

GENERAL NOTES FOR UTILITY IMPROVEMENTS

1. THE CONTRACTOR SHALL PROVIDE A STAKE LAYOUT ON SITE FOR THE ENGINEER'S REVIEW PRIOR COMMENCING SIDEWALK WORK. THE CONTRACTOR SHALL NOTE CUT AND FILL AMOUNTS AT ALL BACK OF SIDEWALK STEPS, WALLS, DRIVEWAYS, WALKWAYS, BUILDING ENTRANCES, STRUCTURES AND TRANSITIONS TO EXISTING SIDEWALKS.
2. THE CONTRACTOR SHALL COORDINATE RUBBISH REMOVAL WITH THE CITY. THE CONTRACTOR SHALL ASSIST WITH RUBBISH PICK UP IN AREAS THAT ARE UNDER CONSTRUCTION.
3. THE LOCATION OF EXISTING UNDERGROUND PIPES, CABLES, CONDUITS AND STRUCTURES AS SHOWN HAS BEEN COLLECTED FROM THE BEST AVAILABLE SOURCES AND 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. THE CONTRACTOR SHALL ASSUME THAT THERE ARE EXISTING WATER, GAS, AND OTHER UTILITY CONNECTIONS TO EACH AND EVERY BUILDING ENROUTE, 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. (SEE SPECIAL CONDITIONS).
4. LINES FOR SERVICES, POLICE AND FIRE ALARM BOXES, STREET LIGHTS, AND TRAFFIC SIGNALS ARE NOT SHOWN ON THE PLANS. THE APPROPRIATE UTILITY COMPANIES OR AUTHORITIES SHOULD BE CONTACTED AND CONSULTED FOR LOCATIONS OF THE ABOVE.
5. THE CONTRACTOR SHALL NOTIFY THE DIG SAFE CENTER (TEL. NO.1-888-DIG-SAFE) AT LEAST THREE BUSINESS DAYS PRIOR TO ANY EXCAVATION WORK. IN ADDITION, NOTIFICATION SHALL ALSO BE GIVEN TO ALL AFFECTED PRIVATE AND/OR PUBLIC UTILITIES TO PERMIT STREET MARKING OF THEIR LINES.
6. 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.
7. ALL CATCH BASIN LATERALS SHALL BE 12-INCH DUCTILE IRON PIPE, UNLESS OTHERWISE SHOWN OR DIRECTED.
8. ALL EXISTING CATCH BASIN LATERALS WHICH ARE NOT RECONNECTED SHALL BE PLUGGED WATERTIGHT AT BOTH ENDS WITH BRICK MASONRY 8-INCHES THICK.
9. ALL EXISTING MANHOLE FRAMES, COVERS, CATCH BASIN FRAMES AND GRATES REMOVED AND NOT REUSED SHALL REMAIN THE PROPERTY OF THE OWNER UNTIL SPECIFICALLY RELINQUISHED BY THE OWNER. THE CONTRACTOR SHALL DELIVER ALL ITEMS RETAINED BY THE OWNER TO A LOCATION DESIGNATED BY THE OWNER.
10. BORINGS WERE TAKEN FOR THE PURPOSE OF DESIGN AND INDICATE CONDITIONS AT THE LOCATION OF THE BORING ONLY. SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE SHOWN IN THE BORING LOGS. GROUNDWATER LEVELS INDICATED IN THE BORING LOGS ARE THOSE EXISTING AT THE TIME SUBSURFACE INVESTIGATIONS WERE MADE AND DO NOT REPRESENT PERMANENT GROUNDWATER LEVELS. GROUNDWATER AS MEASURED IN MONITORING WELLS SHALL BE USED AS REPRESENTATIVE OF GROUNDWATER CONDITIONS IN THE PROJECT AREAS. SEE "APPENDIX B" OF THE SPECIFICATIONS, AND THE CIVIL COMPOSITE PLAN, SHEET C-1.
11. TEST PITS SHALL BE EXCAVATED AT THOSE LOCATIONS INDICATED ON THE DRAWINGS AND WHERE ORDERED OR APPROVED BY THE OWNER. ALL TEST PIT EXCAVATIONS SHALL BE MADE TO DETERMINE THE LOCATIONS OF EXISTING UTILITIES OR STRUCTURES AND PERFORMED WELL IN ADVANCE OF CONSTRUCTION OPERATIONS SO THAT ANY CHANGES IN ALIGNMENT AND/OR GRADE OF THE PROPOSED WORK OR UTILITY LOCATIONS MAY BE DETERMINED. ALL DECISIONS RELATIVE TO UTILITY CONFLICTS AND RELOCATION REQUIREMENTS SHALL BE MADE BY THE UTILITY OWNER.
12. AT THOSE LOCATIONS WHERE TEST PITS ARE REQUIRED TO DETERMINE THE LOCATION OF EXISTING UTILITIES, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES INVOLVED AT LEAST 72 HOURS PRIOR TO EXCAVATION OF THE TEST PITS.
13. WHERE TEMPORARY OR PERMANENT UTILITY RELOCATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY 30 DAYS IN ADVANCE OF CONSTRUCTION AND SHALL COORDINATE THE NEW WORK WITH THE UTILITY RELOCATION.
14. THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF WATER MAINS WITH THE RESIDENT ENGINEER WHO WILL CONSULT WITH THE CITY WATER DEPARTMENT CONCERNING COORDINATION OF THE WORK AND FINAL LOCATIONS FOR RELOCATED WATER MAINS.
15. LOCATIONS OF WATER, SANITARY, AND DRAINAGE SERVICE CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION, IN CONSULTATION WITH PROPERTY OWNER AND CITY. CONTRACTOR SHALL ADJUST THE ALIGNMENT OF SERVICE LATERALS IN THE FIELD TO COORDINATE WITH EXISTING WATER, GAS, TELECOM, AND ELECTRIC SERVICES.
16. THE LIMITS OF EXCAVATIONS FOR NEW PIPELINES OR STRUCTURES ARE APPROXIMATE ONLY. ACTUAL HORIZONTAL AND VERTICAL LIMITS INCLUDING MEASUREMENT FOR THE NEW WORK SHALL BE DETERMINED DURING CONSTRUCTION.
17. EXISTING CONDITIONS ARE SHOWN SCREENED.
18. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS INFORMATION AND REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL CONDITIONS TO THE ENGINEER PRIOR TO BEGINNING WORK.
19. INTERRUPTIONS OF SERVICES SHALL NOT BE PERMITTED. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AND PROVIDE ALL TEMPORARY UTILITIES AND CONNECTIONS TO AVOID INTERRUPTIONS OF WATER, SANITARY, DRAINAGE, ELECTRIC, PHONE, GAS, FIBER OPTICS, CABLE SERVICES.
20. EXISTING UTILITY ELEVATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. POTENTIAL UTILITY CONFLICTS SHALL BE VERIFIED BY THE CONTRACTOR USING TEST PITS AS PER THE DRAWINGS.
21. 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.
22. THE CONTRACTOR SHALL PROTECT ALL TRAVELED WAYS FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
23. UNLESS OTHERWISE INDICATED ON THE DRAWINGS ALL AREAS ADJACENT TO THE LIMITS OF CONSTRUCTION WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.

24. 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.
25. THE CONTRACTOR MAY BE ASKED BY THE OWNER TO SUSPEND CONSTRUCTION OPERATIONS TEMPORARILY TO AVOID CONFLICTS WITH LARGE PUBLIC EVENTS OR LARGE STORM EVENTS. THE CONTRACTOR SHALL NOT BE COMPENSATED FOR COSTS RELATING TO SHUTDOWNS FOR THESE REASONS.
26. THE CONTRACTOR SHALL ALLOW ACCESS TO PRIVATE PARKING. THE CONTRACTOR SHALL COORDINATE WITH THE CITY AND RESIDENTS PRIOR TO BLOCKING DRIVEWAYS.
27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW PLOWING AND REMOVAL FROM ALL AREAS WITHIN THE PROJECT LIMITS. INCLUDING BUT NOT LIMITED TO, UNPAVED SURFACES, PARKED EQUIPMENT AREAS OR ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR STREET SWEEPING, SNOW REMOVAL FROM SIDEWALKS, TRASH REMOVAL, AND RECYCLABLE MATERIALS FROM ALL AREAS WHERE CONSTRUCTION RESTRICTS VEHICULAR OR PEDESTRIAN ACCESS TO STREETS OR SIDEWALKS AND WHERE CONTRACTORS PRESENCE INTERFERES WITH MUNICIPAL TRASH REMOVAL, STREET SWEEPING, OR SNOW PLOWING.
28. THE CONTRACTOR SHALL VERIFY THAT THEIR TRENCH SUPPORTS ARE BELOW THE ROADWAY AT THE END OF EACH DAY FOR PLATING OF TRENCH TO MAINTAIN ACCESS TO ROADS, SIDEWALKS AND DRIVEWAYS AFTER HOURS.
29. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AS SPECIFIED, AND SHALL NOT COMMENCE CONSTRUCTION UNTIL THESE MEASURES HAVE BEEN APPROVED BY THE ENGINEER.
30. AREAS WITHIN THIS CONTRACT, ARE SUBJECT TO THE UTILITY RELATED ABATEMENT MEASURE REGULATIONS OF THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.00 AND SECTIONS 02010 - SUBSURFACE INVESTIGATION, 02080 - SOIL AND WASTE MANAGEMENT, 02095 - TRANSPORTATION AND DISPOSAL OF SOIL AND FILL, OF THE SPECIFICATIONS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO ENVIRONMENTAL DATA (SOIL AND GROUND WATER) FROM BORINGS AND MONITORING WELLS AS REPRESENTATIVE OF SUBSURFACE CONDITIONS IN URBAN AREAS. THE ENVIRONMENTAL DATA ARE APPENDED TO THE SPECIFICATIONS.
31. FOR TEMPORARY PAVING (INTERIM CONDITIONS), ALL CATCH BASINS, MANHOLES, AND OTHER SUBSURFACE STRUCTURES SHALL MATCH EXISTING GRADES.
32. FINISH GRADE OF ALL CATCH BASINS, MANHOLES, AND OTHER SUBSURFACE STRUCTURES SHALL MATCH PROPOSED ROAD SURFACE GRADING SHOWN ON SHEETS R-1 THROUGH R-58.
33. "LEFT" AND "RIGHT" INDICATED IN CATCH BASIN NOTES REFER TO DIRECTION OF FLOW INTO THE CATCH BASIN GRATE ACCORDING TO THE PROPOSED GRADING PLAN. THE DIRECTION OF FLOW IS BASED UPON STANDING IN THE CENTER OF THE ROAD AND LOOKING TOWARD THE CURB IN WHICH THE CATCH BASIN IS BEING INSTALLED.
34. THE CONTRACTOR SHALL NOT BE PERMITTED TO START-UP 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. CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 01010-SUMMARY OF WORK FOR ESTABLISHED WORKING HOURS IN THE ALEWIFE BROOK PARKWAY AND MASSACHUSETTS AVENUE.
35. THE CONTRACTOR SHALL REMOVE ALL PLATES FROM COMMON MANHOLES AND REMOVE ANY HEAVY DEBRIS.
36. THE THICKNESS OF ALL BULKHEADS (WITH THE EXCEPTION OF CB LATERALS) SHALL BE NO LESS THAN THE DIAMETER OF THE PIPE BEING BULKHEADED.
37. ALL LATERALS THAT HAVE BEEN EXCAVATED AND REPLACED OR REPAIRED ON CIPP LINED PIPE SHALL BE REINSTATED THROUGH THE LATERAL.
38. ALL SEWER AND DRAIN MANHOLES SHALL HAVE APPROPRIATELY MARKED MANHOLE COVERS.
39. ALL MANHOLE COVERS SHALL BE 24" IN DIAMETER AND HEAVY DUTY, UNLESS OTHERWISE SHOWN OR DIRECTED.
40. ALL TRENCH PAVEMENT SHALL BE PER TEMPORARY TRENCH PAVEMENT DETAIL UNLESS OTHERWISE NOTED ON THE DRAWINGS OR DIRECTED IN THE SPECIFICATIONS.
41. MANHOLE INSERTS PER SPECIFICATIONS SHALL BE INSTALLED BENEATH THE RIM OF ALL MANHOLES LOCATED IN THE FLOOD PLAIN.

TREE PROTECTION NOTES

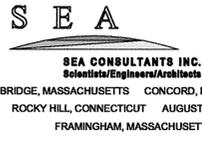
1. PROPER AUTHORIZATION MUST BE OBTAINED FROM THE CITY ARBORIST. REFER TO SPECIAL CONDITIONS SECTION 00825A ATTACHMENT I OF THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL PROVIDE ALL TREE PROTECTION MEASURES AND HAVE ALL PRECONSTRUCTION FERTILIZATION COMPLETED PRIOR TO COMMENCING EXCAVATION WORK.
3. TREES SHALL BE WRAPPED WITH 2X4'S AND SNOW FENCING.
4. THE CONTRACTOR SHALL REMOVE AND PRUNE TREES AND SHRUBS IN ACCORDANCE WITH THE TREE REMOVAL PLAN AND THE SPECIFICATION SECTIONS 02900 LANDSCAPING AND 02910 TREE PLANTING. REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. FINES WILL BE IMPOSED THROUGH MGL CHAPTER 87.
6. ANY EXPOSED ROOTS SHALL BE COVERED WITH SOIL AT THE END OF EACH WORK DAY.
7. THE CONTRACTOR SHALL COORDINATE WITH DIG SAFE PRIOR TO REMOVING ANY STUMPS. DAMAGE TO EXISTING SIDEWALKS AND UTILITIES SHALL BE REPAIRED AS SPECIFIED AFTER REMOVING STUMPS.
8. TREES AND STUMPS REMOVED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW TREES AS REQUIRED. STUMP REMOVAL SHALL BE SUFFICIENT TO ALLOW PLANTING OF NEW TREE.

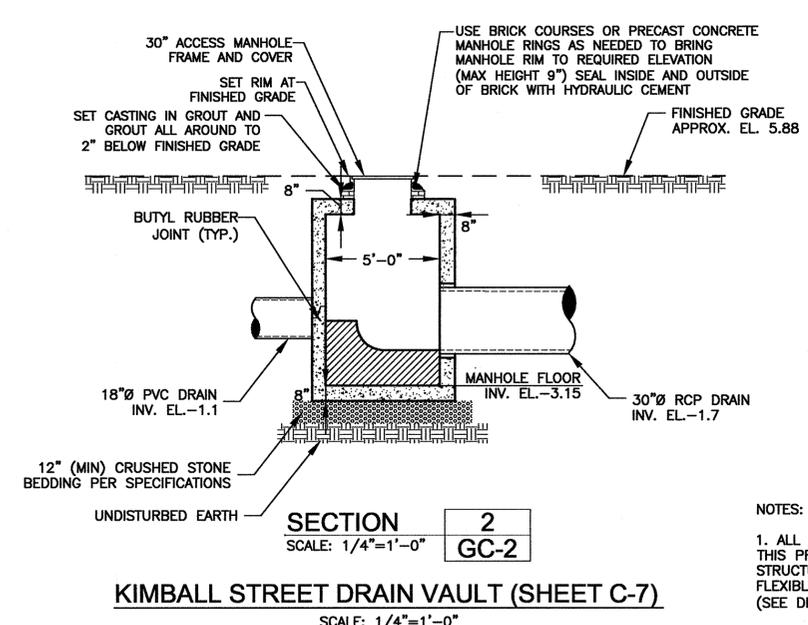
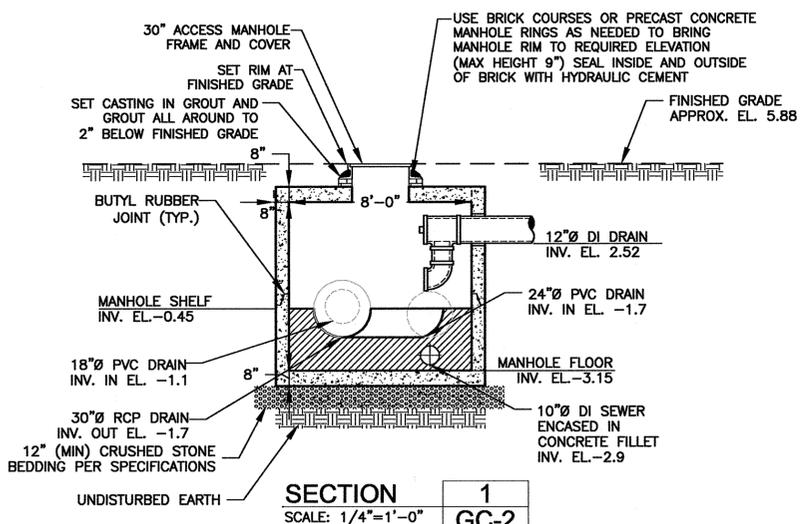
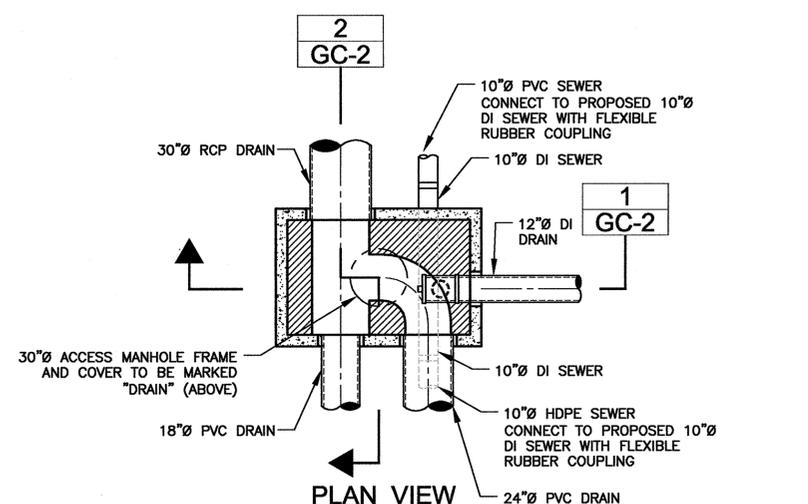
SURVEY NOTES

1. THE TOPOGRAPHY, SITE DETAIL & SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN INSTRUMENT SURVEY CONDUCTED ON THE GROUND BY FELDMAN PROFESSIONAL LAND SURVEYORS DURING 2009.
2. ALL UNDERGROUND UTILITY DATA REPRESENTS RECORD INFORMATION RECOVERED THROUGH RESEARCH WITHOUT SURFACE DEMARCATION NOR SUBSURFACE VERIFICATION.
3. HORIZONTAL CONTROL NETWORK IS BASED UPON THE NORTH AMERICAN DATUM OF 1983, MASSACHUSETTS STATE PLANE COORDINATE SYSTEM DERIVED WITH GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS.
4. VERTICAL DATUM IS BASED UPON NATIONAL GEODETIC VERTICAL DATUM OF 1929.
5. PROPERTY LINES DEPICTED HEREON ARE COMPILED FROM THE CITY OF CAMBRIDGE ASSESSORS MAPS. THIS PLAN IS NOT TO BE USED FOR THE RECONSTRUCTION OF BOUNDARY LINES OR FOR TITLE INSURANCE PURPOSES. ALL BOUNDARY LINES DEPICTED ARE APPROXIMATE ONLY.
6. LOCATIONS OF BENCH MARKS ARE LOCATED ON THE PLANS.
7. BENCHMARK INFORMATION:
BENCH MARK USED:
BENCHMARK 635: IN THE SOUTHEASTERN PART OF ARLINGTON NEAR THE ARLINGTON-CAMBRIDGE TOWN LINE, AT AN ARCH BRIDGE OVER ALEWIFE BROOK AT MASSACHUSETTS AVENUE. A MONEL RIVET SET IN THE NORTHEAST EDGE OF A GRANITE CAPSTONE, DIRECTLY OVER THE TOP OF THE NORTHEAST ARCH STONE.
ELEVATION = 11.29 NGVD-29

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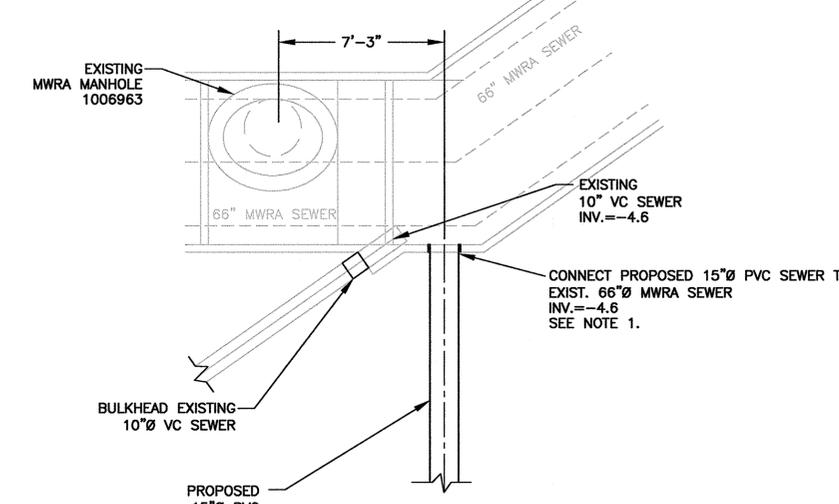
 SEA SEA CONSULTANTS INC. <small>Soil/State/Engineer/Architects</small> CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE ROCKY HILL, CONNECTICUT AUGUSTA, MAINE FRAMINGHAM, MASSACHUSETTS	 MWH BOSTON MASSACHUSETTS	 WILLIAM REGISTERED PROFESSIONAL ENGINEER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Scale</td><td>AS NOTED</td><td></td><td></td><td></td></tr> <tr><td>Date</td><td>JANUARY 15, 2010</td><td></td><td></td><td></td></tr> <tr><td>Job No.</td><td>1006250</td><td></td><td></td><td></td></tr> <tr><td>Designed by</td><td>AMF</td><td></td><td></td><td></td></tr> <tr><td>Drawn by</td><td>AMF</td><td></td><td></td><td></td></tr> <tr><td>Checked by</td><td>DHC</td><td>No.</td><td>Description</td><td>Date</td></tr> <tr><td>Approved by</td><td>WCP</td><td></td><td>REVISIONS</td><td></td></tr> </table>	Scale	AS NOTED				Date	JANUARY 15, 2010				Job No.	1006250				Designed by	AMF				Drawn by	AMF				Checked by	DHC	No.	Description	Date	Approved by	WCP		REVISIONS		 THE WORKS <small>CAMBRIDGE DEPARTMENT OF PUBLIC WORKS</small>	CITY OF CAMBRIDGE, MA ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13) GENERAL CIVIL - GENERAL NOTES AND CATCH BASIN TABLE	Sheet No. GC-1 File No.
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KIMBALL STREET DRAIN VAULT (SHEET C-7)
SCALE: 1/4"=1'-0"

NOTES:

1. CONNECTION SHALL BE MADE BY CORE DRILLING INTO PIPE WALL AND CONNECTING WITH FLEXIBLE WATERTIGHT SLEEVE (SEE DETAIL SHEET GC-6). BEFORE CORING INTO PIPE, CONTRACTOR TO CONFIRM THAT SUFFICIENT ANNULAR SPACE IS AVAILABLE (2 FT HORIZONTAL). CONTRACTOR TO CONSULT WITH RESIDENT ENGINEER REGARDING CONNECTION ALTERNATIVE IF SUFFICIENT ANNULAR SPACE IS NOT AVAILABLE.
2. MANHOLE FRAME SHALL BE BOLTED THROUGH (4) 1" HOLES TO TOP OF MANHOLE THROUGH THE CONCRETE AND/OR HDPE MANHOLE RINGS USING (4) 3/8" ANCHOR BOLTS WITH MIN 7-7/8" EMBEDMENT AND 10,595 LB TENSILE STRENGTH.

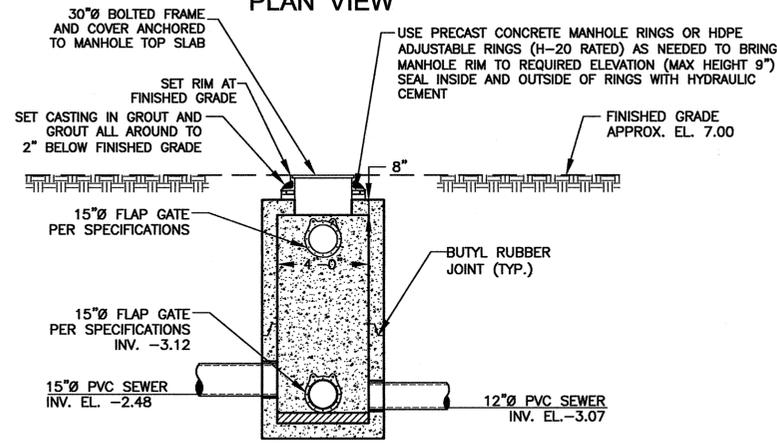
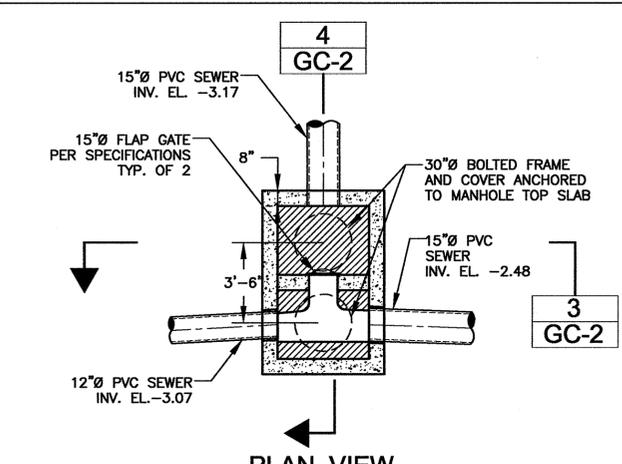


**CONNECTION TO MWRA MANHOLE NO. 1006963
DETAIL (SHEET C-11)**
SCALE: 1/4"=1'-0"

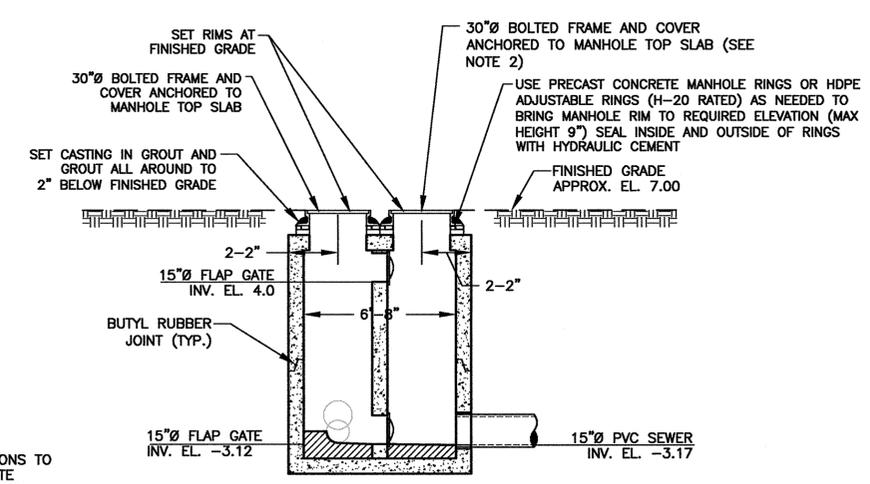
USE PRECAST CONCRETE MANHOLE RINGS OR HDPE ADJUSTABLE RINGS (H-20 RATED) AS NEEDED TO BRING MANHOLE RIM TO REQUIRED ELEVATION (MAX HEIGHT 9") SEAL INSIDE AND OUTSIDE OF RINGS WITH HYDRAULIC CEMENT

NOTES:

1. ALL PIPE PENETRATIONS TO THIS PRECAST CONCRETE STRUCTURE SHALL INCLUDE A FLEXIBLE WATERTIGHT SLEEVE (SEE DETAIL SHEET GC-6)



**SECTION 3
SCALE: 1/4"=1'-0"**



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

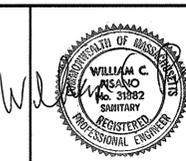
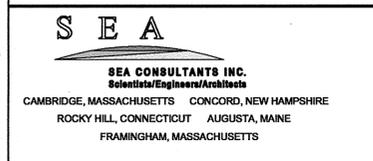
**COLUMBUS AVENUE SEWER VAULT DETAIL
(SHEET C-11)**
SCALE: 1/4"=1'-0"

NOTES:

1. ALL PIPE PENETRATIONS TO THIS PRECAST CONCRETE STRUCTURE SHALL INCLUDE A FLEXIBLE WATERTIGHT SLEEVE (SEE DETAIL SHEET GC-6)
2. MANHOLE FRAME SHALL BE BOLTED THROUGH (4) 1" HOLES TO TOP OF MANHOLE THROUGH THE CONCRETE AND/OR HDPE MANHOLE RINGS USING (4) 3/8" ANCHOR BOLTS WITH MIN 7-7/8" EMBEDMENT AND 10,595 LB TENSILE STRENGTH.

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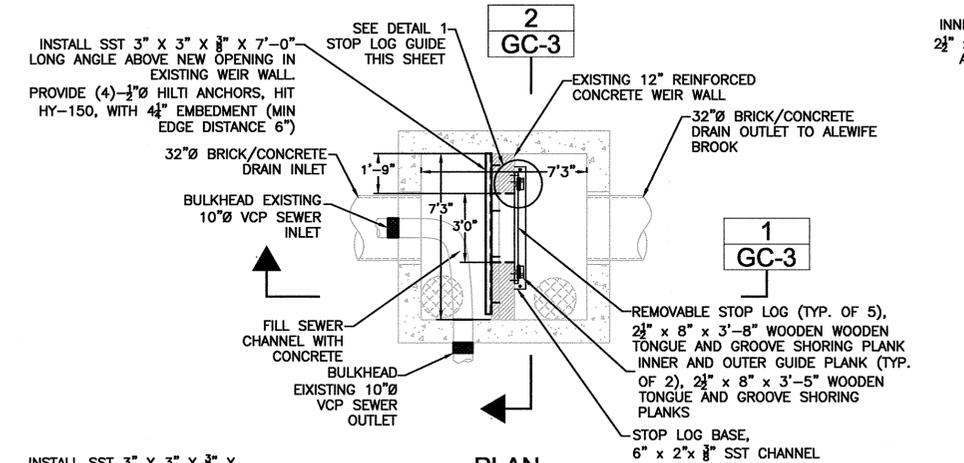
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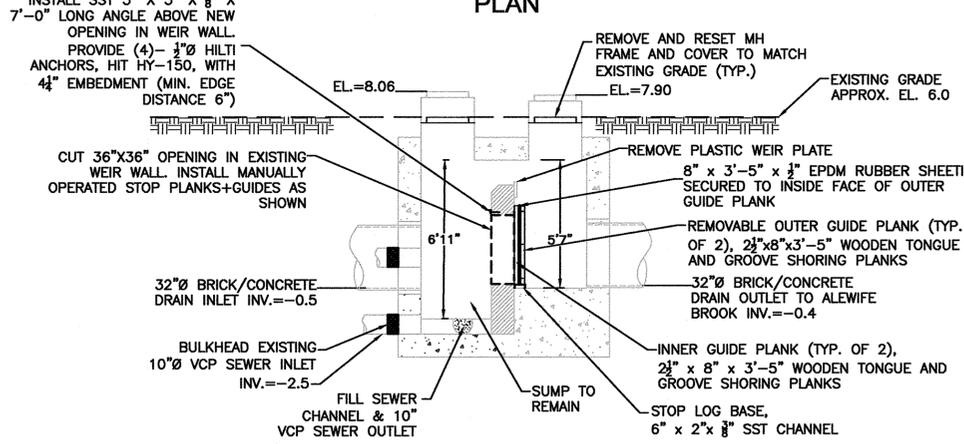
CITY OF CAMBRIDGE, MA
ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND
CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
GENERAL CIVIL - STRUCTURE DETAILS

Sheet No. GC-2
File No.

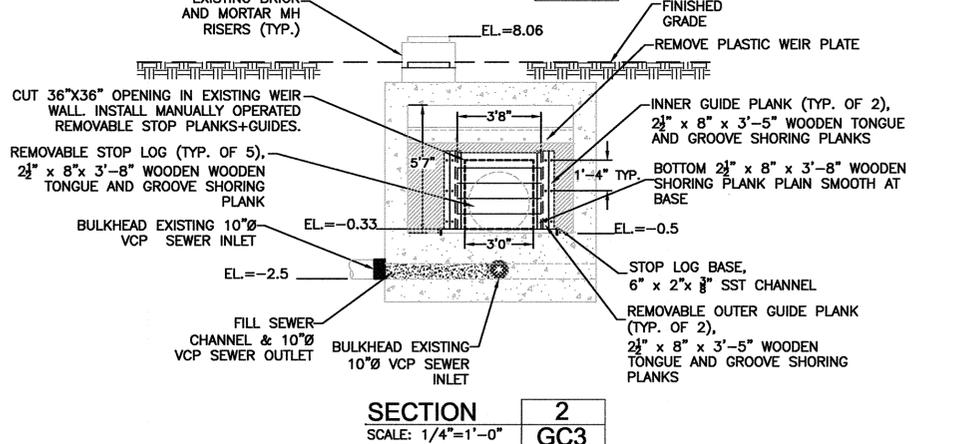
INFILTRATION BASIN SCHEDULE					
NUMBER	STATION	INV. INTO IB	CB NUMBER	RIM	LATERAL PIPE
IB-1	STA 3005+95 (11.8' L)	4.12	CB-45	8.70	12" PVC
IB-2	STA 7005+87.7 (12' L)	4.36	CB-43	8.66	12" PVC
IB-3	STA 7003+83 (12.4' L)	4.49	CB-42	7.71	12" DI
IB-4	STA 7003+84 (12.0' R)	3.79	CB-41	7.84	12" PVC
IB-5	STA 7001+57 (12.0' L)	2.85	CB-15	7.72	12" PVC
IB-6	STA 7001+45.8 (5.0' L)	3.05	CB-16	8.00	12" PVC
IB-7	STA 8003+10.5 (12.0' L)	4.59	CB-21	8.12	12" DI
IB-8	STA 8003+4.9 (12.0' R)	4.86	CB-22	8.40	12" DI
IB-9	STA 8001+80 (12.0' R)	4.36	CB-23	7.53	12" DI
IB-10	STA 8001+30 (12.0' L)	4.76	CB-20	7.37	12" DI



PLAN



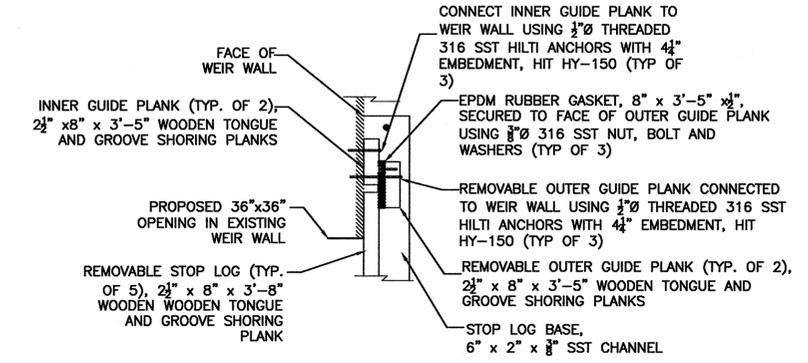
SECTION 1
SCALE: 1/4"=1'-0"



SECTION 2
SCALE: 1/4"=1'-0"

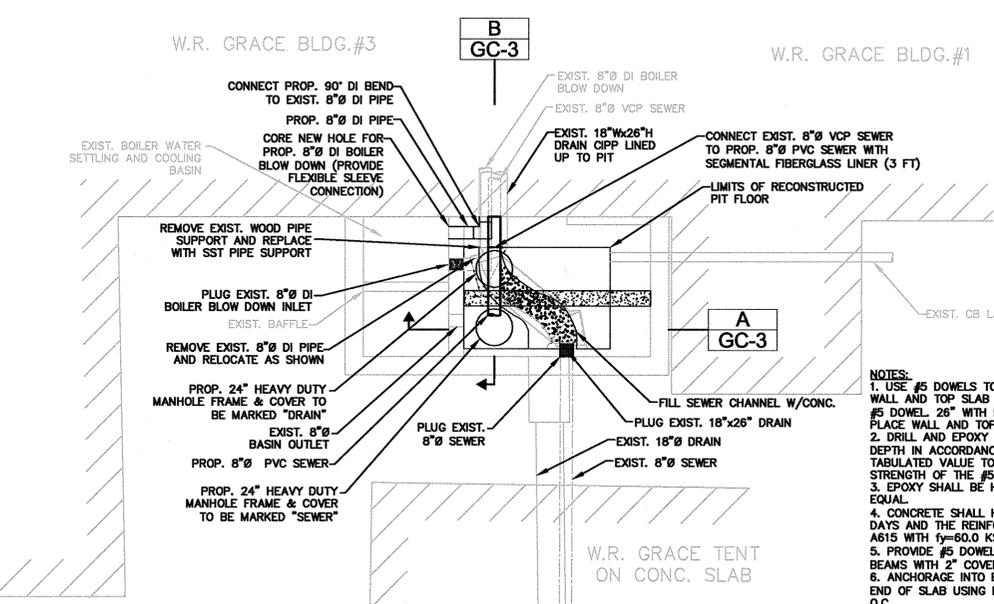
CAM400 REGULATOR STRUCTURE DETAIL
REGULATOR STRUCTURE TO BE CONVERTED TO DRAIN MANHOLE WITH SUMP AND ISOLATION STOP PLANKS

SCALE: 1"=4'



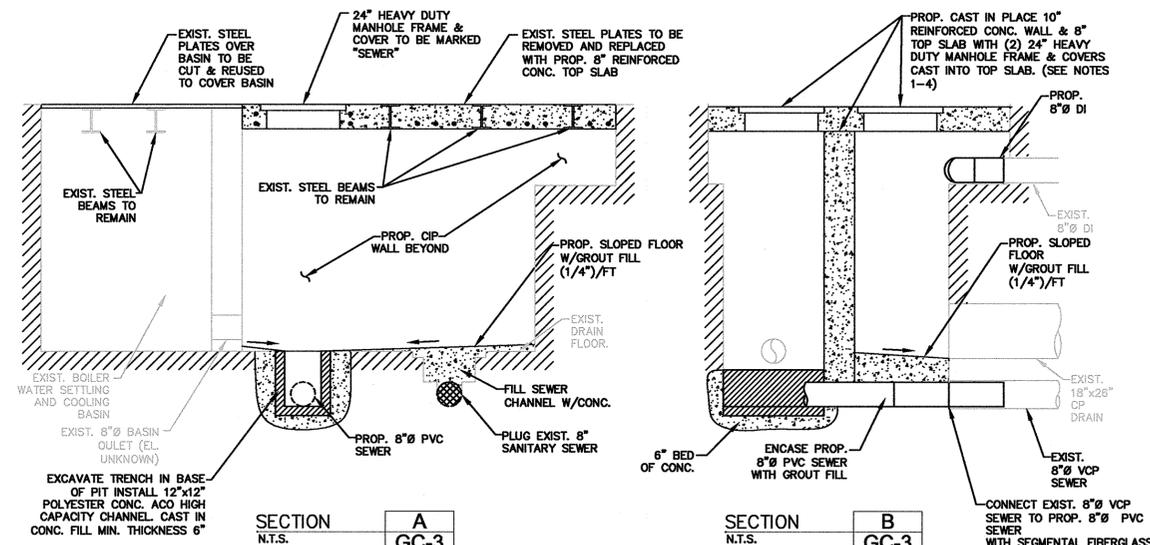
WOODEN STOP LOG GUIDE DETAIL

SCALE: 1"=1'



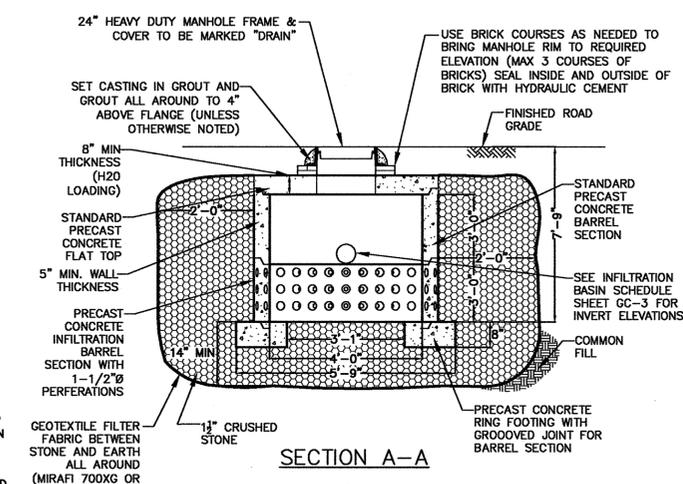
S75COM1905T (PIT) SEPARATION DETAIL (SHEET C-13)

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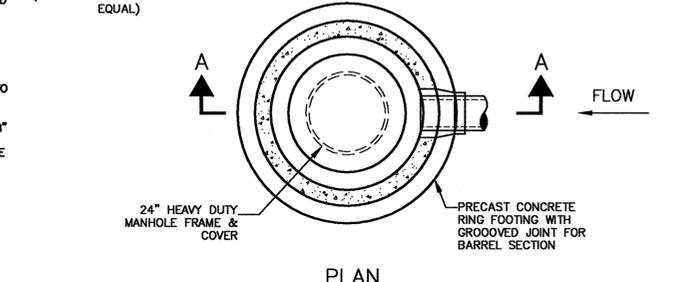


SECTION A
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SECTION B
N.T.S.



SECTION A-A



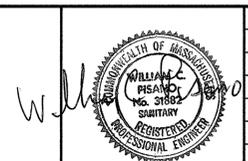
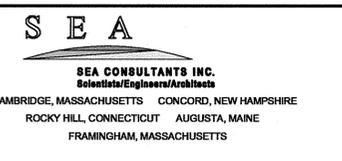
PLAN

4\"/>

N.T.S.

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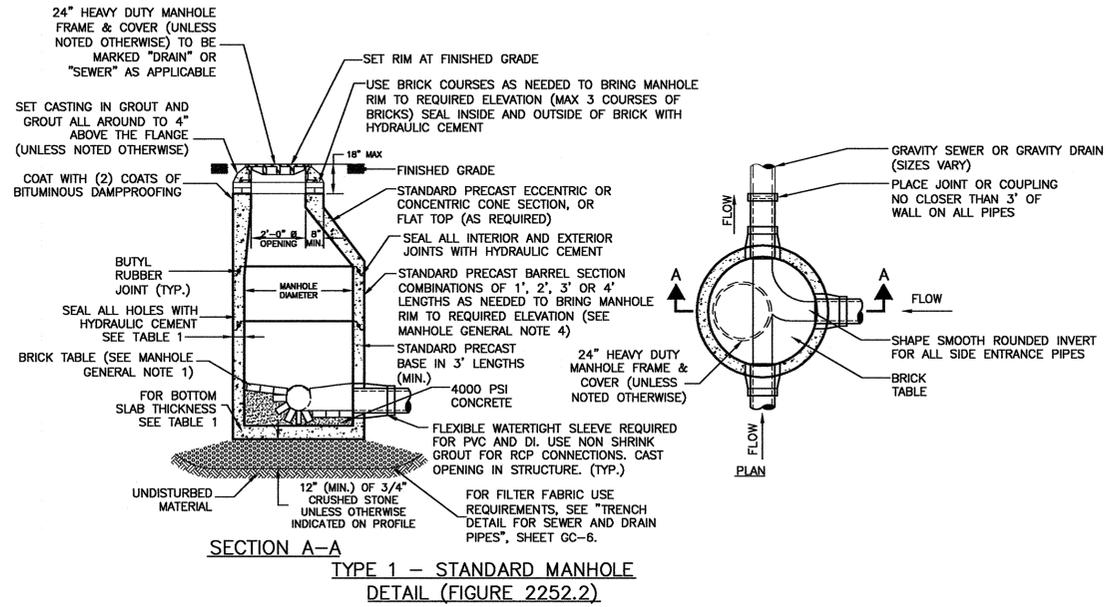


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CITY OF CAMBRIDGE, MA
ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
 GENERAL CIVIL - STRUCTURE DETAILS
 CONTINUED

Sheet No. **GC-3**
 File No.



SECTION A-A
TYPE 1 - STANDARD MANHOLE
DETAIL (FIGURE 2252.2)

TABLE 1

MANHOLE DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE RCP	MAX PIPE DIAMETER D/PVC
4'	5"	6"	24"	30"
5'	6"	8"	36"	42"
6'	7"	8"	48"	54"
8'	9"	8"	66"	72"
10'	11"	10"	72"	84"

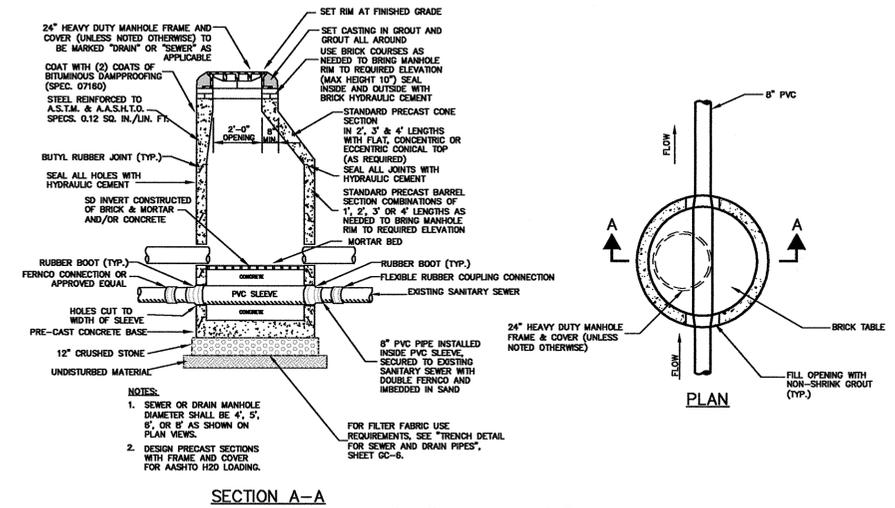
* MAY VARY DEPENDING ON SIZE AND LOCATION OF ADDITIONAL PENETRATIONS OR RELATIONSHIP OF PENETRATIONS IN MANHOLE.

WALL THICKNESS	MAX TRENCH WIDTH
LESS THAN 6"	LD. + 5'-0"
6" TO 12"	LD. + 6'-0"
13" TO 18"	LD. + 7'-0"
19" & GREATER	O.D. + 8'-0"

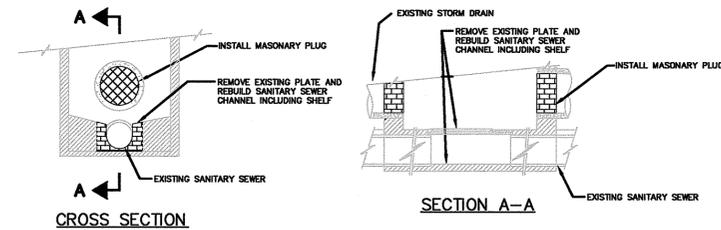
LD. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION
FOR TRENCHES GREATER THAN 5' DEEP ADD 3' FOR TEMPORARY SUPPORT OF EXCAVATION

MANHOLE GENERAL NOTES:

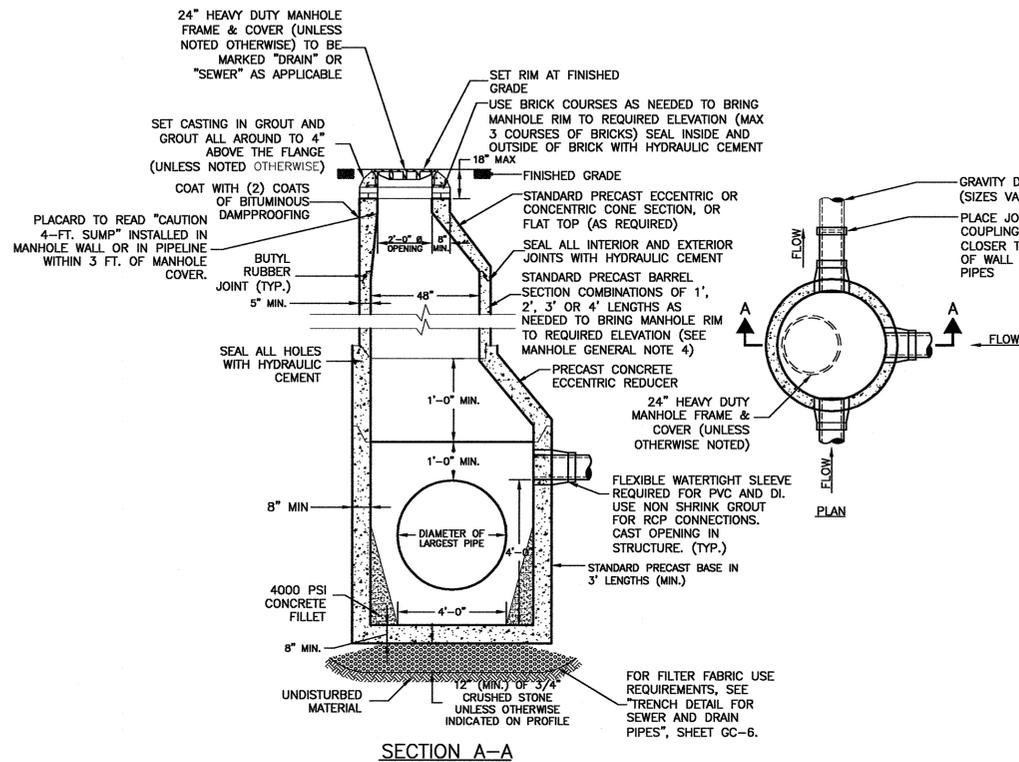
- HIGHEST POINT OF BRICK TABLE AT MANHOLE WALL, TO BE AT ELEV. OF CROWN OF PIPE. TABLE TO SLOPE AT 8.3%.
- SEWER OR DRAIN MANHOLE DIAMETER SHALL BE 4', 5', 6', 8' OR 10' AS SHOWN ON PLAN/PROFILE VIEWS.
- DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H20 LOADINGS, UNLESS OTHERWISE NOTED.
- PRECAST MANHOLES SHALL BE PRE-ORDERED WITH PENETRATIONS AT ELEVATIONS INDICATED ON CONTRACT DRAWINGS.



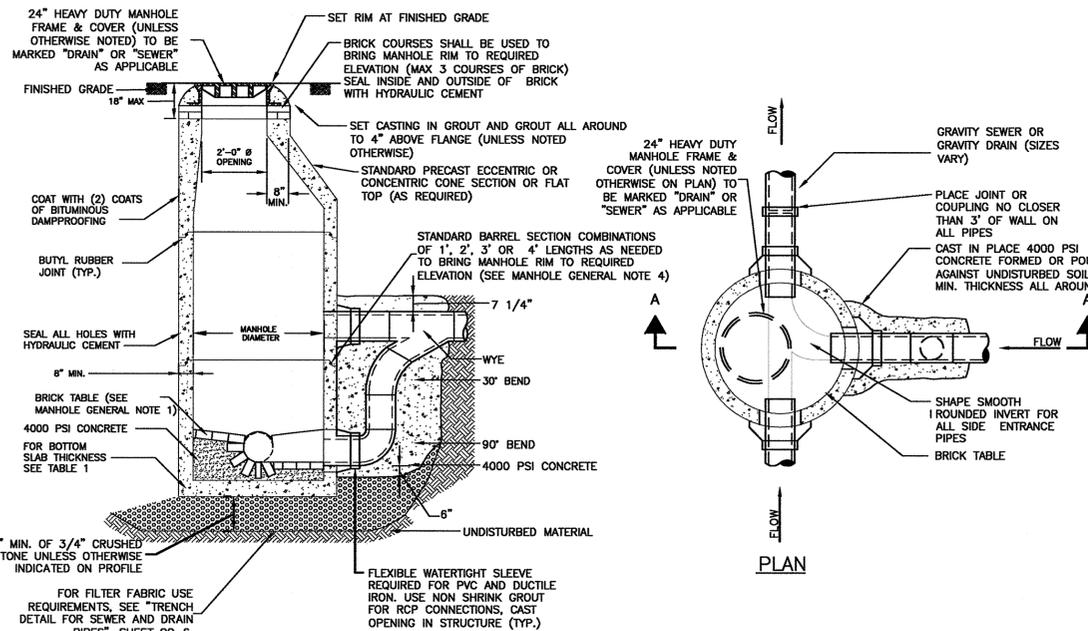
SECTION A-A
TYPE 6 - MANHOLE
CONSTRUCTED OVER PIPE WITH
BASE (FIGURE 2252.7)



COMMON MANHOLE SEPARATION TYPE 5 - COMMON MANHOLE
CONVERTED TO SEWER MANHOLE (FIGURE 2252.16)



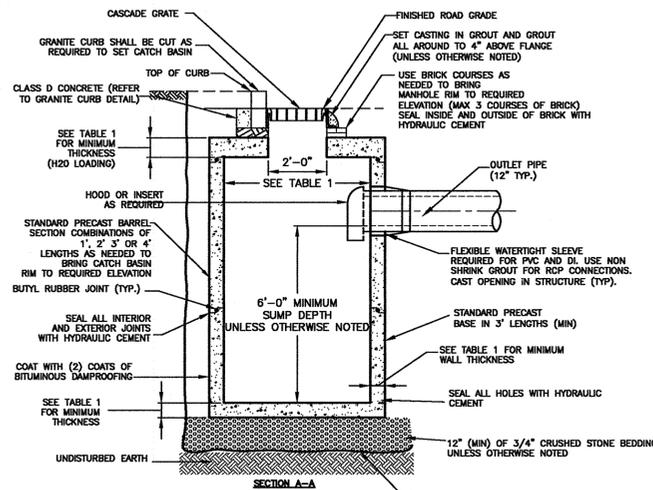
SECTION A-A
TYPE 2 - SUMP MANHOLE
DETAIL (FIGURE 2252.3)



SECTION A-A
TYPE 9 - EXTERIOR DROP MANHOLE DETAIL
(FIGURE 2252.10)

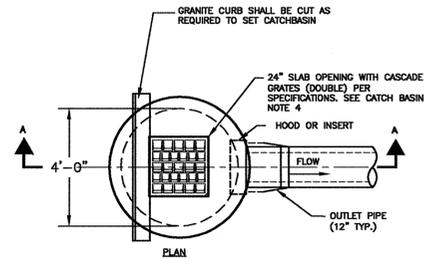
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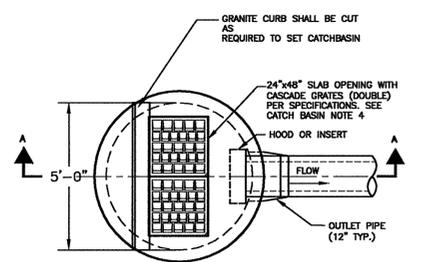


MANHOLE WIDTH Ø (L.D.)	MINIMUM WALL THICKNESS		
	TOP	BOTTOM	SIDE
TYPE 1 4'-0"	8"	6"	5"
TYPE 2 5'-0"	8"	8"	6"

TYPE 1 CATCH BASIN (FIGURE 2604.2)
AND TYPE 2 CATCH BASIN (FIGURE 2604.3)



TYPE 1: SINGLE GRATE CATCH BASIN

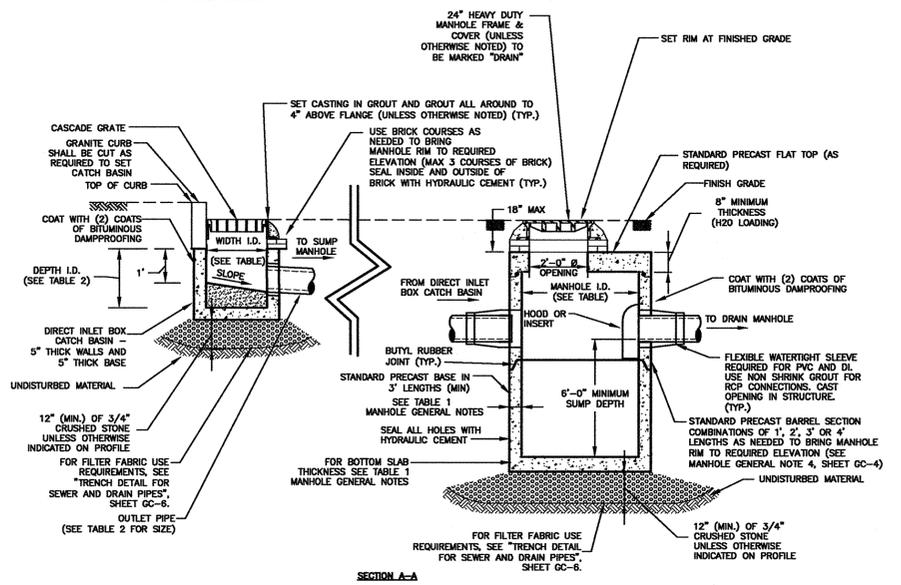


TYPE 2: DOUBLE GRATE CATCH BASIN

TABLE 2. PRECAST INLET BOX AND SUMP MANHOLE SIZE TABLE

	PRECAST DIRECT INLET BOX			OUTLET PIPE	SUMP MANHOLE
	WIDTH (L.D.)	LENGTH (L.D.)	DEPTH (L.D.)	Ø (L.D.)	Ø (L.D.)
SINGLE GRATE	24"	24"	24"	12"	4'
DOUBLE GRATE	24"	48"	36"	15"	5'

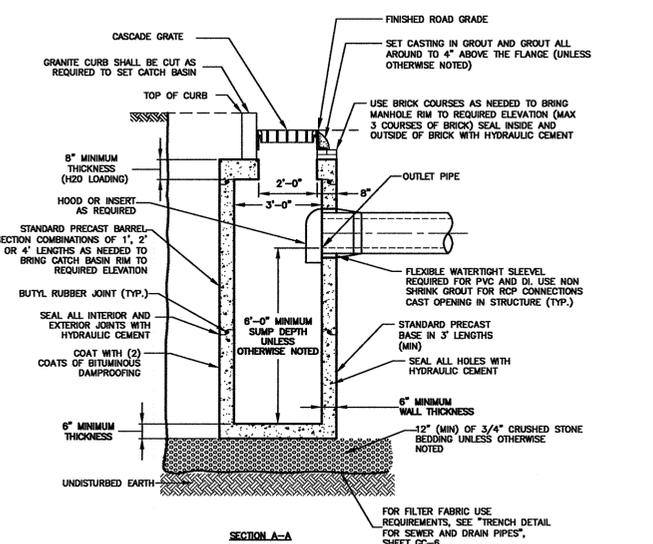
L.D. = INSIDE DIMENSION



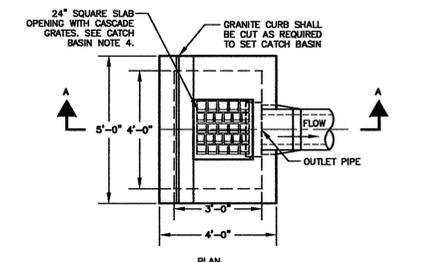
TYPE 5: DIRECT INLET CATCH BASIN (FIGURE 2604.5)

NUMBER	STATION	INV. OUT	INV. TO IB	TYPE	FIGURE	RIM	GRATE	LATERAL PIPE
CB-1	STA 1001+43.8 (12.4' R)	3.84		5	2604.5	7.12	LEFT	12" DI
CB-2	STA 1002+36.4 (12.3' L)	4.10		1	2604.2	7.27	RIGHT	12" DI
CB-3	STA 1004+10.4 (12.3' L)	5.00		1	2604.2	8.01	RIGHT	12" DI
CB-4	STA 1005+56.3 (12.4' L)	5.00		1	2604.2	8.25	RIGHT	12" DI
CB-5	STA 4000+55 (9.4' R)	5.46		5	2604.5	8.46	LEFT	12" DI
CB-6	STA 4002+19.3 (11.0' R)	4.38		1	2604.2	8.25	RIGHT	12" DI
CB-7	STA 4000+55 (9.5' R)	5.43		5	2604.5	8.43	RIGHT	12" DI
CB-8	STA 1008+29 (12.3' L)	5.14		1	2604.2	8.25	RIGHT	12" DI
CB-9	STA 1008+97.5 (12.3' L)	5.92		1	2604.2	8.94	RIGHT	12" DI
CB-10	STA 1007+49.5 (12.3' L)	5.70		1	2604.2	8.79	LEFT	12" DI
CB-11	STA 1007+79 (12.6' L)	5.48		5	2604.5	8.43	LEFT	12" DI
CB-12	STA 1010+63 (12.4' R)	5.06		1	2604.2	7.95	RIGHT	12" DI
CB-13	STA 1012+31.4 (12.2' L)	3.58		1	2604.2	7.61	LEFT	12" PVC
CB-14	STA 1013+2.6 (12.3' L)	3.60		1	2604.2	7.38	LEFT	12" DI
CB-15	STA 7001+47.5 (12.1' L)	MATCH EXIST. (3.4)	2.90 (IB-5)	1	2604.2	7.60	LEFT	12" DI STUB
CB-16	STA 7001+39 (12.8' L)	3.60	3.10 (IB-6)	1	2604.2	7.56	RIGHT	12" DI STUB
CB-17	STA 1013+48.2 (12.0' L)	4.09		1	2604.2	7.10	LEFT	12" DI
CB-18	STA 1015+53 (11.8' R)	4.50		1	2604.2	7.50	RIGHT	12" DI
CB-19	STA 8000+32.5 (12.0' L)	4.60		1	2604.2	7.59	RIGHT	12" DI
CB-20	STA 8001+21.8 (12.2' L)	MATCH EXIST. (5.3)	4.80 (IB-10)	1	2604.2	7.46	RIGHT	12" DI STUB
CB-21	STA 8003+18.5 (12.1' L)	MATCH EXIST. (4.83)	4.83 (IB-7)	1	2604.2	8.23	RIGHT	12" DI STUB
CB-22	STA 8003+14.9 (12.4' R)	5.42	4.92 (IB-9)	1	2604.2	8.41	LEFT	12" DI
CB-23	STA 8001+71.5 (11.9' R)	MATCH EXIST. (4.40)	4.40 (IB-9)	1	2604.2	7.80	LEFT	12" DI STUB
CB-24	STA 8001+14.2 (12.7' R)	4.13		3	2604.4	7.27	LEFT	12" DI
CB-25	STA 2001+8.8 (12.0' R)	3.40		1	2604.2	7.38	LEFT	12" DI
CB-26	STA 2001+8.8 (6.4' R)	2.91		1	2604.2	7.02	RIGHT	12" PVC
CB-27	STA 2002+43.3 (7.8' R)	3.44		1	2604.2	6.26	RIGHT	12" DI
CB-28	STA 2002+43.0 (8.2' L)	3.27		1	2604.2	6.27	LEFT	12" DI
CB-29	STA 2005+22.6 (9.0' R)	3.08		1	2604.2	5.52	RIGHT	12" DI
CB-30	STA 2005+20.4 (8.6' L)	2.31		1	2604.2	5.31	LEFT	12" DI
CB-31	STA 2005+30.2 (9.0' R)	0.81		1	2604.2	5.74	RIGHT	12" PVC
CB-32	STA 2007+58.2 (15.8' L)	-0.77		1	2604.2	5.41	LEFT	12" PVC
CB-33	STA 5001+60.4 (11.3' R)	3.70		1	2604.2	6.87	RIGHT	12" DI
CB-34	STA 5002+48.5 (12.3' R)	2.63		3	2604.4	5.67	RIGHT	12" DI
CB-35	STA 5002+48.9 (12.6' R)	2.40		5	2604.5	5.37	LEFT	12" DI
CB-36	STA 3001+14.1 (12.2' L)	MATCH EXIST. (4.92)	4.92 (IB-3)	1	2604.2	4.70	LEFT	12" DI STUB
CB-37	STA 6001+47.7 (12.7' R)	2.19		1	2604.2	6.22	RIGHT	12" PVC
CB-38	STA 6001+69.5 (11.8' R)	2.98		1	2604.2	5.98	LEFT	12" DI
CB-39	STA 6002+25 (12.8' R)	MATCH EXIST. (1.7)			REPLACE FRAME AND GRATE	5.24	RIGHT	12" PVC
CB-40	STA 6002+25.5 (12.0' L)	MATCH EXIST. (4.53)			REPLACE FRAME AND GRATE	5.23	LEFT	12" PVC
CB-41	STA 7003+96 (12.6' R)	MATCH EXIST. (3.83)	3.83 (IB-4)	1	2604.2	8.03	LEFT	12" DI STUB
CB-42	STA 7003+56.2 (12.4' L)	MATCH EXIST. (4.53)	4.53 (IB-3)	1	2604.2	7.63	RIGHT	12" DI STUB
CB-43	STA 7005+95.7 (12.1' L)	MATCH EXIST. (4.9)	4.90 (IB-2)	1	2604.2	8.57	LEFT	12" DI STUB
CB-44	STA 7006+35 (14.0' R)	3.42		1	2604.2	8.53	RIGHT	12" PVC
CB-45	STA 3004+59.7 (11.8' L)	4.66	4.16 (IB-1)	1	2604.2	8.66	RIGHT	12" PVC
CB-46	STA 3004+59.7 (12.7' R)	MATCH EXIST. (4.92)	4.92 (IB-3)	1	2604.2	7.12	LEFT	SEE SHEET C-11
CB-47	STA 3003+31.4 (12.3' L)	MATCH EXIST. (4.92)	4.92 (IB-3)	1	2604.2	5.96	RIGHT	12" PVC STUB
CB-48	STA 1007+35 (12' R)	5.75		1	2604.2	8.75	RIGHT	12" DI

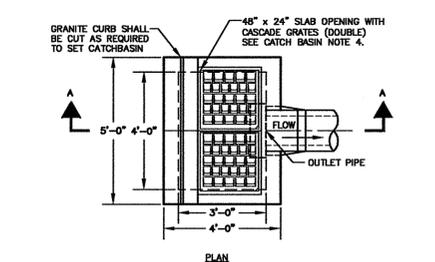
NOTE:
SEE GENERAL NOTES FOR EXPLANATION OF VANE ORIENTATION OF LEFT AND RIGHT GRATES.



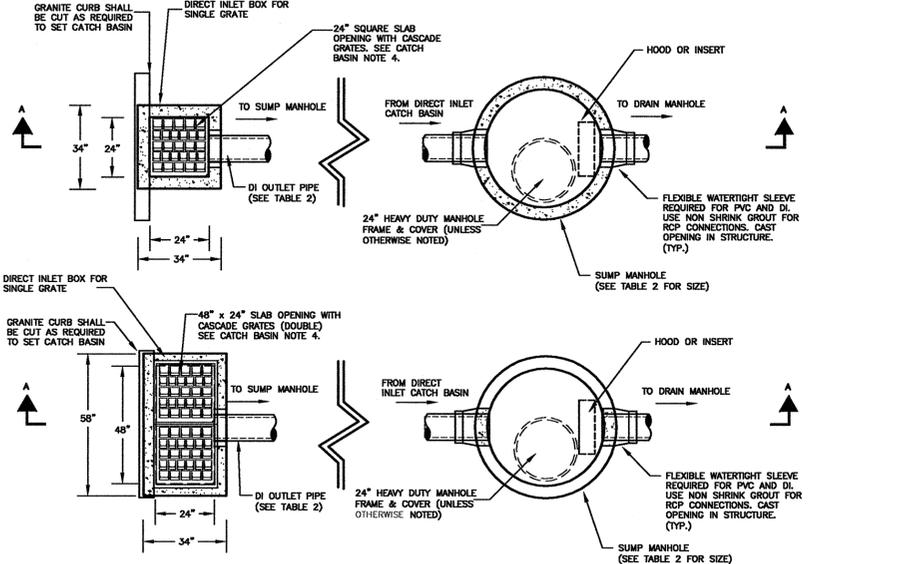
TYPE 3 & 4 CATCH BASIN (FIGURE 2604.4)



TYPE 3: SINGLE GRATE CATCH BASIN



TYPE 4: DOUBLE GRATE CATCH BASIN



TYPE 5: DIRECT INLET CATCH BASIN (FIGURE 2604.5)

- GENERAL CATCH BASIN NOTES:
- FACE OF PIPE SHALL NOT PROJECT MORE THAN 4-INCHES FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
 - DESIGN PRECAST SECTIONS WITH FRAME AND GRATE FOR AASHTO H20 LOADING UNLESS OTHERWISE NOTED.
 - PRECAST TOP SLAB OPENING CAN BE CENTERED OR OFFSET AS NECESSARY.
 - GRATE VANES SHALL BE INSTALLED IN DIRECTION TO RECEIVE FLOWS.

WALL THICKNESS	MAX TRENCH WIDTH
LESS THAN 6"	L.D. + 5'-0"
6" TO 12"	L.D. + 6'-0"
13" TO 18"	L.D. + 7'-0"
19" & GREATER	O.D. + 6'-0"

L.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION
FOR TRENCHES GREATER THAN 5' DEEP ADD 3' FOR TEMPORARY SUPPORT OF EXCAVATION

CONFORMED SET

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SEA
SEA CONSULTANTS INC.
Cambridge, Massachusetts
Rocky Hill, Connecticut
Augusta, Maine
Framingham, Massachusetts

MWH
BOSTON
MASSACHUSETTS

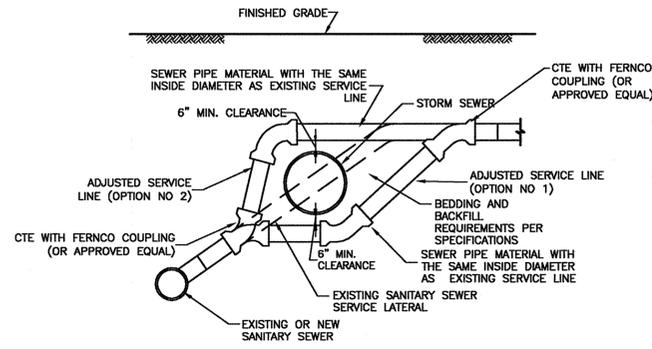
WILLIAM C. PISANO
No. 31882
REGISTERED PROFESSIONAL ENGINEER

Scale	AS NOTED
Date	JANUARY 15, 2010
Job No.	1006250
Designed by	AMF
Drawn by	AMF
Checked by	DHC
Approved by	WCP

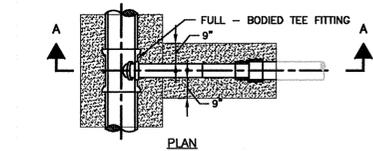
THE WORKS
CAMBRIDGE
DEPARTMENT
OF PUBLIC
WORKS

CITY OF CAMBRIDGE, MA
ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND
CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
GENERAL CIVIL - CATCH BASIN DETAILS

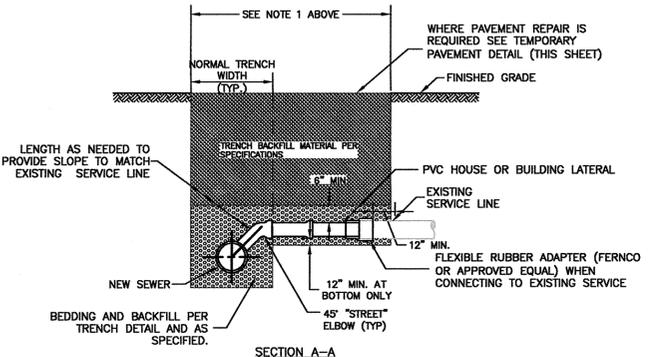
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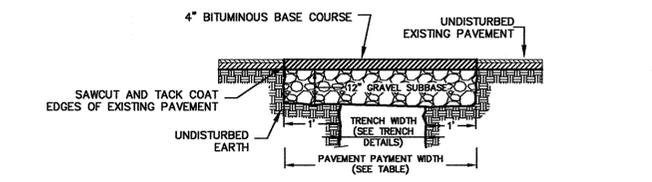
SANITARY SEWER SERVICE LINE RECONNECTION FOR STORM SEWER CONFLICTS



NOTES:
 1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN/PROFILES AND AS SPECIFIED.
 2. EXCAVATE & REMOVE EXISTING SEWER LATERAL TO ALLOW RECONSTRUCTION.



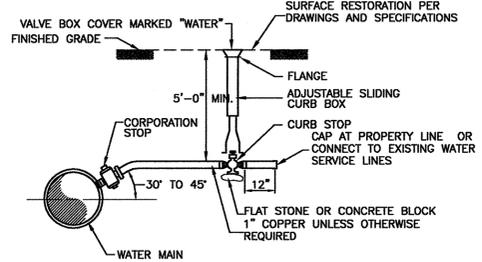
SEWER OR DRAIN SERVICE CONNECTION < 12' DEEP



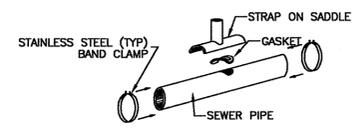
PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT				PAY WIDTH
	0 - 8'	OVER 8' - 12'	OVER 12' - 16'	OVER 16' - 20'	
0" - 24"	6'-6"	9'-6"	12'-6"	15'-6"	O.D. + 3'-0"
OVER 24"	O.D. + 4'-0"	O.D. + 7'-0"	O.D. + 10'-0"	O.D. + 13'-0"	

I.D. = INSIDE DIMENSION
 O.D. = OUTSIDE DIMENSION
 FOR EACH ADDITIONAL 4'-0" OF PIPE INVERT DEPTH OVER 20', ADD 3'-0" TO WIDTH LIMITS
 TEMPORARY PAVEMENT DEPTH SHALL BE 3-IN.

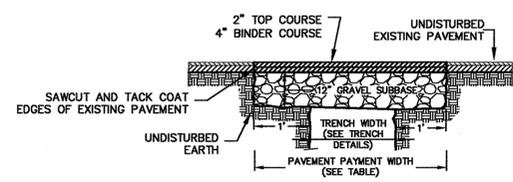
TEMPORARY TRENCH PAVEMENT DETAIL



NEW WATER SERVICE DETAIL



LATERAL STRAP-ON SADDLE

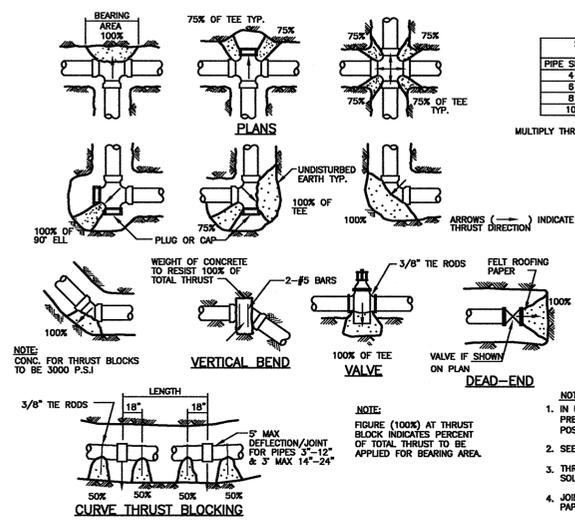


PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT				PAY WIDTH
	0 - 8'	OVER 8' - 12'	OVER 12' - 16'	OVER 16' - 20'	
0" - 24"	8'-6"	11'-6"	14'-6"	17'-6"	O.D. + 3'-0"
OVER 24"	O.D. + 6'-0"	O.D. + 9'-0"	O.D. + 12'-0"	O.D. + 15'-0"	

I.D. = INSIDE DIMENSION
 O.D. = OUTSIDE DIMENSION
 FOR EACH ADDITIONAL 4'-0" OF PIPE INVERT DEPTH OVER 20', ADD 3'-0" TO WIDTH LIMITS

PERMANENT TRENCH PAVEMENT DETAIL

TEMPORARY AND PERMANENT TRENCH PAVEMENT NOTES:
 1. PERMANENT TRENCH PAVEMENT PAYMENT WIDTH SHALL BE THE TRENCH PAY LIMIT PLUS 2 FEET
 2. TEMPORARY TRENCH PAVEMENT PAYMENT WIDTH SHALL BE EQUAL TO THE TRENCH PAYMENT LIMIT
 3. REMOVE AND DISPOSE ALL TEMPORARY PAVEMENT AS REQUIRED. RESTORE AND COMPACT SUBBASE AS REQUIRED PRIOR TO PERMANENT TRENCH PAVEMENT.



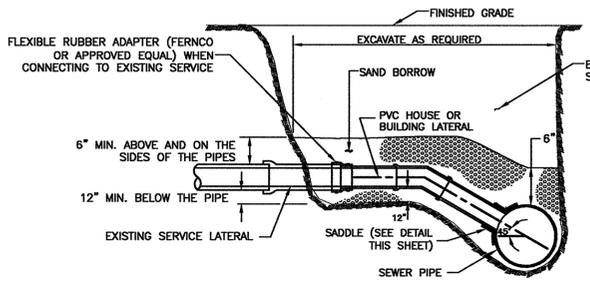
CONCRETE THRUST BLOCKS FOR DUCTILE IRON AND P.V.C. PIPE

PIPE SIZE - IN.	SIDE THRUST - LB.	PIPE SIZE - IN.	SIDE THRUST - LB.
4	35	12	278
6	72	16	468
8	122	24	1150
10	197	36	2729

PIPE SIZE OR TEE	DEAD END FITTINGS	45° ELBOW	22 1/2° ELBOW
4	19	27	15
6	39	55	30
8	67	94	51
10	109	154	84
12	155	218	119
16	275	385	209
24	493	678	428
36	1439	2025	1102

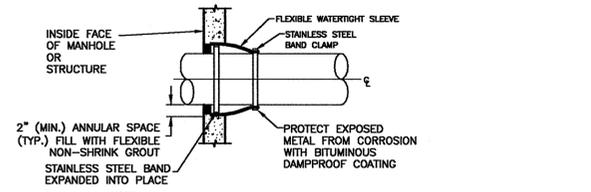
EXAMPLE:
 8-INCH 90° ELBOW, PRESSURE=200lb./SQ. IN.
 FROM TABLE: THRUST=94 x 200=18,800 lb.
 ASSUME BEARING STRENGTH OF SOIL=2000 lb./SQ. FT.
 18,800 / 2000 = 9.4 SQ. FT. = AREA OF BEARING REQUIRED FOR THRUST BLOCK

NOTES:
 1. IN USING THE ABOVE TABLES, USE THE MAXIMUM INTERNAL PRESSURE ANTICIPATED (i.e. HYDROSTATIC TEST PRESSURE, POSSIBLE SURGE PRESSURE DUE TO PUMP SHUT-OFF, ETC.)
 2. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL.
 3. THRUST BLOCKS ARE NOT REQUIRED ON P.V.C. PIPE WITH SOLVENT WELDED JOINTS.
 4. JOINTS SHALL BE PROTECTED BY 30 LB. FELT ROOFING PAPER PRIOR TO PLACING CONCRETE.

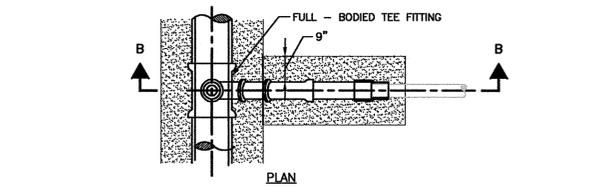


SEWER SERVICE SADDLE CONNECTION FOR PIPE GREATER THAN 18" DIA. OR ODD SIZE

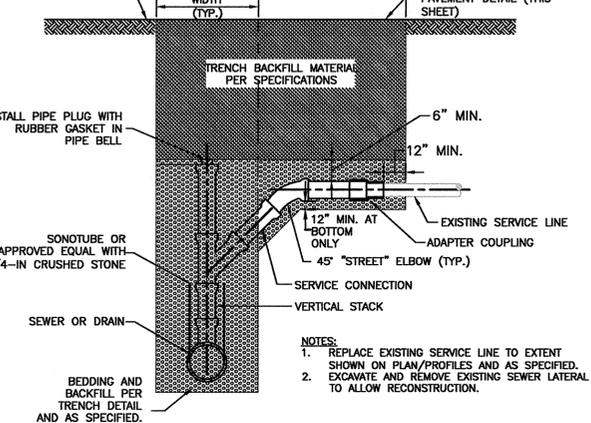
NOTE:
 1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN/PROFILES AND AS SPECIFIED.



FLEXIBLE SLEEVE CONNECTION DETAIL



SEWER OR DRAIN SERVICE CONNECTION WITH CHIMNEY > 12' DEEP



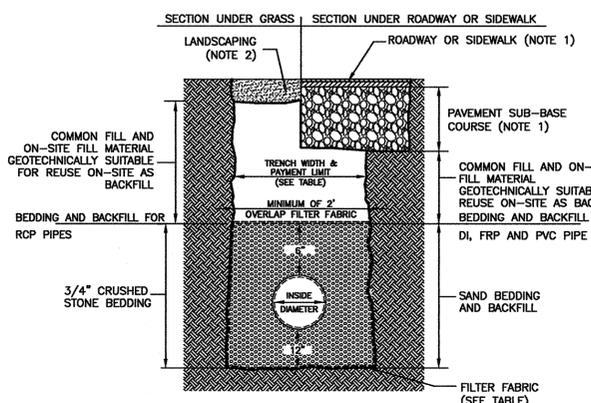
SEWER OR DRAIN SERVICE CONNECTION WITH CHIMNEY > 12' DEEP

PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT		PAY WIDTH
	0 - 12'	OVER 12' - 20'	
0" - 24"	5'-0"	7'-0"	O.D. + 3'-0"
OVER 24"	D + 3'-0"	D + 5'-0"	

I.D. = INSIDE DIMENSION
 PAY LIMIT FOR ROCK REMOVAL OUTSIDE PROPOSED STRUCTURES SHALL BE 1'0" OUTSIDE THE WIDEST DIMENSION OF THE STRUCTURE.
 PAYMENT DEPTH FOR ROCK SHALL BE NO LESS THAN 3'-0"

PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT				PAY WIDTH
	0 - 8'	OVER 8' - 12'	OVER 12' - 16'	OVER 16' - 20'	
0" - 24"	6'-6"	9'-6"	12'-6"	15'-6"	O.D. + 3'-0"
OVER 24"	O.D. + 4'-0"	O.D. + 7'-0"	O.D. + 10'-0"	O.D. + 13'-0"	

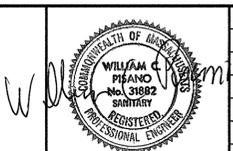
I.D. = INSIDE DIMENSION
 O.D. = OUTSIDE DIMENSION
 FOR EACH ADDITIONAL 4'-0" OF PIPE INVERT DEPTH OVER 20', ADD 3'-0" TO WIDTH LIMITS



NOTES:
 1. REFER TO PAVING AND SURFACING, AND CURBS, WALKS AND DRIVEWAYS REQUIREMENTS.
 2. REFER TO LANDSCAPING REQUIREMENTS
 3. REFER TO 'TRENCH PAY LIMIT TABLE FOR PIPES' FOR PAYMENT OF ALL ITEMS IN WHICH PAY TRENCH WIDTH IS A VARIABLE FOR CALCULATIONS OF QUANTITIES EXCEPT FOR TRENCH PAVEMENT
 4. REFER TO TRENCH PAVEMENT DETAIL FOR PAVEMENT PAYMENT WIDTHS.

TRENCH DETAIL FOR WATER, SEWER, AND DRAIN PIPES

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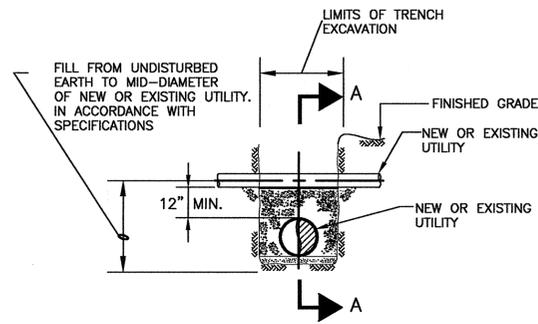
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Job No.	1006250			
Designed by	AMF			
Drawn by	AMF			
Checked by	DHC	No.	Description	Date
Approved by	WCP		REVISIONS	



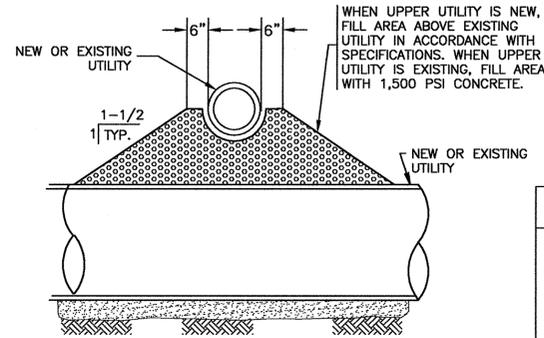
CITY OF CAMBRIDGE, MA
 ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND
 CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
 GENERAL CIVIL - TRENCH AND SERVICE CONNECTION DETAILS

Sheet No. GC-6
 File No.

CONFORMED SET



ELEVATION UTILITY CROSSING



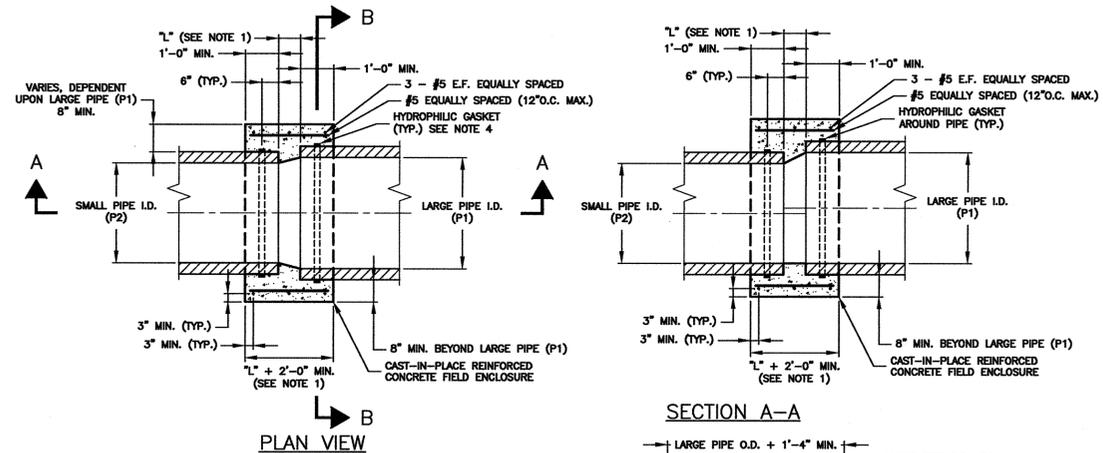
SECTION A-A

TYPICAL UTILITY CROSSING DETAIL

NEW PIPE MATERIAL	EXISTING PIPE MATERIAL				
	BRICK	RCP	DI	VC	PLASTIC
BRICK	1	1	1	1	1
RCP	1	1	1	1	1
DI	1	1	2	2	2
VC	1	1	2	2	2
PLASTIC	1	1	2	2	2

PIPE CONNECTION TABLE*

TYPE 1 = CONCRETE COLLAR
 TYPE 2 = TRANSITION COUPLING (DRESSER OR EQUAL)
 * SERVICE LATERALS 8" OR LESS SHALL BE FLEXIBLE RUBBER COUPLING TYPE.
 NOTE: PIPE COUPLERS SHALL BE INSTALLED PER THE TABLE ABOVE UNLESS OTHERWISE NOTED.



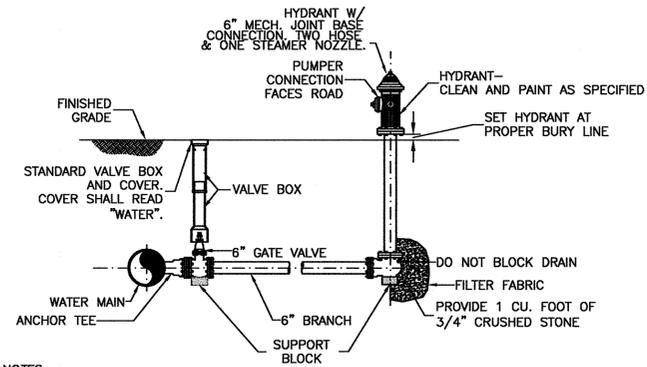
PLAN VIEW

SECTION A-A

NOTES:
 1. SPACING BETWEEN PIPES (L) DEPENDS ON PIPE SIZES, FOR PIPES OF THE SAME SIZE USE 4". THE DISTANCE "L" EQUALS THE LARGE PIPE I.D. MINUS THE SMALL PIPE I.D. TIMES TWO [L=(P1-P2)x2] BUT NO LESS THAN 4".
 2. PROPOSED PIPE INVERT SHALL MATCH EXISTING PIPE INVERT UNLESS OTHERWISE NOTED.
 3. SAND BLAST EXISTING PIPE PERIMETER AND APPLY BONDING AGENT PRIOR TO CONCRETE ENCASUREMENT.
 4. CONCRETE AND REBAR REQUIREMENTS SHALL CONFORM TO CAST-IN-PLACE CONCRETE.
 5. LOCATION OF FIELD ENCLOSURE SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.
 6. FOR NON-PRESSURE PIPES OF SAME OR DIFFERENT MATERIALS OR SIZES.
 7. THE CONTRACTOR SHALL LOCATE CAST-IN-PLACE FIELD ENCLOSURES ON AS-BUILT DRAWINGS WITH 3 TIES OR WITH GPS.

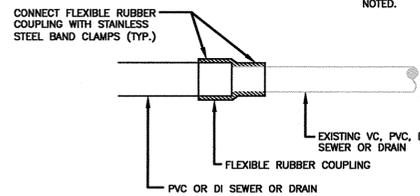
CAST-IN-PLACE CONCRETE FIELD ENCLOSURE FIGURE 3300.1

SECTION B-B



NOTES:
 1. PROVIDE HYDRANT AND VALVE JOINTS WITH APPROVED MECHANICAL JOINTS.
 2. SUPPORT BLOCKS TO BE PRESSURE TREATED WOOD OR CONCRETE MASONRY BLOCK.
 3. ALL VALVES OPEN LEFT.

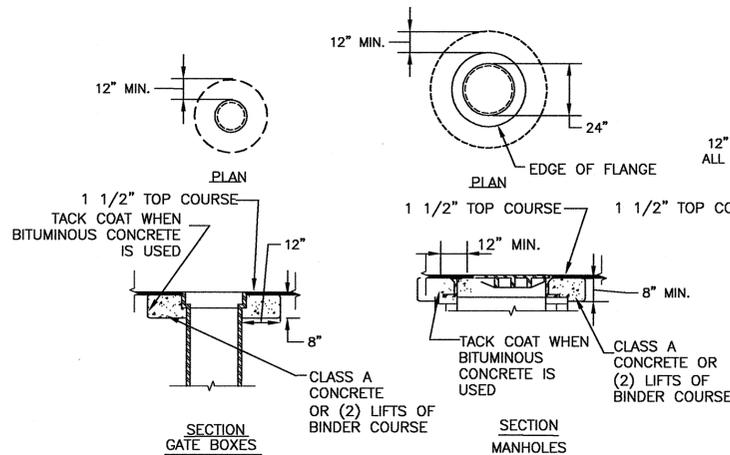
FIRE HYDRANT DETAIL



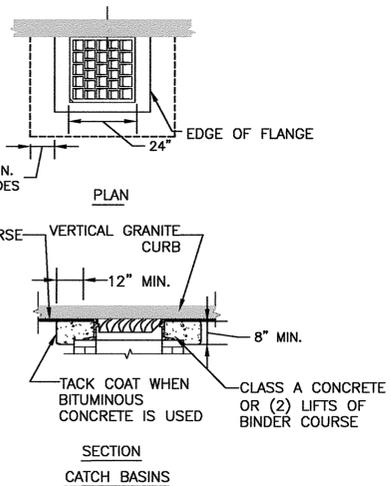
PIPE FIELD CLOSURE (FLEXIBLE RUBBER COUPLING) DETAIL

FOR NON-PRESSURE PIPES OF DIFFERENT MATERIALS OR SIZES

NOTES:
 1. GRAVITY LATERAL PIPES (SEWERS OR DRAINS)
 2. SEE SPECIFICATIONS FOR MATERIALS AND REQUIREMENTS.

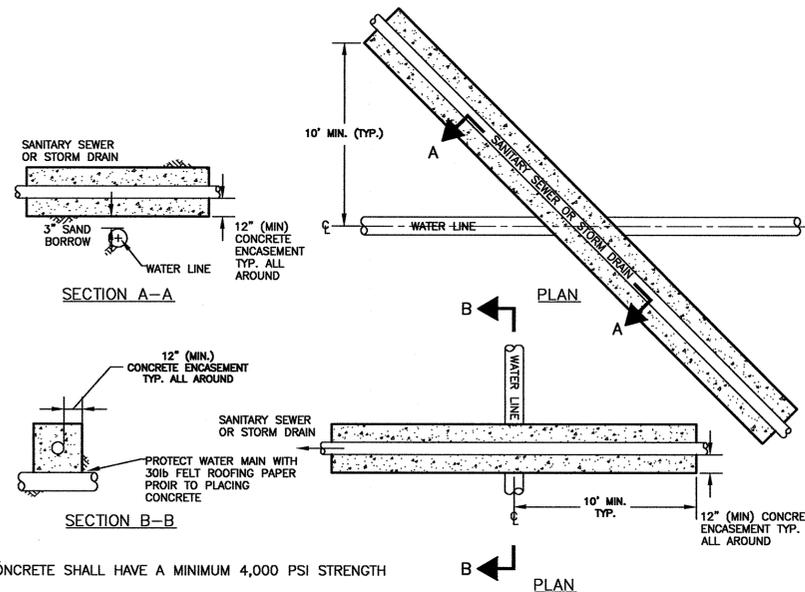


RAISING CASTINGS DETAIL



NOTE:
 1. CONCRETE SHALL HAVE A MINIMUM 4,000 PSI STRENGTH

CONCRETE ENCASUREMENT DETAIL



EROSION CONTROL DETAIL STAKED COMPOSTING SOCK PLAN

SECTION A-A

CONFORMED SET

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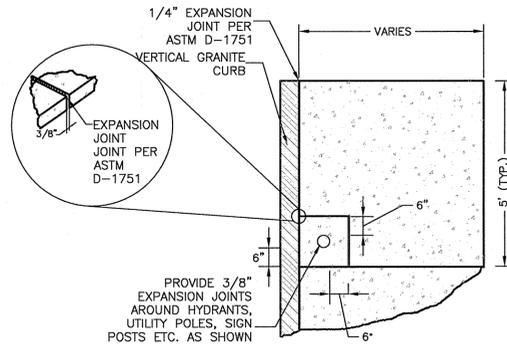


Scale	AS NOTED
Date	JANUARY 15, 2010
Job No.	1006250
Designed by	AMF
Drawn by	AMF
Checked by	DHC
Approved by	WCP



CITY OF CAMBRIDGE, MA
 ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND
 CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
 GENERAL CIVIL - MISC. CIVIL UTILITY
 DETAILS

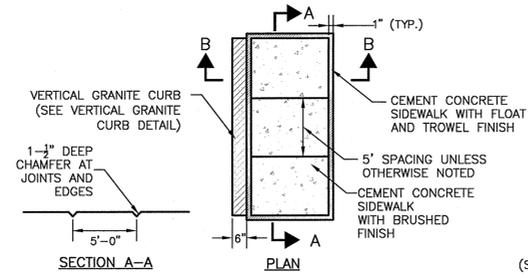
Sheet No. GC-7
 File No.



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 02524-3.2C OF THE CONTRACT DOCUMENTS.

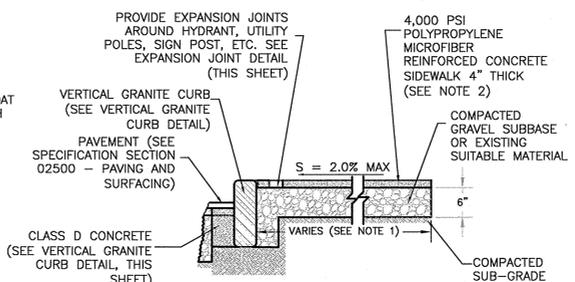
EXPANSION JOINT DETAIL



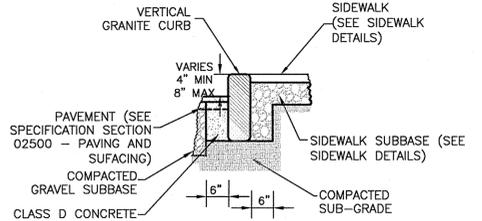
CONCRETE SIDEWALK DETAIL

NOTES:

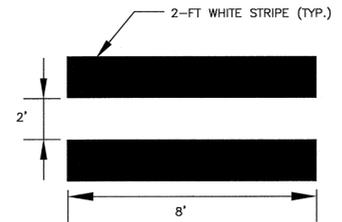
1. NEW SIDEWALK SHALL MATCH WIDTH OF EXISTING SIDEWALK UNLESS OTHERWISE NOTED.
2. SIDEWALK MATERIAL TO MATCH EXISTING SIDEWALK. FOR EXISTING ASPHALT SIDEWALK, SUBSTITUTE 4\"/>



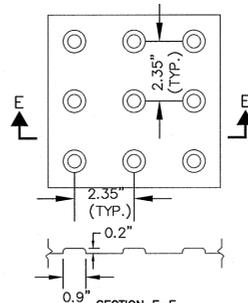
SECTION B-B



VERTICAL GRANITE CURB DETAIL

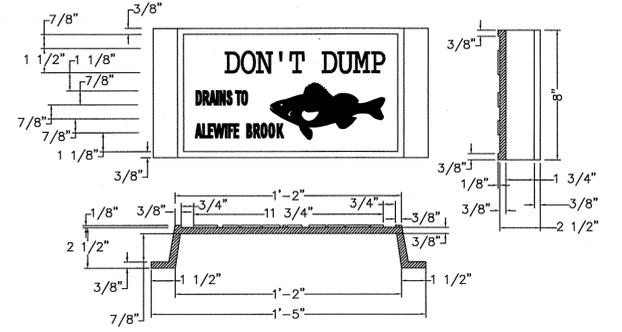


CROSSWALK PAVEMENT MARKING DETAIL

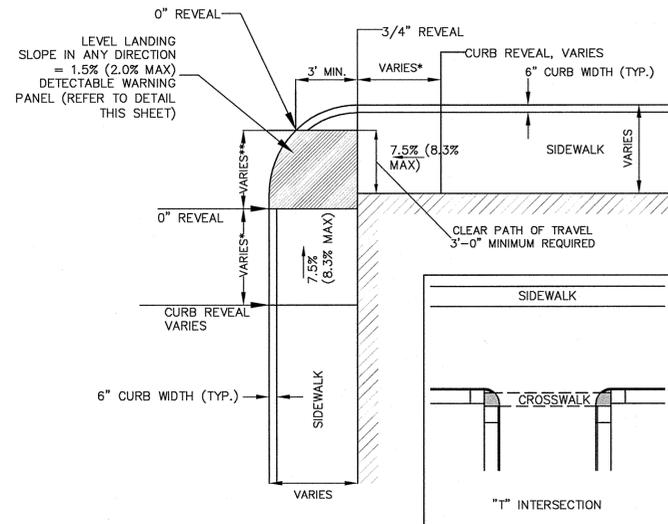


- NOTES:**
1. DETECTABLE WARNING SURFACES SHALL BE RED.
 2. DETECTABLE WARNING PANELS SHALL EXTEND A MIN. OF 2' IN RAMP.

DETECTABLE WARNING PANEL DETAIL



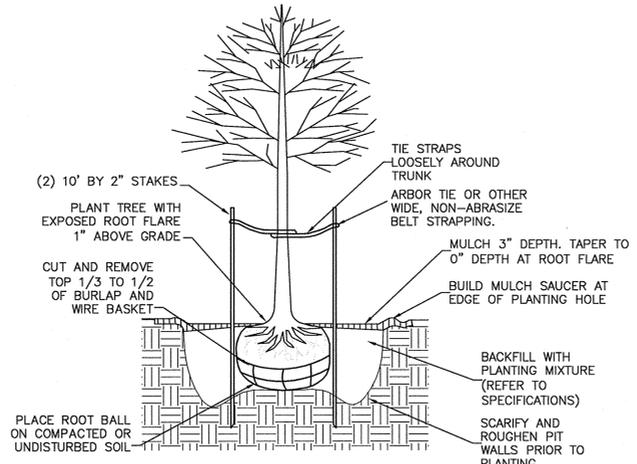
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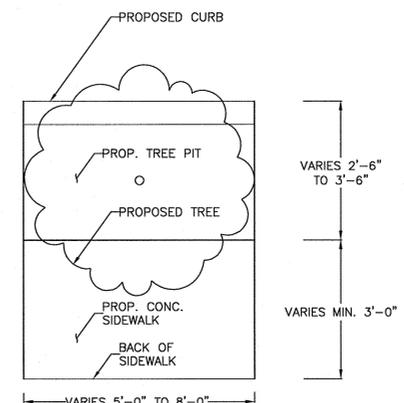
LEGEND

- BUILDING OR OTHER UNALTERABLE CONDITION
- * FOR CURB TRANSITION LENGTHS, REFER TO TRANSITION CHART ON CURB TIE PLANS
- ** = RAMP WIDTHS VARY (5'-0\"/>

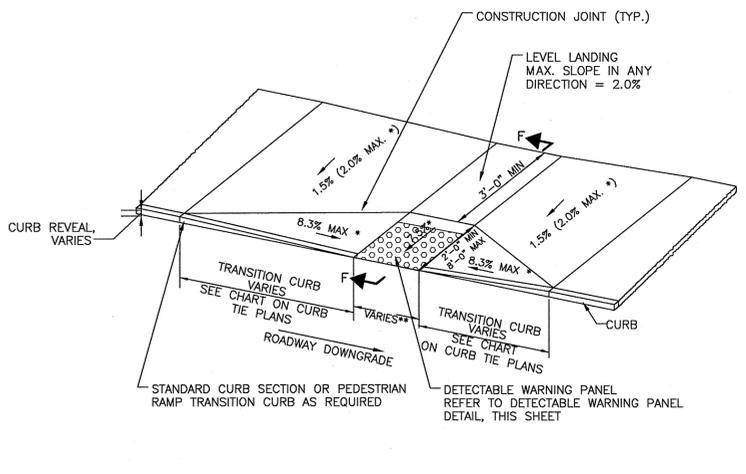
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DECIDUOUS TREE PLANTING

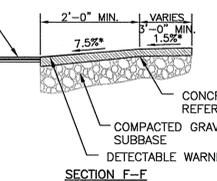


DECIDUOUS TREE PLANTING PIT PLAN VIEW



NOTES:

- * = CONTRACTOR TO MEET ADA REQUIREMENTS
- ** = RAMP WIDTHS VARY 3'-0\"/>



PEDESTRIAN RAMP DETAIL

CONFORMED SET

PLOT DATE: 1/14/2010 11:44:00 AM USER: BRYANT REYES FILENAME: G:\clients\Cambridge MA\2008288 - CAM 400 Sewer Separation\Civil\Details\Surface Details.dwg

SEA
SEA CONSULTANTS INC.
 Scientists/Engineers/Architects
 CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
 ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
 FRAMINGHAM, MASSACHUSETTS

MWH
 BOSTON
 MASSACHUSETTS

VINCENT W. SPADA
 SANITARY
 No. 31436
 REGISTERED PROFESSIONAL ENGINEER

Scale	N.T.S.
Date	JANUARY 15, 2010
Job No.	2008288.03-A
Designed by	SEA
Drawn by	SEA
Checked by	SFJ
Approved by	VWS

THE WORKS
 CAMBRIDGE
 DEPARTMENT
 OF PUBLIC

Client	CITY OF CAMBRIDGE, MA
Project	ALEWIFE BROOK FLOATABLES CONTROL (CONTRACT 4) AND CAM 400 SEWER SEPARATION PROJECT (CONTRACT 13)
Drawing	GENERAL CIVIL - ROADWAY, CURB AND SIDEWALK DETAILS

Sheet	GC-8
File No.	15 OF 102

PAVEMENT NOTES

PROPOSED ROADWAY PULVERIZING

DEPTH OF BLADE: 8"

SURFACE: 2" HOT MIX ASPHALT TOP COURSE
4" HOT MIX ASPHALT BASE COURSE

SUBBASE: 2" (MAX) PULVERIZED MATERIAL

COLD PLANE AND OVERLAY

COLD PLANE: 2"

OVERLAY: 2" HOT MIX ASPHALT TOP COURSE

TACKCOAT: BITUMEN FOR TACK COAT (RS-1) AT 1/20 GAL/SY OVER COLD PLANED SURFACE

PROPOSED CEMENT CONCRETE SIDEWALK & PEDESTRIAN RAMPS

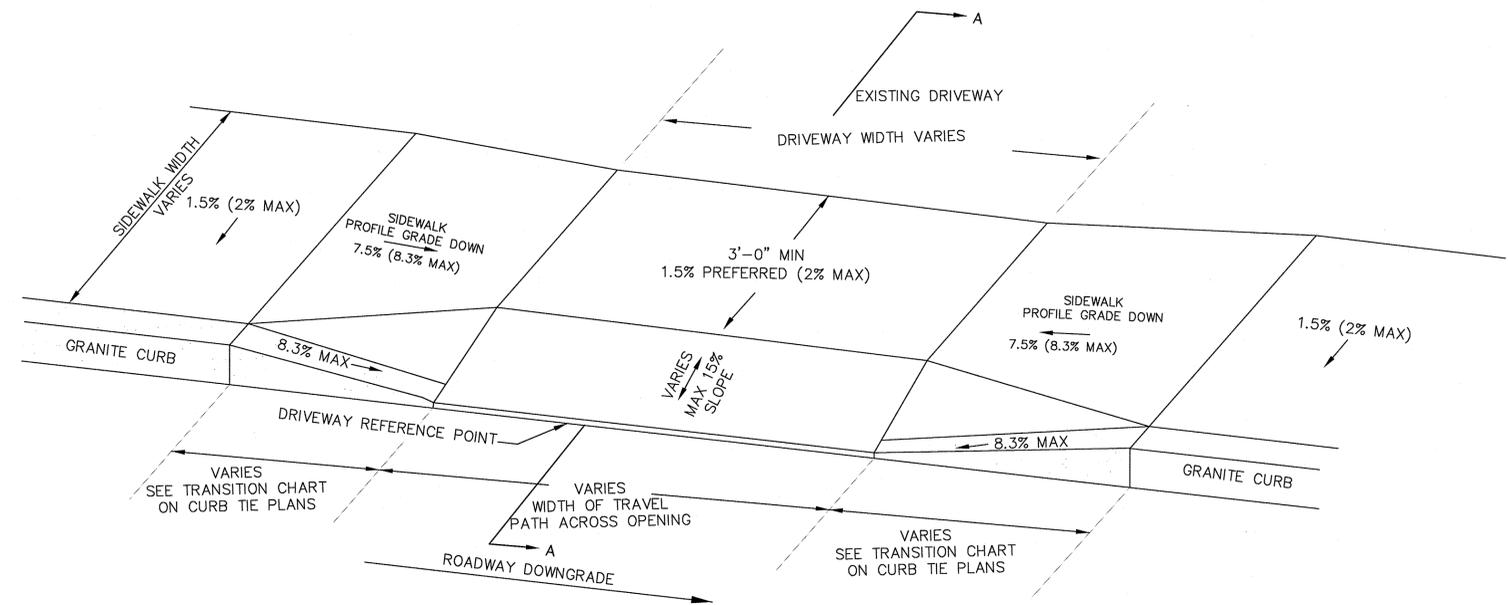
SURFACE: 4" AIR-ENTRAINED 4,000 PSI, 3/4", 610 CEMENT CONCRETE LAID IN ONE (1) LAYER

SUBBASE: 8" GRAVEL BORROW, TYPE C

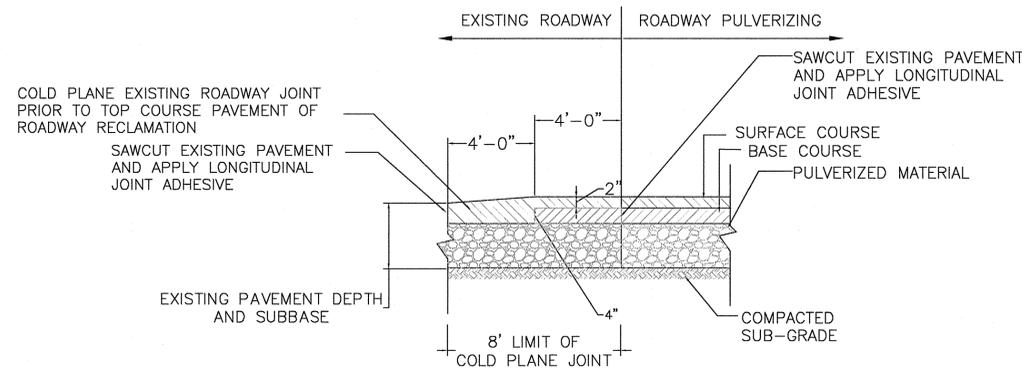
PROPOSED CEMENT CONCRETE DRIVEWAYS, CEMENT CONCRETE SIDEWALKS AT DRIVEWAYS, AND SIDEWALK AT CORNERS

SURFACE: 6" AIR-ENTRAINED 4,000 PSI, 3/4", 610 CEMENT CONCRETE LAID IN ONE (1) LAYER

SUBBASE: 8" GRAVEL BORROW, TYPE C

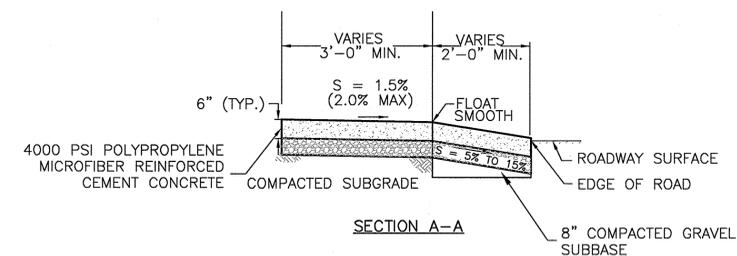


CONCRETE DRIVEWAY DETAIL AT SIDEWALK



NOTES:
1. CLEAN ALL COLD PLANED SURFACES BEFORE APPLYING JOINT ADHESIVE AND FINAL PAVEMENT

PAVEMENT JOINT DETAIL IN PULVERIZING AREAS



CONFORMED SET

PLOT DATE: 1/14/2010 11:37:50 AM USER: CHRISTINE CLANCY FILENAME: G:\clients\cambridge\MA2008288 - CAM 400 Sewer Separation\Civil\Details\Surface Details.dwg

SEA
SEA CONSULTANTS INC.
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CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
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MASSACHUSETTS

SEAL OF THE COMMONWEALTH OF MASSACHUSETTS
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