

CITY OF SOMERVILLE, MASSACHUSETTS BIKE PATH DRAINAGE UPGRADES WILLOW AVE. TO GROVE ST.

NOVEMBER 2017

DIRECTOR OF ENGINEERING

RICHARD E. RAICHE, P.E.

**DEPARTMENT OF PUBLIC WORKS
COMMISSIONER**

STANLEY KOTY

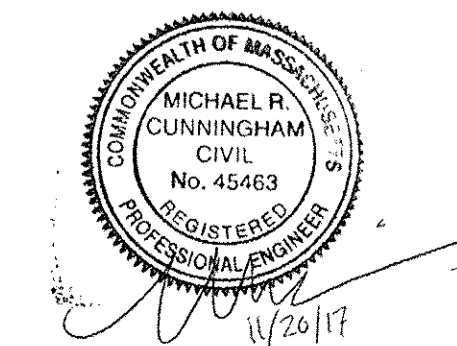
MAYOR

JOSEPH A. CURTATONE



LOCUS PLAN
(N.T.S.)

DRAWING LIST	
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--	COVER
G-1	GENERAL NOTES AND LEGEND
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GENERAL NOTES

- 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 AND DRAWINGS, AND UTILITY RECORD DRAWINGS. 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 LINES IN THE WORK AREA. 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.
- BASE MAP INFORMATION WAS PREPARED BY SMC SURVEY, BRAINTREE, MA BASED ON A COMPOSITE OF FIELD EVIDENCE SURVEYED ON MARCH 15, 2017, AND AVAILABLE RECORD INFORMATION. THE LOCATIONS OF SUBSURFACE LINES AND UTILITIES ARE ONLY APPROXIMATE. THE TREE SURVEY AND EDGE OF PAVEMENT ALONG THE SOMERVILLE COMMUNITY PATH FROM STA. 4+00 TO STA. 9+00 AND ALL INFORMATION SHOWN ON NEWBERNE STREET WAS PREPARED BY KLEINFELDER FROM FIELD ACTIVITIES PERFORMED ON APRIL 27 AND SEPTEMBER 12, 2017, 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.
 - PROPERTY LINES WERE COMPILED BY SMC SURVEY FROM THE CITY OF SOMERVILLE ASSESSOR MAPS AND ARE CONSIDERED APPROXIMATE.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL TEMPORARILY MATCH EXISTING GRADES AND CONDITIONS WITHIN THE CONSTRUCTION AREA UNTIL FINAL RESTORATION IS COMPLETE.
- 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.
- 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.
- 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.
- CONSTRUCTION TRAILER(S), STOCKPILING LOCATIONS, AND EQUIPMENT STORAGE AREAS ARE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE COORDINATED WITH THE OWNER.
- THE CONTRACTOR SHALL PROTECT ALL TRAVELED WAYS FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
- 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.
- CONTROLLED DENSITY FILL (CDF) SHALL BE REQUIRED FOR ALL UTILITY CROSSINGS WITH CLEARANCE LESS THAN 12 INCHES.
- 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.
- 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.
- ALL EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING OR BY COVERING WITH STEEL PLATES WHEN APPROVED BY THE OWNER. REFER TO UTILITY TRENCH DETAIL ON SHEET CG-1 FOR PAVING REQUIREMENTS.
- ALL DISTURBED TRAFFIC MARKINGS ARE TO BE REPLACED BY THE CONTRACTOR AND SHALL MATCH EXISTING.
- REFER TO SECTION 01040 FOR COMMUNITY NOTIFICATION AND COORDINATION REQUIREMENTS.
- THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR PRIVATE PROPERTY SURFACE RESTORATION OR PERFORM ANY WORK ON PRIVATE PROPERTY UNTIL RIGHT OF ENTRY IS RECEIVED FROM PROPERTY OWNER(S).
- THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY AT THE FOLLOWING PROPERTIES: 71, 73, 89, 91, 93, 95, 97 WINSLOW AVENUE AND 32 CLIFTON STREET PER SECTION 01390. THE CONTRACTOR SHALL RESTORE THESE PRIVATE PROPERTIES TO EXISTING CONDITIONS, REFER TO SECTION 02950.
- THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF PEDESTRIANS AND EMERGENCY VEHICLES AT ALL TIMES IN AREAS UNDER CONSTRUCTION.
- CONTRACTOR IS REQUIRED TO COORDINATE WITH THE POLICE AND FIRE DEPARTMENTS IN ORDER TO MAINTAIN EMERGENCY VEHICLE ACCESS THROUGHOUT PROJECT DURATION.
- THE CONTRACTOR SHALL NOT BLOCK ACCESS TO THE SOMERVILLE COMMUNITY BIKE PATH, THE STREET OR PRIVATE PARKING IN THE VICINITY OF THE LIMITS OF CONSTRUCTION AFTER WORK HOURS AND ON WEEKENDS.
- 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.
- 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.
- 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.
- REFER TO SHEET TMP-1 FOR TRAFFIC MANAGEMENT NOTES AND REQUIREMENTS.

EXISTING LEGEND

- | | | | |
|--|--------------------------|--|--|
| | SURVEY CONTROL STATION | | MANHOLE |
| | MAGNETIC FOUND | | WATER GATE |
| | DECIDUOUS TREE | | HYDRANT |
| | UNKNOWN | | GAS GATE |
| | CHAIN LINK FENCE | | DRAIN MANHOLE |
| | CHAIN LINK FENCE | | CATCH BASIN |
| | CURBING(TYPE) | | RIM INVERT |
| | CONCRETE | | TOP OF BELL |
| | BITUMINOUS CONCRETE | | TOP OF PIPE |
| | BITUMINOUS CONCRETE CURB | | TOP OF SILTS |
| | GRANITE | | TOP OF WATER |
| | GRANITE CURB | | CONNECTION UNKNOWN |
| | CONCRETE CURB | | VITREOUS CLAY REINFORCED CONCRETE PIPE |
| | BITUMINOUS CONCRETE WALK | | CORRUGATED PLASTIC PIPE |
| | CONCRETE WALK | | CAST IRON PIPE |
| | BRICK | | NO PIPE VISIBLE |
| | LANDSCAPE TIMBER | | ELECTRIC MANHOLE |
| | TIMBER RETAINING WALL | | SEWER MANHOLE |
| | CONCRETE RETAINING WALL | | TELEPHONE MANHOLE |
| | STONE RETAINING WALL | | TRAFFIC SIGNAL CONTROL CABINET |
| | PLANTED | | ELECTRIC LINE |
| | MONITORING WELL | | DRAIN LINE |
| | BRICK WALK | | GAS LINE |
| | METAL POST | | WATER LINE |
| | GUARD POST | | SEWER LINE |
| | | | COMBINED SEWER LINE |
| | | | TELEPHONE LINE |
| | | | CABLE TELEVISION LINE |
| | | | SPOT ELEVATION |
| | | | INDEX CONTOUR |
| | | | INTERMEDIATE CONTOUR |
| | | | FINISHED FLOOR |
| | | | THRESHOLD |
| | | | PARKING METER |

PROPOSED LEGEND

- | | |
|--|---|
| | COUPLING |
| | CATCH BASIN |
| | MANHOLE |
| | CIPP LINE EXIST. 24" VC DRAIN |
| | REMOVE AND REPLACE EXIST. 24" VC DRAIN WITH 24" PVC DRAIN |
| | BUILDING MONITORING POINT (BMP) |

GEOTECHNICAL NOTES

- BORING B-1 WAS ADVANCED AND COMPLETED AS AN OBSERVATION WELL BY NEW ENGLAND BORING CONTRACTORS ON FEBRUARY 2, 2017. A COPY OF THE BORING LOG IS PROVIDED AS AN APPENDIX TO THE SPECIFICATIONS FOR INFORMATIONAL PURPOSES ONLY.
- 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.
- GROUNDWATER LEVEL INDICATED ON THE LOG WAS OBSERVED AT THE TIME INDICATED. GROUNDWATER LEVEL IS 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

- STOCKPILED MATERIALS SHALL BE LOCATED AND MAINTAINED SO AS TO MINIMIZE THE POTENTIAL FOR EROSION.
- 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.
- 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

- 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 AN MWRA CONSTRUCTION DEWATERING PERMIT. REFER TO SECTION 01060 OF SPECIFICATIONS.
- 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.

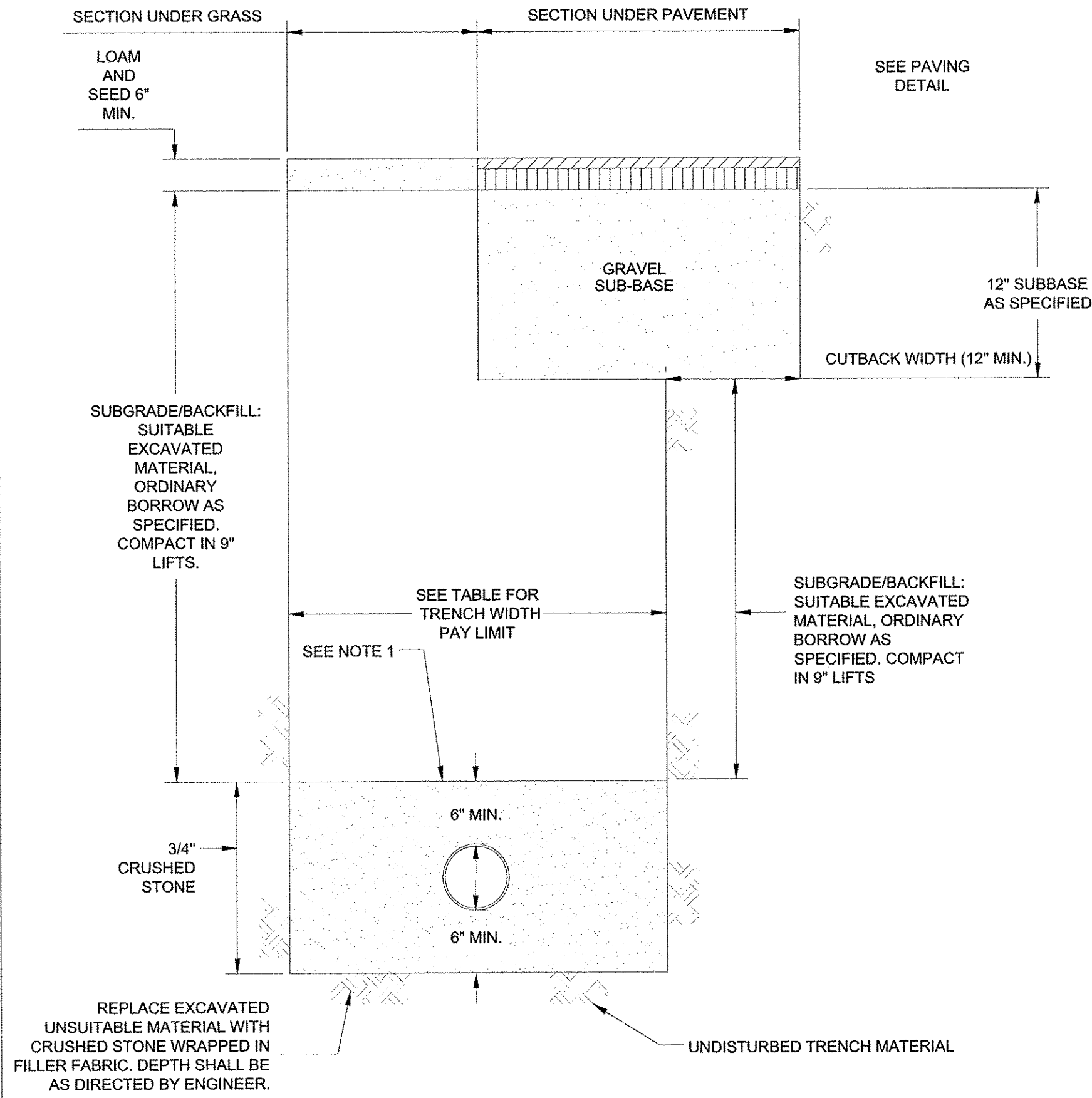
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									REVISIONS

DATE: NOVEMBER 2017
PROJECT NO.: 20163393.002
DRAWN BY: JA
CHECKED BY: GO
FILE NAME: G-Cover and Notes

GENERAL NOTES AND LEGEND

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

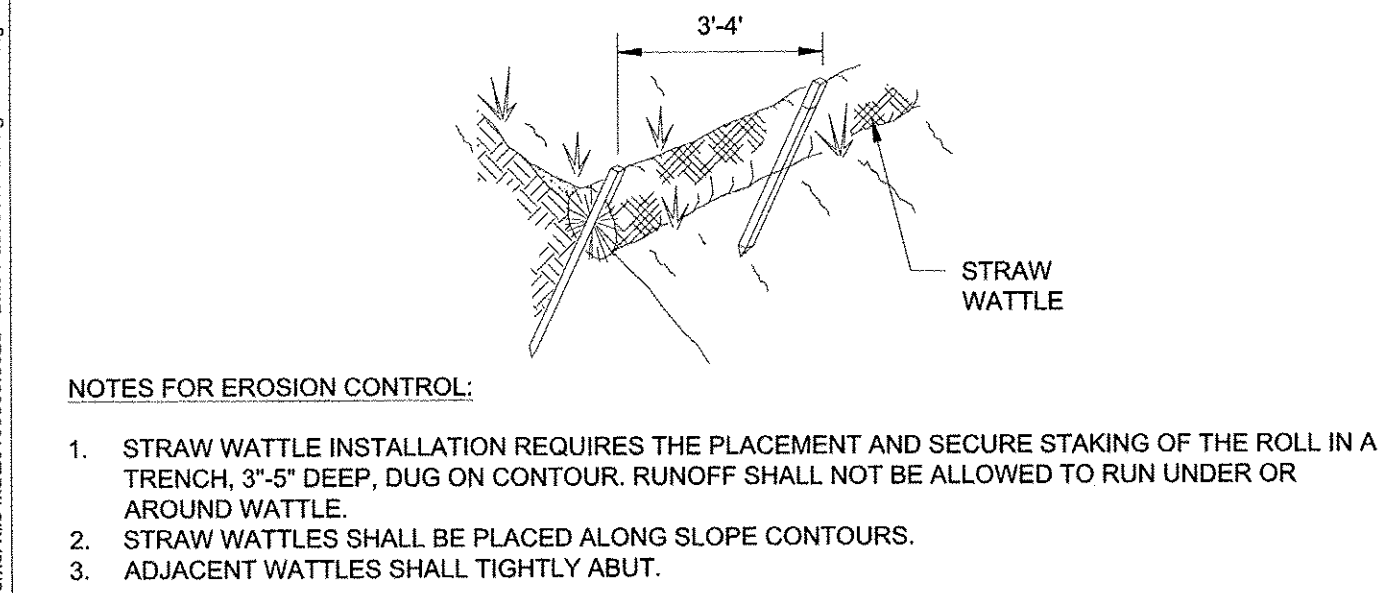
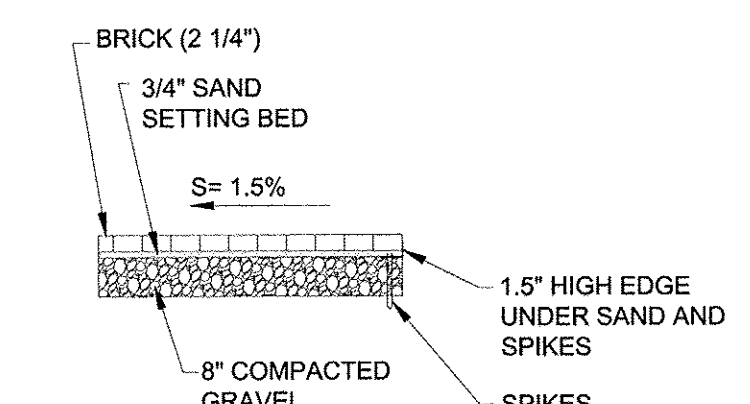


TRENCH PAYMENT LIMITS

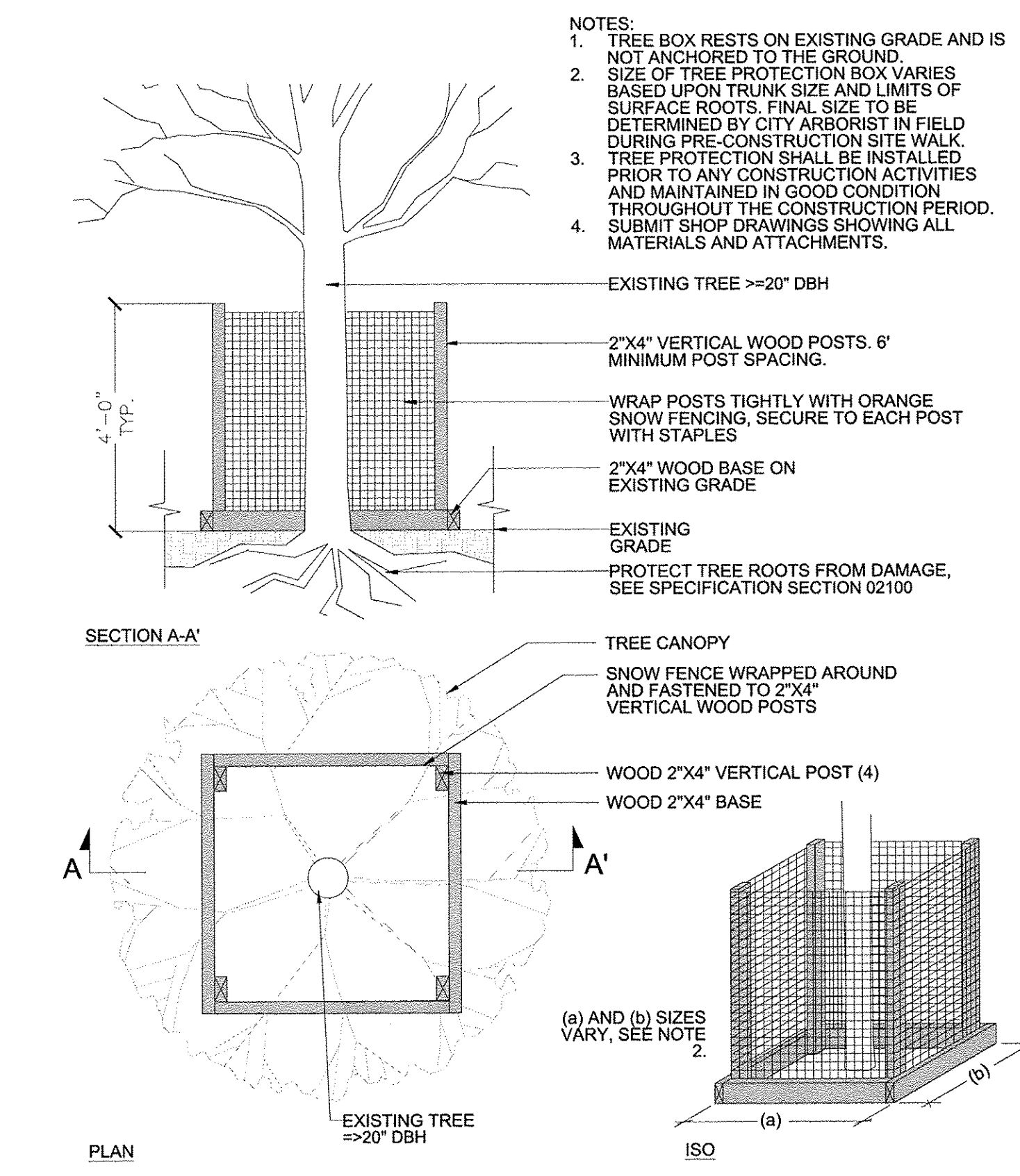
PIPE SIZE (DIA.)	MAX TRENCH WIDTH FOR PAYMENT
8" TO 22"	4'-0"
24" AND GREATER	I.D. + 2'-0"

UTILITY TRENCH DETAIL
SCALE: N.T.S.

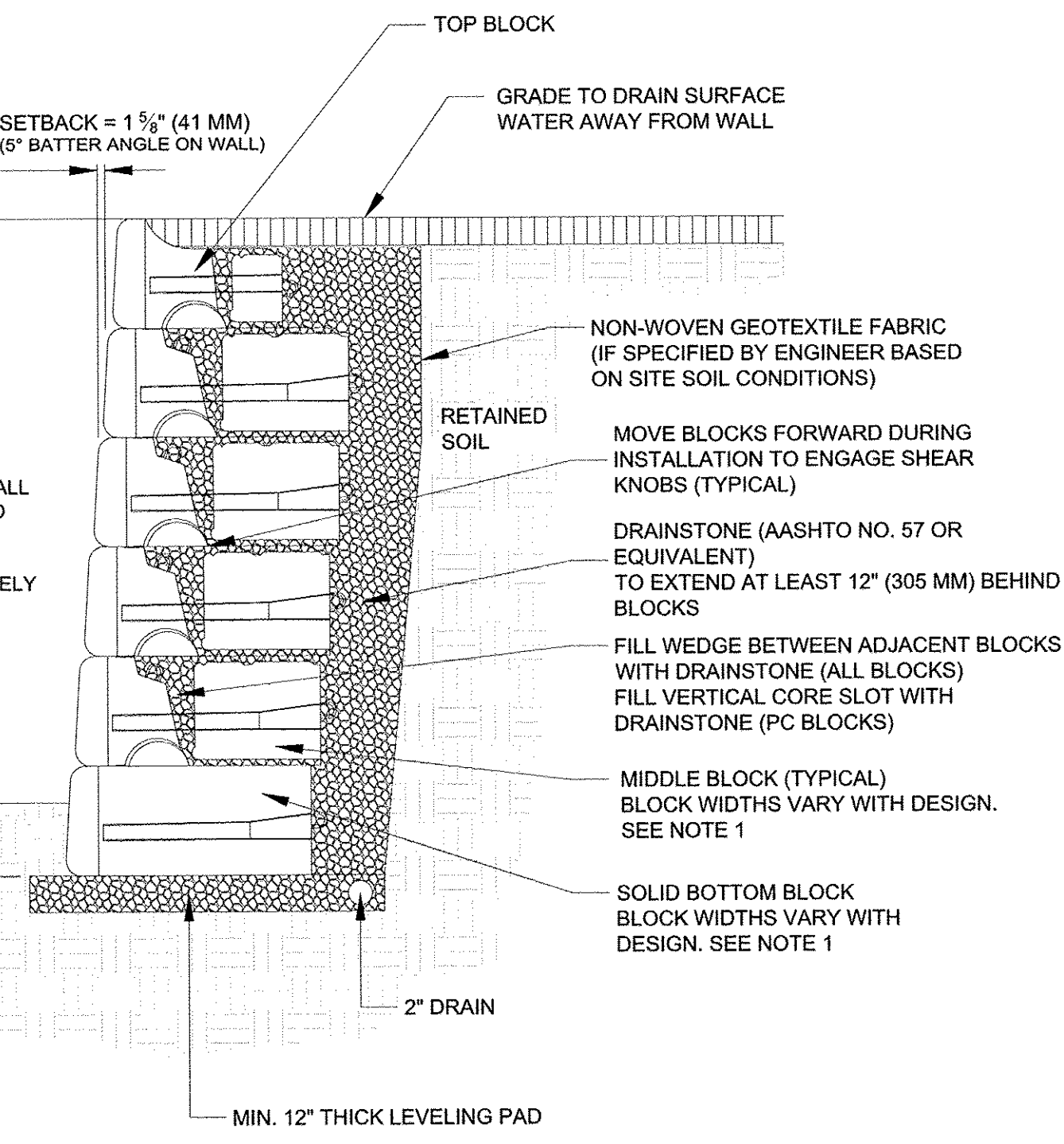
BRICK WALKWAY RESTORATION DETAIL
SCALE: N.T.S.



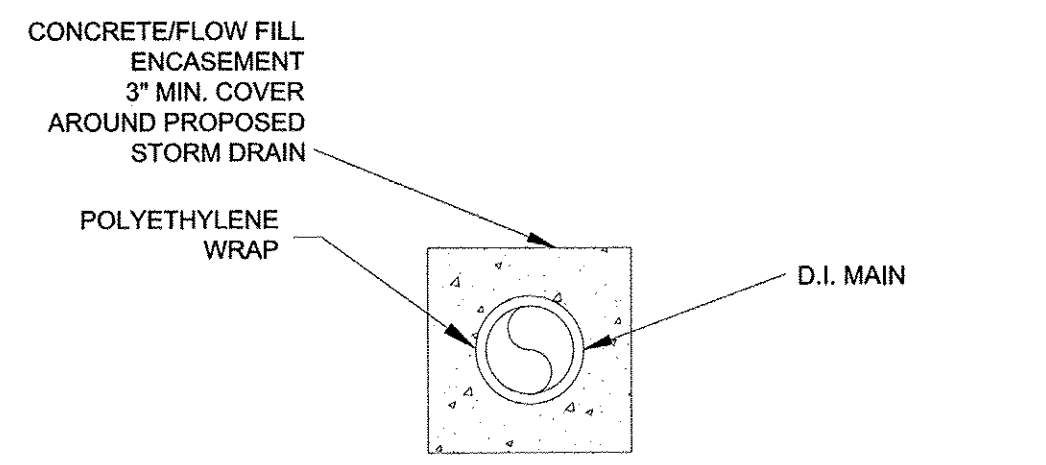
TYPICAL STRAW WATTLE DETAIL
SCALE: N.T.S.



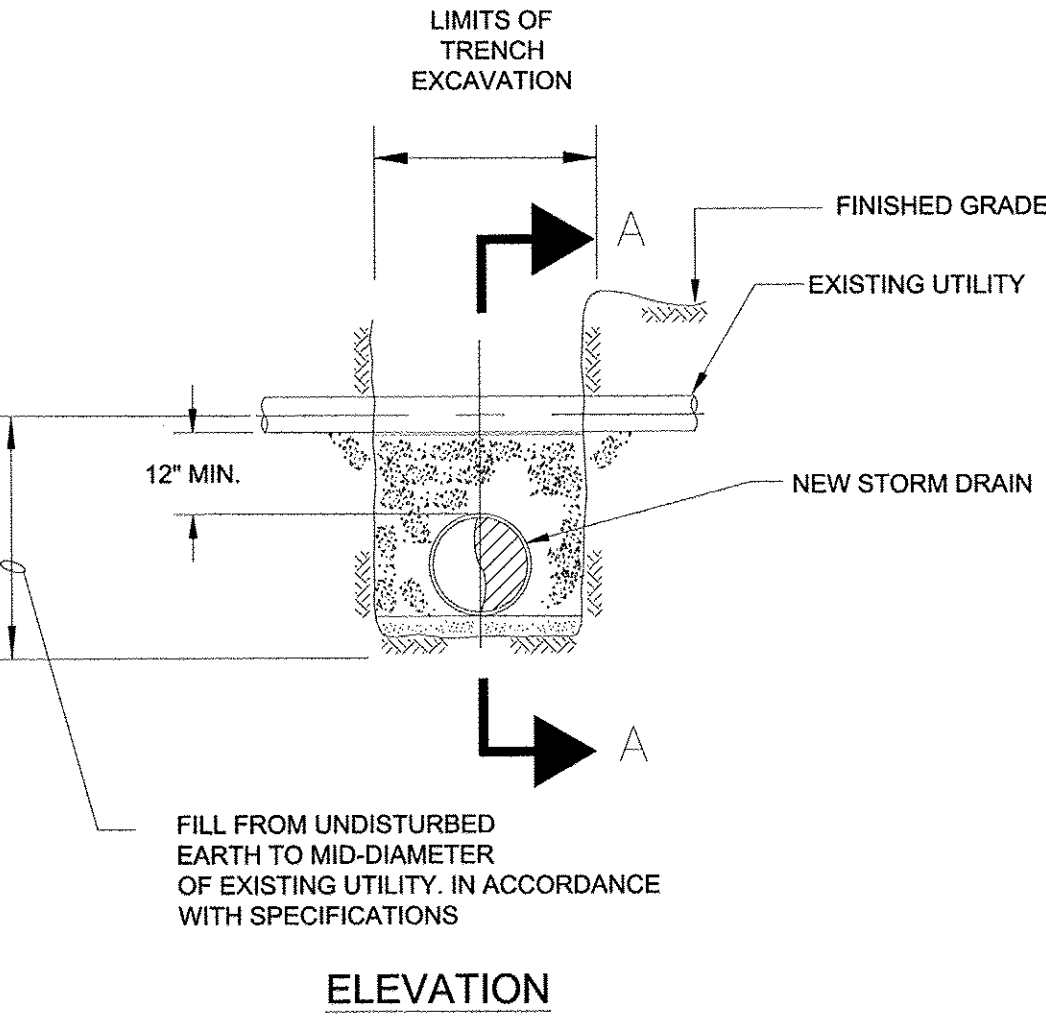
TREE PROTECTION FOR LARGE TREES
SCALE: N.T.S.



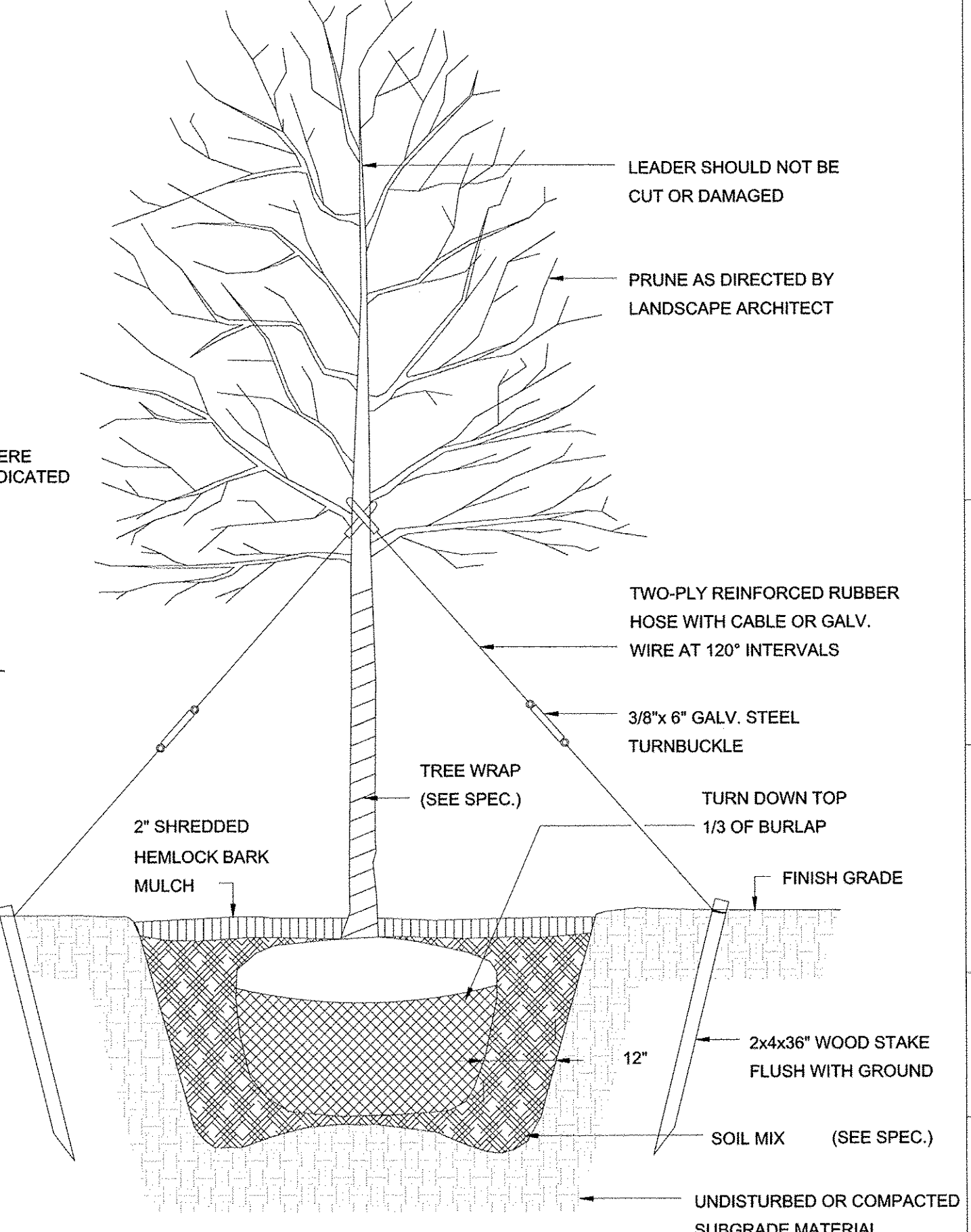
GRAVITY BLOCK WALL DETAIL
SCALE: N.T.S.



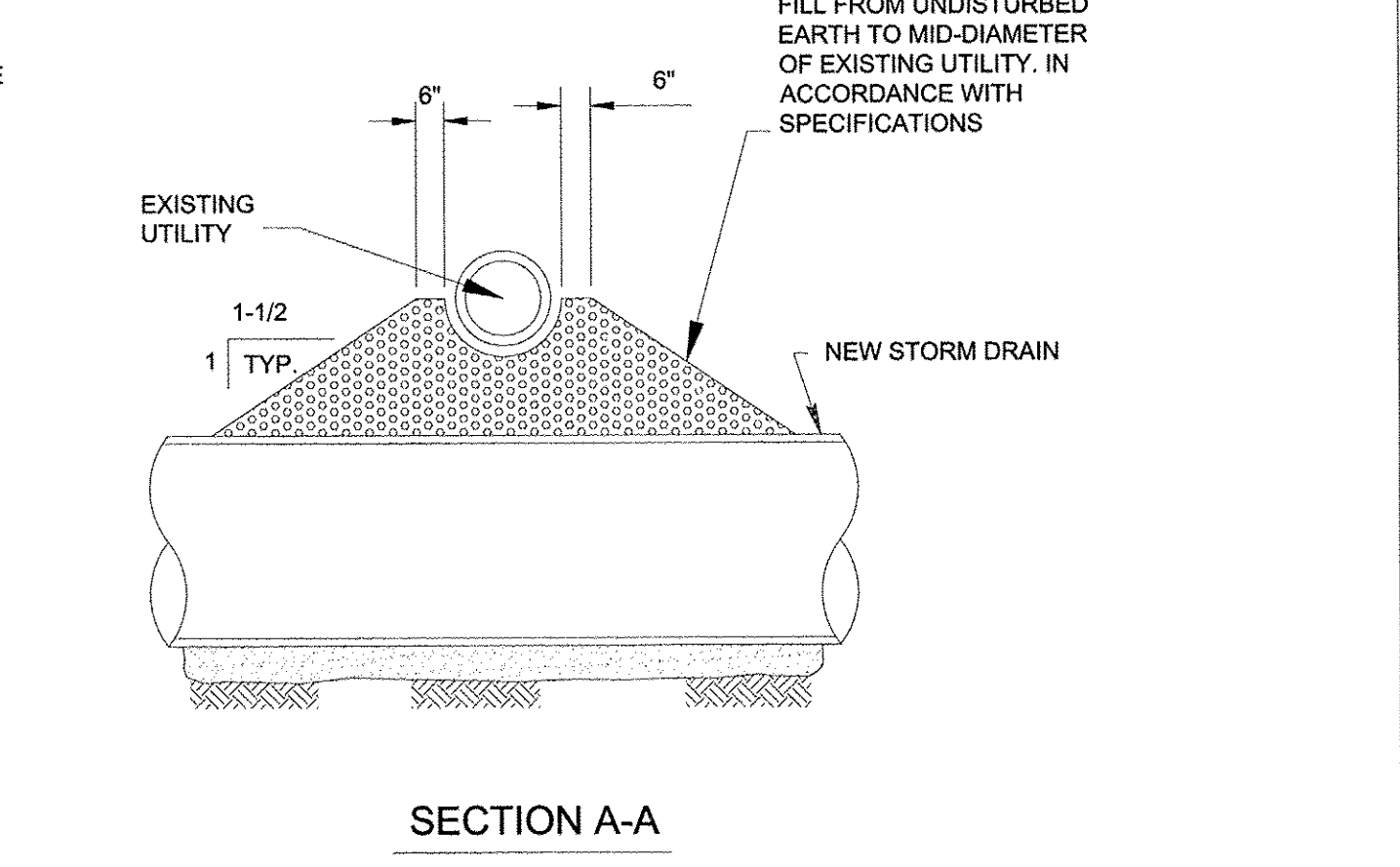
CONCRETE ENCASEMENT/FLOW FILL FOR UTILITY CROSSINGS
SCALE: N.T.S.



TYPICAL UTILITY CROSSING DETAIL
SCALE: N.T.S.



TYPICAL TREE PLANTING DETAIL
SCALE: N.T.S.



TYPICAL UTILITY CROSSING DETAIL
SCALE: N.T.S.

KLEINFELDER
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COMMONWEALTH OF MASSACHUSETTS
MICHAEL P. CUNNINGHAM
CIVIL ENGINEER
No. 45678
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DATE: NOVEMBER 2017
PROJECT NO.: 20163393.002
DRAWN BY: JA
CHECKED BY: GO
FILE NAME: C-Details

REVISIONS

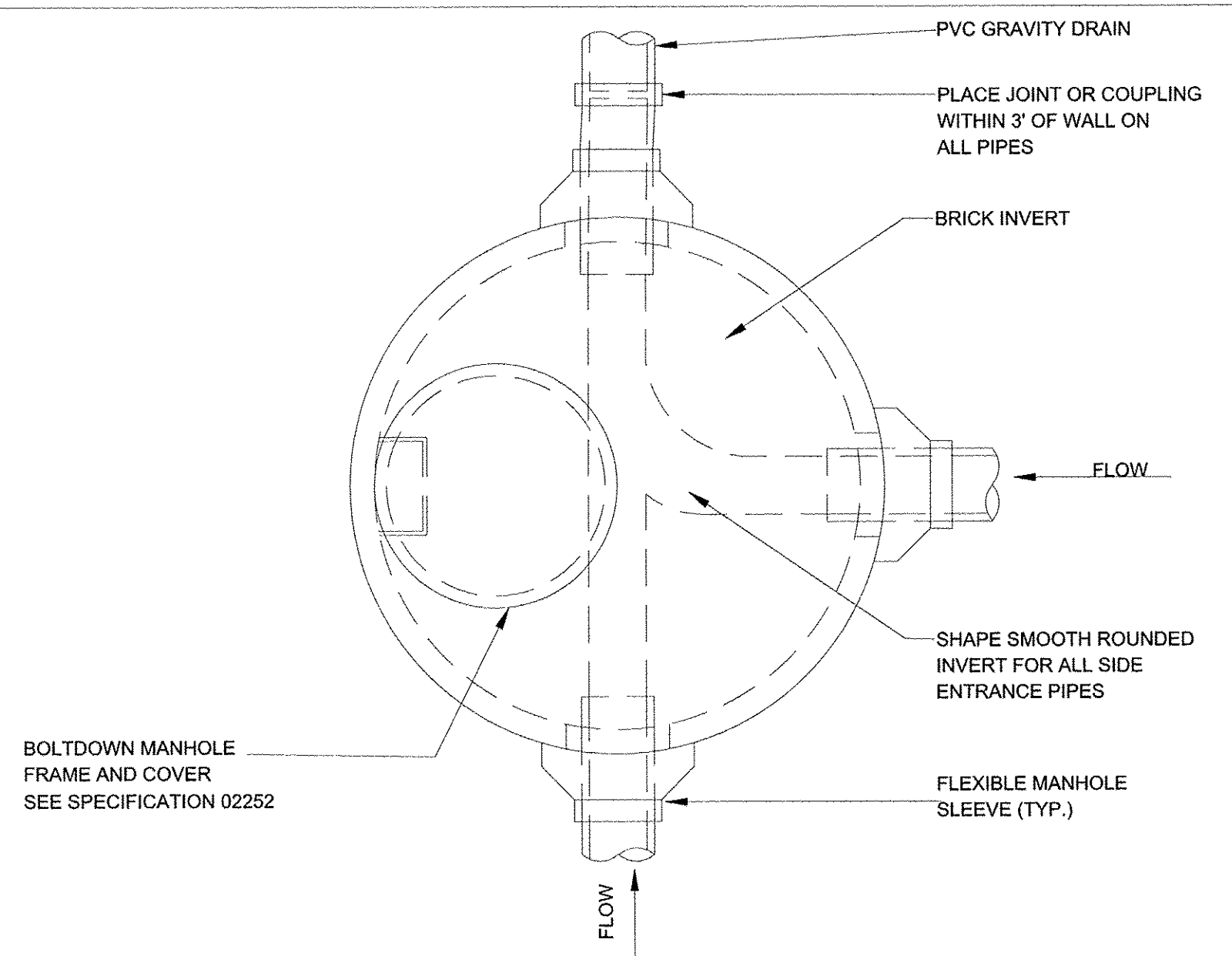
DETAILS 1

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

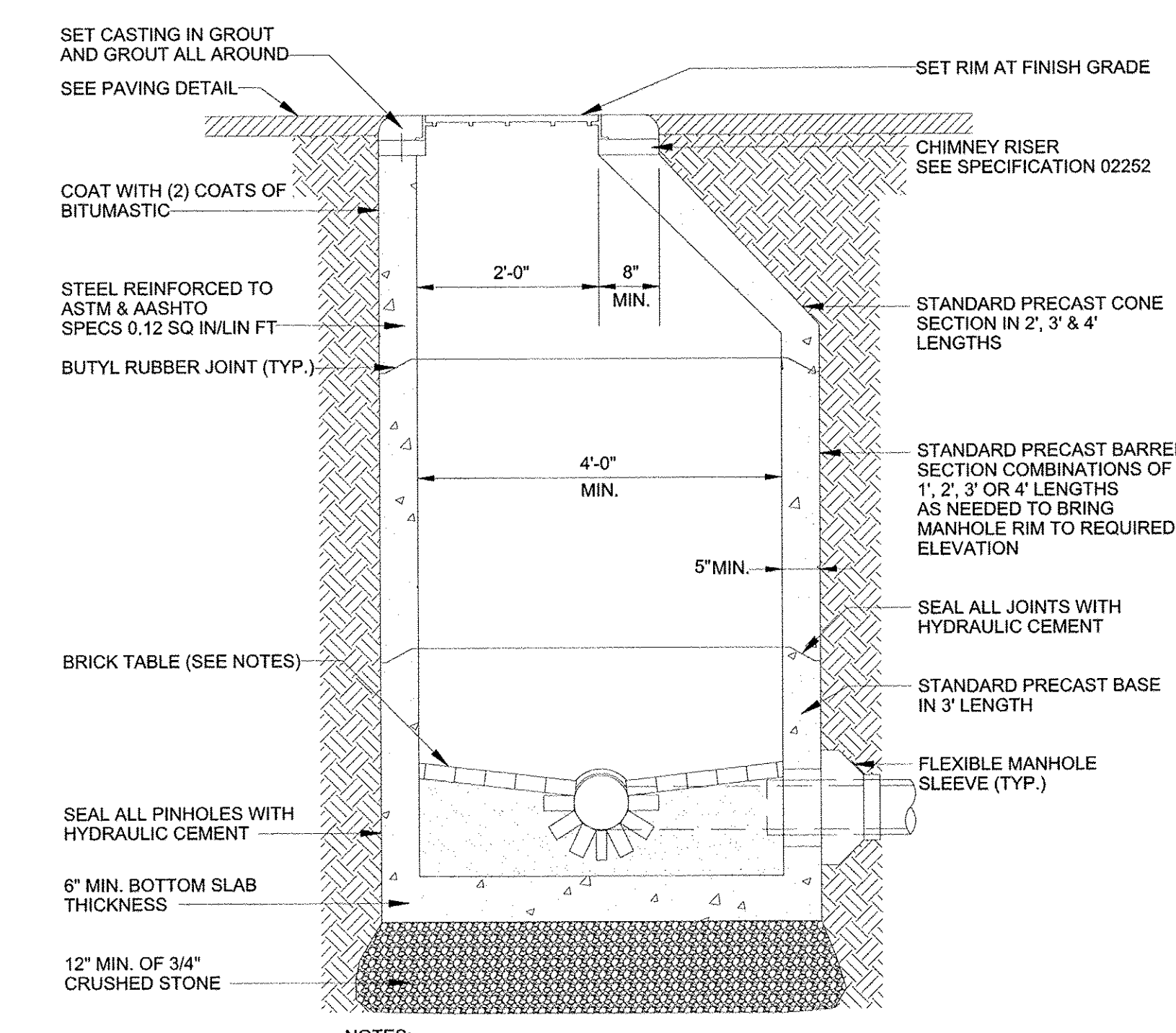
SHEET
CG-1

PLOTTED: 11/20/2017 2:01 PM BY: judy.leigh.amick

CAD FILE: C:\clients\Somerville_Ma\20163393.002a - Bike Path Drain Design\Drawings\C-Details_2.dwg LAYOUT: DETAILS 2

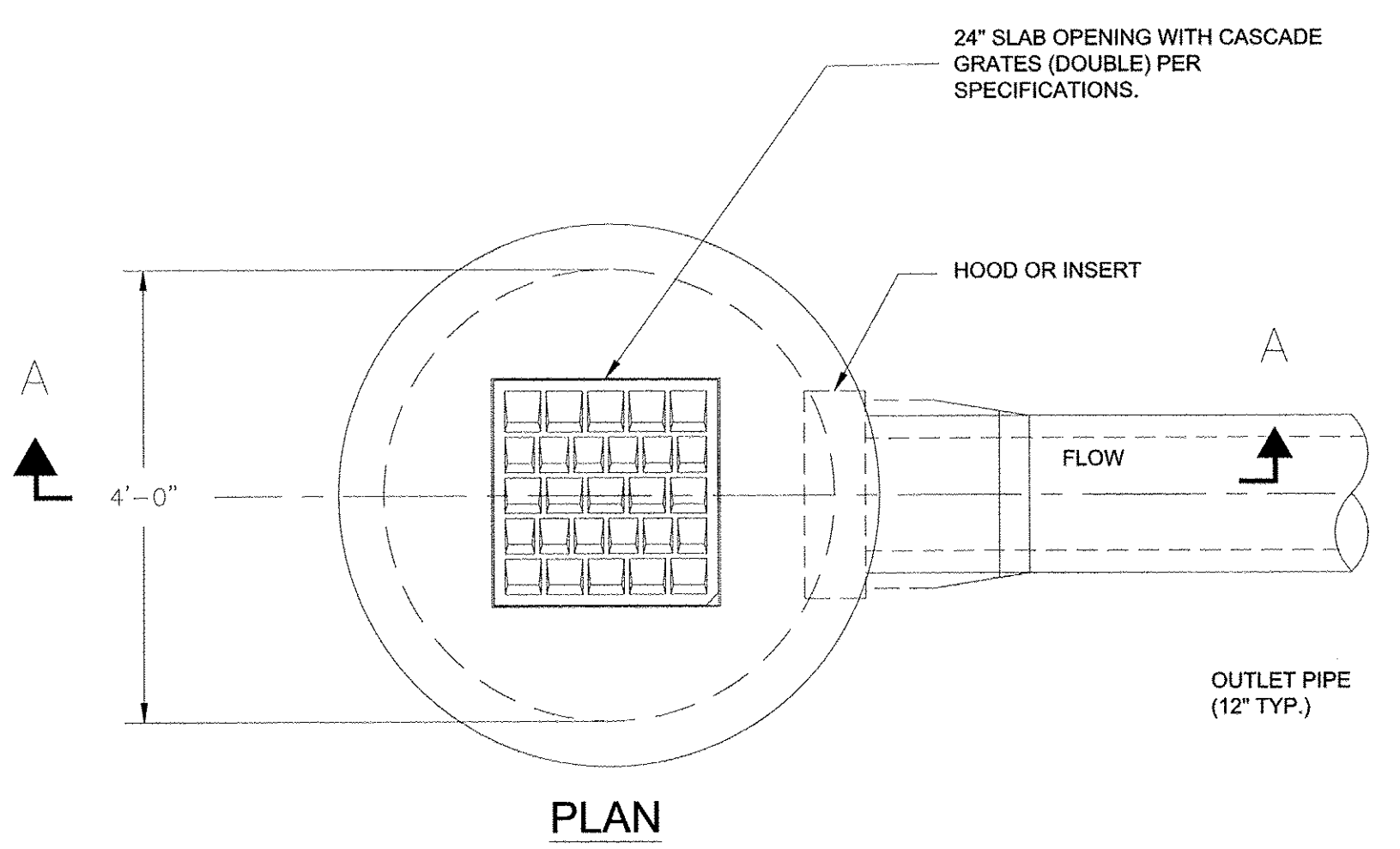


TYPICAL MANHOLE (PLAN)
SCALE: N.T.S.

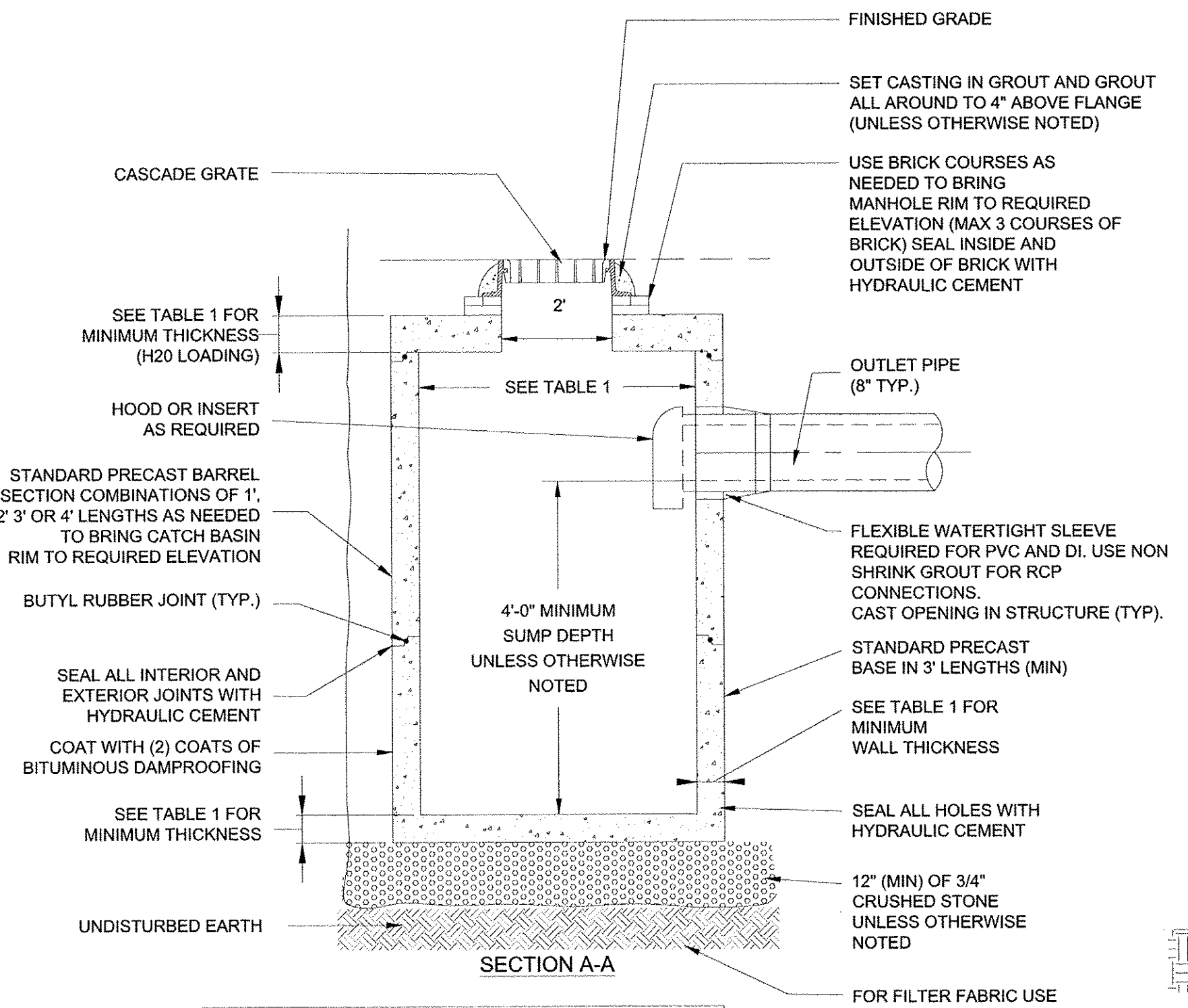


- NOTES:
- INNER EDGE OF BRICK TABLE TO BE AT ELEVATION OF CROWN OF TOP OF PIPE. TABLE TO SLOPE AT 1" PER 1' TO INSIDE OF MANHOLE BASE.
 - TYPICAL MANHOLE TO BE 4 FOOT INSIDE DIAMETER.

TYPICAL MANHOLE (ELEVATION)
SCALE: N.T.S.



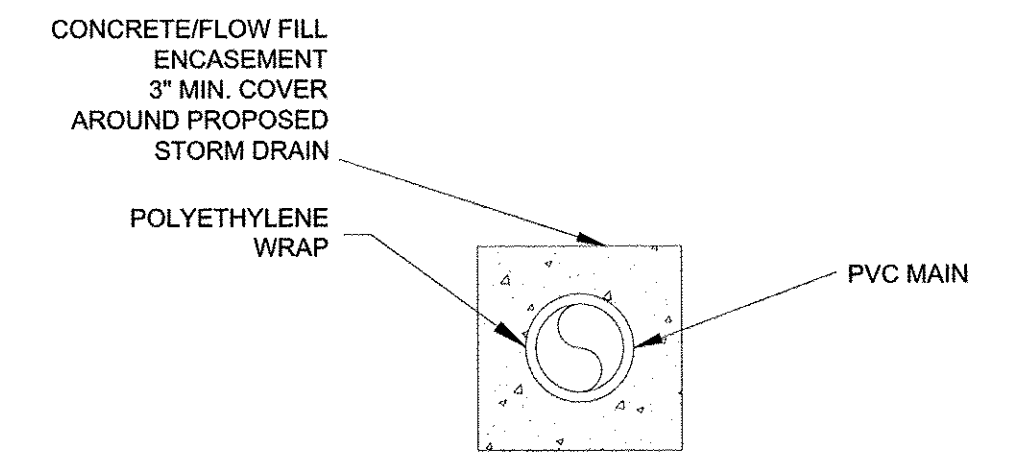
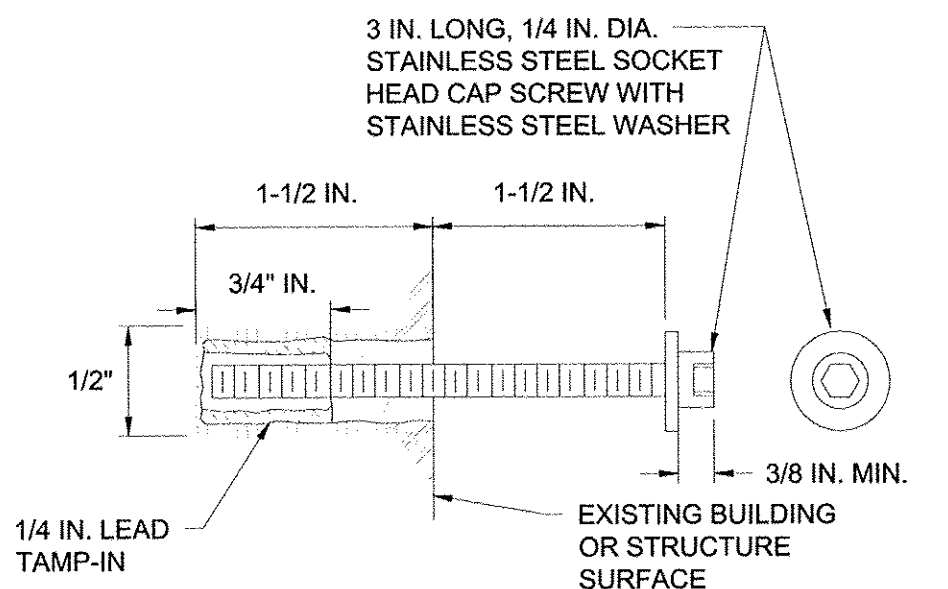
SINGLE GRATE CATCH BASIN
SCALE: N.T.S.



CATCH BASIN Ø (I.D.)	MINIMUM WALL THICKNESS		
	TOP	BOTTOM	SIDE
TYPE 1 4'-0"	8"	6"	5"

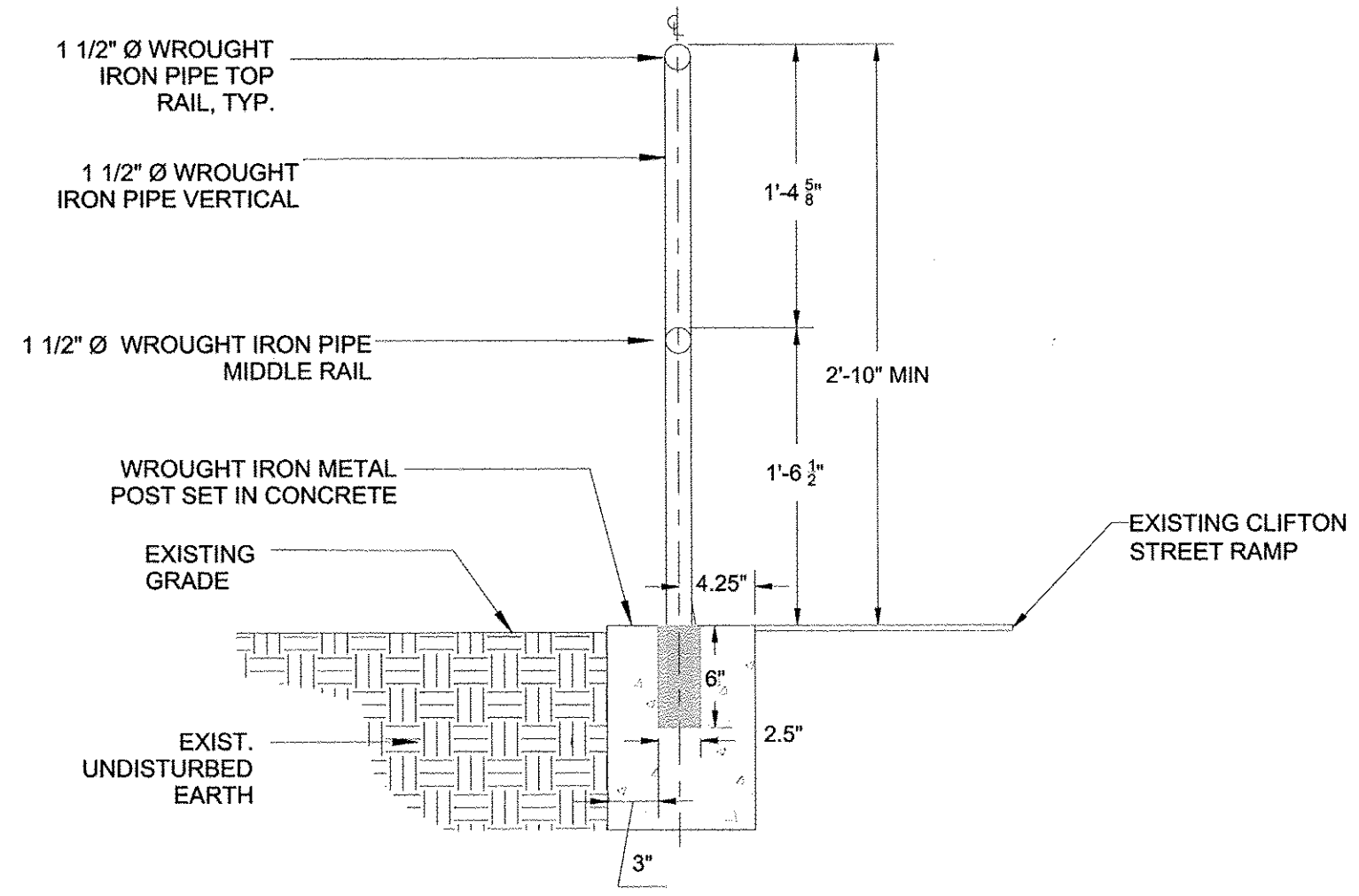
I.D. = INSIDE DIMENSION

TYPICAL BUILDING MONITORING POINT (BMP) DETAIL - TYPE 1
SCALE: N.T.S.

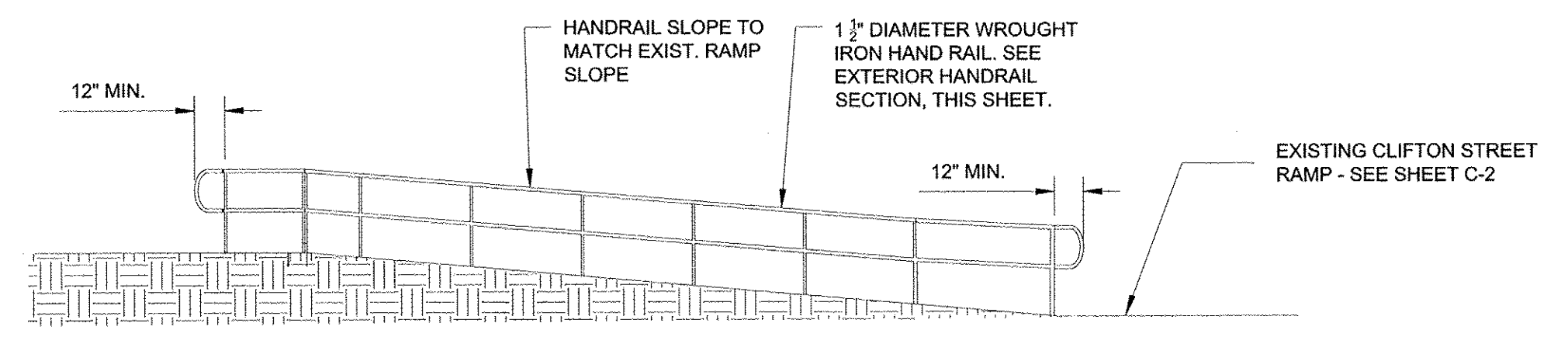


- NOTES:
- CONTRACTOR SHALL ENCASE STORM DRAIN FOR UTILITY CROSSINGS WHERE MINIMUM CROSSING CLEARANCE IS LESS THAN 12-INCHES AND WHERE INDICATED ON THE DRAWINGS.

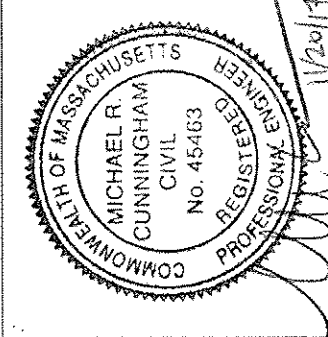
CONCRETE ENCASEMENT/FLOW FILL FOR UTILITY CROSSINGS
SCALE: N.T.S.



EXTERIOR HANDRAIL SECTION
SCALE: N.T.S.



ENLARGED VIEW-CLIFTON STREET RAMP
SCALE: N.T.S.

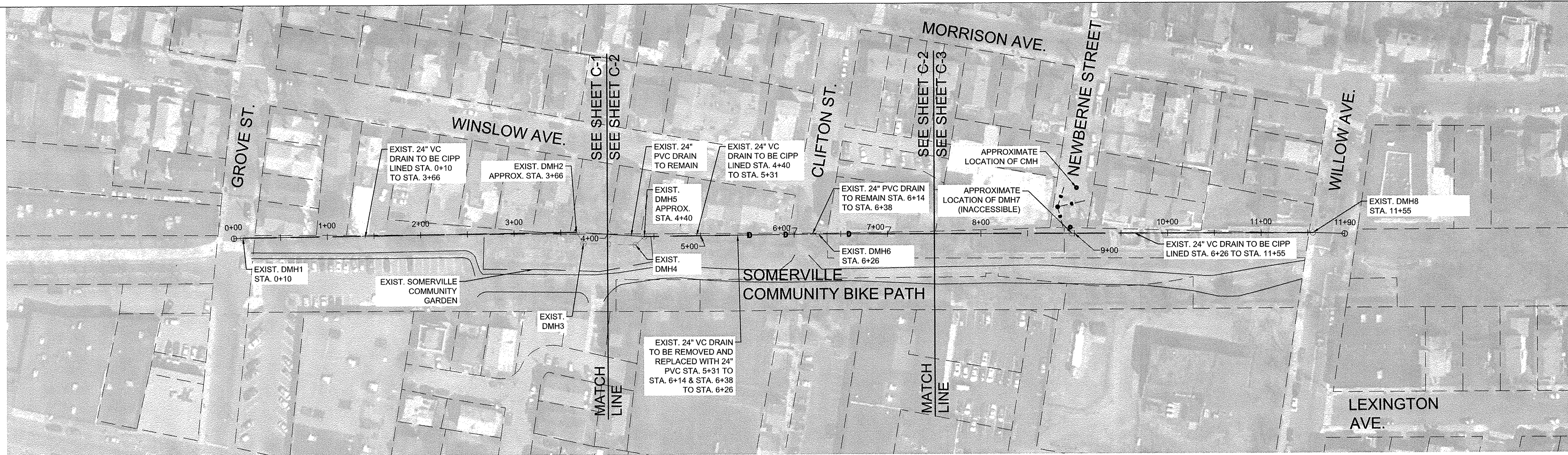
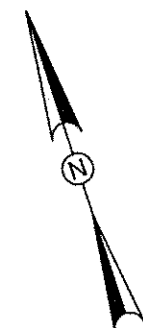


DATE	NOVEMBER 2017	PROJECT NO.	20163393.002	DRAWN BY	JA	CHECKED BY	GO	FILE NAME	C-Details_2
REVISIONS									

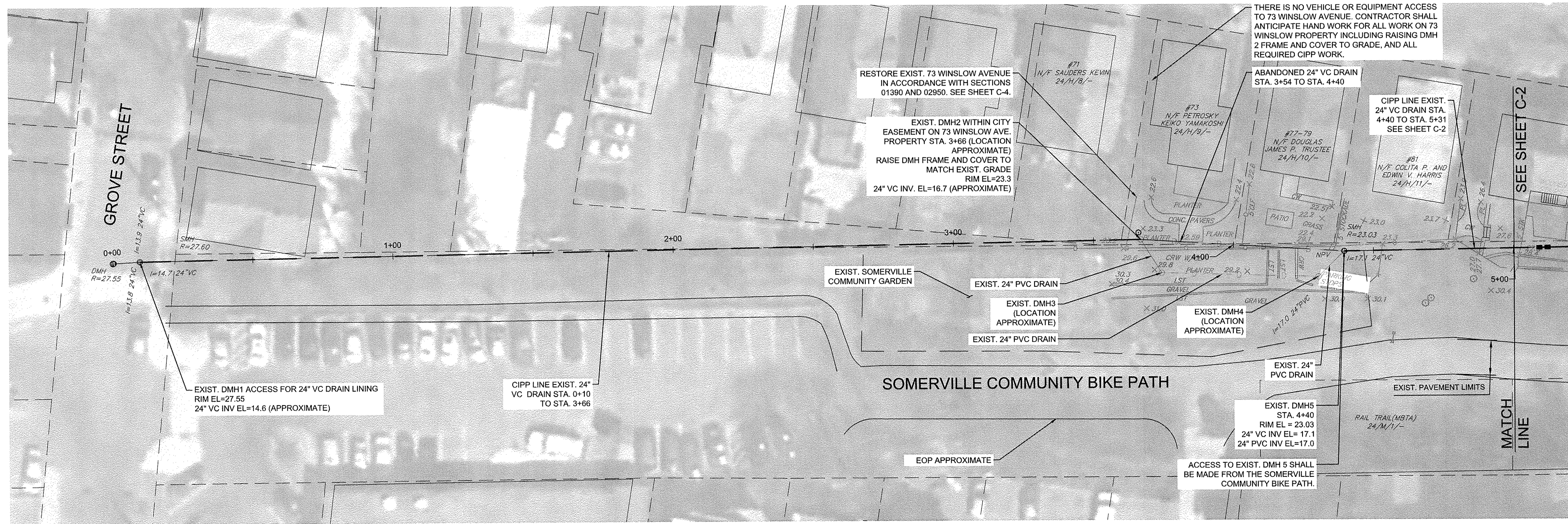
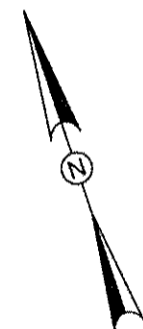
DETAILS II

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

SHEET
CG-2



LIMITS OF WORK PLAN
SCALE: 1" = 60'



- NOTES:**
- CONTRACTOR TO VERIFY ALL LISTED DIAMETERS, LENGTHS, AND DEPTH IN FIELD PRIOR TO CONSTRUCTION.
 - DMH2 IS WITHIN A CITY EASEMENT ON PRIVATE PROPERTY. REFER TO GENERAL NOTES AND SPECIFICATIONS FOR PROTECTION OF EXISTING CONDITIONS AND RESTORATION OF PROPERTY. WORK SHALL NOT COMMENCE UNTIL CITY OBTAINS RIGHT OF ENTRY. CONTRACTOR TO COORDINATE ACCESS TO DMH2 WITH PROPERTY OWNER AT 73 WINSLOW AVENUE. REMOVE AND RESET EXIST CHAIN LINE FENCE AS REQUIRED. REFER TO SHEET C-4 FOR PRIVATE PROPERTY RESTORATION.

PLAN
SCALE: 1" = 20'



DATE	REVISIONS	DRAWN BY	CHECKED BY	FILE NAME
NOVEMBER 2017		JA	GO	20163393_002C-Site Plan
PROJECT NO. 20163393_002				

PROPOSED DRAIN SITE PLAN
STA. 0+00 TO STA. 5+00

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

SHEET

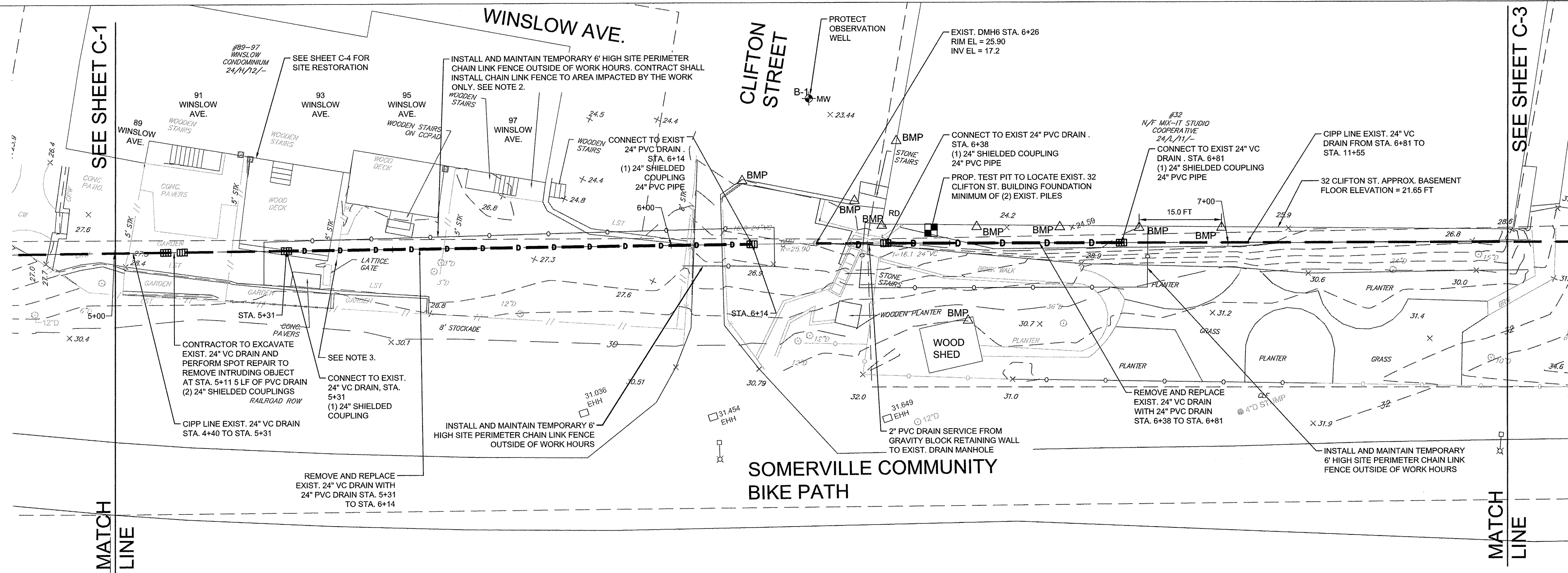
C-1

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MA20163393.002a - Bike Path Drain DesignDrawings\20163393.002C-Site Plan.dwg LAYOUT: C-2

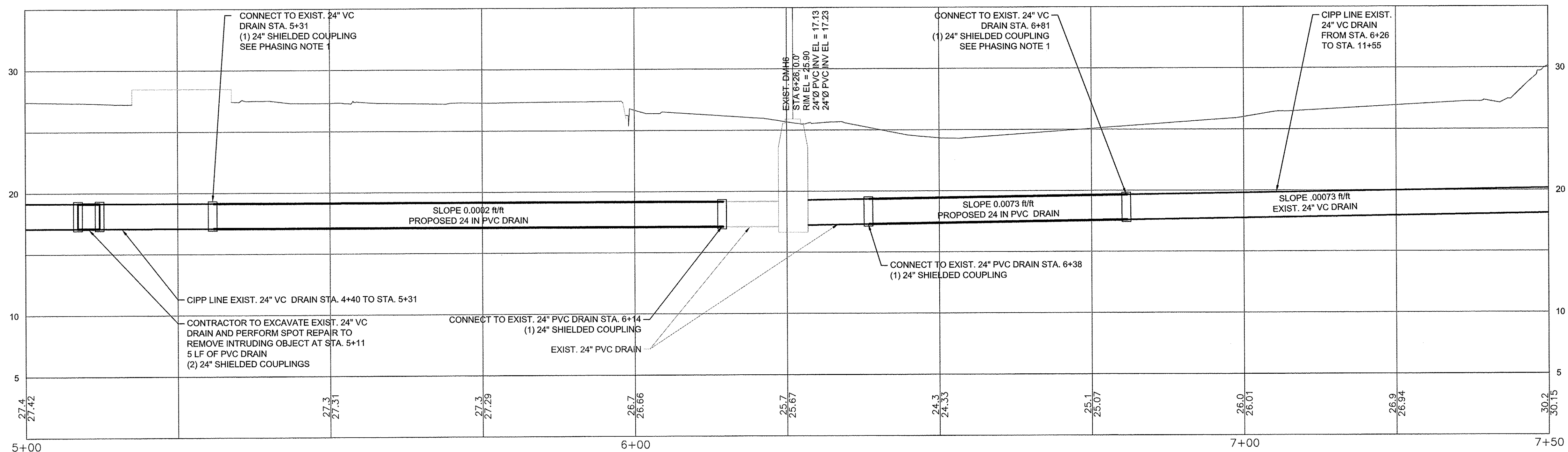
- NOTES:
- THE CONTRACTOR SHALL NOT BE ALLOWED TO ACCESS THEIR WORK ZONE VIA THE SOMERVILLE COMMUNITY BIKE PATH. THE CONTRACTOR SHALL ACCESS THEIR WORK ZONE VIA CLIFTON ST.
 - CONTRACTOR SHALL SEQUENCE THE WORK TO ALLOW PEDESTRIAN ACCESS TO THE SOMERVILLE COMMUNITY BIKE PATH AT CLIFTON STREET DURING CONSTRUCTION. REFER TO SHEET TMP-2.
 - THE CONTRACTOR SHALL INSTALL TEMPORARY SITE FENCING AT THE EXISTING FENCE LINES IMPACTED BY THE WORK ALONG 89 WINSLOW AVENUE TO 97 WINSLOW AVENUE. PROPOSED TEMPORARY SITE FENCING SHALL BE 4' HIGH ORANGE SNOW BARRIER FENCE. THE CONTRACTOR SHALL PROTECT ALL ACTIVE WORK AREAS AT THE END OF EACH WORK DAY.

- PHASING NOTES:
- CONTRACTOR TO COORDINATE SEQUENCE OF WORK TO ALLOW CIPP LINING (STA. 4+40 TO STA. 5+31) TO PROCEED PRIOR TO REPLACING EXISTING 24" VC DRAIN. CONTRACTOR TO NOTE THAT CIPP LINING THIS REACH WILL REQUIRE ACCESS TO THE TRENCH AT STA. 5+31 PRIOR TO CONNECTING TO THE EXISTING PIPE.



PLAN
SCALE: 1" = 10'

0 10 20 30
SCALE: 1" = 10' SCALE IN FEET



PROFILE
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

10 5 0 10 20
5 0 5 10
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

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STATE OF MASSACHUSETTS
MICHAEL R. CUNNINGHAM
LICENSED PROFESSIONAL ENGINEER
LICENSE NO. 64683
PRACTICE NO. 1001210

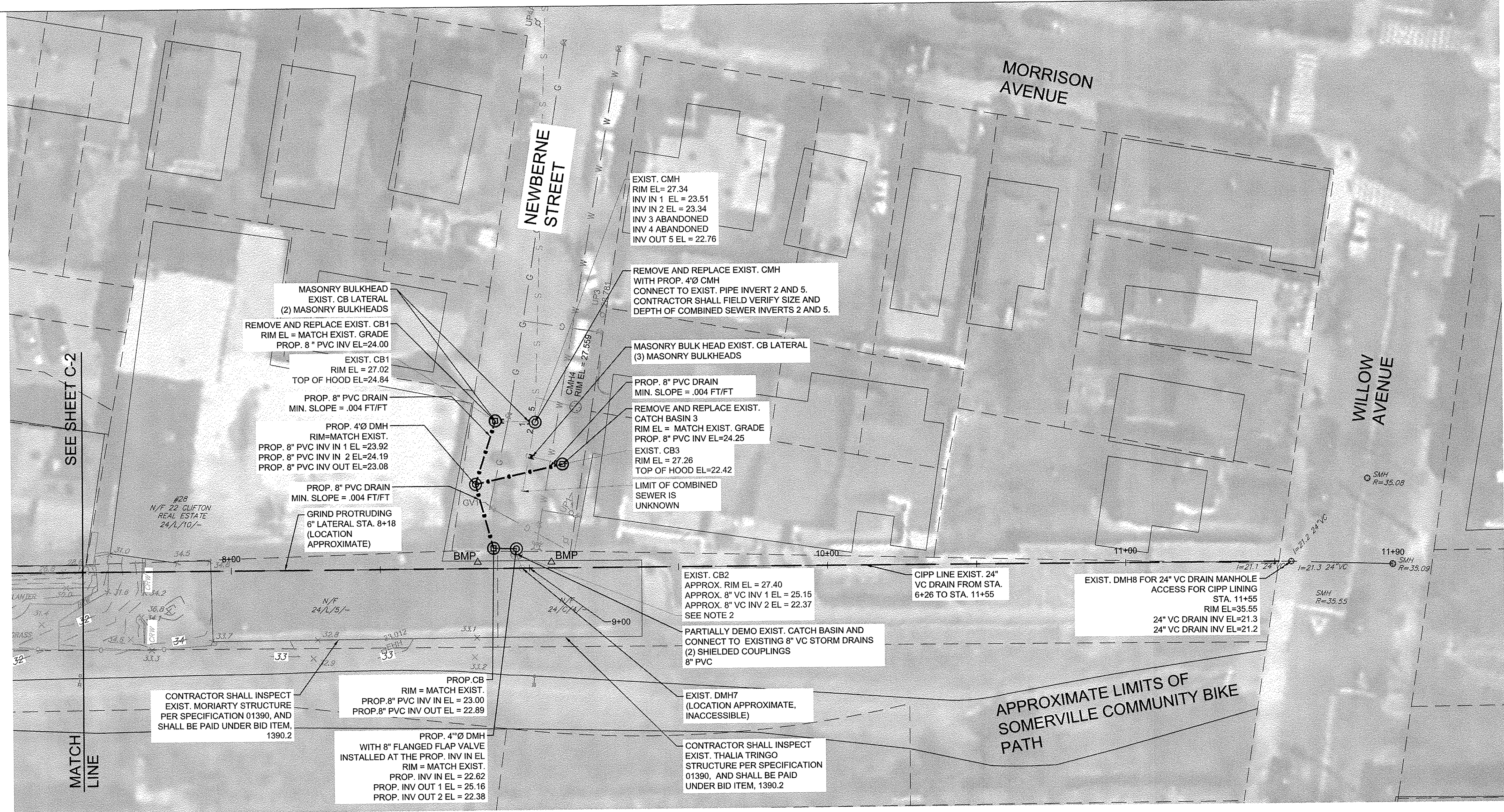
NO.	DATE	REVISIONS

DATE	NOVEMBER 2017
PROJECT NO.	20163393.002
DRAWN BY	JA
CHECKED BY	GO
FILE NAME	20163393.002C-Site Plan

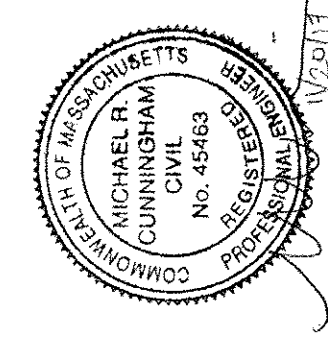
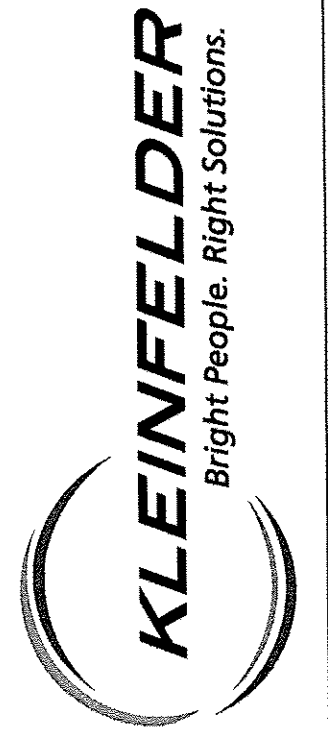
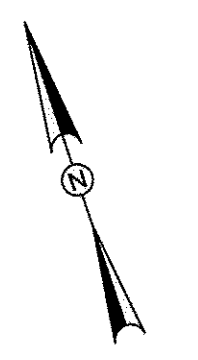
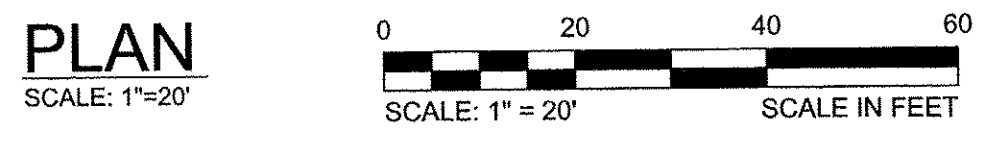
PROPOSED DRAIN SITE PLAN
STA. 5+00 TO STA. 7+50

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

SHEET
C-2



- NOTES:
- CONTRACTOR SHALL BE AWARE THAT MWRA WATER MAINS EXIST IN WILLOW AVENUE AND THAT ANY EXCAVATION IN WILLOW AVENUE WILL REQUIRE AN 8(m) PERMIT. IF EXCAVATION IN WILLOW AVENUE IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITTING THE WORK THROUGH THE MWRA AND ALL THE PERMIT REQUIREMENTS.
 - CONTRACTOR TO CLEAN AND CCTV EXIST 8\"/>



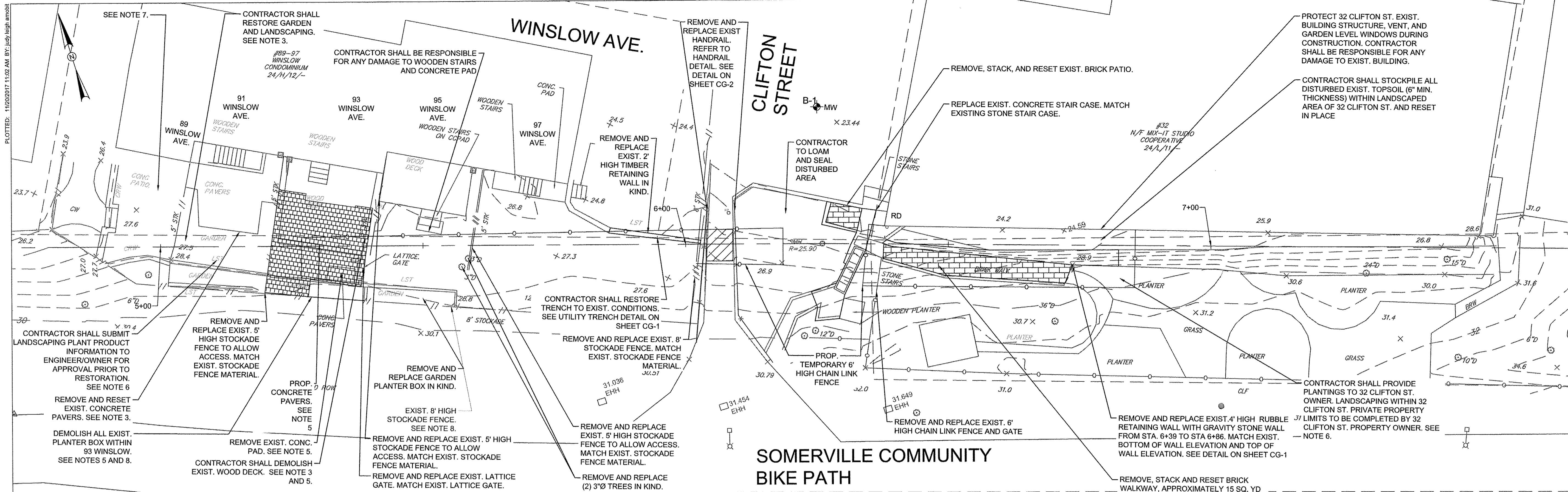
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PROJECT NO.	2016393.002
DRAWN BY	JA
CHECKED BY	GO
FILE NAME	2016393.002C-Site Plan

PROPOSED DRAIN SITE PLAN
STA. 7+50 TO STA. 12+00

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

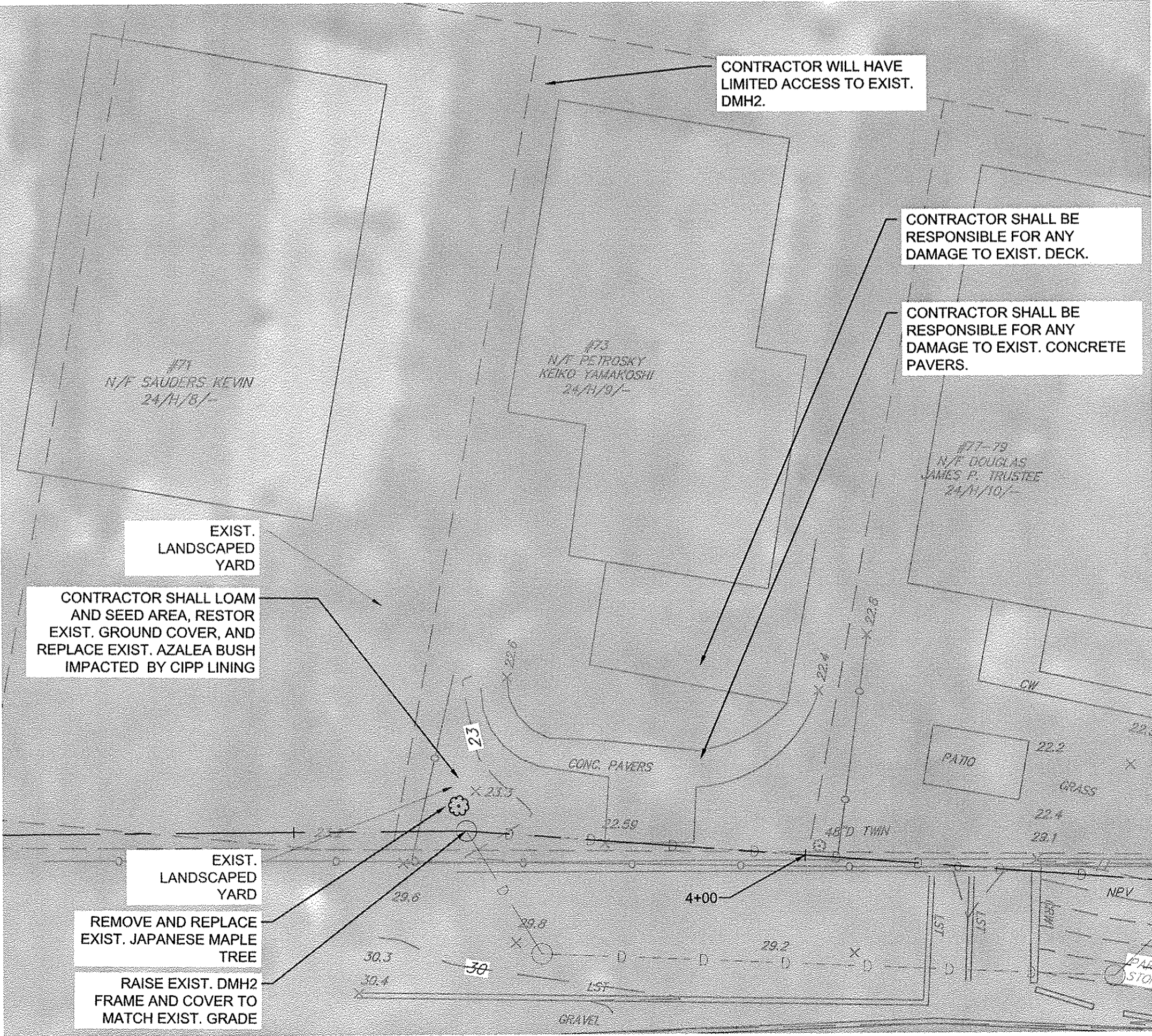
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CAD FILE: G:\clients\somerville\2016\3393\022a - Bike Path Drain Design\Drawings\02163393_022C_Site Plan.dwg LAYOUT: C-4



- NOTES:**
- BIDDERS SHALL ATTEND THE MANDATORY PRE-BID SITE VISIT TO DISCUSS THE PROJECT AND OBSERVE THE EXISTING PRIVATE PROPERTY IMPACTS. REFER TO INFORMATION FOR BIDDERS PACKAGE FOR DATE AND LOCATION OF THE PRE-BID SITE VISIT. BIDDERS THAT ARE NOT PRESENT DURING THE PRE-BID SITE VISIT SHALL BE DISQUALIFIED.
 - THE CONTRACTOR SHALL INSTALL TEMPORARY SITE FENCING AT THE EXISTING FENCE LINES IMPACTED BY THE WORK ALONG 89 WINSLOW AVENUE TO 97 WINSLOW AVENUE. PROPOSED TEMPORARY SITE FENCING SHALL BE 4' HIGH ORANGE SNOW BARRIER FENCE. THE CONTRACTOR SHALL PROTECT ALL ACTIVE WORK AREAS AT THE END OF EACH WORK DAY.
 - CONTRACTOR SHALL SELECTIVELY DEMOLISH PRIVATE PROPERTY LANDSCAPE FEATURES, DECKS, AND FENCES AS REQUIRED FOR DRAIN REPLACEMENT. AFTER ACCEPTANCE OF PROPOSED DRAIN, CONTRACTOR SHALL RESTORE EXISTING PRIVATE PROPERTY LANDSCAPE FEATURES AND FENCES TO PRE-CONSTRUCTION CONDITIONS EXCEPT AS OTHERWISE NOTED. REFER TO SPECIFICATIONS 01390 AND 02950.
 - CONTRACTOR SHALL SEQUENCE WORK TO MAINTAIN PEDESTRIAN ACCESS TO THE SOMERVILLE COMMUNITY BIKE PATH AT CLIFTON STREET DURING CONSTRUCTION. REFER TO SHEET TMP-2.
 - 93 WINSLOW AVENUE WILL NOT BE RESTORED TO MATCH EXISTING CONDITIONS. UNDER BID ITEM 02950.4, THE CONTRACTOR SHALL DEMOLISH THE EXISTING WOOD DECK AND INSTALL CONCRETE PAVERS TO THE LIMITS IDENTIFIED IN THIS PLAN. CONTRACTOR SHALL REFER TO APPENDIX E TO THE CONTRACT SPECIFICATIONS.
 - CONTRACTOR SHALL PROVIDE 32 CLIFTON STREET AND 91 WINSLOW AVENUE PROPERTY OWNERS WITH MATURE PLANTS LISTED IN APPENDIX F. THE LANDSCAPE PLANTINGS RESTORATION FOR 91 WINSLOW AVENUE WILL BE COMPLETED BY THE PROPERTY OWNER. UPON THE OWNER'S RECEIPT OF THE PLANTINGS, CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SIGNED AFFIDAVIT BY THE PROPERTY OWNER FOR THEIR RECORDS. SEE APPENDIX F FOR MATURE PLANTINGS LIST AND AFFIDAVIT.
 - WORK WITHIN THE PROPERTY AT 89 WINSLOW AVENUE PROPERTY LIMITS IS NOT ANTICIPATED. AN ALLOWANCE HAS BEEN ALLOCATED UNDER BID ITEM 02950.2 SHOULD RESTORATION BE NECESSARY FOR THE WORK ASSOCIATED TO ESTABLISH A CONNECTION WITH EXIST. 24" STORM DRAIN PIPE. IF THE EXIST. 24" VC DRAIN AT THE PROPOSED CONNECTION, STA 5+31, IS NOT A SUITABLE SECTION OF PIPE TO ESTABLISH A CONNECTION, THEN UNDER THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL EXTEND THE LIMIT OF WORK INTO 89 WINSLOW AVE., AND EXCAVATION AND CONNECT TO A SECTION OF PIPE DEEMED SUITABLE BY THE ENGINEER.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING GARDEN PLANTER BOXES AS INDICATED ON THE DRAWINGS AND/OR INSTALLING TIMBER RETAINING WALL TO PROTECT EARTH FROM ERODING BELOW THE EXIST. 8' HIGH STOCKADE FENCE PAID UNDER BID ITEMS 02950.2 THROUGH 02950.6.

PLAN
SCALE: 1"=10'



PLAN
SCALE: 1"=10'



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PROFESSIONAL SEAL
MICHAEL R. CLUNINGHAM
REGISTERED PROFESSIONAL ENGINEER
NO. 45463
COMMONWEALTH OF MASSACHUSETTS

DATE	NOVEMBER 2017	PROJECT NO.	20163393.002	DRAWN BY	JA	CHECKED BY	GO	FILE NAME	20163393.002C-Site Plan
REVISIONS									

PROPOSED SITE RESTORATION
SITE PLAN

CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

SHEET
C-4

CONSTRUCTION SIGN LEGEND

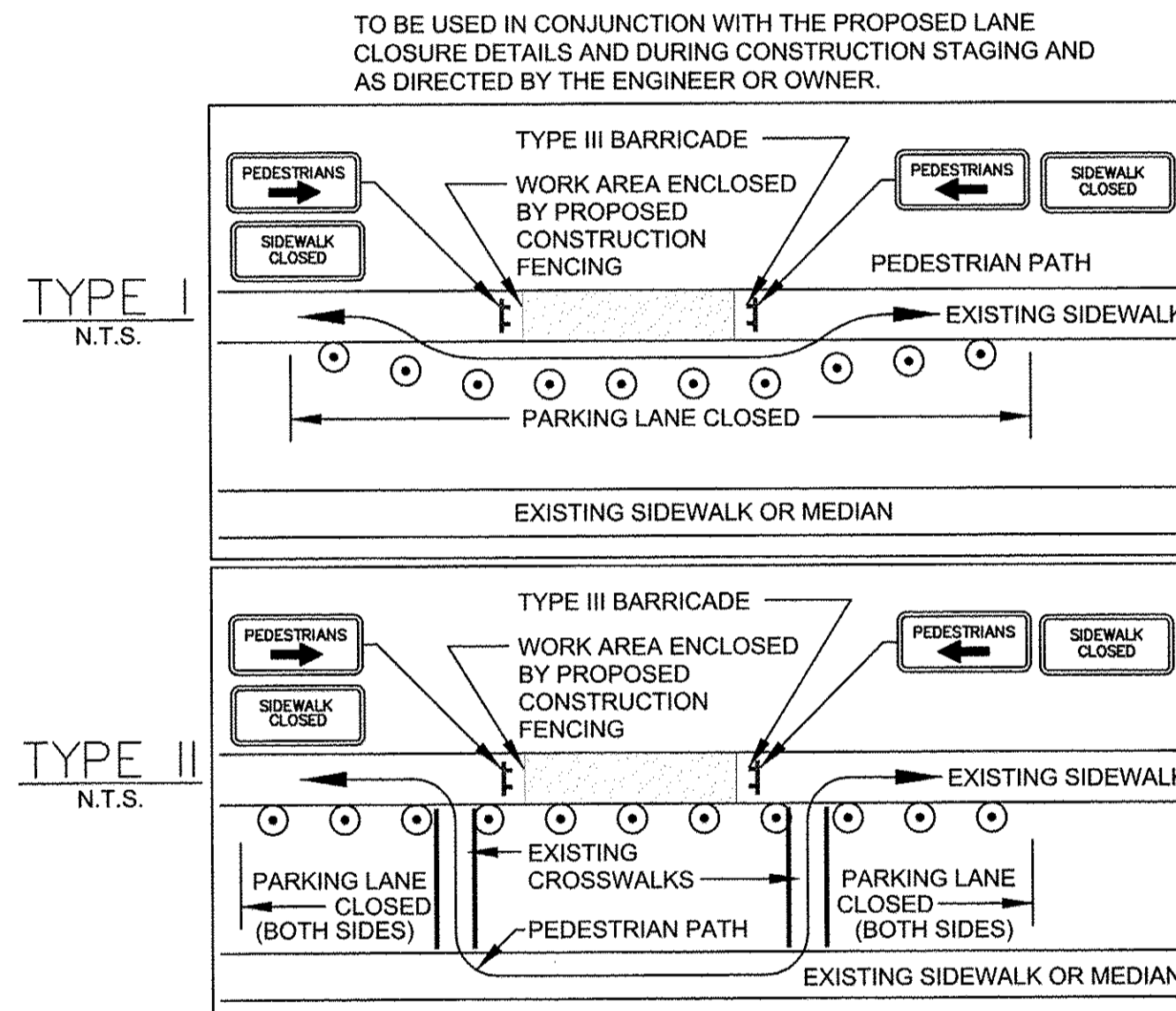
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS			COLOR	
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW	BACK-GROUND	LEGEND BORDER
W6-3	48"	48"		MUTCD STANDARD DETAIL			MUTCD STANDARD DETAIL	
W6-5	24"	18"						
W20-2	48"	48"						
W20-4	48"	48"						
W20-7b	36"	36"						
W20-8	36"	36"						
W20-1a	48"	48"						
W20-1b	48"	48"						
W20-1c	48"	48"						
W20-1d	48"	48"						
W20-5L	48"	48"						
W20-5R	48"	48"						
G20-2	36"	18"						
W5-1	48"	48"						
W8-8	36"	36"						
M4-9B	30"	24"						
M4-9L	30"	24"						
M4-9R	30"	24"						
M4-9V	30"	24"						
M4-8A	24"	18"						
W11-1/W16-1	24" x 18"	24" x 24"						
	60"	30"					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"						
R5-9L	30"	24"						
R5-9R	30"	24"						
R9-9	48"	24"					WHITE/BLACK/BLUE	
R9-11	24"	24"						
D3-5	12"	18"					MUTCD STANDARD DETAIL	
R4-7B	30"	24"					MUTCD STANDARD DETAIL	ORANGE/BLACK

TRAFFIC MANAGEMENT GENERAL NOTES

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
- ALL SIGN LOCATIONS ON PLANS ARE SHOWN SCHEMATICALLY. FINAL LOCATIONS SHALL BE DETERMINED BASED ON ACTUAL FIELD CONDITIONS AND CITY APPROVAL.
- ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE PROVIDED UPON THE ENGINEER OR OWNER'S REQUEST.
- ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL DEVICES SHALL BE PROPERLY SECURED.
- ALL DRUMS NOT OTHERWISE SPECIFIED SHALL BE EQUIPPED WITH TYPE "C" - STEADY BURN WARNING LIGHTS. ALL DRUMS SHALL BE SET @ 5' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER OR OWNER.
- TEMPORARY TRAFFIC LANES WITHIN THE WORK ZONE SHALL BE A MINIMUM OF 11 FEET.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORK HOURS.
- ALL TRAVEL WAYS SHALL BE PROTECTED FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
- VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE ALLOWED ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION.
- CONSTRUCTION WORK ZONE SHALL BE STAGED AS TO ALLOW FOR CONTINUOUS ACCESS AT DRIVE ENTRANCES AND TO MINIMIZE DETOURS TO SOMERVILLE ROADS.
- 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.
- 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.
- POLICE DETAILS SHALL BE SCHEDULED AND COORDINATED BY THE CONTRACTOR TO MAINTAIN THE SAFETY OF PEDESTRIAN AND VEHICULAR TRAFFIC.
- DETOURS SHALL ONLY BE ALLOWED AS INDICATED OR AS APPROVED BY THE CITY OF SOMERVILLE.
- 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.
- REFER TO GENERAL NOTE 24 ON SHEET G-1 FOR WORK HOURS. CONTRACTOR SHALL COMPLETE ALL WORK BETWEEN THE HOURS OF 7:00 AM AND 4:00 PM.

BICYCLE TRAFFIC NOTES:

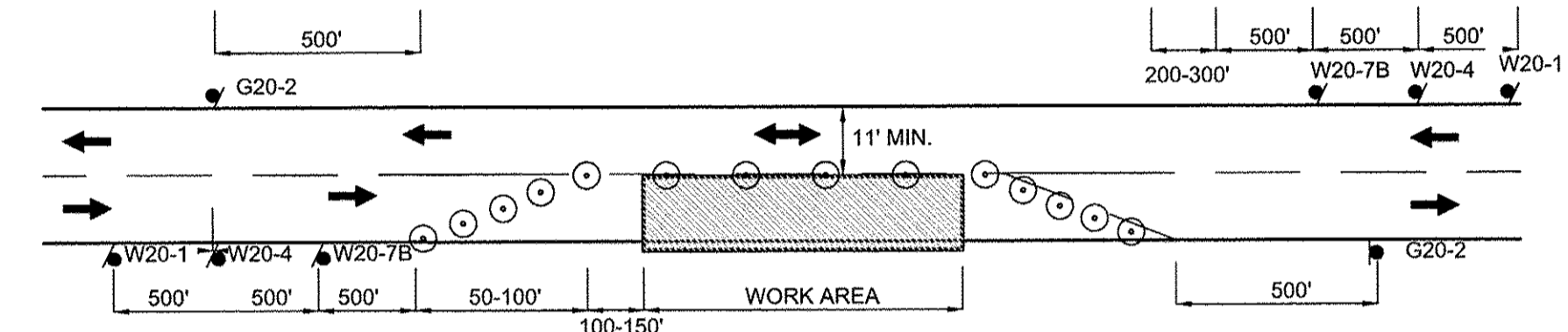
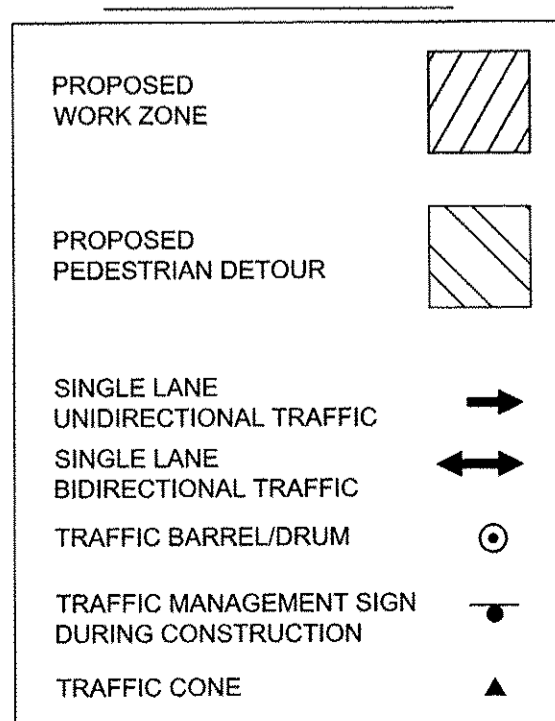
- BICYCLE TRAFFIC SHALL BE ACCOMMODATED ON ALL PUBLIC STREETS EITHER WITHIN BICYCLE LANES WHERE EXISTING OR IN VEHICULAR TRAVEL LANES.
- WHERE BICYCLE LANES ARE NOT PRESENT, PROVIDE A SHARED VEHICLE LANE AS WIDE AS PHYSICALLY FEASIBLE.
- WHEN TRAVEL LANES ARE RESTRICTED TO LESS THAN 14-FEET IN WIDTH 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.
- 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.
- 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.
- DEBRIS SHOULD BE SWEEPED 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.
- ADVANCE CONSTRUCTION SIGNS SHALL NOT BE PLACED IN BICYCLE LANES AND SHALL NOT OTHERWISE OBSTRUCT BICYCLISTS' PATH.
- 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.



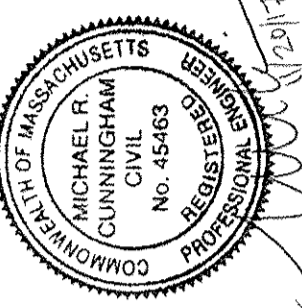
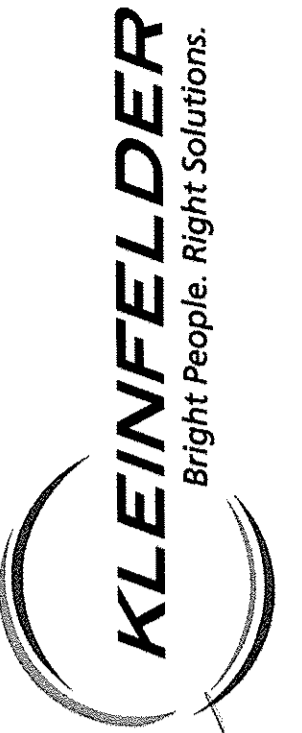
- PEDESTRIAN BYPASS NOTES:**
- ADDITIONAL ADVANCE WARNING MAY BE REQUIRED BY THE ENGINEER OR OWNER.
 - CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS DETAILED ELSEWHERE.
 - STREET LIGHTING SHALL BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
 - ← → DIRECTION OF PEDESTRIAN TRAVEL.
 - PEDESTRIAN PATHS SHALL BE MINIMUM 36" WIDE AND ADA ACCESSIBLE.

PEDESTRIAN BYPASS DETAIL T-1

TMP LEGEND



TYPICAL TWO-WAY ALTERNATING TRAFFIC T-2



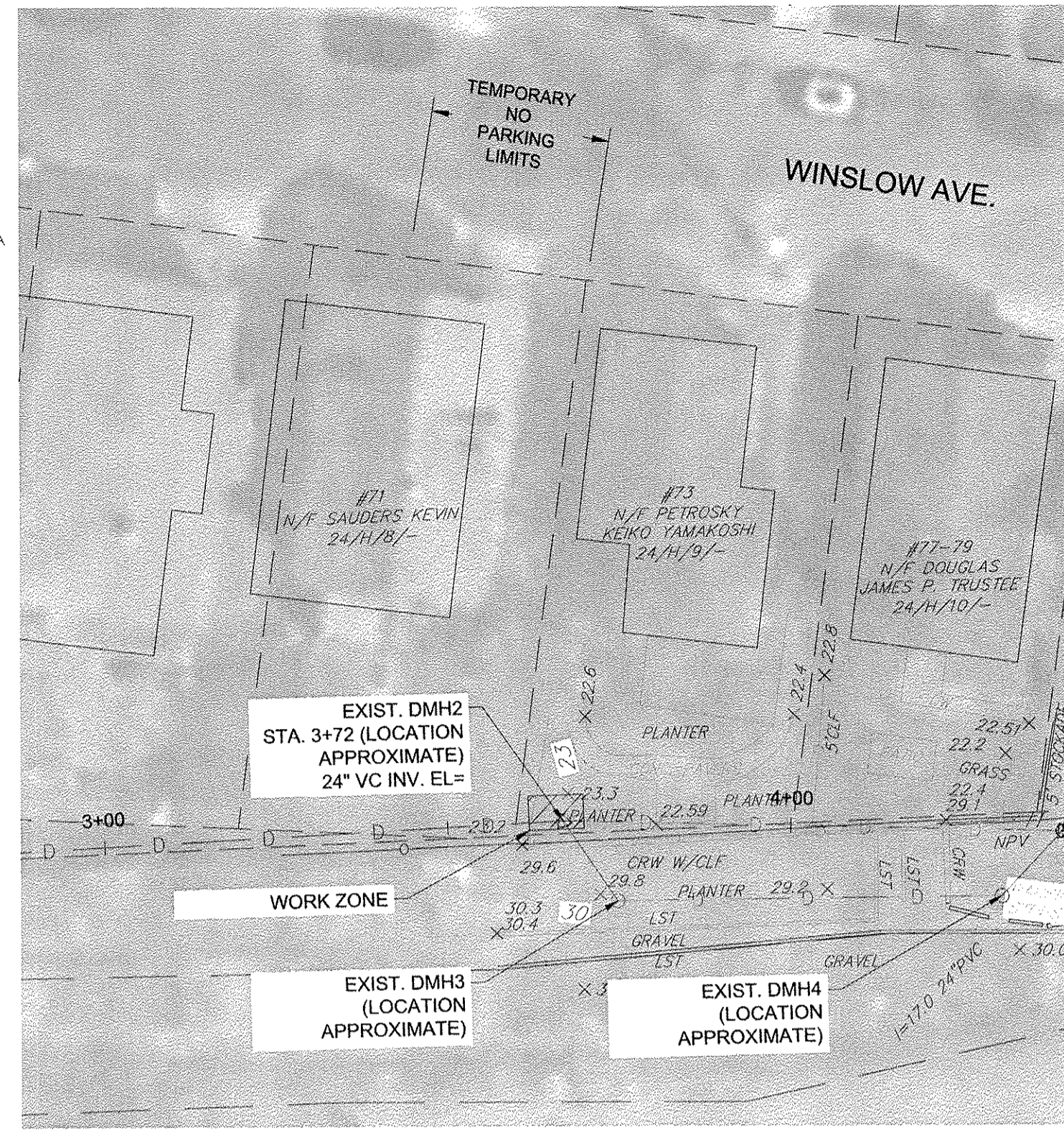
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PROJECT NO.	20163393.002
DRAWN BY	JA
CHECKED BY	GO
FILE NAME	TMP-Traffic Notes and Details

TRAFFIC NOTES AND DETAILS
CITY OF SOMERVILLE, MASSACHUSETTS
BIKE PATH DRAINAGE UPGRADES
WILLOW AVENUE TO GROVE STREET

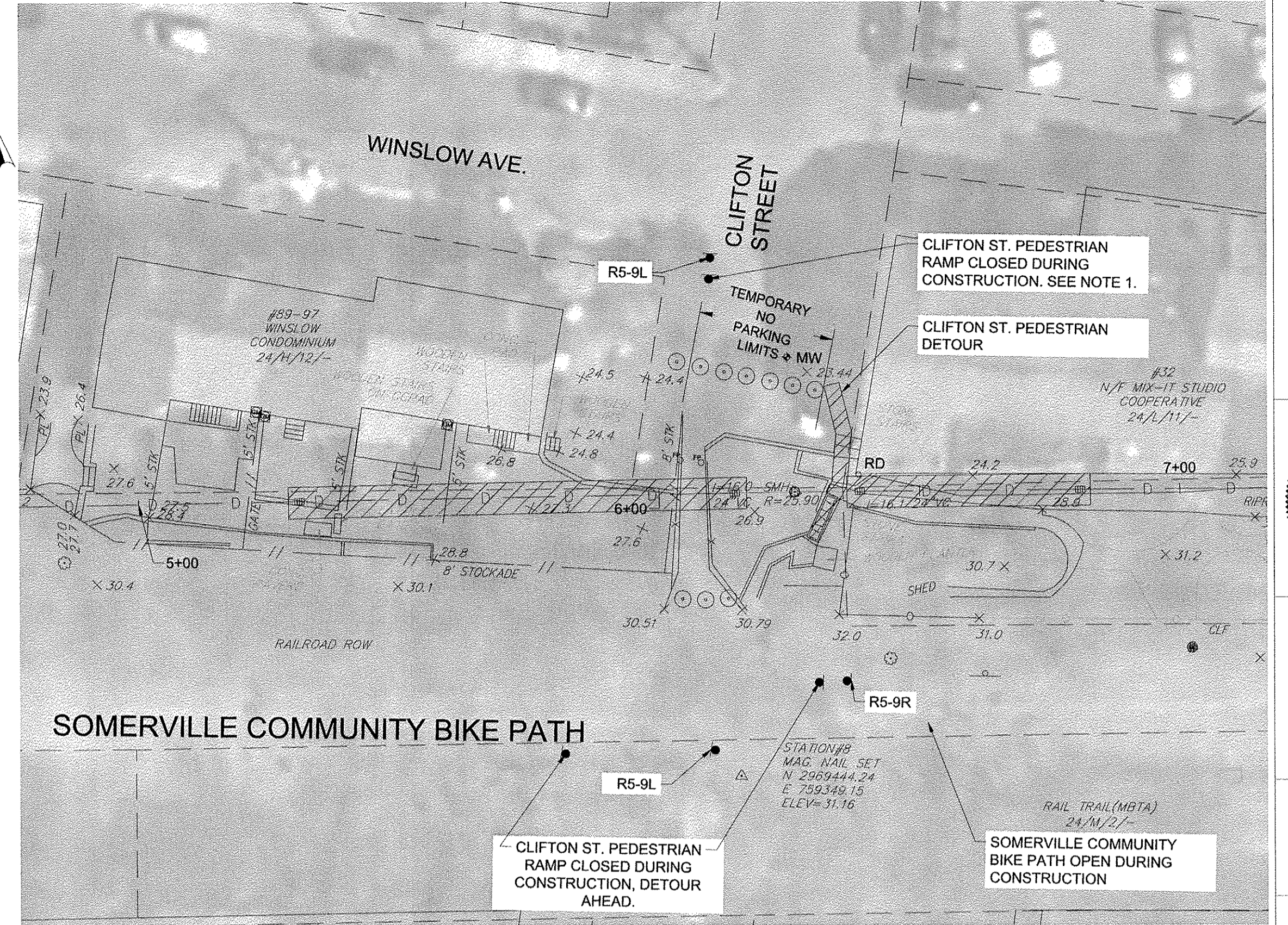
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PLAN
SCALE: 1"=20'



PLAN
SCALE: 1"=20'



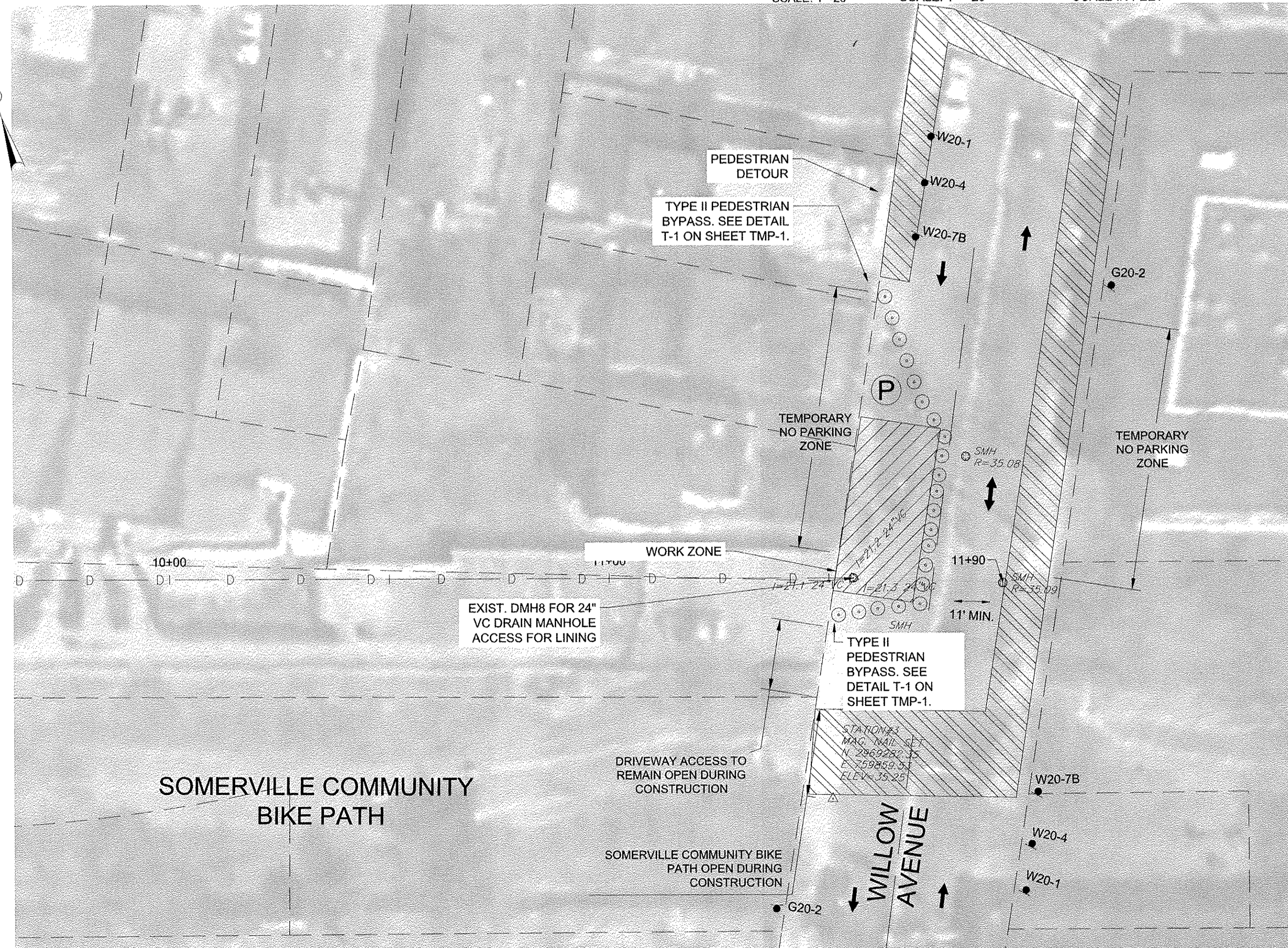
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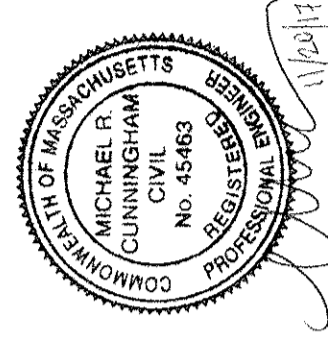
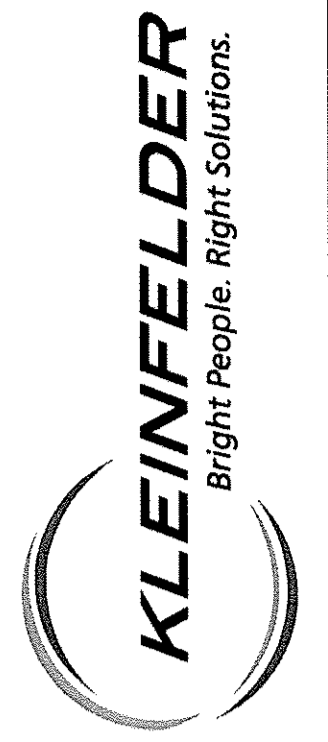
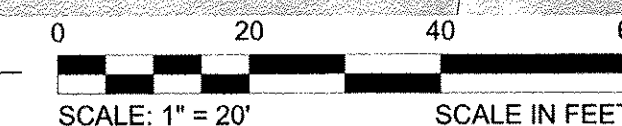
NOTE:
1. CONTRACTOR SHALL SEQUENCE THE WORK TO ALLOW PEDESTRIAN ACCESS TO THE SOMERVILLE COMMUNITY BIKE PATH AT CLIFTON STREET DURING CONSTRUCTION.



PLAN
SCALE: 1"=20'



PLAN
SCALE: 1"=20'



DATE	NOVEMBER 2017	PROJECT NO.	20163383.002	DRAWN BY	JA	CHECKED BY	GO	FILE NAME	TMP-Site Plans
TRAFFIC MANAGEMENT PLAN									
CITY OF SOMERVILLE, MASSACHUSETTS BIKE PATH DRAINAGE UPGRADES WILLOW AVENUE TO GROVE STREET									
SHEET									
TMP-2									

CAD FILE: G:\clients\Somerville\Ma20163383\002a - Bike Path Drain Design\Drawings\TMP-Site Plans.dwg LAYOUT: TMP-2