO INSTREAM WORK (FEB–JUN) NO INSTREAM WORK (SEP–NOV)

NOTES:

STREAM GAGE USED TO DETERMINE FLOWS: USGS GAGE #01105583 LOCATED ON THE MONATIQUOT RIVER IN EAST BRAINTREE, MA. DUE TO THE DISTANCE FROM THE GAGE LOCATION TO THE PROJECT SITE, FLOWS PRESENTED ABOVE HAVE BEEN CALIBRATED FOR THE PROJECT SITE. THE GAGE HAS RECORDED FLOW DATA FROM MARCH 31, 2006 TO PRESENT DAY. THE FLOW DATA IS FOR INFORMATIONAL PURPOSES ONLY THE CONTRACTOR IS REQUIRED TO ADEQUATELY CONVEY ALL FLOW THROUGH THE SITE DURING CONSTRUCTION. INSTREAM WORK INCLUDING WATER CONTROL HANDLING SHALL NOT BE PERMITTED FROM FEBRUARY 15 TO JUNE 30 AND SEPTEMBER 1 TO NOVEMBER 15 (SHADED ABOVE).

SEDIMENT REMOVAL NOTES:

1. ALL CONTAMINATED SEDIMENT REMOVAL AND MANAGEMENT/DISPOSAL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR IS NOT TO REMOVE ANY SEDIMENT FROM THE SITE OR THE STOCKPILE AREAS UNTIL AFTER APPROVAL FROM THE OWNER OR ENGINEER. THE CONTRACTOR SHOULD BE AWARE THAT THE SEDIMENT WILL NEED TO BE STOCKPILED ON SITE A SUITABLE PERIOD OF TIME TO ALLOW FOR ADEQUATE DEWATERING AS WELL AS SAMPLING, TESTING AND APPROVAL BY THE NECESSARY AUTHORITIES.

LEGEND

STABILIZED CONSTRUCTION ENTRANCE
TEMPORARY CONSTRUCTION ACCESS ROAD (RIPRAP/MATS)
CONSTRUCTION STAGING AND STOCKPILE AREA
STONE CHECK DAM
WATER BYPASS FLOW ARROWS
SILT FENCE
CONCRETE/EARTHEN BARRIER OR COFFERDAM
CLEAN WATER BYPASS PIPES
WATER PUMP
LOCKING CONSTRUCTION GATE

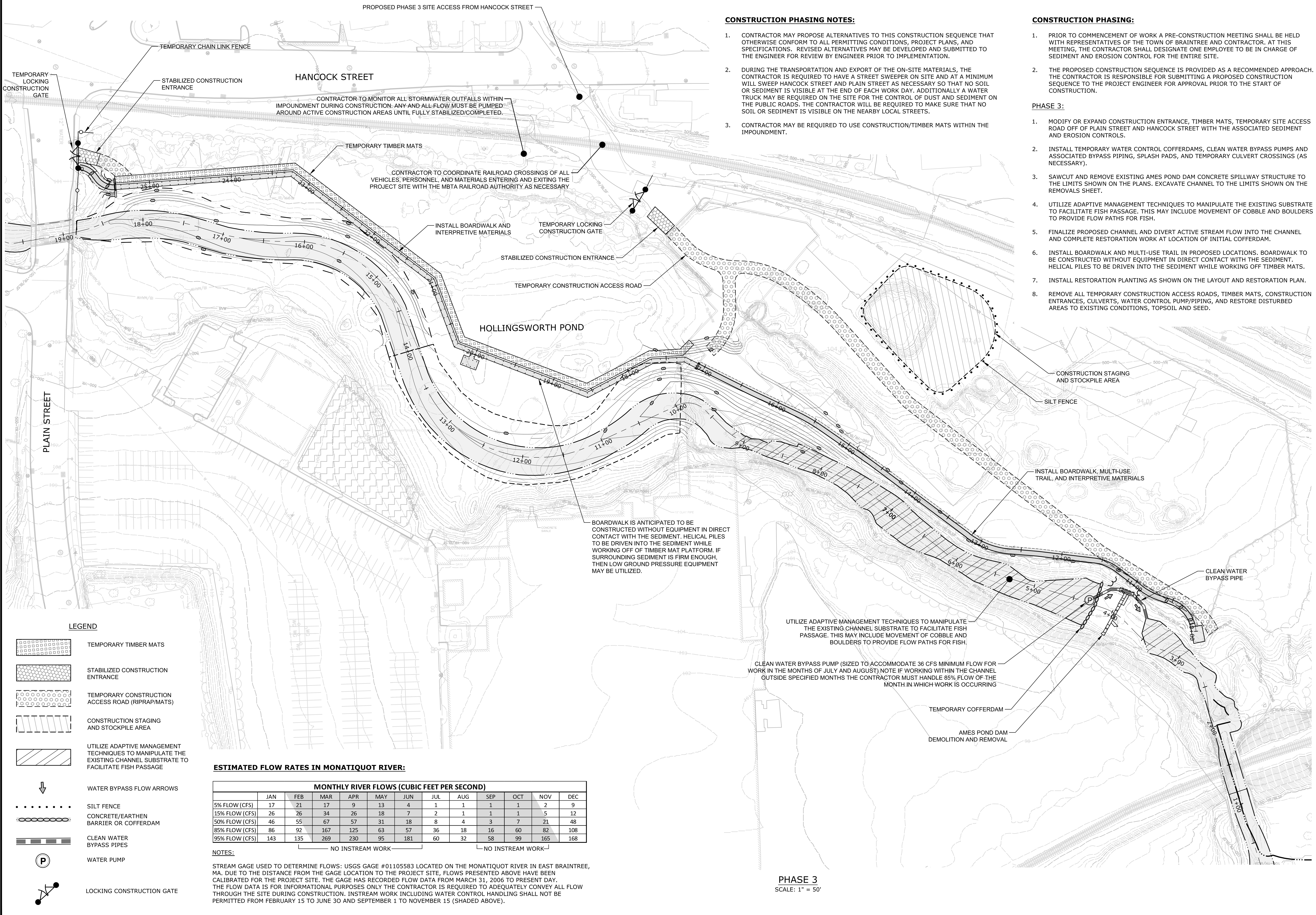
SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

DESCRIPTION | DATE | BY

CONSTRUCTION PLAN - PHASE 2
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DESIGNED: DRM | DRAWN: DRM | CHECKED: WAG
SCALE: 1"=50'
DATE: JUNE 30, 2021
PROJECT NO. 6998-01

SHEET NAME: CP-3



CONSTRUCTION PHASING NOTES:

1. CONTRACTOR MAY PROPOSE ALTERNATIVES TO THIS CONSTRUCTION SEQUENCE THAT OTHERWISE CONFORM TO ALL PERMITTING CONDITIONS, PROJECT PLANS, AND SPECIFICATIONS. REVISED ALTERNATIVES MAY BE DEVELOPED AND SUBMITTED TO THE ENGINEER FOR REVIEW BY ENGINEER PRIOR TO IMPLEMENTATION.
2. DURING THE TRANSPORTATION AND EXPORT OF THE ON-SITE MATERIALS, THE CONTRACTOR IS REQUIRED TO HAVE A STREET SWEEPER ON SITE AND AT A MINIMUM WILL SWEEP HANCOCK STREET AND PLAIN STREET AS NECESSARY SO THAT NO SOIL OR SEDIMENT IS VISIBLE AT THE END OF EACH WORK DAY. ADDITIONALLY A WATER TRUCK MAY BE REQUIRED ON THE SITE FOR THE CONTROL OF DUST AND SEDIMENT ON THE PUBLIC ROADS. THE CONTRACTOR WILL BE REQUIRED TO MAKE SURE THAT NO SOIL OR SEDIMENT IS VISIBLE ON THE NEARBY LOCAL STREETS.
3. CONTRACTOR MAY BE REQUIRED TO USE CONSTRUCTION/TIMBER MATS WITHIN THE IMPOUNDMENT.

CONSTRUCTION PHASING:

1. PRIOR TO COMMENCEMENT OF WORK A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES OF THE TOWN OF BRAINTREE AND CONTRACTOR. AT THIS MEETING, THE CONTRACTOR SHALL DESIGNATE ONE EMPLOYEE TO BE IN CHARGE OF SEDIMENT AND EROSION CONTROL FOR THE ENTIRE SITE.
2. THE PROPOSED CONSTRUCTION SEQUENCE IS PROVIDED AS A RECOMMENDED APPROACH. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A PROPOSED CONSTRUCTION SEQUENCE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

PHASE 3:

1. MODIFY OR EXPAND CONSTRUCTION ENTRANCE, TIMBER MATS, TEMPORARY SITE ACCESS ROAD OFF OF PLAIN STREET AND HANCOCK STREET WITH THE ASSOCIATED SEDIMENT AND EROSION CONTROLS.
2. INSTALL TEMPORARY WATER CONTROL COFFERDAMS, CLEAN WATER BYPASS PUMPS AND ASSOCIATED BYPASS PIPING, SPLASH PADS, AND TEMPORARY CULVERT CROSSINGS (AS NECESSARY).
3. SAWCUT AND REMOVE EXISTING AMES POND DAM CONCRETE SPILLWAY STRUCTURE TO THE LIMITS SHOWN ON THE PLANS. EXCAVATE CHANNEL TO THE LIMITS SHOWN ON THE REMOVALS SHEET.
4. UTILIZE ADAPTIVE MANAGEMENT TECHNIQUES TO MANIPULATE THE EXISTING SUBSTRATE TO FACILITATE FISH PASSAGE. THIS MAY INCLUDE MOVEMENT OF COBBLE AND BOULDERS TO PROVIDE FLOW PATHS FOR FISH.
5. FINALIZE PROPOSED CHANNEL AND DIVERT ACTIVE STREAM FLOW INTO THE CHANNEL AND COMPLETE RESTORATION WORK AT LOCATION OF INITIAL COFFERDAM.
6. INSTALL BOARDWALK AND MULTI-USE TRAIL IN PROPOSED LOCATIONS. BOARDWALK TO BE CONSTRUCTED WITHOUT EQUIPMENT IN DIRECT CONTACT WITH THE SEDIMENT. HELICAL PILES TO BE DRIVEN INTO THE SEDIMENT WHILE WORKING OFF TIMBER MATS.
7. INSTALL RESTORATION PLANTING AS SHOWN ON THE LAYOUT AND RESTORATION PLAN.
8. REMOVE ALL TEMPORARY CONSTRUCTION ACCESS ROADS, TIMBER MATS, CONSTRUCTION ENTRANCES, CULVERTS, WATER CONTROL PUMP/PIPING, AND RESTORE DISTURBED AREAS TO EXISTING CONDITIONS, TOPSOIL AND SEED.

LEGEND

- TEMPORARY TIMBER MATS
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY CONSTRUCTION ACCESS ROAD (RIPRAP/MATS)
- CONSTRUCTION STAGING AND STOCKPILE AREA
- UTILIZE ADAPTIVE MANAGEMENT TECHNIQUES TO MANIPULATE THE EXISTING CHANNEL SUBSTRATE TO FACILITATE FISH PASSAGE
- WATER BYPASS FLOW ARROWS
- SILT FENCE
- CONCRETE/EARTHEN BARRIER OR COFFERDAM
- CLEAN WATER BYPASS PIPES
- WATER PUMP
- LOCKING CONSTRUCTION GATE

ESTIMATED FLOW RATES IN MONATIQUOT RIVER:

MONTHLY RIVER FLOWS (CUBIC FEET PER SECOND)												
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NOTES:

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PHASE 3
SCALE: 1" = 50'

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

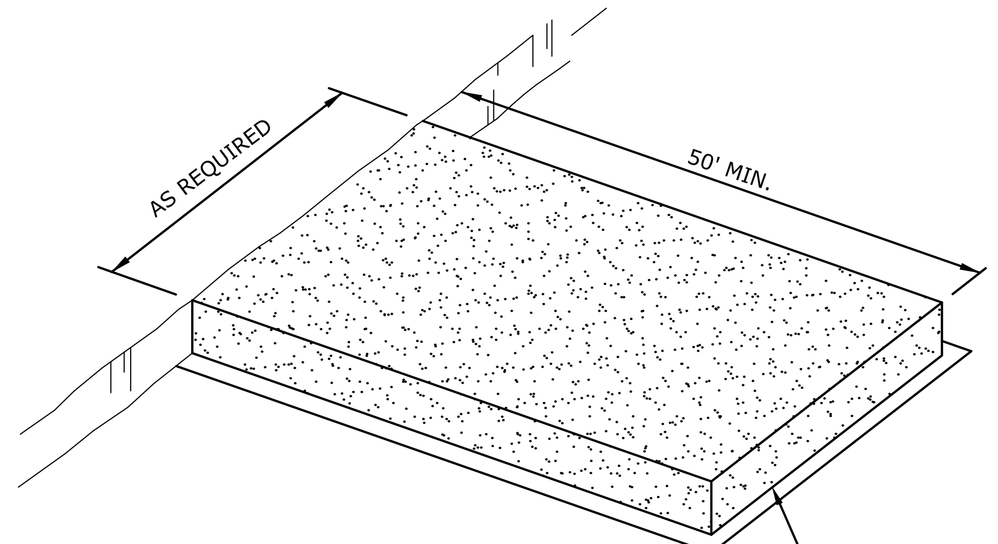
DESCRIPTION	DATE	BY

CONSTRUCTION PLAN - PHASE 3
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DRM	DRM	WAG
DESIGNED	DRAWN	CHECKED

SCALE: 1"=50'
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01

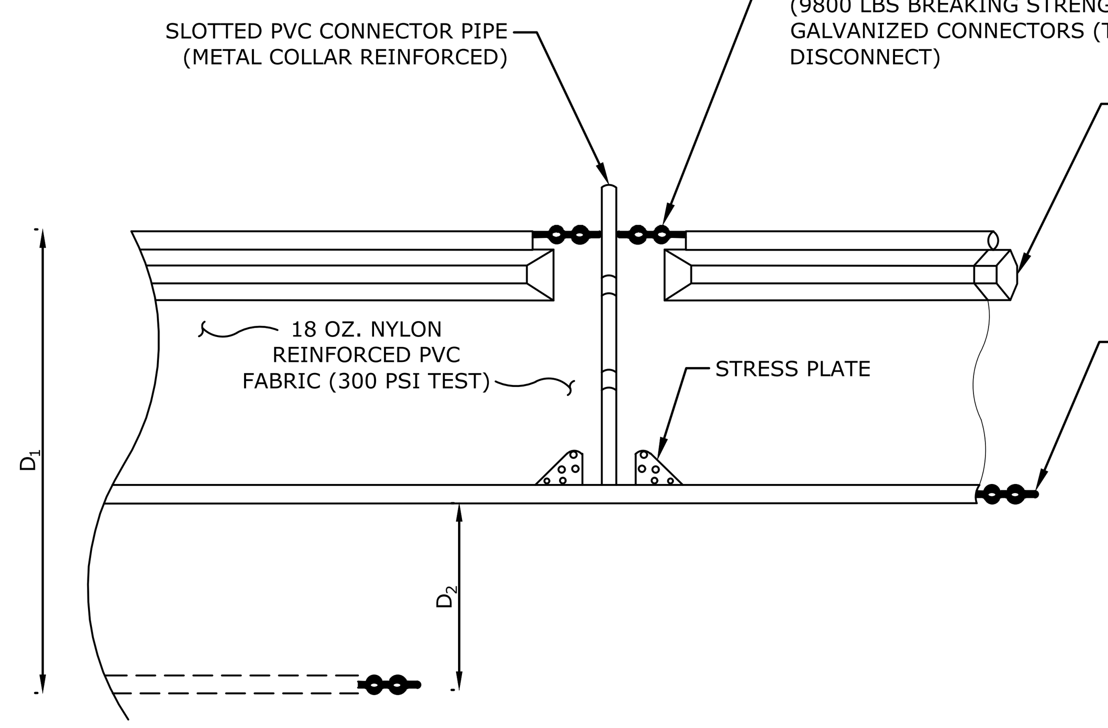
SHEET NAME: CP-4



NOTE: STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AND MAINTAINED DURING OPERATIONS WHICH PROMOTE VEHICULAR TRACKING OF MUD

CONSTRUCTION ENTRANCE PAD

(SCALE: N.T.S.)



TEMPORARY TURBIDITY CURTAINS

NOT TO SCALE

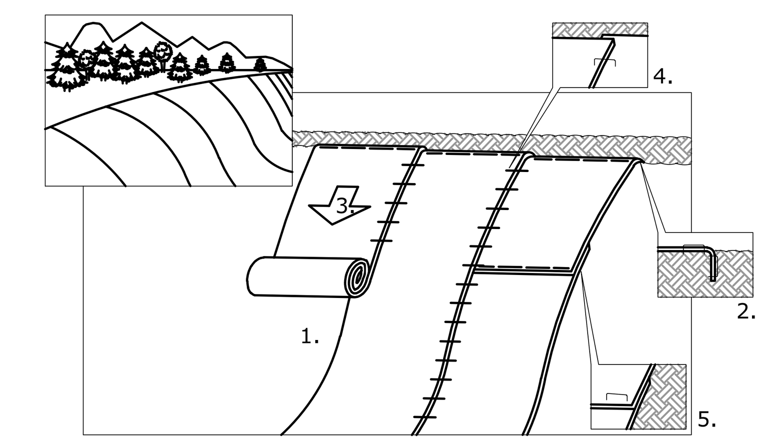
TEMPORARY TURBIDITY CURTAIN NOTES:

1. D_1 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
2. D_2 5' STD. (ADDITIONAL PANEL FOR DEPTHS GREATER THAN 5').
3. CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET.
4. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALL FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

TEMPORARY TURBIDITY CURTAIN APPLICATIONS NOTES:

1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES
3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5. TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

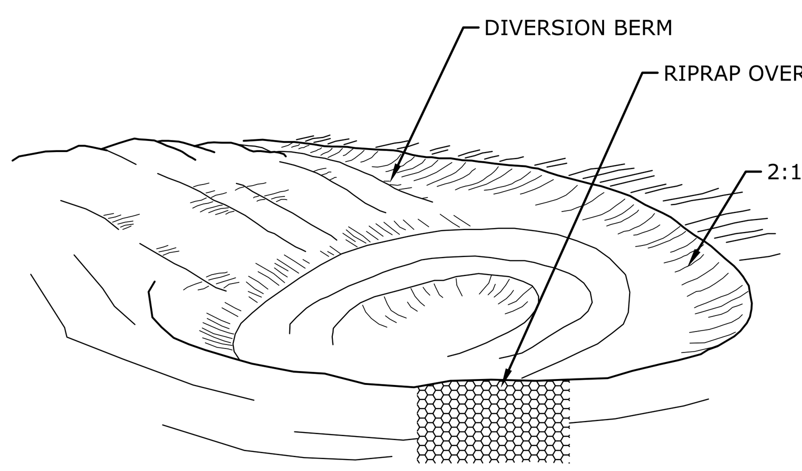


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAP AREA, APPROXIMATELY 12" APART.

REFER TO GENERAL STAPLE PATTERN GUIDE IN TENSAR-NORTH AMERICAN GREEN CATALOG FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

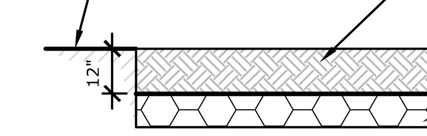
APPLICATION OF EROSION CONTROL BLANKET ON SLOPES, AS REQUIRED

NOT TO SCALE



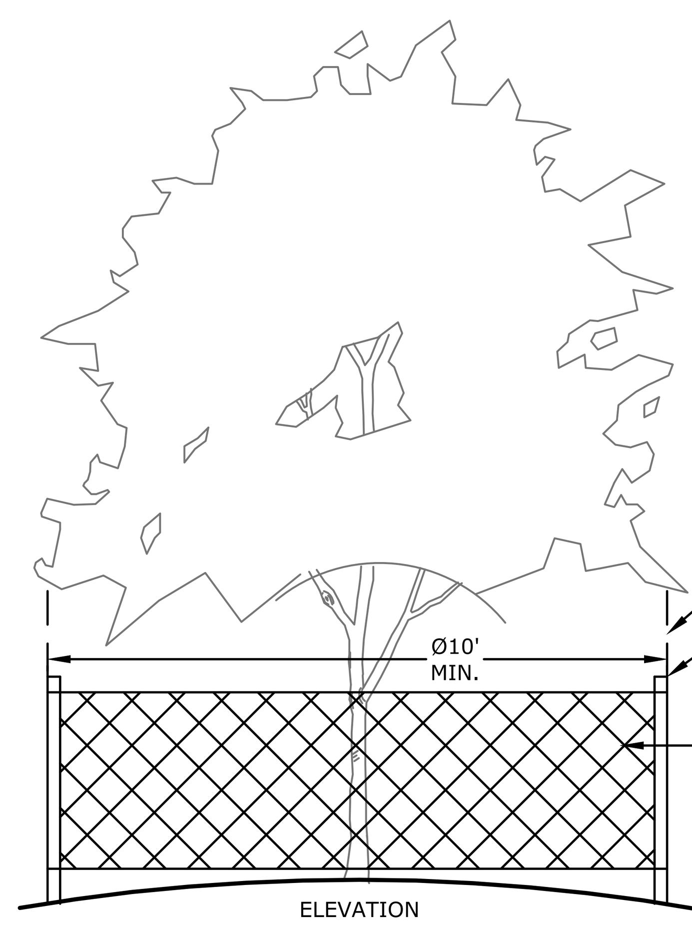
TEMPORARY SEDIMENT TRAP

(SCALE: N.T.S.)



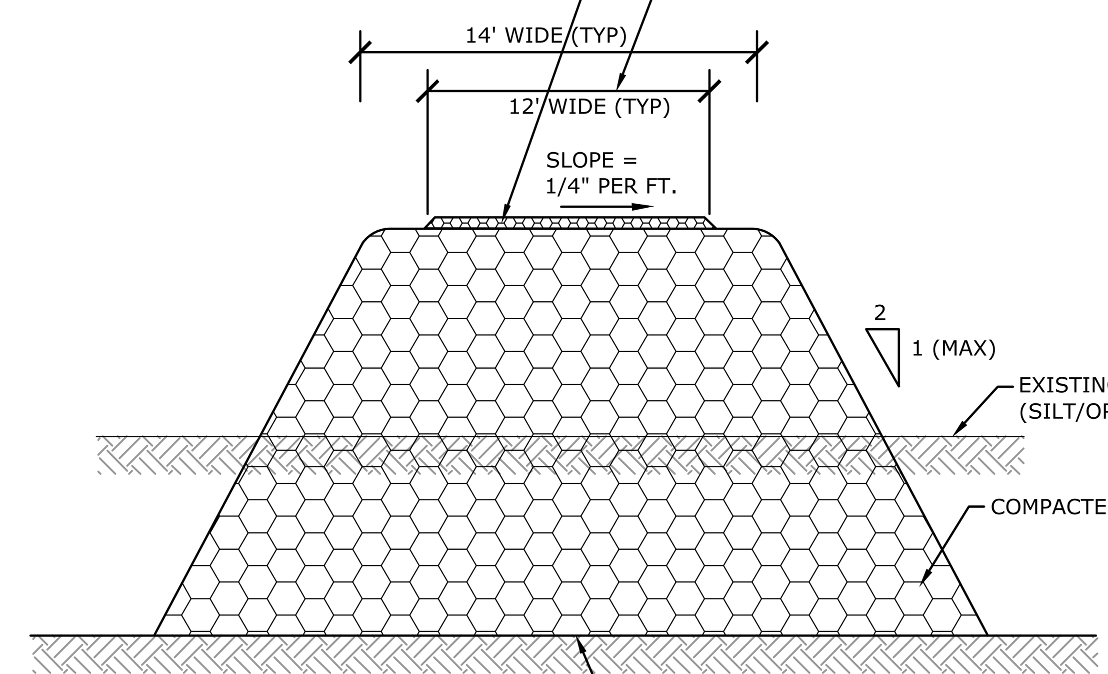
TEMPORARY CONSTRUCTION ACCESS ROAD - RESTORATION

(SCALE: N.T.S.)



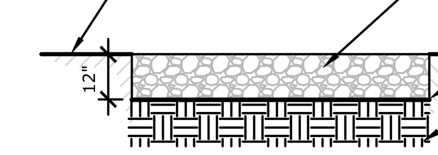
TREE PROTECTION

(SCALE: N.T.S.)



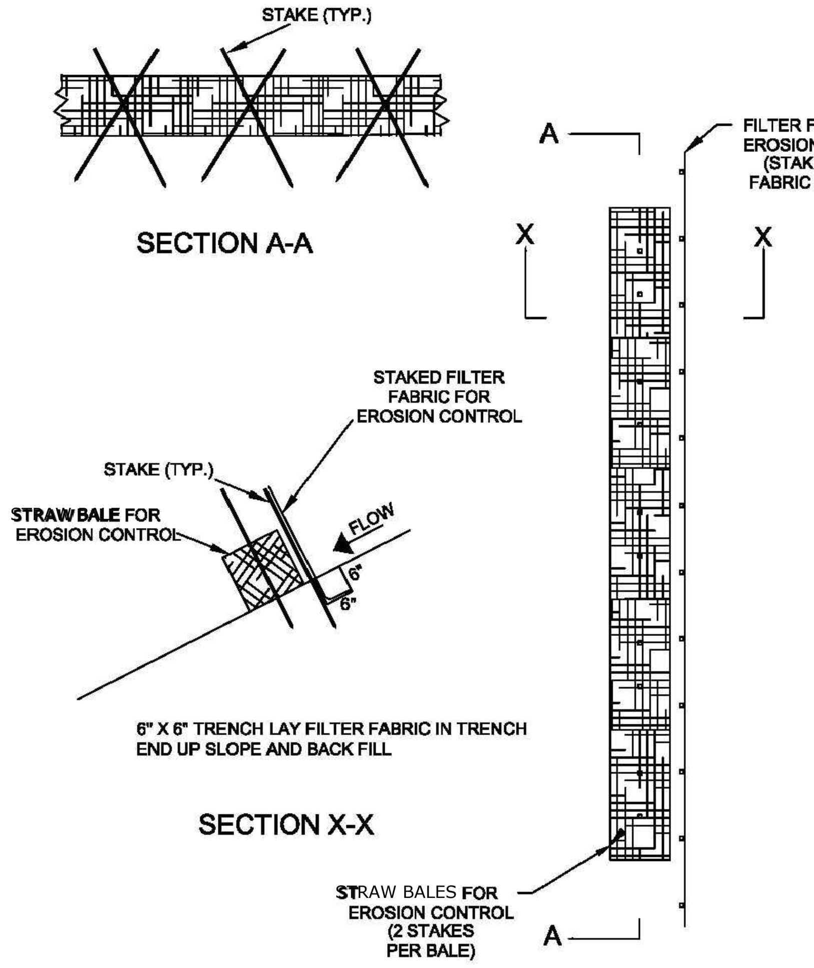
CONSTRUCTION HAUL ROAD DETAIL

NOT TO SCALE



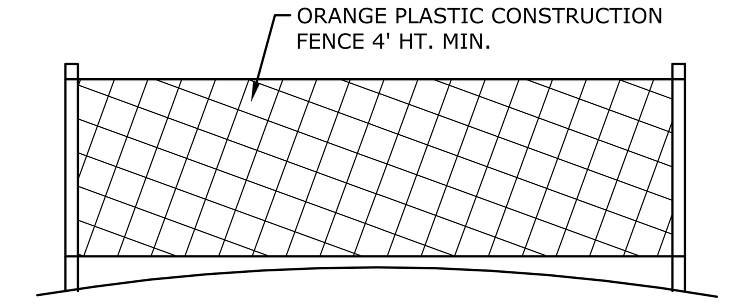
TEMPORARY CONSTRUCTION ACCESS ROAD

(SCALE: N.T.S.)



STRAW BALES AND SILT FENCE FOR EROSION CONTROL

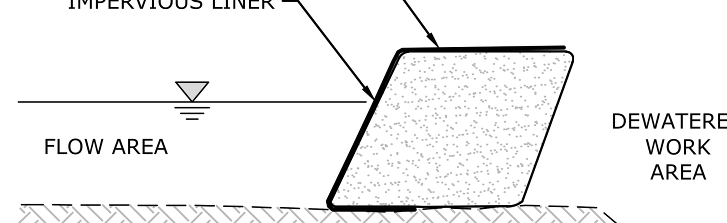
NOT TO SCALE



NOTE:
1. CONTRACTOR SHALL COORDINATE TEMPORARY FENCE INSTALLATION WITH OWNERS REPRESENTATIVES.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVALS PRIOR TO CONSTRUCTION.

ORANGE CONSTRUCTION FENCING

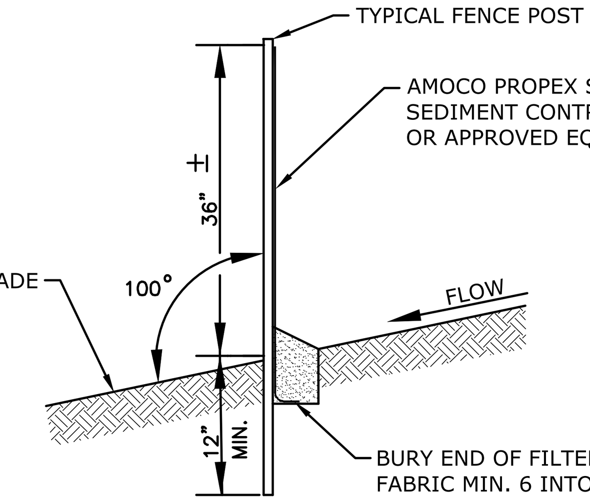
(SCALE: N.T.S.)



NOTES:
1. COFFERDAM AND TO BE SIZED FOR NORMAL FLOW CONDITIONS. TOP ELEVATION OF COFFERDAM TO ISOLATE LAGOON FROM TIDAL INFLUENCE AND STREAM FLOWS.
2. COFFERDAM TO BE CONSTRUCTED OF SUPERSAC OR SIMILAR PRODUCT.

TEMPORARY COFFERDAM DETAIL

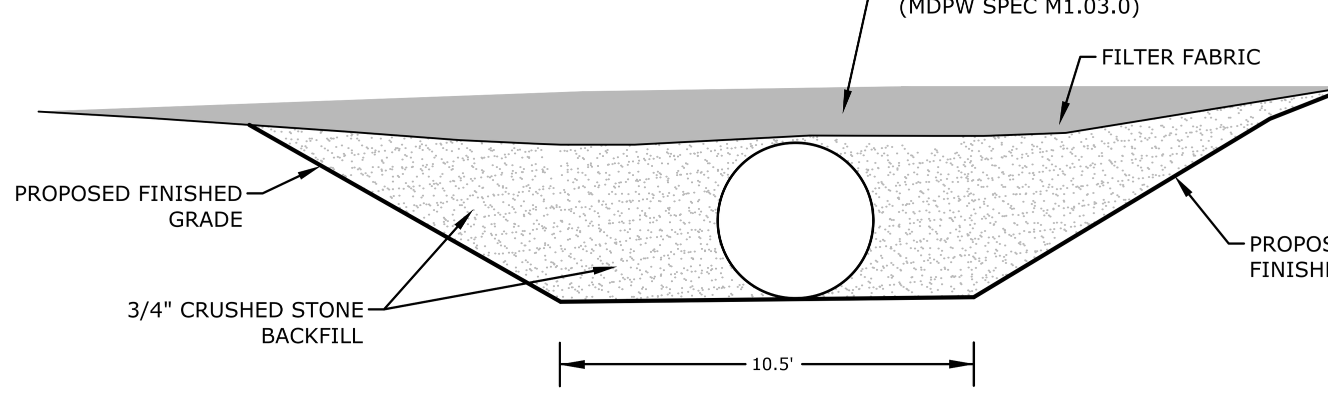
(SCALE: N.T.S.)



NOTE:
1. CONTRACTOR SHALL HAVE AVAILABLE ON-SITE A MIN. OF 300 LINEAR FEET OF SILT FENCE FOR USE IF REQUIRED BY FIELD CONDITIONS.

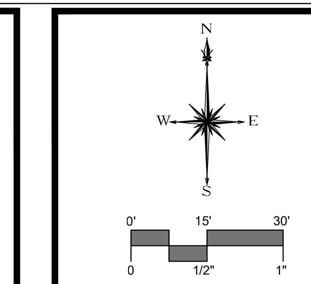
SEDIMENT FILTER FENCE

NOT TO SCALE



TEMPORARY BYPASS PIPE CROSSING

NOT TO SCALE



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SLRCONSULTING.COM

DESCRIPTION	DATE	BY

DETAILS - SEDIMENT AND EROSION CONTROL

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

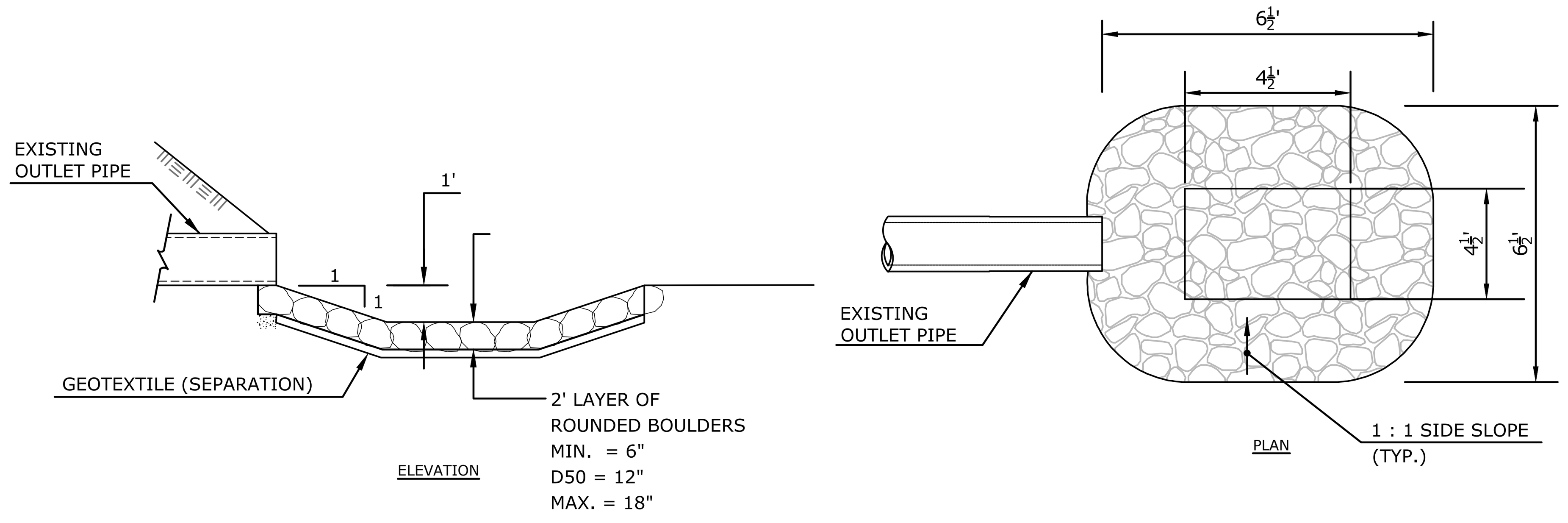
DESIGNED	DRAWN	CHECKED
FRM	FRM	WAG

SCALE: NTS

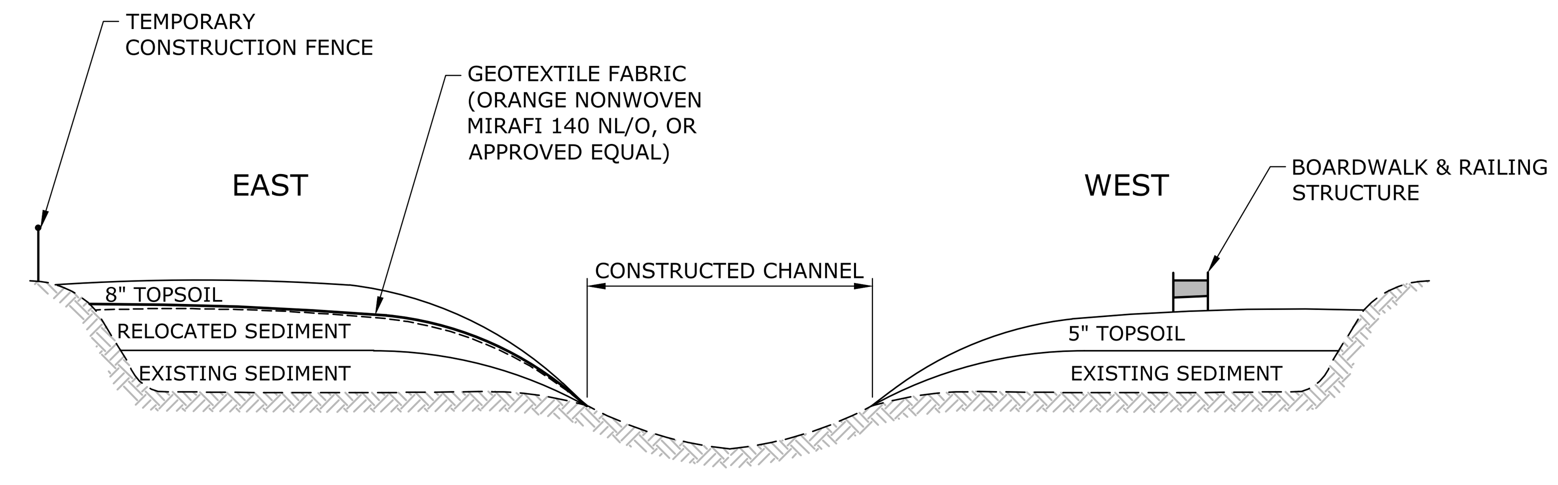
DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

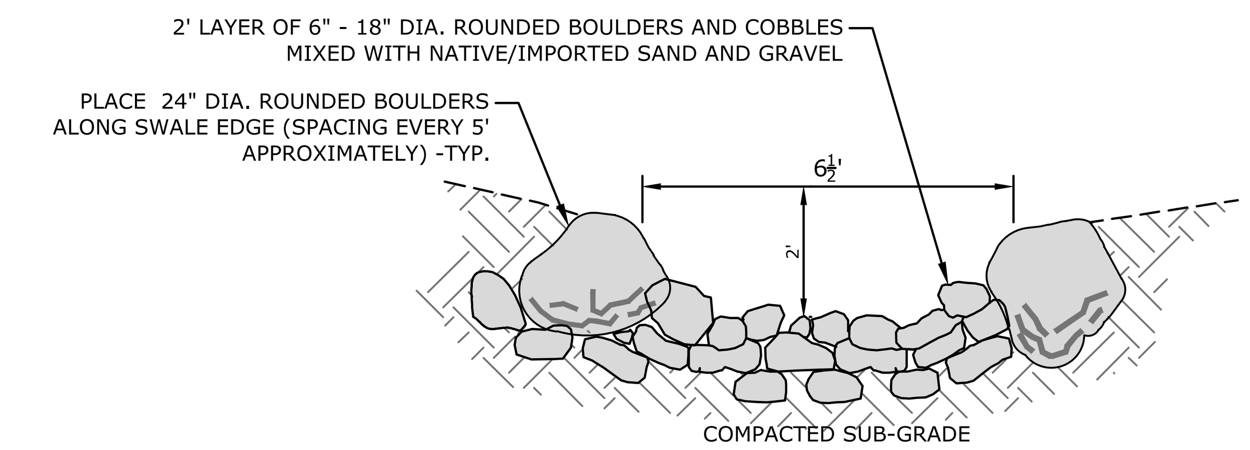
SHEET NAME: DE-1



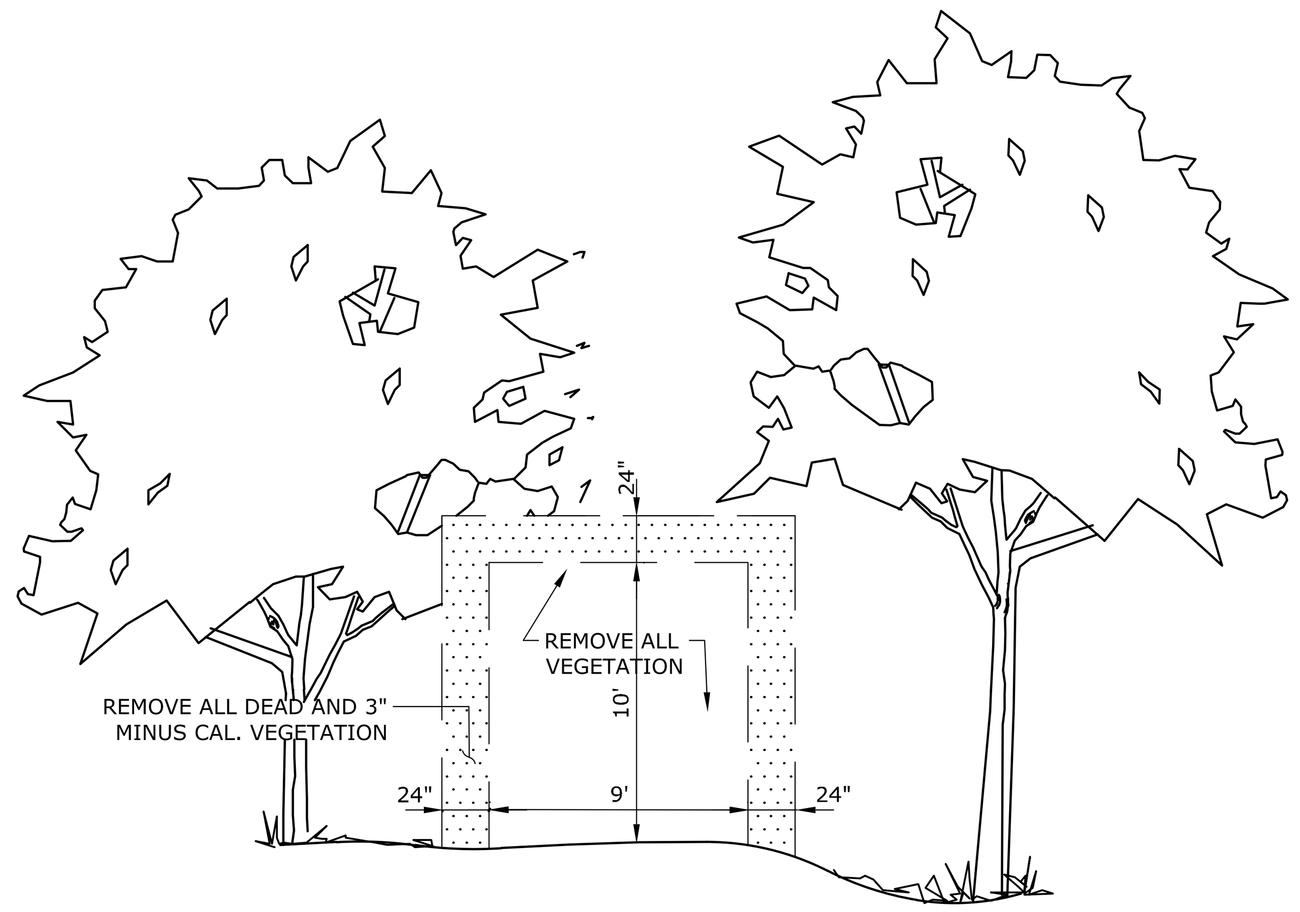
PREFORMED SCOUR HOLE
NOT TO SCALE



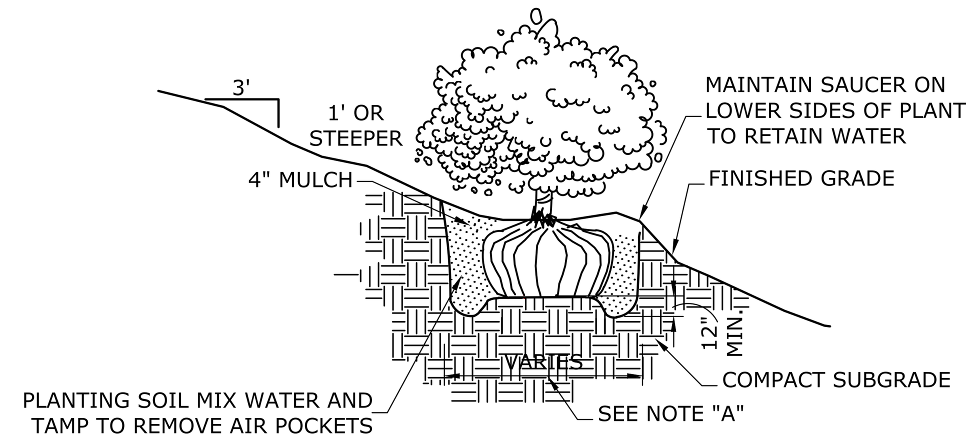
TYPICAL IMPOUNDMENT CROSS SECTION
(FACING UPSTREAM)
NOT TO SCALE



STONE LINED SWALE
NOT TO SCALE



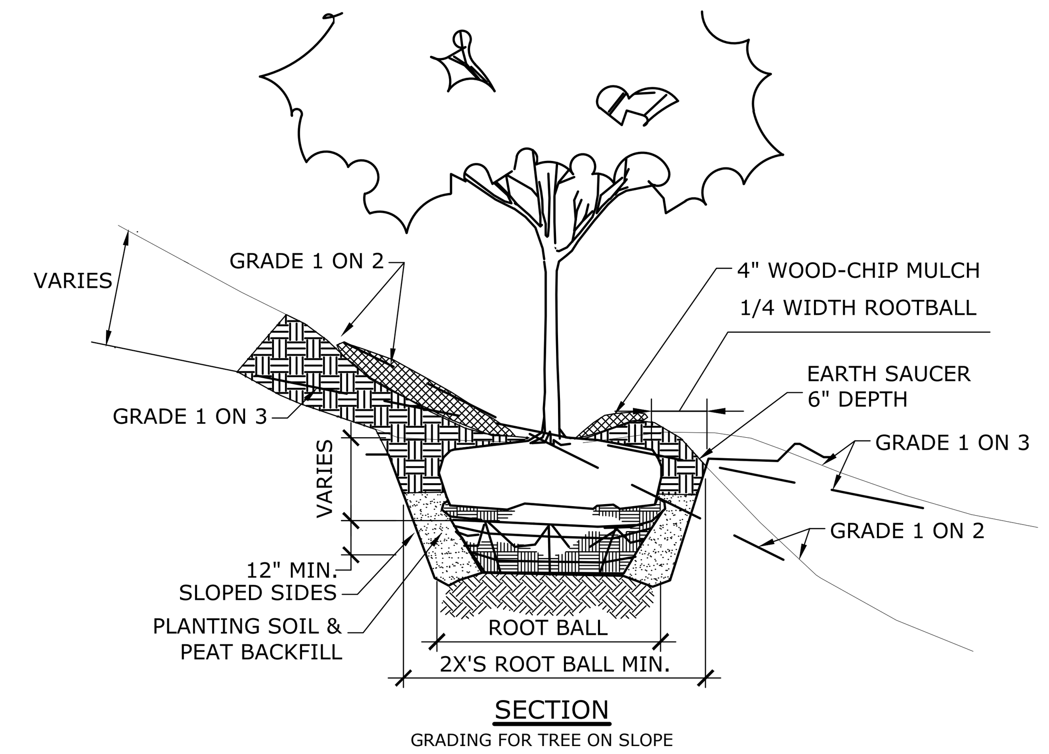
CLEARING LIMITS
NOT TO SCALE



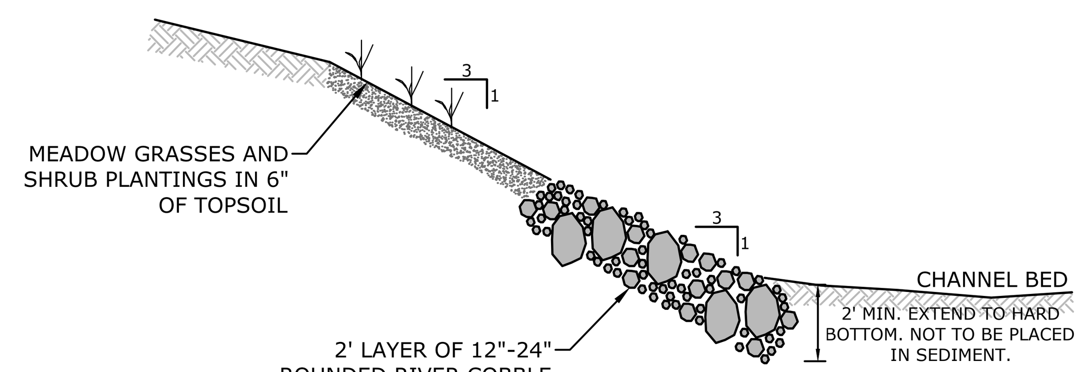
MULCHING OF PLANT BEDS:
UNLESS OTHERWISE DIRECTED SHREDDED MULCH SHALL BE PLACED TO A LIMIT OF ONE FOOT BEYOND THE CENTER OF THE OUTERMOST SHRUBS IN SHRUB BED.

NOTE "A":
FOR WIDTH SEE STANDARD SPECIFICATIONS

SHRUB ON SLOPE DETAIL
NOT TO SCALE

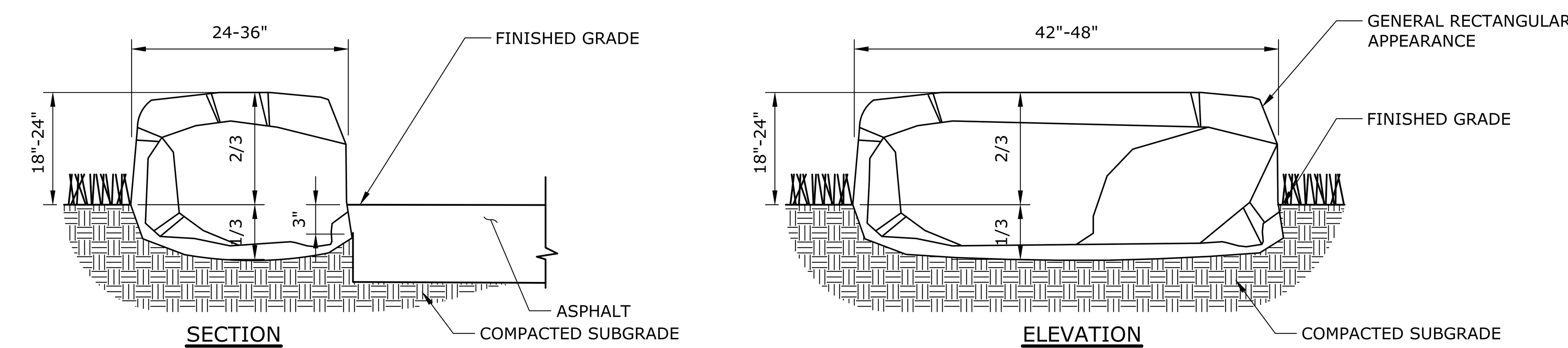


TREE ON SLOPE DETAIL
NOT TO SCALE



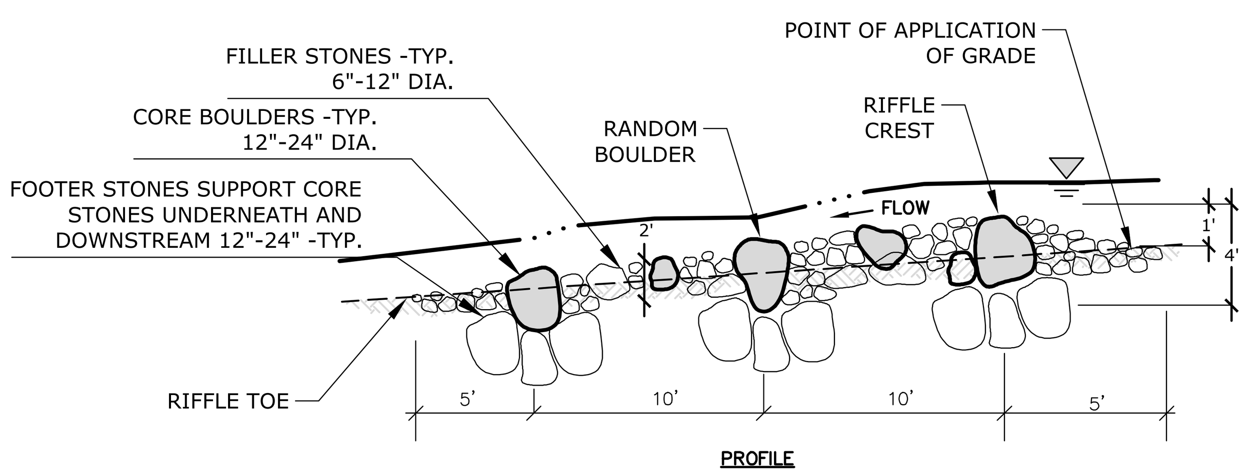
COBBLE TOE
NOT TO SCALE

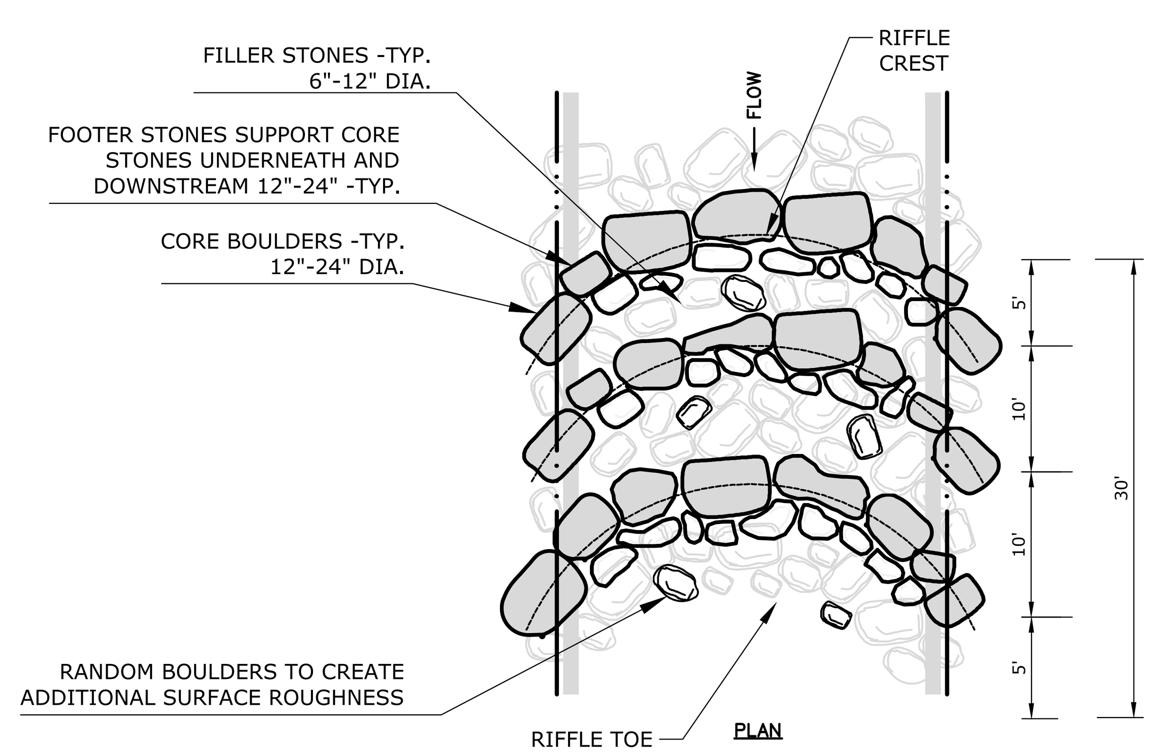
NOTES:
1. 12"-24" RIVER COBBLES SHALL EXTEND UP TO ELEVATION SHOWN ON CROSS SECTIONS, ABOVE SHALL BE MEADOW GRASSES AND SHRUB PLANTINGS.
2. 6" OF TOPSOIL IS TO BE PLACED COBBLE TOE.



NOTES:
1. CONTRACTOR SHALL LOCATE SOURCE OF STONES FOR LANDSCAPE ARCHITECT TO SELECT PRIOR TO SITE DELIVERY.
2. ALL LOCATIONS AND ELEVATIONS TO BE APPROVED BY THE LANDSCAPE ARCHITECT

STONE SEATING
NOT TO SCALE

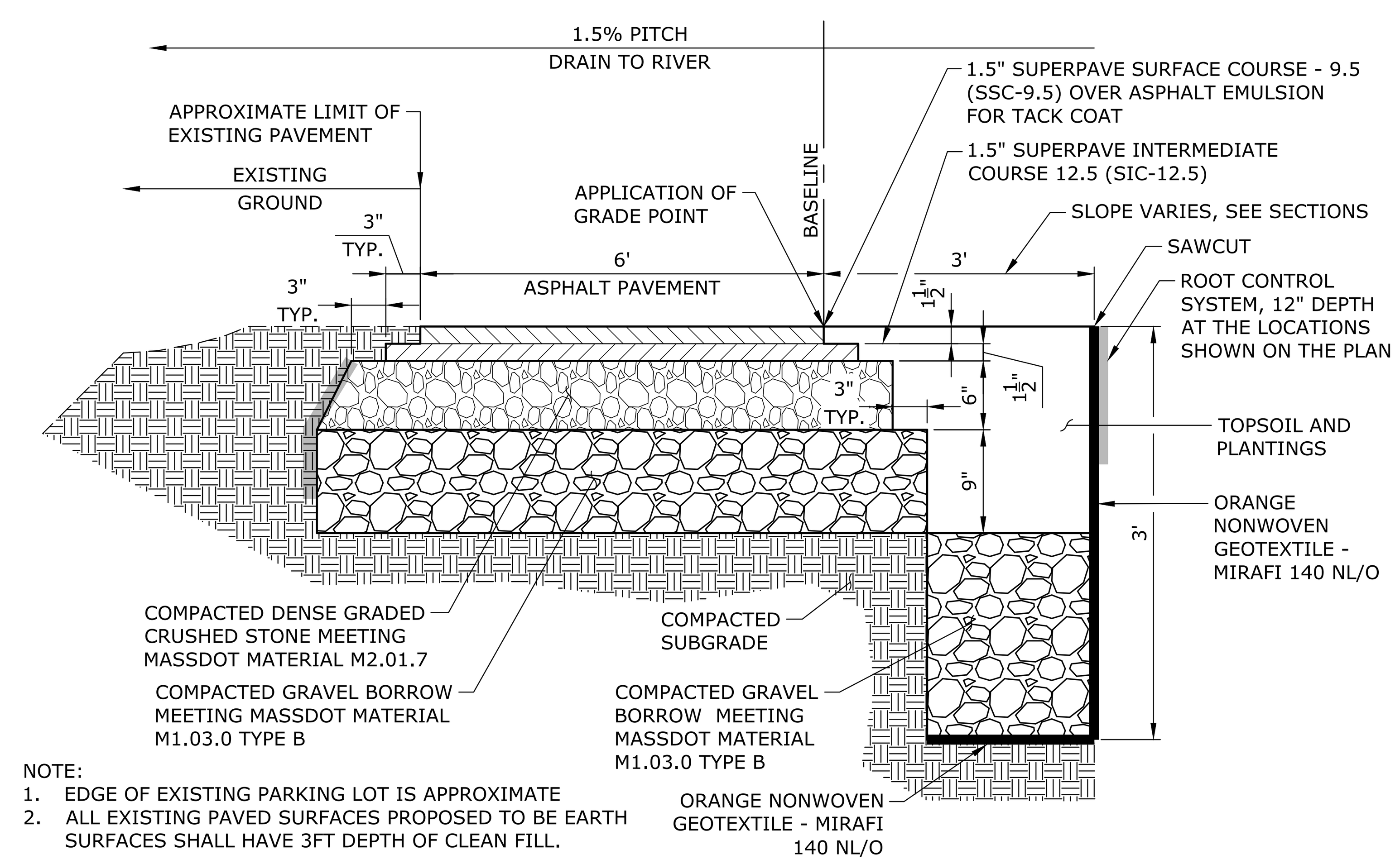




PROPOSED RIFFLE GRADE CONTROL FEATURE
NOT TO SCALE

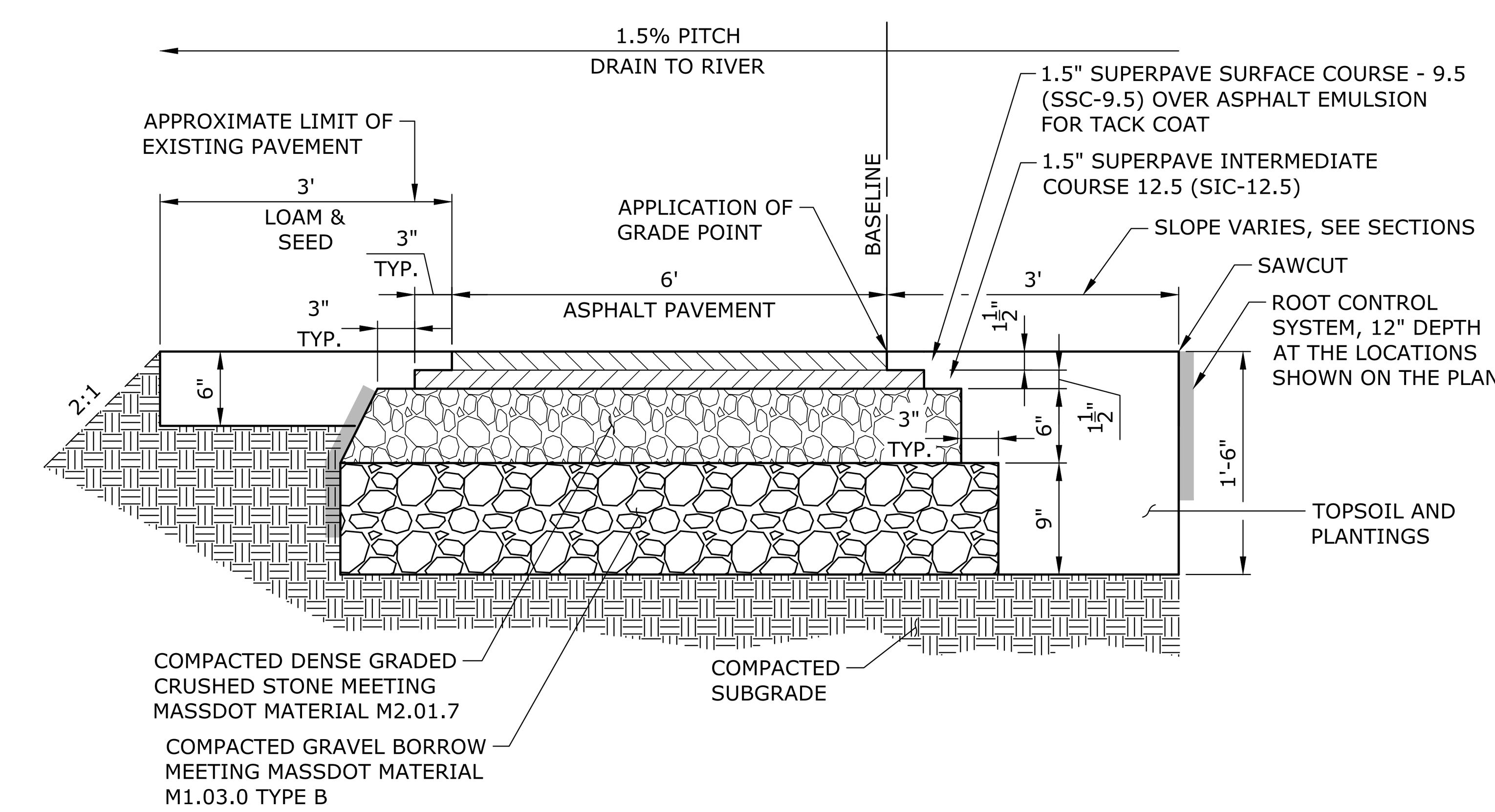
ROCK RIFFLE NOTES:

1. SELECTED CORE BOULDERS SHOULD EXTEND ABOVE PROPOSED GRADE. CORE BOULDERS TO BE BURIED BY MINIMUM ½ TOTAL ROCK HEIGHT.
2. PLACE RANDOM BOULDERS OVER FACE OF RIFFLE TO CREATE CHANNEL ROUGHNESS. DO NOT BLOCK MORE THAN ⅓ OF TOTAL CROSS SECTION WITH RANDOM BOULDERS.
3. USE 10-12 SINGLE RANDOM BOULDERS PER RIFFLE.
4. SINGLE RANDOM BOULDERS TO BE 12"-24" ROUNDED STONE, AS FOR RANDOM BOULDER CLUSTERS.
5. ROOTWADS INSTALLED WITH RIFFLES SHOULD BE INSTALLED AT THE BANK ADJACENT THE FURTHEST UPSTREAM CREST.



NOTE:
1. EDGE OF EXISTING PARKING LOT IS APPROXIMATE
2. ALL EXISTING PAVED SURFACES PROPOSED TO BE EARTH SURFACES SHALL HAVE 3FT DEPTH OF CLEAN FILL.

ON-GRADE ASPHALT TRAIL STATIONS 10+10 TO 15+50±
NOT TO SCALE



ON-GRADE ASPHALT TRAIL
STATIONS 25+40 TO 26+00±
STATIONS 15+50 TO 17+10±
NOT TO SCALE

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DESCRIPTION	DATE	BY

DETAILS
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

FRM	FRM	WAG
DESIGNED	DRAWN	CHECKED

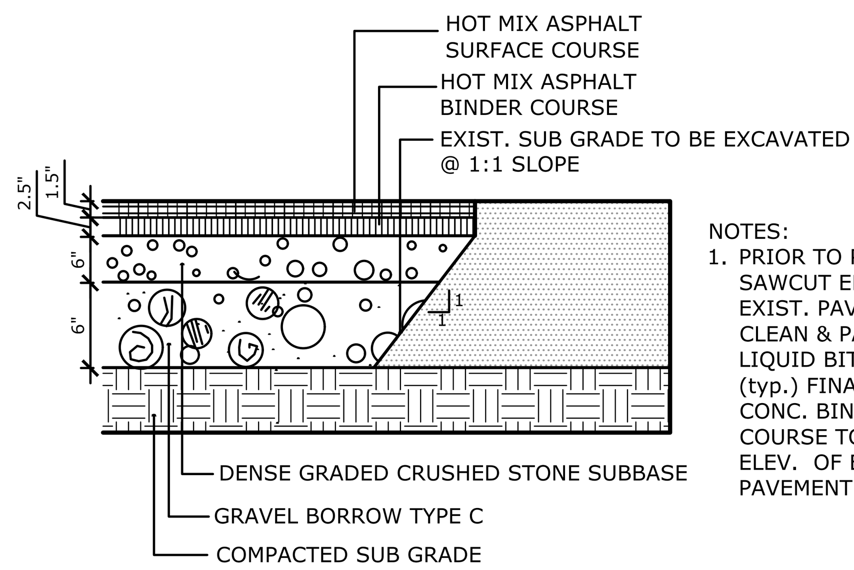
AS NOTED
SCALE

JUNE 30, 2021
DATE

6998-01
PROJECT NO.

29 OF 41
SHEET NO.

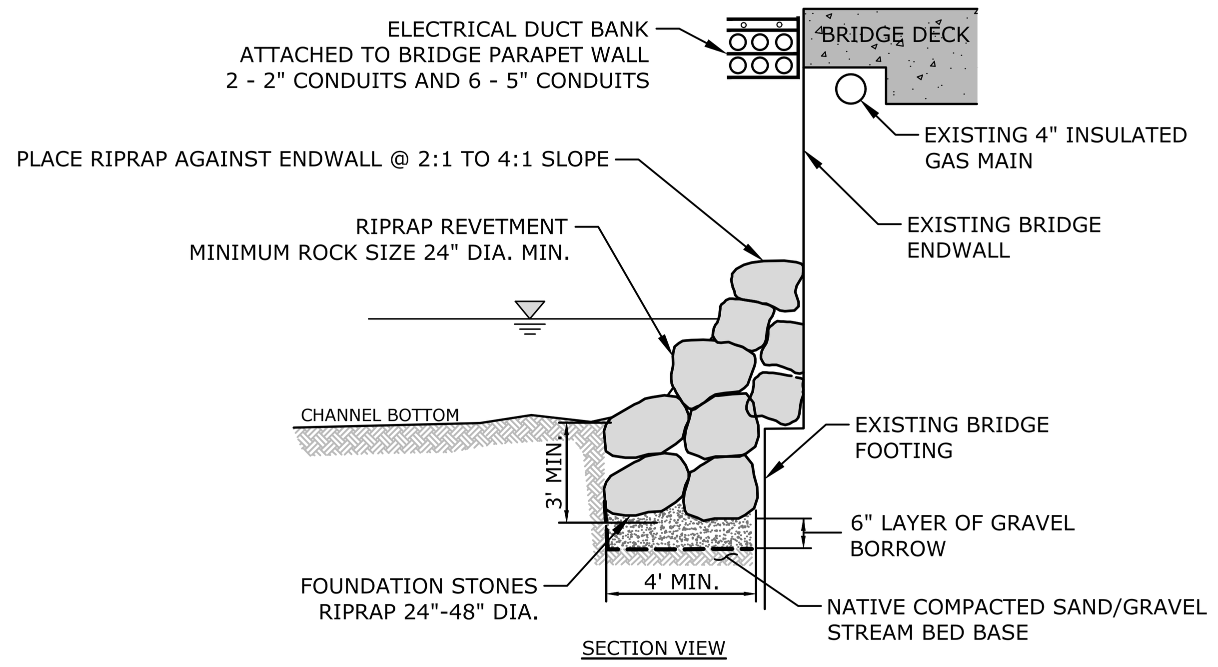
DE-2
SHEET NAME



NOTES:
1. PRIOR TO PAVING, SAWCUT EDGE OF EXIST. PAVEMENT, CLEAN & PAINT WITH LIQUID BITUMEN (typ.) FINAL BIT. CONC. BINDER COURSE TO MEET ELEV. OF EXISTING PAVEMENT.

PAVEMENT REPAIR

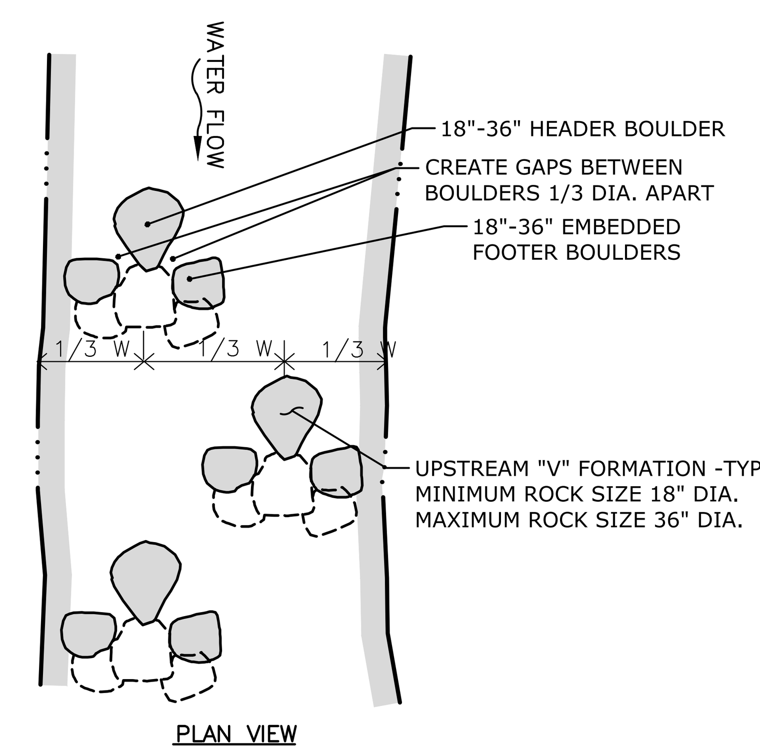
NOT TO SCALE



NOTES:
1. EMBED THE STONE SEVERAL INTO THE STREAM BANK TO KEY INTO THE BANK.
2. FINISHED ELEVATION OF THE STONES WILL BE DETERMINED IN THE FIELD.
3. STONES SHALL BE PLACED TO CREATE AN IRREGULAR EDGE.
4. PLACE BOULDERS TO IRREGULAR HEIGHT AND HORIZONTAL EXTENT INTO THE CHANNEL. REVETMENT SHALL NOT CREATE THE APPEARANCE OF A WALL.
5. EMBED THE FOUNDATION STONES A MINIMUM OF 3' BELOW THE CHANNEL THALWEG.

SCOUR PROTECTION

NOT TO SCALE

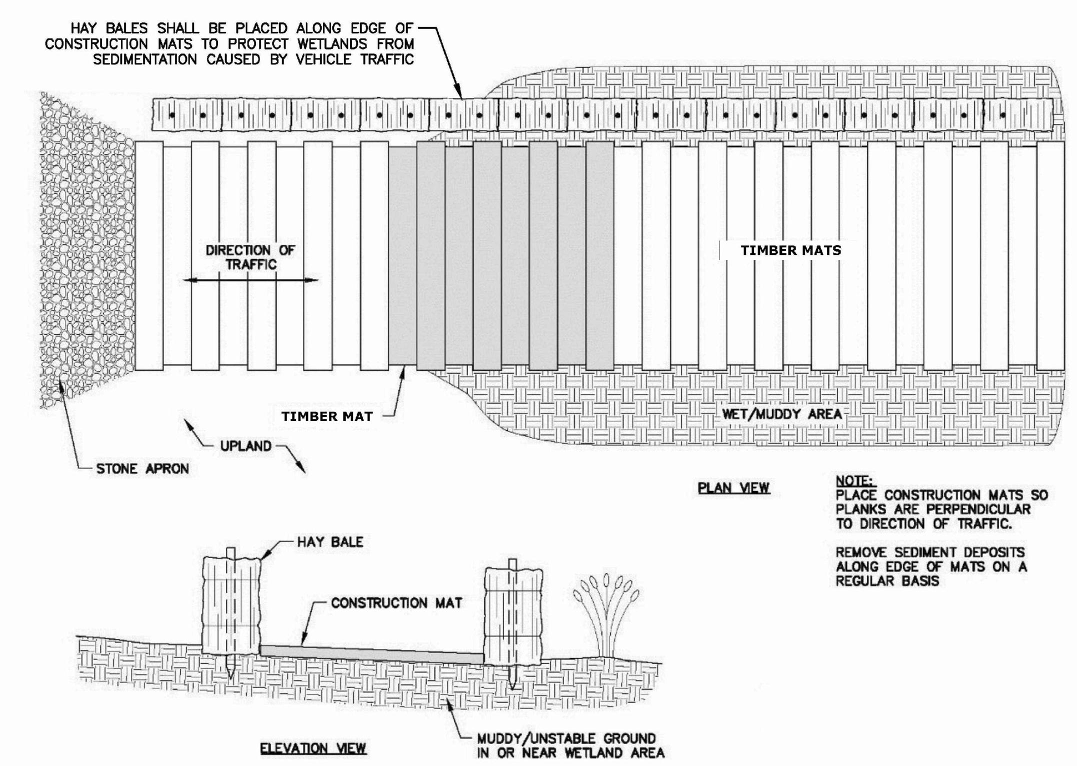


RANDOM BOULDER CLUSTER NOTES:
1. CLUSTERS SHOULD NOT BE EVENLY SPACED FROM EACH OTHER.
2. PLACE ½ OF ALL BOULDER CLUSTERS AT TOE OF BANK .
3. POSITION BOULDER GROUPS IN AN UPSTREAM OR DOWNSTREAM "V" FORMATION.
4. BOULDERS SHOULD BE 18" TO 36" IN DIAMETER.
5. POSITION BOULDERS WITH THEIR LONG AXIS PARALLEL TO THE STREAM FLOW.
6. INSTALL FOOTER BOULDER TO WEDGE HEADER BOULDER IN PLACE FROM DOWNSTREAM.
7. INSTALL HEADER BOULDERS AT A LOW PROFILE SUCH THAT THEY ARE PARTIALLY SUBMERGED DURING NORMAL LOW FLOW. INSTALL SUCH THAT ⅓ OF ROCK DIAMETER IS BURIED IN STREAM CHANNEL.
8. FINISHED ELEVATION OF THE BOULDERS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
9. PROVIDE A GAP BETWEEN BOULDERS A MINIMUM OF 1/3 THE ROCK DIAMETER.

RANDOM BOULDER CLUSTER

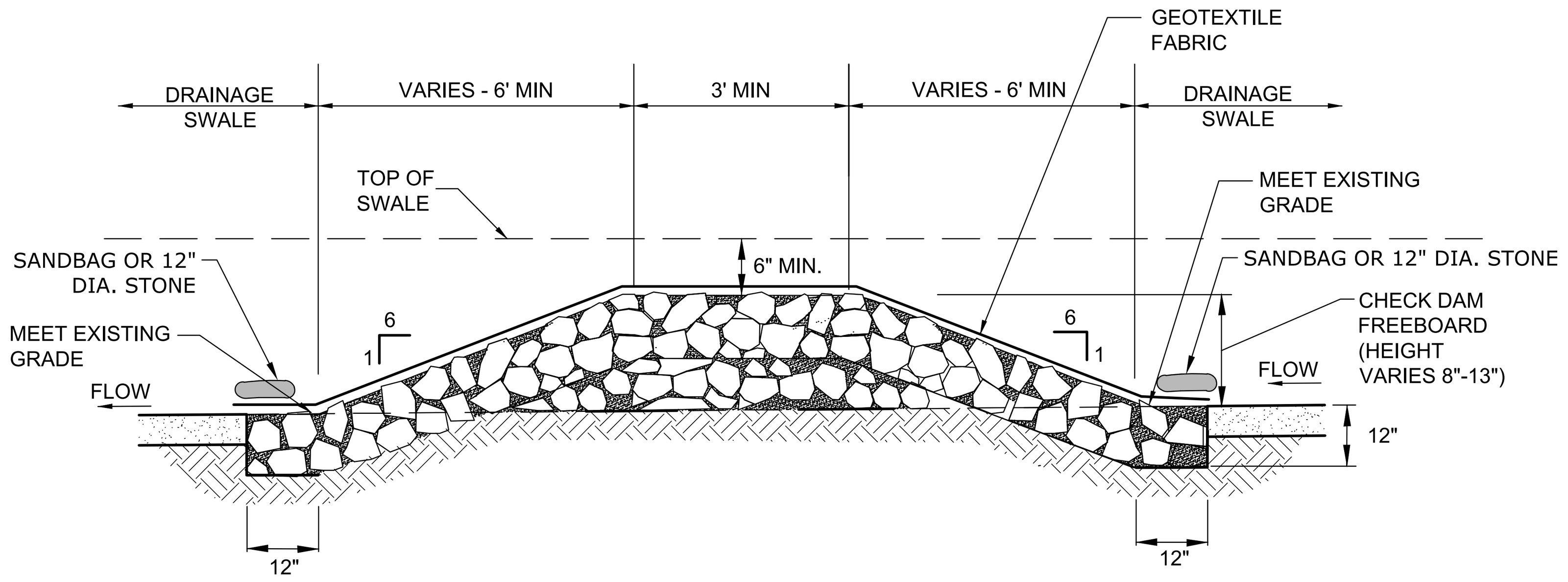
NOT TO SCALE

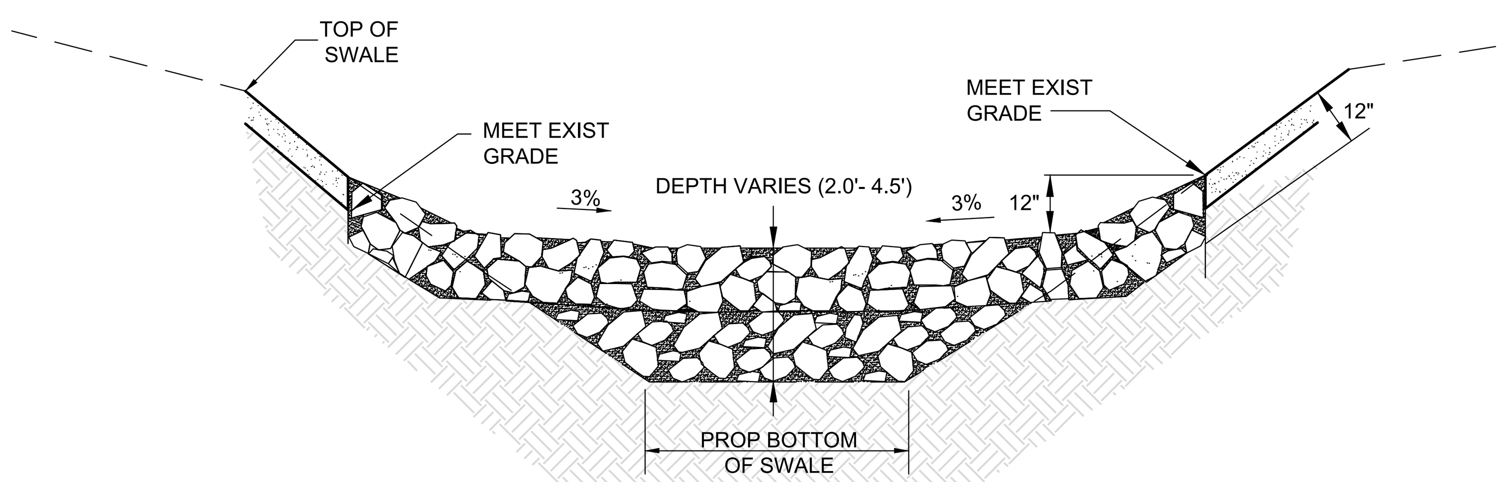
NOTE: BOULDER CLUSTER TO BE LOCATED AS SHOWN ON SITE PLAN.



TIMBER MATS

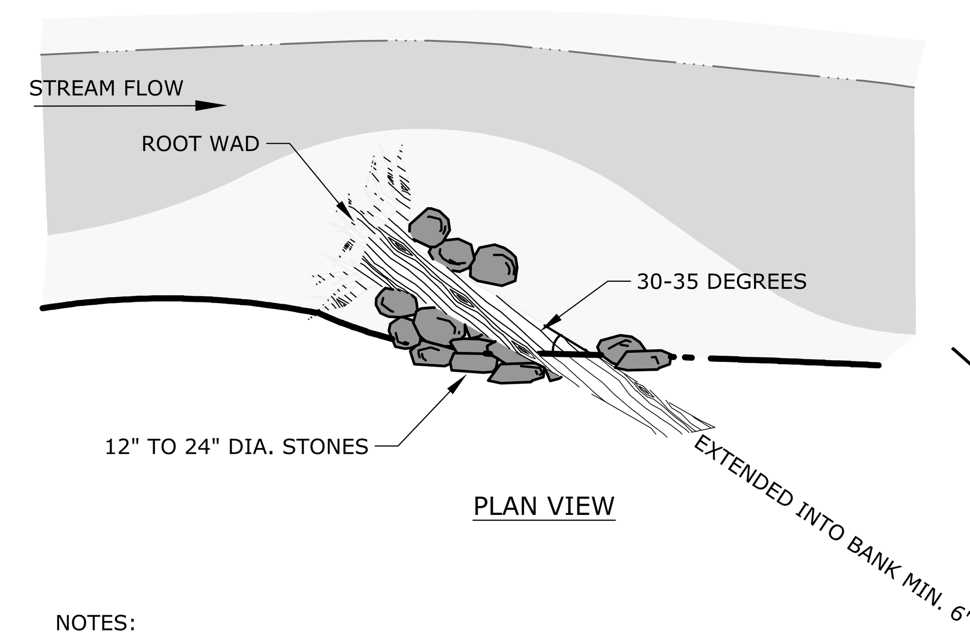
NOT TO SCALE

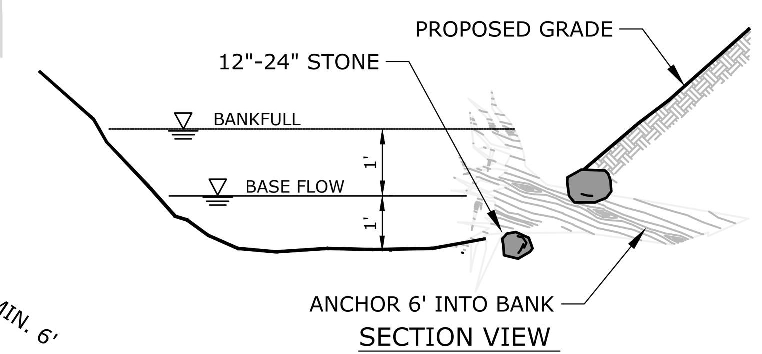




TEMPORARY STONE CHECK DAM

NOT TO SCALE

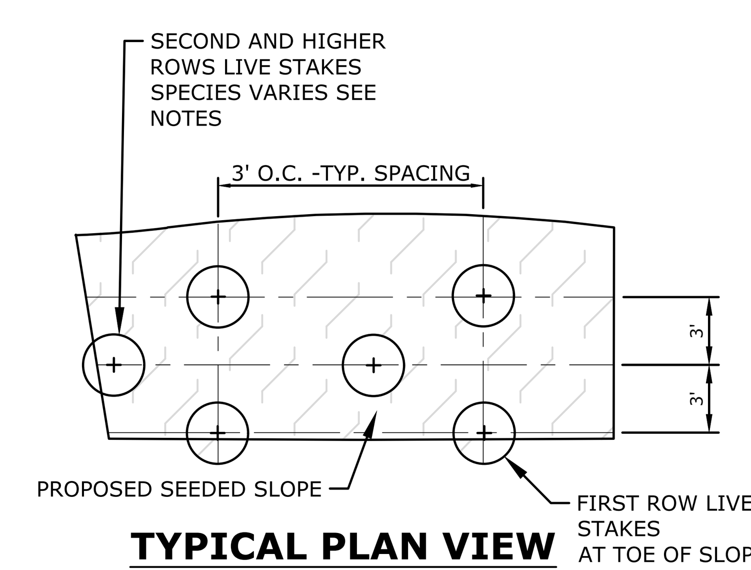




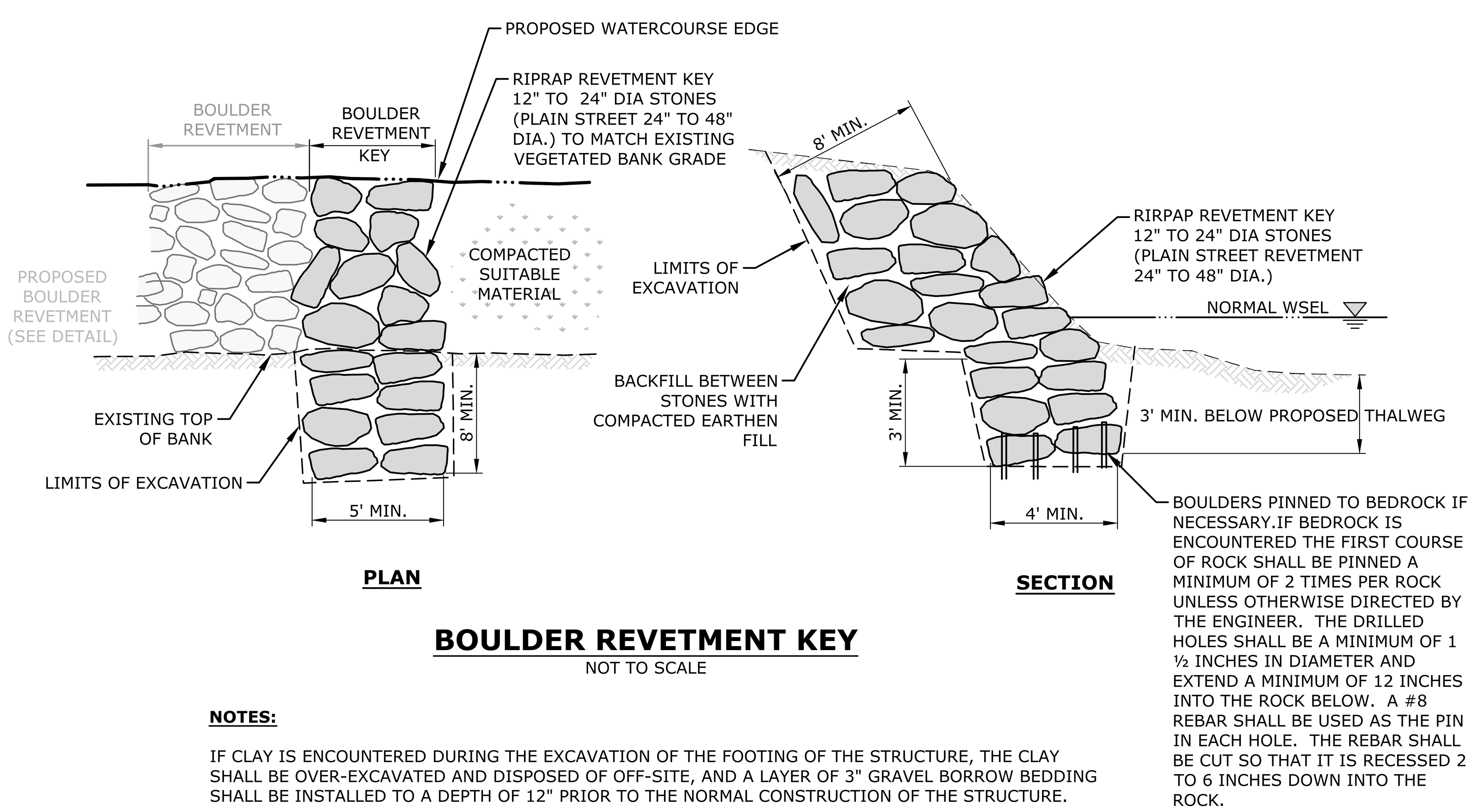
NOTES:
1. USE 4-12 INCH DIAMETER LOGS WITH ROOTWADS.
2. INSTALL THE LOG WITH ROOTWAD RESTING ON OR DRIVEN DOWN IN TO THE STREAM BOTTOM AT A 30-35 DEGREE ANGLE FROM THE STREAM BANK.
3. ANCHOR THE TRUNK AT LEAST 6 FEET INTO THE STREAM BANK.
4. USE 12" TO 24" DIAMETER STONES UPSTREAM AND DOWNSTREAM OF THE STRUCTURE TO PROTECT IT FROM EROSION. STONES SHALL BE ROUNDED RIVER STONES, AS APPROVED BY THE ENGINEER.
5. INSTALL AT A LOW PROFILE SUCH THAT THE TRUNK IS RESTING ON PROPOSED GRADE.
6. FINISHED ELEVATION OF THE ROOTWAD WILL BE DETERMINED IN THE FIELD.
7. CONTRACTOR TO FURNISH AND INSTALL ROOTWAD. WORK SHALL BE INCLUDED IN THE ITEM "CHANNEL FEATURES". CONTRACTOR SHALL RECEIVE APPROVAL FROM ENGINEER FOR USE OF SPECIFIC ROOTWADS.
8. TREES AVAILABLE ON SITE AS PART OF CLEARING OPERATIONS WHICH MEET THE MATERIAL SPECIFICATIONS FOR ROOTWADS SHALL BE HARVESTED AND STOCKPILED ON SITE FOR REUSE.

ROOTWAD INSTALLATION

NOT TO SCALE



TYPICAL PLAN VIEW

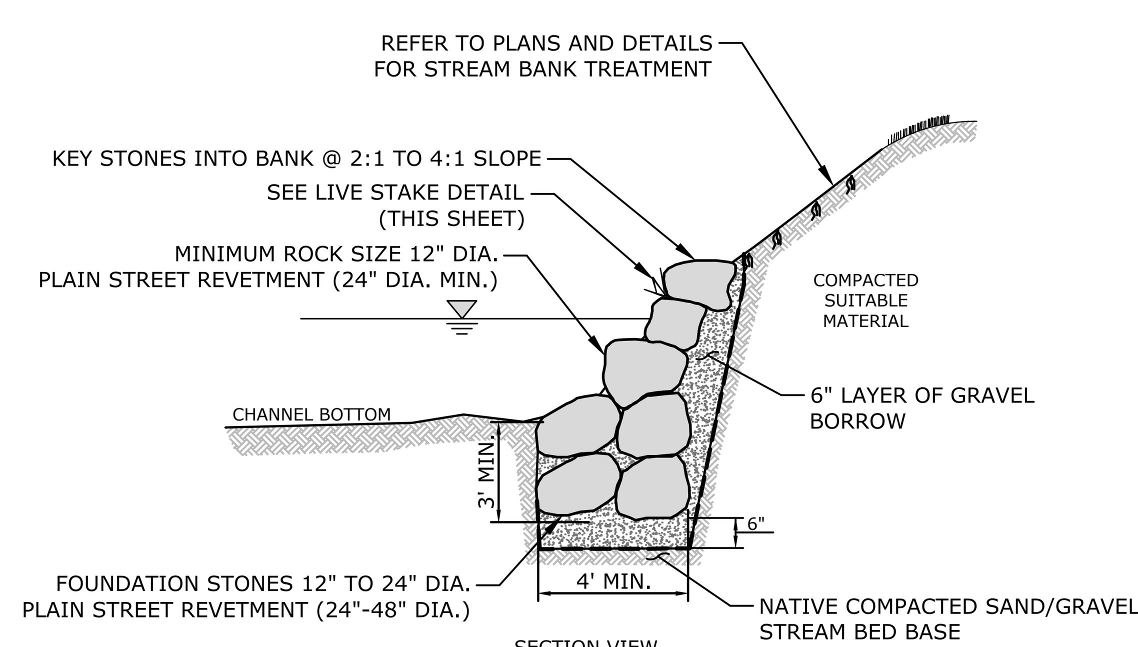


BOULDER REVETMENT KEY

NOT TO SCALE

NOTES:

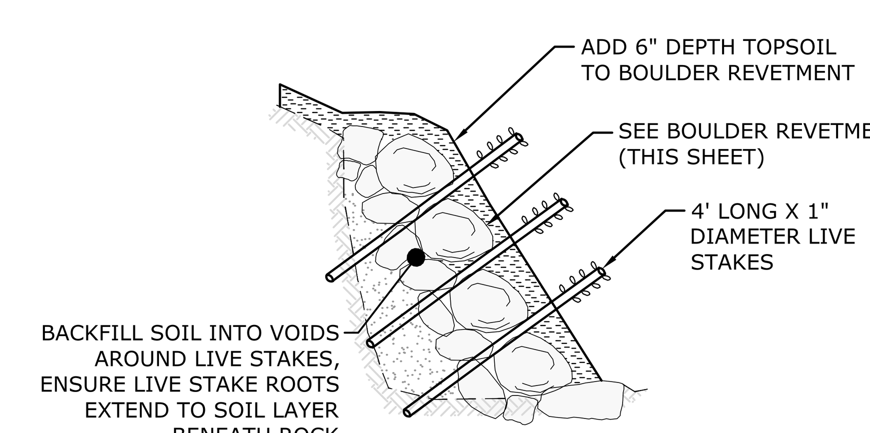
IF CLAY IS ENCOUNTERED DURING THE EXCAVATION OF THE FOOTING OF THE STRUCTURE, THE CLAY SHALL BE OVER-EXCAVATED AND DISPOSED OF OFF-SITE, AND A LAYER OF 3" GRAVEL BORROW BEDDING SHALL BE INSTALLED TO A DEPTH OF 12" PRIOR TO THE NORMAL CONSTRUCTION OF THE STRUCTURE.



NOTES:
1. USE 12" TO 24" DIAMETER ROUNDED STONES FOR REVETMENT WITHIN THE IMPOUNDMENT. PLAIN STREET REVETMENT STONE SIZE SHALL BE 24"-48" DIAMETER.
2. EMBED THE STONE SEVERAL INCHES INTO THE STREAM BANK TO KEY INTO THE BANK.
3. FINISHED ELEVATION OF THE STONES WILL BE DETERMINED IN THE FIELD.
4. STONES SHALL BE PLACED TO CREATE AN IRREGULAR EDGE.
5. PLACE BOULDERS TO IRREGULAR HEIGHT AND HORIZONTAL EXTENT INTO THE CHANNEL. REVETMENT SHALL NOT CREATE THE APPEARANCE OF A WALL.
6. EMBED THE FOUNDATION STONES A MINIMUM OF 3' BELOW THE CHANNEL THALWEG.

BOULDER REVETMENT

NOT TO SCALE



LIVE STAKES SECTION VIEW

LIVE STAKES

(NOT TO SCALE)

PLANTING NOTES:

1. INSTALL RIPRAP REVETMENT PER PLAN, AND PLACE 6 INCHES OF TOPSOIL AS SHOWN IN DETAIL.
2. ALONG THE TOE OF THE SLOPE (FIRST ROW), INSTALL 4' LONG X 1" DIAMETER LIVE DOGWOOD STAKES (*SWIDA AMOMUM* OR SIMILAR NATIVE DOGWOOD SPECIES) SPACED 3' ON CENTER. THESE ARE TO BE INSERTED INTO PREDRILLED PILOT HOLES SLIGHTLY LARGER THAN THE STAKE DIAMETER AND BACKFILLED. STAKES SHOULD BE INSERTED TO 36" DEPTH.
3. HIGHER ON SLOPE (SECOND AND THIRD ROW), INSTALL 4' LONG X 1" DIAMETER LIVE DOGWOOD STAKES (*SWIDA AMOMUM* OR SIMILAR NATIVE DOGWOOD SPECIES), RED OSIER DOGWOOD (SWIDA SERICEA), OR SPECKLED ALDER (ALNUS RUGOSA) SPACED 3' ON CENTER. THESE ARE TO BE INSERTED INTO PREDRILLED PILOT HOLES SLIGHTLY LARGER THAN THE STAKE DIAMETER AND BACKFILLED. STAKES SHOULD BE INSERTED TO 36" DEPTH.
4. LIGHTLY TAMP TOPSOIL AROUND EACH STAKE AND SATURATE WITH WATER.
5. SEED BANK WITH A MIX CONSISTING OF NATIVE SPECIES THAT ARE AT LEAST MODERATELY DROUGHT TOLERANT, DO WELL ON POOR SOILS AND DEVELOP SUBSTANTIAL BELOW-GROUND BIOMASS. THE SLOPE SHOULD BE HAND RAKED TO SCARIFY THE SOIL SURFACE, THEN HAND SEEDED, HYDROMULCHED OR HAND SPREAD WITH A STRAW MULCH, AND RAKED LIGHTLY TO ENSURE SEED TO SOIL CONTACT. SEE SEEDING NOTES BELOW FOR SEED MIX COMPOSITION.
6. PLANT MATERIALS SHOULD BE PLANTED THE DAY THEY ARRIVE ON SITE. PLANTS AND CUTTINGS THAT CANNOT BE PLANTED THE DAY THEY ARRIVE SHALL BE STORED ON SITE UNDER A WET TARP TO PROTECT THEM FROM WIND, DIRECT SUNLIGHT, DRYING OR OTHER DAMAGE. CUTTINGS OR UNROOTED STOCK THAT IS NOT PLANTED WITHIN TWO DAYS AFTER ARRIVAL ON THE SITE SHALL BE DISCARDED UNLESS REFRIGERATED AT 40 TO 50 DEGREES FAHRENHEIT.
7. SPECIES AND SOURCES SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

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DESCRIPTION	DATE	BY

DETAILS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

CME	CME	WAG
DESIGNED	DRAWN	CHECKED

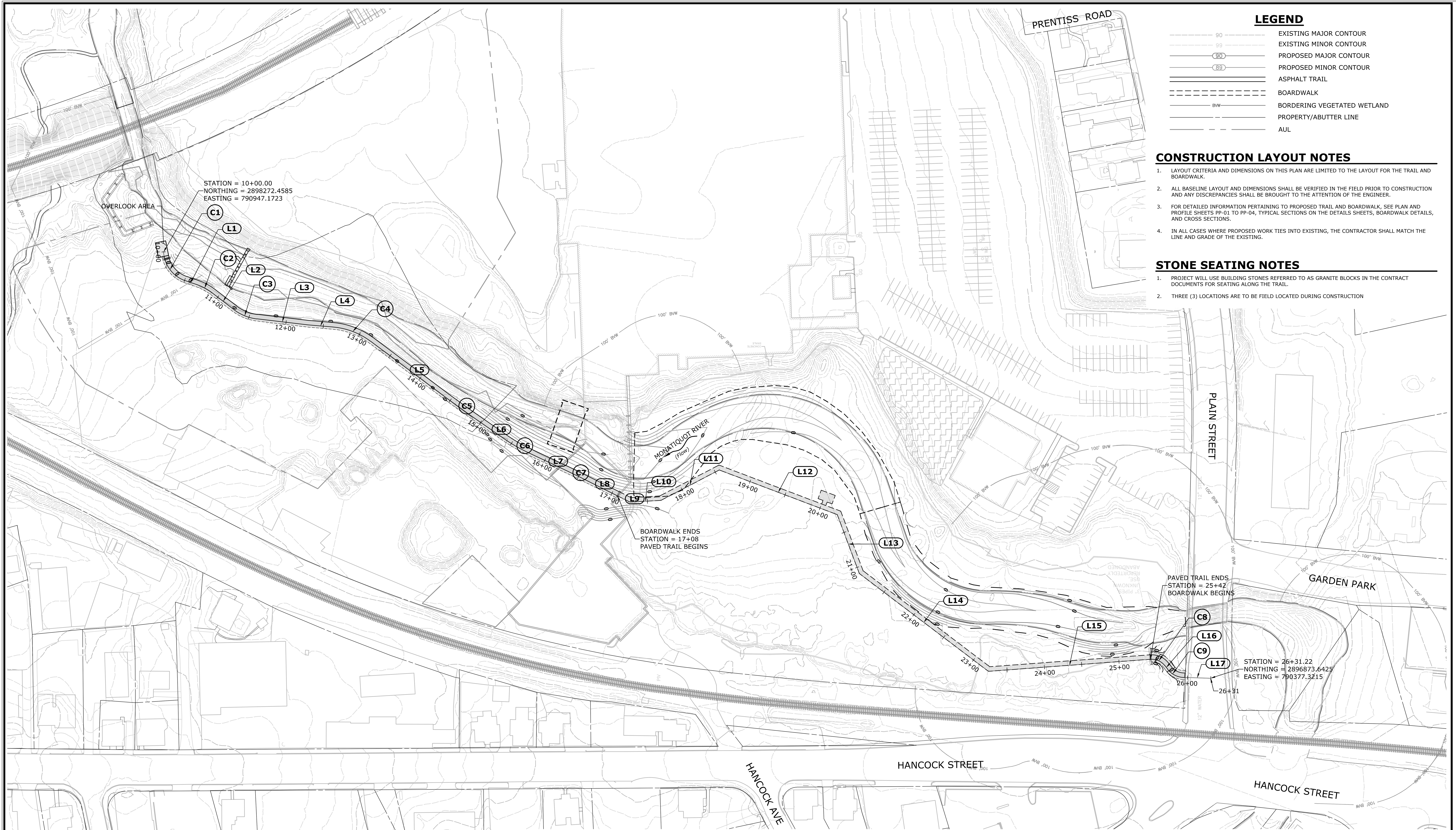
AS NOTED
SCALE

JUNE 30, 2021
DATE

6998-01
PROJECT NO.

30 OF 41
SHEET NO.

DE-3
SHEET NAME



LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- ASPHALT TRAIL
- BOARDWALK
- BORDERING VEGETATED WETLAND
- PROPERTY/ABUTTER LINE
- AUL

CONSTRUCTION LAYOUT NOTES

1. LAYOUT CRITERIA AND DIMENSIONS ON THIS PLAN ARE LIMITED TO THE LAYOUT FOR THE TRAIL AND BOARDWALK.
2. ALL BASELINE LAYOUT AND DIMENSIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. FOR DETAILED INFORMATION PERTAINING TO PROPOSED TRAIL AND BOARDWALK, SEE PLAN AND PROFILE SHEETS PP-01 TO PP-04, TYPICAL SECTIONS ON THE DETAILS SHEETS, BOARDWALK DETAILS, AND CROSS SECTIONS.
4. IN ALL CASES WHERE PROPOSED WORK TIES INTO EXISTING, THE CONTRACTOR SHALL MATCH THE LINE AND GRADE OF THE EXISTING.

STONE SEATING NOTES

1. PROJECT WILL USE BUILDING STONES REFERRED TO AS GRANITE BLOCKS IN THE CONTRACT DOCUMENTS FOR SEATING ALONG THE TRAIL.
2. THREE (3) LOCATIONS ARE TO BE FIELD LOCATED DURING CONSTRUCTION

TRAIL BASELINE GEOMETRY TABLE

SEGMENT NUMBER	SEGMENT LENGTH	CURVE RADIUS	LINE DIRECTION	CURVE CHORD DIRECTION	CURVE CHORD LENGTH
C1	51.1'	43.0'	S52° 59' 51.49"W	S53.0W	48.2'
L1	15.2'		S18.9W		
C2	24.9'	77.0'	S28° 11' 07.57"W	S28.2W	24.8'
L2	35.7'		S37.4W		
C3	33.7'	63.0'	S22° 07' 46.67"W	S22.1W	33.3'
L3	68.7'		S06.8W		
L4	33.7'		S04.8W		
C4	54.0'	97.0'	S20° 48' 18.32"W	S20.8W	53.4'
L5	131.5'		S36.8W		

TRAIL BASELINE GEOMETRY TABLE

SEGMENT NUMBER	SEGMENT LENGTH	CURVE RADIUS	LINE DIRECTION	CURVE CHORD DIRECTION	CURVE CHORD LENGTH
C5	34.3'	1006.0'	S35° 47' 30.15"W	S35.8W	34.3'
L6	55.5'		S34.8W		
C6	36.0'	217.0'	S30° 03' 27.61"W	S30.1W	36.0'
L7	58.6'		S25.3W		
C7	20.4'	1000.0'	S25° 53' 07.56"W	S25.9W	20.4'
L8	73.2'		S26.5W		
L9	73.2'		S26.5W		
L10	41.4'		S03.1E		
L11	87.9'		S27.5E		

TRAIL BASELINE GEOMETRY TABLE

SEGMENT NUMBER	SEGMENT LENGTH	CURVE RADIUS	LINE DIRECTION	CURVE CHORD DIRECTION	CURVE CHORD LENGTH
L12	168.6'		S20.7W		
L13	84.0'		S69.5W		
L14	216.4'		S37.2W		
L15	217.5'		S04.3E		
C8	22.0'	22.0'	S24° 24' 51.18"W	S24.4W	21.1'
L16	5.5'		S53.1W		
C9	25.1'	28.0'	S27° 24' 21.48"W	S27.4W	24.3'
L17	36.1'		S01.7W		

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OVERALL SITE PLAN - TRAIL AND GRADING

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DESIGNED	DRAWN	CHECKED
TRS	JJH	AWG

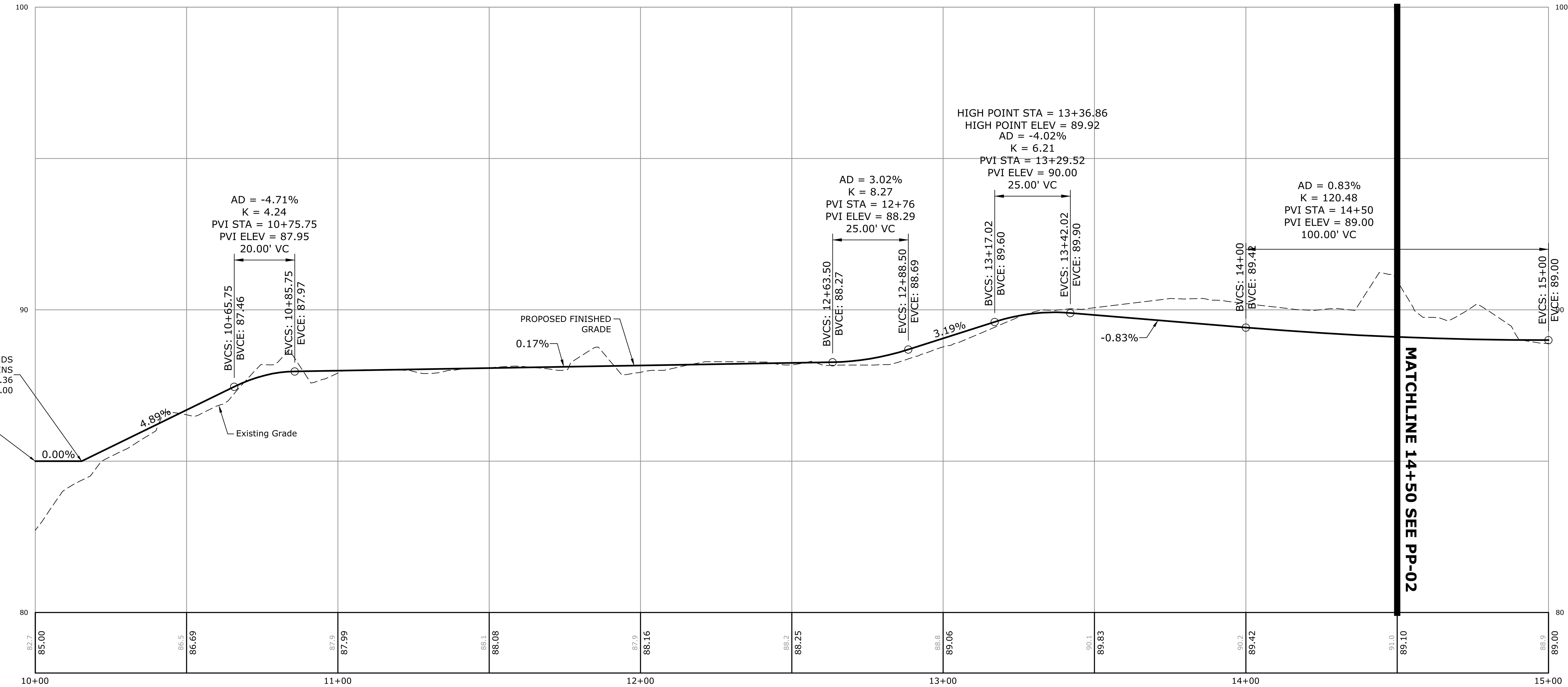
SCALE 1"=60'

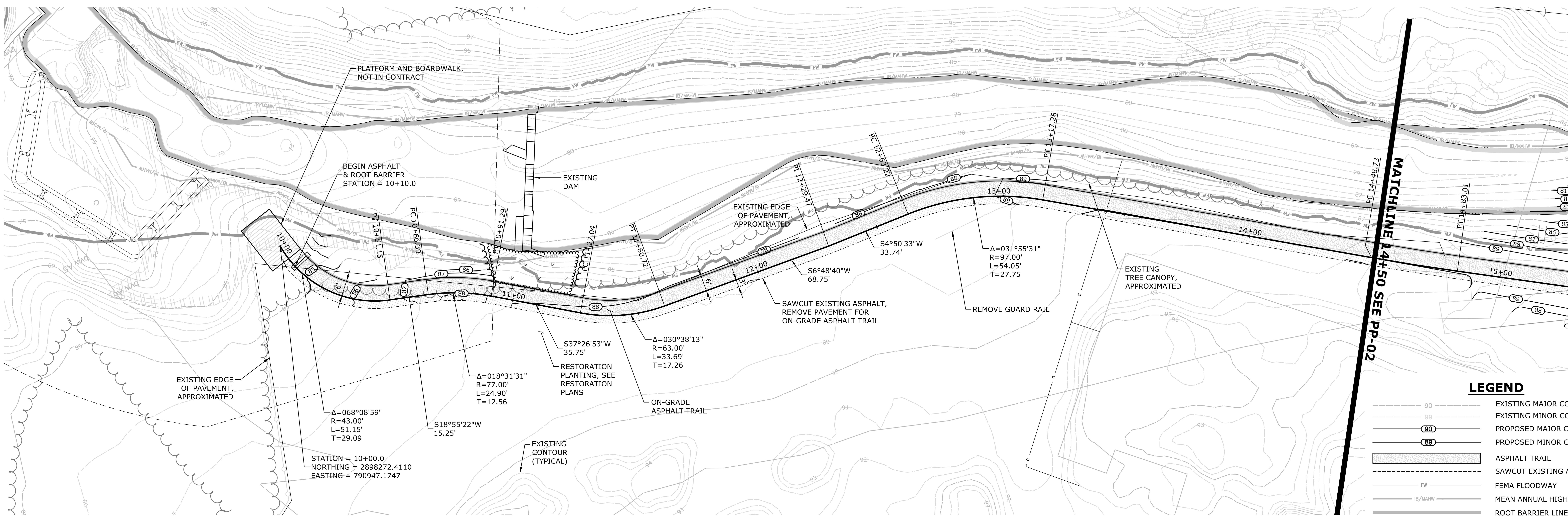
DATE JUNE 30, 2021

PROJECT NO. 6998-01

SHEET NO. 31 OF 41

SHEET NAME **OAP**





LEGEND

90	EXISTING MAJOR CONTOUR
89	EXISTING MINOR CONTOUR
90	PROPOSED MAJOR CONTOUR
89	PROPOSED MINOR CONTOUR
	ASPHALT TRAIL
	SAWCUT EXISTING ASPHALT
FW	FEMA FLOODWAY
W/MAHW	MEAN ANNUAL HIGH WATER
	ROOT BARRIER LINE
	AUL

SCALE 1" = 20'H
1" = 2'V

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PLAN & PROFILE - TRAIL

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

TRS	JJH	AWG
DESIGNED	DRAWN	CHECKED

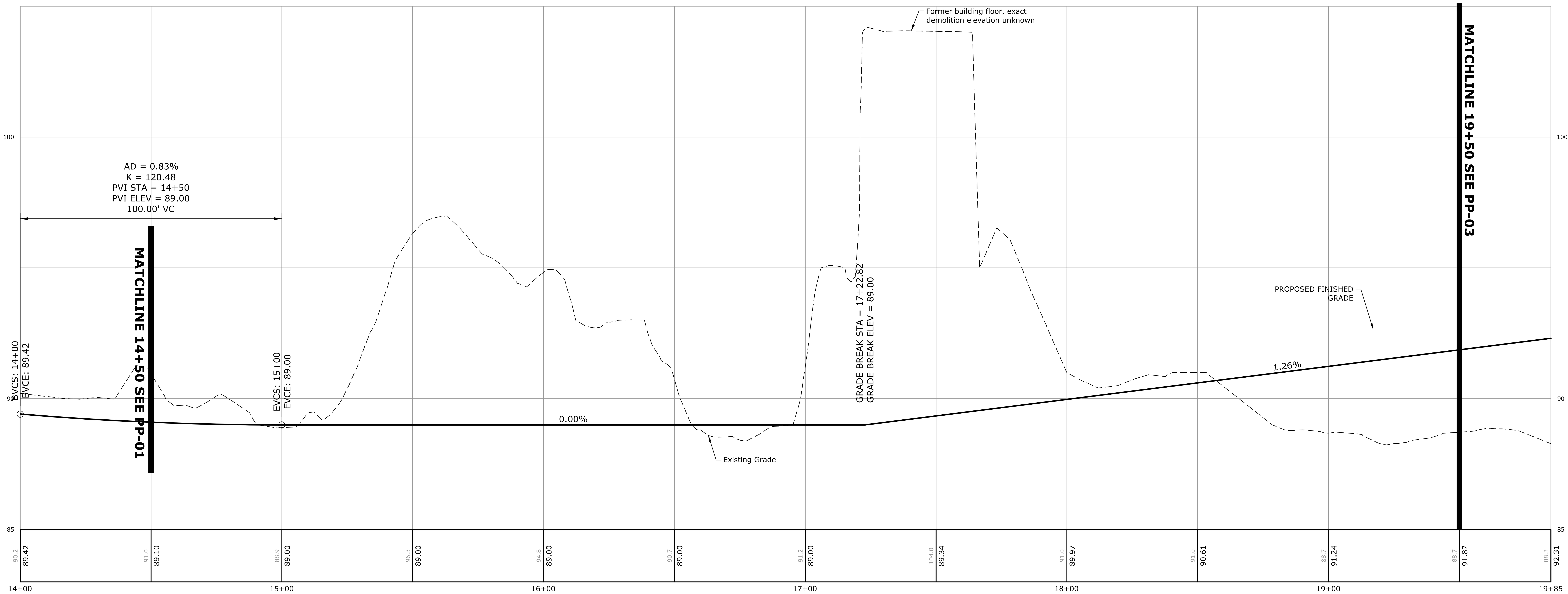
SCALE 1" = 20'H 1" = 2'V

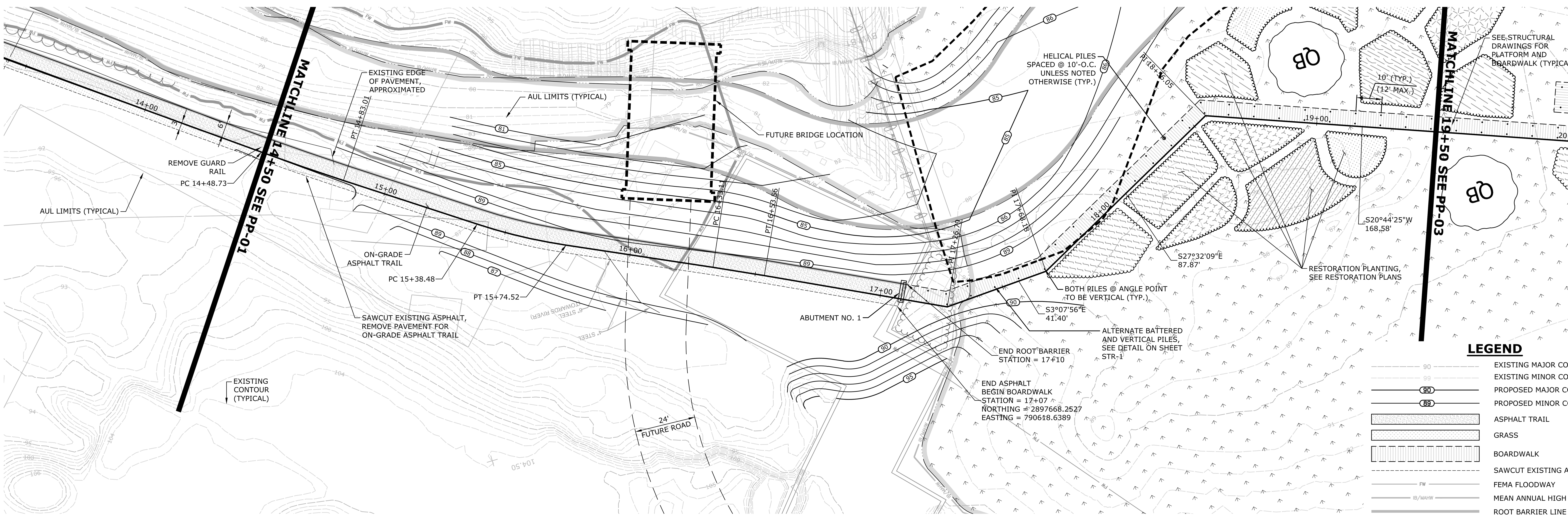
DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 32 OF 41

SHEET NAME: PP-01





LEGEND

90	EXISTING MAJOR CONTOUR
99	EXISTING MINOR CONTOUR
90	PROPOSED MAJOR CONTOUR
89	PROPOSED MINOR CONTOUR
	ASPHALT TRAIL
	GRASS
	BOARDWALK
	SAWCUT EXISTING ASPHALT
FW	FEMA FLOODWAY
BI/MAHW	MEAN ANNUAL HIGH WATER
	ROOT BARRIER LINE
	AUL

SCALE 1" = 20'H
1" = 2'V

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DESCRIPTION	DATE	BY

PLAN & PROFILE - TRAIL

MONATIQUOT RIVER RESTORATION

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DESIGNED	DRAWN	CHECKED
TRS	JJH	AWG

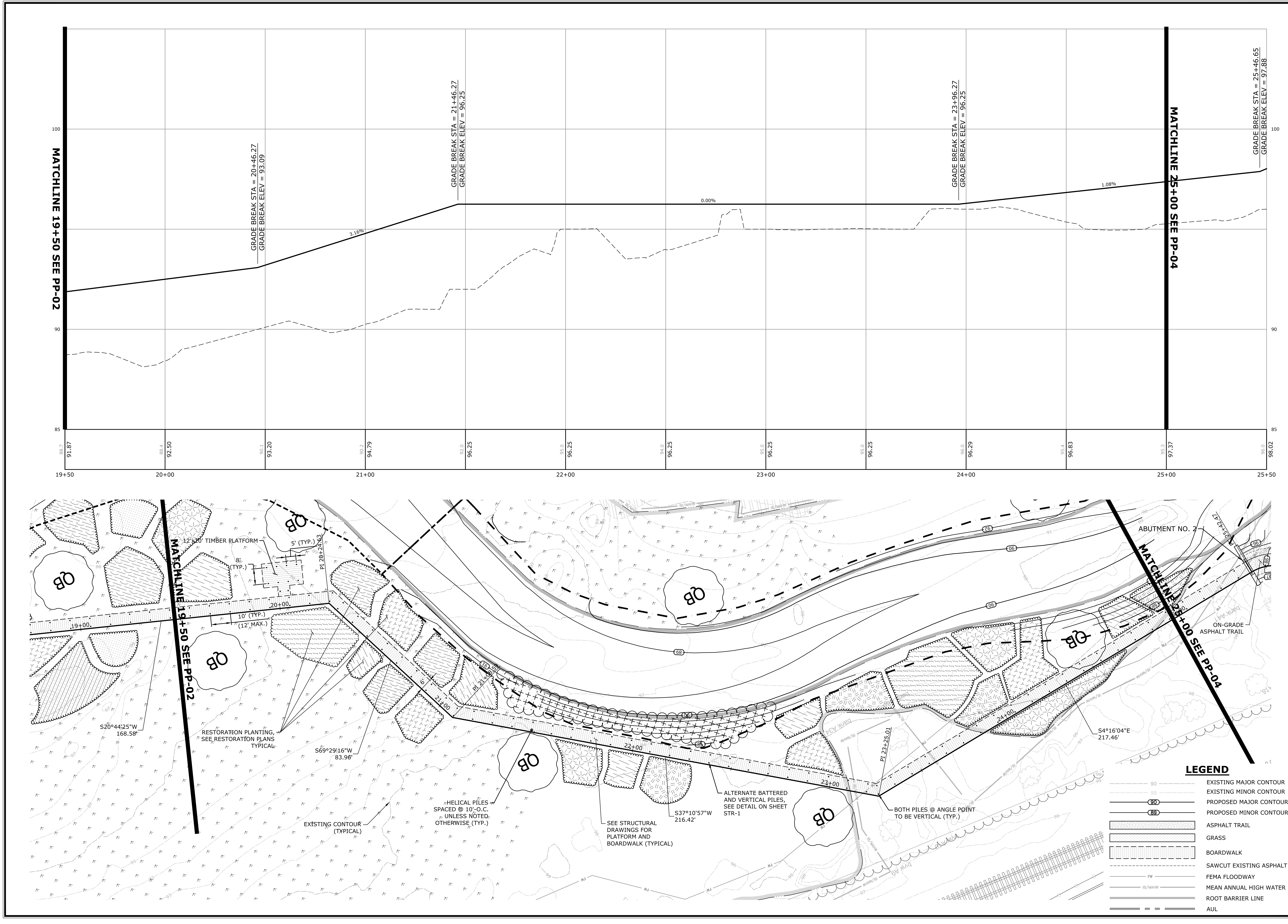
SCALE: SCALE 1" = 20'H, 1" = 2'V

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 33 OF 41

SHEET NAME: PP-02



SCALE 1" = 20'H
1" = 2'V

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DESCRIPTION	DATE	BY

PLAN & PROFILE - TRAIL

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

TRS	JJH	AWG
DESIGNED	DRAWN	CHECKED

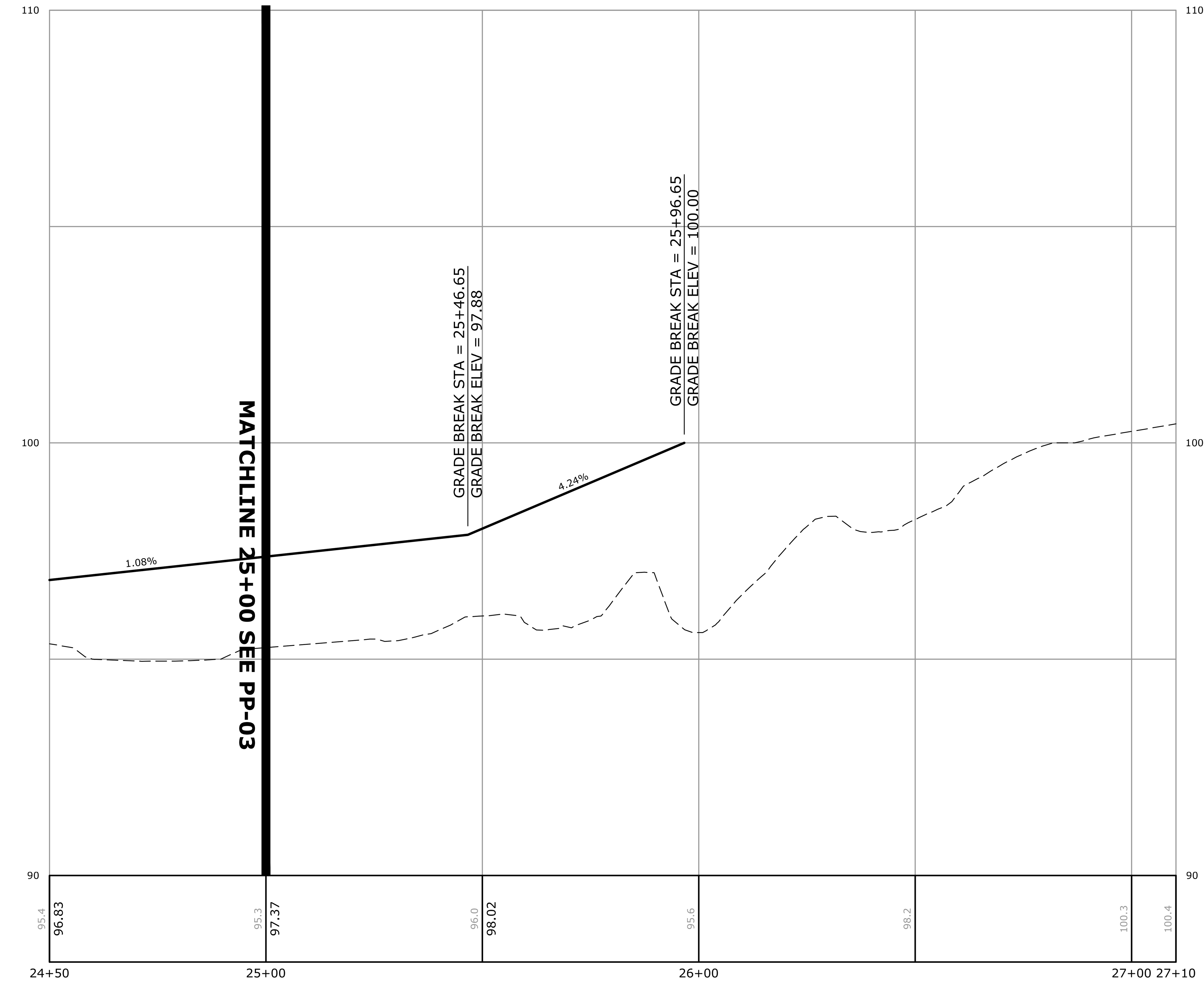
SCALE 1" = 20'H
1" = 2'V

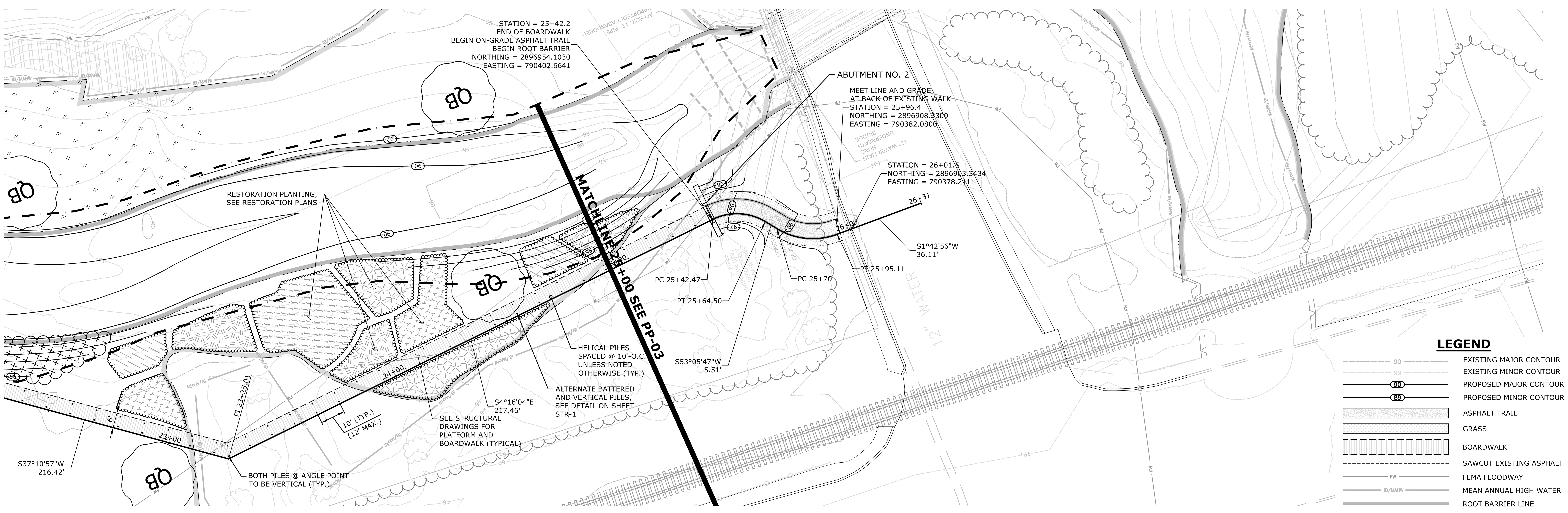
JUNE 30, 2021
DATE

6998-01
PROJECT NO.

34 OF 41
SHEET NO.

PP-03
SHEET NAME





SCALE 1" = 20'H
1" = 2'V

DESCRIPTION	DATE	BY

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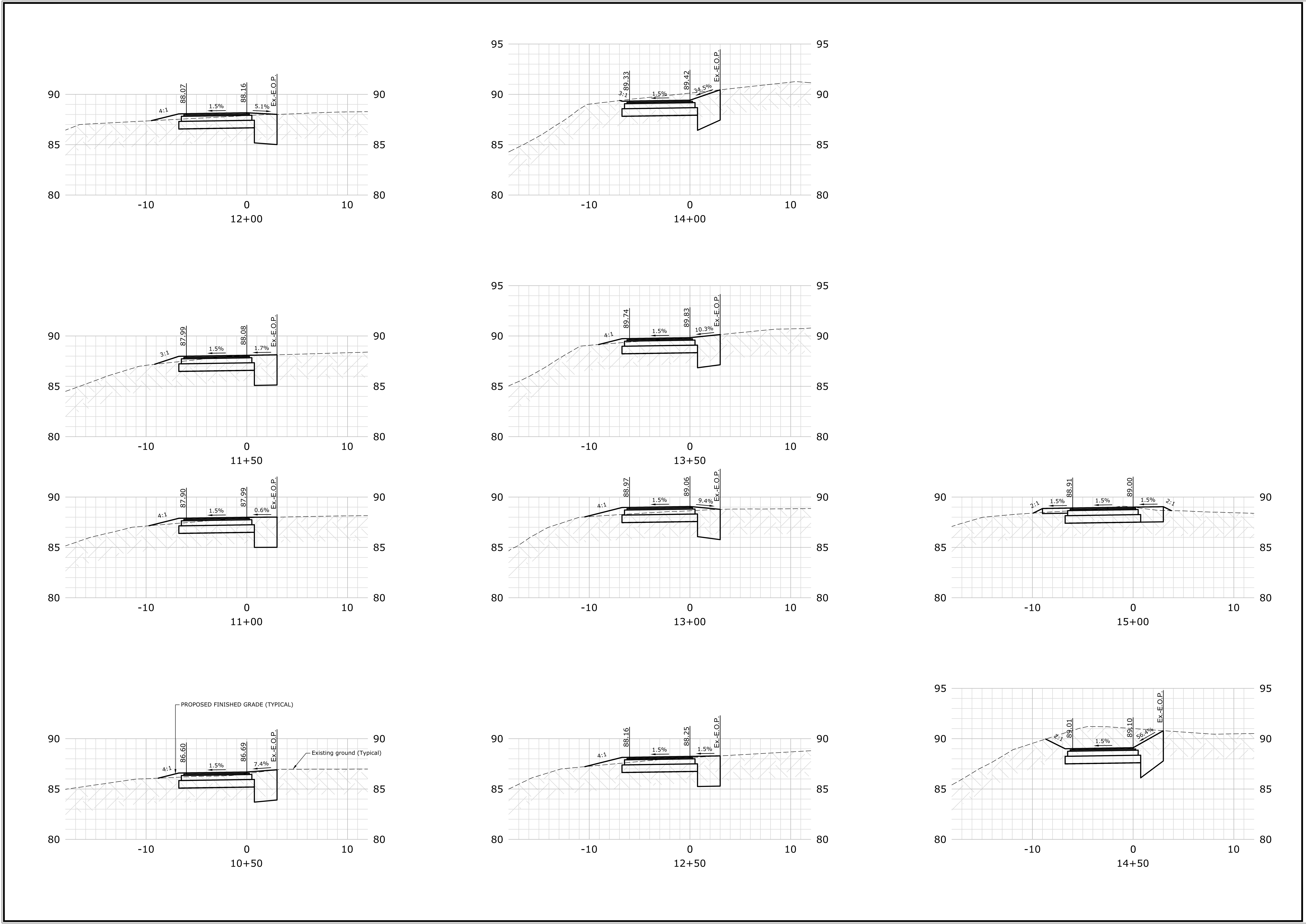
PP-04
MONATIQUOT RIVER RESTORATION
HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

TRS	JJH	AWG
DESIGNED	DRAWN	CHECKED

SCALE: 1" = 20'H, 1" = 2'V
DATE: JUNE 30, 2021
PROJECT NO.: 6998-01
SHEET NO.: 35 OF 41
SHEET NAME: PP-04



CROSS SECTIONS - TRAIL AT GRADE SEGMENT 1

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

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DESCRIPTION	DATE	BY

JJH	JJH	AWG
DESIGNED	DRAWN	CHECKED

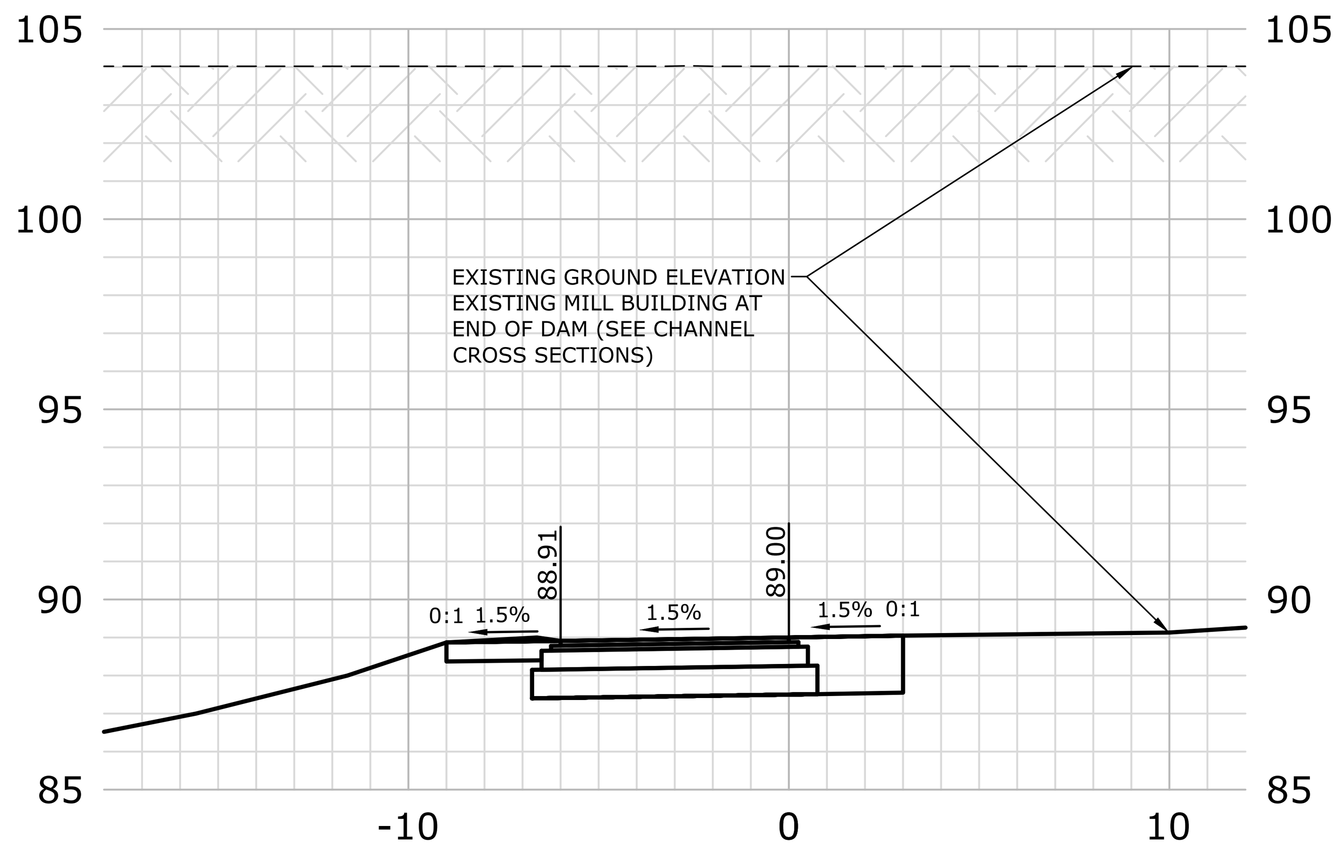
SCALE: 1" = 4'

DATE: JUNE 30, 2021

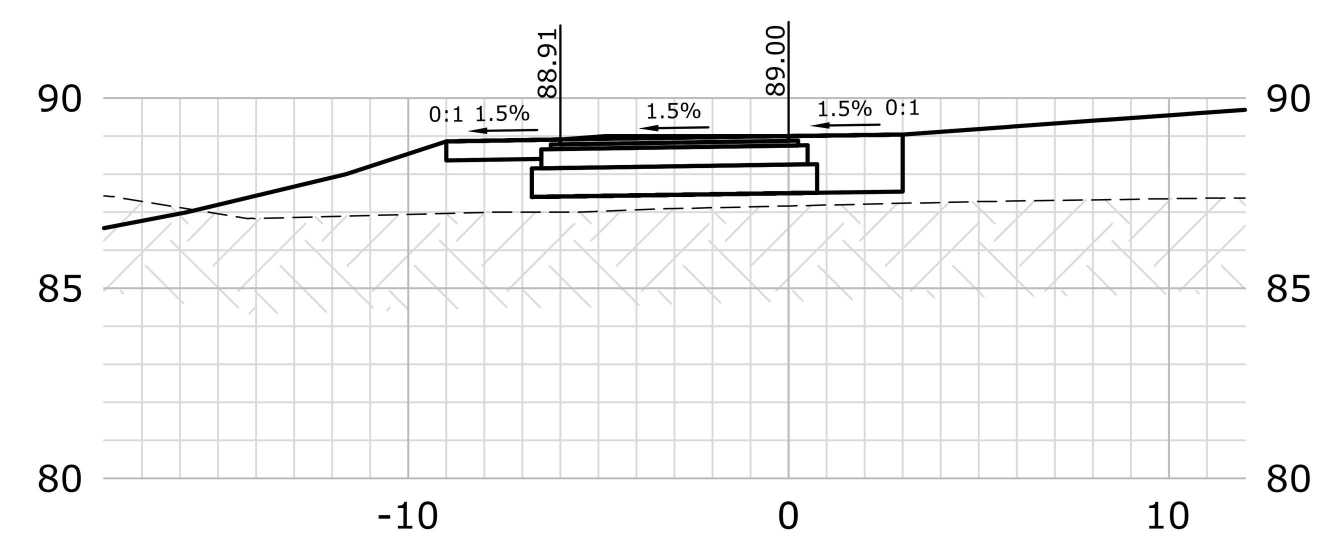
PROJECT NO.: 6998-01

DRAWING NO.: 36 OF 41

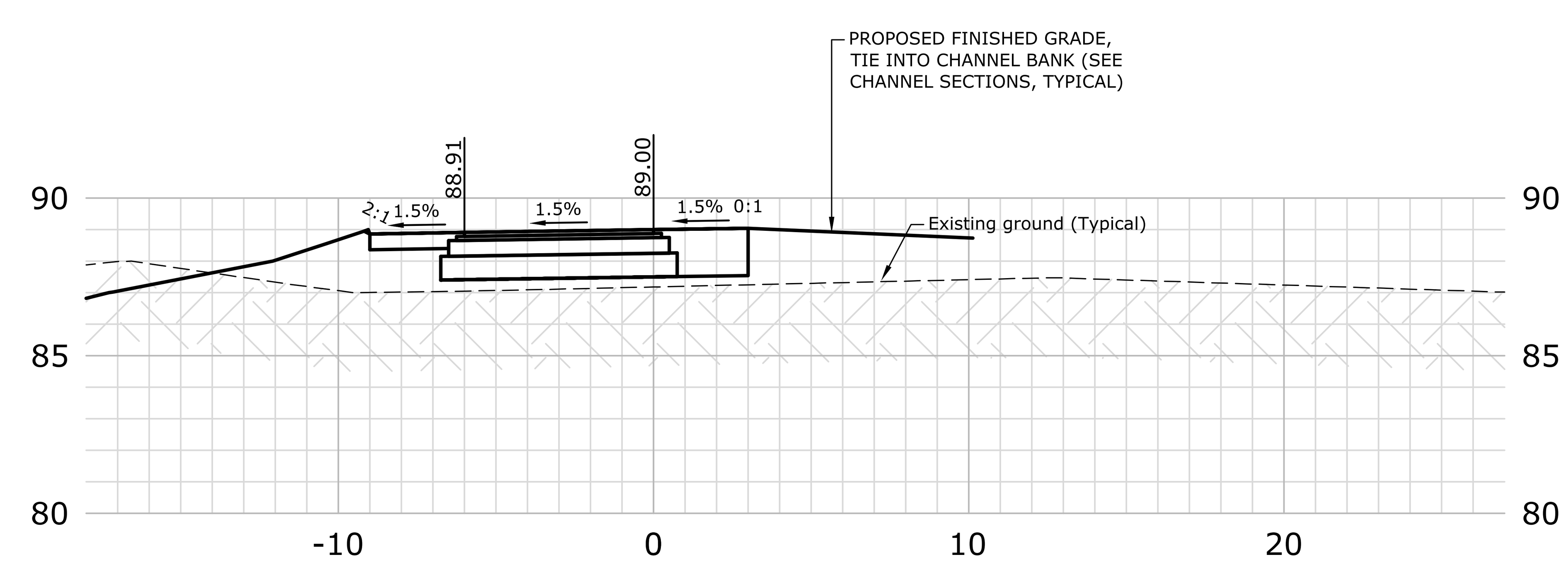
SHEET NO.: XST-01



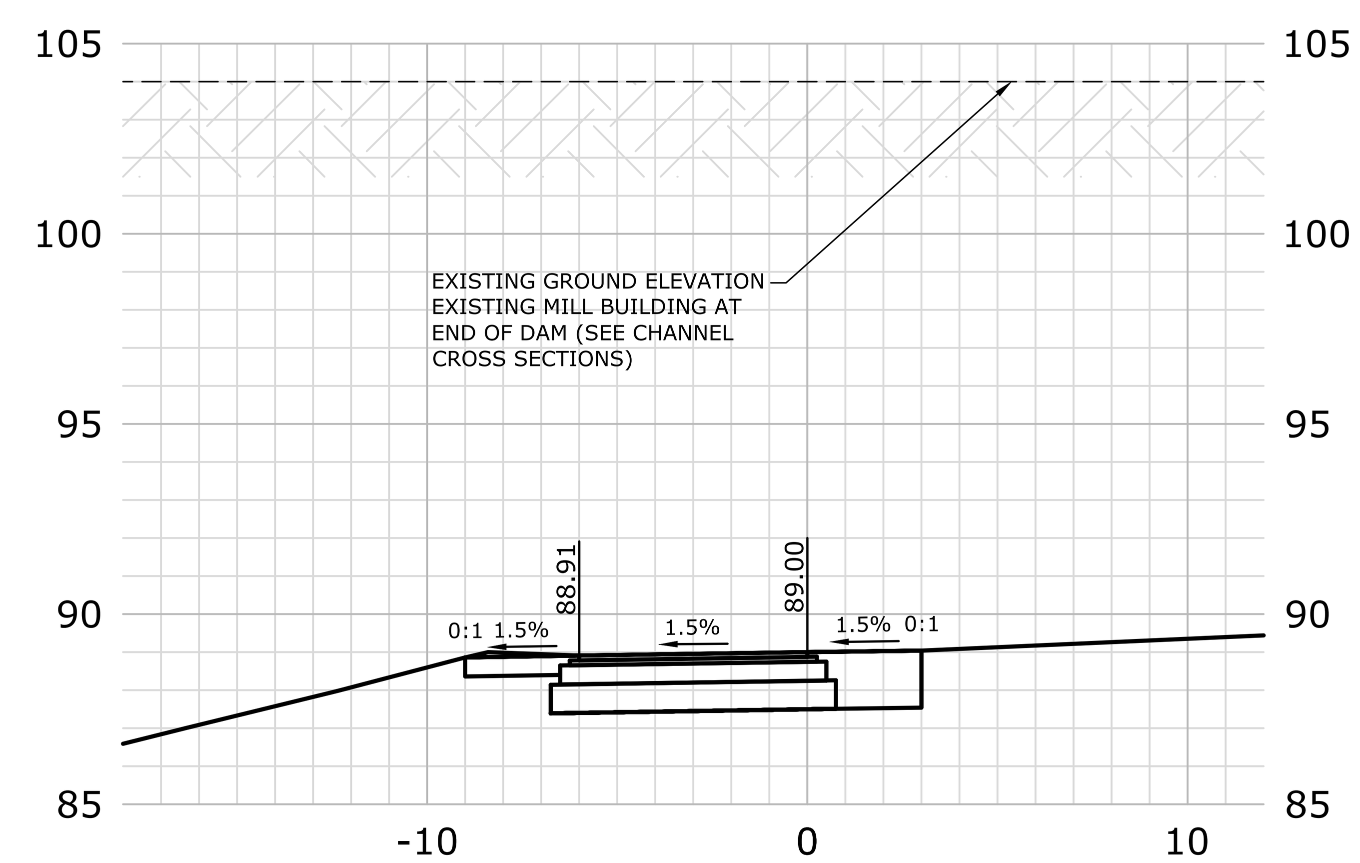
16+50



16+00



15+50



17+00

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DESCRIPTION	DATE	BY

CROSS SECTIONS - TRAIL AT GRADE SEGMENT 1

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

JJH	JJH	AWG
DESIGNED	DRAWN	CHECKED

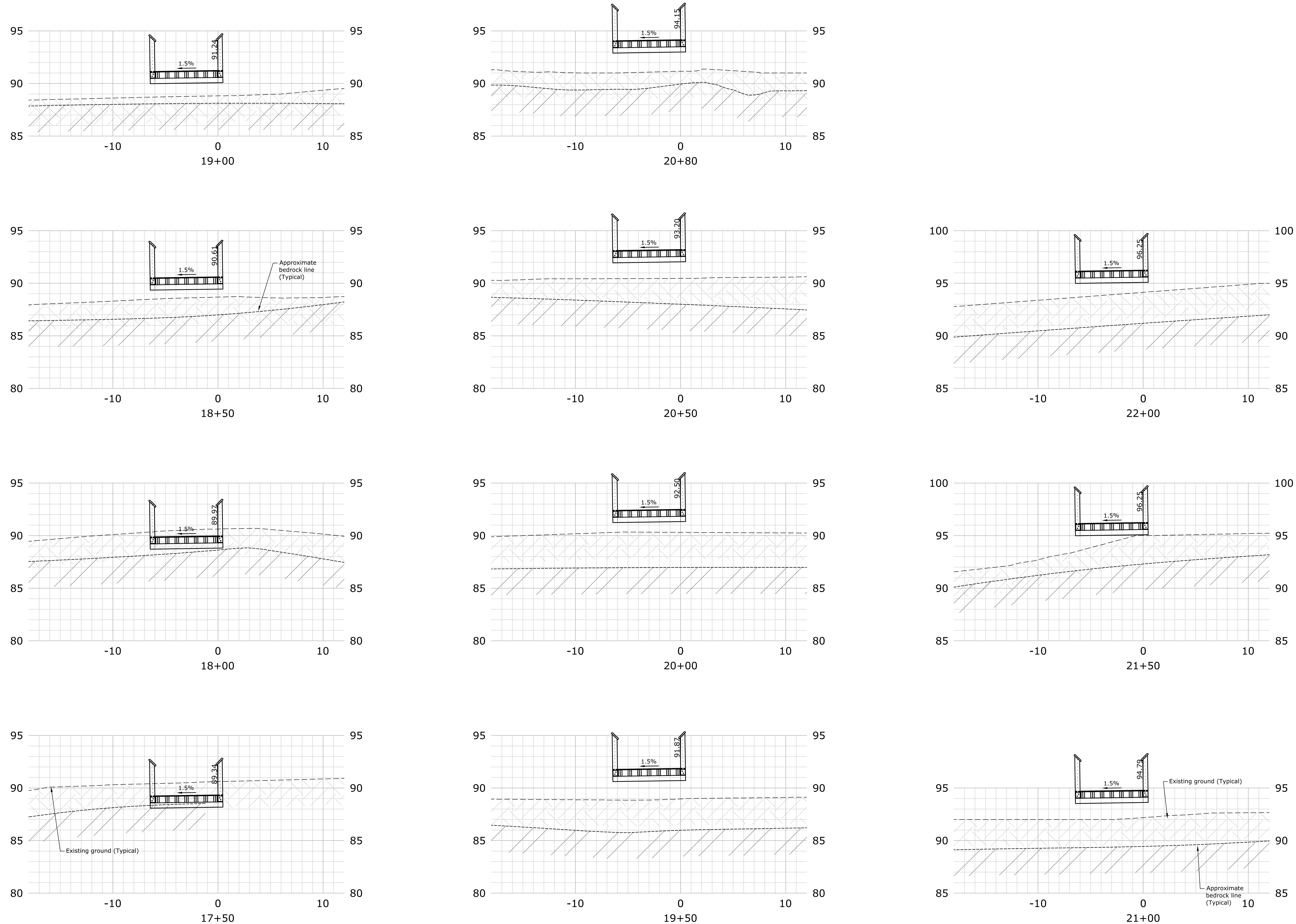
SCALE 1" = 4'

DATE JUNE 30, 2021

PROJECT NO. 6998-01

DRAWING NO. 37 OF 41

SHEET NO. XST-02



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DESCRIPTION	DATE	BY

CROSS SECTIONS - BOARDWALK SEGMENT 2

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

DESIGNED	DRAWN	CHECKED
JJH	JJH	AWG

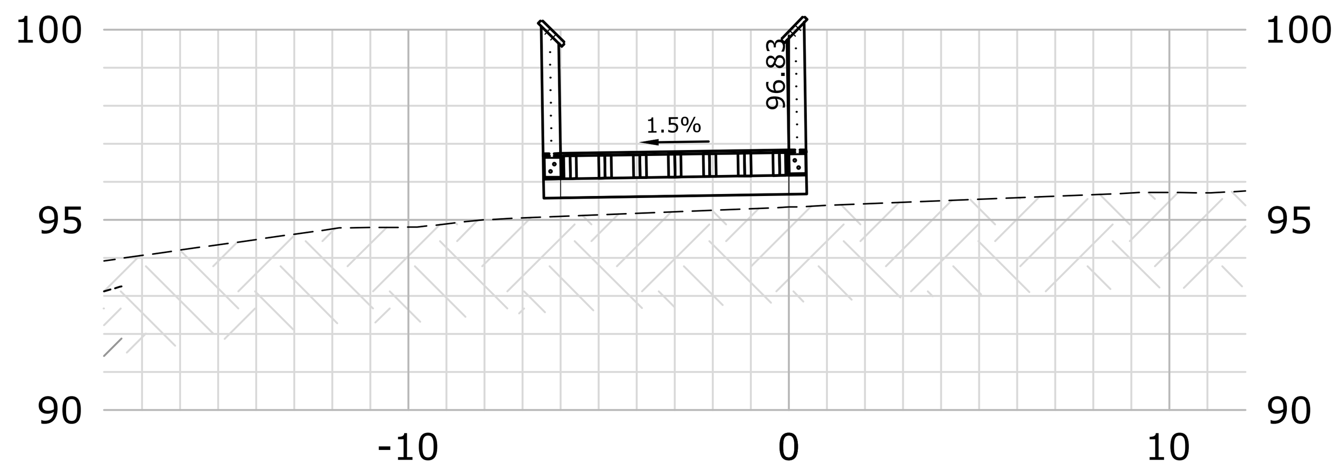
SCALE: 1" = 4'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

DRAWING NO.: 38 OF 41

SHEET NO.: XST-03



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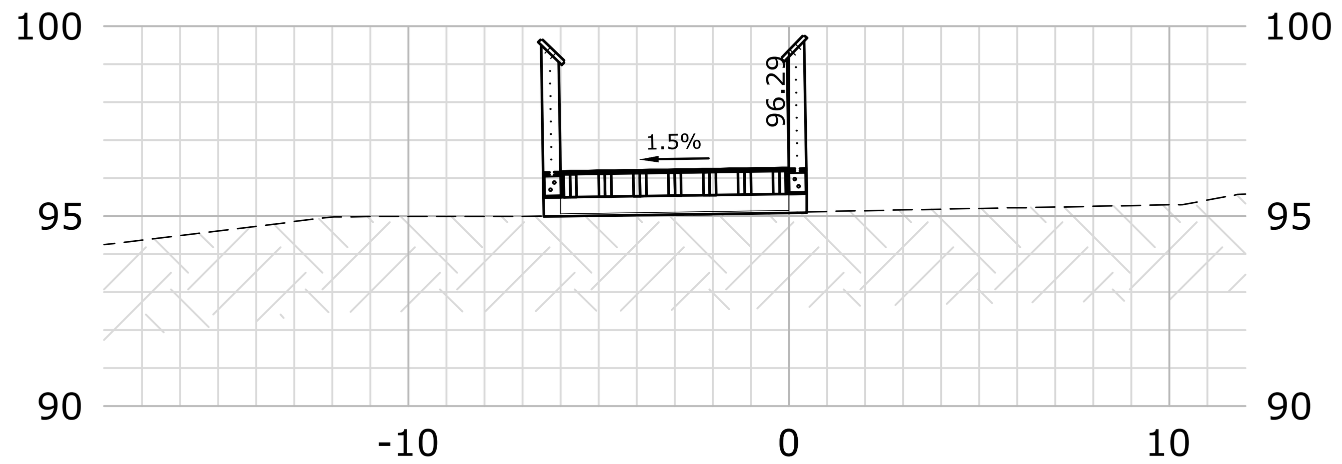

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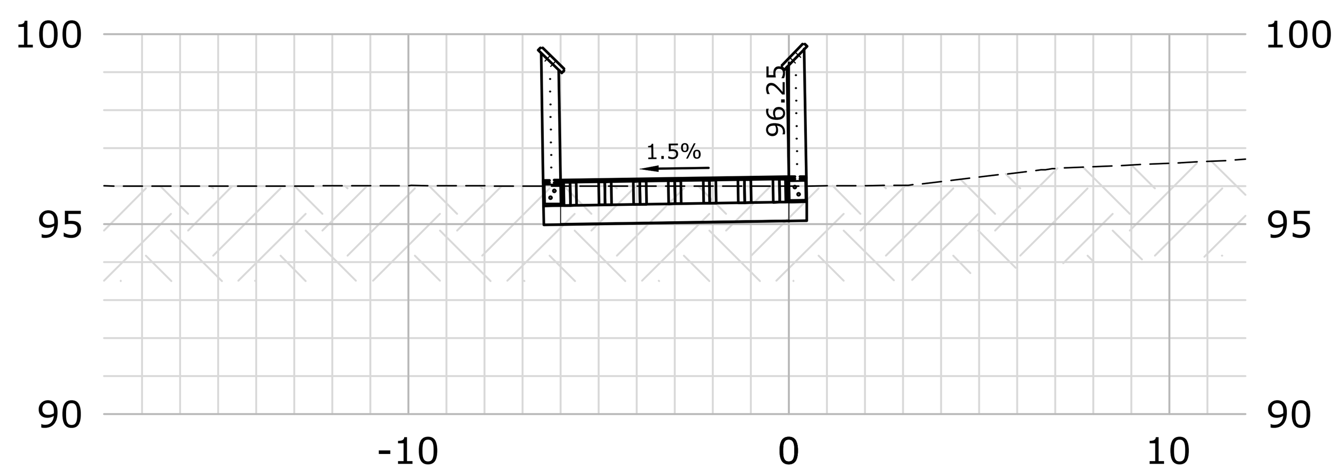

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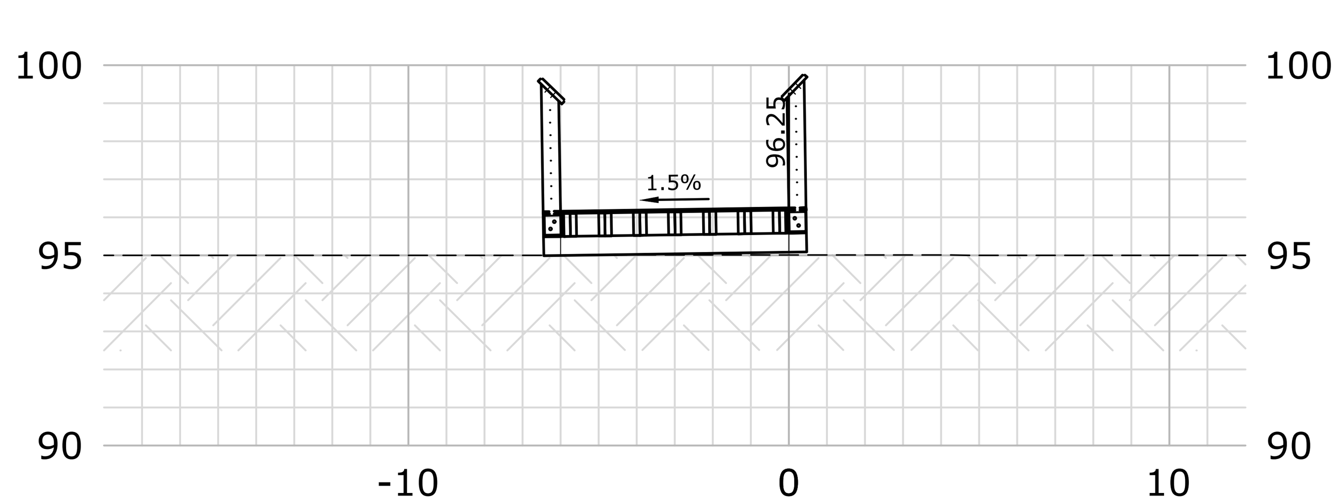

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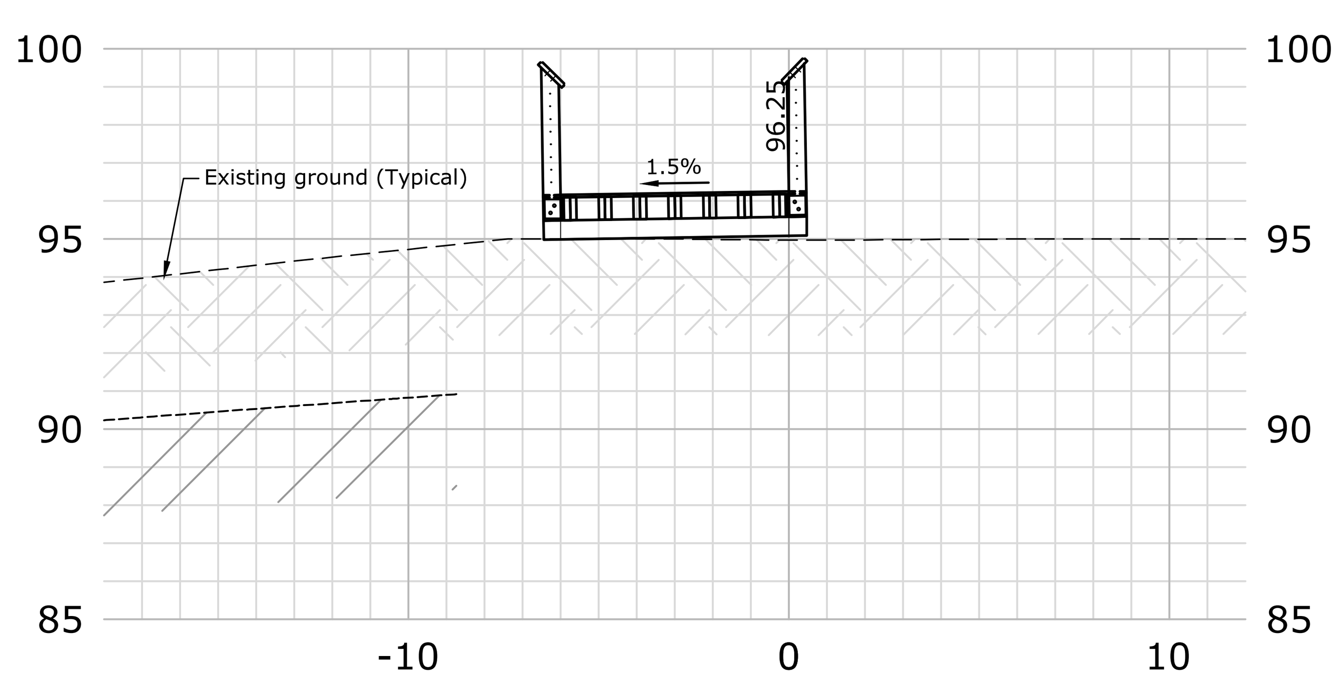

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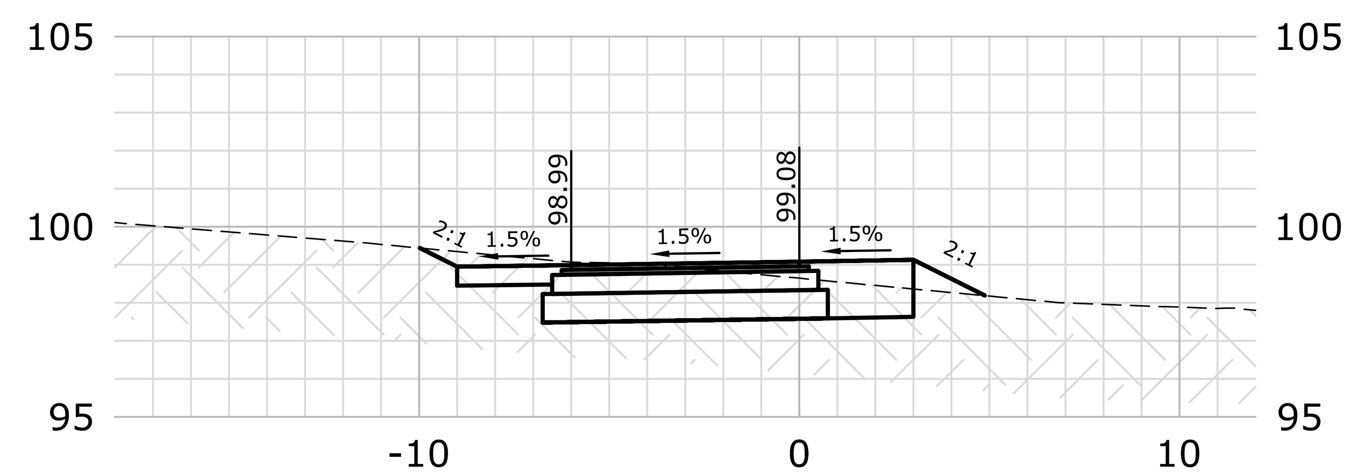

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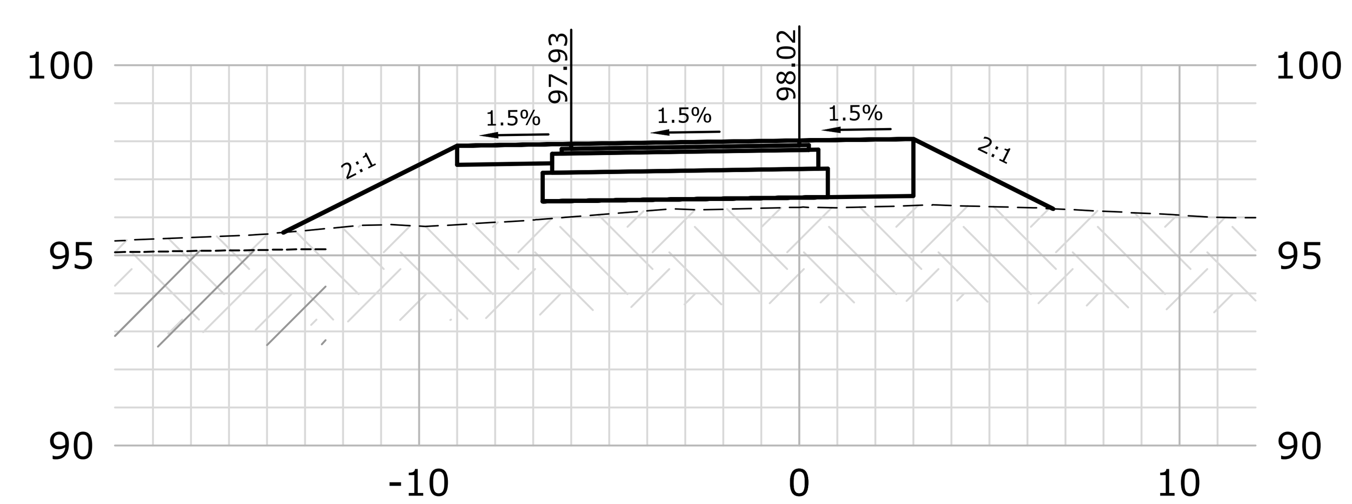

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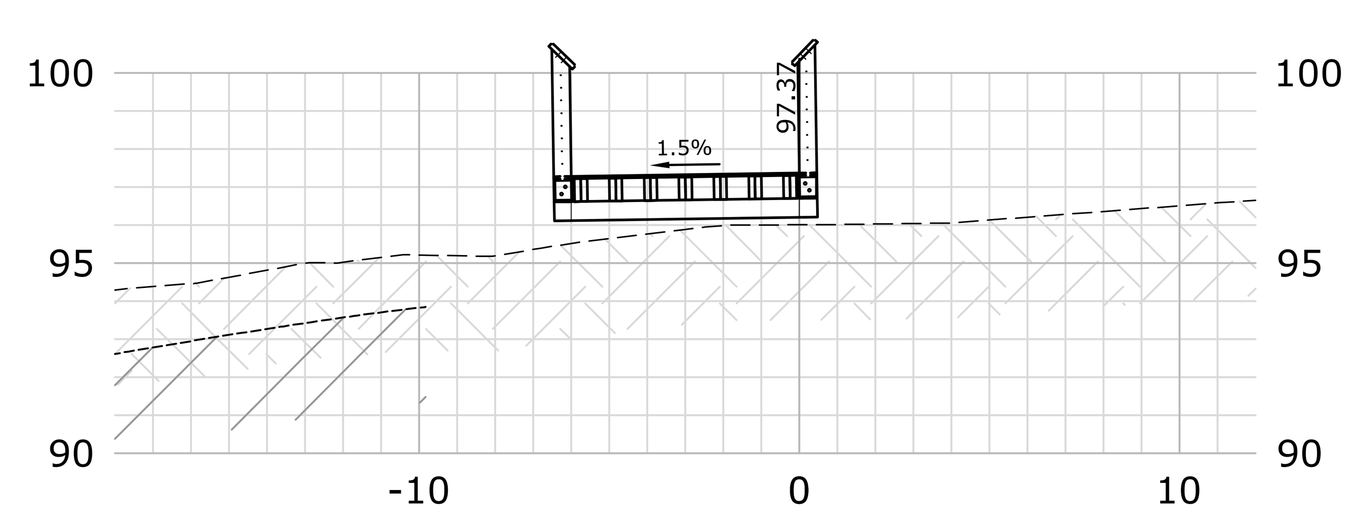

25+00

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DESCRIPTION	DATE	BY

CROSS SECTIONS - BOARDWALK SEGMENT 2

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

JJH	JJH	AWG
DESIGNED	DRAWN	CHECKED

SCALE: 1" = 4'

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

DRAWING NO.: 39 OF 41

SHEET NO.: **XST-04**

GENERAL NOTES

1. THE CONTRACTOR SHALL OBTAIN A BUILDING PERMIT PRIOR TO THE BEGINNING OF WORK.
2. ALL WOOD FOR THE BOARDWALK AND DECKING SHALL BE PRESSURE TREATED .40 CCA LUMBER, (SOUTHERN YELLOW PINE).
3. ALL NAILS, SCREWS, CONNECTORS, BRACKETS, PLATES, AND FASTENERS ARE TO BE HOT-DIP GALVANIZED.
4. RAILING CABLES TO BE STAINLESS STEEL.
5. BOARDWALK IS TO HAVE FOOTINGS AS SHOWN IN DETAILS ON THIS SHEET.

REINFORCING:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS.

CONCRETE

CONCRETE MIXES

(1)	(2)	(3)	TO BE USED IN CONSTRUCTION OF:
4000	$\frac{3}{4}$"	610	ABUTMENTS

(1) 28 DAY COMPRESSIVE STRENGTH (PSI)
(2) MAXIMUM AGGREGATE SIZE (IN)
(3) CEMENTIT'IOUS CONTENT (POUND/CY)

THE USE OF REMAIN-IN-PLACE FORMS ON THIS STRUCTURE IS NOT ALLOWED.

EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

ALL REINFORCEMENT SHALL HAVE 3" COVER AT BOTTOM OF FOOTINGS AND 2" COVER ELSEWHERE UNLESS DIMENSIONED OTHERWISE.

CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

FASTENING NOTES

1. JOISTS TO POSTS - 1/2"Ø LAG BOLTS & 3/4"Ø THRU BOLTS AS SHOWN ON DETAILS.
2. DECKING TO JOISTS - 3" GALVANIZED SCREWS.
3. RAILINGS TO POSTS - 3" GALVANIZED SCREWS.
4. RAILING CABLES TO POSTS PER MANUFACTURER'S RECOMMENDATIONS.

BOARDWALK

PART 1 - GENERAL

DESCRIPTION OF WORK:

BOARDWALK CONSTRUCTION INCLUDES THE FOLLOWING TYPES OF WORK:
- STAINLESS STEEL CABLE RAILING
- CONCRETE ABUTMENTS
- HELICAL PILES
- TIMBER FRAMING & DECKING

REFERENCES

LUMBER STANDARDS: COMPLY WITH PS 20 AND WITH APPLICABLE RULES OF THE RESPECTIVE GRADING AND INSPECTING AGENCIES FOR SPECIES AND PRODUCTS INDICATED.

SUBMITTALS

PRODUCT DATA: SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS FOR MATERIALS LISTED BELOW:

WOOD TREATMENT DATA: SUBMIT TREATMENT MANUFACTURER'S INSTRUCTIONS FOR PROPER USE OF EACH TYPE OF TREATED MATERIAL.

PRESSURE TREATMENT: FOR EACH TYPE SPECIFIED, INCLUDE CERTIFICATION BY TREATING PLANT STATING CHEMICALS AND PROCESS USED, NET AMOUNT OF PRESERVATIVE RETAINED AND CONFORMANCE WITH APPLICABLE STANDARDS.

PRODUCT HANDLING

DELIVERY AND STORAGE: KEEP MATERIALS DRY AT ALL TIMES. PROTECT AGAINST EXPOSURE TO WEATHER AND CONTACT WITH DAMP OR WET SURFACES. STACK LUMBER AND PLYWOOD, AND PROVIDE AIR CIRCULATION WITHIN STACKS.

PART 2 - PRODUCTS

MATERIALS

LUMBER, GENERAL

FACTORY MARK EACH PIECE OF LUMBER WITH TYPE, GRADE, MILL AND GRADING AGENCY, EXCEPT OMIT MARKING FROM SURFACES TO BE EXPOSED WITH TRANSPARENT FINISH OR WITHOUT FINISH.

NOMINAL SIZES ARE INDICATED, EXCEPT AS SHOWN BY DETAIL DIMENSIONS. PROVIDE ACTUAL SIZES AS REQUIRED BY PS 20, FOR MOISTURE CONTENT SPECIFIED FOR EACH USE.

PROVIDE DRESSED LUMBER, S4S, UNLESS OTHERWISE INDICATED.

PROVIDE SEASONED LUMBER WITH 19% MAXIMUM MOISTURE CONTENT AT THE TIME OF DRESSING.

PROVIDE SOUTHERN PINE LUMBER, ALL RAILING TO BE No. 1 GRADE S.Y.P. ALL JOISTS & BEAMS TO BE No. 2 GRADE S.Y.P.

POSTS SHALL RUN FULL HEIGHT AND NO SPLICING ALLOWED.

MISCELLANEOUS MATERIALS

FASTENERS AND ANCHORAGES: PROVIDE SIZE, TYPE, MATERIAL AND FINISH AS INDICATED AND AS RECOMMENDED BY APPLICABLE STANDARDS, COMPLY WITH APPLICABLE FEDERAL SPECIFICATIONS FOR NAILS, SCREWS, STAPLES, BOLTS, NUTS, WASHERS AND ANCHORING DEVICES. PROVIDE METAL HANGERS AND FRAMING ANCHORS OF THE SIZE AND TYPE RECOMMENDED BY THE MANUFACTURER FOR EACH USE INCLUDING RECOMMENDED NAILS. PROVIDE FASTENERS AND ANCHORAGES WITH A HOT-DIP ZINC COATING (ASTM A 153).

WOOD PRESERVATIVE TREATMENT: .40 CCA PER AWPA STANDARDS C2.

PART 3 - EXECUTION

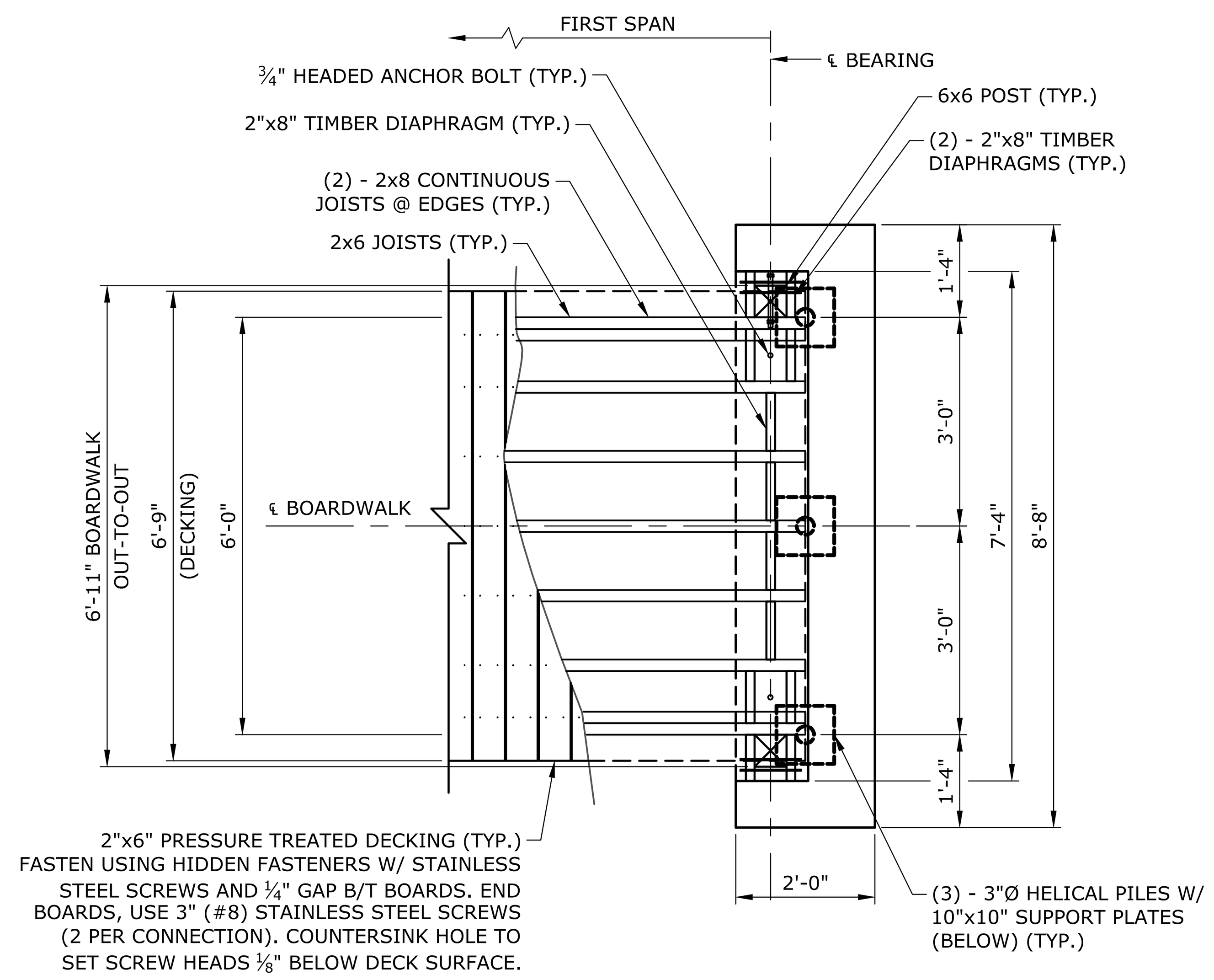
MATERIALS, GENERAL

DISCARD UNITS OF MATERIAL WITH DEFECTS WHICH MIGHT IMPAIR QUALITY OF WORK, AND UNITS WHICH ARE TOO SMALL TO USE IN FABRICATING WORK WITH MINIMUM JOINTS OR OPTIMUM JOINT ARRANGEMENTS.

SET CARPENTRY WORK ACCURATELY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB AND TRUE AND ACCURATELY CUT AND FITTED.

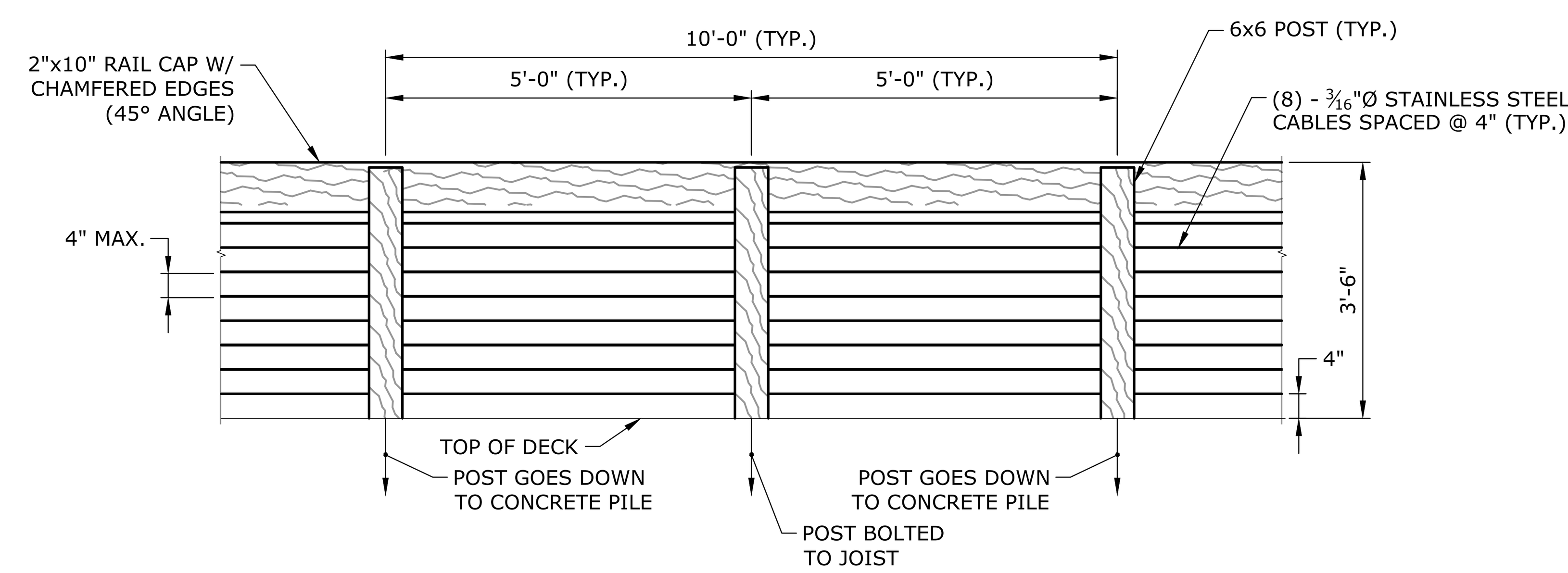
SECURELY ATTACH CARPENTRY WORK TO SUBSTRATE BY ANCHORING AND FASTENING AS SHOWN AND AS REQUIRED BY RECOGNIZED STANDARDS. COUNTERSINK SCREW AND NAIL HEADS ON EXPOSED CARPENTRY WORK AND RILL HOLES. SELECT FASTENERS OF SIZE THAT WILL NOT PENETRATE MEMBERS WHERE OPPOSITE SIDE WILL BE EXPOSED TO VIEW. MAKE TIGHT CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING OF WOOD; PRE-DRILL AS REQUIRED.

ADA ACCESSIBILITY THE ENTIRE BOARDWALK IS TO BE HANDICAP ACCESSIBLE. CONTRACTOR TO MAINTAIN EXISTING ELEVATIONS.



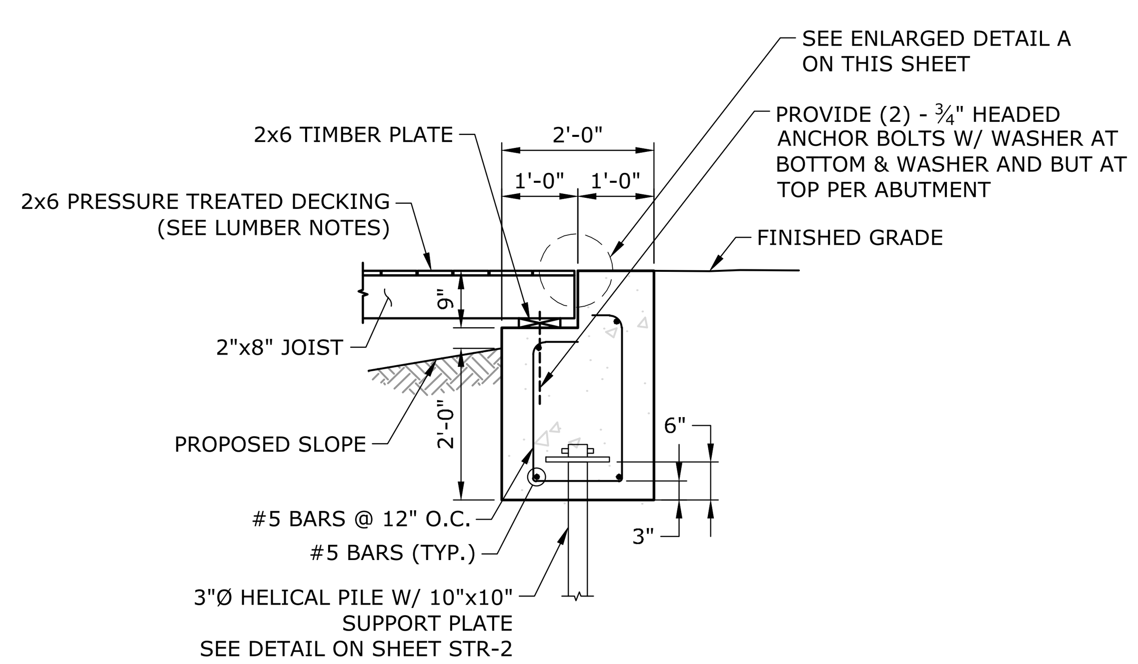
TYPICAL ABUTMENT PLAN

SCALE: ½"=1'-0"



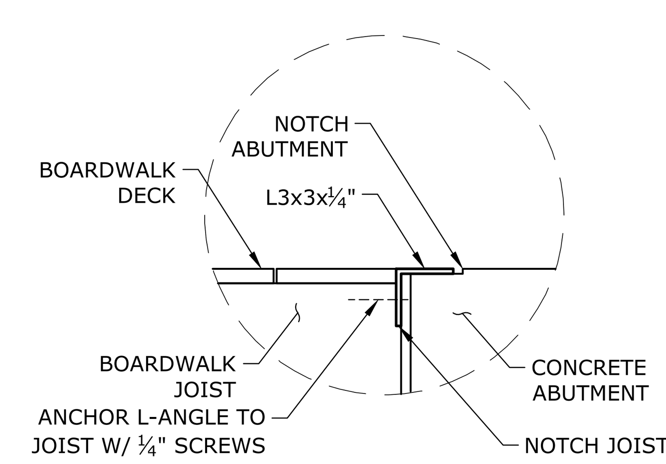
TYPICAL RAILING ELEVATION

SCALE: ½"=1'-0"



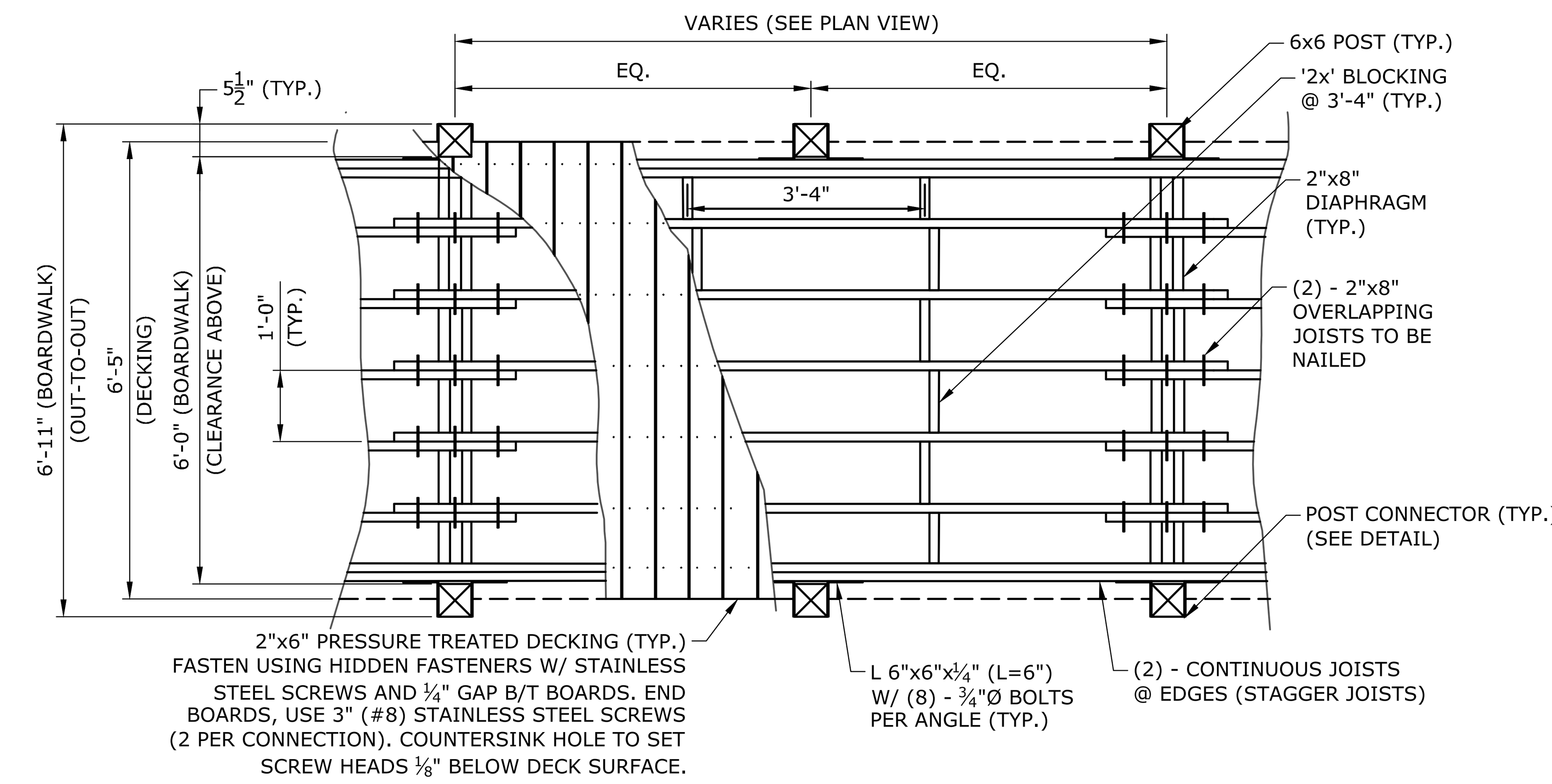
ABUTMENT ELEVATION

SCALE: ½"=1'-0"



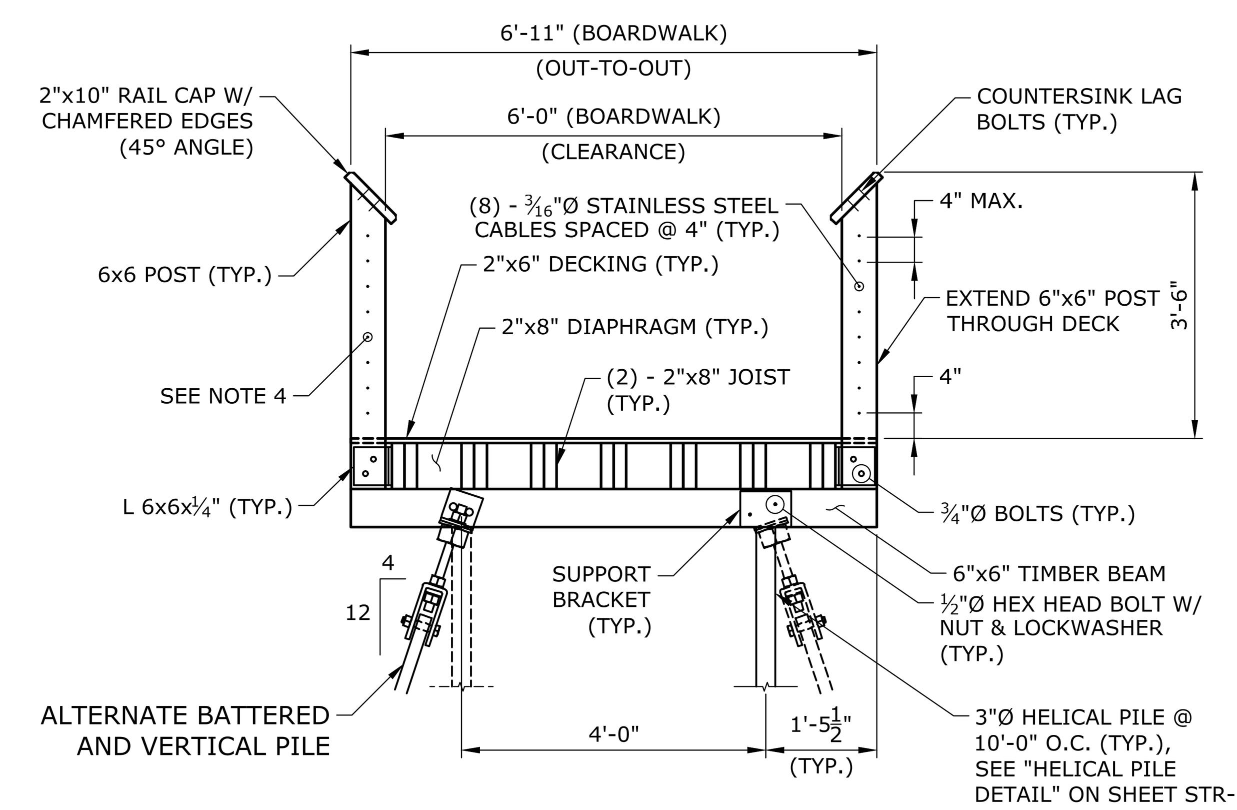
ENLARGED DETAIL A

SCALE: 1 ½"=1'-0"



BOARDWALK/OVERLOOK FRAMING PLAN

SCALE: ½"=1'-0"

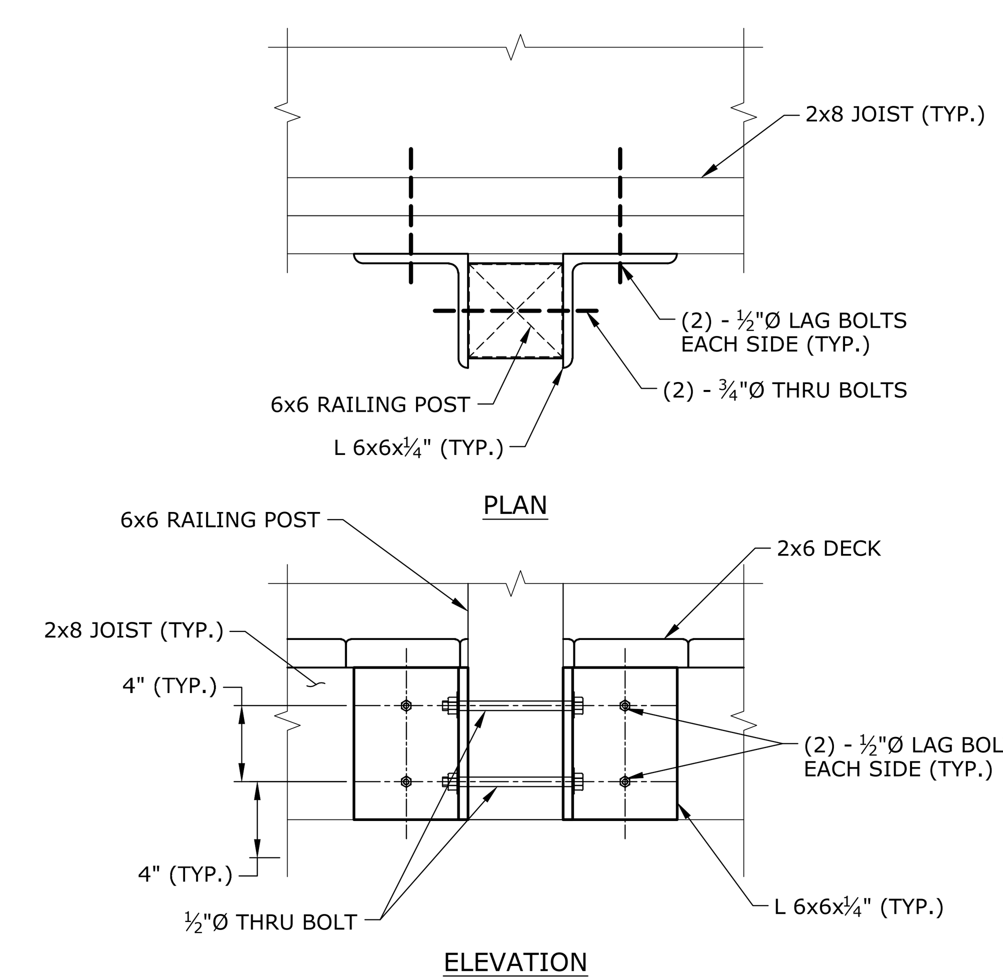


TYPICAL BOARDWALK SECTION

SCALE: ½"=1'-0"

NOTE:

1. ALL POSTS AND TOP RAIL SHALL BE ACTUAL SIZE.
2. ALL MEMBERS SHALL BE PRESSURE TREATED TIMBER, COLOR TO BE DETERMINED.
3. ALL PRESSURE TREATED TIMBER SHALL BE NOMINAL SIZE.
4. ALL EXPOSED END OF POSTS AND RAILS SHALL BE 1" CHAMFERED (45°) EDGES.
5. CABLES SHALL HAVE A CONNECTOR AT EVERY POST, AND CABLES SHALL NOT RUN THRU CENTER POSTS.
6. HELICAL PILES SHALL BEAR ON BEDROCK, FINAL SIZING PER MANUFACTURER FOR 5 KIP LOAD.
7. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL.
8. TIMBER POST, DECKING, FRAMING, STRUCTURAL STEEL, RAILING CABLES, AND MICROPILES TO BE PAID UNDER ITEM 955 "BOARDWALK". MEASUREMENT FOR PAYMENT TO BE PER SQUARE FOOT (CLEAR OPENING x LENGTH OF BOARDWALK).



INTERMEDIATE POST CONNECTION

SCALE: 1½"=1'-0"

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DESCRIPTION	DATE	BY

STRUCTURAL DETAILS

MONATIQUOT RIVER RESTORATION

HANCOCK AVE/PLAIN STREET
BRAINTREE, MASSACHUSETTS 02184

NP	NP	KP
DESIGNED	DRAWN	CHECKED

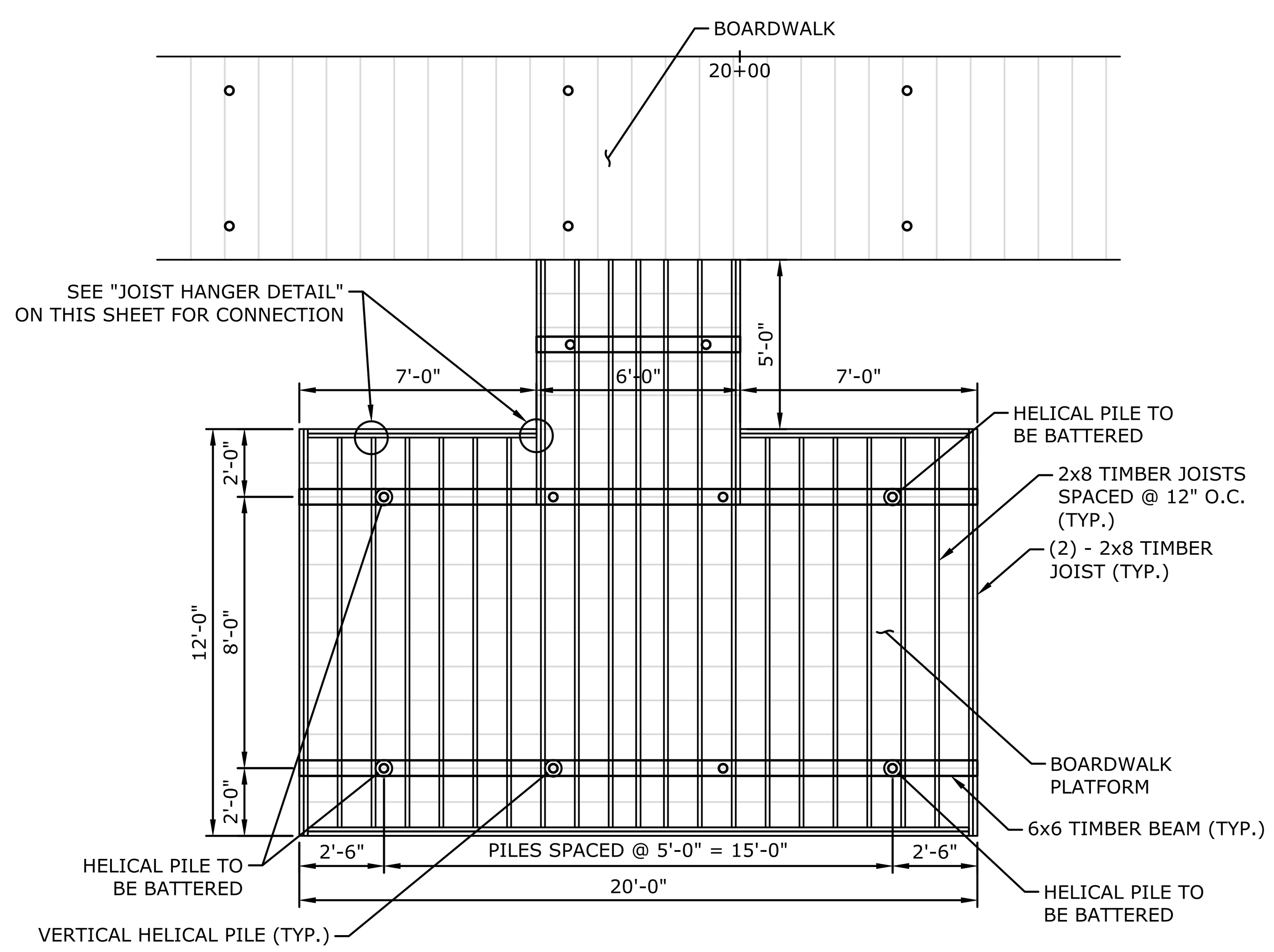
SCALE: AS NOTED

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

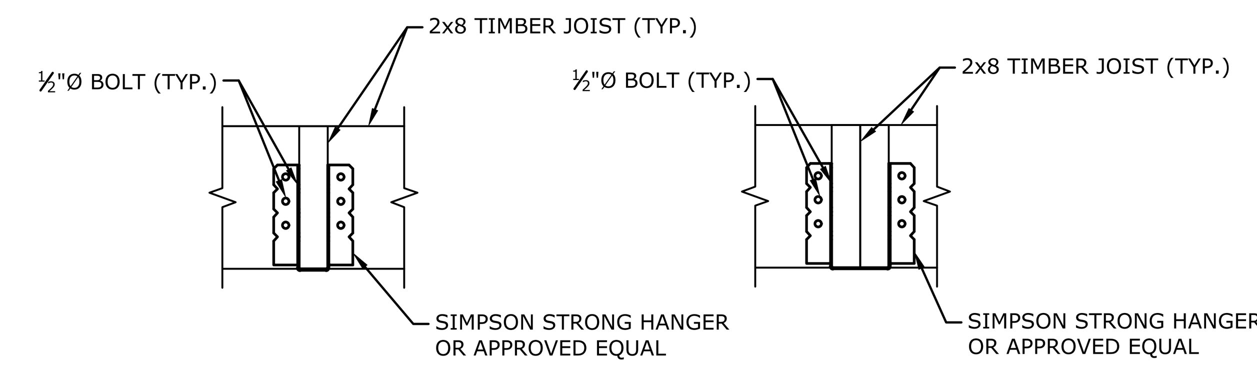
SHEET NO.: 40 OF 41

SHEET NAME: STR-1



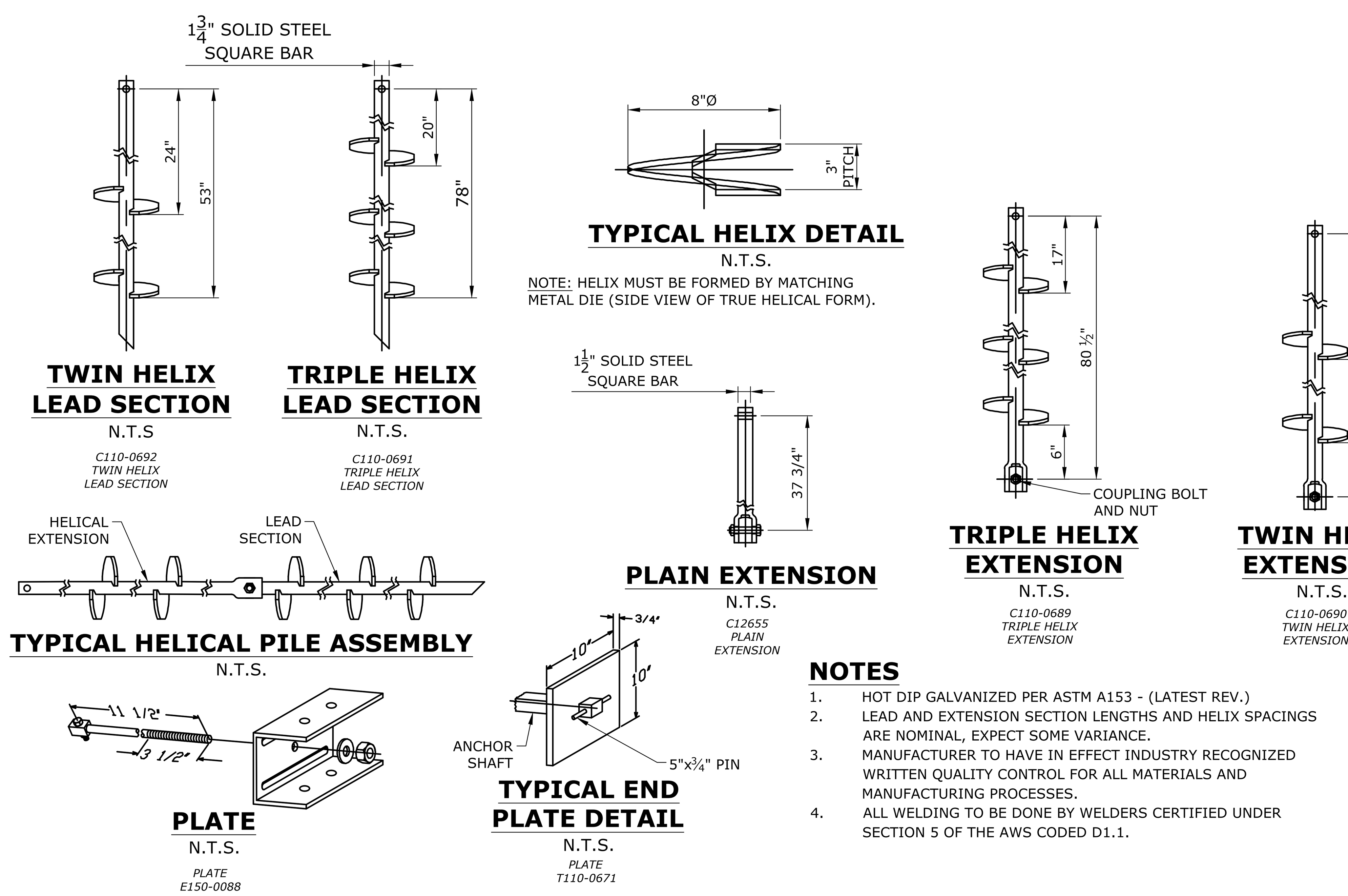
BOARDWALK PLATFORM - FRAMING PLAN

SCALE: 1/4"=1'-0"



JOIST HANGER DETAIL

SCALE: 1 1/2"=1'-0"



NOTES

1. HOT DIP GALVANIZED PER ASTM A153 - (LATEST REV.)
2. LEAD AND EXTENSION SECTION LENGTHS AND HELIX SPACINGS ARE NOMINAL, EXPECT SOME VARIANCE.
3. MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES.
4. ALL WELDING TO BE DONE BY WELDERS CERTIFIED UNDER SECTION 5 OF THE AWS CODED D1.1.

HELICAL PILE DETAILS

N.T.S.

NOTES FOR HELICAL PILES

HELICAL PILES

1. HELICAL PILES SHALL BE INSTALLED TO A CAPACITY OF 5 KIPS.
2. HELICAL PILES AND THEIR COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF THE RECOMMENDATIONS FOR PRE-STRESSED ROCK AND SOIL ANCHORS, LATEST EDITION, ADOPTED BY THE POST-TENSIONING INSTITUTE.
3. HELICAL PILES AND THEIR COMPONENTS SHALL BE PROTECTED FROM CORROSION. CORROSION PROTECTION SHALL INCLUDE DELIVERY AND STORAGE METHOD FOR TENDONS OR BARS, ADEQUATE BOREHOLE DIAMETER, PVC SHEATHING IN FREE LENGTH, TEMPORARY AND PERMANENT LUBRICANTS, PERMANENT SHEATHING OF TENDON, COVER BOX FOR ANCHORAGE HEAD, CORRUGATED PVC PIPE FOR CASING, IF REQUIRED, AND CONSOLIDATION GROUT FOR ANCHOR ZONE.
4. BEARING PLATES SHALL CONFORM TO ASTM A36, EPOXY COATED.
5. COMPLETED ANCHORS SHALL BE LOCKED-OFF TO 80% OF DESIGN SERVICE LOAD. STRESSING, PERFORMANCE TESTING, AND PROOF TESTS SHALL CONFORM TO THE REQUIREMENTS OF THE RECOMMENDATIONS FOR PRE-STRESSED ROCK AND SOIL ANCHORS LATEST EDITION, ADOPTED BY THE POST-TENSIONING INSTITUTE.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.

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DESCRIPTION	DATE	BY

STRUCTURAL DETAILS

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NP	NP	KP
DESIGNED	DRAWN	CHECKED

SCALE: AS NOTED

DATE: JUNE 30, 2021

PROJECT NO.: 6998-01

SHEET NO.: 41 OF 41

SHEET NAME: STR-2