MASSACHUSETTS WATER RESOURCES AUTHORITY

WESTON AQUEDUCT SUPPLY MAIN 3 CONSTRUCTION PACKAGE 2

REHABILITATION OF WATER MAIN SECTION W10

WALTHAM, MA

BID DOCUMENTS

MWRA CONTRACT No. 6543

DATE: AUGUST 2025

FREDERICK A. LASKEY
EXECUTIVE DIRECTOR

PREPARED BY:

Stantec
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RYAN J. STACKPOLE
COMMONWEALTH OF MASSACHUSETTS
REGISTERED PROFESSIONAL ENGINEER
8/25/2025

LOCATION PLAN

SCALE: 1"=4,000'

0 4000 8000 12000

SCALE IN FEET

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CONTRACT NO. : 6543
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DATE: AUGUST 2025
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SECTION NO. : W10
DESIGNED BY: RJS
DRAWN BY: TJC
CHECKED BY: NRB
APPROVED BY: RJS

COMMONWEALTH OF MASSACHUSETTS
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MASSACHUSETTS WATER RESOURCES AUTHORITY

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WESTON AQUEDUCT SUPPLY MAIN 3
REHABILITATION OF WATER MAINS
SECTION W10

LOCATION PLAN AND INDEX TO DRAWINGS

DRAWING NO.
G-001
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FILE NAME: \\US0552-PPFSS01\workgroup\1951\active\195150185\CAD\2.2 Final Design\CP2\01 General\6543_G-001-G-005.dwg LAYOUT NAME: G-001 PLOTTED: Thursday, August 21, 2025 - 9:39am USER: dmacrina

ABBREVIATIONS

ABAND (OR ABD)	ABANDONED
ADDL	ADDITIONAL
ALUM	ALUMINUM
APPROX.	APPROXIMATE
AV	AIR VALVE
BCB	BOSTON CITY BASE
BFV (OR BV)	BUTTERFLY VALVE
BIT. CONC. PVMT.	BITUMINOUS CONCRETE PAVEMENT
BLDG	BUILDING
BO	BLOW OFF
BM	BENCH MARK
BOT	BOTTOM
BOV	BLOWOFF VALVE
BRK	BRICK
B.W.	BOTTOM OF WALL
℄B	CATCH BASIN
℄	CENTER LINE
CEM	CEMENT
C.I. (OR CIP)	CAST IRON PIPE
CDF	CONTROLLED DENSITY FILL
CFS	CARBON FIBER SYSTEM
CLG.	CEILING
CL.	CLASS, CLEARANCE
CLF	CHAIN LINK FENCE
CML	CEMENT MORTAR LINING
CONC.	CONCRETE
CTE	CONNECT TO EXISTING
CORP	CORPORATION
CU	COPPER
CW	CROSSWALK
CWPS	CEDARWOOD PUMP STATION
D	DRAIN
DEG	DEGREE
DIA	DIAMETER
D.I.	DUCTILE IRON
DICL	DUCTILE IRON CEMENT LINED
DMH	DRAIN MANHOLE
DN	DOWN
DWG.	DRAWING
D.Y.C.L.	DOUBLE YELLOW CENTER LINE
D.Y.L.	DOUBLE YELLOW LINE
EA.	EACH
ELEV. (OR EL.)	ELEVATION
EHH	ELECTRIC HAND HOLE
EMH	ELECTRIC MANHOLE
E.W.	EACH WAY
EXC.	EXCAVATION
EXIST. (OR EX.)	EXISTING
FLG	FLANGED
F.M.	FORCE MAIN
FRP	FIBER REINFORCED POLYMER
FURN.	FURNISHED
G	GAS
GALV.	GALVANIZED
GFRP	GLASS FIBER REINFORCED POLYMER
GG	GAS GATE
GND	GROUND
GR	GRADE
G.V.	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ (OR HORZ)	HORIZONTAL
H.S.	HIGH SERVICE
INV.	INVERT ELEVATION
I.D.	INSIDE DIAMETER
L.S.	LINE STOP
LF	LINEAR FOOT
LSPS	LEXINGTON STREET PUMP STATION
MAT'L	MATERIAL
MAX.	MAXIMUM
MIN.	MINIMUM
MH	MANHOLE OR INVERT ELEVATION AT MANHOLE
MASSDOT	MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION
MJ	MECHANICAL JOINT
NO.	NUMBER
NPS	NORMAL PIPE SIZE
NPT	NATIONAL PIPE TAPER
NTS	NOT TO SCALE
O.S.	ON CENTER
O.T.	OUTSIDE DIAMETER
OPGN.	OPENING
OHW	OVERHEAD WIRE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLANE END
PERM	PERMANENT
PVMT.	PAVEMENT
PL	PROPERTY LINE
PNL.	PANEL
PS	PUMP STATION
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PROP.	PROPOSED
R=	RIM ELEVATION
REC	RECORD
REF	REFERENCE
RCP	REINFORCED CONCRETE PIPE
REINF.	REINFORCEMENT
RED	REDUCER
RR	RAILROAD
RSGV	RESILIENT SEAT GATE VALVE
REQ'D	REQUIRED
SS	SANITARY SEWER
S	SEWER
SCH.	SCHEDULE
SECT	SECTION
SHLO	STATE HIGHWAY LAYOUT
SMH	SEWER MANHOLE
STA.	STATION
STL.	STEEL
SQ.	SQUARE
S.W.L.	SINGLE WHITE LINE
S.Y.E.L.	SINGLE YELLOW EDGE LINE
S.Y.L.	SINGLE YELLOW LINE
T	TELEPHONE
T.S.	TAPPING SLEEVE
TEMP.	TEMPORARY
T.O.S.	TOP OF STRUCTURE
TSGV	TAPPING SLEEVE AND GATE VALVE
TYP.	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY PIPE
VERT.	VERTICAL
VGC	VERTICAL GRANITE CURB
WMH	WATER MANHOLE
W	WATER
W/	WITH
WG	WATER GATE
WM	WATER MAIN
WV	WATER VALVE

LEGEND

EXISTING

- EXISTING CONTOUR — 117
- GUARD RAIL
- SPOT GRADE — 73.8
- OVERHEAD WIRES — OHW
- STORM DRAIN — D
- SANITARY SEWER MAIN — S
- TELEPHONE — T
- GAS MAIN — G
- WATER MAIN — W
- APPROX. PROPERTY LINE
- CHAINLINK FENCE
- POST & RAIL FENCE
- CATCH BASIN — CB
- DRAIN MANHOLE — DMH
- ELECTRIC MANHOLE — EMH
- FLAG POLE — FP
- ELECTRIC BOX — EB
- GAS GATE — GG
- GUY WIRE — GW
- GROUND WATER ELEVATION
- HYDRANT — HYD
- LIGHT POLE — LP
- MAIL BOX — MB
- MANHOLE (TYPE INDICATED) — MH
- MONITORING WELL (PRIVATE) — MW
- POST — POST
- SIGN — SIGN
- SANITARY SEWER MANHOLE — SMH
- DECIDUOUS TREE — DECID
- SHRUB — SHRUB
- UTILITY POLE — UP
- WATER MANHOLE — WMHG/AV
- WATER GATE — WG
- WOOD POST — WPST
- BORING — B1
- COMPLETED TEST PIT — TP-01
- BORING WITH MONITORING WELL — B1(MW)
- UPPER BANK
- ABANDONED UTILITY
- EASEMENT BOUNDARY

PROPOSED

- COMPOST FILTER TUBE - SINGLE & DOUBLE ROW
- 100-FOOT WETLAND BUFFER
- 200-FOOT RIVERFRONT BOUNDARY
- 100-YEAR FLOOD PLAIN
- LIMITS OF RESOURCE AREA (WITH FLAG #)
- PIPELINE TO BE ABANDONED
- PIPELINE TO BE REMOVED
- PROPOSED BLOW OFF
- PROPOSED AIR VALVE
- WATER MAIN (SIZE INDICATED) — 20" W
- DRAIN PIPE (SIZE INDICATED) — 12" D
- 2" TEMPORARY BYPASS PIPE — 2" BYPASS PIPE
- 4" TEMPORARY BYPASS PIPE — 4" BYPASS PIPE
- HYDRANT & GATE VALVE (LOCAL)
- GATE VALVE (LOCAL)
- REDUCER (LOCAL)
- TEE (LOCAL)
- COUPLING (LOCAL)
- DRAIN MANHOLE — D
- BEND (SIZE INDICATED)
- THRUST BLOCK
- CATCH BASIN
- CATCH BASIN INLET PROTECTION
- GATE VALVE AND VAULT
- GATE VALVE
- PRESSURE REDUCING VALVE — PRV
- CHECK VALVE
- VENTURI METER
- PITOT CHAMBER
- PROPOSED FENCE
- ABANDONED WITH CDF
- DEMOLITION
- TEST PIT
- STRUCTURAL LINER

SURFACE RESTORATION LEGEND

- TEMPORARY AND PERMANENT PAVEMENT AND 1 1/2" MILL AND OVERLAY
- TEMPORARY AND PERMANENT PAVEMENT AND 1 3/4" MILL AND OVERLAY
- 1 1/2" MILL AND OVERLAY
- LOAM AND SEED
- BITUMINOUS CONCRETE SIDEWALK
- CEMENT CONCRETE SIDEWALK
- CURBING
- PAINT LINE

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RYAN J STACKPOLE — COMMONWEALTH OF MASSACHUSETTS — CIVIL — REGISTERED PROFESSIONAL ENGINEER
8/25/2025

MASSACHUSETTS WATER RESOURCES AUTHORITY

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WESTON AQUEDUCT SUPPLY MAIN 3
REHABILITATION OF WATER MAINS
SECTION W10

LEGEND AND ABBREVIATIONS

DRAWING NO.
G-002
3 OF 83

FILE NAME: \\US0552-PFPSS01\workgroup\1951\active\195150185\CAD\2.2 Final Design\CP2\01 General\6543_G-001-G-005.dwg LAYOUT NAME: G-002 PLOTTED: Thursday, August 21, 2025 - 9:39am USER: dmacrina

GENERAL NOTES:

1. THE EXISTING CONDITIONS SHOWN ON THIS BASEMAP ARE THE RESULT OF AN AERIAL MAPPING PERFORMED BY WSP FLOWN IN SEPTEMBER 2017 AND COMPLEMENTED BY ON THE GROUND INSTRUMENT SURVEY PERFORMED BETWEEN SEPTEMBER 2017 AND JUNE 2018 BY GREEN INTERNATIONAL AFFILIATES, INC. (GREEN). GREEN FIELD CREW PERFORMED SUPPLEMENTAL SURVEY FROM JUNE 2020 THROUGH AUGUST 2020.
2. HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED WITH STATIC GPS VECTORS ON JULY 21, 2017 BY GREEN. HORIZONTAL DATUM IS BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD83 – ENGLISH UNITS. VERTICAL DATUM IS BOSTON CITY BASE (BCB, COMPUTED USING GEOID12A). THE UNIT OF MEASUREMENTS IS US FEET.
3. PRIVATE PROPERTY LINES AND STREET LAYOUT LINES HAVE NOT BEEN SURVEYED, THEY ARE COMPILED FROM GIS INFORMATION AND THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE.
4. HORIZONTAL STATIONING SHOWN ON PLANS IS FOR LEVEL LINE MEASURE. ACTUAL UTILITY LENGTH SHALL BE DETERMINED BY THE SLOPE OR CURVE ON WHICH THE UTILITY IS INSTALLED.
5. UNLESS OTHERWISE NOTED, EXISTING CURBING MATERIAL IS GRANITE OR BITUMINOUS CONCRETE.

SAFETY NOTES:

1. ALL WORK INSIDE THE AUTHORITY'S WATER MAIN SHALL BE CONDUCTED IN COMPLIANCE WITH OSHA 29 CFR 1910.146 PERMIT-REQUIRED CONFINED SPACE ENTRY REQUIREMENTS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE DEVELOPMENT AND IMPLEMENTATION OF A SITE SPECIFIC CONFINED SPACE ENTRY PLAN FOR THE CONTRACTOR'S EMPLOYEES AND THE EMPLOYEES OF THE AUTHORITY OR THEIR REPRESENTATIVES FOR BOTH CONSTRUCTION AND INSPECTION PURPOSES. THE PLAN SHALL BE IN CONFORMANCE WITH SPECIFICATION SECTION 01065. SITE SPECIFIC PLAN SHALL INCLUDE EACH ACCESS ENTRY/EXIT POINT, INCLUDING BUT NOT LIMITED TO LOCATION, DESCRIPTION/CONDITION OF THE CONFINED SPACE ITSELF, DESCRIPTION OF THE OPENING (MANHOLE OR PIPE CUTOUT), DISTANCES, SAFETY EQUIPMENT (HARNESSES, TETHERS, WHEELED BACKBOARDS, ETC). VENTILATION EQUIPMENT AND PROCEDURES.
3. THE CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION OF THE RESCUE TEAM PROVIDING RESCUE AND EMERGENCY SERVICES. THE CONTRACTOR SHALL ENSURE THAT THEY HAVE THE EQUIPMENT AND CAPABILITIES TO PROVIDE THIS SERVICE AND HAVE BEEN FAMILIARIZED WITH THE PROJECT SITE AND ACCESS POINTS.
4. THE CONTRACTOR SHALL PROVIDE SITE SPECIFIC TRAINING (FAMILIARIZATION) AND COORDINATION FOR ALL ENTRANTS, INCLUDING THOSE THAT ARE NOT EMPLOYEES OF THE CONTRACTOR, RELATING TO SPECIFIC HAZARDS FOUND IN THE WATER MAINS. CONFINED SPACE ENTRY PROCEDURES AND EMERGENCY NOTIFICATION/RESPONSE PROCEDURES.
5. STAFFING FOR CONFINED SPACE ENTRY SHALL COMPLY WITH SPECIFICATION 01065 – PROJECT HEALTH AND SAFETY SPECIFICATIONS.
6. ACCESS/ ENTRY POINTS SHALL BE PROVIDED AT BOTH ENDS OF THE PIPE SEGMENT BEING INSPECTED. AT LEAST ONE ACCESS POINT SHALL BE LARGER THAN 24" MIN DIAMETER.
7. THE CONTRACTOR SHALL PROVIDE ONE ENTRANT TO ASSIST THE AUTHORITY OR THEIR REPRESENTATIVE WITH THE INSPECTION WORK.
8. ENTRANTS DURING INTERNAL PIPE INSPECTIONS SHALL HAVE A FULL BODY HARNESS AND BE TETHERED TO THE POINT OF ENTRY/ ACCESS. AT A MINIMUM, ENTRANTS SHALL BE EQUIPPED WITH EXPLOSION-PROOF MULTI-GAS METERS, RADIO COMMUNICATION DEVICES, AND WHISTLES.
9. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT AND PERSONNEL NECESSARY TO PERFORM PERMIT-REQUIRED CONFINED SPACE ENTRY AS IN INDICATED IN SPECIFICATIONS SECTION 01065 AND IN COMPLIANCE WITH OSHA 29 CFR 1910.146.
10. PIPE SEGMENTS TO BE INSPECTED SHALL BE COMPLETELY ISOLATED BY DOUBLE IN-LINE CLOSED VALVE AND DEWATERED IN BETWEEN. IF A DOUBLE VALVE SHUTDOWN IS NOT POSSIBLE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING OTHER MEANS FOR A DOUBLE-BLOCK AND BLEED ISOLATION.
11. LOCK-OUT/TAG-OUT PROCEDURES, INCLUDING A SIGN-OFF SHEET. SHALL BE PERFORMED SIMULTANEOUSLY BY THE CONTRACTOR AND THE AUTHORITY. UN-LOCKING/UN-TAGGING SHALL ALSO BE PERFORMED BY ALL OF THE INDIVIDUALS, SIMULTANEOUSLY, THAT SIGNED THE LOCK-OUT/TAG-OUT SHEETS.
12. THE CONTRACTOR SHALL PROVIDE A MEANS TO LOCK OR PREVENT ACCESS TO ALL ISOLATION VALVES. WELDING THE MANHOLE COVER TO THE FRAME SHALL NOT BE CONSIDERED AS A MEANS OF LOCKING THE VALVE BY ITSELF.
13. CONTRACTOR IS REQUIRED TO MAINTAIN FULL ACCESS OPENINGS FOR INTERNAL INSPECTIONS TO ALLOW ENTRY BY THE ONE PROJECT DESIGNATED INTERNAL INSPECTOR, SELECTED BY THE AUTHORITY, TO VIEW THE INSIDE OF THE WATER MAIN. THE ACCESS, OPENINGS SHALL REMAIN COMPLETELY OPEN, AND THE CONTRACTOR SHALL NOT PROCEED WITH THE NEXT TASK, UNTIL THE AUTHORITY HAS SIGNED-OFF THAT THE WORK HAS PASSED INSPECTION.

UTILITY NOTES:

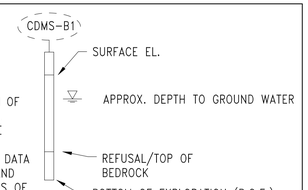
1. ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED USING FIELD SURVEY INFORMATION AND AVAILABLE RECORD INFORMATION. ACTUAL ON THE GROUND FIELD SURVEY PERFORMED BY GREEN INTERNATIONAL AFFILIATES. SEE GENERAL NOTES 1 ON THIS SHEET.
2. RECORD UTILITY INFORMATION FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES ARE APPROXIMATE ONLY AND ACTUAL LOCATIONS SHALL BE CONFIRMED IN THE FIELD, BY THE CONTRACTOR.
3. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE MUST BE NOTIFIED BY THE CONTRACTOR, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, (SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS) PRIOR TO DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORING OR REPAVING.
4. THE LOCATION OF EXISTING PIPES OR OTHER UNDERGROUND STRUCTURES OR PROPERTY LINES ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES OR STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL CALL "DIG SAFE" (1-888-344-7233) 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) PRIOR TO ANY EXCAVATION TO OBTAIN ACCURATE UTILITY LOCATIONS.
5. FOR LOCATION OF UTILITIES NOT COVERED BY THE DIG-SAFE PROGRAM, CONTACT THE FOLLOWING AGENCIES THREE WORKING DAYS PRIOR TO ANY EXCAVATION:
   - BELMONT AND WALTHAM DEPARTMENT OF PUBLIC WORKS, WATER, SEWER, TRAFFIC, AND OTHER AGENCIES RESPONSIBLE FOR LOCATION OF LOCAL UTILITIES.
   - MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION (DCR) PERMIT SECTION: (617) 626-1250, HTTPS://WWW.MASS.GOV/DEPARTMENT-OF-CONSERVATION-AND-RECREATION-PERMITS.
   - MASSACHUSETTS WATER RESOURCES AUTHORITY: (617) 305-5833
   - MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT).
6. ALL STREET LIGHTING AND RESIDENTIAL ELECTRIC LINES CONSIST OF 1 1/2" TO 4" CONDUIT, UNLESS OTHERWISE NOTED ON PLAN VIEW AND MAY NOT BE SHOWN.
7. THE REPLACEMENT OR RELOCATION OF ALL UTILITIES (UNDERGROUND, SURFACE, OR OVERHEAD) SHALL BE COORDINATED WITH THE OWNER OF EACH UTILITY BY THE CONTRACTOR PRIOR TO UNDERTAKING ANY CONSTRUCTION OPERATIONS.
8. SUBSURFACE UTILITY LOCATIONS HAVE BEEN PLOTTED TO MEET UTILITY QUALITY LEVEL C AS DESCRIBED IN ASCE STANDARD 38-02. THE UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON ABOVE-GROUND FIELD OBSERVATION AND EXISTING RECORD INFORMATION RECEIVED FROM UTILITY STAKE-HOLDERS. UTILITY RECORD PLANS WERE REQUESTED AND RECEIVED FROM THE FOLLOWING UTILITY COMPANIES/AGENCIES/MUNICIPALITIES:

NAME	REQUESTED	RECEIVED
AT&T	X	X
ASTOUND, RCN	X	
BELMONT (DPW)	X	X
BELMONT MUNICIPAL LIGHT DEPT.	X	X
CAMBRIDGE WATER DEPARTMENT	X	X
COMCAST	X	X
LIGHTOWER	X	X
MASSDOT	X	X
MBTA RAILROAD	X	X
MCI	X	X
MWRA SEWER	X	X
MWRA WATER	X	X
NATIONAL GRID ELECTRIC	X	X
NATIONAL GRID GAS	X	X
PANAM RAILWAYS	X	
RAYTHEON	X	X
SPECTRA ENERGY TRANSMISSION	X	X
TENNESSEE GAS PIPELINE COMPANY	X	X
VERIZON	X	X
WALTHAM DPW	X	X
WALTHAM WIRES DEPARTMENT	X	X
WESTON DPW	X	X
WESTON FIRE DEPT.	X	X
ZAYO GROUP	X	X

9. INVERTS SHOWN ON PLAN ARE NOT GUARANTEED TO BE ACCURATE. DUE TO THE LIMITATIONS OF FIELD OBSERVATION AND SURVEY TECHNIQUES THE INVERTS ARE SHOWN AS APPROXIMATE ONLY AND SHALL NOT BE WARRANTED TO BE CORRECT. ADDITIONAL FIELD INVESTIGATION IS NECESSARY WHERE ACCURATE MEASUREMENTS ARE REQUIRED FOR DESIGN OF CRITICAL AREAS.
10. THE EXISTING CONDITIONS PLAN IS TO BE USED FOR THE SPECIFIED PROJECT ONLY AND IS NOT WARRANTED TO BE COMPLETE FOR ANY OTHER FUTURE PROJECTS.

BORING NOTES:

1. BORINGS, PROBES, AND VACUUM BORINGS WERE PERFORMED: -NOVEMBER 2017 BY GEOLOGIC EARTH EXPLORATION, INC.
2. SUBSURFACE ARE INDICATED AND ASSUMED ACCURATE AT THE TIME AND LOCATION OF BORING ONLY, CURRENT CONDITIONS MAY VARY FROM THOSE SHOWN IN THE LOGS. GROUNDWATER LEVELS INDICATED ON THE DRAWINGS AND IN THE LOGS ARE THOSE EXISTING AT THE TIME BORINGS WERE MADE AND DO NOT REPRESENT PERMANENT GROUNDWATER LEVELS. DUE TO METHODS FOR BORING EXTRACTION, GROUNDWATER DATA MAY NOT EXIST FOR ALL BORINGS. CONTRACTOR SHALL UTILIZE SITE CONDITIONS AND ADJACENT GROUNDWATER DATA TO INTERPOLATE GROUNDWATER LEVELS. FOR COPIES OF BORINGS LOGS, SEE SPECIFICATIONS APPENDIX E. FOR COPIES OF THE GEOTECHNICAL DATA REPORT, SEE SPECIFICATIONS APPENDIX P.
3. GEOTECHNICAL SUBSURFACE INVESTIGATION INTERPRETIVE REPORT, SEPTEMBER 2023, PREPARED BY CDM SMITH IS INCLUDED IN THE SPECIFICATIONS AS APPENDIX M.



BORING LEGEND

SCALE: NOT TO SCALE

SUMMARY OF UTILITY MAPPING QUALITY LEVELS:

THE FOLLOWING IS A SUMMARY OF THE SURVEY MAPPING LEVELS FOR UTILITIES AS DESCRIBED IN ASCE STANDARD 38-02, "STANDARD GUIDELINE FOR THE DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". THESE GUIDELINES ARE MORE FULLY DESCRIBED IN THE ASCE STANDARD.

UTILITY QUALITY LEVEL A:
PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT IS TYPICALLY USED TO MINIMIZE THE POTENTIAL FOR UTILITY DAMAGE. A PRECISE HORIZONTAL AND VERTICAL LOCATION, AS WELL AS OTHER UTILITY ATTRIBUTES, IS SHOWN ON PLAN DOCUMENTS. ACCURACY IS TYPICALLY SET TO 15-MM VERTICAL AND TO APPLICABLE HORIZONTAL SURVEY AND MAPPING ACCURACY AS DEFINED OR EXPECTED BY THE PROJECT OWNER.

UTILITY QUALITY LEVEL B:
INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES. QUALITY LEVEL B DATA SHOULD BE REPRODUCIBLE BY SURFACE GEOPHYSICS AT ANY POINT OF THEIR DEPICTION. THIS INFORMATION IS SURVEYED TO APPLICABLE TOLERANCES DEFINED BY THE PROJECT AND REDUCED ONTO PLAN DOCUMENTS.

UTILITY QUALITY LEVEL C:
INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

UTILITY QUALITY LEVEL D:
INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS. INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

TEST PIT NOTES:

1. TEST PITS FOR PIPE CONDITION AND CORROSION EVALUATION WERE PERFORMED IN MAY 2021 AND MARCH 2023 BY RJV CONSTRUCTION CORPORATION
2. CORROSION EVALUATION REPORT, APRIL 2023, PREPARED BY CORRTECH INC. IS INCLUDED IN THE SPECIFICATIONS AS APPENDIX G.
3. CONTRACTOR SHALL CONDUCT A MINIMUM OF NINE (9) TEST PITS AS INDICATED ON DRAWINGS TO VERIFY PIPE DEPTH, HORIZONTAL AND VERTICAL ALIGNMENT, ACTUAL OUTSIDE DIAMETER, OVALITY OF THE PIPE AND LOCATION OF EXISTING UTILITIES PRIOR TO ORDERING NEW VAULTS AND MANHOLES AND IN ADVANCE OF SHOP DRAWING SUBMITTALS FOR CONNECTING PIPE, COUPLINGS, FITTINGS AND APPURTENANCES. ADDITIONAL TEST PITS MAY BE NECESSARY TO DETERMINE THE LOCATION OF UTILITIES IN THE VICINITY OF THE WORK. THESE WILL BE PAID FOR UNDER THE TEST PIT ITEM.
4. TEST PITS IDENTIFIED ON AUTHORITY MAINS SHALL BE COMPLETED DURING THE LOW DEMAND PERIOD AND AFTER THE PIPE HAS BEEN ISOLATED.

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 6543
ACCESSION NO. : ----
DATE: AUGUST 2025
SCALE: AS SHOWN

FILE NO. :6543_G-001-G-005
SECTION NO. : W10
DESIGNED BY: RJS
DRAWN BY: TJC
CHECKED BY: NRB
APPROVED BY: RJS

RYAN J STACKPOLE CIVIL No. 53068 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS
8/25/2025

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY : Stantec
45 BLUE SKY DRIVE, 3RD FLOOR
BURLINGTON, MA 01803
www.stantec.com

WESTON AQUEDUCT SUPPLY MAIN 3
REHABILITATION OF WATER MAINS
SECTION W10

GENERAL NOTES

DRAWING NO. G-003

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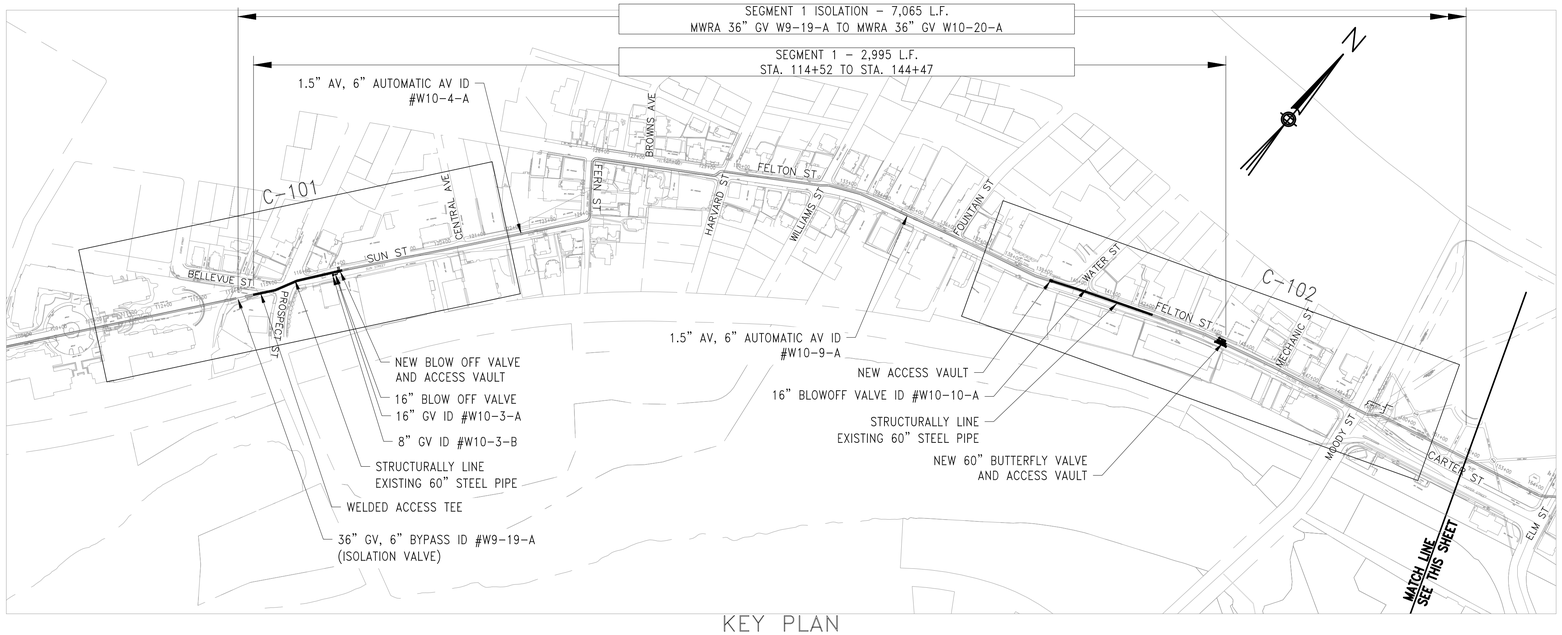
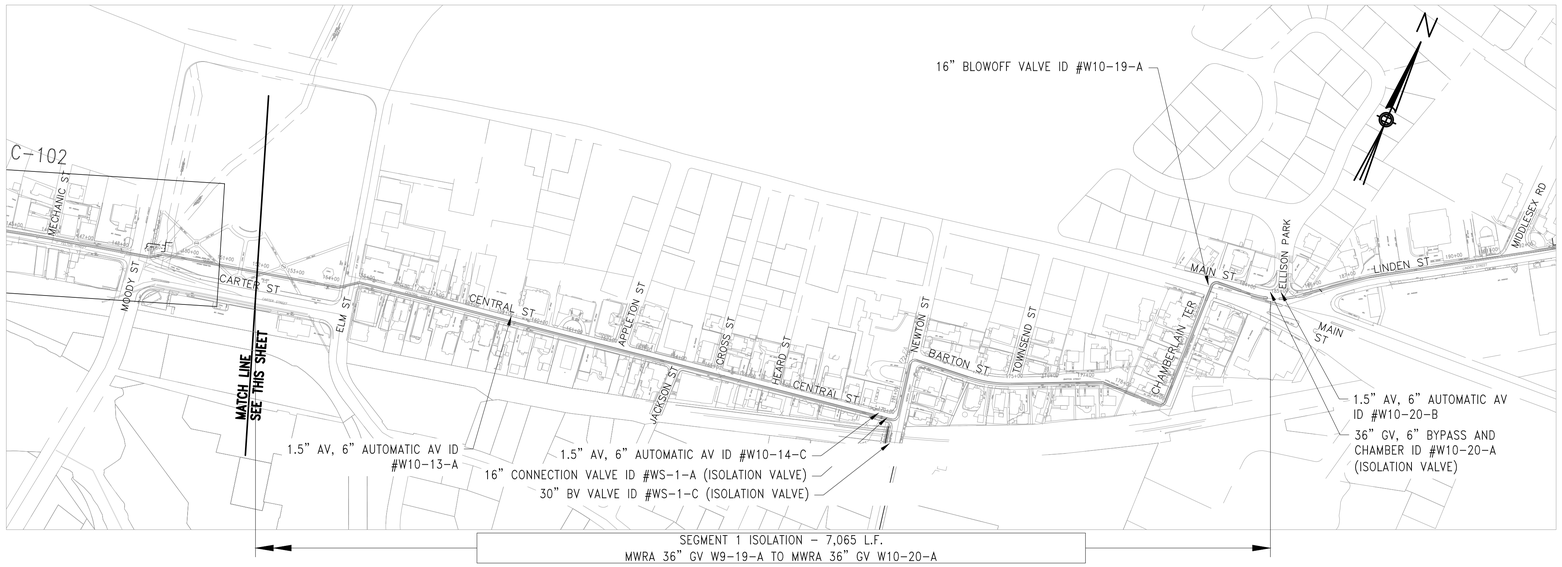
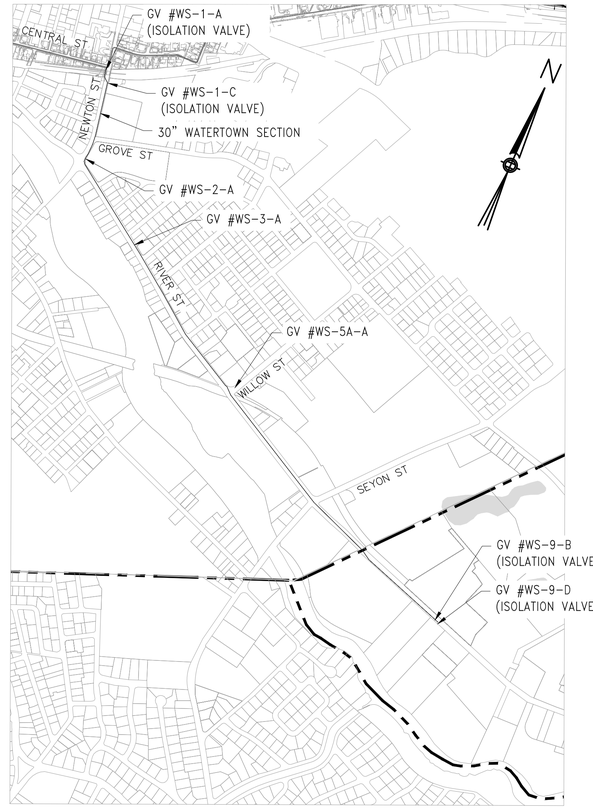


KEY PLAN
SCALE: 1"=200'



KEY PLAN
SCALE: 1"=200'



KEY PLAN
SCALE: 1"=600'

NOTES:

1. DISINFECTION AND CHLORINATION SHALL BE THE ENTIRE LENGTH OF ISOLATIONS (NEW PIPE AND EXISTING) AND IN ACCORDANCE WITH SPECIFICATION SECTION 02675. DISINFECTION AND CHLORINATION SHALL ALSO BE REQUIRED OUTSIDE THE SEGMENT 2 ISOLATION LIMITS FOR THE WATERTOWN BRANCH WS-1-A TO WS-9-D.
2. PROVIDE WATER INJECTION POINTS AT THE ENDPOINTS OF THE DISINFECTION LIMITS. CONTRACTOR SHALL INSTALL A NEW WIP PER AWWA C651. WIP SHALL INCLUDE CORPORATION STOP, VALVE, AND FITTINGS ALLOWING FOR DISINFECTANT INJECTION. LOCATION AND INSTALLATION SHALL BE COORDINATED WITH THE AUTHORITY.
3. PRESSURE TEST UNDER WORKING PRESSURE IS TO BE DONE FOR THE FULL LENGTH OF ISOLATION/SHUTDOWN WITH VISUAL OBSERVATION AT FINAL CLOSURE LOCATIONS. PRESSURE TESTING OF EACH SEGMENT OF NEW PIPE SHALL BE AT 1.5 X WORKING PRESSURE OR AROUND 150 PSI BEFORE FINAL CLOSURE FOR VALVE SITES AND EXTENSIVE PIPE REPLACEMENT SITES. VALVES SHALL BE PRESSURE TESTED ABOVE GROUND PRIOR TO INSTALLATION. PRESSURE TEST SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02704.
4. VISUAL PRESSURE TEST IS NOT REQUIRED IF MAGNETIC PARTICLE TEST RESULTS SHOW COMPLETE WELD FOR NEW PIPE AT ACCESS PIT LOCATIONS WITH NO JOINTS.

0 200 400 1,000 FEET

1"= 200'

NO.	DATE	BY	CHK'D	REVISION

CONTRACT NO. : 6543	FILE NO. :6543_G-001-G-005
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	CHECKED BY: NRB
SCALE: ----	APPROVED BY: RJS

COMMONWEALTH OF MASSACHUSETTS
RYAN J STACKPOLE
CIVIL
REGISTERED PROFESSIONAL ENGINEER
8/25/2025

PREPARED BY : Stantec
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MASSACHUSETTS WATER RESOURCES AUTHORITY

WESTON AQUEDUCT SUPPLY MAIN 3
REHABILITATION OF WATER MAINS
SECTION W10

INDEX MAP – 1

DRAWING NO.
G-004
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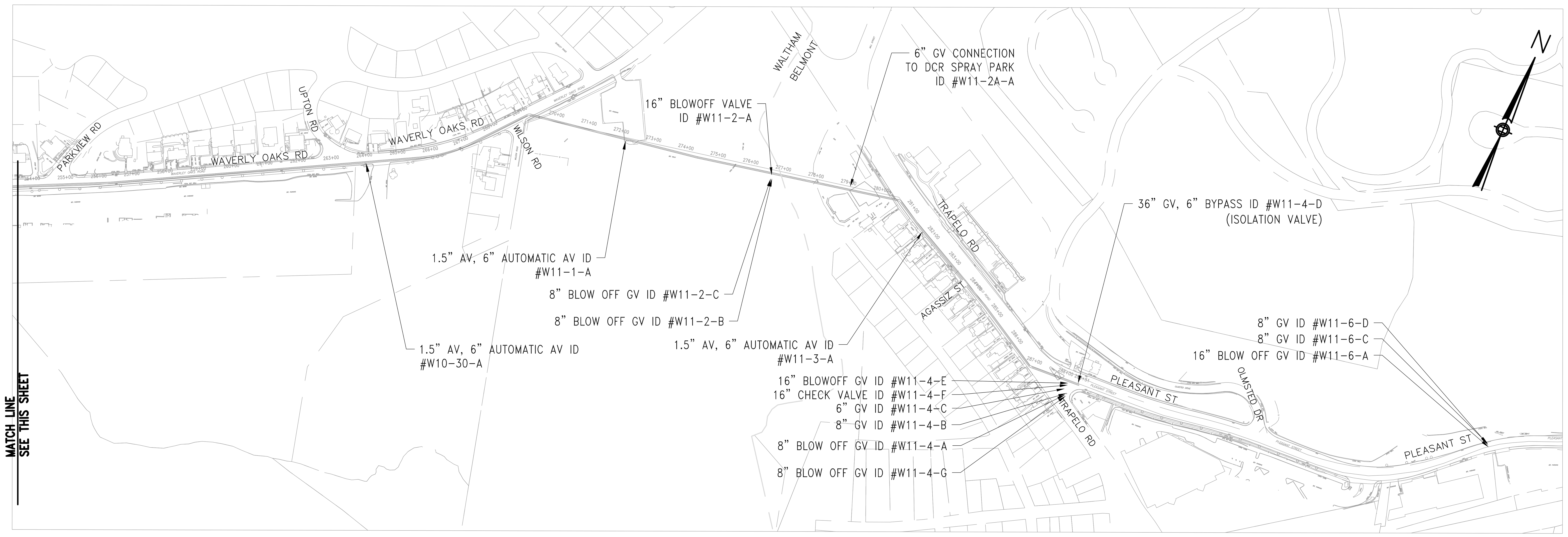
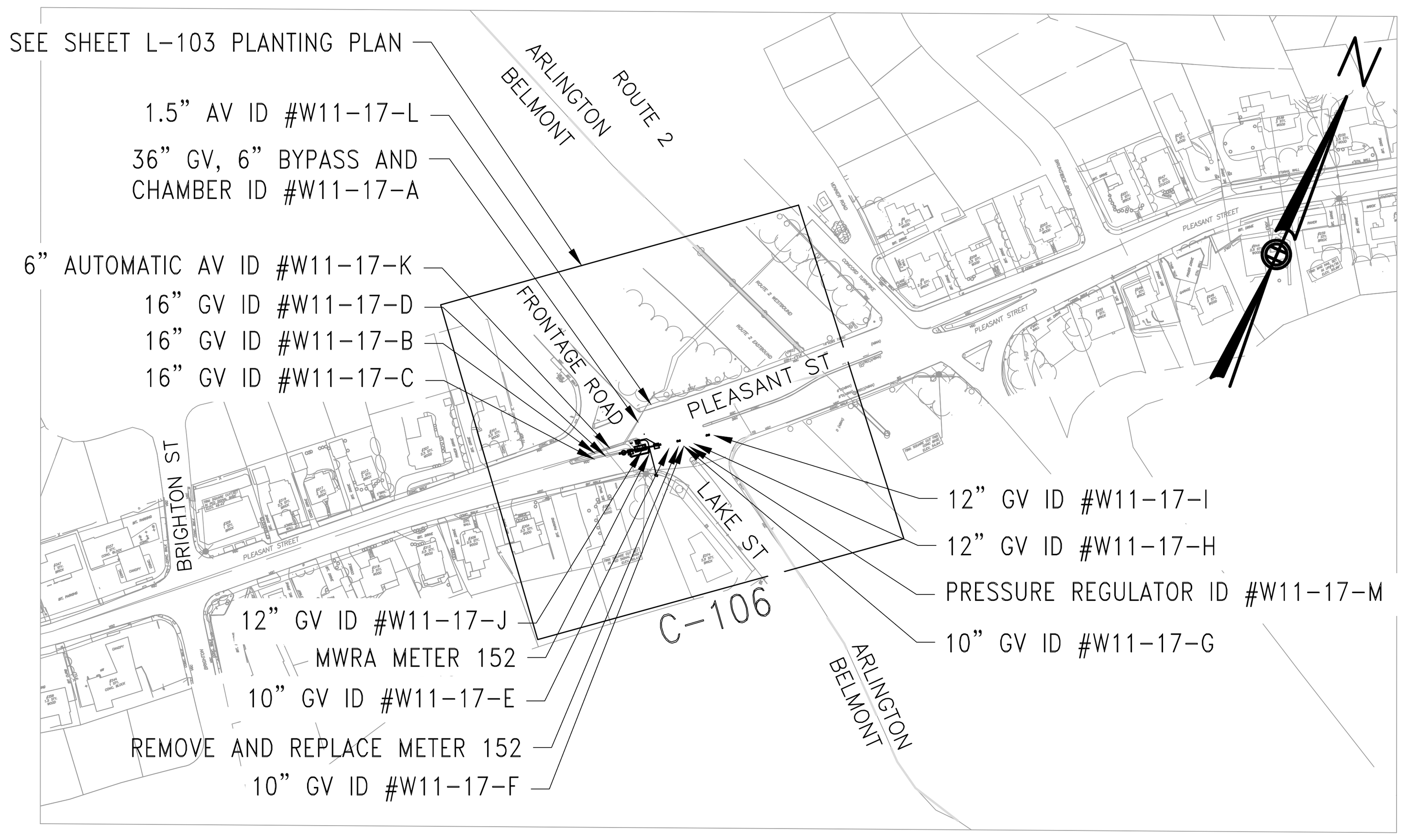
SEGMENT 2 ISOLATION LIMITS – 10,359 L.F.
MWRA 36" GV W10-20-A TO MWRA 36" GV W11-4-D

SEGMENT 2 WORK LIMITS – 2,945 L.F.
STA. 0+00 TO STA. 29+45

ISOLATION LIMITS – 10,359 L.F.
MWRA 36" GV W10-20-A TO MWRA 36" GV W11-4-D



KEY PLAN
SCALE: 1"=200'



NOTES:

1. DISINFECTION AND CHLORINATION SHALL BE THE ENTIRE LENGTH OF ISOLATION (NEW PIPE AND EXISTING) AND IN ACCORDANCE WITH SPECIFICATION SECTION 02675. DISINFECTION AND CHLORINATION SHALL ALSO BE REQUIRED OUTSIDE THE SEGMENT 2 ISOLATION LIMITS FROM W11-4-D TO W11-6-A.
2. PROVIDE WATER INJECTION POINTS AT THE ENDPOINTS OF THE DISINFECTION LIMITS. CONTRACTOR SHALL INSTALL A NEW WIP PER AWWA C651. WIP SHALL INCLUDE CORPORATION STOP, VALVE, AND FITTINGS ALLOWING FOR DISINFECTANT INJECTION. LOCATION AND INSTALLATION SHALL BE COORDINATED WITH THE AUTHORITY.
3. PRESSURE TEST UNDER WORKING PRESSURE IS TO BE DONE FOR THE FULL LENGTH OF ISOLATION/SHUTDOWN WITH VISUAL OBSERVATION AT FINAL CLOSURE LOCATIONS. PRESSURE TESTING OF EACH SEGMENT OF NEW PIPE SHALL BE AT 1.5 X WORKING PRESSURE OR AROUND 150 PSI BEFORE FINAL CLOSURE FOR VALVE SITES AND EXTENSIVE PIPE REPLACEMENT SITES. VALVES SHALL BE PRESSURE TESTED ABOVE GROUND PRIOR TO INSTALLATION. PRESSURE TEST SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02704.
4. VISUAL PRESSURE TEST IS NOT REQUIRED IF MAGNETIC PARTICLE TEST RESULTS SHOW COMPLETE WELD FOR NEW PIPE AT ACCESS PIT LOCATIONS WITH NO JOINTS.

0 200 400 1,000 FEET
1"= 200'

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COMMONWEALTH OF MASSACHUSETTS RYAN J. STACKPOLE CIVIL REGISTERED PROFESSIONAL ENGINEER
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WESTON AQUEDUCT SUPPLY MAIN 3
REHABILITATION OF WATER MAINS
SECTION W10

INDEX MAP – 2

DRAWING NO.
G-005