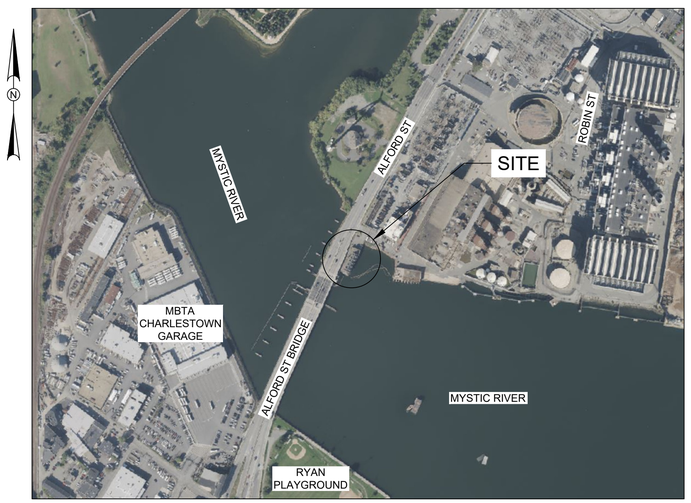
MASSACHUSETTS WATER RESOURCES AUTHORITY

ALFORD STREET FACILITY SEAWALL REPAIR
CHARLESTOWN, MASSACHUSETTS

MWRA CONTRACT No. 8194

OCTOBER 2026



LOCATION MAP

STEPHEN ESTES- SMARGIASSI
EXECUTIVE DIRECTOR

COMMONWEALTH OF MASSACHUSETTS
ANTHONY MANZO
STRUCTURAL
NO. 50934
REGISTERED
PROFESSIONAL ENGINEER
10/27/2026

COMMONWEALTH OF MASSACHUSETTS
CHARLES R. WILSON
CIVIL
No. 46082
REGISTERED
PROFESSIONAL ENGINEER
10-27-26

PREPARED BY:

Hazen

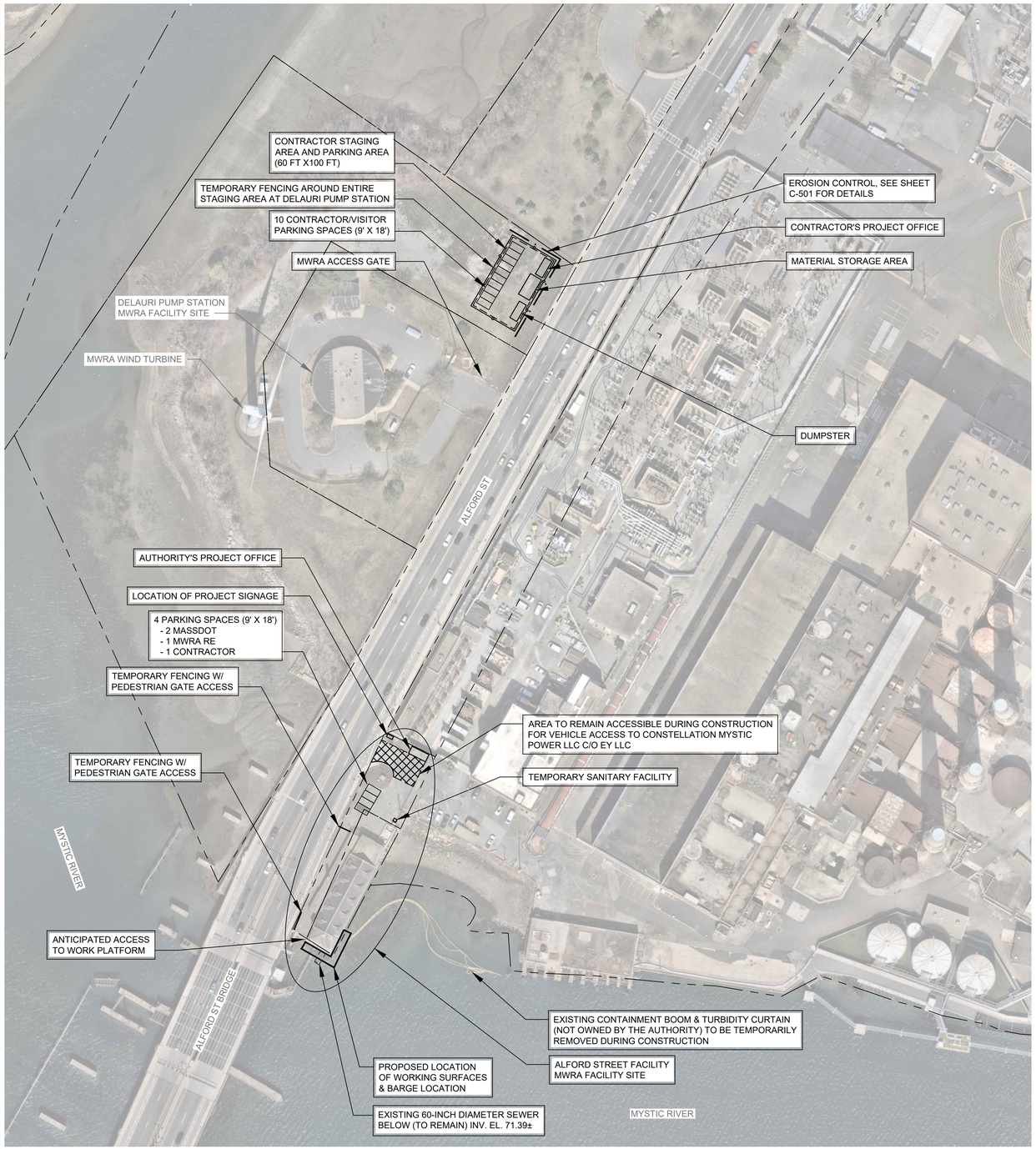
HAZEN AND SAWYER
50 MILK STREET, SUITE 500
BOSTON, MASSACHUSETTS 02109

INDEX OF DRAWINGS

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3	C-101	OVERALL EXISTING CONDITIONS PLAN
4	C-501	EROSION CONTROL AND PROJECT IDENTIFICATION SIGN DETAILS
5	S-001	GENERAL NOTES
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BID DOCUMENTS

PLOT DATE: 10/28/2026 3:15 PM BY: HMILLER
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CONSTRUCTION SITE LAYOUT PLAN

1"=80'

GENERAL NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED BY LANDTECH CONSULTANTS IN OCTOBER OF 2024 UTILIZING HIGH DEFINITION 3D LASER SCANNING AND CONVENTIONAL SURVEY METHODOLOGIES.
2. BOUNDARY INFORMATION SHOWN HEREON IS APPROXIMATE AND BASED ON INFORMATION OBTAINED FROM THE PUBLIC RECORDS (GIS). A RIGHT-OF-WAY SURVEY WAS NOT PERFORMED.
3. THE SUBSURFACE UTILITY INFORMATION SHOWN HEREIN IS COMPILED FROM FIELD SURVEY INFORMATION AND RECORD INFORMATION SUPPLIED BY THE AUTHORITY IS NOT GUARANTEED; THEREFORE THE ACCURACY OF SAID COMPILED SUBSURFACE INFORMATION TO ANY CERTAIN DEGREE OF STATED TOLERANCE IS NOT GUARANTEED. ONLY PHYSICALLY LOCATED SUBSURFACE UTILITY FEATURES FALL WITHIN NORMAL STANDARD OF CARE ACCURACIES.
4. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION (NOTE 3), AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.
5. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION.
6. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER MATTERS.
7. THE BEARINGS AND DISTANCES AND THE COORDINATES SHOWN ON THIS PLAN ARE IN U.S. SURVEY FEET IN THE MASSACHUSETTS. STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NA2011/GEOID 12A) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS PERFORMED IN SEPTEMBER OF 2024 UTILIZING THE MACORS RTK GPS NETWORK.
8. VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), CORS ADJUSTMENT (NA2011/GEOID 12A) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS PERFORMED IN SEPTEMBER 2024 UTILIZING THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION MACORS GPS NETWORK. THE ELEVATIONS WERE THEN CONVERTED TO MWRA SEWER DATUM USING A CONVERSION FACTOR OF +106.43'.
9. CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE AUTHORITY FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND NOTIFYING THE PROPER UTILITY COMPANY AND UTILITY LOCATING SERVICES PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES AND UTILITIES PRIOR TO PROCEEDING WITH THE WORK.
11. CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK AS INDICATED IN SECTION 01060.
12. CONTRACTOR SHALL TAKE CARE TO PROTECT AND AVOID DAMAGE TO EXISTING 60" DIAMETER SEWER, PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED, REMOVED, OR RELOCATED. ANY DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED, REMOVED OR RELOCATED SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE AUTHORITY.
13. WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY, PUBLIC OR PRIVATE, OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
14. WHERE OVERHEAD POWER LINES ARE PRESENT, CONTRACTOR MUST CONTACT THE UTILITY PRIOR TO CONSTRUCTION ACTIVITIES TO DETERMINE THE MINIMUM REQUIRED EQUIPMENT CLEARANCE (MEC) DISTANCE.
15. ALL TEMPORARY FACILITIES ARE SUBJECT TO THE SAME HEALTH AND SAFETY REQUIREMENTS AS PERMANENT FACILITIES, AS SPECIFIED IN THE CONTRACT DOCUMENTS AND HEALTH AND SAFETY PLAN (HASP).
16. THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
17. CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE AND MAINTAIN ALL PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. A MASSACHUSETTS-LICENSED REGISTERED LAND SURVEYOR SHALL REPLACE PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE AUTHORITY.
18. CONTRACTOR TO COORDINATE REMOVAL OF EXISTING CONTAINMENT BOOM AND TURBIDITY CURTAIN TIE-OFF FROM SEAWALL PRIOR TO THE START OF WORK.
19. ALL POST-CONSTRUCTION BASELINE SURVEY WORK AND BENCHMARK INSTALLATION SHALL CONFORM TO THE REQUIREMENTS IN SECTION 01050 - FIELD ENGINEERING.

GENERAL LEGEND

AREA TO REMAIN ACCESSIBLE DURING CONSTRUCTION FOR VEHICLE ACCESS TO CONSTELLATION MYSTIC POWER LLC C/O EY LLC

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194	CAD FILE NO. : 8194_CSC_G-001
FACILITY CODE : CSC	DISCIPLINE: GENERAL
DATE: OCTOBER 2026	DESIGNED BY: J. LEMIEUX
	DRAWN BY: H. MILLER
SCALE: NTS	CHECKED BY: C. PHILLIPS
	APPROVED BY: C. WILSON

COMMONWEALTH OF MASSACHUSETTS CHARLES R. WILSON CIVIL No. 46082 REGISTERED PROFESSIONAL ENGINEER 10-29-24

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY :
Hazen
HAZEN AND SAWYER
50 MILK STREET, SUITE 500
BOSTON, MASSACHUSETTS 02109

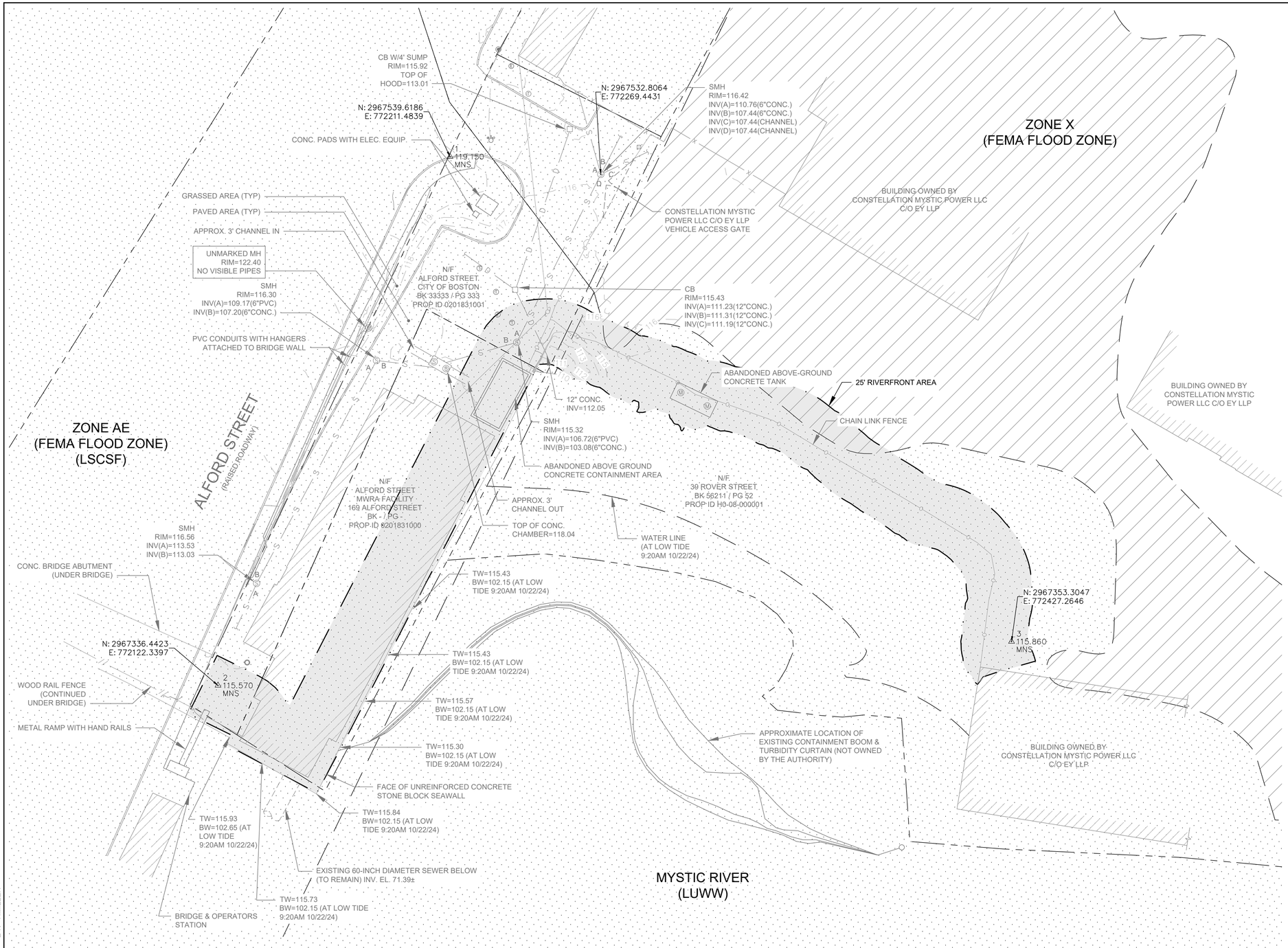
ALFORD STREET FACILITY
SEAWALL REPAIR

GENERAL

GENERAL NOTES AND CONSTRUCTION SITE LAYOUT AND EROSION CONTROL PLAN

DRAWING NO.
G-001
2 of 8

PLOT DATE: 2026/10/28 3:15 PM BY: HMILLER
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PLAN
1"=20'

0 20' 40'

NOTES:

1. FOR GENERAL NOTES, SEE CONTRACT DRAWING G-001.

GENERAL EXISTING LEGEND

CONTOUR (MAJOR)	140
CONTOUR (MINOR)	141
SPOT GRADE	×130.5
PROPERTY LINE (GIS)	
FENCE	
EDGE OF PAVEMENT	EOP
DRILL HOLE (FOUND)	
IRON PIPE (FOUND)	
STONE BOUND (FOUND)	
VERTICAL GRANITE CURB	VGC
25' RIVERFRONT AREA	
ZONE X (FEMA FLOOD ZONE)	
ZONE AE (FEMA FLOOD ZONE) AND LAND SUBJECT TO COASTAL STORM FLOWAGE (LSCSF)	

ACRONYMS:

BK	BLOCK
BW	BOTTOM OF SEAWALL (AT LOW TIDE)
EX	EXISTING
INV	INVERT
N/F	NOW OR FORMALLY
PG	PAGE
PROP ID	PROPERTY ID
SMH	SEWER MANHOLE
TW	TOP OF SEAWALL
WSO	WATER SHUT OFF

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194	CAD FILE NO. : 8194_CSC_C-101
FACILITY CODE : CSC	DISCIPLINE: CIVIL
DATE: OCTOBER 2026	DESIGNED BY: J. LEMIEUX DRAWN BY: H. MILLER CHECKED BY: C. PHILLIPS
SCALE: AS SHOWN	APPROVED BY: C. WILSON

COMMONWEALTH OF MASSACHUSETTS
CHARLES R. WILSON
CIVIL
No. 48082
REGISTERED PROFESSIONAL ENGINEER
10-22-26

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY :
Hazen
HAZEN AND SAWYER
50 MILK STREET, SUITE 500
BOSTON, MASSACHUSETTS 02109

ALFORD STREET FACILITY SEAWALL REPAIR

CIVIL

OVERALL EXISTING CONDITIONS PLAN

DRAWING NO. C-101

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PLOT DATE: 2026/10/28 3:15 PM BY: HMILLER

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CONCRETE NOTES:

1. ALL CONCRETE MIX DESIGNS SHALL BE IN ACCORDANCE WITH ACI 301.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT READY-MIX CONCRETE WITH SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI MINIMUM AT 28 DAYS AND SHALL CONFORM TO THE FOLLOWING:

   ALL CONCRETE SHALL BE AIR-ENTRAINED (6% ±1.5%) PER ASTM C260.

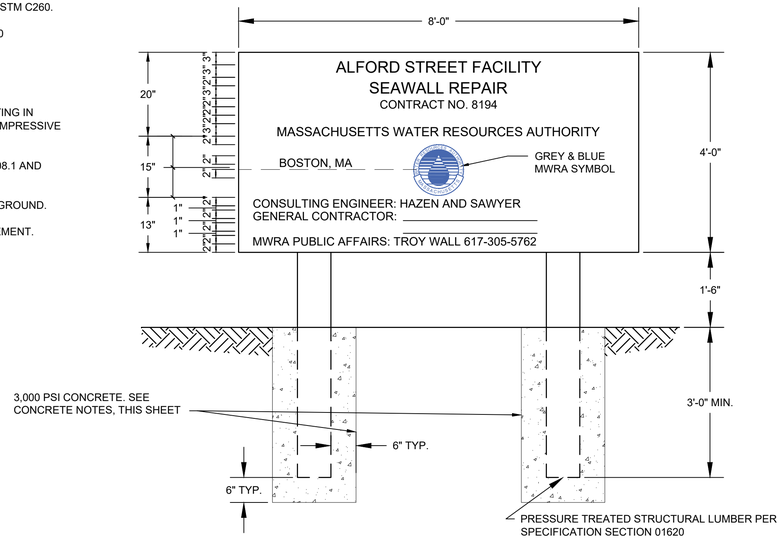
   MAXIMUM WATER TO CEMENTITIOUS MATERIALS RATIO: 0.50

   MINIMUM WATER TO CEMENTIOUS MATERIALS RATIO: 0.39

   SLUMP: 4" +/- 1"
3. CONCRETE STRENGTH SHALL BE VERIFIED BY CYLINDER TESTING IN ACCORDANCE WITH ASTM C31 (SAMPLING) AND ASTM C39 (COMPRESSIVE STRENGTH).
4. CURING PROCEDURES SHALL BE IN ACCORDANCE WITH ACI 308.1 AND FOR A MINIMUM OF 7 DAYS.
5. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
6. SUBMIT CONCRETE MIX DESIGN FOR REVIEW PRIOR TO PLACEMENT.

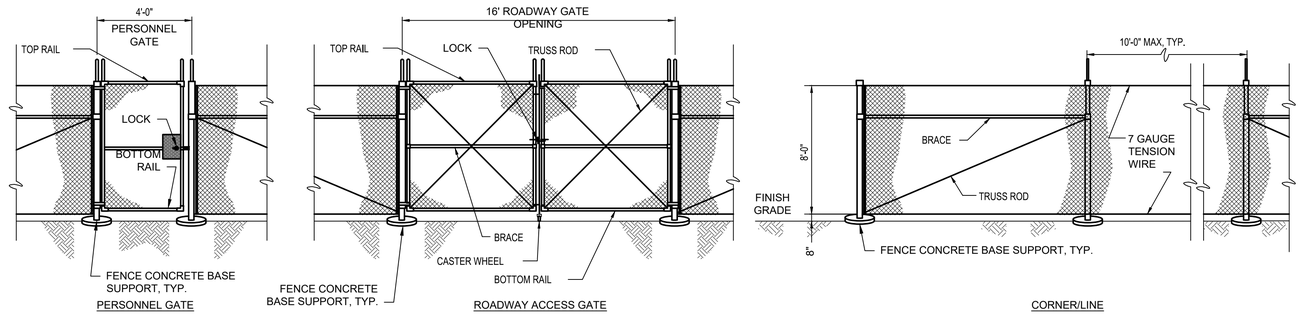
NOTES:

1. PROJECT IDENTIFICATION SIGN IS TO BE PROVIDED AT ALFORD STREET FACILITY SITE.
2. REFERENCE SPECIFICATION SECTION 01620 SIGNS FOR ADDITIONAL REQUIREMENTS



PROJECT IDENTIFICATION SIGN

NTS

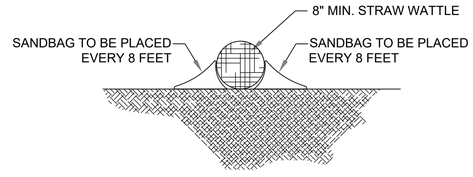


TEMPORARY FENCING GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL TEMPORARY CHAIN LINK FENCE INCLUDED IN THE PROJECT. THE CONTRACTOR SHALL PROVIDE DESIGN CALCULATIONS STAMPED BY A MASSACHUSETTS-LICENSED STRUCTURAL OR CIVIL ENGINEER, DEMONSTRATING THAT THE FENCE SYSTEMS, POLES, SUPPORTS, FOOTINGS AND OTHER ELEMENTS ARE SUFFICIENT TO WITHSTAND ALL LOADING REQUIREMENTS DETAILED IN STATE, LOCAL AND FEDERAL CODE.
2. DIMENSIONS SHOWN ON THE DRAWINGS ARE FOR REFERENCE ONLY. POST SIZES, BURY DEPTHS, FOOTING DIMENSIONS AND OTHER STRUCTURAL DIMENSIONS SHALL BE AS DESIGNED BY THE CONTRACTOR.
3. PROVIDE LATCHING DEVICES TO HOLD GATES IN OPEN POSITION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING TEMPORARY FENCE BASE SUPPORTS ARE SIZED APPROPRIATELY TO RESIST WIND LOADING.
5. ALL CHAIN LINK FENCE SHALL BE PROVIDED WITH A SCREEN FABRIC FASTENED TO WIRE FENCE FABRIC. THE FULL RANGE OF SCREEN FABRIC COLORS SHALL BE PRESENTED TO THE AUTHORITY FOR REVIEW AND CHOICE DURING THE SUBMITTAL PROCESS.
6. REFER TO SECTION 02832 TEMPORARY FENCING.

TEMPORARY CHAIN LINK FENCE

NTS



1 / C-501 STRAW WATTLE

SCALE: NOT TO SCALE

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194	CAD FILE NO. : 8194_CSC_C-501
FACILITY CODE : CSC	DISCIPLINE: CIVIL
DATE: OCTOBER 2026	DESIGNED BY: J. LEMIEUX DRAWN BY: H. MILLER
SCALE: NTS	CHECKED BY: C. PHILLIPS APPROVED BY: C. WILSON

COMMONWEALTH OF MASSACHUSETTS
CHARLES R. WILSON
CIVIL
No. 48082
REGISTERED PROFESSIONAL ENGINEER
10-27-26

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY :
Hazen
HAZEN AND SAWYER
50 MILK STREET, SUITE 500
BOSTON, MASSACHUSETTS 02109

ALFORD STREET FACILITY
SEAWALL REPAIR

CIVIL

EROSION CONTROL AND PROJECT IDENTIFICATION SIGN DETAILS

DRAWING NO. C-501

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PLOT DATE: 2026/10/28 3:15 PM BY: HMILLER

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GENERAL STRUCTURAL NOTES

G-1 THESE NOTES ARE GENERAL AND SUPPLEMENT THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

G-2 ALL DIMENSIONS INDICATED FOR EXISTING STRUCTURES SHALL BE VERIFIED BY FIELD MEASUREMENT BY THE CONTRACTOR AND THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION IN THE FIELD AS REQUIRED FOR NEW WORK.

G-3 IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED.

G-4 STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND SUBMITTALS.

G-5 IF CONTRACTOR DESIRES TO TEMPORARILY PLACE OR MOVE LOADS ON OR ADJACENT TO EXISTING STRUCTURES OR UTILITIES DURING CONSTRUCTION PROCESS, CONTRACTOR IS EXCLUSIVELY RESPONSIBLE FOR MAINTAINING STRUCTURAL INTEGRITY AND AVOIDING OVERSTRESSING AND DAMAGING EXISTING STRUCTURES AND UTILITIES. CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS AND DRAWINGS VERIFYING THAT PROPOSED CONSTRUCTION (INCLUDING APPLICATION OF TEMPORARY CONSTRUCTION LOADS) WILL NOT OVERSTRESS OR DAMAGE EXISTING STRUCTURES AND UTILITIES. DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER CURRENTLY REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS. DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR RECORD PURPOSES ONLY TO THE AUTHORITY. IF CONDITIONS CHANGE FROM THE EXISTING 8(M) PERMIT, THE CONTRACTOR WILL NEED TO SUBMIT FOR A NEW PERMIT AT NO COST TO THE AUTHORITY.

G-6 WORK DEPICTED SHALL BE PERFORMED TO LOCALLY STABILIZE EXTERIOR GRANITE BLOCKS COMPRISING SEAWALL IN THEIR CURRENT POSITION WITHIN THE LIMITS INDICATED ON THE DRAWINGS. THIS EFFORT DOES NOT ADDRESS GLOBAL STABILITY OF THE ENTIRE SEAWALL SYSTEM. ADDITIONAL MATERIALS TESTING, STRUCTURAL ANALYSIS, AND DESIGN IS NECESSARY TO EVALUATE AND ENSURE GLOBAL STABILITY OF THE ENTIRE SEAWALL SYSTEM.

G-7 WORK REQUIRED FOR LOCALLY STABILIZING GRANITE BLOCKS REQUIRES WORK ON UNDERWATER BLOCKS AS WELL AS BLOCKS ABOVE THE WATER SURFACE. TIDAL FLUCTUATION IS SIGNIFICANT IN THIS AREA AND THE WATER SURFACE ELEVATION FLUCTUATES UP TO 8-10 FEET DUE TO THE TIDAL SCHEDULE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING MEANS TO CONDUCT REPAIR WORK UNDERWATER.

G-8 CONTRACTOR SHALL SUBMIT FOR APPROVAL MEANS OF PERFORMING WORK BOTH ABOVE THE WATER LEVEL AND UNDERWATER INCLUDING USE OF DIVERS AS NEEDED.

G-9 PRIOR TO PROCEEDING WITH WORK, CONTRACTOR SHALL ASSESS AREA OF STABILIZATION WITH PRESENCE OF THE AUTHORITY AND ENGINEER. CONTRACTOR SHALL SUBMIT AREAS WHERE GRANITE WEDGE ROCK WILL BE INSERTED TO PROVIDE STABILIZATION WITHIN VOIDS AND WHERE GROUT WILL BE PLACED TO COMPLETE FILLING OF VOIDS.

G-10 SUBMIT FOR REVIEW AND APPROVAL VALID DIVER CERTIFICATIONS AND TRAININGS FOR ALL DIVERS MEETING OR EXCEEDING LOCAL COMMERCIAL DIVER REQUIREMENTS.

G-11 FOR ALL GROUT RELATED DESIGN CRITERIA, CODES, AND STANDARDS, SEE SPECIFICATION 03600 - GROUT.

G-12 FOR GENERAL NOTES, SEE CONTRACT DRAWING G-001.

G-13 INVERT ELEVATION OF EXISTING 60-INCH DIAMETER SEWER IS FROM RECORD DRAWING SECTION 25.6 LINE A-B. ELEVATION CONVERTED FROM 100' BELOW BOSTON CITY BASE TO MWRA SEWER DATUM. NOTE THAT THE EXISTING 60-INCH DIAMETER SEWER IS LOCATED BELOW THE BASE OF THE EAST SEAWALL. EXISTING 60-INCH DIAMETER SEWER SHALL NOT BE DAMAGED OR DISTURBED DURING CONSTRUCTION.

EXISTING INFORMATION

X-1 ALL EXISTING INFORMATION SHOWN ON THESE DRAWINGS INCLUDING LOCATION, DIMENSIONS, ELEVATIONS, AND CONFIGURATIONS IS DERIVED FROM THE SECTION 25 AND PUMPING STATION, CHARLESTOWN RECORD DRAWINGS (DECEMBER 1895) AND THE ON-THE-GROUND SURVEY PERFORMED BY LANDTECH CONSULTANTS (SEPTEMBER 2024) AND IS NOT GUARANTEED TO BE COMPLETE OR CORRECT.

X-2 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION IN THE FIELD AS REQUIRED FOR REPAIRS.

X-3 ALL EXISTING ALFORD STREET FACILITY STRUCTURES, INCLUDING BUT NOT LIMITED TO THE MAIN BUILDING SUPERSTRUCTURE AND SUBSTRUCTURE, SHALL BE MONITORED FOR DAMAGE. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE INCURRED DURING CONSTRUCTION AND ALL DAMAGE SHALL BE REPORTED TO THE AUTHORITY.

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194
CAD FILE NO. : 8194_CSC_S-001
FACILITY CODE : CSC
DISCIPLINE: STRUCTURAL
DATE: OCTOBER 2026
DESIGNED BY: I. GREWAL
DRAWN BY: J. KASISCHKE
CHECKED BY: S. MANZO
SCALE: AS SHOWN
APPROVED BY: C. WILSON

COMMONWEALTH OF MASSACHUSETTS
SIMONE MANZO
STRUCTURAL
NO. 50934
REGISTERED PROFESSIONAL ENGINEER
10/27/2026

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY :
Hazen
HAZEN AND SAWYER
50 MILK STREET, SUITE 500
BOSTON, MASSACHUSETTS 02109

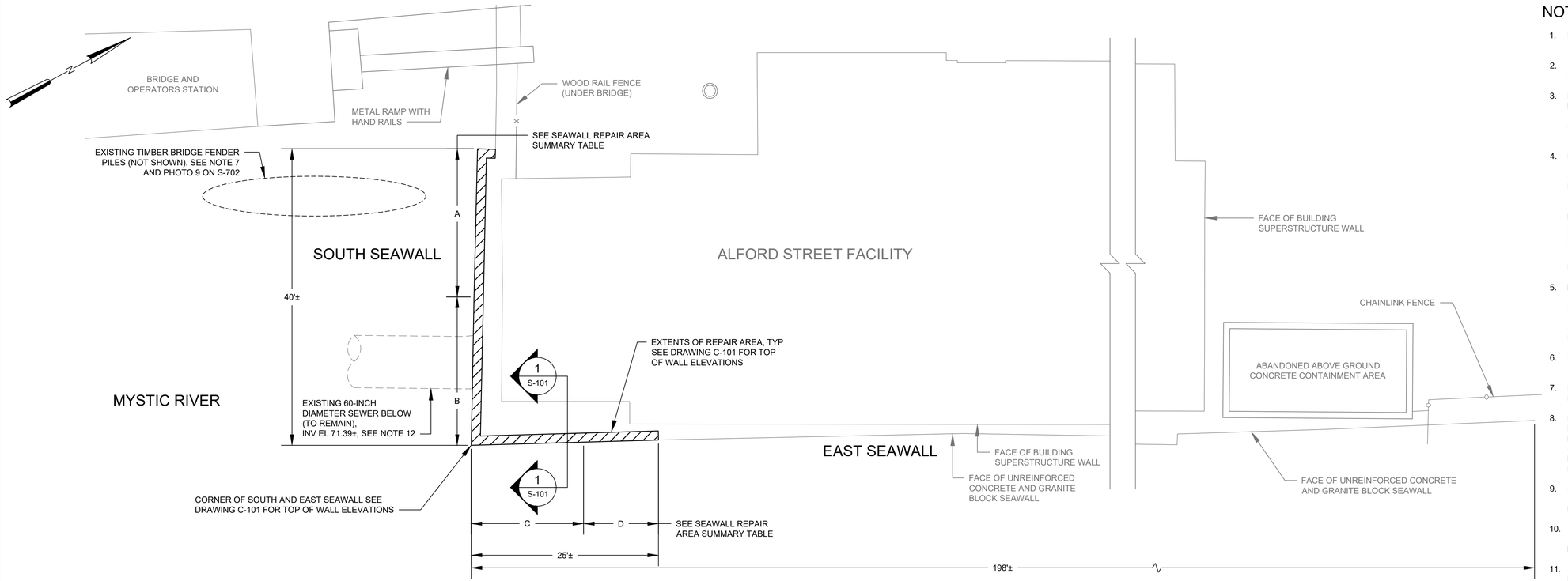
ALFORD STREET FACILITY
SEAWALL REPAIR

STRUCTURAL

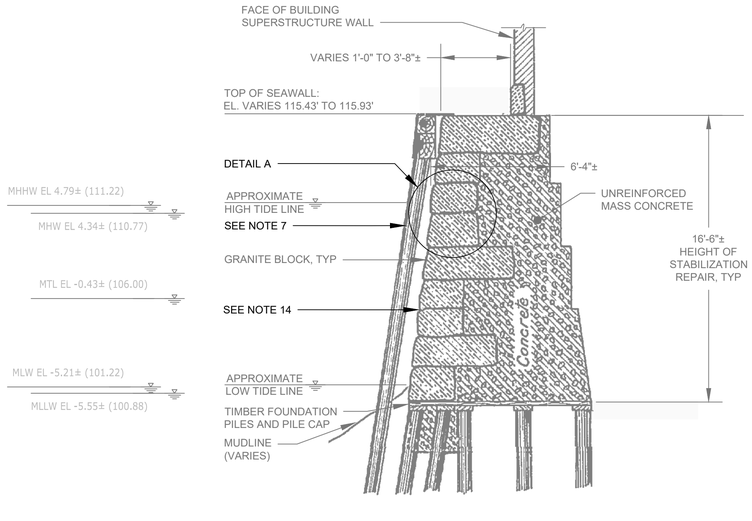
GENERAL NOTES

DRAWING NO.
S-001
5 of 8

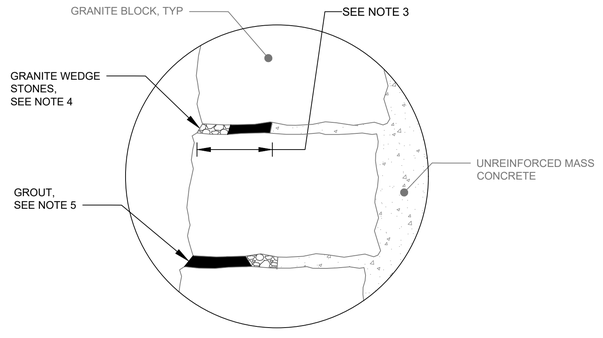
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PLAN
1/8" = 1'-0"



TYPICAL EXISTING SECTION
1/4" = 1'-0"
1
S-101



DETAIL A
NTS

NOTES:

1. EXTENT OF WORK IS LIMITED TO THE HATCHED DIMENSIONED AREAS ON THE SOUTH AND EAST SEAWALL OF THE ALFORD STREET FACILITY BUILDING.
2. QUANTITY OF WORK SHALL BE AS COMPILED ON BID FORM WITHIN SPECIFICATIONS AND AS DESCRIBED ON THESE DRAWINGS.
3. EXTENT OF VOIDS SHOWN ARE FOR APPROXIMATE FOR QUANTIFYING WORK FOR BID PURPOSES. REMOVE ALL LOOSE MATERIAL OR DEBRIS FROM VOIDED AREAS BETWEEN GRANITE BLOCKS. CLEAN EXPOSED SURFACES AND SURFACES IN JOINTS BETWEEN GRANITE BLOCKS PRIOR TO PLACING GRANITE WEDGE STONES AND NEW GROUT.
4. PLACE GRANITE WEDGE STONES IN VOIDED AREAS LARGER THAN 4". GRANITE WEDGE STONES SHALL BE TIGHTLY PACKED AND SECURED IN PLACE PRIOR TO GROUT PLACEMENT TO ENSURE WEDGE STONES DO NOT MOVE DURING GROUT PLACEMENT AND REMAIN IN PLACE TO PROVIDE ADEQUATE SUPPORT OF ADJACENT WEDGE STONES AND GRANITE BLOCKS AFTER GROUT PLACEMENT. GRANITE WEDGE STONES ARE DEFINED AS ROCK WITH A MINIMUM 3/4" OR MAXIMUM 3" MEASURED ACROSS THE LONGEST DIMENSIONAL SIDE OF ROCK. GRANITE WEDGE STONES SHALL CONFORM TO ASTM C615/C615M-23. WEDGE STONES SHALL BE TIGHTLY PACKED AND PLACED WITH FULL SURFACE CONTACT WITH ADJACENT WEDGE STONE OR STONE BLOCKS. CONTRACTOR SHALL VERIFY ALL GRANITE WEDGE STONES AND GROUT HAVE NOT SHIFTED DURING AND AFTER REPAIRS ARE COMPLETED.
5. FILL ALL VOIDS BETWEEN GRANITE BLOCKS AND GRANITE WEDGE STONE WITH GROUT AS PER SPECIFICATION 03600. GROUT SHALL EXTEND TO EXPOSED FACE OF GRANITE BLOCKS. WHERE GRANITE BLOCKS HAVE SHIFTED, INSTALL GROUT TO THE EXPOSED FACE OF GRANITE BLOCKS. GROUT PROFILE ON EXTERIOR OF WALL SHALL MATCH PROFILE OF EXISTING GRANITE BLOCKS. NO FEATHER EDGES OR PROJECTIONS OF GROUT SHALL OCCUR.
6. CLEAN ANY EXCESS GROUT FROM FACE OF GRANITE BLOCKS. FINISHED GRANITE BLOCK FACES SHALL BE CLEAR OF ANY GROUT.
7. EXISTING TIMBER BRIDGE FENDER PILES SHALL REMAIN DURING STABILIZATION REPAIRS. SEE CONTRACT DRAWINGS S-701 AND S-702 FOR PHOTOS OF PILES.
8. DIMENSIONS "A" AND "B" SHOWN IN SEAWALL REPAIR AREA SUMMARY TABLE DENOTES DIMENSION FROM THE FACE OF GRANITE BLOCK TO SOUND BACKING MATERIAL. DIMENSION "A" IS TAKEN ALONG THE GROUT LINE BELOW THE SECOND GRANITE BLOCK. DIMENSION "B" IS TAKEN ALONG THE GROUT LINE BELOW THE SIXTH GRANITE BLOCK. STABILIZATION REPAIRS SHALL BE PERFORMED FOR THE FULL HEIGHT OF THE SEAWALL.
9. CONTRACTOR SHALL VERIFY DIMENSIONS SHOWN IN SEAWALL REPAIR AREA SUMMARY TABLE PRIOR TO CONSTRUCTION. DEPTH OF MATERIAL LOSS IS A MEASURED APPROXIMATE AVERAGE ACROSS THE GRANITE BLOCK JOINTS.
10. SEAWALL REPAIR AREA SUMMARY TABLE IS PROVIDED TO ASSIST IN QUANTIFYING WORK FOR BID PURPOSES. REFER TO NOTES ON THIS DRAWING FOR ADDITIONAL CLARITY.
11. SEAWALL SECTION WAS DEVELOPED USING A COMBINATION OF RECORD DRAWINGS AND FIELD MEASUREMENTS.
12. INVERT ELEVATION OF EXISTING 60-INCH DIAMETER SEWER IS FROM RECORD DRAWING SECTION 25.6 LINE A-B. ELEVATION CONVERTED FROM 100' BELOW BOSTON CITY BASE TO MWRA SEWER DATUM. NOTE THAT THE EXISTING 60-INCH DIAMETER SEWER IS LOCATED BELOW THE BASE OF THE EAST SEAWALL. EXISTING 60-INCH DIAMETER SEWER SHALL NOT BE DAMAGED OR DISTURBED DURING CONSTRUCTION.
13. FOR GENERAL NOTES, SEE CONTRACT DRAWING G-001.
14. SEE SEAWALL REPAIR REPAIR AREA SUMMARY TABLE FOR APPROXIMATED MATERIAL LOSS BETWEEN GRANITE BLOCKS. MEASUREMENTS WERE TAKEN PERPENDICULAR TO THE NEAREST EDGE OF ADJACENT STONE BLOCK INTO THE SEAWALL.

LEGEND

- LIMIT OF SEAWALL STABILIZATION
- GRANITE WEDGE STONES

SEAWALL REPAIR AREA SUMMARY TABLE

AREA	DEPTH OF MATERIAL LOSS IN JOINTS FROM FACE OF THE GRANITE BLOCKS (INCHES)		LENGTH ALONG SEAWALL (FEET), APPROXIMATED
	APPROXIMATE LOSS AT HIGH TIDE LINE	APPROXIMATE LOSS AT LOW TIDE LINE	
A	15	15	20
B	25	36	20
C	36	36	15
D	20	15	10

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194	CAD FILE NO. : 8194_CSC_S-101
FACILITY CODE : CSC	DISCIPLINE: STRUCTURAL
DATE: OCTOBER 2026	DESIGNED BY: I. GREWAL DRAWN BY: J. KASISCHKE CHECKED BY: S. MANZO
SCALE: AS SHOWN	APPROVED BY: C. WILSON

COMMONWEALTH OF MASSACHUSETTS
SIMONE MANZO
STRUCTURAL
NO. 50934
REGISTERED PROFESSIONAL ENGINEER
10/27/2026

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY :
Hazen
HAZEN AND SAWYER
50 MILK STREET, SUITE 500
BOSTON, MASSACHUSETTS 02109

ALFORD STREET FACILITY
SEAWALL REPAIR

STRUCTURAL

PLAN, SECTION AND DETAIL

DRAWING NO.
S-101
6 of 8

PLOT DATE: 2026/10/28 3:15 PM BY: HMILLER
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PHOTO 1 : EAST SEAWALL, HIGH TIDE



PHOTO 2 : EAST SEAWALL, LOW TIDE



PHOTO 3 : EAST SEAWALL, HIGH TIDE CLOSE UP OF SHIFTED GRANITE BLOCKS AT CORNER



PHOTO 4: CORNER OF SOUTH AND EAST SEAWALL, HIGH TIDE



PHOTO 5: SPACE BETWEEN GRANITE BLOCKS AT CORNER OF SOUTH AND EAST SEAWALL

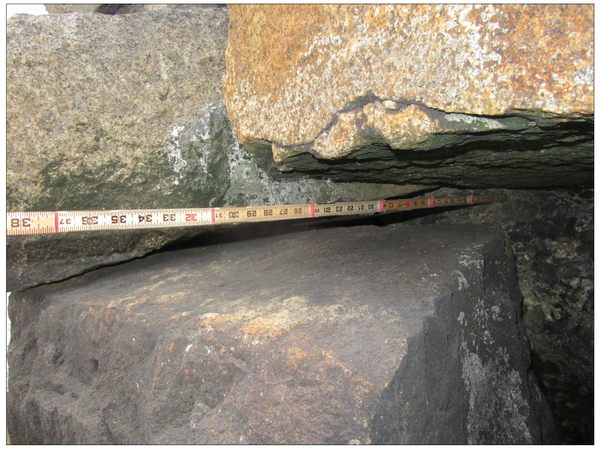


PHOTO 6: ENLARGED VIEW OF TYPICAL JOINT BEARING LOSS AT CORNER OF SOUTH AND EAST SEAWALL

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194
CAD FILE NO. : 8194_CSC_S-701
FACILITY CODE : CSC
DISCIPLINE: STRUCTURAL
DATE: OCTOBER 2026
DESIGNED BY: I. GREWAL
DRAWN BY: J. KASISCHKE
CHECKED BY: S. MANZO
SCALE: AS SHOWN
APPROVED BY: C. WILSON

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ALFORD STREET FACILITY
SEAWALL REPAIR

STRUCTURAL

PHOTOGRAPHS SHEET 1

DRAWING NO.
S-701
7 of 8

PLOT DATE: 2026/10/28 3:15 PM BY: HMILLER
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PHOTO 7: EAST SEAWALL, LOW TIDE



PHOTO 8: CORNER OF SOUTH AND EAST SEAWALL, LOW TIDE



PHOTO 9: TIMBER BRIDGE FENDER PILES ADJACENT TO SOUTH SEAWALL

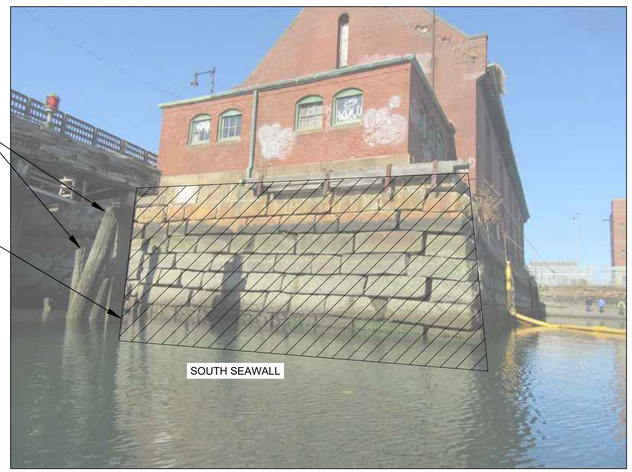


PHOTO 10: EXTENTS OF SOUTH SEAWALL STABILIZATION

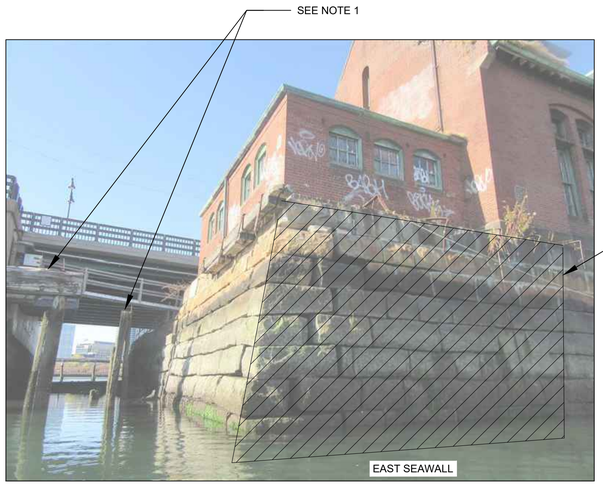


PHOTO 11: EXTENTS OF EAST SEAWALL STABILIZATION

NOTES:

1. CONTRACTOR SHALL CONSIDER PROXIMITY OF EXISTING TIMBER BRIDGE FENDER PILES ADJACENT TO SOUTH SEAWALL AND AVOID DAMAGING OR DISTURBING THESE PILES DURING CONSTRUCTION. EXISTING TIMBER BRIDGE FENDER PILES SHALL REMAIN IN PLACE DURING CONSTRUCTION.
2. LIMITS OF STABILIZATION SHOWN ARE APPROXIMATED AND DO NOT INCLUDE THE STABILIZATION TO BE PERFORMED BELOW THE WATER LINE. SEE DRAWING S-101 FOR PLAN VIEW OF WORK EXTENTS.

BID DOCUMENTS

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 8194	CAD FILE NO. : 8194_CSC_S-702
FACILITY CODE : CSC	DISCIPLINE: STRUCTURAL
DATE: OCTOBER 2026	DESIGNED BY: I. GREWAL DRAWN BY: J. KASISCHKE CHECKED BY: S. MANZO
SCALE: AS SHOWN	APPROVED BY: C. WILSON

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SEAWALL REPAIR

STRUCTURAL

PHOTOGRAPHS SHEET 2

DRAWING NO.
S-702
8 of 8

PLOT DATE: 2026/10/28 3:15 PM BY: HMILLER

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