CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

JUNE 2017

DIRECTOR OF ENGINEERING

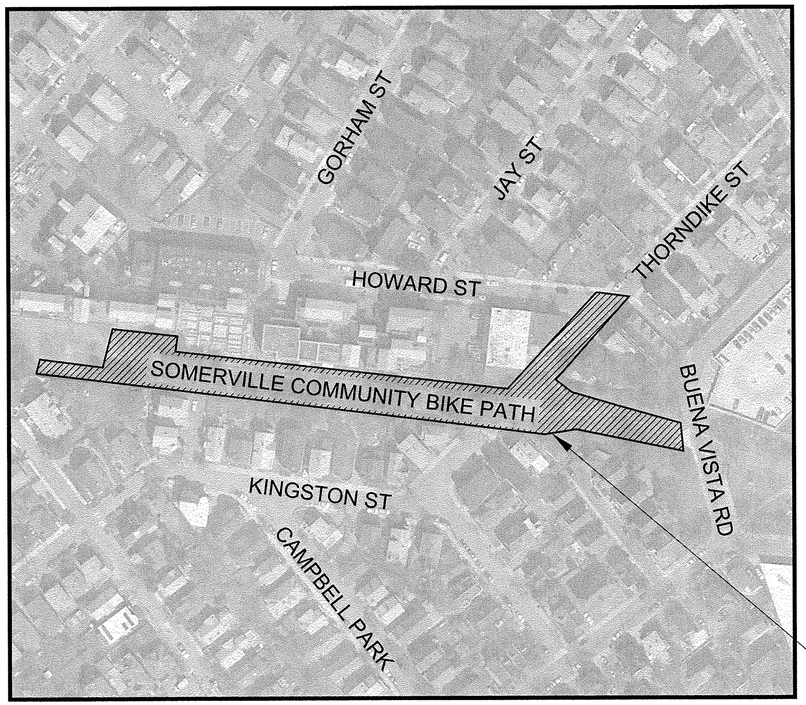
RICHARD E. RAICHE, P.E.

DEPARTMENT OF PUBLIC WORKS COMMISSIONER

STANLEY KOTY

MAYOR

JOSEPH A. CURTATONE



LOCUS PLAN
(N.T.S.)

DRAWING LIST

Sheet Number	Sheet Title
--	COVER
G-1	GENERAL NOTES
CG-1	DETAILS I
CG-2	DETAILS II
CG-3	RETAINING WALL DETAILS
C-1	SITE PLAN AND PROFILE STA 0+00 TO STA 4+00
C-2	SITE PLAN AND PROFILE STA 4+00 TO STA 7+44
C-3	RETAINING WALL SITE PLAN STA 100+00 TO STA 105+50
C-4	RETAINING WALL SITE PLAN STA 105+50 TO BUENA VISTA ROAD
TMP-1	TRAFFIC MANAGEMENT DETAILS
TMP-2	TRAFFIC MANAGEMENT PLAN
TMP-3	DETOUR PLAN

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45463
REGISTERED PROFESSIONAL ENGINEER
6/8/17

GENERAL NOTES

1. INFORMATION AS SHOWN ON THE DRAWINGS RELATING TO MATERIALS, CONDITIONS AND/OR LOCATIONS OF EXISTING PIPES, CABLES, CONDUITS, STRUCTURES EXPECTED, AND OVER/UNDER CROSSING INFORMATION HAS BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION INCLUDING FIELD SURVEY, RECORD MAPS, UTILITY RECORD DRAWINGS, AND TEST PIT INVESTIGATIONS. THE OWNER TOGETHER WITH ITS AGENTS DOES NOT IMPLY OR GUARANTEE THE DATA AND INFORMATION IN CONNECTION WITH THE UNDERGROUND PIPES, CABLES, CONDUITS, STRUCTURES AND SUCH OTHER PARTS AS TO THEIR COMPLETENESS NOR THEIR LOCATIONS AS INDICATED. THE CONTRACTOR SHALL CONTACT UTILITY OWNERS AND REQUEST MARKING LOCATION OF ALL THEIR LINES IN THE WORK AREAS. PRIOR TO EXCAVATION THE CONTRACTOR SHALL ASSUME THAT THERE ARE EXISTING WATER, GAS AND OTHER UTILITY CONNECTIONS TO EACH AND EVERY BUILDING EN ROUTE WHETHER THEY APPEAR ON THE PLANS OR NOT. ANY EXPENSE AND/OR DELAY OCCASIONED BY THESE UTILITIES AND STRUCTURES OR DAMAGE THERETO, INCLUDING THOSE NOT SHOWN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT NO ADDITIONAL EXPENSE TO THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. BASE MAP INFORMATION WAS PREPARED BY DGT SURVEY GROUP, BOSTON, MA BASED ON A COMPOSITE OF FIELD EVIDENCE COLLECTED ON AUGUST 12, 13, 14, AND 29, 2013 AND UPDATED JANUARY 2017. AVAILABLE RECORD INFORMATION AND THEIR LOCATIONS ARE ONLY APPROXIMATE. COORDINATES, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983, (2011), EPOCH 2010.00, BASED ON THE KEYNET GPS VIRTUAL REFERENCE SYSTEM (VRS). ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) BASED ON THE KEYNET GPS VIRTUAL REFERENCE SYSTEM (VRS) NETWORK.
3. THE MBTA RED LINE TUNNEL AND SLURRY WALL EXTENTS SHOWN IN PLAN AND PROFILE WERE DRAWN FROM THE MBTA RED LINE EXTENSION DESIGN DRAWING DATED 02/07/1980 BY SVERDRUP AND PARCEL AND ASSOCIATES INC, TITLED "MASSACHUSETTS BAY TRANSPORTATION AUTHORITY ,RED LINE EXTENSION NW DAVIS TO ALEWIFE, CONTRACT NO. 091-509 PART B., TUNNEL - CAMPBELL PARK PL. TO HARVEY ST. PLAN AND PROFILE OUTBOUND STA. 278+00 TO STA 280+70." THIS DRAWING IS ATTACHED AS APPENDIX D TO THE CONTRACT SPECIFICATIONS.
   - 3.1. THE MBTA RED LINE EXTENSION NW DAVIS TO ALEWIFE DRAWINGS ARE IN THE VERTICAL DATUM MBTA REDLINE (BOSTON). THE MBTA RED LINE TUNNEL AND SLURRY WALL ELEVATIONS WERE CONVERTED TO NAVD 88 USING THE CONVERSION 0.00 EL NAVD 88 = -106.677 EL MBTA RED LINE AS NOTED IN THE MASS HIGHWAY SURVEY MANUAL RELATION OF DATUM PLANES DATED SEPTEMBER 1996.
4. THE LOCATION OF ALL SUBSURFACE STRUCTURES AND UTILITIES SHALL BE VERIFIED THROUGH THE APPROPRIATE AGENCY, AND THE DIG-SAFE CALL CENTER AT 1-800-DIGSAFE (1-888-344-7233) SHALL BE CONTACTED AT LEAST 72 HOURS BEFORE ANY EXCAVATION.
5. UNLESS OTHERWISE INDICATED, PROPERTY LINES AND LAYOUT LINES SHOWN WERE TAKEN FROM CITY ASSESSOR MAPS AND GIS AND ARE APPROXIMATE.
6. PRIOR TO BEGINNING WORK THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS INFORMATION AND REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL CONDITIONS TO THE ENGINEER.
7. ALL STATIONING IS TO CENTER OF STRUCTURE. DISTANCES OF "LEFT" (L) "RIGHT" (R) ON THE PLAN REFER TO THE ORIENTATION RELATIVE TO THE STATION LINE WHEN FACING THE POSITIVE DIRECTION. THE STATIONS AS SHOWN FOR SEWERS AND DRAINS ARE APPROXIMATE. THE EXACT STATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND RECORDED ON THE RECORD DRAWINGS.
8. THE CONTRACTOR SHALL TEMPORARILY MATCH EXISTING GRADES AND CONDITIONS WITHIN THE CONSTRUCTION AREA UNTIL FINAL RESTORATION IS COMPLETE.
9. ALL MATERIAL THICKNESSES NOTED ON THE DRAWINGS REFER TO DEPTH AFTER COMPACTION, UNLESS OTHERWISE NOTED. CONTRACTOR TO REUSE EXISTING EXCAVATED MATERIAL AS BACKFILL TO THE MAXIMUM EXTENT FEASIBLE IN ACCORDANCE WITH SECTION 02210 OF THE SPECIFICATIONS.
10. EACH LAYER OF MATERIAL USED FOR BACKFILL, EMBANKMENT, ROADBED OR FOUNDATIONS FOR STRUCTURES SHALL BE COMPACTED UNTIL THE DRY DENSITY OF EACH LAYER IS AT LEAST THE DRY DENSITY ACHIEVED BY THE ASTM D 1557 TEST FOR THAT SOIL REQUIRED BY SPECIFICATION SECTION 02210 - EARTH EXCAVATION, BACKFILL, FILL AND GRADING. REFER TO UTILITY TRENCH DETAIL ON SHEET CG-1 FOR ADDITIONAL REQUIREMENTS.
11. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS, RUBBISH, EXCAVATED MATERIAL AND DEBRIS, UNLESS OTHERWISE NOTED, AND IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL DISPOSAL PERMITS AT NO ADDITIONAL COST TO THE OWNER.
12. CONSTRUCTION TRAILER(S), STOCKPILING LOCATIONS, AND EQUIPMENT STORAGE AREAS ARE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE COORDINATED WITH THE OWNER.
13. THE CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENT CONTROL DEVICES AND SHALL NOT COMMENCE CONSTRUCTION UNTIL THESE MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER.
14. THE CONTRACTOR SHALL PROTECT ALL TRAVELED WAYS FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
15. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY SEWER, WATER OR DRAIN PIPING, OR STRUCTURE HE OR SHE DAMAGES. ALL COSTS OF REPLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. INTERMEDIATE COUPLINGS SHALL BE ALLOWED ON A TEMPORARY BASIS ONLY.
16. CONTROLLED DENSITY FILL (CDF) SHALL BE REQUIRED FOR ALL UTILITY CROSSINGS WITH CLEARANCE LESS THAN 12 INCHES.
17. WHERE EXISTING GAS, ELECTRIC AND TELECOM UTILITIES CROSS THE PROPOSED TRENCH LIMITS, CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER TO SUPPORT AND BE RESPONSIBLE FOR COSTS AND FEES. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THE WORK IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS.
18. EXISTING UTILITY POLES THAT FALL WITHIN 5 FEET OF THE PROPOSED EDGE OF TRENCH SHALL BE SUPPORTED BY THE UTILITY OWNER DURING EXCAVATION OF THE TRENCH. CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER TO SUPPORT UTILITY POLE AND BE RESPONSIBLE FOR COSTS AND FEES. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING THE EXISTING UTILITY IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS.
19. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER, OR APPURTENANCE THERETO WHICH WOULD PERMIT THE PASSAGE OF ANY WASTEWATER OR POLLUTED WATER SUPPLY.
20. ALL EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING AND TEMPORARY PAVING OR BY COVERING WITH STEEL PLATES WHEN APPROVED BY THE OWNER. REFER TO PAVING DETAILS ON SHEET CG-2 FOR PAVING REQUIREMENTS.
21. ALL DISTURBED TRAFFIC MARKINGS ARE TO BE REPLACED BY THE CONTRACTOR AND SHALL MATCH EXISTING.
22. REFER TO SECTION 01040 FOR COMMUNITY NOTIFICATION AND COORDINATION REQUIREMENTS FOR THE CITY OF SOMERVILLE AND CITY OF CAMBRIDGE PROPERTIES.
23. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF PEDESTRIANS AND EMERGENCY VEHICLES AT ALL TIMES IN AREAS UNDER CONSTRUCTION.
24. CONTRACTOR IS REQUIRED TO COORDINATE WITH THE CITY OF SOMERVILLE AND CITY OF CAMBRIDGE POLICE AND FIRE DEPARTMENTS IN ORDER TO MAINTAIN EMERGENCY VEHICLE ACCESS THROUGHOUT PROJECT DURATION.
25. THE CONTRACTOR SHALL NOT BLOCK ACCESS TO THE STREET AND PRIVATE PARKING IN THE VICINITY OF THE LIMITS OF CONSTRUCTION AFTER WORK HOURS AND ON WEEKENDS.
26. THE CONTRACTOR SHALL NOT BE PERMITTED TO STARTUP OR OPERATE EQUIPMENT BEFORE OR AFTER ESTABLISHED WORKING HOURS OF 7:00 AM TO 4:00 PM, MONDAY THROUGH FRIDAY WITHOUT WRITTEN APPROVAL OF THE OWNER, UNLESS NOTED OTHERWISE.
27. UPON COMPLETION OF THE WORK, ALL DISTURBED AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. TRENCH RESTORATION IN SOMERVILLE SHALL MEET THE REQUIREMENTS OF THE SOMERVILLE DEPARTMENT OF PUBLIC WORKS.
28. THE OWNER RESERVES THE RIGHT TO ELIMINATE ANY PORTION OF THE CONTRACT AT ANY TIME. FINAL PAYMENT WILL BE MADE BASED UPON ACTUAL QUANTITIES AT THE BID UNIT PRICE. NO CLAIM WILL BE ALLOWED FOR ADDITIONAL COMPENSATION OR ANTICIPATED PROFIT ON ITEMS THAT HAVE BEEN DECREASED OR ELIMINATED.
29. REFER TO SHEET TMP-1 FOR TRAFFIC MANAGEMENT NOTES AND REQUIREMENTS.

EXISTING LEGEND

	ASPH	ASPHALT
	BC	BOTTOM OF CURB
	BRK	BRICK
	BW	BOTTOM OF WALL
⊞	CBN	CATCH BASIN
	CBNCI	CATCH BASIN CURB INLET
	CLF	CHAIN LINK FENCE
	CONC	CONCRETE
	DMH	DRAIN MANHOLE
	EBOX	ELECTRICAL BOX
	EHH	ELECTRIC HANDHOLE
	GG	GAS GATE
	GRAN	GRANITE
	HCR	HANDICAPPED RAMP
	HYD	HYDRANT
	I	INVERT
	MBTA	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
	MLP	METAL LIGHT POLE
	MTL	METAL
	PBL	PULLBOX LIGHT
	R=	RIM
	RET	RETAINING WALL
	S	SIGN
	SMH	SEWER MANHOLE
	STP	STANDPIPE
	STY	STORY
	T	TREE (X" DIAMETER)
	TBM	TEMPORARY BENCHMARK
	TC	TOP OF CURB
	TR	TRASH CAN
	TW	TOP OF WALL
	TYP	TYPICAL
	UMH	UNKNOWN MANHOLE
	UP	UTILITY POLE
	WD	WOOD
	WG	WATER GATE
	WMH	WATER MANHOLE
— 20 —		CONTOUR (1-FT INTERVAL)

PROPOSED LEGEND

	MANHOLE
	PIPE
	COUPLING OR SOLID SLEEVE
	CAP OR BULKHEAD
	CATCH BASIN
	CHAIN LINK FENCE
	TEST PIT

GEOTECHNICAL NOTES

1. BORING B-1 WAS ADVANCED AND COMPLETED AS AN OBSERVATION WELL BY NEW ENGLAND BORING CONTRACTORS ON 2/2/17. A COPY OF THE BORING LOG IS PROVIDED AS AN APPENDIX TO THE SPECIFICATIONS FOR INFORMATIONAL PURPOSES ONLY.
2. BORINGS WERE PERFORMED FOR THE PURPOSE OF DESIGN AND INDICATE CONDITIONS AT THEIR LOCATION ONLY. SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE SHOWN IN THE LOGS.
3. GROUNDWATER LEVELS INDICATED ON THE LOGS WERE OBSERVED AT THE TIMES INDICATED. GROUNDWATER LEVELS ARE KNOWN TO FLUCTUATE DUE TO LOCAL AND REGIONAL FACTORS INCLUDING, BUT NOT LIMITED TO, PRECIPITATION EVENTS, SITE TOPOGRAPHY, SEASONAL CHANGES, WELL PUMPING AND PERIODS OF WET OR DRY WEATHER.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. STOCKPILED MATERIALS SHALL BE LOCATED AND MAINTAINED SO AS TO MINIMIZE THE POTENTIAL FOR EROSION.
2. SILT SACKS SHALL BE FURNISHED, INSTALLED AND MAINTAINED AT ALL CATCH BASINS WITHIN THE PROJECT AREA AND ALONG THE LIMIT OF EXCAVATION. THROUGHOUT PROJECT DURATION, DEBRIS COLLECTED IN SILT SACKS SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE ON A WEEKLY BASIS OR MORE FREQUENTLY IF NECESSARY TO MAINTAIN FLOW THROUGH THE SILK SACKS. UPON COMPLETION OF THE PROJECT AND AS DIRECTED BY THE ENGINEER, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING OF THE SILT SACKS AND DEBRIS OFF-SITE.
3. THE CONTRACTOR SHALL INSTALL SOIL EROSION/SEDIMENT CONTROL WITHIN THE PROJECT AREA AND ALONG THE LIMIT OF EXCAVATION. THROUGHOUT THE PROJECT THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SOIL EROSION/SEDIMENT CONTROL MATERIALS PER SECTION 01568 OR AS DIRECTED BY THE ENGINEER.
4. CONTRACTOR SHALL STOCKPILE SUFFICIENT SOIL EROSION AND SEDIMENT CONTROL MATERIALS ON SITE TO REPAIR ANY AND ALL DAMAGE TO SOIL EROSION AND SEDIMENT CONTROL MEASURES.

STORM DRAIN INSTALLATION NOTES

1. DEWATERING MAY BE REQUIRED DURING CONSTRUCTION. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF SPECIFICATION SECTION 02210, SECTION 01500, SECTION 02140 AND ALL DEWATERING PERMITS. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER FOR APPROVAL AS SPECIFIED. DISCHARGE TO CITY DRAIN SYSTEM SHALL REQUIRE SUBMISSION OF A MWRA DEWATERING DISCHARGE PERMIT. REFER TO SECTIONS 01060 & 02140 OF THE SPECIFICATIONS.
2. DIVERSION, BYPASS, AND CONTROL OF SANITARY SEWER, STORM DRAIN AND DEWATERING FLOWS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR'S INTENDED DIVERSION, BYPASS, AND CONTROL AND DEWATERING PLANS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO ANY EXCAVATION. WHEN PERFORMING DEWATERING, THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF SECTION 02210, SECTION 01500, SECTION 02140, AND ALL DEWATERING PERMITS.
3. THE CONTRACTOR SHALL MATCH EXISTING GRADING. ANY CHANGES IN GRADING, WHICH WOULD RESULT IN AN INCREASE OF STORMWATER RUNOFF TO THE CITY OF CAMBRIDGE SYSTEM, SHALL NOT BE PERMITTED.
4. WHERE THE STORM DRAIN MUST CROSS BELOW THE EXISTING EVERSOURCE TRANSMISSION MAIN AND SPARE, THE CONTRACTOR SHALL BACKFILL WITH CONTROL DENSITY FILL (CDF) PER THE TYPICAL UTILITY CROSSING DETAIL ON SHEET CG-2.
   - 4.1. THE CONTRACTOR SHALL HAVE AN EVERSOURCE CONDUIT INSPECTOR ON SITE FOR THE TRANSMISSION MAIN CROSSING AND HAVE APPROVAL FROM THE CONDUIT INSPECTOR TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EVERSOURCE COORDINATION AND SHALL PROVIDE 3 DAYS MINIMUM NOTICE TO THE EVERSOURCE CONDUIT INSPECTOR, MATT VIENS, WHO CAN BE REACHED DIRECTLY VIA TELEPHONE, 401-473-1508. IF MATT VIENS IS UNAVAILABLE, CONTACT THE CONDUIT INSPECTION LINE AT 617-541-7071 AND LEAVE A VOICEMAIL.
5. FOR ANY WORK IN THE MBTA RED LINE RIGHT-OF-WAY, THE SOMERVILLE COMMUNITY BIKE PATH, REFER TO SECTIONS 01060, 02051 AND 02210. ANY WORK THAT IMPACTS OR EXPOSES THE MBTA TUNNEL OR SLURRY WALLS, INCLUDING TEST PIT ACTIVITIES AND STORM DRAIN INSTALLATION, SHALL BE PERFORMED IN THE PRESENCE OF MBTA ENGINEERS AND THE CONTRACTOR SHALL COORDINATE AND PAY FOR THE PRESENCE OF MBTA ENGINEERS ON SITE. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE MBTA LICENSE ATTACHED AS AN APPENDIX TO THE SPECIFICATIONS.
6. CONTRACTOR SHALL CONNECT TO EXIST. 8" VC DRAIN AT STA. 6+12. PRIOR TO CONNECTION TO EXIST. 8" VC DRAIN, CONTRACTOR SHALL VERIFY IF CIPP LINING THE 8" VC DRAIN IS REQUIRED. CONTRACTOR SHALL CLEAN AND CCTV THE EXIST. 8" VC DRAIN FROM STA. 6+12 TO STA. 7+44. CCTV INSPECTION OF THE 8" VC DRAIN SHALL BE SUBMITTED TO THE ENGINEER AND THE OWNER. THE CONTRACTOR SHALL NOT PROCEED WITH CIPP LINING UNTIL WRITTEN APPROVAL OF THE WORK IS GIVEN BY THE OWNER. FOR CIPP LINING REQUIREMENTS REFER TO SECTION 02767.
   - 6.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING DEFECTS AND PIPE SECTIONS THAT CANNOT BE LINED AS PART OF THE PRE-CIPP LINING INSPECTION.
   - 6.2. THE CONTRACTOR WILL ONLY HAVE ABOVE GRADE ACCESS TO THE EXISTING 8" VC STORM DRAIN AT THE COUPLING CONNECTION AT STA. 6+12 . ACCESS TO THE DOWNSTREAM SEGMENT OF EXISTING 8" VC STORM DRAIN SHALL BE VIA MANHOLE ACCESS TO THE EXISTING 4'-4" X 4'-0" TANNERY BROOK DRAIN IDENTIFIED ON THE DRAWINGS.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45463
REGISTERED PROFESSIONAL ENGINEER
6/12/17

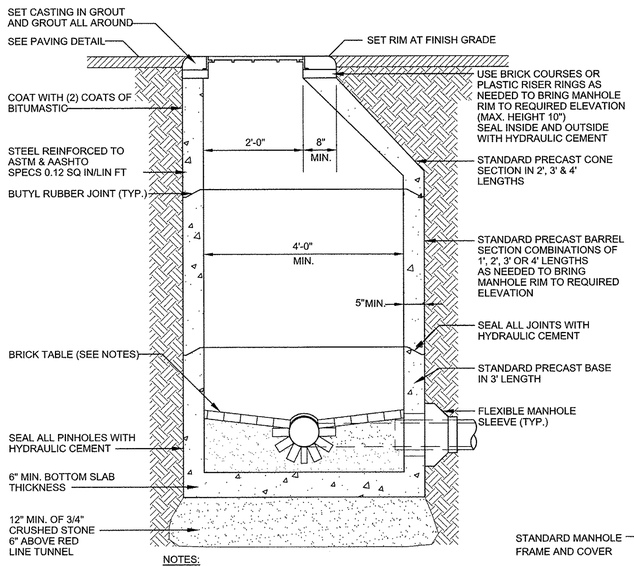
REVISIONS

DATE	JUNE 2017
PROJECT NO.	20171752.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	G-Cover and Notes

GENERAL NOTES

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
G-1

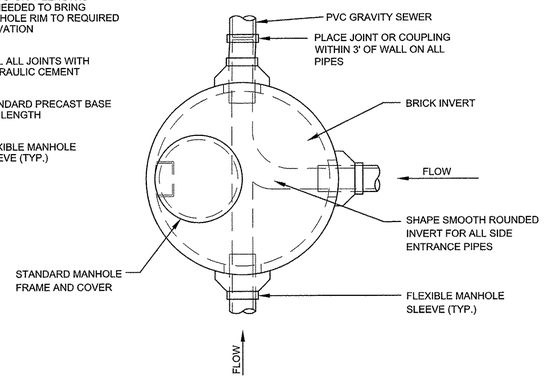


NOTES:

1. INNER EDGE OF BRICK TABLE TO BE AT ELEVATION OF CROWN OF TOP OF PIPE. TABLE TO SLOPE AT 1" PER 1' TO INSIDE OF MANHOLE BASE.
2. TYPICAL SANITARY MANHOLE TO BE 4 FOOT DIAMETER.

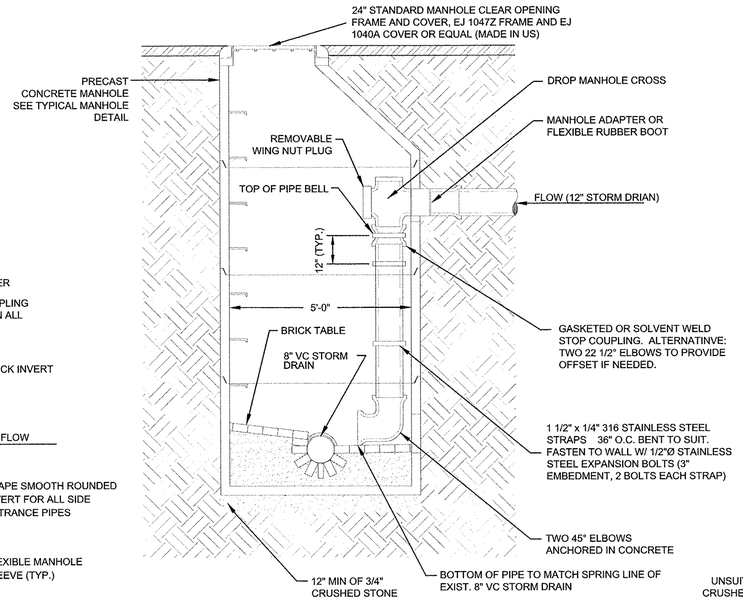
TYPICAL MANHOLE (ELEVATION)

SCALE: N.T.S.



TYPICAL MANHOLE (PLAN)

SCALE: N.T.S.



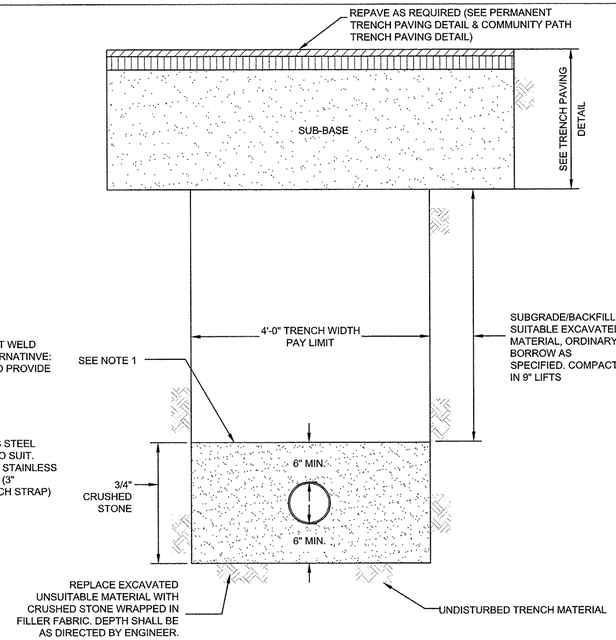
ELEVATION

NOTES:

1. DROP MANHOLES SHALL BE USED WHEN ENTRANCE PIPE INVERTS ARE 1'-6" OR GREATER THAN MANHOLE INVERT.

5'Ø DROP MANHOLE (INTERNAL)

SCALE: N.T.S.



NOTES:

1. BEDDING SHALL BE WRAPPED WITH FILTER FABRIC IN LOCATIONS WHERE EXISTING SOIL IS CONSIDERED UNSUITABLE BY THE ENGINEER.

UTILITY TRENCH DETAIL

SCALE: N.T.S.

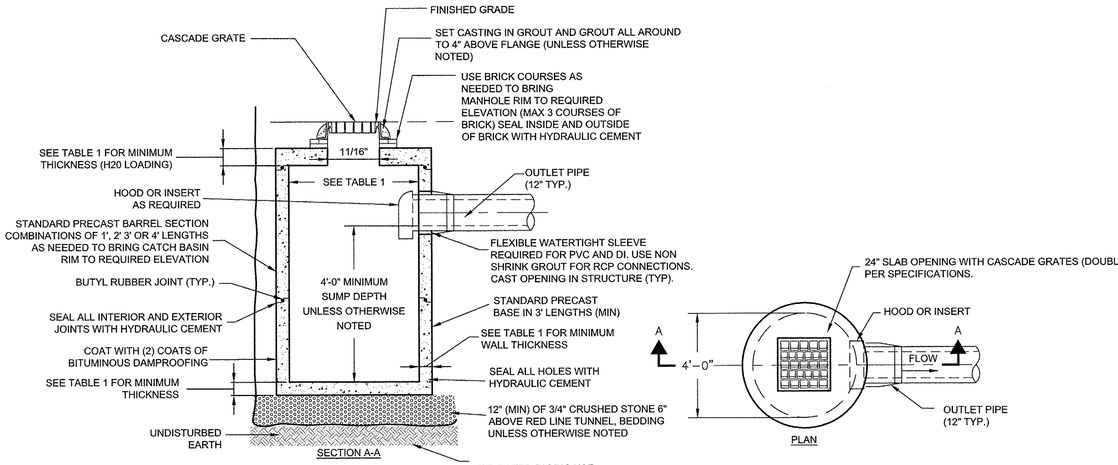
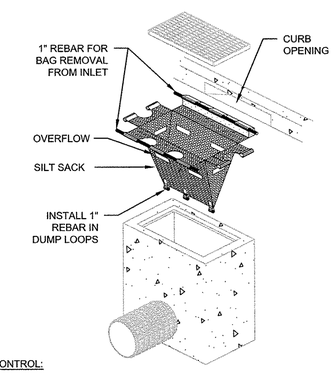


	TABLE 1: PRECAST SIZE TABLE			
	MANHOLE WIDTH	MINIMUM WALL THICKNESS		
	Ø (I.D.)	TOP	BOTTOM	SIDE
TYPE 1	4'-0"	8"	6"	5"

I.D. = INSIDE DIMENSION

SINGLE GRATE CATCH BASIN

SCALE: N.T.S.

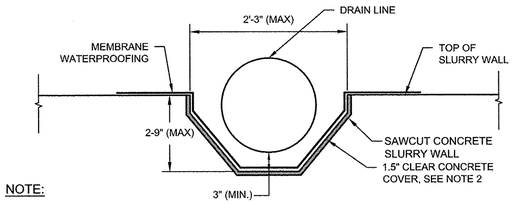


NOTES FOR EROSION CONTROL:

1. CONTRACTOR SHALL REMOVE SEDIMENT AS NECESSARY TO MAINTAIN LEVEL BELOW OVERFLOW HOLES IN SILT SACK.
2. SILT SACK SHALL BE USED ON ALL EXISTING CATCH BASINS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SEDIMENTATION BARRIERS THROUGHOUT THE DURATION OF THE PROJECT.
4. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF SEDIMENT AS REQUIRED.
5. CONTRACTOR SHALL REMOVE SILT SACKS AND STRAW WATTLES AND LEGALLY DISPOSE OF THEM OFF-SITE, UPON COMPLETION OF THE PROJECT AND AS REQUIRED.

TYPICAL SILT SACK DETAIL

SCALE: N.T.S.

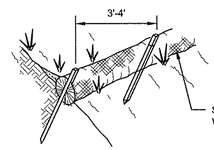


NOTE:

1. WHERE THE PROPOSED DRAINAGE LINE IMPACTS THE EXISTING CONCRETE SLURRY WALL THE SLURRY WALL SHALL BE NOTCHED AS NECESSARY TO INSTALL THE DRAINAGE.
2. CONTRACTOR SHALL SAW CUT EXISTING SLURRY WALL AS SHOWN AND ROUGHEN RESULTING CONCRETE SURFACE TO A MINIMUM 0.25" AMPLITUDE BEFORE APPLYING A 1.5" THICK HIGH EARLY STRENGTH REPAIR MORTAR AND BONDING AGENT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
3. INSTALL MEMBRANE WATERPROOFING ON ALL EXPOSED SURFACES OF THE CONCRETE SLURRY WALL. THE MEMBRANE WATERPROOFING SHALL EXTEND A MINIMUM OF 12 INCHES BEYOND THE EXISTING UNDISTURBED WATERPROOFING.
4. INSTALL THE DRAINAGE PIPE WITH SAND BORROW BETWEEN THE PIPE AND SLURRY WALL.
5. ANY WORK THAT IMPACTS OR EXPOSES THE MBTA TUNNEL OR SLURRY WALLS SHALL BE PERFORMED IN THE PRESENCE OF MBTA ENGINEERS. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THIS DETAIL, CONDITIONS OF THE LICENSE AGREEMENT, ATTACHED AS AN APPENDIX TO THE SPECIFICATIONS, AND AS DIRECTED BY THE MBTA. REFER TO STORM DRAIN INSTALLATION NOTE 4 ON SHEET G-1.

SLURRY WALL AND DRAIN CROSSING DETAIL

SCALE: N.T.S.



NOTES FOR EROSION CONTROL:

1. STRAW WATTLE INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" DEEP, DUG ON CONTOUR. RUNOFF SHALL NOT BE ALLOWED TO RUN UNDER OR AROUND WATTLE.
2. STRAW WATTLES SHALL BE PLACED ALONG SLOPE CONTOURS.
3. ADJACENT WATTLES SHALL TIGHTLY ABUT.

TYPICAL STRAW WATTLE DETAIL

SCALE: N.T.S.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS MICHAEL R. CUNNINGHAM CIVIL No. 45463 REGISTERED PROFESSIONAL ENGINEER 6/8/17

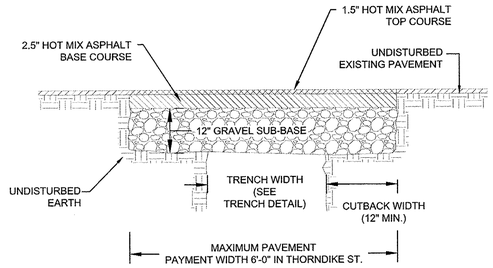
REVISIONS

DATE	JUNE 2017
PROJECT NO.	20171752.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	C-Details

DETAILS I

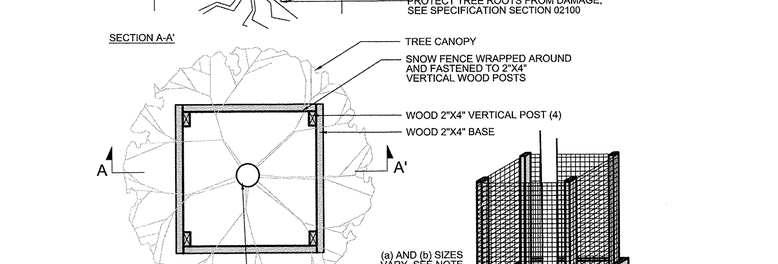
CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
CG-1



PERMANENT TRENCH PAVING DETAIL (THORNDIKE ST)

SCALE: N.T.S.



NOTES:

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING PAVEMENT ON THE COMMUNITY PATH AND WITHIN THE LIMITS OF DRAIN INSTALLATION. WITHIN THE TRENCH AND CUTBACK LIMITS THE CONTRACTOR SHALL PROVIDE 12" COMPACTED GRAVEL SUBBASE. THE CONTRACTOR SHALL MAINTAIN THE EXISTING SUBBASE MATERIAL OUTSIDE THE CUTBACK LIMITS, AND SHALL PROVIDE ADDITIONAL GRAVEL SUBBASE AS REQUIRED FOR FINE GRADING. CONTRACTOR SHALL PROVIDE 2.5" HOT MIX ASPHALT BINDER COURSE TO MATCH EXISTING ASPHALT GRADE. CONTRACTOR SHALL THEN PROVIDE CONTINUOUS 1.5" HOT MIX ASPHALT TOP COURSE OVERLAY FROM THE CITY LIMIT TO BUENA VISTA ROAD AS SHOWN ON SHEETS C-3 AND C-4.
2. CONTRACTOR SHALL MATCH EXISTING GRADE WITH A MAXIMUM SLOPE OF 2%.

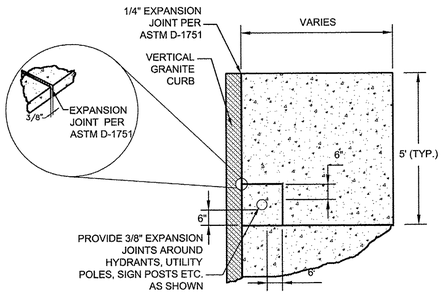
COMMUNITY PATH TRENCH PAVING DETAIL

SCALE: N.T.S.

NOTES:
1. TREE BOX RESTS ON EXISTING GRADE AND IS NOT ANCHORED TO THE GROUND.
2. SIZE OF TREE PROTECTION BOX VARIES BASED UPON TRUNK SIZE AND LIMITS OF SURFACE ROOTS. FINAL SIZE TO BE DETERMINED BY CITY ARBORIST IN FIELD DURING PRE-CONSTRUCTION SITE WALK.
3. TREE PROTECTION SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES AND MAINTAINED IN GOOD CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
4. SUBMIT SHOP DRAWINGS SHOWING ALL MATERIALS AND ATTACHMENTS.
5. TREES HAVING A CALIPER UNDER 20" DIAMETER AT BREAST HEIGHT (DBH) SHALL BE WRAPPED WITH TREE PROTECTION LUMBER. "SPECIAL MATURE TREES", THOSE TREES WITH A CALIPER OVER 20" DBH, SHALL BE WRAPPED WITH TREE PROTECTION LUMBER AND PROTECTED WITH A TREE BOX.

TREE PROTECTION

SCALE: N.T.S.

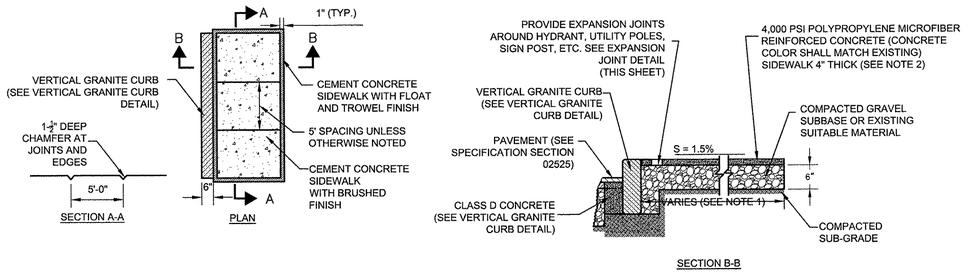


NOTES:

1. EXPANSION JOINTS SHALL BE INSTALLED AT BACK OF SIDEWALK STEPS, WALLS, BUILDINGS, AND OTHER STRUCTURES.
2. EXPANSION JOINTS AT BUILDINGS SHALL BE CAULKED.
3. EXPANSION JOINTS SHALL BE USED AT TRANSITIONS BETWEEN NEW AND EXISTING SIDEWALK JOINTS.
4. EXPANSION JOINTS OF 3/8-IN THICK FOAM SHALL BE PLACED EVERY 30 FEET PERPENDICULAR TO CURB ALIGNMENT EXTENDING THROUGH THE SIDEWALK DEPTH. SEE SECTION 02525 OF THE CONTRACT DOCUMENTS.

EXPANSION JOINT DETAIL

SCALE: N.T.S.

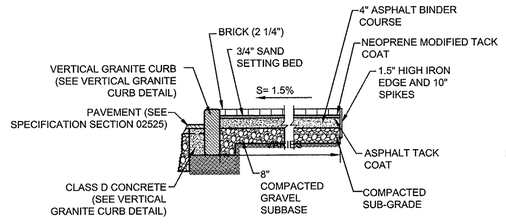


NOTES:

1. NEW SIDEWALK SHALL MATCH WIDTH OF EXISTING SIDEWALK UNLESS OTHERWISE NOTED.
2. SIDEWALK MATERIAL TO MATCH EXISTING SIDEWALK. FOR EXISTING ASPHALT SIDEWALK, SUBSTITUTE 4" CONCRETE.
3. AROUND HYDRANTS, UTILITY POLES SIGN POSTS ETC., SEE EXPANSION JOINT DETAIL (THIS SHEET).
4. SIDEWALKS TO BE BUILT ACCORDING TO ADA AND MA AAB REGULATIONS, 2.0% MAX (0% TOLERANCE) CROSS SLOPE.

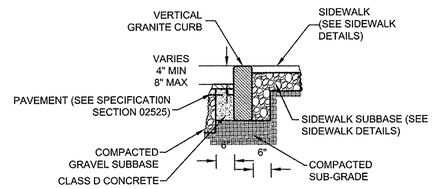
CONCRETE SIDEWALK RESTORATION DETAIL

SCALE: N.T.S.



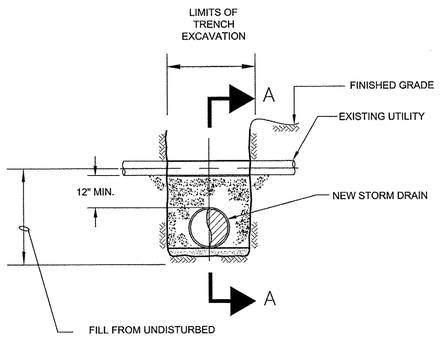
BRICK SIDEWALK RESTORATION DETAIL

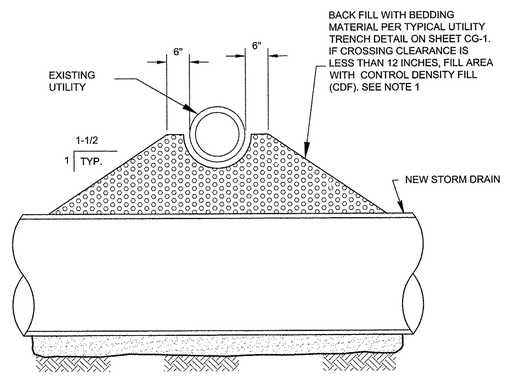
SCALE: N.T.S.



VERTICAL GRANITE CURB RESETTING DETAIL

SCALE: N.T.S.





NOTE:

1. CONTRACTOR SHALL ENCASE STORM DRAIN FOR UTILITY CROSSINGS WHERE MINIMUM CROSSING CLEARANCE IS LESS THAN 12-INCHES AND WHERE INDICATED ON THE DRAWINGS.

TYPICAL UTILITY CROSSING DETAIL

SCALE: N.T.S.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS — MICHAEL R. CUNNINGHAM — CIVIL — No. 45453 — REGISTERED PROFESSIONAL ENGINEER — 6/9/17

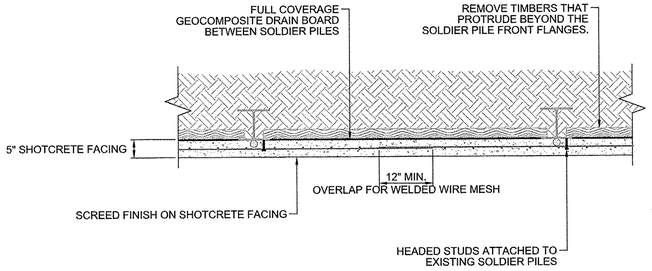
REVISIONS

DATE: JUNE 2017
PROJECT NO.20171752.002A
DRAWN BY: AS
CHECKED BY: JA
FILE NAME: C-Details

DETAILS II

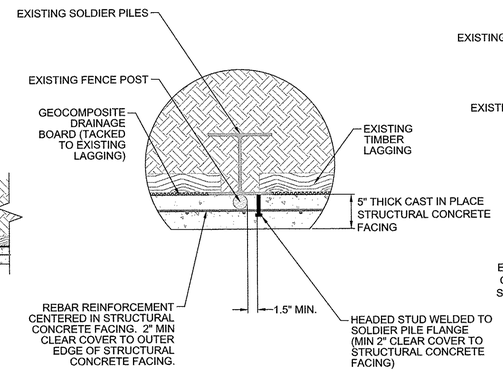
CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
CG-2



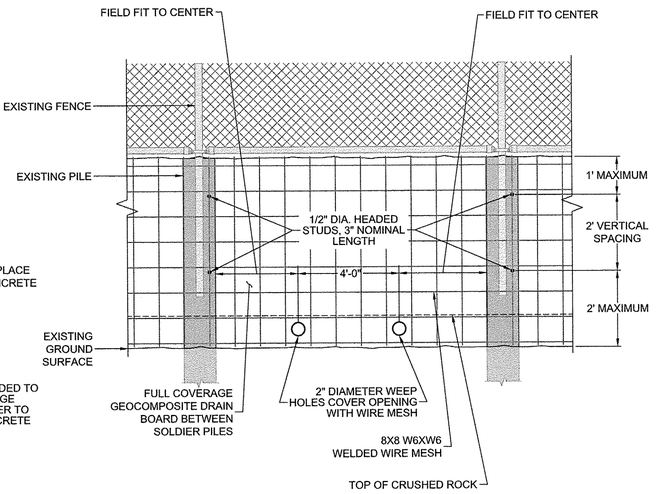
TYPICAL WALL FACING DETAIL (PLAN VIEW)

NOT TO SCALE



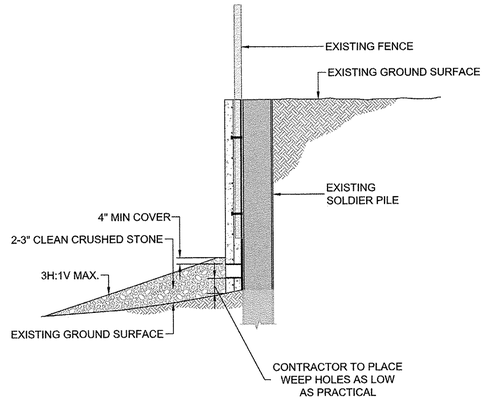
CONNECTION DETAILS (PLAN VIEW)

NOT TO SCALE



TYPICAL WALL FACING REINFORCEMENT AND DRAINAGE DETAIL (ELEVATION VIEW)

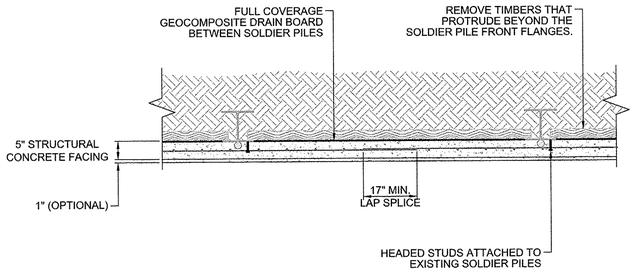
NOT TO SCALE



TYPICAL WALL FACING AND DRAINAGE DETAIL (SECTION VIEW)

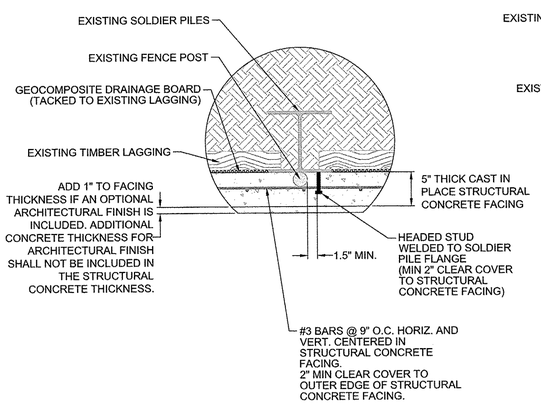
NOT TO SCALE

SHOTCRETE FACING OPTION - BID ALTERNATE 1



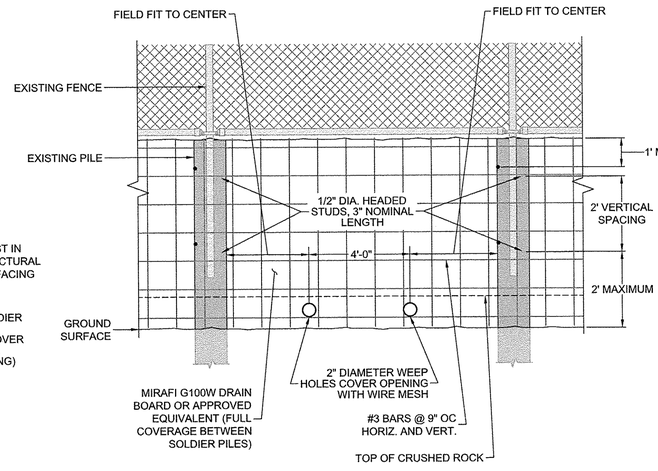
TYPICAL WALL FACING DETAIL (PLAN VIEW)

NOT TO SCALE



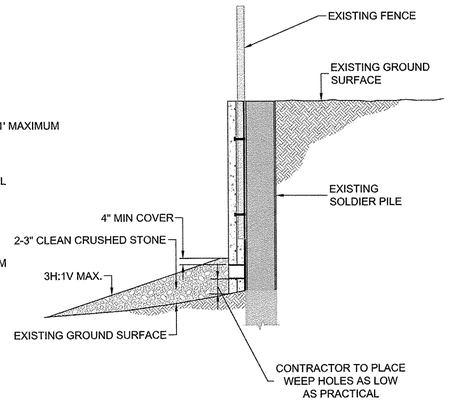
CONNECTION DETAILS (PLAN VIEW)

NOT TO SCALE



TYPICAL WALL FACING REINFORCEMENT AND DRAINAGE DETAIL (ELEVATION VIEW)

NOT TO SCALE



TYPICAL WALL FACING AND DRAINAGE DETAIL (SECTION VIEW)

NOT TO SCALE

CAST IN PLACE FACING OPTION - BASE BID

NOTE:

1. REFER TO SECTION 01025 FOR DETAILS REGARDING BID ALTERNATES FOR RETAINING WALL REHABILITATION OPTIONS FROM STA 100+00 TO 105+69.

KLEINFELDER

Bright People. Right Solutions.

REVISIONS

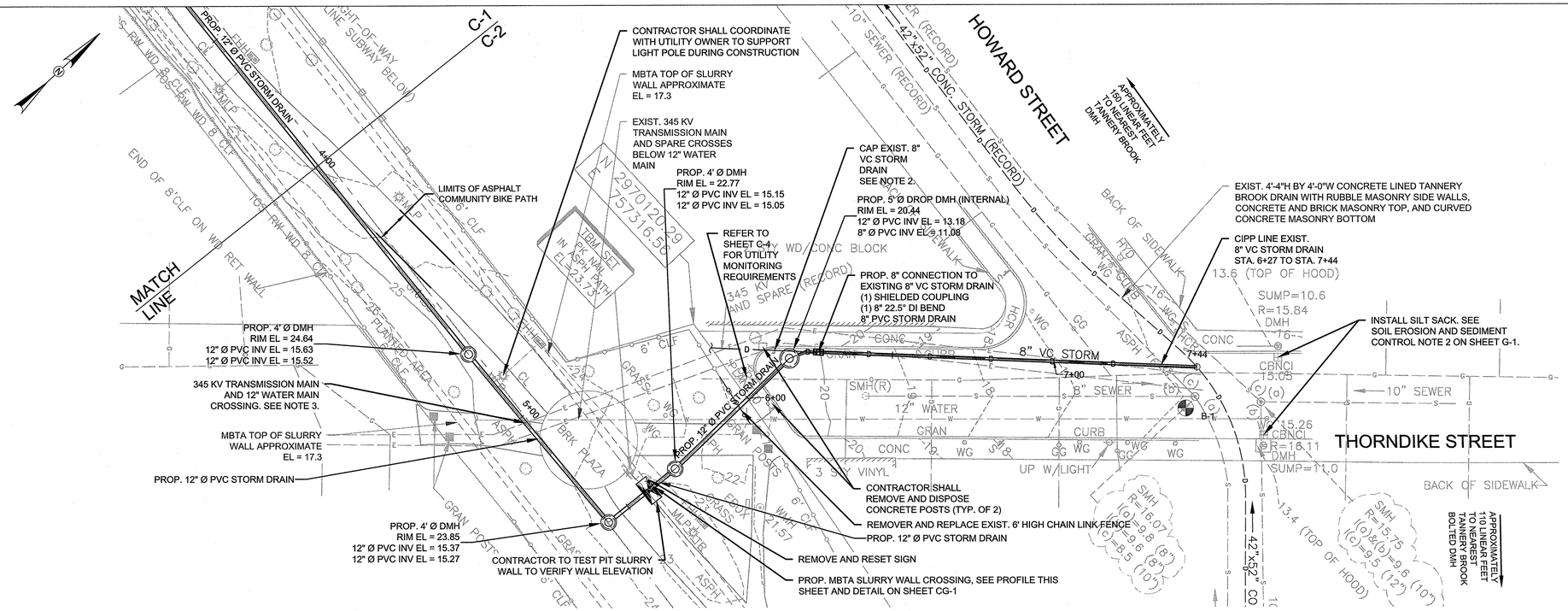
DATE JUNE 2017
PROJECT NO. 20171752.002A
DRAWN BY AS
CHECKED BY JA
FILE NAME C-Wall Design Details

RETAINING WALL DETAILS

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
CG-3

KLEINFELDER - 215 FIRST ST STE 320 | CAMBRIDGE, MA, 02142 | PH:617.497.7800 | FAX:617.498.4630 | www.kleinfelder.com

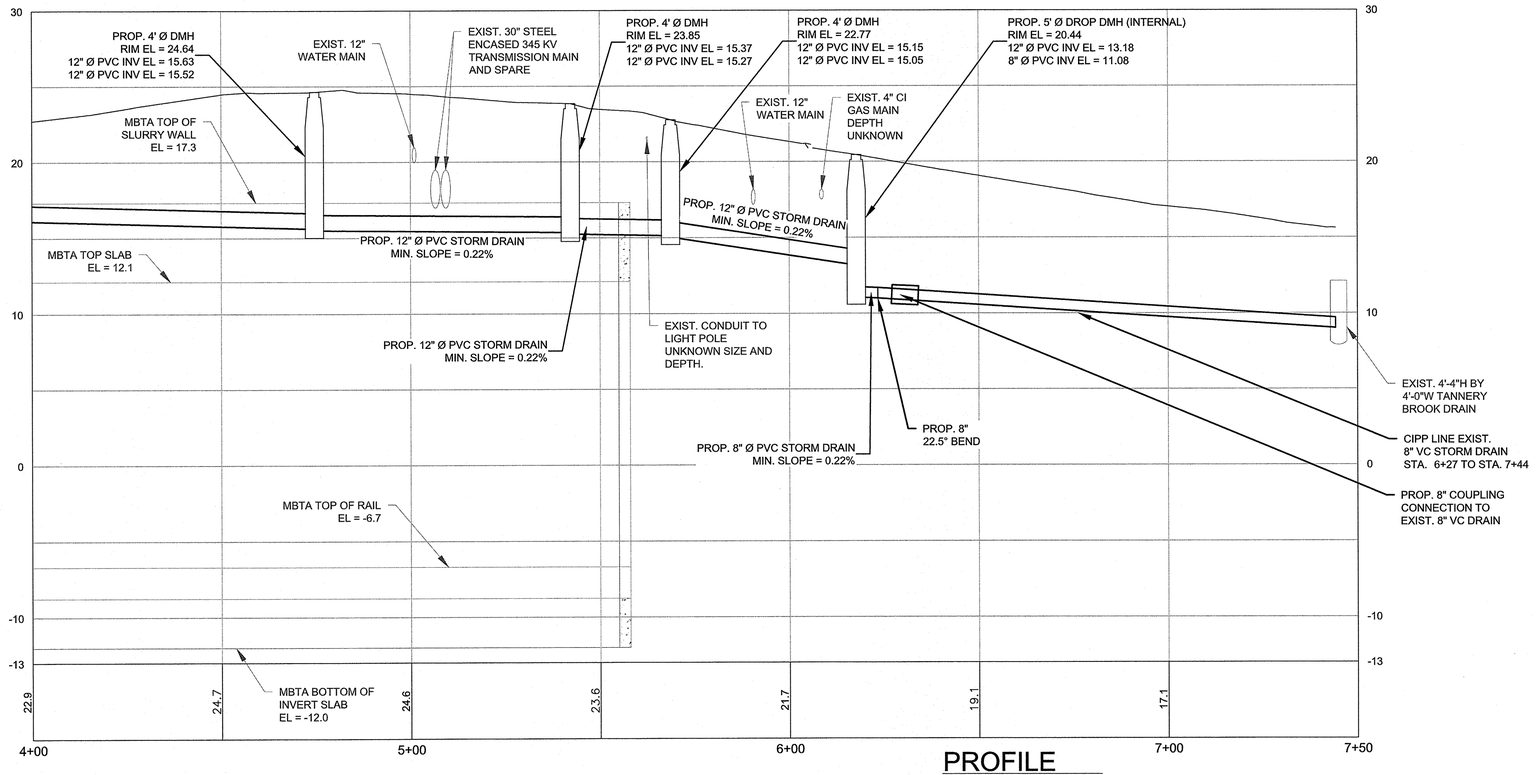


PLAN

SCALE: 1"=20'

0 20 40 60

SCALE: 1" = 20' SCALE IN FEET



PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

HORIZONTAL SCALE: 1" = 20'

20 10 0 20 40

5 0 5 10

VERTICAL SCALE: 1"=5'

NOTES:

1. CONTRACTOR SHALL RESTORE AREA TO MATCH EXISTING CONDITIONS. WHERE INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER, CONTRACTOR SHALL LOAM AND SEED DISTURBED AREAS, SEE SECTION 02900. CONTRACTOR SHALL RESTORE BRICK PLAZA, SEE SECTION 02525 FOR BRICK WALKWAY REQUIREMENTS AND DETAIL ON SHEET CG-2. WHERE THE EXCAVATION FALLS INTO THE PAVED SOMERVILLE COMMUNITY PATH AND THORNDIKE STREET, THE CONTRACTOR SHALL RESTORE PAVEMENT AS SHOWN ON THE TYPICAL TRENCH RESTORATION DETAIL ON SHEET CG-2. REFER ALSO TO SHEETS C-3 & C-4 FOR SURFACE RESTORATION LIMITS.
2. REMOVE AND DISPOSE OF EXISTING 8" VC STORM DRAIN AS NECESSARY TO INSTALL THE 5'Ø DROP DMH, PROVIDE ACCESS FOR CIPP LINING AND INSTALL THE CONNECTION TO THE EXISTING 8" VC STORM DRAIN.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM 6" CROSSING CLEARANCE FOR EXISTING UTILITY CROSSINGS AND SHALL BACKFILL THE TRENCH WITH CONTROL DENSITY FILL (CDF) TO THE SPRING LINE OF THE 345 KV TRANSMISSION MAIN AND SPARE. REFER TO THE TYPICAL UTILITY CROSSING DETAIL ON SHEET CG-2.
   - 3.1. FOR ALL TRANSMISSION MAIN CROSSINGS, THE CONTRACTOR SHALL HAVE AN EVERSOURCE CONDUIT INSPECTOR ON SITE, AND SHALL BE RESPONSIBLE FOR PROVIDING 3 DAYS MINIMUM NOTICE TO EVERSOURCE TO COORDINATE AN EVERSOURCE CONDUIT INSPECTOR TO BE ON SITE. SEE STORM DRAIN INSTALLATION NOTE 3 ON SHEET G-1.
4. FROM STA 4+00 TO STA 5+60 CONTRACTOR SHALL MILL AND OVERLAY EXISTING PAVEMENT PER THE COMMUNITY PATH PAVING DETAIL ON SHEET CG-2.
5. CONTRACTOR SHALL PROTECT TREES PER THE TREE PROTECTION DETAIL ON SHEET CG-2.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45463
REGISTERED PROFESSIONAL ENGINEER
8/7/17

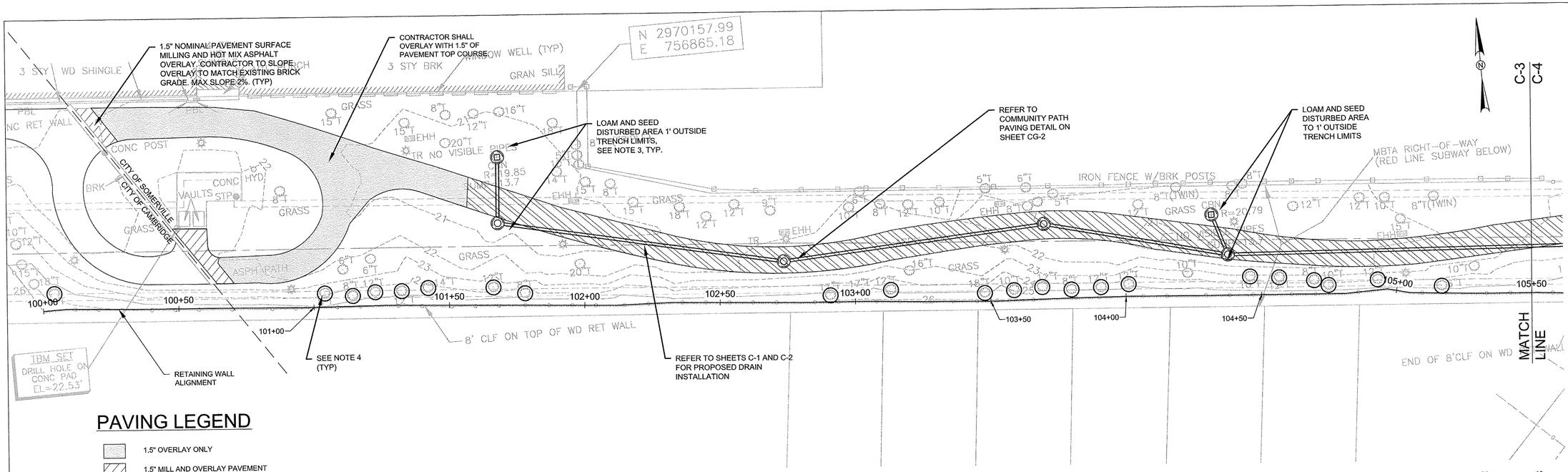
REVISIONS

DATE JUNE 2017
PROJECT NO. 20171752.002A
DRAWN BY AS
CHECKED BY JA
FILE NAME

SITE PLAN AND PROFILE STA 4+00 TO STA 7+44

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
C-2



PAVING LEGEND

- 1.5" OVERLAY ONLY
- 1.5" MILL AND OVERLAY PAVEMENT
- COMMUNITY PATH TRENCH PAVING AND OVERLAY SEE SHEET CG-2

PLAN

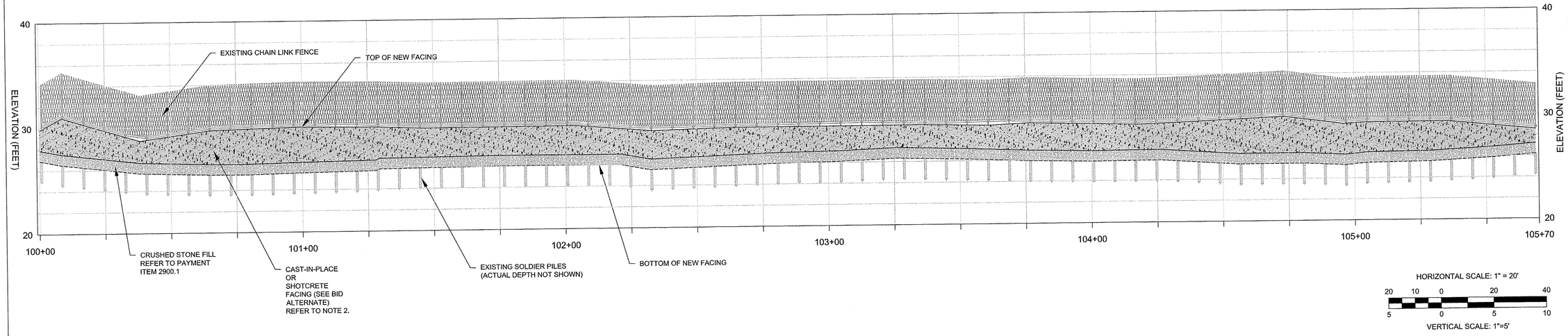
SCALE: 1"=20'

0 20 40 60

SCALE: 1" = 20' SCALE IN FEET

SURFACE RESTORATION NOTES:

1. CONTRACTOR SHALL OVERLAY COMMUNITY PATH FROM CITY OF SOMERVILLE CITY LINE TO BUENA VISTA ROAD.
2. TRENCH PAVEMENT RESTORATION SHALL CONFORM TO THE COMMUNITY PATH TRENCH PAVING DETAIL ON SHEET CG-2.
3. CONTRACTOR SHALL RESTORE AREA TO MATCH EXISTING CONDITIONS. WHERE INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER, CONTRACTOR SHALL LOAM AND SEED DISTURBED AREAS, SEE SECTION 02900. WHERE THE EXCAVATION FALLS INTO THE PAVED SOMERVILLE COMMUNITY PATH AND THORNDIKE STREET, THE CONTRACTOR SHALL RESTORE PAVEMENT AS SHOWN ON THE TYPICAL TRENCH RESTORATION DETAIL ON SHEET CG-2.
4. CONTRACTOR SHALL PROTECT TREES PER THE REQUIREMENTS OF SPECIFICATION 02930 AND THE TREE PROTECTION DETAIL ON SHEET CG-2. (TYP. OF 22 THIS SHEET)



HORIZONTAL SCALE: 1" = 20'

20 10 0 20 40

5 0 5 10

VERTICAL SCALE: 1"=5'

PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

RETAINING WALL NOTES:

1. SOLDIER PILE QUANTITIES AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. EXISTING WALL IS CONSTRUCTED WITH A TOTAL OF 72 SOLDIER PILES.
2. LIMITS OF RETAINING WALL UPGRADE IS STA. 100+00 TO 105+69. REFER TO SECTION 01025 FOR DETAILS REGARDING BID ALTERNATES.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45463
REGISTERED PROFESSIONAL ENGINEER

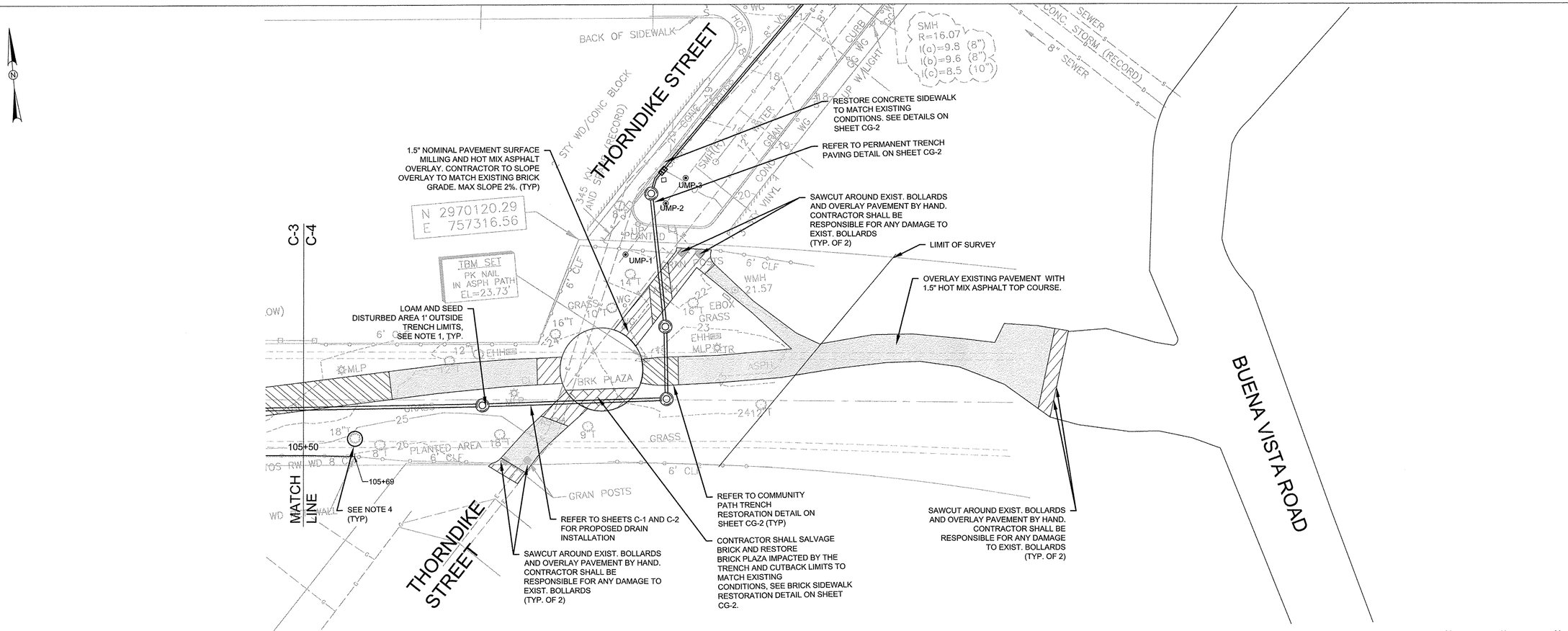
DATE	JUNE 2017
PROJECT NO.	20171752.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	C-Wall Design

REVISIONS

RETAINING WALL SITE PLAN STA 100+00 TO STA 105+50

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
C-3



PLAN
SCALE: 1"=20'

GEOTECHNICAL NOTES:

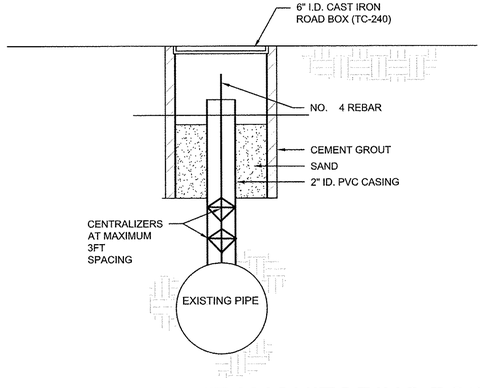
1. SURFACE ROADWAY BOX SHALL BE BOART LONGYEAR LEAK-RESISTANT MANHOLES, PART NO. TC-240, OR APPROVED EQUAL.
2. CONTRACTOR SHALL NOTIFY DIGSAFE PRIOR TO INSTALLATION OF UTILITY MONITORING POINTS.
3. LOCATIONS OF ALL MONITORING POINTS ARE APPROXIMATE. COORDINATE ACTUAL LOCATION IN FIELD WITH ENGINEER.
4. INSTALL CRACK GAUGES ON EXISTING CRACKS AS IDENTIFIED DURING THE PRE-CONSTRUCTION SURVEY AND AT LOCATIONS APPROVED BY THE ENGINEER.
5. UTILITY MONITORING POINTS SHALL BE SPACED ABOUT EVERY 15 FT ALONG THE GAS MAIN AT THE APPROXIMATE LOCATIONS SHOWN.

GEOTECHNICAL MONITORING LEGEND:

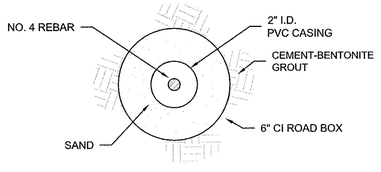
UMP-1 ◉ INDICATES UTILITY MONITORING POINT

PAVING LEGEND

- 1.5" OVERLAY ONLY
- 1.5" MILL AND OVERLAY PAVEMENT
- COMMUNITY PATH TRENCH PAVING AND OVERLAY SEE SHEET CG-2



UTILITY MONITORING POINT (UMP) DETAIL
SCALE: N.T.S.



SECTION A-A'

SURFACE RESTORATION NOTES:
1. CONTRACTOR SHALL OVERLAY COMMUNITY PATH FROM CITY OF SOMERVILLE CITY LINE TO BUENA VISTA ROAD.
2. TRENCH PAVEMENT RESTORATION SHALL CONFORM TO THE COMMUNITY PATH TRENCH PAVING DETAIL ON SHEET CG-2.
3. CONTRACTOR SHALL RESTORE AREA TO MATCH EXISTING CONDITIONS. WHERE INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER, CONTRACTOR SHALL LOAM AND SEED DISTURBED AREAS, SEE SECTION 02900. WHERE THE EXCAVATION FALLS INTO THE PAVED SOMERVILLE COMMUNITY PATH AND THORNDIKE STREET, THE CONTRACTOR SHALL RESTORE PAVEMENT AS DETAILED AND SPECIFIED.
4. CONTRACTOR SHALL PROTECT TREES PER SPECIFICATION 02950 AND THE TREE PROTECTION DETAIL ON SHEET CG-2.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45463
REGISTERED PROFESSIONAL ENGINEER
7/19/17

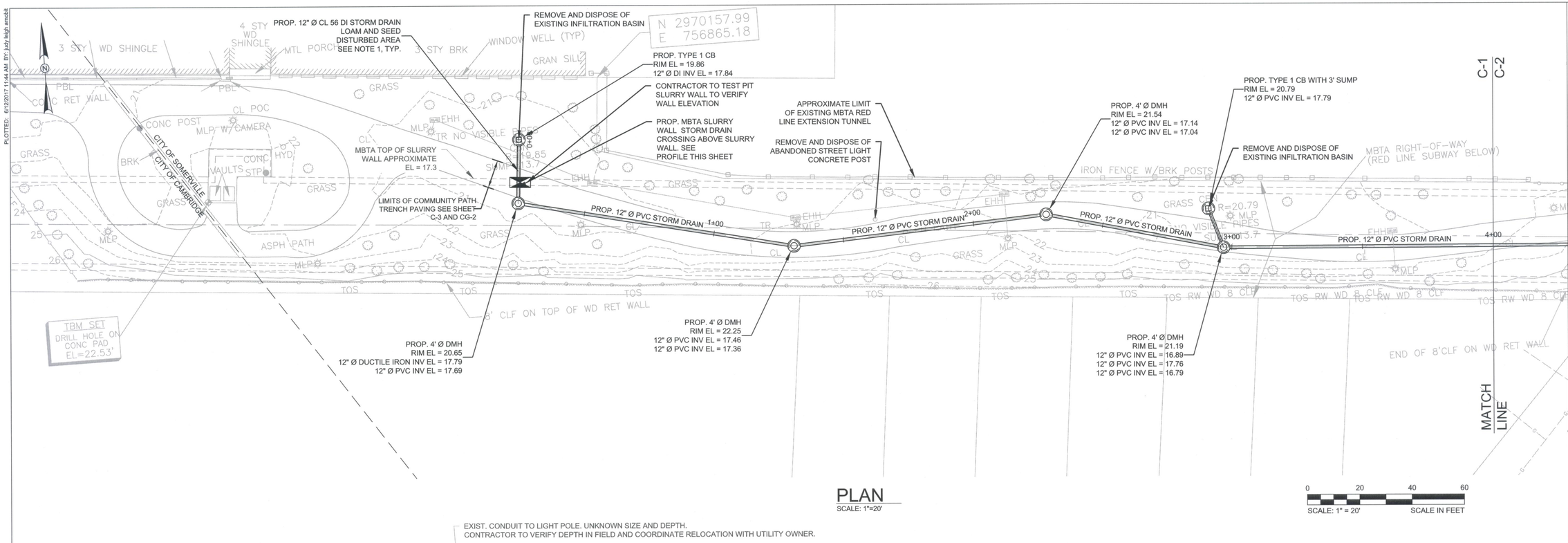
REVISIONS

DATE	JUNE 2017
PROJECT NO.	20171752.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	

RETAINING WALL SITE PLAN STA 105+50 TO BUENA VISTA ROAD

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
C-4



PLAN

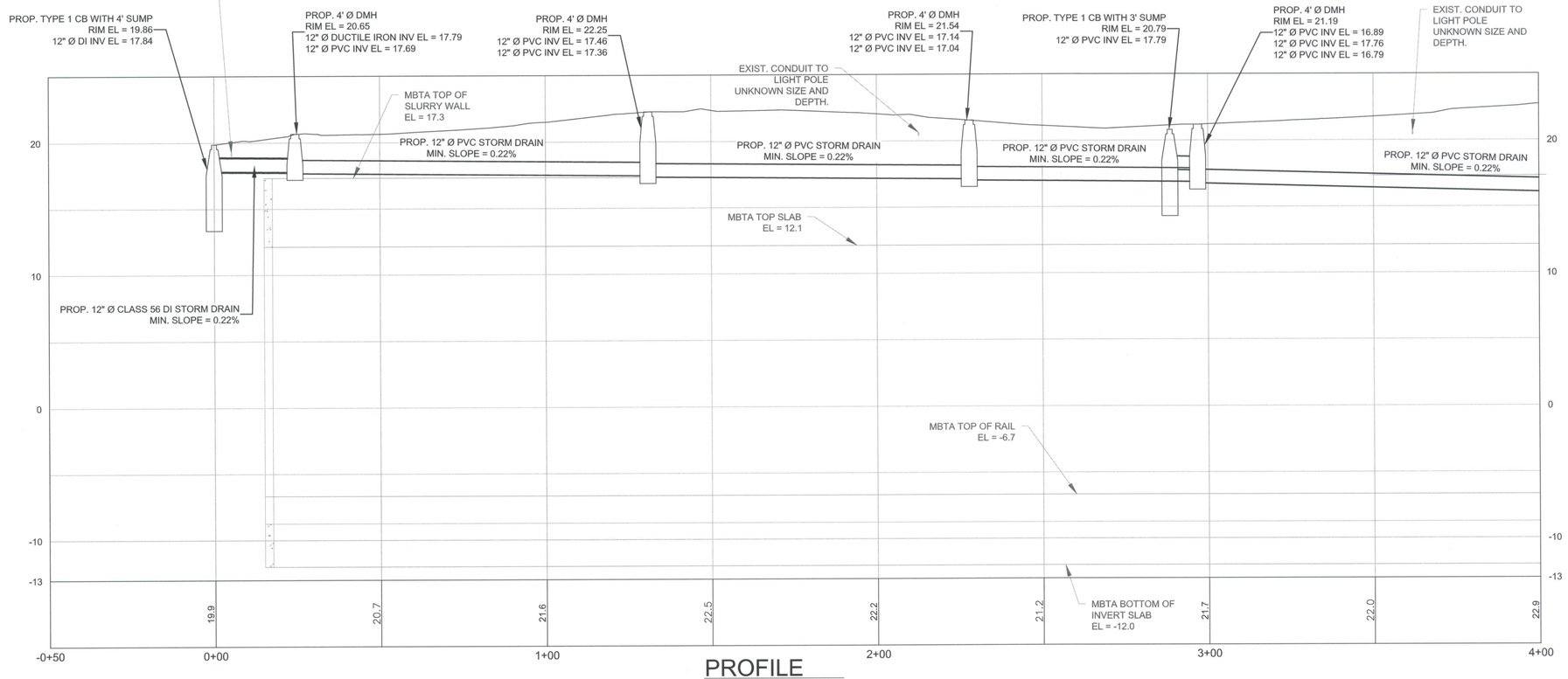
SCALE: 1"=20'

0 20 40 60

SCALE: 1" = 20' SCALE IN FEET

NOTES:

1. FROM STA 0+20 TO STA 4+00 CONTRACTOR SHALL PAVE THE COMMUNITY PATH PER THE COMMUNITY PATH PAVING DETAIL ON SHEET CG-2.
2. CONTRACTOR SHALL PROTECT TREES PER THE TREE PROTECTION DETAIL ON SHEET CG-2. SEE SHEET C-3 FOR QUANTITIES.



PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

HORIZONTAL SCALE: 1" = 20'

20 10 0 20 40

VERTICAL SCALE: 1"=5'

5 0 5 10

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL P. CUNNINGHAM
CIVIL
No. 45483
REGISTERED PROFESSIONAL ENGINEER

REVISIONS				

DATE	JUNE 2017
PROJECT NO.	20171752.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	

SITE PLAN AND PROFILE STA 0+00 TO STA 4+00

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
C-1

CONSTRUCTION SIGN LEGEND

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS LETTER HEIGHT	TEXT DIMENSIONS VERTICAL SPACING	TEXT DIMENSIONS ARROW	COLOR BACK-GROUND	COLOR LEGEND	COLOR BORDER
W6-3	48"	48"		MUTCD STANDARD DETAIL			MUTCD STANDARD DETAIL		
W6-5	24"	18"	TWO WAY TRAFFIC						
W20-2	48"	48"	DETOUR AHEAD						
W20-4	48"	48"	ONE LANE ROAD AHEAD						
W20-7b	36"	36"	BE PREPARED TO STOP						
W20-8	36"	36"	ROUGH SURFACE AHEAD						
W20-1a	48"	48"	ROAD WORK AHEAD						
W20-1b	48"	48"	ROAD WORK NEXT 500 FT						
W20-1c	48"	48"	ROAD WORK NEXT 1000 FT						
W20-1d	48"	48"	SIGNS PLACED 1000 FT						
W20-5L	48"	48"	RIGHT LANE CLOSED AHEAD						
W20-5R	48"	48"	RIGHT LANE CLOSED AHEAD						
G20-2	36"	18"	END ROAD WORK						
W5-1	48"	48"	ROAD NARROWS						
W8-8	36"	36"	ROUGH ROAD						
M4-9B	30"	24"	TO DOWNTOWN						
M4-9L	30"	24"	DETOUR						
M4-9R	30"	24"	DETOUR						
M4-9V	30"	24"	DETOUR						
M4-8A	24"	18"	END DETOUR						
W11-1/W16-1	24"/18"	24"/24"	SHARE THE ROAD						
	60"	30"	CONSTRUCTION VEHICLE DO NOT FOLLOW				ORANGE/BLACK		
W6-1	36"	36"							
W1-4L	30"	30"							
W1-4R	30"	30"							
W4-2R	36"	36"							
W4-2L	36"	36"							
R11-4	60"	30"	ROAD CLOSED TO THRU TRAFFIC						
R5-9L	30"	24"	PEDESTRIANS						
R5-9R	30"	24"	PEDESTRIANS						
R9-9	48"	24"	SIDEWALK CLOSED				WHITE/BLACK/BLUE		
R9-11	24"	24"	SIDEWALK CLOSED AHEAD CROSS HERE						
D3-5	12"	18"	LOCAL TRAFFIC ONLY				MUTCD STANDARD DETAIL		
R4-7B	30"	24"	KEEP RIGHT	MUTCD STANDARD DETAIL			ORANGE/BLACK		

TMP LEGEND

PROPOSED WORK ZONE

SINGLE LANE UNIDIRECTIONAL TRAFFIC

SINGLE LANE BIDIRECTIONAL TRAFFIC

TRAFFIC BARREL/DRUM

TRAFFIC MANAGEMENT SIGN DURING CONSTRUCTION

TRAFFIC CONE

TRAFFIC MANAGEMENT GENERAL NOTES

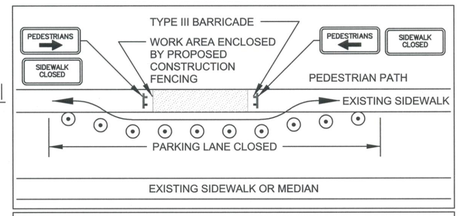
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D).
2. ALL SIGN LOCATIONS ON PLANS ARE SHOWN SCHEMATICALLY. FINAL LOCATIONS SHALL BE DETERMINED BASED ON ACTUAL FIELD CONDITIONS AND CITY APPROVAL.
3. ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE PROVIDED UPON THE ENGINEER OR OWNER'S REQUEST.
4. ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL DEVICES SHALL BE PROPERLY SECURED.
5. ALL DRUMS NOT OTHERWISE SPECIFIED SHALL BE EQUIPPED WITH TYPE "C" -STEADY BURN WARNING LIGHTS. ALL DRUMS SHALL BE SET @ 10' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER OR OWNER.
6. TEMPORARY TRAFFIC LANES WITHIN THE WORK ZONE SHALL BE A MINIMUM OF 11 FEET.
7. NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORK HOURS.
8. ALL TRAVEL WAYS SHALL BE PROTECTED FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
9. VEHICULAR AND PEDESTRIAN SHALL BE ALLOWED ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION.
10. CONSTRUCTION WORK ZONE SHALL BE STAGED AS TO ALLOW FOR CONTINUOUS ACCESS AT DRIVE ENTRANCES AND TO MINIMIZE DETOURS TO SOMERVILLE ROADS.
11. SAFE PEDESTRIAN WALKWAYS AND ACCESS TO LOCAL BUSINESSES AND RESIDENCES SHALL BE PROVIDED. PUBLIC WALKWAYS SHALL REMAIN OPEN AND ACCESSIBLE UNLESS OTHERWISE DIRECTED BY CITY.
12. ALL EXISTING PEDESTRIAN CROSSINGS SHALL BE MAINTAINED. ALTERNATIVE CROSSINGS SHALL BE PROVIDED WHEN EXISTING CROSSINGS ARE DISRUPTED BY CONSTRUCTION ACTIVITY. TEMPORARY LOCATIONS, SAFETY SIGNAGE AND SAFETY CONTROLS SHALL BE APPROVED BY THE ENGINEER OR OWNER PRIOR TO IMPLEMENTATION.
13. THE CITY OF CAMBRIDGE AND CITY OF SOMERVILLE POLICE DETAILS SHALL BE SCHEDULED AND COORDINATED BY THE CONTRACTOR TO MAINTAIN THE SAFETY OF PEDESTRIAN AND VEHICULAR TRAFFIC.
14. DETOURS SHALL ONLY BE ALLOWED AS INDICATED OR AS APPROVED BY THE CITY OF SOMERVILLE.
15. PARKING SHALL BE RESTRICTED WITHIN WORK ZONES, AND BUFFER AND TAPER LENGTHS. CONTRACTOR AND ENGINEER TO COORDINATE NO PARKING RESTRICTIONS WITH THE CITY OF SOMERVILLE.
16. CONTRACTOR SHALL COMPLETE ALL WORK BETWEEN THE HOURS OF 7:00 AM AND 4:00 PM.
17. CONTRACTOR SHALL SUBMIT TRAFFIC MANAGEMENT PLANS TO CITY OF CAMBRIDGE TRAFFIC, PARKING AND TRANSPORTATION DEPARTMENT REVIEW, A MINIMUM 2 WEEKS PRIOR TO MOBILIZATION. CONTRACTOR SHALL SUBMIT TRAFFIC MANAGEMENT PLANS VIA EMAIL TO PATRICK BAXTER, PBAXTER@CAMBRIDGEMA.GOV.

BICYCLE TRAFFIC NOTES:

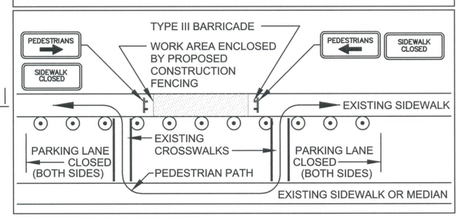
1. BICYCLE TRAFFIC SHALL BE ACCOMMODATED ON ALL PUBLIC STREETS EITHER WITHIN BICYCLE LANES WHERE EXISTING OR IN VEHICULAR TRAVEL LANES.
2. WHERE BICYCLE LANES ARE NOT PRESENT, PROVIDE A SHARED VEHICLE LANE AS WIDE AS PHYSICALLY FEASIBLE.
3. WHEN TRAVEL LANES ARE RESTRICTED TO LESS THAN 14-FEET IN WIDTH WARNING SIGNAGE (W11-1/W16-1 COMBINATION - BICYCLE WARNING SYMBOL WITH SHARE THE ROAD PLAQUE) SHALL BE PLACED WARNING MOTOR VEHICLE OPERATORS OF THE PRESENCE OF BICYCLES IN THE ROADWAY.
4. IF THE DISRUPTION OCCURS IN A BICYCLE LANES OVER A SHORT DISTANCE (APPROXIMATELY 500 FEET OR LESS), BICYCLISTS SHOULD BE ROUTED TO SHARE A MOTOR VEHICLE LANE.
5. ON PROJECTS WHERE THE DISRUPTION OCCURS OVER A LONGER DISTANCE (MORE THAN 500 FEET), AND ON BUSY ROADWAYS, A TEMPORARY BICYCLE LANE OR WIDE OUTSIDE LANE (AT LEAST 14 FOOT WIDE) SHOULD BE PROVIDED. IF THAT IS NOT FEASIBLE, PROVIDE ACCESS, INCLUDING RAMPS IF NECESSARY, FOR BICYCLISTS TO HAVE THE OPTION OF USING SIDEWALKS, EXCEPT WITHIN ZONES WHERE SIDEWALK BICYCLE RIDING IS PROHIBITED BY THE CITY.
6. DEBRIS SHOULD BE SWEPT TO MAINTAIN A REASONABLY CLEAR RIDING SURFACE IN THE BICYCLE LANES OR, WHERE THERE ARE NO BICYCLE LANES, THE OUTER 5 OR 6 FEET OF ROADWAY. PROMPTLY REMOVE GRAVEL, DEBRIS, LITTER, SAND, STONE, AND OTHER OBSTRUCTIONS FROM BICYCLE LANES AND TRAVEL LANES.
7. ADVANCE CONSTRUCTION SIGNS SHALL NOT BE PLACED IN BICYCLE LANES AND SHALL NOT OTHERWISE OBSTRUCT BICYCLISTS' PATH.
8. TEMPORARY RAMPS FOR SITE ACCESS RAMPS. THE CREATION OF RAMPS IN THE ROADWAY IS NOT PERMITTED UNLESS BEING CREATED IN AN AREA THAT IS OTHERWISE USED BY ON-STREET PARKING.

TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING AND AS DIRECTED BY THE ENGINEER OR OWNER.

TYPE I
N.T.S.



TYPE II
N.T.S.



PEDESTRIAN BYPASS NOTES:

1. ADDITIONAL ADVANCE WARNING MAY BE REQUIRED BY THE ENGINEER OR OWNER.
2. CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS DETAILED ELSEWHERE.
3. STREET LIGHTING SHALL BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. ◄——► DIRECTION OF PEDESTRIAN TRAVEL.
5. PEDESTRIAN PATHS SHALL BE MINIMUM 36" WIDE AND ADA ACCESSIBLE.

PEDESTRIAN BYPASS DETAIL T-1

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS MICHAEL R. CUNNINGHAM CIVIL No. 45463 REGISTERED PROFESSIONAL ENGINEER

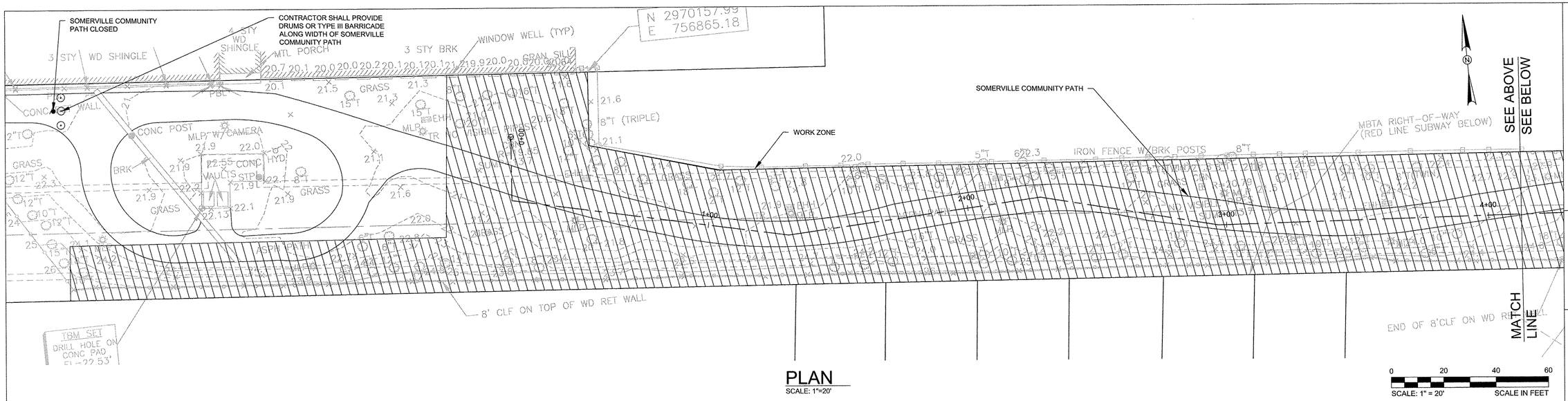
REVISIONS

DATE JUNE 2017
PROJECT NO. 20171752.002A
DRAWN BY AS
CHECKED BY JA
FILE NAME TG-Traffic Notes and Details

TRAFFIC MANAGEMENT DETAILS

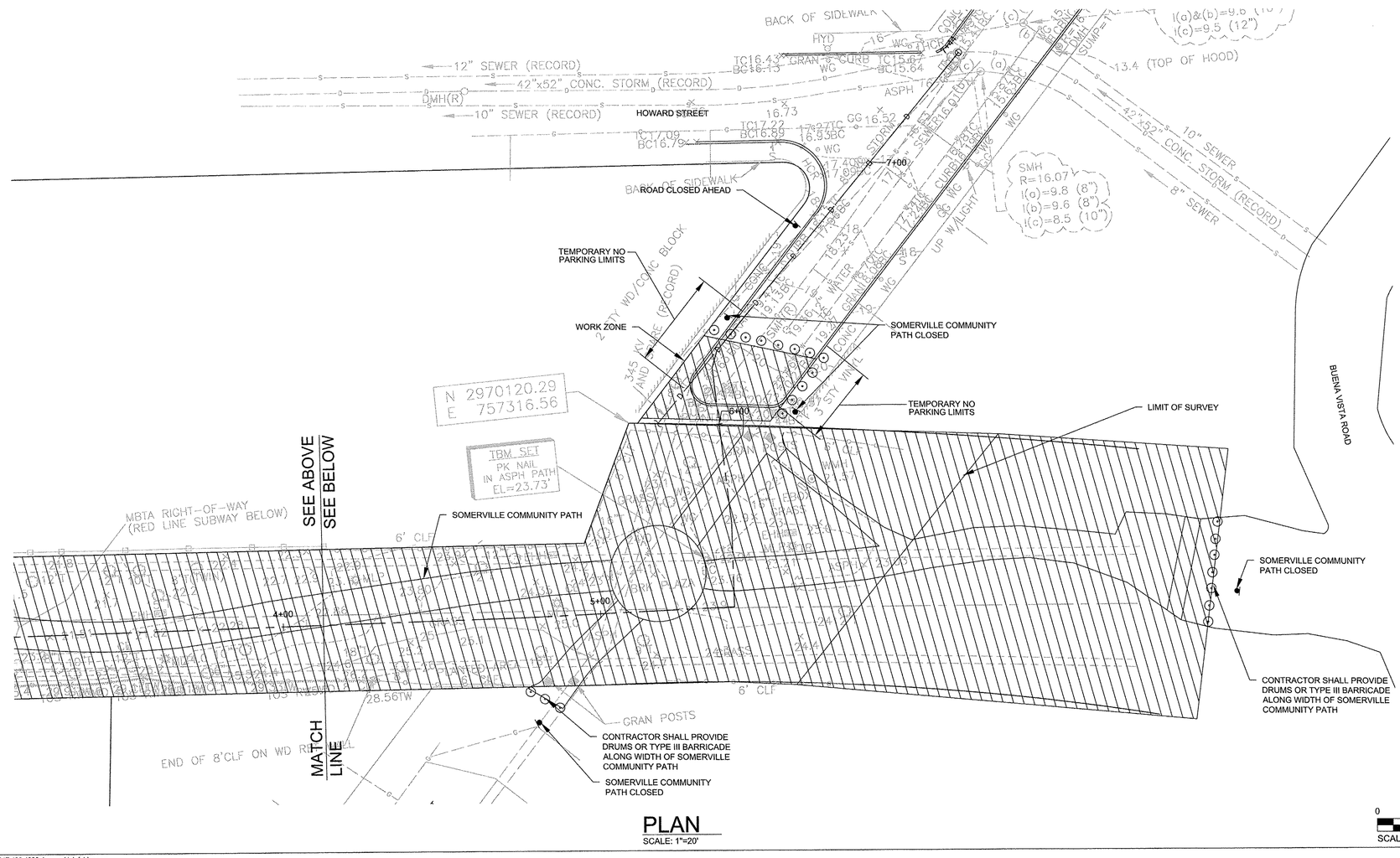
CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
TMP-1



PLAN
SCALE: 1"=20'

0 20 40 60
SCALE: 1" = 20' SCALE IN FEET



PLAN
SCALE: 1"=20'

0 20 40 60
SCALE: 1" = 20' SCALE IN FEET

NOTE:

1. TRAFFIC MANAGEMENT LAYOUTS ARE SHOWN SCHEMATICALLY. SEE TRAFFIC MANAGEMENT GENERAL NOTES AND DETAILS ON SHEET TMP-1 FOR TRAFFIC MANAGEMENT AND PEDESTRIAN DETOUR REQUIREMENTS FOR CONSTRUCTION WORK ZONES.

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45463
REGISTERED PROFESSIONAL ENGINEER
9/5/17

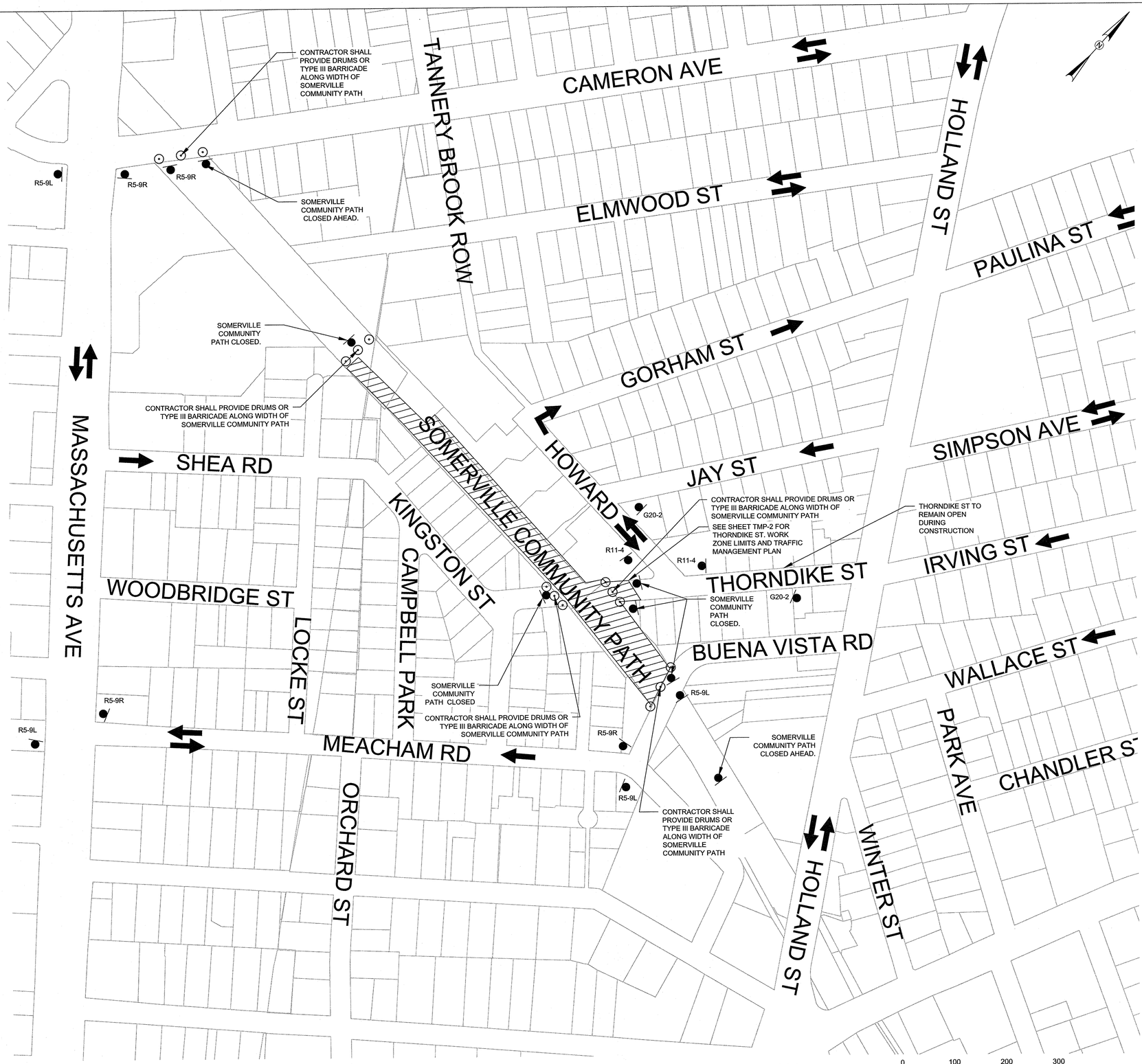
REVISIONS

DATE	JUNE 2017
PROJECT NO.	20171752.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	T:\Traffic Plans with Survey

TRAFFIC MANAGEMENT PLAN

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
TMP-2



THORNDIKE STREET AND HOWARD STREET DETOUR PLAN

SCALE: 1" = 100'

NOTE:

1. CONTRACTOR SHALL PROVIDE PEDESTRIAN DETOUR WHERE THEIR WORK ZONE IS WITHIN THE EXISTING SOMERVILLE COMMUNITY PATH AS SHOWN ON THIS PLAN. SEE TRAFFIC MANAGEMENT GENERAL NOTES AND DETAILS ON SHEET TMP-1 FOR TRAFFIC MANAGEMENT AND PEDESTRIAN DETOUR REQUIREMENTS FOR CONSTRUCTION WORK ZONES.

LEGEND

- EXIST. VEHICULAR TRAFFIC DIRECTION
- WORK ZONE
- XXX-XX — TRAFFIC MANAGEMENT SIGN DURING CONSTRUCTION
- DRUMS OR TYPE III BARRICADE

KLEINFELDER
Bright People. Right Solutions.

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
CIVIL
No. 45483
REGISTERED PROFESSIONAL ENGINEER

REVISIONS			

DATE	JUNE 2017
PROJECT NO.	20161367.002A
DRAWN BY	AS
CHECKED BY	JA
FILE NAME	T-Detour Plan

DETOUR PLAN

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH RETAINING WALL AND DRAINAGE UPGRADES

SHEET
TMP-3