

REFERENCE

- 1. EXISTING CONDITION AND PROPERTY INFORMATION TAKEN FROM PLANS ENTITLED "EXISTING CONDITIONS SURVEY MEMORIAL BUILDING 502 CABOT STREET BEVERLY, MASSACHUSETTS (ESSEX COUNTY)" PREPARED FOR PARE CORPORATION...
2. GEOTECHNICAL REPORT PROPOSED MIDDLE SCHOOL BEVERLY MASSACHUSETTS LDCI PROJECT NO. 1435 DATED JULY 9, 2015, OR LATEST REVISION.
A. APPROXIMATE LOCATION OF BORING ADVANCED BY TECHNICAL DRILL SERVICE OF STERLING, MASS. BETWEEN OCTOBER 6 AND 10, 2014 AND OBSERVED BY LAHLAF GEOTECHNICAL CONSULTING, INC. (LGCi) PERSONNEL.
B. APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY THE CITY OF BEVERLY DPW ON OCTOBER 14, 2014 AND OBSERVED BY LGCi.
C. APPROXIMATE LOCATION OF BORING ADVANCED BY NORTHERN DRILLING SERVICE, INC. OF NORTHBOROUGH, MA, BETWEEN JUNE 3 AND 12, 2015 AND OBSERVED BY LGCi.

GENERAL NOTES

- 1. THE STATE OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES 1995 EDITION AND THE SUPPLEMENTAL SPECIFICATIONS 2015 EDITION, OR LATEST REVISION, AND THE MASSACHUSETTS STANDARD DETAILS AND THE CITY OF BEVERLY STANDARD DETAILS AND CONSTRUCTION STANDARDS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. THE 1995 EDITION OF THE STANDARD SPECIFICATIONS AND THE 2015 EDITION OF THE SUPPLEMENTAL SPECIFICATIONS MAY BE OBTAINED AT THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.
2. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE OWNER AND THE ENGINEER. THE CONTRACTOR IS REQUIRED TO FILE ANY DOCUMENTS REQUIRED BY NPDES GENERAL PERMIT OR CONSERVATION COMMISSION DETERMINATION OF APPLICABILITY WITH CONDITIONS APPLICABLE TO THE SITE.
3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS, AND CONDUCT ALL WORK IN ACCORDANCE WITH OSHA STANDARDS AND THE CITY OF BEVERLY REQUIREMENTS.
4. AFTER THE INSTALLATION OF THE EROSION CONTROLS, THE CONTRACTOR SHALL NOTIFY THE CONSERVATION COMMISSION IN WRITING PRIOR TO THE START OF ANY WORK.
5. IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER, THE OWNER AND THE CITY OF BEVERLY CONSERVATION COMMISSION OR THEIR AGENT IF IN CONSERVATION JURISDICTION.
6. ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
7. ALL EXISTING CONDITIONS SHOWN SHALL BE CONSIDERED APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER, THE ENGINEER AND THE CITY OF BEVERLY CONSERVATION COMMISSION OR THEIR AGENT IF IN CONSERVATION JURISDICTION PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEERS, AND THE CITY OF BEVERLY CONSERVATION COMMISSION OR THEIR AGENT APPROVAL IF IN CONSERVATION JURISDICTION.
8. ALL UTILITIES (LOCATION AND ELEVATION) SHOWN SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-344-7233 AND ALL UTILITY COMPANIES NOT COVERED BY "DIG SAFE" TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES AS SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.
9. ALL WORK WITHIN THE RIGHT OF WAY SHALL CONFORM TO THE CITY OF BEVERLY DEPARTMENT OF PUBLIC SERVICES REQUIREMENTS, AND MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES 1995 EDITION AND THE 2014 EDITION OF THE SUPPLEMENTAL SPECIFICATIONS, OR LATEST REVISIONS TO BOTH.
10. PAVEMENT MARKINGS ARE TO BE EPOXY RESIN AND CONFORM TO THE SPECIFICATIONS.
11. PRIOR TO THE PLACEMENT OF THE FINAL COAT OF PAVEMENT, ALL EXISTING PAVEMENT IS TO BE SWEEP CLEAN AND ASPHALT EMULSION TACK COAT IS TO BE APPLIED.
12. ALL ADA CURB RAMPS SHALL HAVE DETECTABLE WARNING MATS IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) GUIDELINES.
13. IN AREAS CALLED OUT AS SIDEWALKS FINISHES ARE DETAILED ON THE LANDSCAPE PLANS.
14. CONTRACTOR TO INSTALL A VISUAL BARRIER SCREENING COVERING THE CHAIN LINK FENCE WITH A MINIMUM 85% OPACITY. CONTRACTOR TO INSTALL THE SCREENING ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
15. IN ADDITION TO TYPICAL DESIGN STANDARDS, THE CONSTRUCTION GATE/FENCE SUPPORT SYSTEM (POSTS, UPRIGHTS, ROOS, RAILS, TIES, FOUNDATIONS, ETC.) SHALL BE DESIGNED FOR A LATERAL WIND PRESSURE WITH THE FENCE ASSUMED TO BE SOLID I.E., WITHOUT PERFORATIONS. CONTRACTOR SHALL SUBMIT CALCULATIONS STAMPED BY A MA REGISTERED PROFESSIONAL ENGINEER DEMONSTRATING THE DESIGN TO BE IN COMPLIANCE WITH ALL LOADS NOTED AND THE STATE BUILDING CODE.
16. WORK DEPICTED ON THE CIVIL AND LANDSCAPE PLANS (C-SERIES AND L-SERIES) SHALL BE FURNISHED AND INSTALLED BY THE SITE CONTRACTOR UNLESS OTHERWISE NOTED.

DEMOLITION NOTES

- 1. ALL DEMOLITION SHALL BE COORDINATED WITH THE OWNER PRIOR TO START OF WORK.
2. PAVEMENT DEMOLITION SHALL BE SAW CUT AND DISPOSED OF PROPERLY.
3. ALL UTILITIES REMOVED FROM THE SITE SHALL BE CUT AND CAPPED IN ACCORDANCE WITH THE PLANS.
4. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE, GENERAL, AND UTILITY DRAWINGS.
5. THE CONTRACTOR SHALL REMOVE ALL UNSUITABLE SOILS TO THE LIMITS SATISFACTORY TO THE ENGINEER.

STORMWATER MAINTENANCE

- 1. THE FOLLOWING MAINTENANCE REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE SITE IS TURNED OVER TO THE OWNER. ONCE THE SITE IS TURNED OVER, THE OWNER IS THEN RESPONSIBLE FOR ALL STORMWATER MAINTENANCE.
A. PREVENTATIVE MAINTENANCE SHOULD BE PERFORMED AT LEAST TWICE A YEAR, AND IDEALLY SEDIMENT SHOULD BE REMOVED FROM PRETREATMENT BMPs AFTER EVERY MAJOR STORM EVENT. THE SYSTEMS SHOULD BE INSPECTED AFTER THE FIRST SEVERAL RAINFALL EVENTS, AFTER ALL MAJOR STORMS, AND ON REGULAR BI-ANNUAL SCHEDULED DATES IDENTIFIED EVERYWHERE SHALL BE CORRECTED IMMEDIATELY. THE CONTRACTOR SHALL SUBMIT INSPECTION REPORTS AS REQUIRED TO THE BEVERLY CONSERVATION DEPARTMENT (VIA E-MAIL, HAND DELIVERED OR FAX).
B. PRETREATMENT BMPs SHOULD BE INSPECTED AND CLEANED DURING THE REGULAR SCHEDULED INSPECTIONS. WATER QUALITY INLETS SHOULD BE CLEARED OF ACCUMULATED SEDIMENT, LEAVES, AND DEBRIS AT EACH REGULAR INSPECTION, AND MORE FREQUENTLY WHERE APPROPRIATE. INLET AND OUTLET PIPES SHOULD BE CHECKED FOR CLOGGING.

SURVEY NOTES

- 1. THE ELEVATIONS SHOWN ON THIS SURVEY ARE BASED ON THE FOLLOWING BENCHMARK: INVERT ELEVATION OF 18" SEWER PIPE IN SEWER MANHOLE ON BALCH STREET AS SHOWN ON PLAN ENTITLED "TOPOGRAPHICAL PLAN OF LAND FOR THE BEVERLY SCHOOLHOUSE BUILDING COMMISSION, BEVERLY, MASS, SCALE 40 FEET TO AN INCH, WILLIAM S. CROCKER CIVIL ENGINEER, 46 CORNHILL, BOSTON, MASS., SEPT. 18, 1951, REVISED NOV. 9, 1951," BEVERLY CITY BASE ELEV.=18.06 NAVD 88 ELEV.=11.72 (HELD)
2. THE COORDINATES SHOWN ON THIS SURVEY ARE BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM - MAINLAND ZONE 2001 AS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83). THE COORDINATES WERE GENERATED VIA SURVEY MEASUREMENTS MADE USING LEICA GS15 RECEIVERS IN CONJUNCTION WITH THE MAINE TECHNICAL SOURCE RTK NETWORK (MIS WOBURN BASE STATION).
3. SUBJECT PROPERTY IS LOCATED WITHIN FLOOD ZONE X AS SHOWN ON F.E.M.A FLOOD INSURANCE RATE MAP FOR COMMUNITY NO. 250077 PANEL NO. 0409 F WITH AN EFFECTIVE DATE OF JULY 3, 2012.
4. WETLANDS WERE DELINEATED BY PARE CORPORATION ON DECEMBER 11, 2014.
5. INVERTS, PIPE SIZES, AND PIPE CLASSIFICATIONS FOR SANITARY SEWER AND STORM DRAIN SYSTEMS, AS SHOWN HEREON, WERE DETERMINED BY INSPECTION AND MEASUREMENTS PERFORMED AT GROUND SURFACE LEVEL (STRUCTURES WERE NOT PHYSICALLY ENTERED). THE RESULTS OF THE INSPECTIONS AND MEASUREMENTS MAY VARY FROM ACTUAL CONDITIONS AS COULD BE DETERMINED BY EXCAVATION OR USE OF CONFINED SPACE ENTRY PERSONNEL AND/OR EQUIPMENT. UNDERGROUND UTILITY LOCATIONS AS SHOWN HEREON ARE TAKEN FROM AVAILABLE RECORD AND FIELD INFORMATION AND ARE APPROXIMATE ONLY. CONTACT DIG-SAFE BEFORE PLANNING ANY CONSTRUCTION.
6. CIRCLED LOT NUMBERS ARE CITY OF BEVERLY ASSESSOR IDENTIFICATION NUMBERS.
7. SUBJECT PROPERTY IS LOCATED WITHIN ZONING DISTRICT "R-10" AS SHOWN ON CITY OF BEVERLY ZONING MAP DATED 2014. SEE CITY OF BEVERLY ZONING RULES AND REGULATIONS FOR MORE DETAILS.
8. PER CITY OF BEVERLY, THERE ARE NO RECORDS OF UNDERGROUND STORAGE TANKS ON SUBJECT PROPERTY. RECORD LOCATIONS OF OIL TANKS ARE SHOWN PER PLAN REFERENCED IN NOTE #1.
9. SUBJECT PROPERTY APPEARS TO BE SUBJECT TO CONDITIONS SET FORTH IN DEED RECORDED IN BOOK 3868 AT PAGE 365, EASEMENT PARCEL PE-5 SHOWN ON PLAN RECORDED IN PLAN BOOK 199 AS PLAN 87, AND EASEMENT PARCEL U-2 SHOWN ON PLAN RECORDED IN PLAN BOOK 444 AS PLAN 38. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE FINDINGS THAT SUCH A REPORT MAY DISCLOSE.
10. RECONSTRUCTION IS PLANNED FOR A PORTION OF CABOT STREET. SEE MASSDOT DESIGN PLANS FOR PROJECT #600220 (BEVERLY - ROUTE 1A - RANTOUL/CABOT STREETS PROJECT).

EROSION AND SEDIMENTATION CONTROL NOTES

- 1. SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH THE "MASSACHUSETTS SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" THE NPDES GENERAL PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITY (SEPT. 2012), THE DETERMINATION OF APPLICABILITY ISSUED BY THE CITY OF BEVERLY CONSERVATION COMMISSION IF IN CONSERVATION JURISDICTION, AND THE NOTES AND DETAILS SHOWN IN THIS PLAN SET.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR FILING THE STORMWATER POLLUTION PREVENTION PLAN AND ANY NECESSARY DOCUMENTS REQUIRED BY THE NPDES GENERAL PERMIT. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH CONSERVATION COMMISSION IN THE AREA OF CONSERVATION JURISDICTION IN ACCORDANCE WITH THE ORDER OF CONDITIONS.
3. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR ENGINEER.
4. THE CONTRACTOR SHALL SCHEDULE HIS/HER WORK TO ALLOW THE FINISHED SUB GRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY UTILITY CONNECTIONS.
5. THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES.
6. ANY DEWATERING WASTE WATERS PUMPED FROM EXCAVATIONS SHALL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO STRAW BALE ENCLOSURES OR SEDIMENTATION BAGS OUTSIDE ALL WETLAND AND WETLAND BUFFER AREAS AS REQUIRED.
7. CONSTRUCTION SITE WASTE MATERIALS SHALL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE REGULATIONS.
8. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF COMPLETION OF WORK IN THAT AREA.
9. ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE OF FINAL PROJECT.
10. THE CONTRACTOR SHALL MAINTAIN SURFACE DRAINAGE DURING CONSTRUCTION. STORMWATER SHALL BE MAINTAINED AWAY FROM WORK SITES WHILE PREVENTING AREAS OF EROSION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING OR INSTALLING ALL TEMPORARY SEDIMENT AND EROSION CONTROLS AS SHOWN ON THESE PLANS AND SHALL MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY DURING THE ENTIRE CONSTRUCTION PERIOD. PERIMETER EROSION CONTROLS SHALL BE SILT SOCK EROSION CONTROL OR APPROVED EQUIVALENT.
12. TEMPORARY DIVERSION SWALES SHALL BE PROVIDED AS NECESSARY TO DIRECT RUNOFF TO THE SEDIMENT BASINS DURING CONSTRUCTION.
13. CONSTRUCTION ENTRANCE PROTECTION STONE STABILIZATION PAD AND WHEEL WASH STATIONS SHALL BE PROVIDED AT ALL POINTS OF EGRESS OR INGRESS AS SHOWN ON PLANS AND SHALL BE MAINTAINED TO LIMIT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS AND INTO THE REST OF THE SITE.
14. EROSION CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY IN WRITING THE CITY OF BEVERLY CONSERVATION DEPARTMENT PRIOR TO THE START OF ANY WORK.
15. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF GREATER CHANNELS, DITCHES AND PIPES ARE CLEAR OF DEBRIS AND THAT THE EROSION CONTROL BARRIERS ARE INTACT. IDENTIFIED DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY. THE CONTRACTOR SHALL SUBMIT INSPECTION REPORTS AT LEAST EVERY TWO WEEKS TO THE BEVERLY CONSERVATION DEPARTMENT (VIA E-MAIL, HAND DELIVERED OR FAX).
16. THE CONTRACTOR SHALL CLEAN AND MAINTAIN EROSION CONTROL BARRIER WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE STRAW BALES OR ONE THIRD THE HEIGHT OF SILT FENCE. MATERIAL COLLECTED FROM THE SILTATION BARRIERS SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
17. INSTALLATION OF THE EROSION CONTROL BARRIERS AS ILLUSTRATED IS INTENDED TO REPRESENT THE MINIMUM SEDIMENTATION CONTROL FACILITIES NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
18. REQUIRED SEDIMENTATION CONTROL FACILITIES MUST BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
19. CATCH BASINS AND STORM DRAIN INLETS SHALL BE PROTECTED WITH INLET PROTECTION WITHIN LIMITS OF WORK.
20. THE CONTRACTOR SHALL NOT REMOVE ANY STRAW BALES, SILT FENCE OR OTHER EROSION CONTROLS UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.
21. RIP-RAP OR OTHER ENERGY DISSIPATORS SHALL BE USED WHERE NECESSARY TO PREVENT SCOUR.
22. NO MATERIAL INCLUDING BUT NOT LIMITED TO COMPOST OR GRASS CLIPPINGS SHALL BE STORED WITHIN 100' WETLAND BUFFER.

GRADING AND UTILITY NOTES

- 1. ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS, UNLESS OTHERWISE DIRECTED.
2. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
3. ALL EXISTING AND PROPOSED UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE OF THIS CONTRACT. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE PROPOSED FINAL GRADES.
4. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
5. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER, AND THE CITY OF BEVERLY CONSERVATION COMMISSION OR THEIR AGENT IF IN CONSERVATION JURISDICTION FOR RESOLUTION.
6. THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION AT NO COST TO THE OWNER.
7. DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
8. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
9. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.
10. SITE GRADES SHALL CONFORM WITH ADA AND MAAB REQUIREMENTS. IN AREAS WHERE THESE REQUIREMENTS CANNOT BE MET, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION.
11. ALL TRANSITIONS BETWEEN GROUND COVERING MATERIALS SHALL BE SMOOTH AND MEET 521 CMR 20.10 REQUIREMENTS.
12. ALL PLUMBING/MECHANICAL UTILITIES WITHIN 10 FEET OF THE BUILDING ARE SHOWN ON THE PLUMBING/MECHANICAL PLANS.
13. CONTRACTOR IS REQUIRED TO APPLY FOR, OBTAIN, AND PAY ALL FEES ASSOCIATED WITH CONSTRUCTION PHASE PERMITS. PERMITS MAY INCLUDE, BUT NOT LIMITED TO:
- NPDES CONSTRUCTION GENERAL PERMIT
- CITY OF BEVERLY FIRE DEPARTMENT PERMITS
- CITY OF BEVERLY SEWER AND WATER DEPARTMENT PERMITS
14. ALL WATERLINES SHALL BE WRAPPED IN POLYETHYLENE ENCASUREMENT. REFER TO THE SPECIFICATIONS.

LAYOUT NOTES

- 1. ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
3. ACCESSIBLE RAMPS SHALL BE PER THE (ADA) ACCESSIBILITY AND (MAAB) GUIDELINES AND INCLUDE DETECTABLE WARNING MATS.
4. AUTOCAD PLANS OR ADDITIONAL COORDINATES WILL BE PROVIDED AFTER THE AWARD OF THE BID.

EXISTING LEGEND

LEGEND table listing symbols for AC ASPHALT CURB, BB BOTTOM OF BERM, BC BOTTOM OF CURB, BIT CONC BITUMINOUS CONCRETE, BCW BITUMINOUS CONCRETE WALK, BCSW BITUMINOUS CONCRETE SIDEWALK, BOL BOLLARD, CDBI CATCH BASIN WITH DROP INLET, CT CENTER TROUGH, CLF CHAIN LINK FENCE, CONC CONCRETE, CPD CONCRETE PAD, CSW CONCRETE RETAINING WALL, CSW CONCRETE SIDEWALK, CON CONIFEROUS TREE, CW CROSSWALK, DEC DECIDUOUS TREE, DYL DOUBLE YELLOW LINE, EP EDGE OF PAVEMENT, ELEC ELECTRIC, EROK ELECTRIC BOX, EHH ELECTRIC HANDHOLE, FFE FINISH FLOOR ELEVATION, GPM GAS PAINFLASK, GC GRANITE CURB, GW GUY WIRE, I INVERT, LND LANDING, LT LIGHT, MC METAL COLUMN, MHR METAL HANDRAIL, MW MONITORING WELL, CN NEIGHBORHOOD COMMERCIAL DISTRICT, R-10 ONE-FAMILY DISTRICT, OH OVERHANG, OHW OVERHEAD WIRES, PNV PIPE NOT VISIBLE, PA PLANTED AREA, R RECORD, R-NF RECORD-NOT FOUND, SWL SINGLE WHITE LINE, SYL SINGLE YELLOW LINE, SH SPRINKLER HEAD, SL STOP LINE, TH TACTILE WARNING STRIP, TPM TELEPHONE PAINTMARK, TPM THRESHOLD, TB TOP OF BERM, TC TOP OF CURB, TCFL TOP OF CURB (FLUSH), TOP TOP OF PIPE, TW TOP OF WALL, TLU TYPE UNKNOWN, TYP TYPICAL, UG UNDERGROUND, UGC UNDERGROUND CONDUIT, UPM UTILITY COVER, UPM UTILITY PAINTMARK, WF WETLAND FLAG

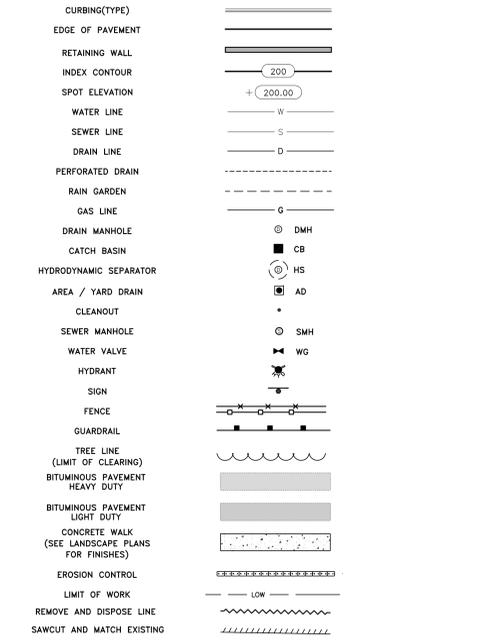
SYMBOL LEGEND table listing symbols for Catch Basin, Continuation Unbroken, Drain Manhole, EMH Electric Manhole, Gas Gate, Gate Valve, Hydrant, Light Pole, Manhole, Sewer Manhole, Sign, Telephone Manhole, Traverse Point, Utility Pole, Utility Flow, Water Gate, Water Shutoff

UTILITY LEGEND table listing symbols for Drain, Electrical, Gas, Sewer, Telephone, Water

UTILITY OPERATING AUTHORITIES table listing Drain/Sewer/Water (City of Beverly), Cable (Comcast), Gas (National Grid), Electric (NStar), Telephone (Verizon)



PROPOSED LEGEND



- AD-1 = AREA DRAIN
ATG = ADJUST TO GRADE
BCP = BITUMINOUS CONCRETE PAVEMENT HEAVY DUTY
BCP2 = BITUMINOUS CONCRETE PAVEMENT LIGHT DUTY
BCW(x) = BITUMINOUS CONCRETE WALK AND WIDTH
CB-1 = PROPOSED CATCH BASIN NUMBER
CM = SAWCUT AND MATCH EXISTING GRADES
CW(x) = CEMENT CONCRETE SIDEWALK AND WIDTH
DMH-1(x) = PROPOSED DRAIN MANHOLE NUMBER AND DIAMETER
DW = 4" DASHED WHITE EPOXY RESIN PAVEMENT MARKING
DAM = DIRECTIONAL ARROW PAVEMENT MARKING
GC = GRANITE CURB
GCF = GRANITE CURB FLUSH
GTC = GRANITE TRANSITION CURB
HS-1 = HYDRODYNAMIC SEPARATOR NUMBER
LA = LANDSCAPED AREA (SEE LANDSCAPE PLANS)
LS = LOAM AND SEED (SEE LANDSCAPE PLANS)
OCS = OUTLET CONTROL STRUCTURE NUMBER
R&D = REMOVE AND DISPOSE
ICS = INLET CONTROL STRUCTURE
R&R = REMOVE AND RELOCATE
R&S = REMOVE AND STOCKPILE
RPM = REMOVE PAVEMENT MARKINGS
SB = 4" SOLID BLUE EPOXY RESIN PAVEMENT MARKING
SCW = STRIPED CROSS WALK
SHP = HANDICAP EPOXY RESIN PAVEMENT MARKING
SMH-1 = PROPOSED SEWER MANHOLE NUMBER
SW = 4" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
SY = 4" SOLID YELLOW EPOXY RESIN PAVEMENT MARKING
SW12 = 12" SOLID WHITE EPOXY RESIN PAVEMENT MARKING
WQS-1 = WATER QUALITY STRUCTURE NUMBER

- (107.2) = WHEELCHAIR RAMPS, MASSDOT CONSTRUCTION STANDARDS DETAIL
(107.3.0) = WHEELCHAIR RAMPS, MASSDOT CONSTRUCTION STANDARDS DETAIL
(107.6.0) = WHEELCHAIR RAMPS, MASSDOT CONSTRUCTION STANDARDS DETAIL
(107.6.4) = WHEELCHAIR RAMPS, MASSDOT CONSTRUCTION STANDARDS DETAIL
(107.6.5) = DETECTABLE WARNING PANEL FOR WHEELCHAIR RAMPS, MASSDOT CONSTRUCTION STANDARDS DETAIL
(201.4.0) = PRECAST CONCRETE CATCH BASIN, MASSDOT CONSTRUCTION STANDARDS DETAIL



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BEVERLY MIDDLE SCHOOL
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LOCUS MAP NOT TO SCALE

BID PACKAGE #3 FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

NORTH ARROW ADDENDUMIZED DRAWINGS

KEYPLAN

DRAWING NAME:

GENERAL NOTES AND LEGEND

DRAWN BY: AWB

REVIEWED BY: MJG

SCALE: N.T.S. DRAWING NUMBER: C0.1
JOB NO.: 14225.00
DATE: April 18, 2016



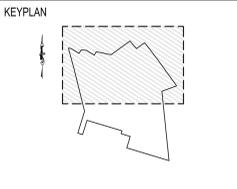
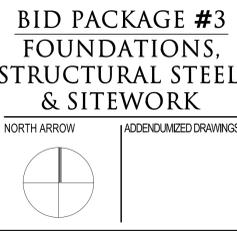
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KEYNOTE LEGEND:

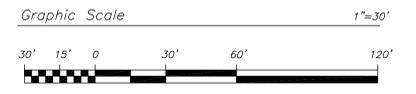
BID PACKAGE #3
FOUNDATIONS,
STRUCTURAL STEEL,
& SITEWORK



- NOTES:**
- PRE-CONSOLIDATION PLAN AND NOTES HERE ARE AS PROVIDED BY LOCI. CONTRACTOR SHALL COORDINATE ALL PRE-CONSOLIDATION OPERATIONS WITH LOCI PRIOR TO CONSTRUCTION.
 - REFER TO SPECIFICATION SECTION 31 25 13 - WICK DRAINS FOR WICK DRAIN REQUIREMENTS.
 - THE SITE CONTRACTOR SHALL INSTALL FREE DRAINING MATERIAL AT THE GROUND SURFACE TO COLLECT AND DRAIN WATER FROM WICK DRAINS AND SHOULD PITCH THE GRADE TO ALLOW FOR WATER FLOW AT THE GROUND SURFACE OF THE PRELOAD AREA.
 - THE TOPS OF THE WICK DRAINS SHALL BE PROTECTED FROM DAMAGE THROUGHOUT THE DURATION OF THE PRELOAD.
 - THE SETTLEMENT PLATFORMS SHOULD BE FABRICATED USING A METAL ROD WELDED TO A 2-FOOT BY 2-FOOT STEEL PLATE. WELD THE METAL ROD TO THE CENTER OF AND PERPENDICULAR TO THE STEEL PLATE. THE METAL ROD SHALL BE LONG ENOUGH TO EXTEND PAST THE TOP OF THE ANTICIPATED SURCHARGE FILL.
 - THE SETTLEMENT PLATFORMS SHOULD BE INSTALLED BEFORE FILLING OPERATIONS START.

- THE SETTLEMENT PLATFORM INSTALLATION PROCEDURE SHALL BE AS FOLLOWS:
 - REMOVE GRASS, TOPSOIL, AND SUBSOIL OVER AN AREA OF AT LEAST 3 FEET BY 3 FEET.
 - PREPARE THE SUBGRADE AS LEVEL AS POSSIBLE.
 - COMPACT THE SUBGRADE WITH A PLATE COMPACTOR.
 - SPREAD A THIN LAYER OF SAND AT THE PLATFORM LOCATION (COMPACTED AREA) TO MAKE SURE THAT THERE IS FULL CONTACT BETWEEN THE SETTLEMENT PLATFORM AND THE UNDERLYING GROUND, AND PLACE THE SETTLEMENT PLATFORM ON THE LEVELLED SAND.
 - PLACE APPROXIMATELY ONE EXCAVATOR BUCKET OF SOIL AROUND THE PLATFORM TO SECURE IT IN PLACE.
 - SURVEY THE TOP OF THE ROD. AT LEAST TWO SEPARATE READING SHOULD BE MADE AT EACH SETTLEMENT PLATFORM BEFORE RAISING THE GRADES WITH FILL. THE AVERAGE OF THE TWO READING SHALL BE CONSIDERED THE BASELINE READING. IF THE TWO READING ARE OFF BY MORE THAN 1/10-INCH, THE READING SHOULD BE REPEATED.
 - COMPACT THE SOIL ON TOP OF THE PLATFORM THEN PROCEED WITH THE PLACEMENT OF THE FILL REQUIRED TO RAISE THE GRADES.

- THE METAL ROD SHALL BE PROTECTED DURING FILL PLACEMENT FROM BEING DAMAGED, BENT, OR DISPLACED. PROTECT THE SETTLEMENT PLATFORMS FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS, WEATHER, TRAFFIC, AND VANDALISM.
- PLACE A PVC SLEEVE AROUND THE SETTLEMENT PLATFORM METAL ROD TO ALLOW FOR FREE MOVEMENT OF THE ROD. CARE SHOULD BE EXERCISED NOT TO DAMAGE THE ROD. AFTER THE FILL REACHES THE DESIRED ELEVATION, PLACE A ROADWAY BOX AT THE GROUND SURFACE TO PROTECT THE TOP OF THE SETTLEMENT PLATFORM METAL ROD.
- THE CONTRACTOR SHALL MONITOR THE SETTLEMENT PLATFORM USING SURVEY EQUIPMENT AT LEAST ONCE PER WEEK UNTIL THE SETTLEMENT HAS STABILIZED OR AS DIRECTED BY THE OWNER. THE SURVEY SHOULD BE PERFORMED TO THE NEAREST 1/10-INCH.
- TABULATE AND PLOT THE SETTLEMENT DATA ON A CHART SHOWING THE SETTLEMENT IN INCHES VERSUS TIME.
- SUBMIT THE MONITORING RESULTS WITHIN ONE WEEK OF THE SURVEY DATE.
- SUBMIT GEOTECHNICAL REPORT BY LOCI DATED JULY 2015 (AS AMENDED) FOR ANY SPECIAL BACKFILL REQUIREMENTS AND SETTLEMENT INFORMATION.



DRAWING NAME:
PRE-CONSOLIDATION PLAN

DRAWN BY: AWB
REVIEWED BY: MJG

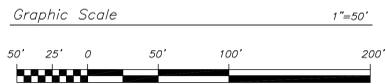
SCALE: 1"=30'
JOB NO.: 14225.00
DATE: April 18, 2016

DRAWING NUMBER:
C0.2



NOTE:

1. ALL EXISTING DRAINAGE SHALL BE MAINTAINED OR REROUTED UNTIL PERMANENT PIPING IS INSTALLED.
2. EXISTING CONDITIONS AND PROPERTY INFORMATION TAKEN FROM PLANS PREPARED BY WELCH ASSOCIATES DATED JUNE 12, 2015; REV 1: MODIFIED INVERTS (SHEET 2) 6-30-15.
3. FOR ELECTRICAL DEMOLITION SEE ELECTRICAL PLANS.
4. PROVIDE INLET PROTECTION AT ALL EXISTING DRAINAGE INLETS.
5. ALL ITEMS TO BE REMOVED AND STOCKPILED SHALL BE COORDINATED WITH OWNER FOR STOCKPILE LOCATIONS.
6. ALL ITEMS MARKED FOR RE-USE SHALL BE STOCKPILED ON SITE, PROTECTED AND RE-INSTALLED AS SHOWN ON THE LANDSCAPE PLANS.
7. ALL EXISTING IRRIGATION SHALL BE REMOVED WITHIN THE LIMITS OF WORK. LOCATION OF THE EXISTING IRRIGATION SYSTEM SHALL BE COORDINATED WITH THE OWNER.
8. CONTRACTOR SHALL COORDINATE CLEARING OF ALL ABUTTER ENCROACHMENTS WITH THE OWNER PRIOR TO CONSTRUCTION.



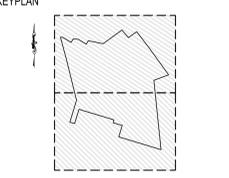
526 Boston Post Rd Weyland, MA
508.358.0790 www.ai3architects.com



BEVERLY MIDDLE SCHOOL
CABOT STREET
BEVERLY, MA 01915

KEYNOTE LEGEND:

BID PACKAGE #3
FOUNDATIONS,
STRUCTURAL STEEL,
& SITEWORK



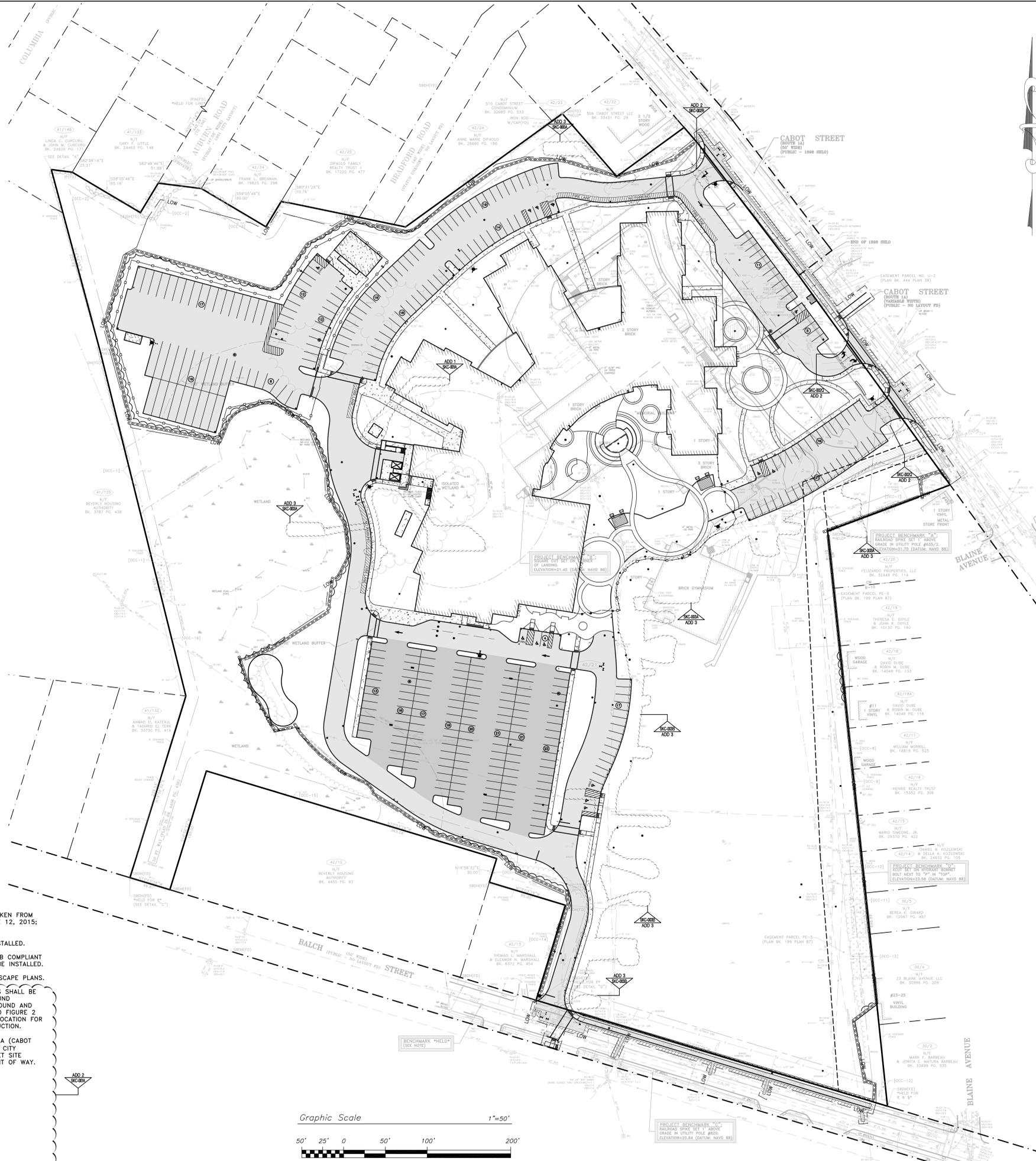
DRAWING NAME:
OVERALL EXISTING CONDITIONS AND DEMOLITION PLAN

DRAWN BY: AWB
REVIEWED BY: MJG

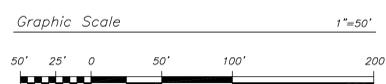
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JOB NO.: 14225.00
DATE: April 18, 2016

DRAWING NUMBER:
C1.0

15/10/2015 14:40:11 14225.00 Beverly Middle School and 01/18/2016 10:23:27 Existing Conditions and Demolition Plans

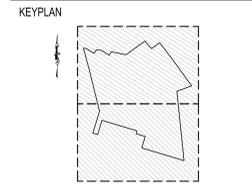
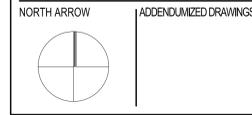


- NOTES:**
- EXISTING CONDITIONS AND PROPERTY INFORMATION TAKEN FROM PLANS PREPARED BY WELCH ASSOCIATES DATED JUNE 12, 2015; REV 1: MODIFIED INVERTS (SHEET 2) 6-30-15.
 - MAINTAIN ALL UTILITIES UNTIL NEW SERVICES ARE INSTALLED.
 - WHERE SIDEWALKS INTERSECT CURB LINES, ADA, MAAB COMPLIANT CURB RAMP WITH DETECTABLE WARNING MAT SHALL BE INSTALLED.
 - FOR ATHLETIC AMENITIES AND SITE FENCE, SEE LANDSCAPE PLANS.
 - 20 MPH SCHOOL ZONE SPEED LIMIT SIGN ASSEMBLIES SHALL BE INSTALLED IN BOTH THE NORTHBOUND AND SOUTHBOUND DIRECTIONS ON CABOT STREET AND BOTH THE EASTBOUND AND WESTBOUND DIRECTIONS ON BALCH STREET. REFER TO FIGURE 2 SCHOOL ZONE 2 LANE ROADWAY DETAIL. STAKEOUT LOCATION FOR REVIEW BY OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
 - RIGHT OF WAY IMPROVEMENTS PROJECT FOR ROUTE 1A (CABOT STREET) IS IN CONSTRUCTION. COORDINATE WITH THE CITY REGARDING THE USE OF THE SOUTHERN CABOT STREET SITE ENTRANCE AND SCHEDULE OF WORK WITHIN THE RIGHT OF WAY.



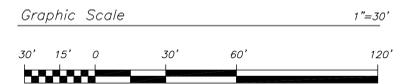
KEYNOTE LEGEND:

BID PACKAGE #3
FOUNDATIONS,
STRUCTURAL STEEL,
& SITEWORK





- NOTES:**
1. CURB, BERM, AND WALKWAY RADII SHALL BE 3 FEET UNLESS NOTED ON PLANS.
 2. SEE ELECTRICAL PLANS FOR DETAILS FOR ELECTRIC VEHICLE CHARGING STATION. COORDINATE LAYOUT OF EQUIPMENT WITH ENGINEER PRIOR TO CONSTRUCTION.
 3. TURF REINFORCEMENT SHALL BE PERMANENT HIGH PERFORMANCE TURF REINFORCEMENT MAT AS MANUFACTURED BY CONTECH, ACF ENVIRONMENTAL, TENSAR, OR APPROVED EQUIVALENT. INSTALL TO MANUFACTURERS SPECIFICATIONS. MIN. 1 STAPLE PER 2 SQ. FT.

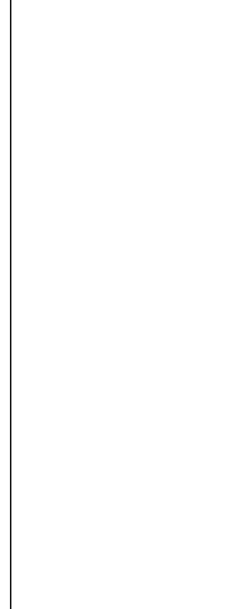


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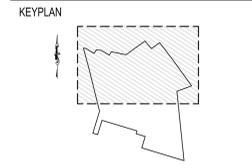
BEVERLY MIDDLE SCHOOL
CABOT STREET
BEVERLY, MA 01915

KEYNOTE LEGEND:



BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

NORTH ARROW ADDENUMIZED DRAWINGS



DRAWING NAME:

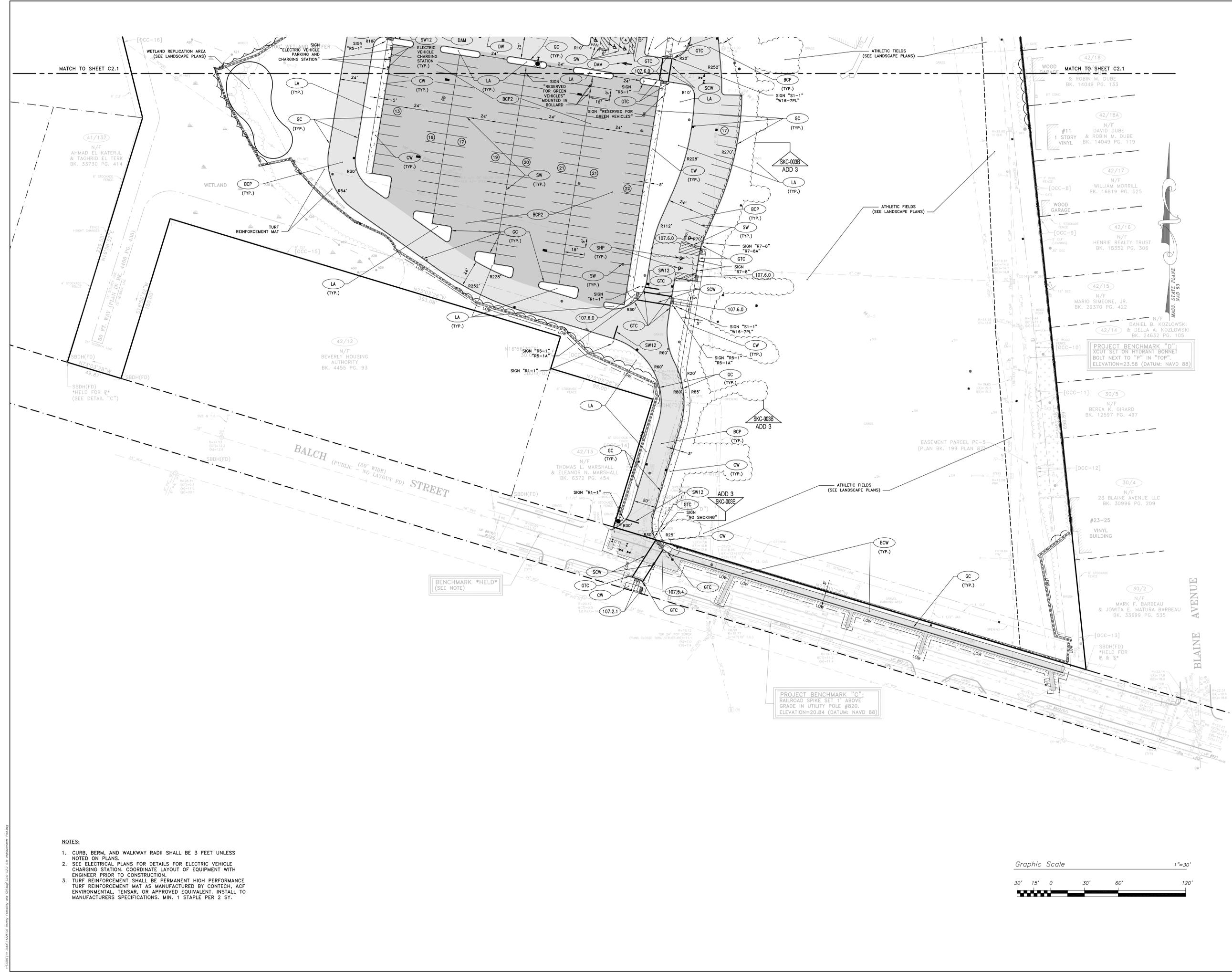
SITE IMPROVEMENTS PLAN 1

DRAWN BY: AWB

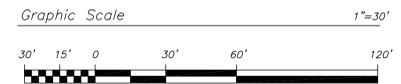
REVIEWED BY: M/JG

SCALE: 1"=30'
JOB NO.: 14225.00
DATE: April 18, 2016

DRAWING NUMBER:
C2.1



- NOTES:**
1. CURB, BERM, AND WALKWAY RADI SHALL BE 3 FEET UNLESS NOTED ON PLANS.
 2. SEE ELECTRICAL PLANS FOR DETAILS FOR ELECTRIC VEHICLE CHARGING STATION. COORDINATE LAYOUT OF EQUIPMENT WITH ENGINEER PRIOR TO CONSTRUCTION.
 3. TURF REINFORCEMENT SHALL BE PERMANENT HIGH PERFORMANCE TURF REINFORCEMENT MAT AS MANUFACTURED BY CONTECH, ACF ENVIRONMENTAL, TENSAR, OR APPROVED EQUIVALENT. INSTALL TO MANUFACTURERS SPECIFICATIONS. MIN. 1 STAPLE PER 2 SY.



V:\000114.dwg 14225.00 Beverly Middle School Site Improvements - Plan 2
 10/18/16 10:00 AM M/J

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CABOT STREET
BEVERLY, MA 01915

KEYNOTE LEGEND:

BID PACKAGE #3
FOUNDATIONS,
STRUCTURAL STEEL,
& SITEWORK

NORTH ARROW ADDENDUMIZED DRAWINGS



KEYPLAN



DRAWING NAME:

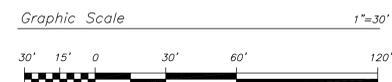
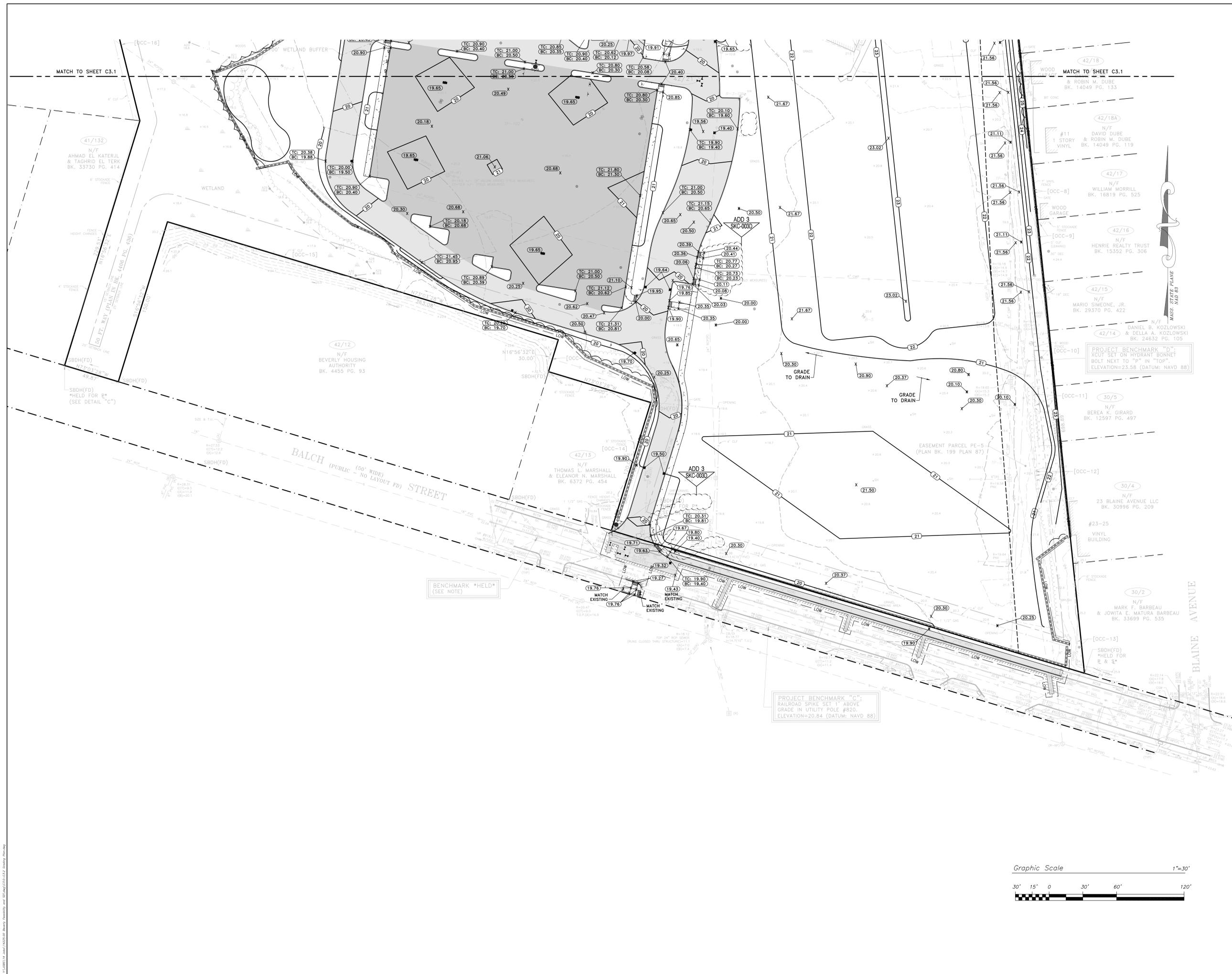
GRADING PLAN 2

DRAWN BY: AWB

REVIEWED BY: MJG

SCALE: 1"=30'
JOB NO.: 14225.00
DATE: April 18, 2016

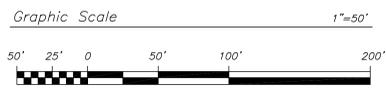
DRAWING NUMBER:
C3.2



14225.00-14.dwg: 14225.00 Beverly Middle School and 01/18/16 11:51:52 AM 2016.dwg



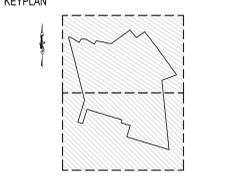
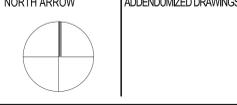
- NOTES:**
1. ALL EXISTING STRUCTURES TO REMAIN WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED TO FINISH GRADE.
 2. ALL WATER LINES SHALL BE WRAPPED IN POLYETHYLENE ENCASUREMENT. SEE SPECIFICATIONS.



KEYNOTE LEGEND:



BID PACKAGE #3
FOUNDATIONS,
STRUCTURAL STEEL,
& SITEWORK

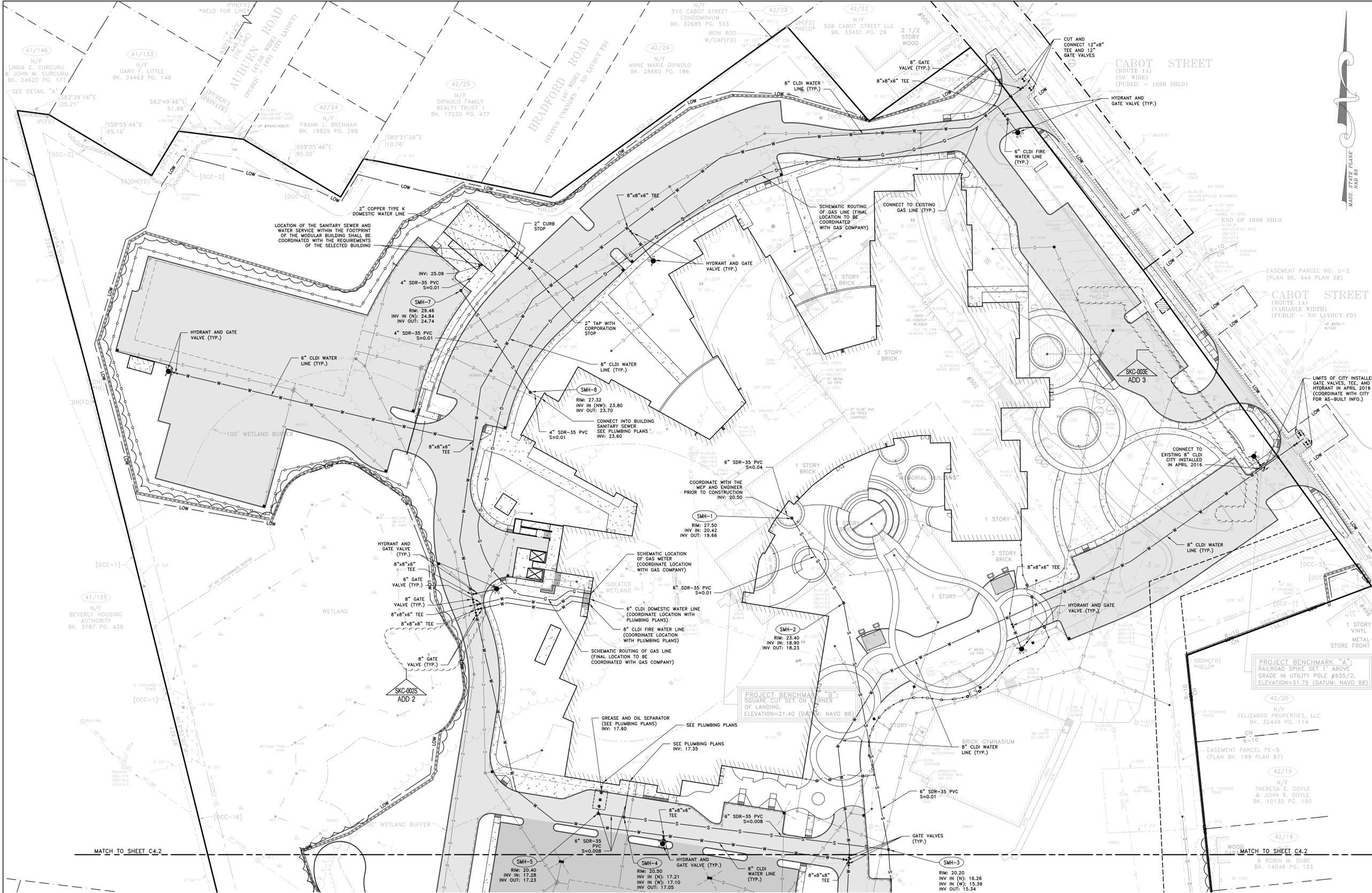


DRAWING NAME:

OVERALL UTILITY PLAN

DRAWN BY: AWB
REVIEWED BY: MJG
SCALE: 1"=50'
JOB NO.: 14225.00
DATE: April 18, 2016
DRAWING NUMBER: **C4.0**

17/10/2016 11:45:11 AM 14225.00 Beverly Middle School and 01/18/16 C4.0 PARE



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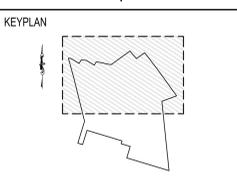
BEVERLY MIDDLE SCHOOL
CABOT STREET
BEVERLY, MA 01915

KEYNOTE LEGEND:



BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

NORTH ARROW
ADDENUMIZED DRAWINGS



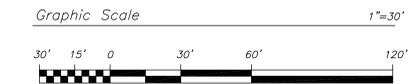
DRAWING NAME:
UTILITY PLAN 1

DRAWN BY: AWB
REVIEWED BY: MJG

SCALE: 1"=30'
JOB NO.: 14225.00
DATE: April 18, 2016

DRAWING NUMBER:
C4.1

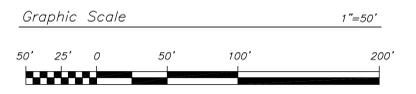
- NOTES:
- ALL EXISTING STRUCTURES TO REMAIN WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED TO FINISH GRADE.
 - ALL WATER LINES SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT. SEE SPECIFICATIONS.



14225.00 UTILITY PLAN 1.dwg 14225.00 Beverly Middle School 04/18/2016 10:11:51 AM



- NOTE:**
1. ALL CATCH BASINS SHALL CONFORM TO MHD STANDARD DETAIL 201.4.0 AND ALL CATCH BASIN FRAMES AND GRATES SHALL CONFORM TO 201.6.0 UNLESS OTHERWISE NOTED. (SEE DETAILS)
 2. ALL MANHOLES SHALL CONFORM TO MHD STANDARD DETAIL 202.4.0 AND ALL MANHOLE FRAMES AND COVERS SHALL CONFORM TO 202.6.0 UNLESS OTHERWISE NOTED. (SEE DETAILS)
 3. ALL DRAIN LINES SHALL BE 12" CLASS III RCP UNLESS OTHERWISE NOTED.
 4. ADJUST TO GRADE ALL EXISTING STRUCTURES TO REMAIN.

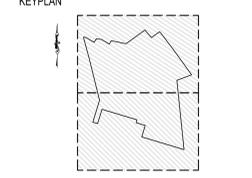


KEYNOTE LEGEND:

ALTERNATE #1
RCP PIPE TO BE SDR 35 PVC
BASE BID - RCP PIPE

BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

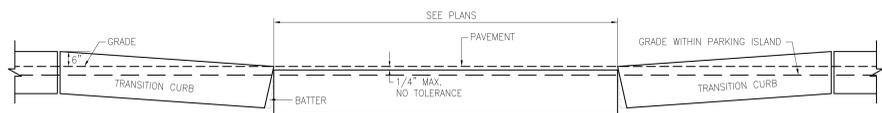
NORTH ARROW
ADDENDUM DRAWINGS



DRAWING NAME:
OVERALL DRAINAGE PLAN

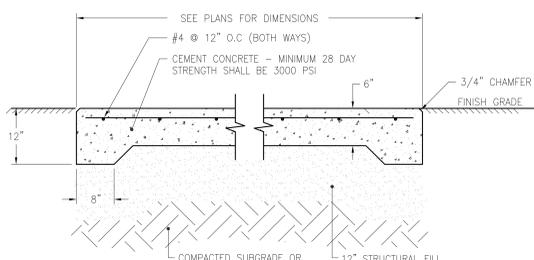
DRAWN BY: AWB
REVIEWED BY: MJG

SCALE: 1"=50' | DRAWING NUMBER:
JOB NO.: 14225.00 | **C5.0**
DATE: April 18, 2016



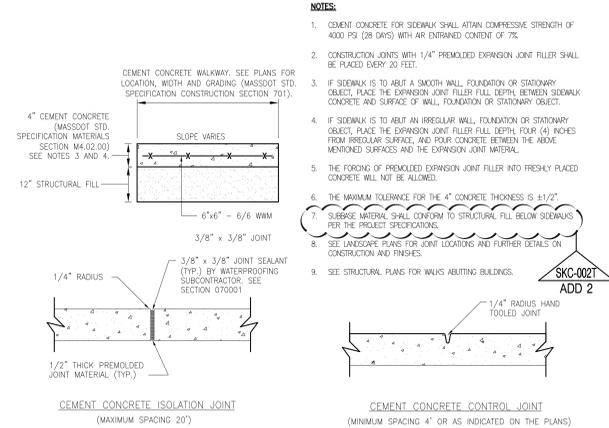
NOTES:
 1. TOP SURFACE TO BE DRESSED BY SAW OR TOOL.
 2. GRANITE CURB SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.

GCFC FLUSH GRANITE CURB
 NOT TO SCALE



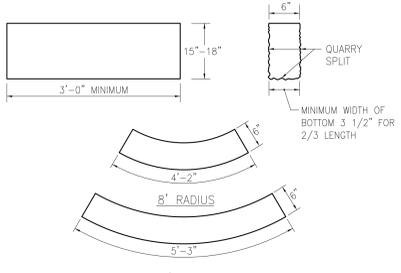
NOTES:
 1. FOR DUMPSTER PAD AND OTHER UTILITY LOCATIONS, SEE PLANS.
 2. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA, REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.

CEMENT CONCRETE PAD
 NOT TO SCALE



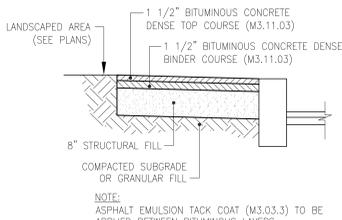
NOTES:
 1. CEMENT CONCRETE FOR SIDEWALK SHALL ATTAIN COMPRESSIVE STRENGTH OF 4000 PSI (28 DAYS) WITH AIR ENTRAINMENT CONTENT OF 7%.
 2. CONSTRUCTION JOINTS WITH 1/4" PREMOULDED EXPANSION JOINT FILLER SHALL BE PLACED EVERY 20 FEET.
 3. IF SIDEWALK IS TO ABUT A SMOOTH WALL, FOUNDATION OR STATIONARY OBJECT, PLACE THE EXPANSION JOINT FILLER FULL DEPTH BETWEEN SIDEWALK CONCRETE AND SURFACE OF WALL, FOUNDATION OR STATIONARY OBJECT.
 4. IF SIDEWALK IS TO ABUT AN IRREGULAR WALL, FOUNDATION OR STATIONARY OBJECT, PLACE THE EXPANSION JOINT FILLER FULL DEPTH FOUR (4) INCHES FROM IRREGULAR SURFACE, AND FOUR CONCRETE BETWEEN THE ABOVE MENTIONED SURFACES AND THE EXPANSION JOINT MATERIAL.
 5. THE FORCING OF PREMOULDED EXPANSION JOINT FILLER INTO FRESHLY PLACED CONCRETE WILL NOT BE ALLOWED.
 6. THE MINIMUM TOLERANCE FOR THE 4" CONCRETE THICKNESS IS 1/2".
 7. SUBGRADE MATERIAL SHALL CONFORM TO STRUCTURAL FILL BELOW SIDEWALKS PER THE PROJECT SPECIFICATIONS.
 8. SEE LANDSCAPE PLANS FOR JOINT LOCATIONS AND FURTHER DETAILS ON CONSTRUCTION AND FINISHES.
 9. SEE STRUCTURAL PLANS FOR WALLS ABUTTING BUILDINGS.

TYPICAL CONCRETE SIDEWALK
 NOT TO SCALE

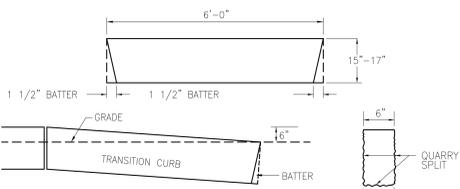


NOTES:
 1. MAXIMUM LENGTHS USING 8' & 10' RADII, WITH 90° ANGLE, ARE 4'-2" AND 5'-3" RESPECTIVELY.
 2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
 3. TOP SURFACE TO BE DRESSED BY SAW.
 4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 100' OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 100' RADII.
 5. GRANITE CURB SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.
 6. 3000 PSI CONCRETE BACKFILL IS REQUIRED FOR ALL GRANITE CURB.

GRANITE CURB QUARRY SPLIT
 NOT TO SCALE

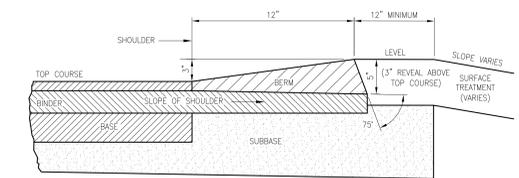


BCW BITUMINOUS CONCRETE WALK
 NOT TO SCALE

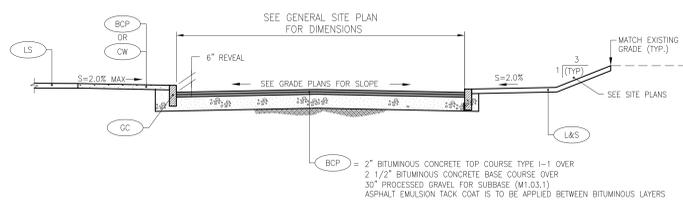


NOTES:
 1. TOP SURFACE TO BE DRESSED BY SAW OR TOOL.
 2. GRANITE CURB SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.

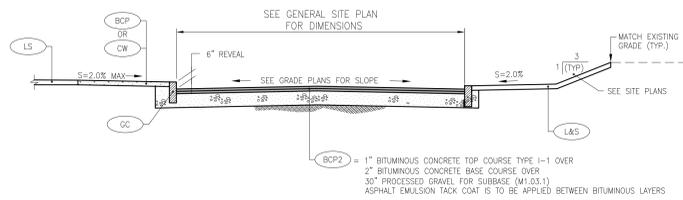
GTFC 6" GRANITE TRANSITION CURB
 NOT TO SCALE



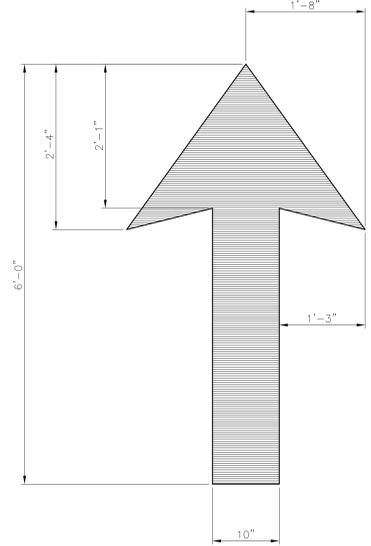
HOT MIX ASPHALT BERM
 NOT TO SCALE



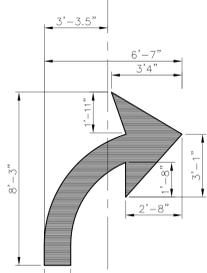
BCP HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT SECTION
 NOT TO SCALE



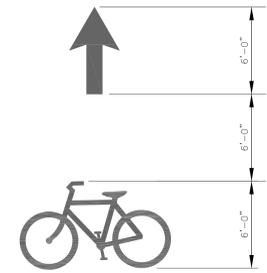
BCP2 LIGHT DUTY BITUMINOUS CONCRETE PAVEMENT SECTION
 NOT TO SCALE



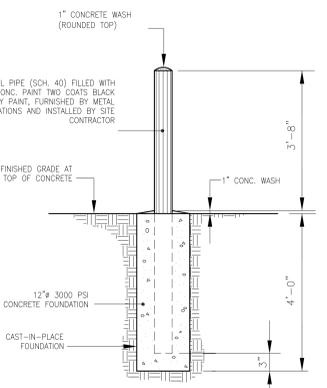
DIRECTIONAL ARROW PAVEMENT MARKINGS
 NOT TO SCALE
 STRIPING SHOULD BE EPOXY RESIN AND WHITE IN COLOR



PAVEMENT MARKING
 NOT TO SCALE

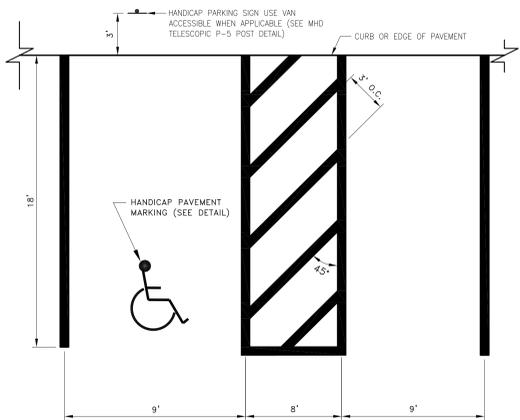


BIKE LANE PAVEMENT MARKINGS
 NOT TO SCALE



NOTE:
 1. SEE ELECTRICAL PLANS FOR BOLLARDS AT MECHANICAL EQUIPMENT.
 2. SEE LANDSCAPE PLANS FOR DECORATIVE BOLLARDS.
 3. SITE CONTRACTOR IS RESPONSIBLE FOR INSTALLING CONCRETE BOLLARDS.

CONCRETE BOLLARD
 NOT TO SCALE



NOTE:
 1. WHERE STALLS ABUT SIDEWALK, PARKING SIGNS SHOULD BE PLACED AT BACK EDGE OF SIDEWALK.
 2. STRIPING SHOULD BE WHITE IN COLOR.

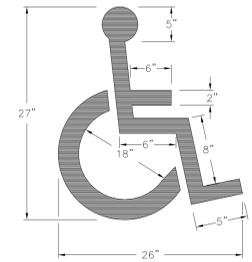
SHP VAN HANDICAP PARKING STALLS @ 90°
 NOT TO SCALE



R7-8 (12"x18")
 NOT TO SCALE

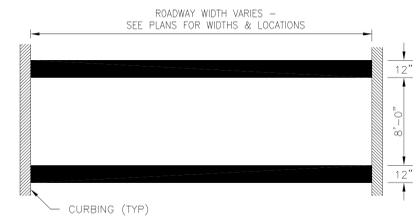


R7-8A
 NOT TO SCALE



NOTE:
 1. ALL HANDICAP PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS OF THE ARCHITECTURAL BARRIERS BOARD & A.D.A.

SHP HANDICAP PAVEMENT MARKING
 NOT TO SCALE



NOTE:
 1. ALL LINE STRIPING TO BE 12" WIDE AND PAINTED WHITE.

SCW CROSSWALK DETAIL
 NOT TO SCALE

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KEYNOTE LEGEND:

BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

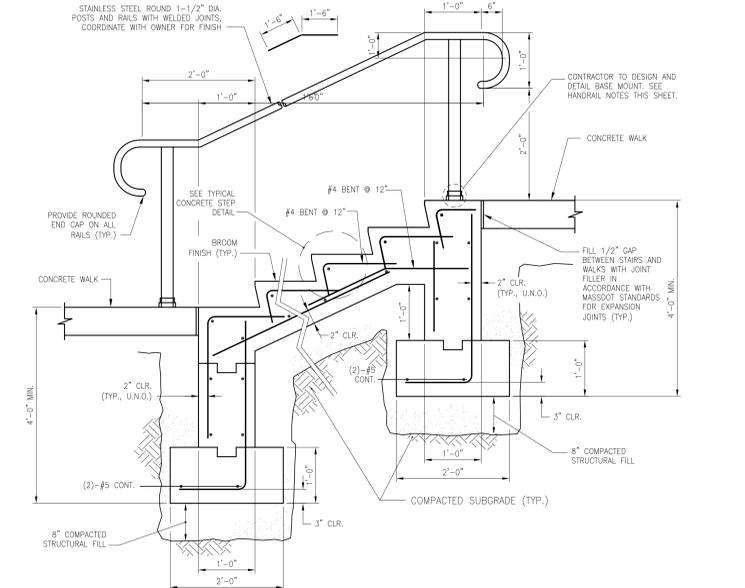
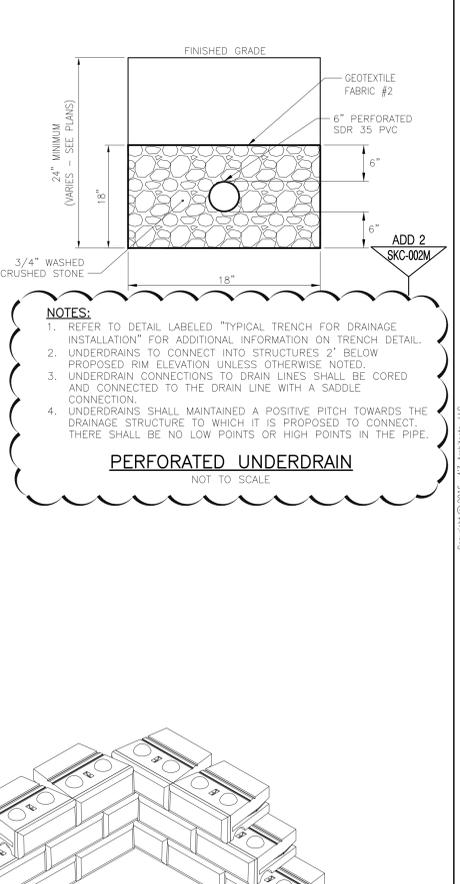
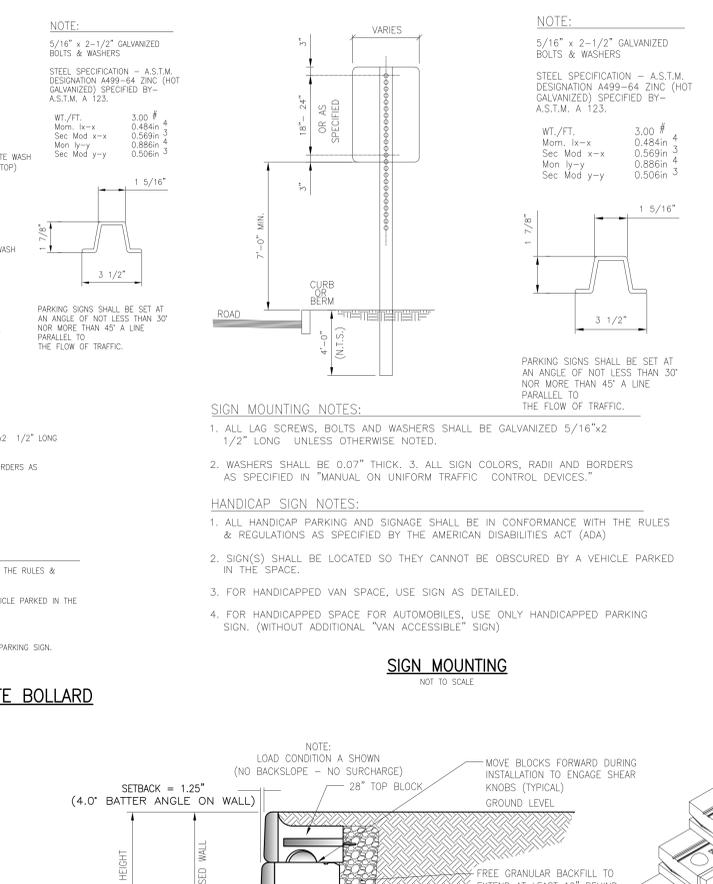
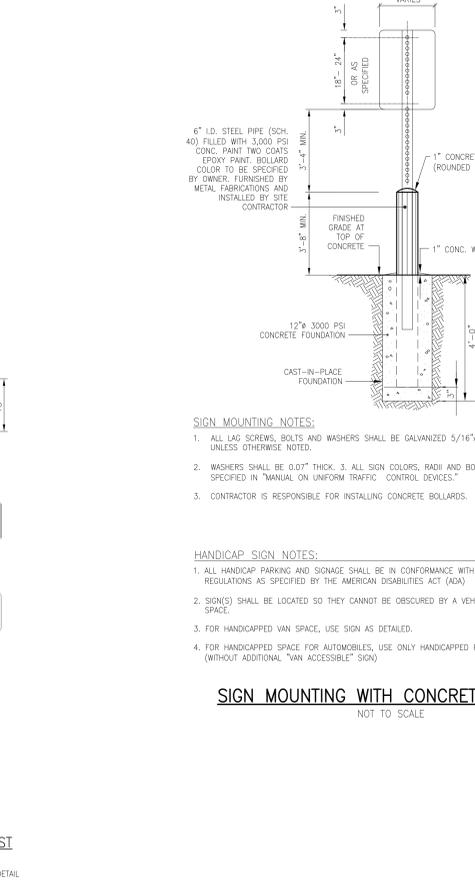
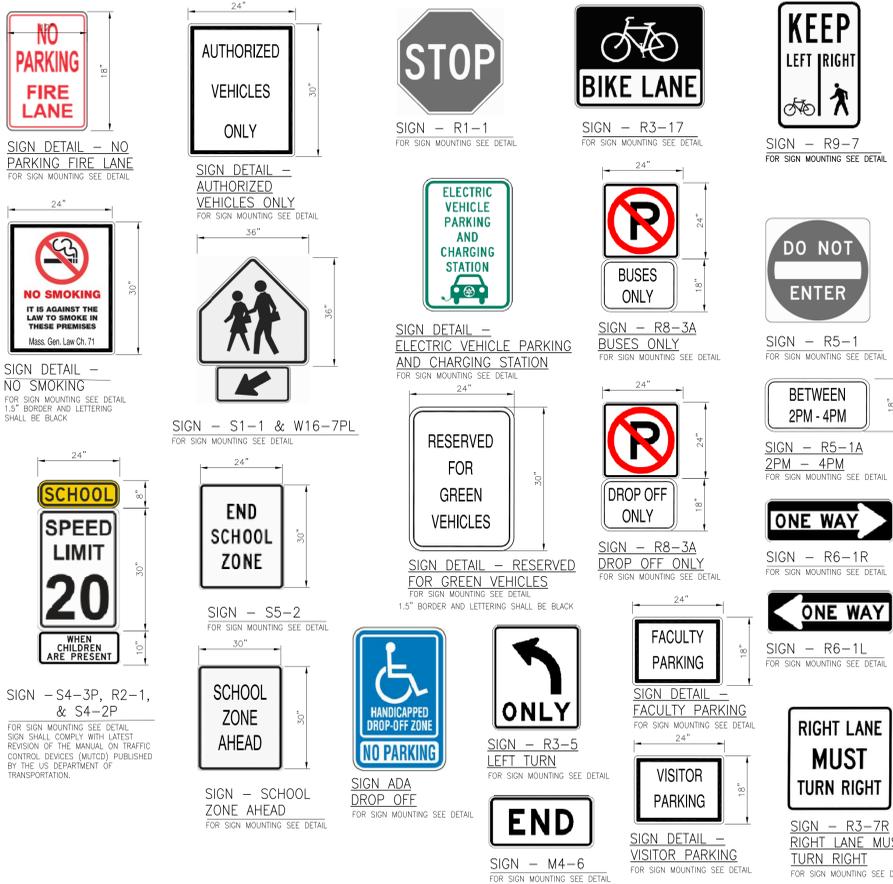
NORTH ARROW ADDENDUMIZED DRAWINGS

KEYPLAN

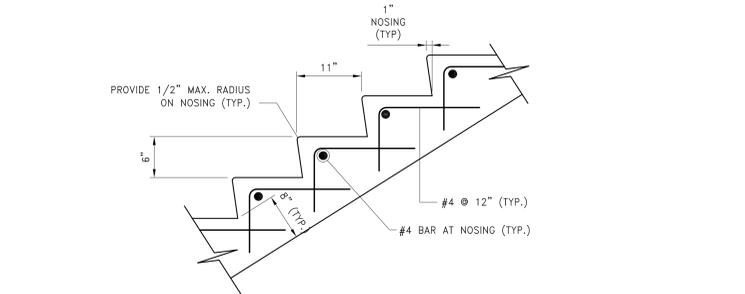
DRAWING NAME:
SITE DETAILS No. 1

DRAWN BY: AWB
REVIEWED BY: M/J
SCALE: AS NOTED **DRAWING NUMBER:** C6.1
JOB NO.: 14225.00
DATE: April 18, 2016

11/10/17 14:44:11 14225.00 Beverly Middle School Foundations and Sitework (S&S) - 01/18/18 10:11:11



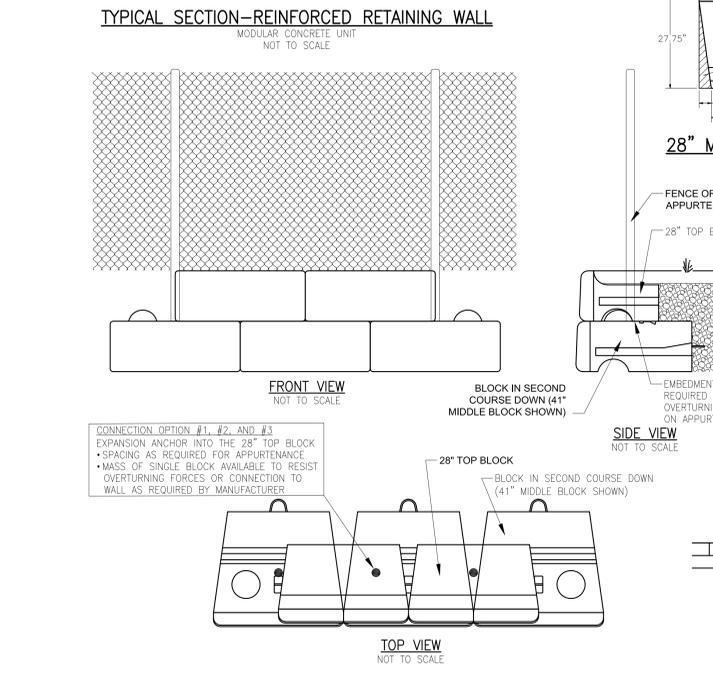
CONCRETE STAIR
NOT TO SCALE



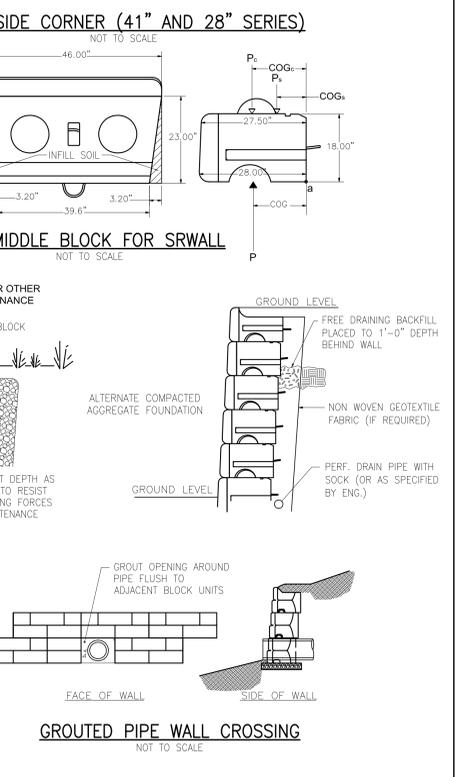
CONCRETE STEP
NOT TO SCALE

- CAST-IN-PLACE CONCRETE:**
- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND THE STATE CODE.
 - CONCRETE SHALL BE PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF THE APPROVED TESTING AGENCY.
 - UNLESS NOTED OTHERWISE, CONCRETE SHALL BE NORMAL WEIGHT, WITH TYPE II CEMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:
4,000 PSI 3/4" AGGREGATE-TYPICAL
 - ALL CONCRETE SHALL BE AIR-ENTRAINED WITH AN AIR CONTENT OF 6% ± 1%. INTERIOR SLABS ON GRADE SHALL NOT BE AIR-ENTRAINED.
 - CALCIUM CHLORIDE SHALL NOT BE USED.
 - ALL SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE HAS ATTAINED ITS SPECIFIED 28-DAY MINIMUM COMPRESSIVE STRENGTH.
 - ALL CONSTRUCTION JOINT LOCATIONS MUST BE SHOWN ON SHOP DRAWINGS AND APPROVED BY THE ENGINEER. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE LOCATED SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHOULD GENERALLY BE LOCATED AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.
 - ALL TYPES OF SLABS AND WALLS SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER. ALL CONSTRUCTION JOINTS SHALL BE FORMED WITH A STANDARD KEY OR WITH A ROUGHENED SURFACE, UNLESS SHOWN OTHERWISE.
 - PROVIDE A SMOOTH RUBBED SURFACE, FREE FROM BURRS, THE HOLES, HONEYCOMING, ETC. ON EXPOSED CONCRETE SURFACES.
 - PROVIDE A BROOM FINISH FOR EXTERIOR SLABS.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 1" UNLESS NOTED OTHERWISE.
 - WHEN CONCRETE IS PLACED AGAINST PREVIOUSLY HARDENED CONCRETE, THE INTERFACE SHALL BE CLEAN, FREE OF LANTAGE, AND INTENTIONALLY ROUGHENED TO FULL AMPLITUDE OF APPROXIMATELY 1/4 INCH.
 - AT ALL CONSTRUCTION JOINTS NOT DESIGNATED TO BE CONTROL JOINTS, NEW CONCRETE SHALL BE EPOXY BONDED TO HARDENED CONCRETE WITH SIKADUR 32 HI-MOD L.P.L. MANUFACTURED BY SIKA CORP. OR ENGINEER APPROVED EQUAL. APPLY PER MANUFACTURER'S RECOMMENDATIONS.
 - ELASTOMERIC JOINT FILLER (FOR WALLS) SHALL BE "SIKAFLEX 1CSL" AND SEMI-RIGID EPOXY JOINT FILLER (FOR SLABS) SHALL BE "SIKADUR 51 SL" AS MANUFACTURED BY SIKA CORP. OR ENGINEER APPROVED EQUAL.
 - ALL CONCRETE SHALL BE PLACED IN THE DRY.
 - PROVIDE POUR STOPS AT THE EDGES OF CONCRETE SLAB POURS WHERE NOT OTHERWISE CONTAINED.

- REINFORCING STEEL:**
- REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES AND THE STATE CODE.
 - COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF THAT PORTION OF THE WORK. ALL ACCESSORIES MUST BE SHOWN ON THE SHOP DRAWINGS.
 - REINFORCING BARS SHALL CONFORM TO ASTM A615 OR A706 (WELDABLE) GRADE 60.
 - ALL REINFORCING STEEL SHALL BE UNCOATED. HOWEVER, ALL SUPPORTS SUCH AS CHAIRS, BOLSTERS, SPACERS, BLOCKS AND HANGERS SHALL BE OF NON-CORROSIVE MATERIAL. PROVIDE MINIMUM #5 SUPPORT BAR.
 - UNLESS NOTED ON THE DRAWINGS, THE MINIMUM CONCRETE PROTECTION (CLEAR COVER) FOR CAST-IN-PLACE CONCRETE COVER SHALL BE AS FOLLOWS:
CONCRETE PLACED AGAINST EARTH 3"
FORMED CONCRETE EXPOSED TO EARTH OR WATER 2"
 - MINIMUM REINFORCEMENT DEVELOPMENT LENGTH AND LAP SPICE LENGTHS SHALL BE IN ACCORDANCE WITH ACI 318 FOR CLASS B LAPS UNLESS OTHERWISE NOTED ON THE DRAWINGS.



SEGMENTAL RETAINING WALL DETAILS - TYPE I
NOT TO SCALE



GRouted PIPE WALL CROSSING
NOT TO SCALE

- NOTES:**
- RETAINING WALLS SHALL BE REDI-ROCK, OR STRONG STONE, RE-CON RETAINING WALL SYSTEMS, INC., SERIES 50, NORTH SHORE GRANITE TEXTURE OR EQUIVALENT. SEE SPECIFICATIONS FOR WALL DESIGN REQUIREMENTS.
 - THESE DETAILS ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS COMPLETED AND STAMPED BY A MASSACHUSETTS REGISTERED STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL INCLUDE ALL DETAILS AND INFORMATION NECESSARY FOR CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THE STRUCTURAL ENGINEER ALL APPURTENANT INFORMATION FOR THEIR DESIGN AND CALCULATIONS.
 - STRUCTURAL ENGINEER SHALL DESIGN RETAINING WALLS IN ACCORDANCE WITH SITE SPECIFIC CONSTRAINTS. REFER TO THE GEOTECHNICAL REPORT FOR GROUNDWATER ELEVATIONS.

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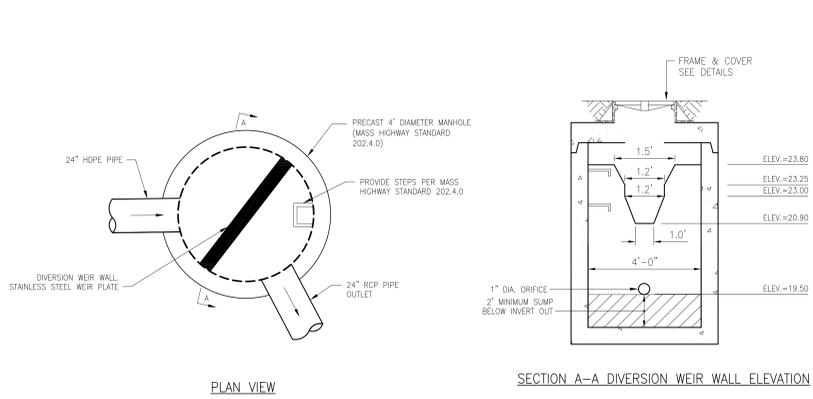
BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

NORTH ARROW | ADDENDUMS DRAWINGS

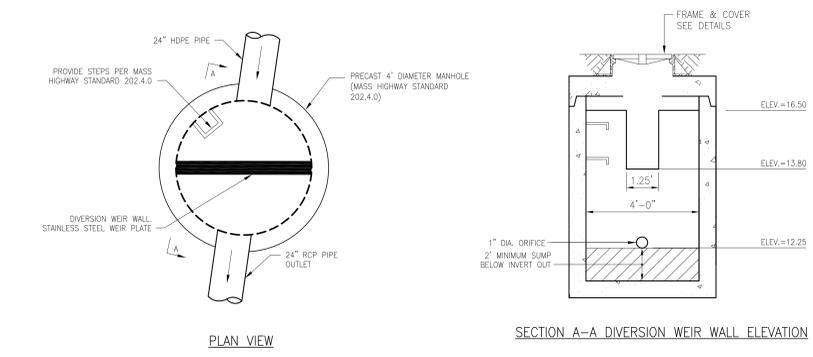
KEYPLAN

DRAWING NAME:
SITE DETAILS No. 2

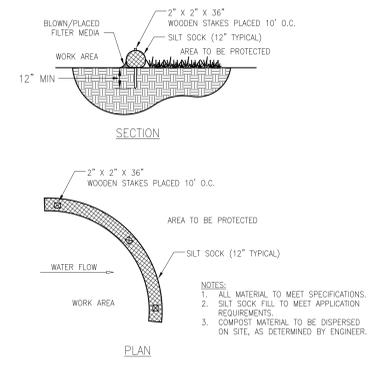
DRAWN BY: AWB
REVIEWED BY: M.J.G.
SCALE: AS NOTED | DRAWING NUMBER: **C6.2**
JOB NO.: 14225.00
DATE: April 18, 2016



PLAN VIEW
OUTLET CONTROL STRUCTURE OCS-1
NOT TO SCALE

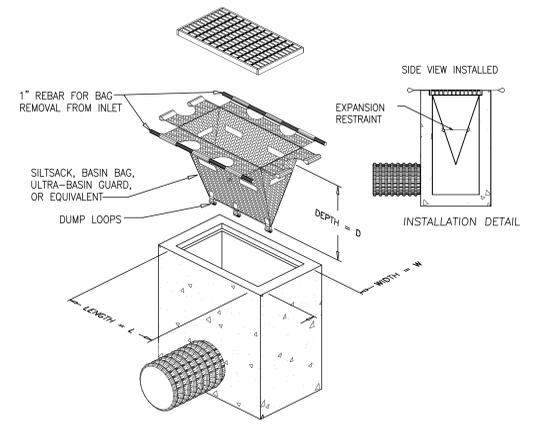


PLAN VIEW
OUTLET CONTROL STRUCTURE OCS-2
NOT TO SCALE



SILT SOCK EROSION CONTROL
NOT TO SCALE

NOTE:
1. ALL MATERIAL TO MEET SPECIFICATIONS.
2. SILT SOCK FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



INLET PROTECTION
NOT TO SCALE

NOTES:
1. INLET PROTECTION SHALL BE CLEANED OF SILT AND DEBRIS ON A REGULAR BASIS AS REQUIRED BY PROJECT SPECIFIC SWPPP.
2. INSPECTIONS SHALL BE DONE AFTER EACH RAIN EVENT AND AT A MINIMUM EVERY TWO WEEKS AND AS REQUIRED BY PROJECT SPECIFIC SWPPP.

MASSACHUSETTS CONSTRUCTION STANDARDS

EROSION CONTROL

DATE OF ISSUE: 9/22/95

DRAWING NUMBER: 210.1.0

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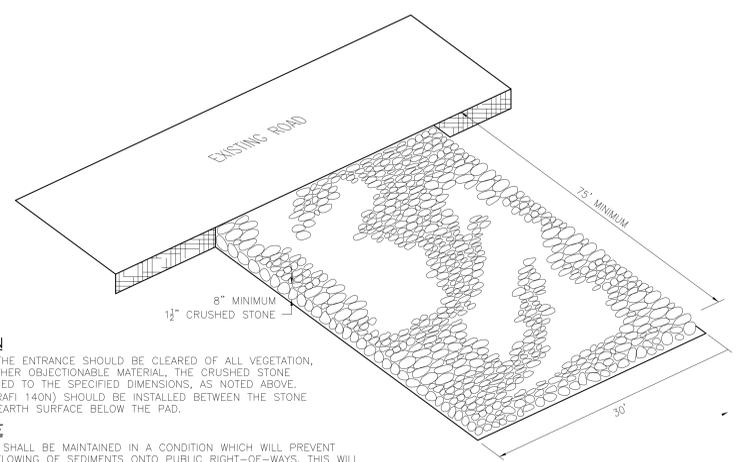
DURING A CONSTRUCTION PROJECT, SOIL EROSION CAN BE A MAJOR CONTRIBUTING FACTOR TO ENVIRONMENTAL POLLUTION. IN ORDER TO MINIMIZE THE EFFECT OF SEDIMENTATION, SCOUR, TURBULENCE, WASHOUTS, ETC. DURING CONSTRUCTION OPERATIONS, TEMPORARY, AND UNDER SOME CONDITIONS PERMANENT, CONTROLS MUST BE BUILT.

THE FORM AND DESIGN OF THE CONTROLS WILL VARY WITH THE TYPE OF AREA THAT IS TO BE PROTECTED AND THE SPECIFIC CAUSE OF THE ENVIRONMENTAL DEGRADATION. THE PROTECTIVE STRUCTURES MAY CONSIST OF:

- SEDIMENTATION POOLS FOR THE PROTECTION OF RIVERS, LAKES, STREAMS AND PONDS
- TEMPORARY BERMS TO CONTROL HEAVY RUNOFF, THUS PREVENTION WASHOUTS
- DITCHES AT TOES OF SLOPES
- CHECK DAMS AT WATERWAY CROSSINGS
- FILTERS AT DRAIN INLETS
- ENERGY DISSIPATORS AT DRAIN OUTLETS (i.e. SPLASH PADS, BULK STONE DEPOSITS, ETC.) AT CULVERT ENDS.

IN MOST SITUATIONS THE TYPE AND LOCATION OF POLLUTION CONTROL DEVICES CAN BE DETERMINED DURING THE DESIGN STAGE OF THE PROJECT. HOWEVER, FIELD CONDITIONS MAY WARRANT ADDITIONAL MEASURES AND CHANGES DURING THE CONSTRUCTION PHASE.

MANY TYPES OF PROTECTIVE SCHEMES AND DESIGNS CAN BE ADAPTED TO MEET A PARTICULAR CONDITION; IN SOME CASES CERTAIN MEASURES MAY HAVE TO BE INNOVATED. GENERALLY, THE VARIOUS SCHEMES DETAILED IN THE BOOKLET ENTITLED "TEMPORARY EROSION AND POLLUTION CONTROL MEASURES" PREPARED BY THE FEDERAL HIGHWAY ADMINISTRATION CAN BE APPLIED.

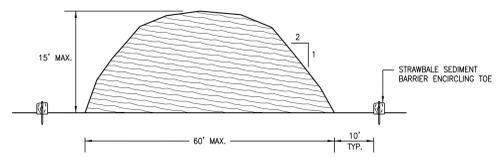


INSTALLATION
THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE CRUSHED STONE SHALL BE PLACED TO THE SPECIFIED DIMENSIONS, AS NOTED ABOVE. GEOFABRIC (MIRAFI 140N) SHOULD BE INSTALLED BETWEEN THE STONE FILL AND THE EARTH SURFACE BELOW THE PAD.

MAINTENANCE
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, AND REPAIR, AND / OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

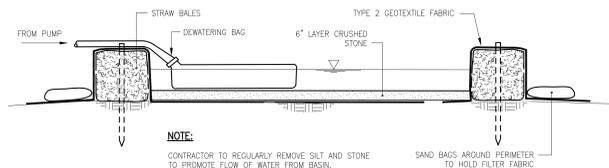
LOCATION
SEE PROJECT PLANS FOR LOCATION OF CONSTRUCTION ENTRANCE.

CONSTRUCTION ENTRANCE PROTECTION STONE STABILIZATION PAD
NOT TO SCALE



NOTES:
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
2. STOCKPILE ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 30 DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION OR COVERED IMMEDIATELY FOLLOWING PLACEMENT.
3. NO STOCKPILE SHALL BE PLACED WITHIN THE 100 FOOT WETLAND BUFFER.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE



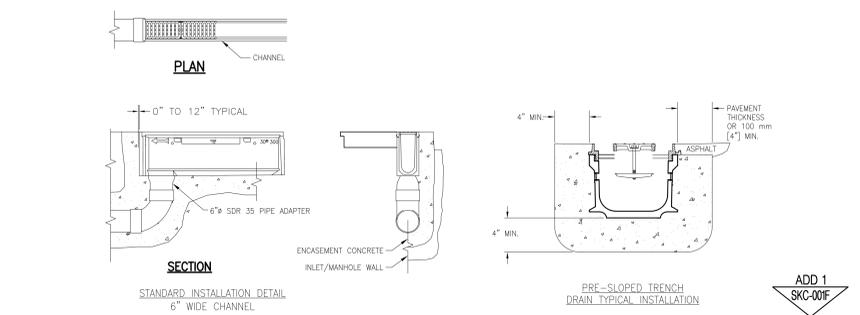
NOTE:
CONTRACTOR TO REGULARLY REMOVE SILT AND STONE TO PROMOTE FLOW OF WATER FROM BASIN.

FILTER FABRIC DEWATERING BASIN
NOT TO SCALE

RAIN GARDEN NOTES:

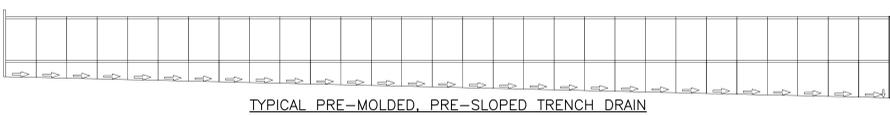
1. THE PLANTING SOIL/FILTER MEDIA SHOULD BE A MIXTURE OF SAND, COMPOST, AND SOIL:
 - 40% SAND *
 - 20-30% TOPSOIL *
 - 30-40% COMPOST *

* PERCENTAGES BY VOLUMES
 2. THE SOIL MIX SHOULD BE UNIFORM, FREE OF STONES, STICKS, STUMPS, ROOTS, LARGER THAN 2 INCHES. CLAY CONTENT SHOULD NOT EXCEED 5%. SOIL PH SHOULD BE BETWEEN 5.5 AND 6.5 AND SHALL MEET ALL OTHER REQUIREMENTS OF SECTION 32.9320
 3. THE SAND COMPONENT SHOULD BE GRAVELLY SAND THAT MEETS ASTM D 422.
- | SIEVE SIZE | PERCENT PASSING |
|------------|-----------------|
| 2 INCH | 100 |
| 3/4 INCH | 70-100 |
| 1/4 INCH | 50-80 |
| No. 40 | 15-40 |
| No. 200 | 0-3 |
4. THE TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND OR LOAM TEXTURE.
 5. THE COMPOST COMPONENT MUST BE PROCESSED FROM YARD WASTE MEETING THE MASSDEP RULES AND REGULATIONS FOR AGRICULTURAL COMPOSTING.
 6. PRIOR TO THE INSTALLATION OF RAIN GARDEN MATERIALS, THE SUBGRADE SHOULD BE SCARIFIED AND MACHINERY CONTACT WITH THE SCARIFIED SUBGRADE SHALL BE AVOIDED.

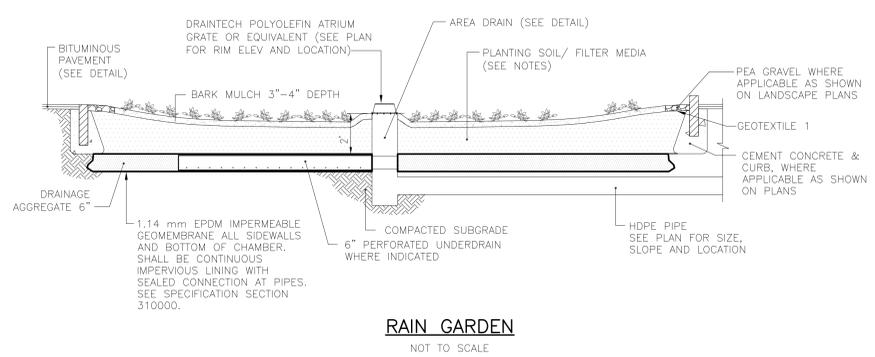


REMOVED TRENCH GRATE DETAIL

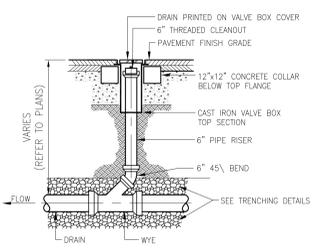
- NOTES:**
1. TRENCH DRAIN GRATE SHALL BE CAPABLE OF A MINIMUM HYDRAULIC FLOW OF 0.132 CFS.
 2. CONTRACTOR SHALL PROVIDE SHOP DRAWING OF PROPOSED TRENCH DRAIN LAYOUT. ACCEPTABLE PRODUCTS FOR THIS APPLICATION INCLUDE POLYDRAIN BY ABT INC., ACO, DURASLOPE BY NDS OR APPROVED EQUIVALENT.
 3. TRENCH DRAIN SHALL HAVE MINIMUM SLOPE OF 0.6% AND ABILITY TO HANDLE FLOWS OF AT LEAST 0.132 CFS.
 4. CALCULATIONS MUST BE PROVIDED TO INDICATE SIZING REQUIREMENTS ARE MET.



TRENCH DRAIN DETAILS
NOT TO SCALE



RAIN GARDEN
NOT TO SCALE



CLEANOUT
NOT TO SCALE

"ANY MANUFACTURER'S NAMES AND/OR MODEL NUMBERS IDENTIFIED HEREIN ARE INTENDED TO ASSIST IN ESTABLISHING A GENERAL LEVEL OF QUALITY, CONFIGURATION, FUNCTIONALITY, AND APPEARANCE REQUIRED. THIS IS NOT A PROPRIETARY SPECIFICATION AND IT SHOULD BE NOTED THAT "OR APPROVED EQUAL" APPLIES TO ALL PRODUCTS DENOTED HEREIN. IT IS UNDERSTOOD THAT ALL MANUFACTURERS WILL HAVE MINOR VARIATIONS IN CONFIGURATION, APPEARANCE, AND PRODUCT SPECIFICATION TO ENCOURAGE OPEN AND COMPETITIVE INVOLVEMENT FROM MULTIPLE MANUFACTURERS THAT ARE ABLE TO SUPPLY SIMILAR PRODUCTS."

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KEYNOTE LEGEND:

BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

NORTH ARROW

ADDENDUMIZED DRAWINGS

KEYPLAN

DRAWING NAME:

SITE DETAILS No. 3

DRAWN BY: AWB

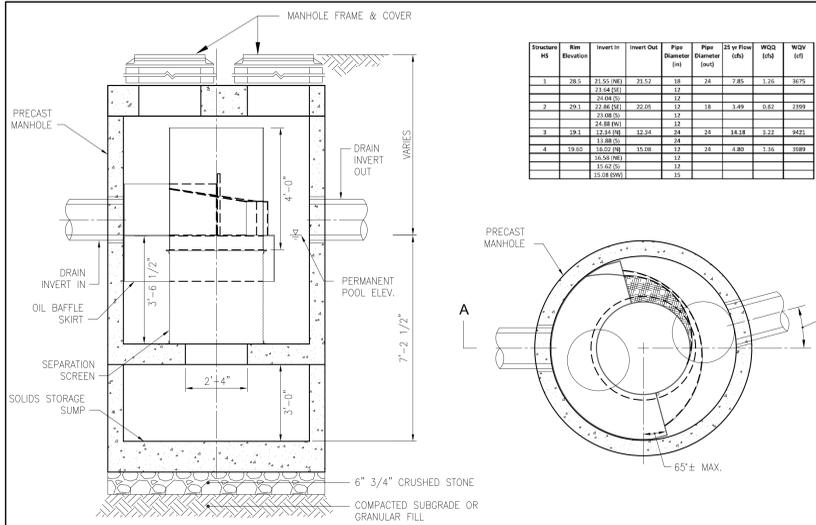
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SCALE: AS NOTED

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JOB NO.: 14225.00

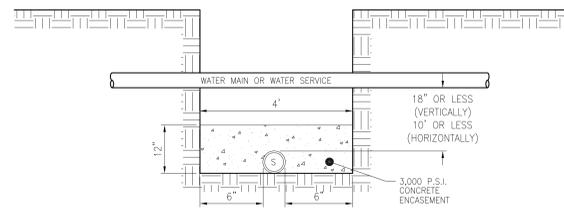
DATE: April 18, 2016



GENERAL NOTES - HYDRODYNAMIC SEPARATOR

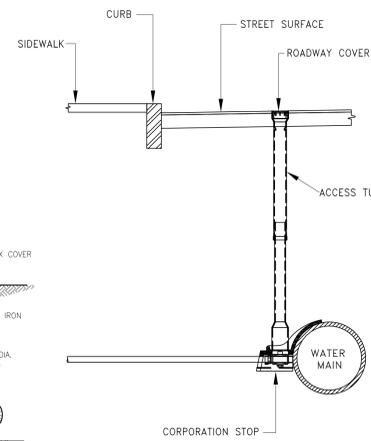
- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS ARE SCHEMATIC DIMENSIONS. ACTUAL DIMENSIONS MAY VARY DEPENDING ON MANUFACTURER, DESIGN, AND STRUCTURE.
- CONTRACTOR TO PROVIDE SHOP DRAWING AND CALCULATIONS FROM MANUFACTURER OF EACH HS UNIT.
- WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL CODES, LAWS, AND REGULATIONS OF MASSDEP, CITY OF BEVERLY, AND ALL OTHER GOVERNING AGENCIES.
- STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
- SEE TABLE FOR SIZING AND BASIS OF DESIGN DATA.
- DIMENSIONS WITHIN THIS DETAIL ARE PROVIDED FOR GENERAL REFERENCE PURPOSES ONLY. DIMENSIONS SHALL BE BASES ON THE DESIGN CRITERIA IN THE SIZING TABLE.

HS-X HYDRODYNAMIC SEPARATOR
NOT TO SCALE

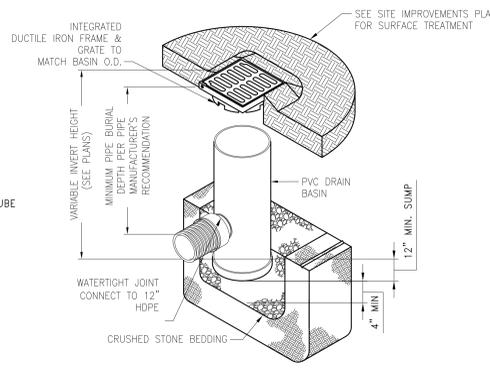


MINIMUM DISTANCES FOR SEWER AND WATER LINE CROSSINGS
NOT TO SCALE

- NOTES:
- SEWER LINES CROSSING OVER WATER LINES SHALL BE CONCRETE ENCASED FOR 10 FEET ON EITHER SIDE OF CROSSING REGARDLESS OF VERTICAL SEPARATION DISTANCE.
 - SEWER LINES CROSSING UNDER WATER LINES SHALL BE CONSTRUCTED WITH A MINIMUM VERTICAL SEPARATION OF 18 INCHES. WHEN THIS CANNOT BE ACHIEVED, THE SEWER SHALL BE ENCASED IN CONCRETE FOR 10 FEET ON EITHER SIDE OF CROSSING.
 - ENCASEMENT SHALL BE A MINIMUM OF 6 INCHES AROUND THE SEWER LINES.

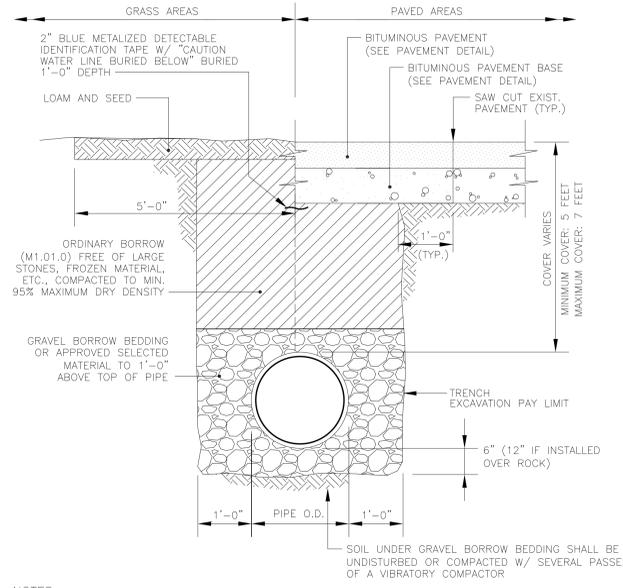


CORPORATION STOP DETAIL
NOT TO SCALE



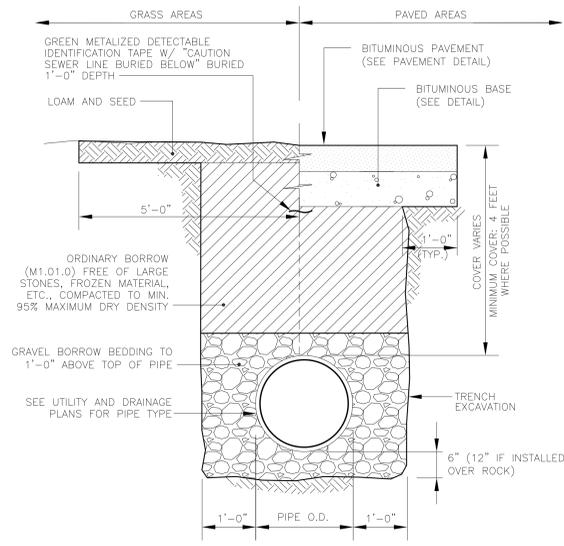
AD-X 12" AREA DRAIN BASIN
NOT TO SCALE

- NOTES:
- GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05 AND ADA COMPLIANT.
 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE.



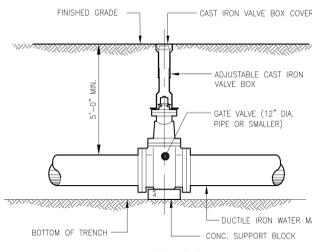
TYPICAL WATER MAIN TRENCH
NOT TO SCALE

- NOTES:
- FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.
 - MINIMUM WIDTH OF TRENCH SHOULD BE 3 FEET.
 - PIPE SHALL BE WRAPPED IN POLYETHYLENE ENCASUREMENT. SEE SPECIFICATIONS.

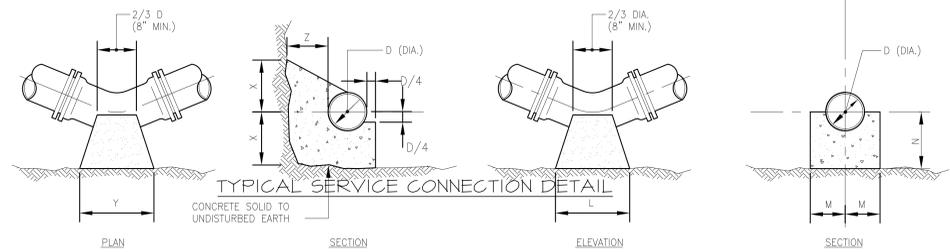


TYPICAL ONSITE SEWER TRENCH
NOT TO SCALE

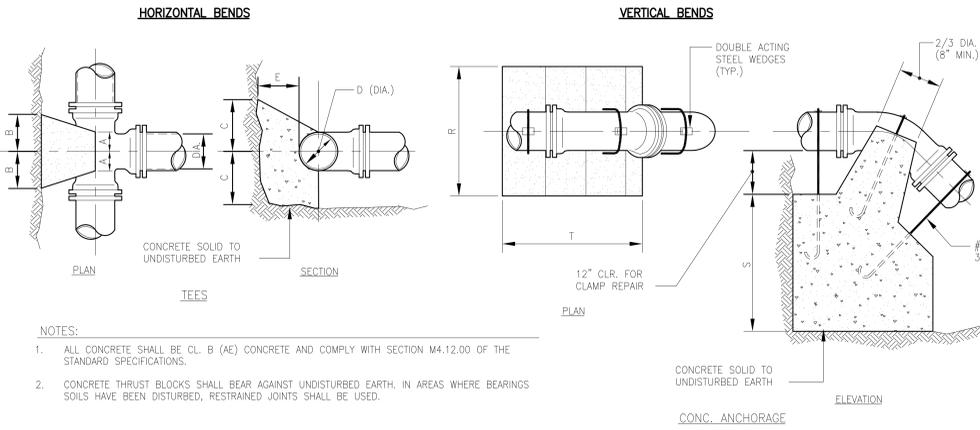
- NOTES:
- FOR PIPE INSTALLATION IN ROCK OR LEDGE MINIMUM TRENCH WIDTH SHOULD EQUAL THE DIAMETER OF THE PIPE PLUS 18 INCHES ON EACH SIDE.
 - MINIMUM WIDTH OF TRENCH SHOULD BE 3 FEET.



VALVE BOX
NOT TO SCALE



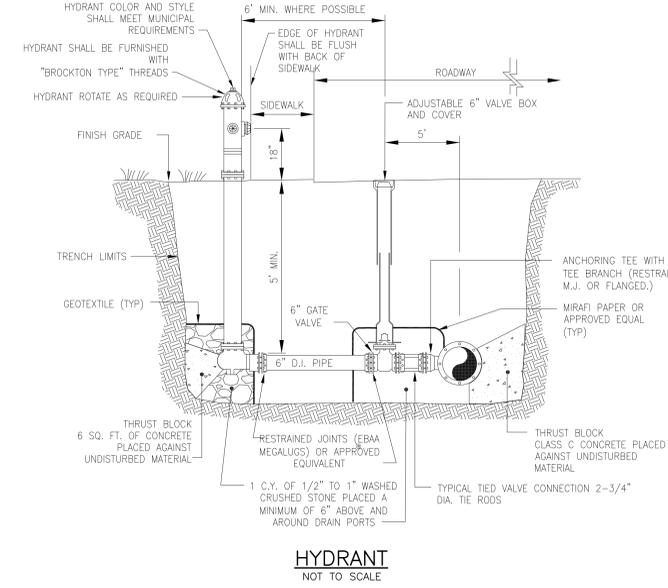
TYPICAL SERVICE CONNECTION DETAIL
NOT TO SCALE



CONCRETE THRUST BLOCKS
NOT TO SCALE

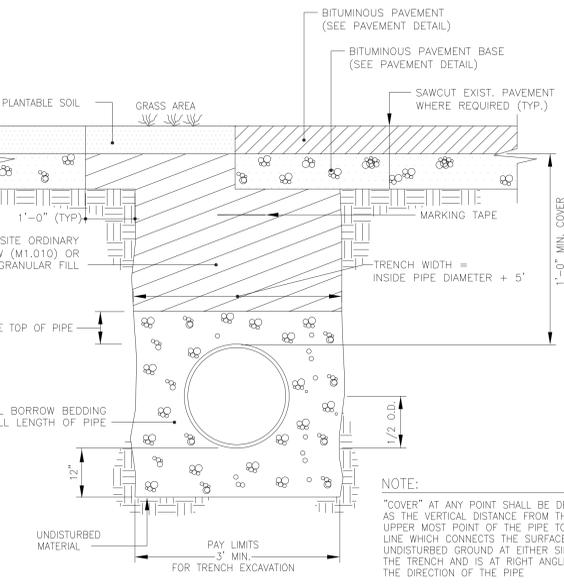
- NOTES:
- ALL CONCRETE SHALL BE CL. B (AE) CONCRETE AND COMPLY WITH SECTION M4.12.00 OF THE STANDARD SPECIFICATIONS.
 - CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH. IN AREAS WHERE BEARING SOILS HAVE BEEN DISTURBED, RESTRAINED JOINTS SHALL BE USED.

TEES		HORIZONTAL BENDS		VERTICAL BENDS		ANCHORAGES	
PIPE SIZE-D (DIA.)		PIPE SIZE-D (DIA.)		PIPE SIZE-D (DIA.)		PIPE SIZE-D (DIA.)	
A	6" 8" 10" 12" 16" 20"	BEND	6" 8" 12" 16" 20"	BEND	6" 8" 12" 16" 20"	BEND	6" 8" 12" 16" 20"
B	8" 10" 12" 16" 20"	X	1"-0" 1'-0" 1'-0" 1'-3" 1'-6"	L	1'-3" 1'-8" 2'-6" 3'-6" 4'-8"	R	2'-6" 3'-0" 4'-6" 5'-4" 6'-0"
C	10" 12" 16" 20"	Y	1'-0" 1'-6" 2'-0" 2'-6" 3'-0"	M	7" 8" 11" 1'-4" 1'-6"	S	2'-6" 2'-8" 3'-6" 4'-6" 5'-6"
D	12" 16" 20"	Z	1'-0" 1'-6" 2'-0" 2'-6" 3'-0"	N	7" 8" 11" 1'-4" 1'-6"	T	2'-0" 2'-8" 4'-0" 4'-6" 5'-0"
E	16" 20"	X	1'-0" 1'-6" 2'-0" 2'-6" 3'-0"	L	9" 1'-0" 1'-9" 2'-6" 3'-0"	V	1'-9" 2'-3" 2'-6" 3'-2" 3'-8"
		Y	1'-0" 1'-4" 1'-6" 1'-9" 2'-6"	M	7" 7" 10" 1'-0" 1'-2"	T	2'-6" 3'-4" 4'-0" 4'-6" 5'-6"
		Z	8" 10" 1'-2" 1'-4" 1'-6"	N	7" 7" 8" 10" 1'-0"	R	1'-6" 2'-0" 3'-0" 3'-8" 4'-3"
		X	1'-0" 1'-0" 1'-0" 1'-2" 1'-4"	L	6" 8" 10" 1'-0" 1'-2"	S	1'-3" 1'-9" 2'-0" 2'-4" 2'-6"
		Y	1'-0" 1'-0" 1'-0" 1'-4" 1'-6"	M	7" 7" 8" 10" 1'-0"	T	2'-0" 2'-6" 3'-0" 4'-6" 5'-9"
		Z	8" 10" 1'-2" 1'-4" 1'-6"	N	7" 7" 8" 10" 1'-0"		



HYDRANT
NOT TO SCALE

- NOTES:
- ALL CONCRETE SHALL BE CL. B (AE) CONCRETE AND COMPLY WITH SECTION M4.12.00 OF THE STANDARD SPECIFICATIONS.
 - CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH. IN AREAS WHERE BEARING SOILS HAVE BEEN DISTURBED, RESTRAINED JOINTS SHALL BE USED.



TYPICAL TRENCH FOR DRAINAGE INSTALLATION
NOT TO SCALE

- NOTE:
- "COVER" AT ANY POINT SHALL BE DEFINED AS THE VERTICAL DISTANCE FROM THE UPPER MOST POINT OF THE PIPE TO A LINE WHICH CONNECTS THE SURFACE OF UNDISTURBED GROUND AT EITHER SIDE OF THE TRENCH AND IS AT RIGHT ANGLES TO THE DIRECTION OF THE PIPE.



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KEYNOTE LEGEND:

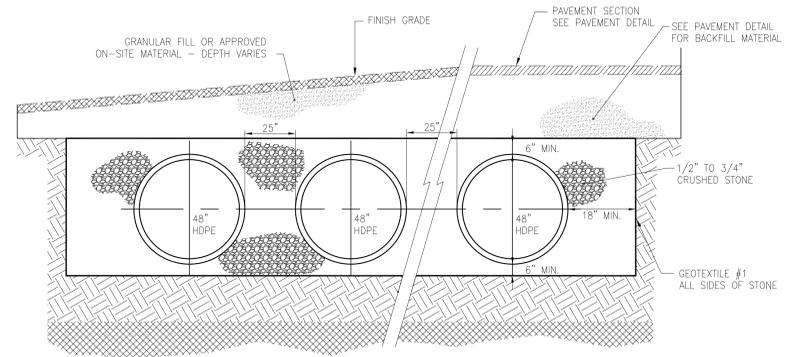
BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

KEYPLAN

DRAWING NAME:
SITE DETAILS No. 4

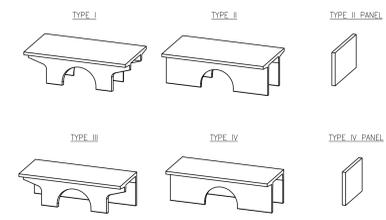
DRAWN BY: **AWB**
REVIEWED BY: **MJG**
SCALE: **AS NOTED**
JOB NO.: **14225.00**
DATE: **April 18, 2016**
DRAWING NUMBER: **C6.4**

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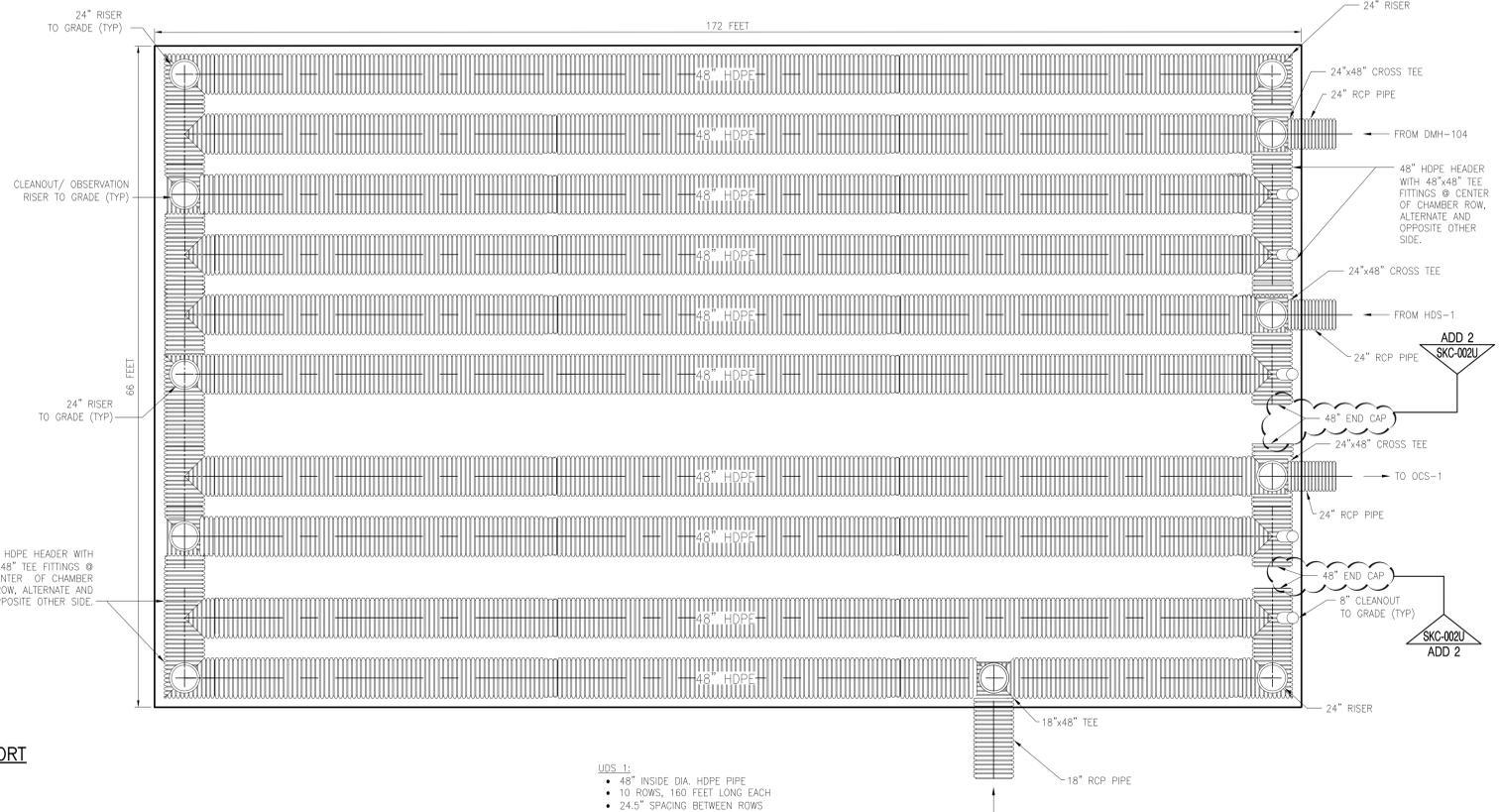
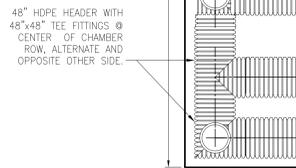
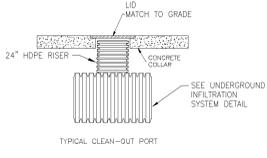
CROSS SECTION - UNDERGROUND DETENTION SYSTEMS (UDS)
NOT TO SCALE

NOTE:
"ANY MANUFACTURER'S NAMES AND/OR MODEL NUMBERS IDENTIFIED HEREIN ARE INTENDED TO ASSIST IN ESTABLISHING A GENERAL LEVEL OF QUALITY, CONFIGURATION, FUNCTIONALITY, AND APPEARANCE REQUIRED. THIS IS NOT A PROPRIETARY SPECIFICATION AND IT SHOULD BE NOTED THAT "OR APPROVED EQUIVALENT" APPLIES TO ALL PRODUCTS DENOTED HEREIN. IT IS UNDERSTOOD THAT ALL MANUFACTURERS WILL HAVE MINOR VARIATIONS IN CONFIGURATION, APPEARANCE, AND PRODUCT SPECIFICATION TO ENCOURAGE OPEN AND COMPETITIVE INVOLVEMENT FROM MULTIPLE MANUFACTURERS THAT ARE ABLE TO SUPPLY SIMILAR PRODUCTS."



UNDERGROUND DETENTION SYSTEM UNIT TYPES
NOT TO SCALE
(CONCRETE VAULT SYSTEM)

UNDERGROUND DETENTION SYSTEM #1 OBSERVATION PORT
NOT TO SCALE



- UDS 1:**
- 48" INSIDE DIA. HDPE PIPE
 - 10 ROWS, 160 FEET LONG EACH
 - 24.5" SPACING BETWEEN ROWS

UNDERGROUND DETENTION SYSTEMS (UDS-1)
NOT TO SCALE

ACCESS OPENING SPECIFICATION

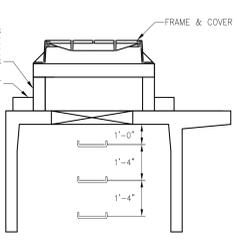
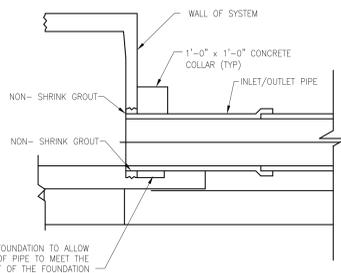
1. TYPICAL ACCESS OPENINGS FOR THE SYSTEM ARE 2'-0" IN DIAMETER. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE IN ALL DIRECTIONS FROM THE EDGE OF THE UNITS.
2. THE HIGHEST STEP IN THE UNIT IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE UNITS. ALL ENDING STEPS SHALL BE PLACED WITH A MAXIMUM DISTANCE OF 1'-4" BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE UNIT.
3. ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
4. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. AT LEAST ONE ACCESS SHALL BE PROVIDED OPENING PER SYSTEM FOR ACCESS AND INSPECTION.

PIPE OPENING SPECIFICATION

1. PIPE OPENINGS SHALL MAINTAIN A MINIMUM 1'-0" OF CLEARANCE FROM A VERTICAL EDGE OF THE UNIT.
2. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND A AGGREGATE GRADE FOR AT LEAST ONE PIPE LENGTH AS SHOWN. A STRUCTURAL GRADE CONCRETE OR GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
3. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH NON-SHRINK GROUT.

PIPE INSTALLATION INSTRUCTIONS

1. CLEAN AND LIGHTLY LUBRICATE ALL OF PIPE TO BE INSERTED.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.



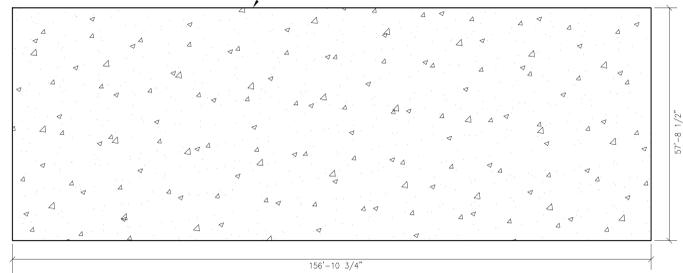
RISER / STAIR DETAIL
NOT TO SCALE
(CONCRETE VAULT SYSTEM)

SYSTEM SPECIFICATION

1. MANUFACTURER SHALL BE STORMTRAP, LLC, UNITED CONCRETE PRODUCTS, CONCRETE SYSTEMS INC, OR APPROVED EQUIVALENT.
2. CONTRACTOR SHALL SUBMIT MANUFACTURER'S SHOP DRAWINGS, INCLUDING PLANS, ELEVATIONS, SECTIONS, AND DETAILS, INDICATING LAYOUT, DIMENSIONS, FOUNDATION, COVER, AND JOINTS. INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET AND OUTLET PIPE OPENINGS.
3. CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS INCLUDING STORMWATER VOLUME SIZING, STRUCTURAL CALCULATIONS, AND BUOYANCY CALCULATIONS. TOTAL COVER: MIN. 2.25' MAX. 3.75' CONSULT MANUFACTURER FOR ADDITIONAL COVER OPTIONS.
5. THE SYSTEM SHALL BE WATER TIGHT.
6. CONCRETE CHAMBER SHALL BE DESIGNED FOR AASHTO HS-20 HIGHWAY LOADING. MIN. SOIL PRESSURE 2000 PSF.
7. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO UNIT INSTALLATION.
8. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE SHALL BE ASSUMED TO BE AT ELEVATION 18.62.
9. FOR STRUCTURAL CALCULATIONS THE SOIL DENSITY IS ASSUMED TO BE 120 PCF.
10. FOR FLOTATION CALCULATIONS THE GROUND WATER TABLE SHALL BE ASSUMED TO BE AT ELEVATION 18.62.
11. SYSTEM VOLUME = 34,548.57 C.F. / 0.79 A.F.

UNDERGROUND CONCRETE VAULT DETENTION SYSTEM (UDS-2)
NOT TO SCALE

COORDINATE PROPOSED LIGHT POLE FOUNDATIONS WITH SYSTEM LAYOUT

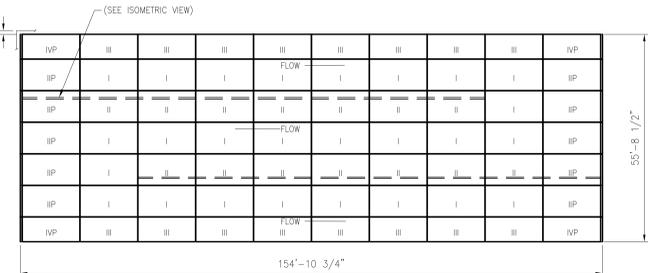


NOTES:

1. CONCRETE STRENGTH @ 28 DAYS, 55-8% ENTRAINED AIR, 4" MAX. SLUMP.
2. NET ALLOWABLE SOIL PRESSURE GREATER THAN OR EQUAL TO 2000 PSF.
3. SOIL CONDITIONS TO BE VERIFIED ON SITE.
4. 1'-0" OVERHANG AROUND OUTSIDE OF SYSTEM.
5. REBAR: ASTM A-615 GRADE 60, BLACK BAR.
6. DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF UNITS.
7. DIMENSION OF SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
8. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD.
9. THE CONTROL JOINTS CAN BE 16'-0" TO 24'-0" MAX APART.

CONCRETE FOUNDATION PLAN

NOT TO SCALE
(CONCRETE VAULT SYSTEM)



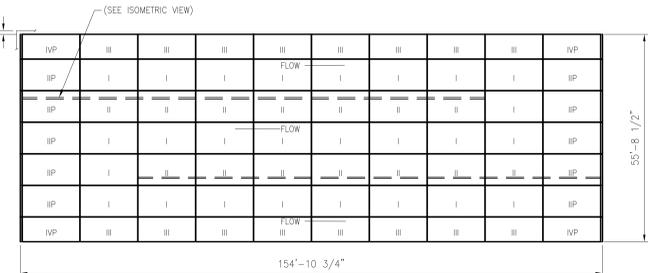
BILL OF MATERIALS

QTY	UNIT TYPE	DESCRIPTION	WEIGHT
26	I	4'-6"	15186
24	II	4'-6"	17263
10	III	4'-6"	14979
4	IV	4'-6"	15817
1	V	2'-6"	14165
0	SPV	4'-6"	VARIES
14	PANEL	6" THICK WALL PANELS	VARIES
14	JOINTWRAP	150' PER ROLL	
48	JOINTTARE	14.5' PER ROLL	

MAXIMUM SYSTEM COVER	SLAB THICKNESS	CONCRETE STRENGTH	REINFORCEMENT (BOTH DIRECTIONS)
6" - 1'-0"	8"	4000 psi	#4 @ 18" o.c.
>1'-0" - 2'-0"	8"	4000 psi	#4 @ 16" o.c.
>2'-0" - 3'-0"	8"	4000 psi	#4 @ 12" o.c.
>3'-0" - 4'-0"	8"	4000 psi	#4 @ 12" o.c.
>4'-0" - 5'-0"	8"	4000 psi	#5 @ 18" o.c.
>5'-0" - 6'-0"	8"	4000 psi	#5 @ 16" o.c.
>6'-0" - 7'-0"	8"	4000 psi	#5 @ 16" o.c.
>7'-0" - 8'-0"	9"	4000 psi	#5 @ 12" o.c.
>8'-0" - 9'-0"	10"	4000 psi	#5 @ 12" o.c.
>9'-0" - 10'-0"	10"	4500 psi	#5 @ 12" o.c.

CONCRETE FOUNDATION PLAN

NOT TO SCALE
(CONCRETE VAULT SYSTEM)



DESIGN CRITERIA
ALLOWABLE MAX GRADE = 21.00
ALLOWABLE MIN GRADE = 19.50
INSIDE HEIGHT ELEVATION = 16.75
SYSTEM INVERT = 12.25
SYSTEM VOLUME = 34,548.57 C.F. / 0.79 A.F.

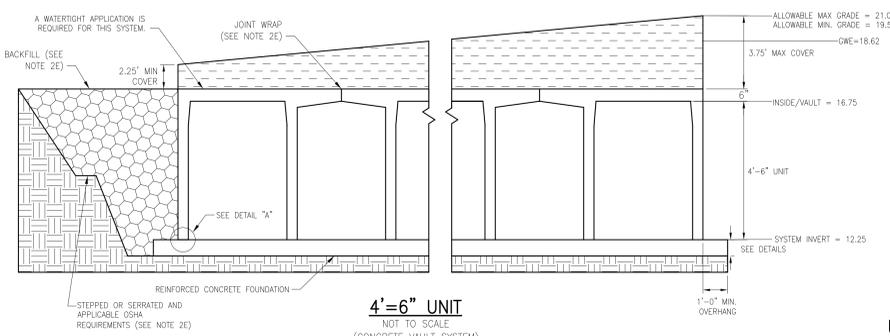
- NOTES:**
1. DIMENSION OF SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
 2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
 3. SP - INDICATES A UNIT WITH MODIFICATIONS.
 4. P - INDICATES A UNIT WITH A PANEL ATTACHMENT

DETAIL LAYOUT

NOT TO SCALE

INSTALLATION SPECIFICATIONS

1. MODULES SHALL BE MANUFACTURED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/OUTLET PIPE OPENINGS.
2. SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891-09, STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRE-CAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
 - A. THE MODULES SHALL BE PLACED ON LEVEL FOUNDATION WITH A 1'-0" OVERHANG ON ALL SIDES THAT SHALL BE POURED IN PLACE BY INSTALLING CONTRACTOR.
 - B. THE MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/4". IF THE SPACE EXCEEDS 3/4", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
 - C. THE PERIMETER HORIZONTAL JOINT OF THE MODULES SHALL BE SEALED TO THE FOUNDATION WITH PREFORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891-09, 8.8 AND 8.12. SEE DETAIL "A".
 - D. ALL EXTERIOR JOINTS BETWEEN ADJACENT MODULES SHALL BE SEALED WITH PRE-FORMED, GILD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN BONDED TO A MOVED HIGHLY PUNCTURE RESISTANT POLYMER WRAP CONFORMING TO ASTM C891-09 AND SHALL BE 0'-8" INTEGRATED PRIMER SEALANT AS APPROVED BY MANUFACTURER. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
 - A. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
 - B. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP - PEEL THE ADHESIVE TAPE (BUT) SIDE DOWN AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE MODULE SURFACE WHEN APPLYING.
 - C. THE FILL PLACED AROUND THE UNITS MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR OTHERWISE SPECIFIED BY ENGINEER. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES BOUNDING OR WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERATED TO PREVENT WEDGE ACTION. (REFERENCE ARTICLE 502.10 I.D.O.T., S.S.R.B.C.) CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MATERIAL SHALL BE CLEAN, CRUSHED, ANGULAR No.5 (AASHTO M43) AGGREGATE.
 - F. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE SELECTED WATER TIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.



4'-6" UNIT
NOT TO SCALE
(CONCRETE VAULT SYSTEM)

BID PACKAGE #3
FOUNDATIONS, STRUCTURAL STEEL, & SITEWORK

NORTH ARROW | ADDENDUM DRAWINGS

KEYPLAN

DRAWING NAME:

SITE DETAILS No. 5

DRAWN BY: AWB
REVIEWED BY: MJG
SCALE: AS NOTED
JOB NO.: 14225.00
DATE: April 18, 2016
DRAWING NUMBER: C6.5

