

**NORTH ACTON TREATMENT CORP.  
ACTON, MASSACHUSETTS**  
INFLUENT PUMP STATION  
SITE PLAN AND GENERAL NOTES



**CONSERVATION COMMISSION REVIEW  
SUBMITTAL  
NOT FOR CONSTRUCTION**

REV	DATE	DESCRIPTION

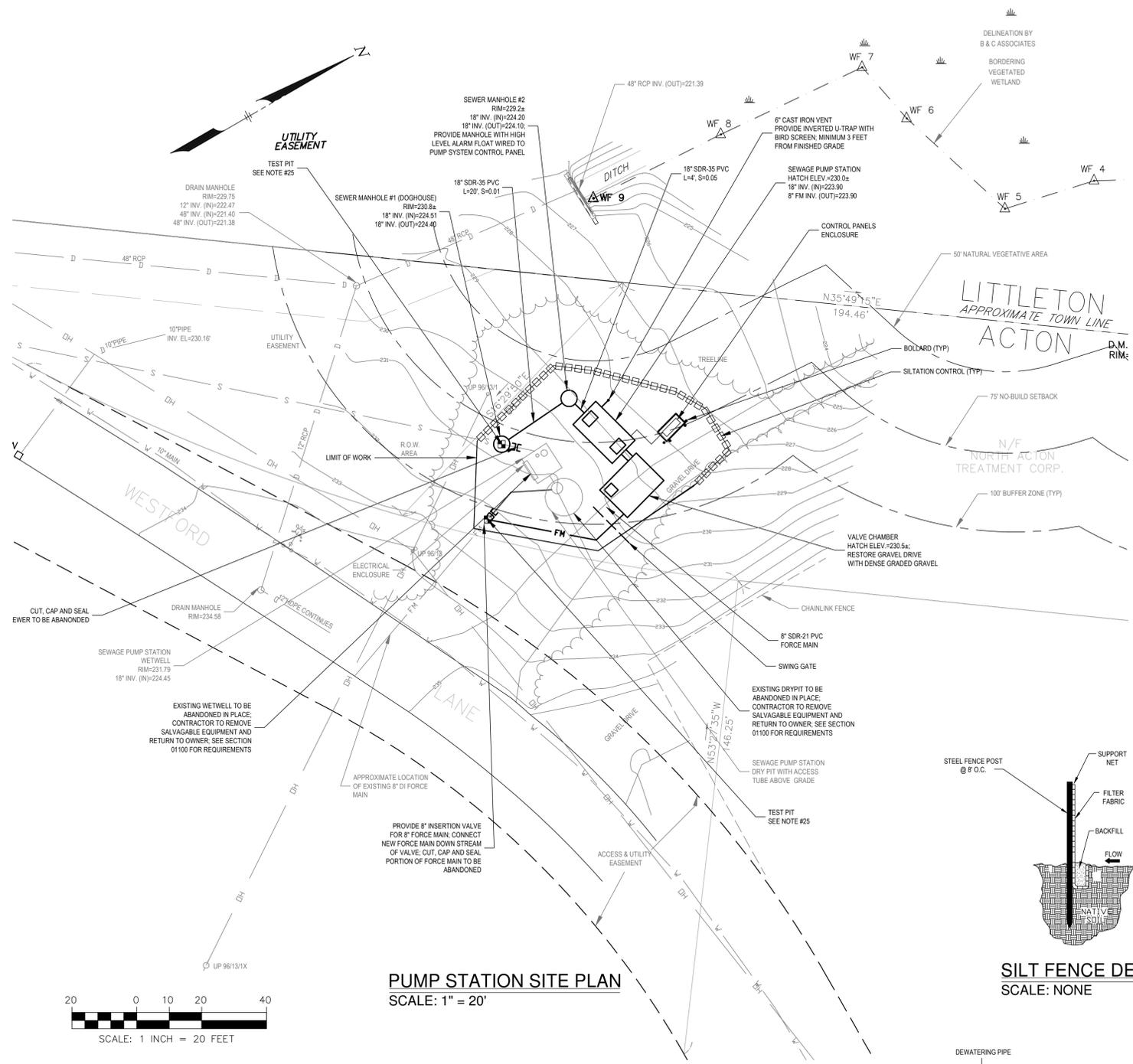
PROJECT NO.: 01183  
DATE: FEBRUARY 2013  
SCALE: 1"=20'  
SHEET: 1 OF 2  
DRAWN BY: RLW DESIGNED BY: RLW  
CHECKED BY: DCF APPROVED BY: DCF

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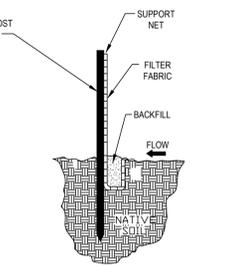
**GENERAL NOTES**

1. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-888-344-7233, 72 HOURS PRIOR TO ANY EXCAVATION AND/OR SUBSURFACE TESTING TO INFORM THE UTILITY COMPANIES OF ANY EXCAVATION.
2. ONSITE ENGINEERING, INC. APPROVAL SHALL BE REQUIRED FOR ALL FIELD CHANGES IN THE WORK PRIOR TO IMPLEMENTATION. NO FIELD CHANGES SHALL BE MADE IF ANY SPECIFIED SITE WORK OR ANY MATERIALS FOR WHICH SHOP DRAWINGS HAVE BEEN SUBMITTED AND APPROVED WITHOUT PRIOR CONSULTATION OF ONSITE ENGINEERING, INC. ANY CHANGES SO MADE WITHOUT THE CONSENT OF ONSITE ENGINEERING, INC. SHALL BE DEEMED UNACCEPTABLE BY ONSITE ENGINEERING, INC., BE PROMPTLY REMOVED FROM THE WORK SITE AT NO EXPENSE TO THE OWNER OF THE PROJECT.
3. ALL CONSTRUCTION METHODS AND MATERIALS, AS WELL AS ALL MATERIAL SHOP DRAWINGS AND MANUFACTURERS DATA SHALL REQUIRE THE WRITTEN APPROVAL OF ONSITE ENGINEERING, INC. PRIOR TO FABRICATION AND INSTALLATION. ONSITE ENGINEERING, INC. IS NOT RESPONSIBLE FOR ANY WORK FOR WHICH SHOP DRAWINGS AND/OR CONSTRUCTION MATERIALS HAVE NOT BEEN PRE-APPROVED BY ONSITE ENGINEERING, INC.
4. BASEPLAN IS THE RESULT OF AN ON GROUND SURVEY BY STAMSKY AND MCNARY AND SUPPLEMENTED WITH INFORMATION OBTAINED IN THE FIELD.
5. THE CONTRACTOR SHALL MAKE APPLICATION FOR AND PAY ALL FEES FOR PERMITS REQUIRED TO CONSTRUCT THIS PROJECT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL WASTE MATERIAL AT A LOCATION APPROVED BY THE BOARD OF HEALTH. BURIAL OF WASTE MATERIAL ON SITE WILL NOT BE PERMITTED.
7. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES TO DETERMINE THE LOCATION, SIZE, MATERIALS AND ELEVATION OF ALL EXISTING UTILITIES, CONDUITS AND LINES. ADDITIONALLY, THE PLANS MAY NOT SHOW ALL WALKWAYS AND LANDSCAPE FEATURES.
8. DRAINAGE GENERATED AS A RESULT OF DEWATERING SHALL BE DISCHARGED TO EXISTING DRAINAGE COURSES WITH PROPER EROSION CONTROL MEASURES SUBJECT TO APPROVAL BY THE ENGINEER. DISCHARGE ONTO PAVEMENT OR PRIVATE PROPERTY SHALL NOT BE ALLOWED.
9. THE MATERIALS AND CONSTRUCTION OF ALL PROPOSED UTILITIES SHALL CONFORM TO THE MASS. D.P.W. STANDARDS, THE GUIDELINES FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE OF SMALL WASTEWATER TREATMENT FACILITIES WITH LAND DISPOSAL, AND TECHNICAL RELEASE 16.
10. WHENEVER EXISTING STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPAIR ANY DAMAGED STRUCTURES, PAVEMENT, SIDEWALKS, WALLS, ETC. OR REPLACE ANY REMOVED STRUCTURES, AND MAKE ANY IMPROVEMENTS ABOVE AND BELOW GRADE TO A CONDITION BETTER THAN OR EQUAL TO PRE-EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER.
11. ANY ERRORS, OMISSIONS AND CHANGES IN CONDITIONS AT THE SITE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PERFORMING THE RELATED WORK.
12. ALL OPEN EXCAVATIONS SHALL BE ADEQUATELY SAFEGUARDED BY PROVIDING TEMPORARY BARRICADES AND/OR FENCING, CAUTION SIGNS, LIGHTS AND OTHER MEANS TO PREVENT ACCIDENTS TO PERSONS, AND DAMAGE TO PROPERTY. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE SUITABLE AND SAFE BRIDGES AND OTHER CROSSINGS FOR ACCOMMODATING TRAVEL BY PEDESTRIANS AND WORKMEN AND PROVIDE POLICE DETAILS AS NECESSARY.
13. ALL PROPERTY LINE INFORMATION, WETLAND RESOURCE AREA BOUNDARIES AND ROADWAY AND UTILITY DATA WAS COMPILED BY OTHERS. ONSITE ENGINEERING DOES NOT ATTEST TO THE ACCURACY OF THE EXISTING CONDITION PLAN.
14. ALL WORK ASSOCIATED WITH THE SEWAGE PUMP STATION SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS. ALL CHANGES TO THE PLAN MUST BE APPROVED BY ONSITE ENGINEERING, INC AND MASSDEP.
15. ONSITE ENGINEERING, INC. IS NOT RESPONSIBLE FOR THE FAILURE OF THE CONTRACTOR AND/OR OWNER TO NOTIFY THE ENGINEER FOR THE PROPER INSPECTIONS DURING CONSTRUCTION.
16. ONSITE ENGINEERING, INC. ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN ON THESE DRAWINGS. THIS PLAN DOES NOT PURPORT TO SHOW ALL EXISTING OR PROPOSED UTILITY LOCATIONS OR ELEVATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK AND VERIFY ALL UTILITY LOCATIONS AND ELEVATIONS PRIOR TO ANY CONSTRUCTION ACTIVITY. PRIOR TO COMMENCING WORK ON OR ADJACENT TO ANY UTILITY, THE CONTRACTOR SHALL NOTIFY THE OWNER OF THE UTILITY AND DIG-SAFE (1-888-344-7233).
17. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHENEVER SANITARY SEWERS PASS BELOW WATER MAINS OR DRAIN LINES. OTHERWISE, WATER SERVICE, DRAIN LINES AND SEWER LINES SHALL BE CAREFULLY ENCASED IN CONCRETE FOR A MINIMUM OF TEN (10) FEET FROM THE CROSSING POINT. WHERE SEWER LINES PASS ABOVE WATER OR DRAIN LINES, THEY SHALL ALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE.
18. ALL TANK AND CHAMBER PENETRATIONS SHALL BE WATERTIGHT AND UTILIZE KOR-N-SEAL BOOTS WITH STAINLESS STEEL CLAMPS AND EXPANSION RINGS (GRAVITY SEWER) OR MECHANICAL LINK SEALS (FORCE MAINS) AND TESTED FOR WATER-TIGHTNESS.
19. ALL NEW PRECAST CONCRETE TANKS SHALL BE TESTED OR WATER-TIGHTNESS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN ADDITION, ALL PRECAST CONCRETE STRUCTURES SHALL BE PROVIDED WITH SUFFICIENT BALLAST TO OFFSET GROUNDWATER CONDITIONS. CONTRACTOR, VIA TANK MANUFACTURER, IS RESPONSIBLE FOR DETERMINING BALLAST REQUIREMENTS BASED ON STRUCTURES TO BE PROVIDED PER THE PROJECT SPECIFICATION REQUIREMENTS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FLOW CONDITIONS TO THE EXISTING WASTEWATER TREATMENT FACILITY THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL INCLUDE THE SERVICES OF SEPTAGE HAULING, BY PASS PUMPING OR OTHER APPROPRIATE MEANS, TO MAINTAIN FLOW CONDITIONS IN THEIR BID.
21. THE WORK DETAILED ON THESE DRAWINGS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, WHICH ARE INCLUDED AS A SEPARATE MANUAL. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PERFORMING THE WORK. IN THE EVENT OF A DISCREPANCY, THE MORE STRINGENT OF THE REQUIREMENTS, AS DETERMINED BY THE ENGINEER, SHALL BE ADHERED TO.
22. BENCHMARK FOR THE PROJECT IS THE RIM TO THE EXISTING WETWELL OF 231.79.
23. CONTRACTOR SHALL PROVIDE 72 INCH TEMPORARY CONSTRUCTION FENCE TO ENCLOSE THE PROJECT SITE DURING THE ENTIRE COURSE OF THE PROJECT.
24. THE PROJECT IS SUBJECT TO ORDERS OF CONDITIONS FROM THE TOWN OF ACTON AND TOWN OF LITTLETON CONSERVATION COMMISSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND ADHERING TO THE ORDER OF CONDITION REQUIREMENTS.
25. PRIOR TO THE ISSUANCE OF SHOP DRAWINGS FOR PRECAST CONCRETE STRUCTURES, THE CONTRACTOR SHALL PERFORM THE TEST PITS AS SHOWN ON THESE DRAWINGS TO DETERMINE SIZE, LOCATION AND ELEVATION OF EXISTING GRAVITY SEWER AND FORCE MAIN.

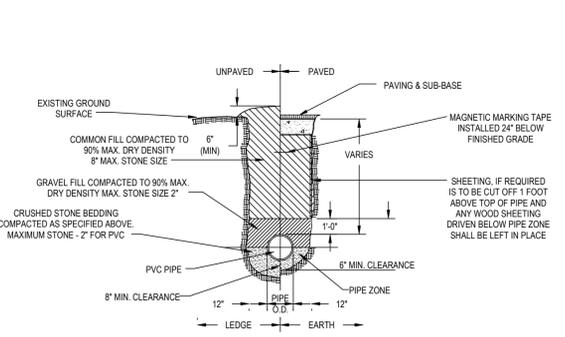
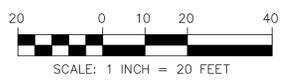
DESCRIPTION	PROPOSED	EXISTING
WATER MAIN	— W —	— W —
WATER GATE VALVE	— V —	— V —
REDUCER	— R —	— R —
TRANSITION COUPLING	— T —	— T —
CAP	— C —	— C —
CROSS	— X —	— X —
TEE	— TEE —	— TEE —
BEND	— B —	— B —
CURB STOP	— CS —	— CS —
SOLID SLEEVE	— SS —	— SS —
FIRE HYDRANT	— FH —	— FH —
WATER SERVICE LINE	— WSL —	— WSL —
WELL	— W —	— W —
ZONE 1	— Z1 —	— Z1 —
SEWER MANHOLE	— S —	— S —
SEWER GRAVITY MAIN	— S —	— S —
SEWER FORCE MAIN	— FM —	— FM —
DRAIN MANHOLE	— DM —	— DM —
CATCH BASIN	— CB —	— CB —
DRAIN LINE	— D —	— D —
RIP RAP	— RR —	— RR —
FLARED DRAINAGE PIPE	— FDP —	— FDP —
COMM BOX	— CB —	— CB —
COMM LINE	— CL —	— CL —
COMM MANHOLE	— CM —	— CM —
ELECTRIC LINE	— EL —	— EL —
ELECTRIC MANHOLE	— EM —	— EM —
ELECTRIC OVERHEAD WIRE	— EOW —	— EOW —
TRANSFORMER	— TR —	— TR —
UTILITY POLE	— UP —	— UP —
GUY WIRE	— GW —	— GW —
LIGHT POLE	— LP —	— LP —
GAS LINE	— GL —	— GL —
GAS VALVE	— GV —	— GV —
MISC MANHOLE	— MM —	— MM —
TREE LINE	— TL —	— TL —
TREE	— T —	— T —
SHRUB	— S —	— S —
ROCK	— R —	— R —
WETLANDS	— W —	— W —
WETLAND FLAG	— WF —	— WF —
WETLAND BUFFER	— WB —	— WB —
EDGE OF WATER	— EW —	— EW —
RIVER FRONT	— RF —	— RF —
100 YEAR FEMA FLOOD ZONE	— FZ —	— FZ —
SILTATION FENCE	— SF —	— SF —
HAYBALES	— HB —	— HB —
LIMIT OF WORK	— LW —	— LW —
10' CONTOUR	— C10 —	— C10 —
2' CONTOUR	— C2 —	— C2 —
SPOT ELEVATION	— SE —	— SE —
BORING	— B —	— B —
MONITORING WELL	— MW —	— MW —
EASEMENT	— E —	— E —
SURVEY MARKER	— SM —	— SM —
STATIONING	— STA —	— STA —
TOWN LINE	— TL —	— TL —
CHAIN LINK FENCE	— CLF —	— CLF —
STONE WALL	— SW —	— SW —
GUARD RAIL	— GR —	— GR —
BOLLARD	— B —	— B —
MAIL BOX	— MB —	— MB —
SIGN POST	— SP —	— SP —
EDGE OF PAVEMENT	— EOP —	— EOP —
PROPERTY LINE	— PL —	— PL —



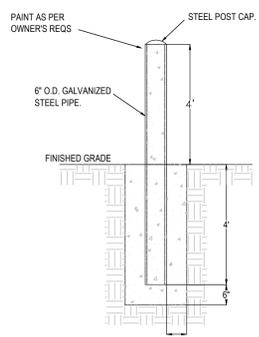
**PUMP STATION SITE PLAN**  
SCALE: 1" = 20'



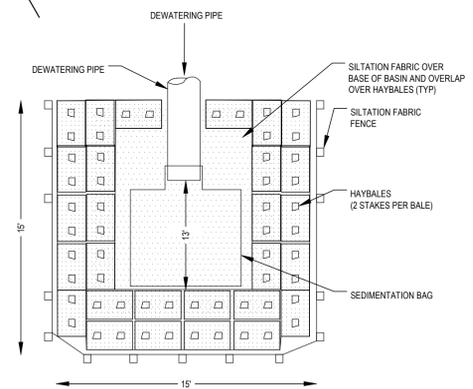
**SILT FENCE DETAIL**  
SCALE: NONE



**GRAVITY SEWER TRENCH**  
SCALE: NONE



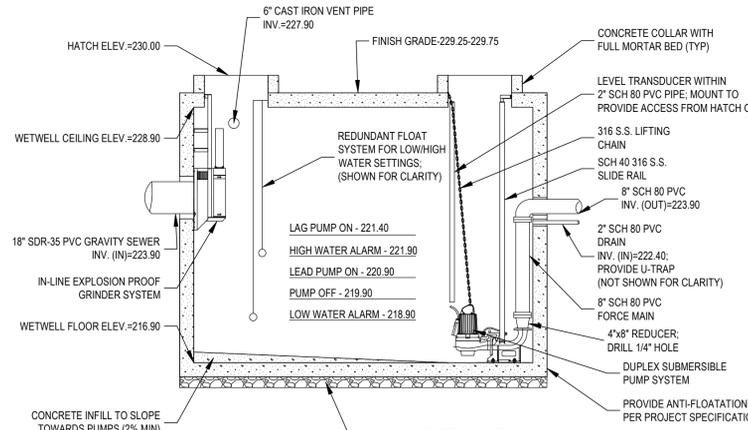
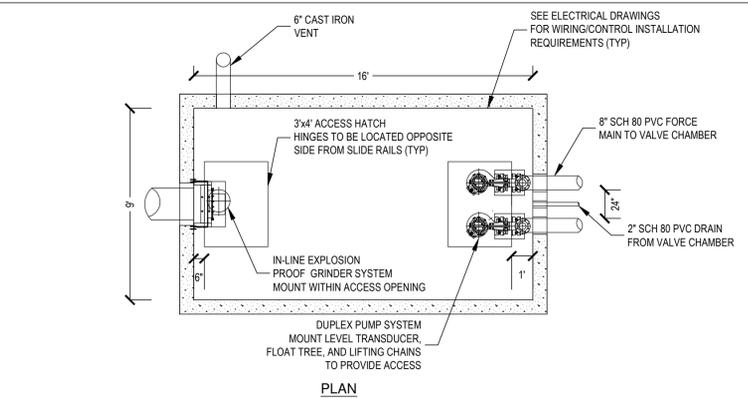
**BOLLARD**  
SCALE: NONE



**SEDIMENTATION DISCHARGE CONTROL**  
SCALE: NONE

**NORTH ACTON TREATMENT CORP.  
 ACTON, MASSACHUSETTS**

**INFLUENT PUMP STATION  
 DETAILS**

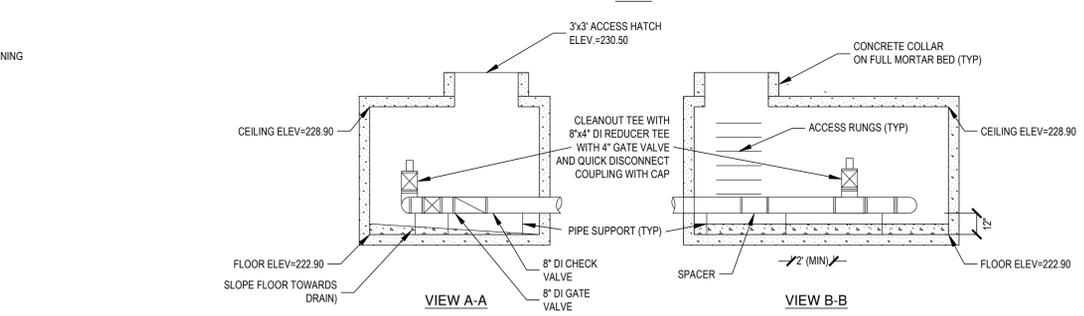
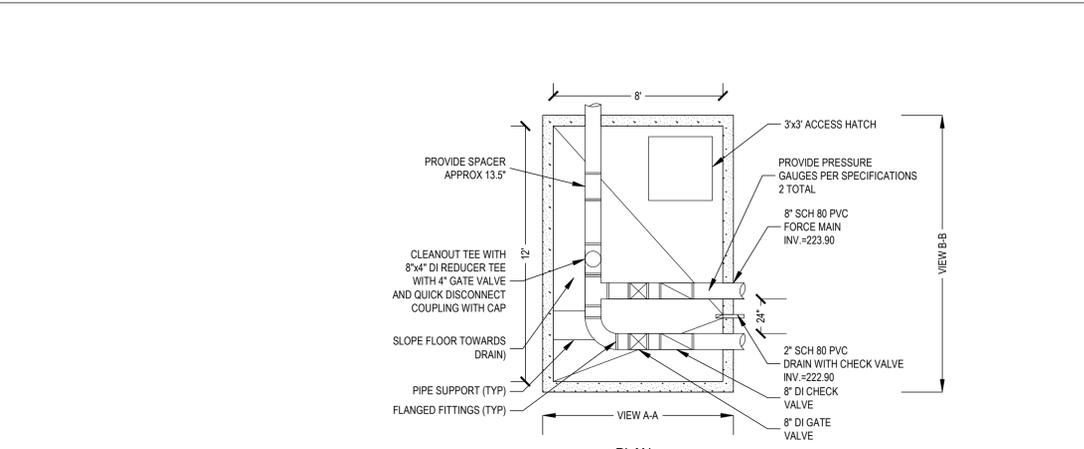


**SUBMERSIBLE PUMP STATION DETAIL**  
 SCALE: N.T.S.

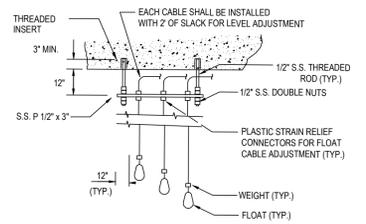
- GENERAL NOTES**
- 1) THE CONTRACTOR SHALL MAKE APPLICATION FOR AND PAY ALL FEES FOR PERMITS REQUIRED TO CONSTRUCT THIS PROJECT.
  - 2) AFTER THE CONTRACTOR HAS STAKED OUT THE FACILITIES TO BE CONSTRUCTED AND HAS THE APPROVED MATERIALS ON THE JOB, THE PROJECT ENGINEER SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS IN ADVANCE OF CONSTRUCTION TO ARRANGE FOR ITS INSPECTION.
  - 3) THE COMPLETED PUMPING STATION SHALL BE FIELD TESTED IN THE PRESENCE OF THE ENGINEER AND ACTUAL PUMP RATES VERIFIED. ANY MODIFICATIONS REQUIRED WILL BE MADE AT THE CONTRACTORS EXPENSE.
  - 4) THE INSTALLED SEWAGE FACILITIES SHALL MEET ALL TESTING AND CLEANING REQUIREMENTS OF THE CONTRACT SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE OWNER.
  - 5) AS-BUILT DRAWINGS OF ALL INSTALLED SEWAGE FACILITIES SHALL BE FURNISHED TO THE ENGINEER IN AUTOCAD FORMAT AS A CONDITION FOR ACCEPTANCE.
  - 6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE PREPARATION, UTILITY CONNECTIONS, AND RELATED WORK INCLUDING BUT NOT LIMITED TO ALL NECESSARY SHORING, BRACING AND TRENCH DEWATERING FOR THE INSTALLATION OF ALL PUMPING STATION COMPONENTS DURING CONSTRUCTION.
  - 7) THE CONTRACTOR SHALL MAINTAIN FLOW CONDITIONS TO THE SYSTEM THROUGHOUT THE COURSE OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS REGARDING THE TRANSFERRING FLOW TO THE NEW PUMP STATION, ABANDONING THE EXISTING PUMP STATION, AND DISCONTINUATION OF SELECTED SECTIONS OF THE COLLECTION SYSTEM.
  - 8) THE PRECAST CONCRETE WETWELL AND VALVE CHAMBER SHALL REQUIRE ANTI-FLOATATION COLLARS TO COUNTERACT SEASONAL HIGH GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH THE TANK MANUFACTURER TO VERIFY ANTI-FLOATATION COLLARS REQUIREMENTS AND PROVIDE ENGINEER WITH DOCUMENTATION THAT SUFFICIENT BALLAST HAS BEEN PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

**GENERAL REQUIREMENTS  
 SEWAGE PUMPS, GRINDER AND VALVES**

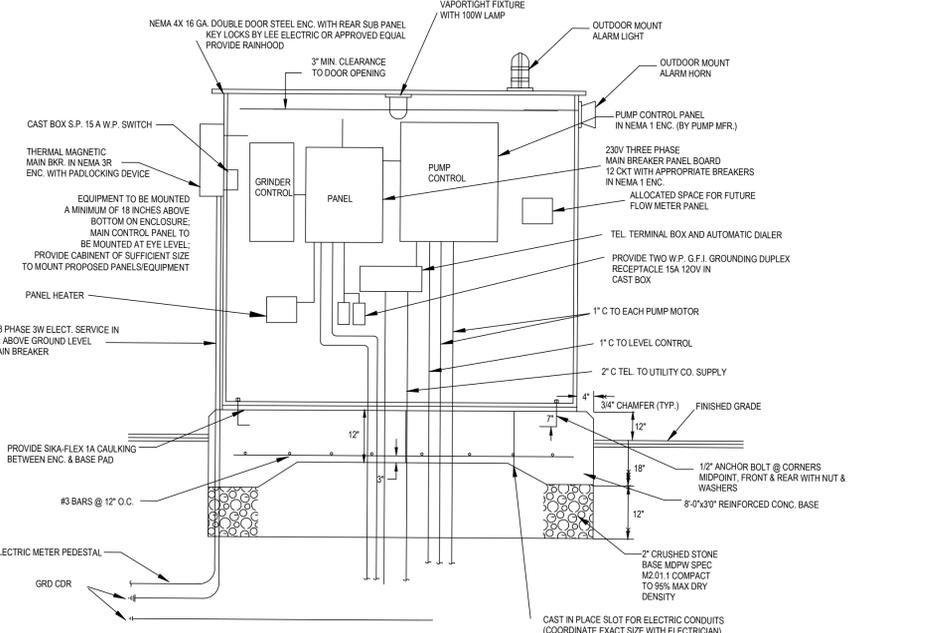
- 1) PUMPS SHALL BE ALTERNATING DUPLEX SUBMERSIBLE EXPLOSION PROOF NON-CLOG PUMPS CAPABLE OF DELIVERING THE TARGET FLOW OF 420 GPM @ 39 FT D.H. (TRIMMING OF IMPELLER MAY BE NECESSARY). PUMP MOTORS SHALL BE 10 H.P., 1750 R.P.M., CONNECTED FOR OPERATION ON A 230 VOLT, 60 HZ, THREE PHASE SERVICE, MYERS MODEL 4VHK, 7.525 INCH IMPELLER, OR APPROVED EQUAL.
- 2) DISCHARGE PORT SHALL BE DIRECTLY CONNECTED TO THE HYDRAULIC SEALING FLANGE ON THE BASE MOUNT TO ALLOW FOR REMOVAL OF THE PUMPS WITHOUT LIFTING THE VERTICAL DISCHARGE PIPING.
- 3) THE PUMP MANUFACTURER SHALL SUPPLY DUPLEX CONTROL PANEL, 2 PUMPS WITH GUIDE RAILS, LEVEL TRANSDUCER, REDUNDANT FLOAT SWITCHES, LIFTING CHAINS, AND ALL NECESSARY MOUNTING HARDWARE FOR COMPLETE INSTALLATION INSIDE THE WET WELL.
- 4) INSTALLATION OF THE PUMPS AND CONTROL WIRING SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- 5) GATE VALVES SHALL BE 8 INCH, DUCTILE IRON BODY, NON-RISING STEM WITH HANDWHEEL, DOUBLE DISC, PARALLEL SEAT DESIGN RATED AT 200 P.S.I. WORKING PRESSURE, WITH ANSI B 16.5 (CLASS 150) FLANGED ENDS.
- 6) CHECK VALVES SHALL BE 8 INCH, DUCTILE IRON BODY, SWING TYPE WITH LEVER AND WEIGHT, RUBBER FACED BRONZE DISC RING, RATED AT 200 P.S.I. WORKING PRESSURE, WITH ANSI B 16.5 FLANGED ENDS.
- 7) THE IN-LINE GRINDER SYSTEM SHALL BE MUFFIN MONSTER 30005-12 WITH IMERSIBLE, EXPLOSION PROOF MOTOR RATED FOR A 230 VOLT, 3 PHASE, 60 HZ SERVICE. IN-LINE GRINDER SHALL BE PROVIDED WITH SLIDE RAIL SYSTEM, LIFTING CHAIN, AND OTHER ANCLLARY EQUIPMENT TO MAKE A COMPLETE AND OPERATIONAL SYSTEM.



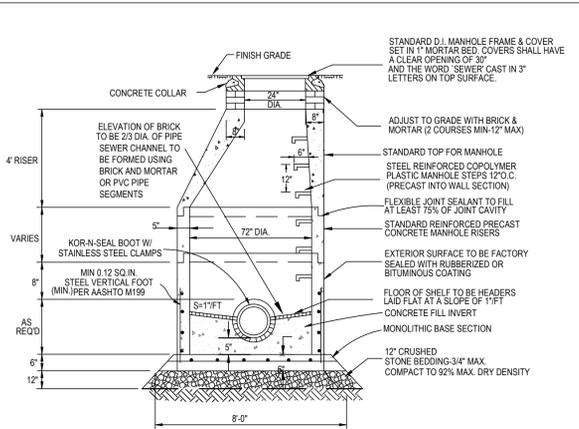
**VALVE CHAMBER DETAIL**  
 SCALE: N.T.S.



**FLOAT SUPPORT DETAIL**  
 SCALE: NONE

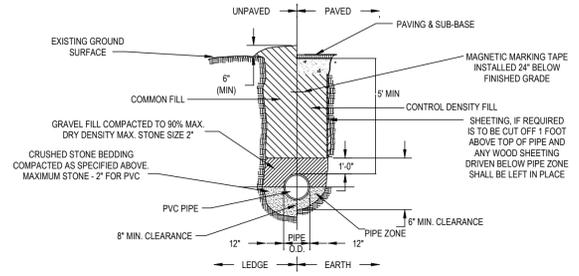


**SCHEMATIC ELECTRICAL EQUIPMENT ENCLOSURE**  
 SCALE: NONE

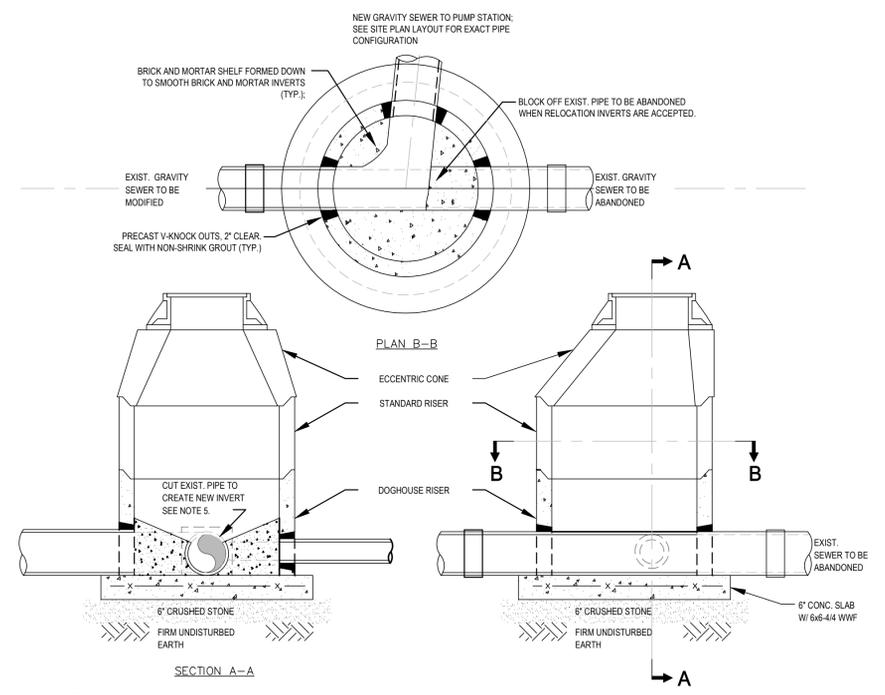


**SEWER MANHOLE**  
 SCALE: NONE

- NOTES**
1. MANHOLE DESIGN TO CONFORM TO PRECAST CONCRETE MANHOLE SECTIONS-ASTM C478 LATEST REVISION.
  2. FILL OUTSIDE FACE OF ALL MANHOLE JOINTS WITH NON SHRINK MORTAR.
  3. USE FLAT TOP SLAB WHEN HEIGHT OF CONE SECTION IS LESS THAN 3'-0".
  4. PROVIDE PIPE JOINTS NO MORE THAN 3'-0" FROM OUTSIDE FACE OF MANHOLE.
  5. PLUG LIFT HOLES SOLID W/ MASTIC.
  6. PROVIDE FLEXIBLE SLEEVE & STAINLESS STEEL STRAP AT ALL PIPE TO MANHOLE JOINTS.
  7. COAT OUTSIDE SURFACE WITH BITUMINOUS WATERPROOFING.



**FORCE MAIN TRENCH**  
 SCALE: NONE



- NOTE:**
1. CONTRACTOR SHALL MAINTAIN EXISTING SEWERAGE FLOW AT ALL TIMES.
  2. FIELD LOCATE STRUCTURE AT MID-POINT OF FULL PIPE LENGTH. PROTECT JOINTS AND INVERT AT ALL TIMES.
  3. CONTRACTOR SHALL CONSTRUCT 6" SLAB ON COMPACTED STONE SUB-BASE WITH 3000 PSI H.E.S. CONCRETE AND ALLOW 7 DAY CURING BEFORE INSTALLING DOGHOUSE RISER. ALL CASTING JOINTS SHALL BE MADE WATER TIGHT WITH NON-SHRINK GROUT OR MASTIC.
  4. ALL MATERIALS AND METHODS SHALL CONFORM TO THE PRECAST SEWER MANHOLE DETAIL UNLESS OTHERWISE NOTED.
  5. UPON ACCEPTANCE OF NEW SHELF/INVERTS, CAREFULLY CUT EXIST. A.C. PIPE CROWN. CONTRACTOR SHALL TAKE ALL PRECAUTIONS REQUIRED FOR CUTTING OF A.C. (ASBESTOS CEMENT) PIPE.

**PRECAST DOGHOUSE MANHOLE DETAIL**  
 SCALE: NONE

**NOTICE OF INTENT  
 REVIEW  
 SUBMITTAL  
 NOT FOR  
 CONSTRUCTION**

REV	DATE	DESCRIPTION

PROJECT NO.: 01183  
 DATE: FEBRUARY 2013  
 SCALE: N.T.S.  
 SHEET: 2 OF 2  
 DRAWN BY: RLW DESIGNED BY: RLW  
 CHECKED BY: DCF APPROVED BY: DCF

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