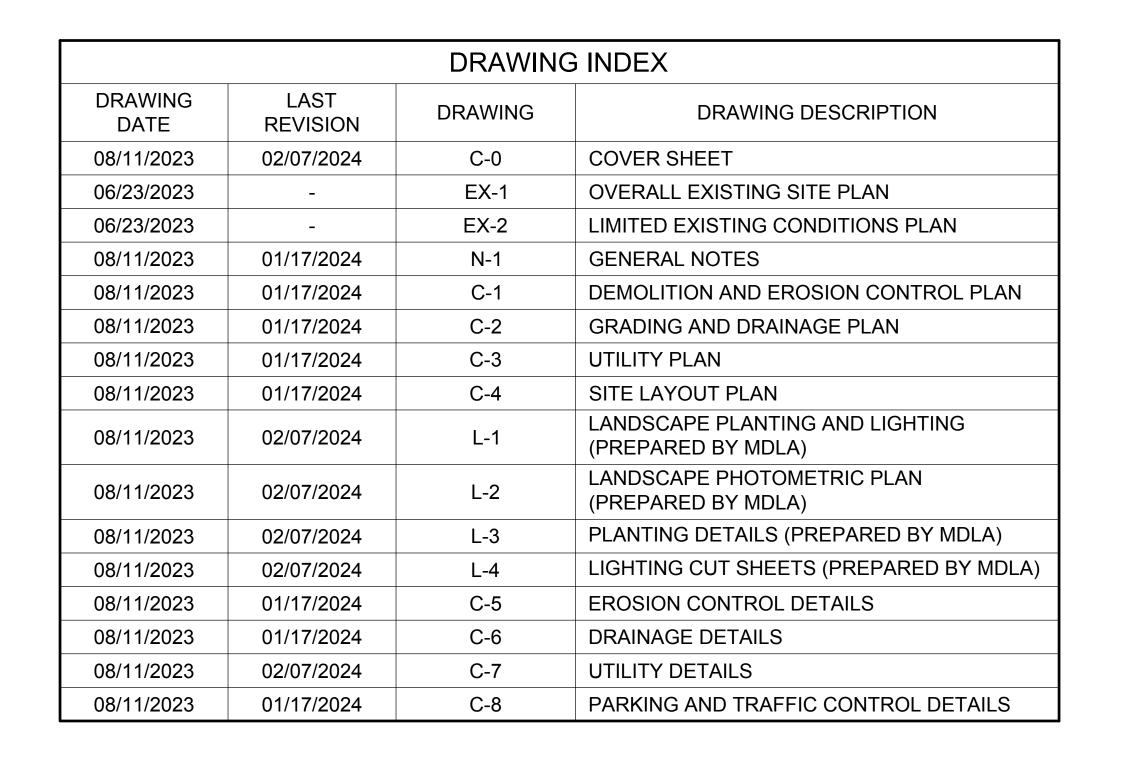
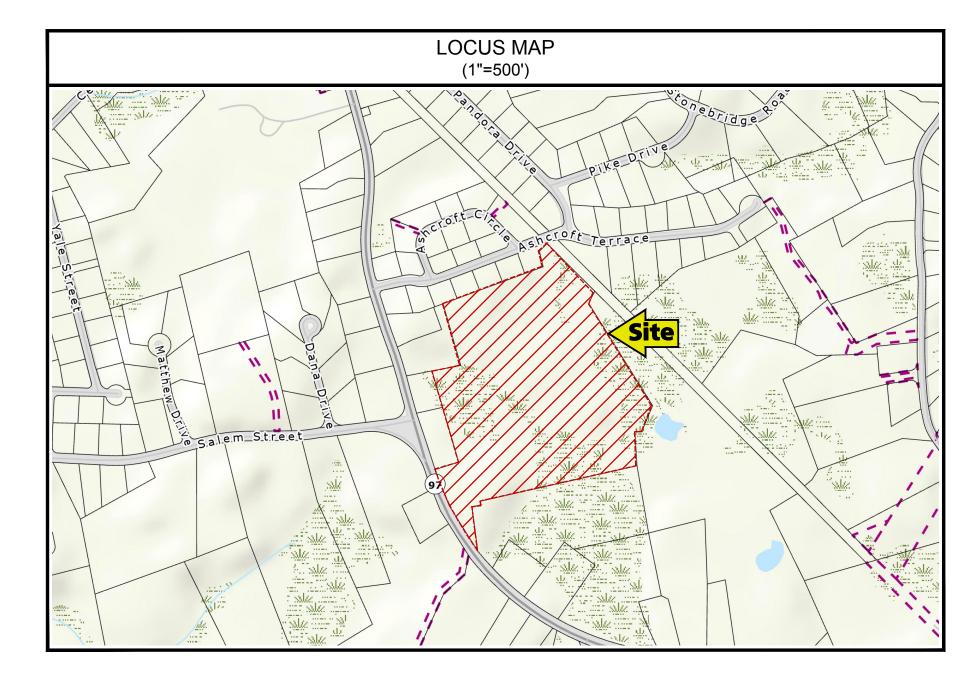
# SITE PLAN FOR REDEVELOPMENT 912 SALEM STREET - GROVELAND, MA





REVISED PER ADDITIONAL PEER REVIEW COMMENTS 02/07/2024



RJO'CONNELL & ASSOCIATES, INC.

**CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS** 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180 PHONE: 781.279.0180 RJOCONNELL.COM

MARK A. ABARE 144 HILLDALE AVENUE HAVERHILL MA 01832

#### **DESIGN TEAM**

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TRAFFIC: **VANASSE & ASSOCIATES INC** 35 NEW ENGLAND BUSINESS CENTER DRIVE SUITE 140 ANDOVER, MA 01810 ATTN: SCOTT THORNTON

LANDSCAPE ARCHITECT:

840 SUMMER STREET, SUITE 201A BOSTON, MA 02127 ATTN: MICHAEL D'ANGELO PHONE: (203) 592-4788

**ENVIRONMENTAL CONSULTANT:** LEC ENVIRONMENTAL CONSULTANTS 380 LOWELL STREET, SUITE 101 WAKEFIELD, MA 01880 ATTN: DAN WELLS PHONE: (781) 245-2500

#### GOVERNMENT/UTILITY CONTACTS

**BOARD OF HEALTH: TOWN HALL 183 MAIN STREET** GROVELAND, MA 01834 ATTN: ROSEMARY DECIE, RS PHONE: (978) 556-7211

PLANNING AND CONSERVATION: TOWN HALL **183 MAIN STREET** GROVELAND, MA 01834 ATTN: ANNIE SCHINDLER, **TOWN PLANNER** PHONE: (978) 556-7214

**ELECTRIC DEPARTMENT: GROVELAND MUNICIPAL ELECTRIC DEPARTMENT** 944 SALEM STREET GROVELAND, MA 01834 ATTN: KEVIN SNOW, MANAGER PHONE: (978) 372-1671

FIRE DEPARTMENT: **181 MAIN STREET** GROVELAND, MA 01834 ATTN: ROBERT VALENTINE, CHIEF PHONE: (978) 374-1923

POLICE DEPARTMENT: **181 MAIN STREET** GROVELAND, MA 01834 ATTN: JEFFREY GILLEN, CHIEF PHONE: (978) 521-1212

WATER AND SEWER DEPARTMENT: 23 SCHOOL STREET GROVELAND, MA 01834 ATTN: COLIN STOKES, SUPERINTENDENT GROVELAND, MA 01834 PHONE: (978) 556-7200 EXT.7219

**HIGHWAY DEPARTMENT:** TOWN HALL **183 MAIN STREET** GROVELAND, MA 01834 ATTN: RENNY CARROLL, HIGHWAY SUPERINTENDENT PHONE: (978) 556-7208

**INSPECTIONAL SERVICES:** TOWN HALL **183 MAIN STREET** ATTN: SAM JOSLIN, BUILDING COMMISSIONER, ZEO PHONE: (978) 556-7209

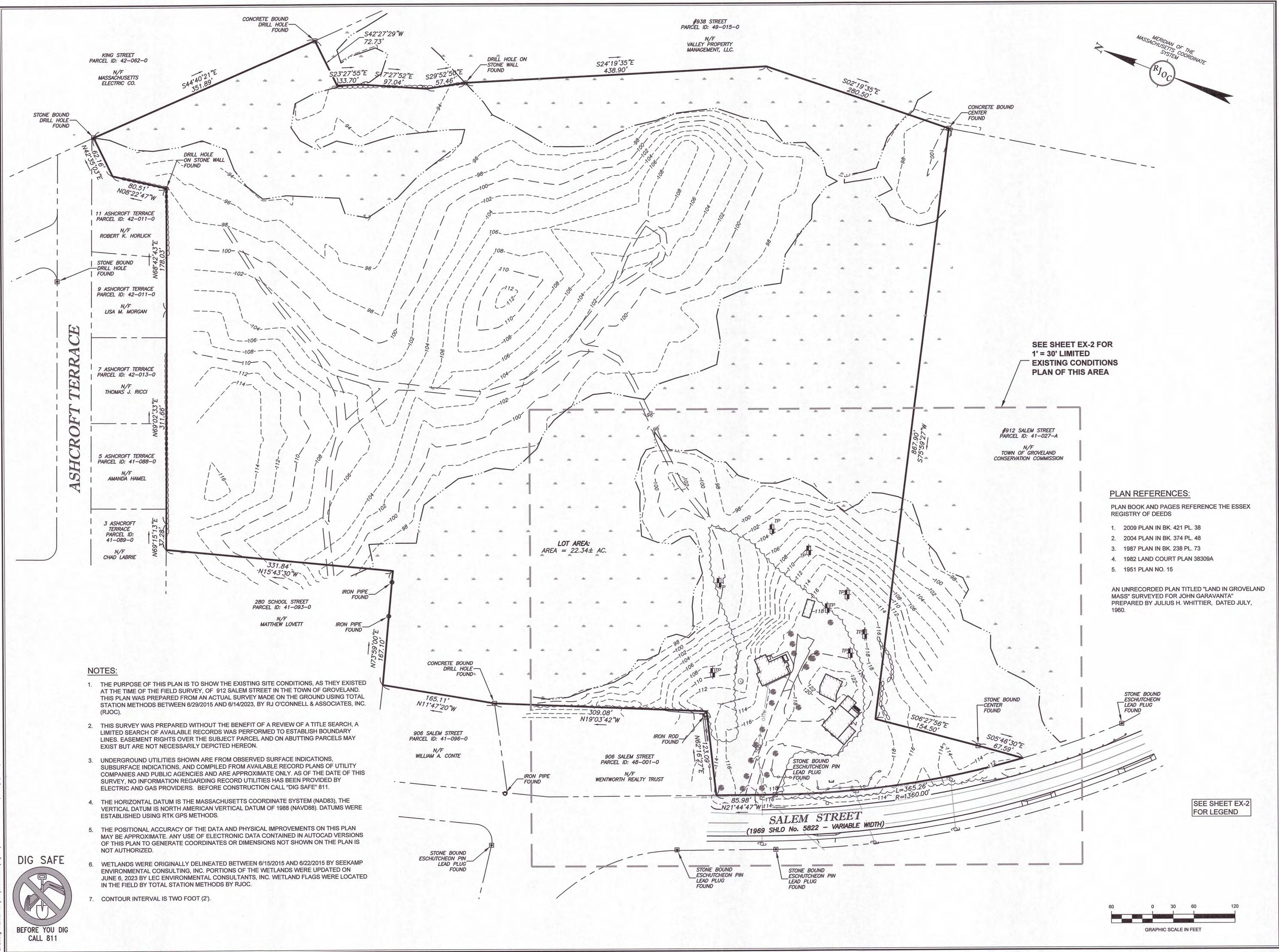
**TOWN ADMINISTRATOR:** TOWN HALL **183 MAIN STREET** GROVELAND, MA 01834 PHONE: (978) 556-7204

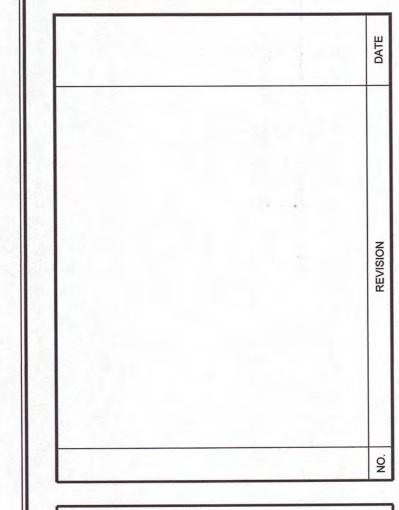
TOWN CLERK: TOWN HALL **183 MAIN STREET** GROVELAND, MA 01834 ATTN: ELIZABETH CUNNIFF, TOWN CLERK/ RECORDS ACCESS OFFICER PHONE: (978) 556-7221

CABLE DEPARTMENT **TOWN HALL 183 MAIN STREET** GROVELAND, MA 01834 ATTN: REBECCA OLDHAM, TOWN ADMIN. ATTN: CHRIS LIQUORI, CABLE MANAGER PHONE: (978) 556-7200

**C-0** 

PROJECT NUMBER:





Record Owner: **BRYAN FAMILY REALTY TRUST** WILLIAM T. BRYAN III, TRUSTEE 158 ACADEMY AVENUE WEYMOUTH, MA BK . 21008 PG. 437

Location: PARCEL ID: 41-95-0 912 SALEM STREET GROVELAND, MA

#### RIO'CONNELL & ASSOCIATES, INC.

**CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS** 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180 PHONE: 781.279.0180 RJOCONNELL.COM

### MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL, MA 01832

PROJECT NAME:

#### 912 SALEM STREET GROVELAND, MASSACHUSETTS



6/23/2023 Muth hy

1" = 60'

RJK / JWS

6/23/2023

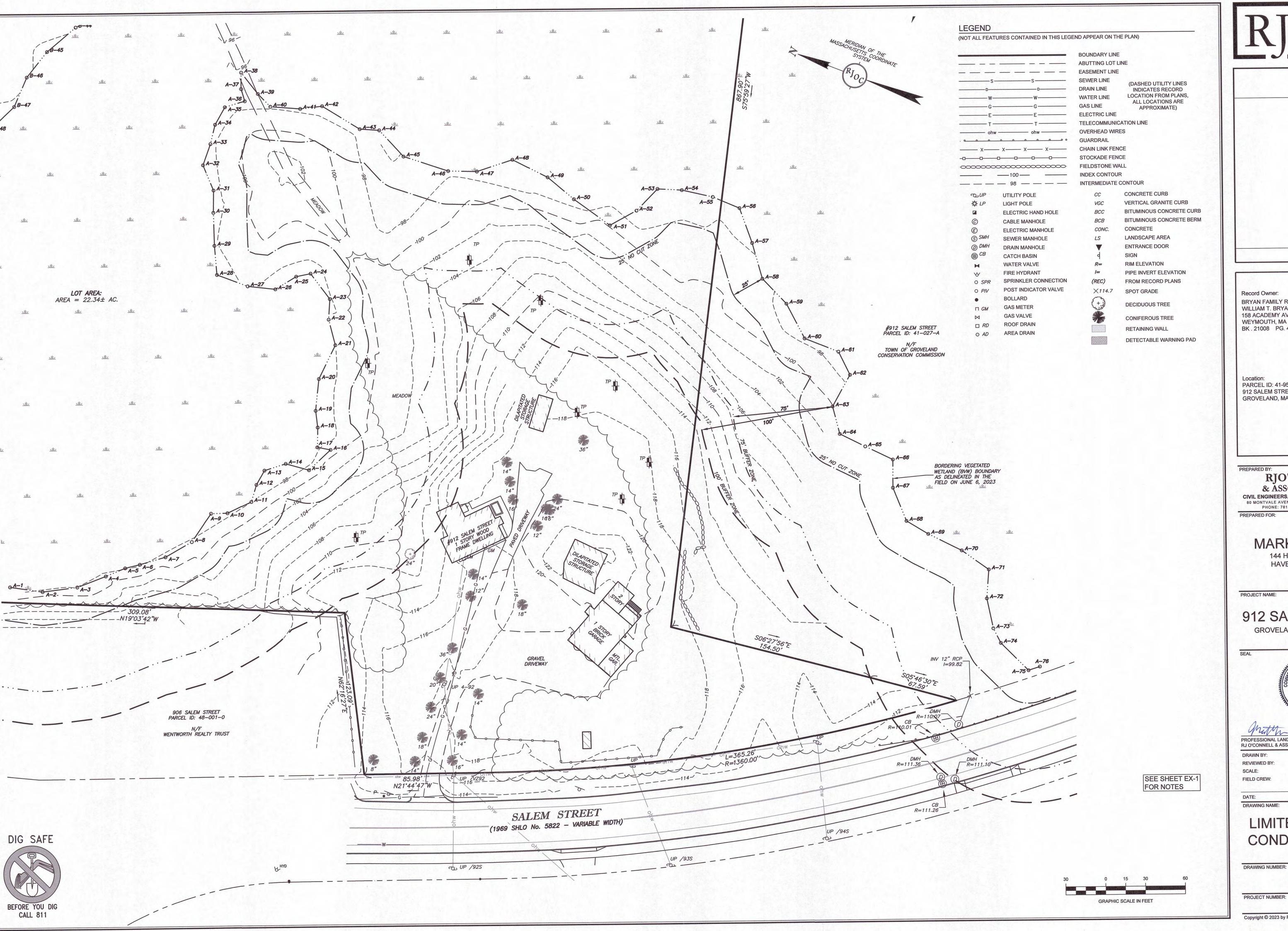
PROFESSIONAL LAND SURVEYOR FOR RJ O'CONNELL & ASSOCIATES, INC DRAWN BY:

REVIEWED BY: SCALE: FIELD CREW:

#### **OVERALL EXISTING** SITE PLAN

EX-1

PROJECT NUMBER:





Record Owner: BRYAN FAMILY REALTY TRUST WILLIAM T. BRYAN III, TRUSTEE 158 ACADEMY AVENUE WEYMOUTH, MA BK . 21008 PG. 437

Location: PARCEL ID: 41-95-0 912 SALEM STREET GROVELAND, MA

RJO'CONNELL

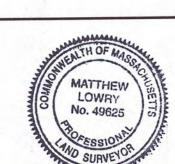
& ASSOCIATES, INC.

CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS

80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180
PHONE: 781.279.0180 RJOCONNELL.COM

MARK A. ABARE 144 HILLDALE AVENUE HAVERHILL, MA 01832

912 SALEM STREET GROVELAND, MASSACHUSETTS



PROFESSIONAL LAND SURVEYOR FOR RJ O'CONNELL & ASSOCIATES, INC

DRAWN BY: REVIEWED BY: FIELD CREW:

LIMITED EXISTING

**CONDITIONS PLAN** 

RJK / JWS

6/23/2023

22021

DRAWING NUMBER:

- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL HORIZONTAL CONTROL POINTS AND VERTICAL BENCH MARKS NECESSARY FOR THE WORK.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION/DISCONNECTION FEES REQUIRED TO CARRY OUT THE WORK INCLUDING BUT NOT LIMITED TO DEMOLITION.
- 4. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND MUNICIPAL REQUIREMENTS. NO ON-SITE BURIAL PITS ARE
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL INFORMATION SHOWN ON THESE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE EXISTING FIELD CONDITIONS AS SHOWN ON THESE
- 6. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/BUILDING PLANS FOR ITEMS SUCH AS: BUILDING LOCATIONS AND DIMENSIONS, EXIT PORCHES, TRUCK DOCKS, UTILITY PENETRATIONS AND SIDEWALK LAYOUT. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER IN WRITING OF ANY DISCREPANCIES ENCOUNTERED.
- 7. ALL CONSTRUCTION DUMPSTERS SHALL BE PROPERLY MAINTAINED. ALL DUMPSTERS SHALL BE LOCATED ON A BITUMINOUS CONCRETE OR CONCRETE SURFACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRASH DISPOSAL ON A REGULAR BASIS AND SHALL ENSURE THAT THE DUMPSTER AREAS ARE PROPERLY MAINTAINED.
- 8. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE GENERAL UPKEEP AND ROUTINE MAINTENANCE OF THE ENTIRE SITE TO ENSURE AN AESTHETICALLY PLEASING APPEARANCE DURING ALL PHASES OF CONSTRUCTION.
- UNLESS OTHERWISE INDICATED, AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL
- 10. EXISTING LANDSCAPE AREAS SHALL BE KEPT FREE OF DEBRIS AND SHALL BE MAINTAINED FREE OF PHYSICAL DAMAGE. DAMAGED PLANTS SHALL BE REPLACED IN KIND.
- 11. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL MATERIAL AND LABOR ASSOCIATED WITH TEMPORARY TRAFFIC CONTROL DEVICES FOR ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH M.U.T.C.D. STANDARDS AND AS APPROVED BY THE OWNER'S REPRESENTATIVE.
- 12. NO AUTHORIZED CONSTRUCTION ACTIVITY SHALL OCCUR ON OR AFFECT ABUTTING PROPERTIES. IF THE CONTRACTOR MUST WORK ON AN ABUTTING PROPERTY, WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE OWNER OF SAID PROPERTY AND SHALL BE PROVIDED TO THE OWNER AND/OR OWNER'S REPRESENTATIVE PRIOR TO THE START OF
- 13. IN THE EVENT OF A HAZARDOUS LEAK AND/OR SPILL THE OWNER, OWNER'S REPRESENTATIVE AND/OR GENERAL CONTRACTOR WILL CONTACT THE DEPARTMENT OF PUBLIC HEALTH, THE FIRE DEPARTMENT, AND DEP'S HAZARDOUS WASTE INCIDENT RESPONSE GROUP AT (617) 792-7653.
- 14. ALL TYPES OF FILL MATERIAL IMPORTED TO THE SITE MUST BE CLEAN AND SUITABLE FOR THE USE AS SPECIFIED IN THE SITE WORK SPECIFICATIONS. THE CONTRACTOR WILL PROVIDE THE OWNER'S GEOTECHNICAL ENGINEER AND/OR REPRESENTATIVE WITH RECORDS INDICATING THE TYPE, QUANTITY, ORIGIN AND SOURCE OF ANY FILL MATERIAL IMPORTED TO THE SITE.
- 15. IF REQUIRED AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL PROVIDE THE OWNER AND/OR OWNER'S REPRESENTATIVE A COMPLETE SET OF AS-BUILT PLANS. THE AS-BUILT PLANS ARE TO BE PREPARED BY AND STAMPED BY A LICENSED PROFESSIONAL SURVEYOR. THE AS-BUILT PLAN WILL INCLUDE BUILDING LOCATION AND DIMENSIONS, FINISH FLOOR ELEVATIONS, LOCATION OF UTILITIES (RIM, INVERT, PIPE SIZE AND TYPE TO BE PROVIDED FOR SANITARY AND STORM DRAIN STRUCTURES), CURBING, ABOVE GRADE FEATURES, STRIPING, SIGNAGE, LANDSCAPING, ETC. AS
- 16. SITE WORK CONSTRUCTION SHALL MEET OR EXCEED THE MUNICIPALITY'S ENGINEERING AND/OR DPW SPECIFICATIONS.
- 17. THE CONTRACTOR SHALL NOTIFY THE MUNICIPALITY AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE COMMENCEMENT OF SITE WORK CONSTRUCTION ACTIVITIES.

#### II. EROSION CONTROL NOTES:

- 1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AND/OR CONSTRUCTED IN ACCORDANCE WITH THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, DATED MARCH 1997, REPRINTED MAY 2003, AND ALL LOCAL MUNICIPAL REGULATIONS.
- 2. EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE IN PLACE AND FUNCTIONING PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION, CLEARING AND GRUBBING ACTIVITIES OR EARTHWORK OPERATIONS, LOCATION OF THE EROSION CONTROL BARRIER MUST BE STAKED BY THE SITE SURVEYOR AND/OR SITE ENGINEER, AND MUST BE INSPECTED AND VERIFIED TO THE APPROPRIATE TOWN OFFICIALS. IN WRITING, BY THE SITE SURVEYOR AND/OR SITE ENGINEER PRIOR TO CONSTRUCTION. THE EROSION CONTROL BMP'S SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND FINISHED GROUND COVER IS ESTABLISHED. ALL EROSION CONTROL BMP'S SHALL BE INSTALLED ON-SITE AND NOT ENCROACH ONTO ABUTTING PROPERTIES
- 3. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES AT THE SITE, THE CONTRACTOR SHALL ENGAGE AN INDIVIDUAL WITH SPECIFIC PROFESSIONAL TRAINING AND EXPERTISE IN EROSION AND SEDIMENT CONTROL. THE EROSION CONTROL MONITOR SHALL PREPARE A WEEKLY REPORT WHICH SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE SHOWN TO LOCAL, STATE, AND FEDERAL AGENTS UPON REQUEST. THIS REPORT SHALL INDICATE THE STATUS OF THE EROSION CONTROLS AND ANY MAINTENANCE REQUIRED AND PERFORMED. THIS REPORT SHALL CONFORM TO THE REQUIREMENTS OF THE EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.
- 4. THE PROJECT REQUIRES AN EPA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL PERFORM ALL WORK INCLUDING BUT NOT LIMITED TO INSTALLATION. INSPECTIONS, CLEANING, REPAIRING, ETC. OF EROSION CONTROL MEASURES INSTALLED IN ACCORDANCE WITH THE STORMWATER POLLUTION PROTECTION PLAN (SWPPP).
- 5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND CLEANED, REPAIRED OR REPLACED AS NECESSARY THROUGH-OUT CONSTRUCTION. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AFTER EACH STORM EVENT AS OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). REFER TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR DETAILS REGARDING THE TYPE. INSTALLATION. INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- 6. IT SHOULD BE NOTED THAT THE EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS DEPICT THE MINIMUM REQUIRED AND ARE REPRESENTATIVE OF A SINGLE PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SITING, RELOCATION AND AUGMENTATION OF EROSION CONTROL BMPS AS THE PROJECT PROGRESSES AND SITE CONDITIONS CHANGE.
- 7. THE LIMIT OF WORK LINE FOR THE SITE TO BE CLEARED AND GRUBBED SHALL BE WITH SAME AS THE LIMIT OF WORK LINE NECESSARY FOR GRADING PURPOSES (I.E. THE GRADING LIMITS AROUND THE PERIMETER OF THE PROJECT AREA).
- 8. THE CONTRACTOR SHALL KEEP ON-SITE, AT ALL TIMES, ADDITIONAL WATTLES, FILTER BAGS, SILT FENCE, ETC. FOR INSTALLATION TO MITIGATE ANY EMERGENCY CONDITION.
- 9. THE PROPOSED ON-SITE DRAINAGE SYSTEM SHALL BE INSTALLED AS SOON AS PRACTICABLE AND ALL INLETS PROTECTED WITH FILTER BAGS (SEE DETAIL). NO SEDIMENT SHALL BE ALLOWED TO ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEM AT ANY TIME
- 10. EARTHWORK ACTIVITIES ON SITE SHALL BE PERFORMED IN SUCH A MANNER THAT DIRECTS RAINFALL RUNOFF TO THE APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICE (BMPS) AS DEPICTED ON DRAWING C-1 TITLED "DEMOLITION AND EROSION CONTROL PLAN."
- 11. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETER WITH STAKED WATTLES AND/OR SILTATION FENCING TO PREVENT AND/OR TO CONTROL SILTATION AND EROSION. THE LOCATION OF THE STOCKPILE MAY BE MOVED AS APPROVED BY THE EROSION CONTROL MONITOR. STOCKPILES SHALL BE COVERED SO THAT STORMWATER CANNOT INFILTRATE MATERIALS AND THEREBY RENDER THE MATERIAL UNSUITABLE FOR USE AS FILL.
- 12. THE CONSTRUCTION ENTRANCE/EXIT AREA TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING AND DISCHARGE OF SEDIMENT OFF-SITE. ALL SEDIMENT SPILLED, DROPPED, TRACKED OR OTHERWISE DEPOSITED ON THE PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY.
- 13. ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE TEMPORARILY BEEN SUSPENDED FOR MORE THAN FOURTEEN (14) DAYS. WHEN FINAL GRADES ARE ACHIEVED IN ANY PORTION OF THE SITE, STABILIZATION MEASURES SHALL BE IMPLEMENTED WITHIN THREE (3) DAYS. ALL DISTURBED AREAS ON-SITE MUST BE PERMANENTLY STABILIZED AS SHOWN ON THE SITE LANDSCAPE PLAN. PERMANENT STABILIZATION MUST BE UNIFORM AND COMPLETE. AREAS WHICH REMAIN DISTURBED BUT INACTIVE FOR AT LEAST FOURTEEN (14) DAYS SHALL RECEIVE TEMPORARY SEEDING IN ACCORDANCE WITH THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES. IN ALL CASES, STABILIZATION MEASURES SHALL BE IMPLEMENTED AS SOON AS POSSIBLE IN ACCORDANCE WITH THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES. THE EROSION CONTROL BARRIER MUST BE MAINTAINED UNTIL SITE VEGETATION IS STABILIZED AND INSPECTED BY THE OWNER'S REPRESENTATIVE AND/OR THE TOWN ENGINEER FOR SITE COMPLIANCE.

- 14. ANY DEWATERING ACTIVITIES SHALL DISCHARGE TO A TEMPORARY BASIN, SETTLING TANK OR OTHER MEASURE TO ALLOW SETTLING OF SEDIMENT BEFORE RELEASE TO THE DRAINAGE SYSTEM. A DEWATERING PIT MUST BE CONSTRUCTED A MINIMUM DISTANCE OF FIFTY (50) FEET ON THE UPLAND SIDE FROM THE EROSION CONTROL BARRIER. LOCATION TO BE CONFIRMED BY THE SITE ENGINEER.
- 15. THE LOCATION OF TEMPORARY DRAINAGE SWALES AND SEDIMENTATION TRAPS SHALL BE RELOCATED AS REQUIRED AS CONSTRUCTION PROGRESSES.
- 16. FILTER BAGS ARE TO BE INSTALLED AT ALL NEW AND EXISTING CATCH BASINS AS INDICATED ON DWG. C-1 AND REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED. FILTER BAGS ARE TO BE MAINTAINED AS OUTLINED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). NO SEDIMENT SHALL BE ALLOWED TO ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.
- 17. TO MINIMIZE THE MIGRATION OF DUST AND SILT FROM THE CONSTRUCTION SITE, THE FOLLOWING MEASURES SHALL BE IMPLEMENTED AS REQUIRED:
- SPRAY DISTURBED AREAS WITH WATER DURING DRY AND WINDY DAYS
- WASH WHEELS OF VEHICLES BEFORE LEAVING THE SITE
- PERIODICALLY CLEAN SURROUNDING ROADWAYS NEAR THE ENTRANCE TO THE SITE ALL VEHICLES HAULING MATERIAL TO AND FROM THE SITE SHALL PLACE SECURE COVERS OVER THEIR LOADS
- 20. THE CONTRACTOR SHALL ANTICIPATE AND MODIFY EROSION CONTROL MEASURES BASED ON PAST, CURRENT AND FORECASTED WEATHER CONDITIONS, SEASON AND ANTICIPATED FUTURE CONSTRUCTION ACTIVITIES.
- 21. UPON COMPLETION OF ALL SITE WORK CONSTRUCTION, SITE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL BMPS, ON-SITE CATCH BASINS AND PARTICLE SEPARATORS AND REMOVE ALL SEDIMENT AND TRASH DEBRIS THAT HAS ACCUMULATED WITHIN SAID BMPS AND STRUCTURES DURING THE COURSE OF CONSTRUCTION. ALL ON-SITE CATCH BASINS AND PARTICLE SEPARATORS SHALL BE PUMPED 'DRY' AT THE CONCLUSION OF SITEWORK ACTIVITIES.
- 22. PRIOR TO THE START OF ANY AUTHORIZED ACTIVITY THE GENERAL CONTRACTOR SHALL SUBMIT A DUST CONTROL PLAN TO THE ENGINEER. THE DUST CONTROL PLAN WILL OUTLINE MEASURES TO CONTROL AND MITIGATE DUST DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION AND IN ALL TYPES OF WEATHER CONDITIONS. THE APPROVED DUST CONTROL PLAN SHALL BE IMPLEMENTED DURING ALL PHASES OF CONSTRUCTION AND WILL CONTINUE UNTIL PROJECT
- 23. WINTER CONSTRUCTION AND STABILIZATION: THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15

SEDIMENT BARRIERS: DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF

MULCHING: ALL AREAS SHALL BE CONSIDERED UNSTABLE UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1000 SF OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A 1-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, ASPHALT EMULSION CHEMICAL, OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH WORKDAY DURING FINAL GRADING ACTIVITIES.

SOIL STOCKPILING: STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND REESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL

SEEDING: BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOOMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1000 SF. ALL AREAS SEEDED DURING THE WINTER WILL BE INSPECTED IN THE SPRING BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE RE-VEGETATED IN THE SPRING.

WINTER STABILIZATION OF DITCHES AND CHANNELS: ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH

INSTALL A SOD LINING IN THE DITCH: A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER NSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD ONTO AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING SOD AT THE BASE OF THE DITCH WITH JUTE OR PLASTIC MESH TO PREVENT THE SOI FROM SLOUGHING DURING FLOW CONDITIONS. STALL A STONE LINING IN THE DITCH: A DITCH MUST BE LINED WITH STONE RIP RAP BY NOVEMBER 15. CONTACT

WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. WINTER STABILIZATION OF DISTURBED SLOPES: ALL STONE-COVERED SLOPES GREATER THAN 15% MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. AND ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED

REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO

ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE. TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1000 SF AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST 3 INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR

BY SEPTEMBER 1. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING

SOD: THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE. EROSION CONTROL MIX: EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

STONE RIP RAP: PLACE A LAYER OF STONE RIP RAP ON THE SLOPE BY NOVEMBER 15. CONTACT THE PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIP RAP.

WINTER STABILIZATION OF DISTURBED SOILS: BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN:

TEMPORARY VEGETATION: BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1000 SF, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SF, AND ANCHOR THE MULCH WITH PLASTIC NETTING, MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST 3 INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR WINTER PROTECTION AS DESCRIBED BELOW. SOD: STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION

INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. MULCH: BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1000 SF ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED

#### III. DEMOLITION NOTES

COMMENCEMENT OF DEMOLITION ACTIVITIES.

- PRIOR TO THE START OF ANY DEMOLITION ACTIVITIES, ON-SITE EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON DRAWING C-1 MUST BE INSTALLED AND APPROVED BY THE OWNER'S REPRESENTATIVE AND REQUIRED
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT ALL UTILITY SERVICES TO EXISTING STRUCTURE(S) MAY NOT BE SHOWN. CONTRACTOR TO VERIFY UTILITY LOCATIONS VIA DIG SAFE PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION ACTIVITY. EXISTING WATER AND SEWER SERVICES WILL BE CUT AND CAPPED AT THE MAIN IN ACCORDANCE WITH THE DPW STANDARDS. EXISTING GAS, ELECTRICAL AND TELEPHONE SERVICES WILL BE REMOVED PER UTILITY COMPANY SPECIFICATIONS. ALL UTILITIES SERVICING BUILDING(S) WILL BE DECOMMISSIONED PRIOR TO THE
- 3. ANY REUSE OF EXISTING GRANULAR PAVEMENT SUBBASE MATERIAL AND EXCAVATED MATERIAL SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND PROTECTING ALL EXISTING AND NEW DRAINAGE AND UTILITIES TO REMAIN AND/OR BE CONSTRUCTED.
- 5. DURING ON-SITE DEMOLITION WORK, STORMWATER RUNOFF SHALL BE CONTROLLED AND DIRECTED TOWARD TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS SHOWN ON DWG. C-1.
- 6. SITE CONTRACTOR SHALL REMOVE EXISTING STRUCTURES INDICATED TO BE DEMOLISHED, INCLUDING BUT NOT LIMITED TO FOUNDATIONS, UTILITIES, BUILDING RELATED APPURTENANCES, LANDSCAPED BEDS, BITUMINOUS PAVEMENT AND ALL OTHER UNSUITABLE MATERIAL TO FIRM NATURAL GROUND AND TO A HORIZONTAL DISTANCE OF TEN (10') FEET BEYOND THE PROPOSED BUILDING LINE.

- 7. EXISTING STRUCTURES, LIGHT POLE BASES, CONDUIT AND FIXTURES TO BE REMOVED ARE TO BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- 8. IF GROUNDWATER IS ENCOUNTERED DURING THE REMOVAL OF UNSUITABLE MATERIALS, THE CONTRACTOR SHALL LIMIT THE SIZE OF THE EXCAVATION TO THAT WHICH CAN BE ADEQUATELY MANAGED BY THE CONTRACTOR'S CHOSEN

#### IV. GRADING AND DRAINAGE NOTES:

- SITE GRADING ACTIVITIES SHALL NOT PROCEED UNTIL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE OWNER'S REPRESENTATIVE AND/OR ENGINEER.
- 2. THE EXISTING UTILITIES SHOWN HEREON SHALL BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL VERIFY VIA TEST PIT EXCAVATION THE LOCATION AND ELEVATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER OF DISCREPANCIES ENCOUNTERED IN THE
- 3. ALL PROPOSED STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) AND STRUCTURES SHALL BE PRECAST CONCRETE UNLESS NOTED OTHERWISE. HIGH DENSITY POLYETHYLENE PIPE (HDPE) SHALL CONFORM TO AASHTO DESIGNATIONS M294 AND M252, AND SHALL BE N-12 PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS (ADS) OR APPROVED EQUAL. PIPE JOINTS SHALL BE INTEGRAL BELL AND SPIGOT, SOIL TIGHT (ST) WITH FACTORY INSTALLED, O-RING RUBBER GASKETS CONFORMING TO ASTM F477.
- 4. ALL CATCH BASINS AND OTHER DRAINAGE STRUCTURES TO BE INSTALLED NEW, REPLACED, OR RECONSTRUCTED SHALL CONFORM TO CURRENT MASSACHUSETTS HIGHWAY DEPARTMENT STANDARDS AS PUBLISHED BY MASSDOT. ALL NEW CATCH BASINS SHALL BE EQUIPPED WITH APPROPRIATELY SIZED "TEE" OR HOODS AND A FOUR (4") FOOT SUMP.
- 5. ALL MANHOLES, CATCH BASINS AND PARTICLE SEPARATORS SHALL BE PUMPED "DRY" AND CLEANED AT THE END OF CONSTRUCTION. SEDIMENT AND OTHER POLLUTANTS SHALL BE REMOVED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
- 6. EXISTING PIPES AND/OR CULVERTS THAT ARE TO REMAIN WITHIN THE LIMIT OF WORK AREA SHALL BE CLEANED OF ANY DEBRIS AND/OR SEDIMENTATION. SEDIMENTATION AND OTHER POLLUTANTS SHALL BE REMOVED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
- ALL PROPOSED DRAINAGE STRUCTURES AND PIPES SHALL MEET HEAVY-DUTY TRAFFIC (H20) LOADING AND BE INSTALLED IN ACCORDANCE WITH MASSDOT AND/OR DPW SPECIFICATIONS.
- 8. ALL ROOF DRAIN CONNECTIONS SHALL BE INSTALLED TO A POINT TEN (10') FEET FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED.

- PRIOR TO THE START OF ANY AUTHORIZED ACTIVITY THE SITE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE TOWN OF GROVELAND. THE CONTRACTOR SHALL OBTAIN FINAL CERTIFICATIONS AND/OR SIGN OFFS UPON MUNICIPALITY AND/OR UTILITY PROVIDER ACCEPTANCE OF WORK WITH COPIES OF FINAL ACCEPTANCE DOCUMENTATION PROVIDED TO THE OWNER.
- THE SITE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS AND/OR CONNECTION FEES REQUIRED FOR THE INSTALLATION OF ALL SITE UTILITIES.
- DUE TO THE SCALE OF THE SITE WORK DRAWINGS, EXACT LOCATION OF UTILITY STUBS FOR BUILDING CONNECTIONS SHALL BE VERIFIED WITH THE BUILDING DRAWINGS. SERVICE STUBS TO THE BUILDINGS SHALL BE INSTALLED TO A POINT TEN FEET (10") FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED AND SHALL BE PROVIDED WITH A
- 4. ALL UTILITIES, PIPE MATERIALS, STRUCTURES, AND INSTALLATION METHODS, SHALL CONFORM TO THE MUNICIPALITY'S DPW/ENGINEERING DEPARTMENT STANDARDS AND REQUIREMENTS UNLESS OTHERWISE NOTED OR DETAILED.
- DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
- 6. UTILITY CONTRACTOR MUST BE LICENSED TO PERFORM WORK IN THE MUNICIPALITY
- 7. ALL REQUIRED UTILITY CROSSING ENCASEMENTS (CONCRETE) SHALL EXTEND TEN FEET (10') FROM EITHER SIDE OF THE
- 8. EXISTING UTILITY CASTINGS INDICATED TO REMAIN SHALL BE RESET TO FINISHED GRADE AS REQUIRED AND SHOWN ON DWG. C-2, GRADING AND DRAINAGE PLAN, AND DWG. C-3 UTILITY PLAN.
- 9. DETECTABLE WARNING TAPE SHALL BE INSTALLED A MINIMUM ONE (1') FOOT ABOVE THE UTILITY IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY'S REQUIREMENTS.

#### B. WATER NOTES

- 1. ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED THE MUNICIPALITY'S WATER DEPARTMENT'S STANDARDS.
- ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 5'-0" AND MAXIMUM OF 6'-0" OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE. GREATER DEPTHS ARE PERMITTED WHERE REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. DETECTABLE WARNING TAPE TO BE INSTALLED ABOVE THE WATER MAIN IN ACCORDANCE WITH THE WATER DEPARTMENT'S REQUIREMENTS
- GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR SHALL NOTE THAT NOT ALL FITTINGS ARE NOTED, SHOWN OR INDICATED.
- 4. ALL POTABLE WATER MAINS 3" OR LARGER SHALL BE CEMENT LINED DUCTILE IRON PIPE CLASS 52 AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED FITTINGS AND GATE VALVES. FITTINGS SHALL BE MECHANICAL JOINT, DUCTILE IRON CLASS 350 WITH RESTRAINT DEVICES (MEGALUG) AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
- 5. DOMESTIC WATER SERVICES 2-1/2" AND SMALLER SHALL BE TYPE K COPPER TUBING AND SHALL BE INSTALLED WITH APPROPRIATELY SIZED CORPORATION STOP, APPROVED SADDLE, CURB STOP AND BOX.
- 6. A MINIMUM DISTANCE OF TEN (10) FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAINS AND WATER MAINS, WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF TEN (10) FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST EIGHTEEN (18) INCHES BELOW THE INVERT OF THE WATER MAIN. A MINIMUM OF EIGHTEEN (18") INCHES VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER MAINS CROSS STORM DRAIN LINES.
- MAINTAIN A MINIMUM SEPARATION OF THREE FEET (3') BETWEEN GAS AND WATER MAINS (MEASURED FROM THE
- ALL HYDRANTS SHALL MEET THE MUNICIPALITY'S WATER AND FIRE DEPARTMENT REQUIREMENTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE WATER AND FIRE DEPARTMENT REQUIREMENTS.
- 9. ALL NEW GATE VALVES INSTALLED FOR THIS PROJECT SHALL BE COORDINATED WITH THE MUNICIPALITY TO DETERMINE
- 10. ALL WATER MAIN FITTINGS, TEES, HYDRANTS, ETC. SHALL BE RESTRAINED WITH APPROPRIATELY SIZED THRUST
- 11. WATER METERS AND BACK FLOW PREVENTERS SHALL BE LOCATED WITHIN THE BUILDING. ALL BACKFLOW PREVENTERS SHALL BE REGISTERED WITH THE DEPARTMENT OF PUBLIC WORKS.
- 12. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH MUNICIPALITY REQUIREMENTS. IN THE ABSENCE OF STANDARDS, THEY SHALL CONFORM TO THE REQUIREMENTS IN THE SITEWORK SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY TESTS. FLUSHING AND INSPECTIONS AS REQUIRED BY THE MUNICIPALITY'S WATER DEPARTMENT. COPIES OF TEST RESULTS WILL BE SUBMITTED TO THE WATER DEPARTMENT.
- A SEPARATE SUBSURFACE SEWAGE DISPOSAL SYSTEM PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE TOWN BOARD OF HEALTH AND MA TITLE 5. DESIGN TO BE SUBMITTED FOR REVIEW AND APPROVAL BY THE BOARD OF HEALTH.
- WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST EIGHTEEN INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT. THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN FEET (10') ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IF MECHANICAL JOINT PIPE IS NOT USED THEN BOTH THE WATER MAIN AND SANITARY SEWER SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF TEN (10') FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.

#### VI. PARKING AND TRAFFIC CONTROL NOTES:

- ACCESSIBLE PARKING SPACES SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (A.D.A.) ACCESSIBILITY GUIDELINES AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REGULATION, 521 CMR, LATEST EDITIONS UNLESS OTHERWISE NOTED.
- VAN ACCESSIBLE HANDICAP PARKING SPACES SHALL BE SIGNED AS "VAN ACCESSIBLE" PER A.D.A. (SEE 4.1.2.5B).
- ALL PROPOSED CURBING SHALL BE PRE-CAST CONCRETE CURB UNLESS OTHERWISE NOTED.
- 5. ALL PAVEMENT STRIPING SHALL BE PAINTED WITH 2 COATS OF PAINT. PARKING STALLS SHALL BE MARKED WITH FOUR (4") INCH WIDE PAINTED LINES.
- 6. PARKING AND TRAFFIC CONTROL PLAN IS SCHEMATIC AND FOR LOCATION OF MARKINGS ONLY
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/BUILDING PLANS FOR EXACT BUILDING LOCATIONS, BUILDING DIMENSIONS, EXACT UTILITY ENTRANCE LOCATIONS, TRUCK DOCKS, BUILDING SIDEWALKS AND DOOR LOCATIONS.
- ALL LIMITS OF PAVEMENT SHALL BE CURBED UNLESS NOTED OR INDICATED OTHERWISE.
- 9. THE CONTRACTOR SHALL ADJUST ALL UTILITY CASINGS TO THE PROPER LINE AND ELEVATION PRIOR TO THE PLACEMENT OF THE TOP COURSE OF PAVEMENT. NECESSARY ADJUSTMENTS SHALL BE MADE TO CASTINGS IF REQUIRED, TO MAKE THEM FLUSH WITH FINISHED GRADE. NO DEPRESSIONS OR MOUNDS TO ACCOMMODATE CASTINGS
- 10. ALL ACCESSIBLE CURB RAMPS SHALL BE CONSTRUCTED OF CEMENT CONCRETE AND COMPLY WITH A.D.A. REQUIREMENTS



**RJO'CONNELL** 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180 PHONE: 781.279.0180 RJOCONNELL.COM

PREPARED FOR:

#### MARK A. ABARE

144 HILLDALE AVENUE **HAVERHILL MA 01832** 

PROJECT NAME:

912 SALEM STREET

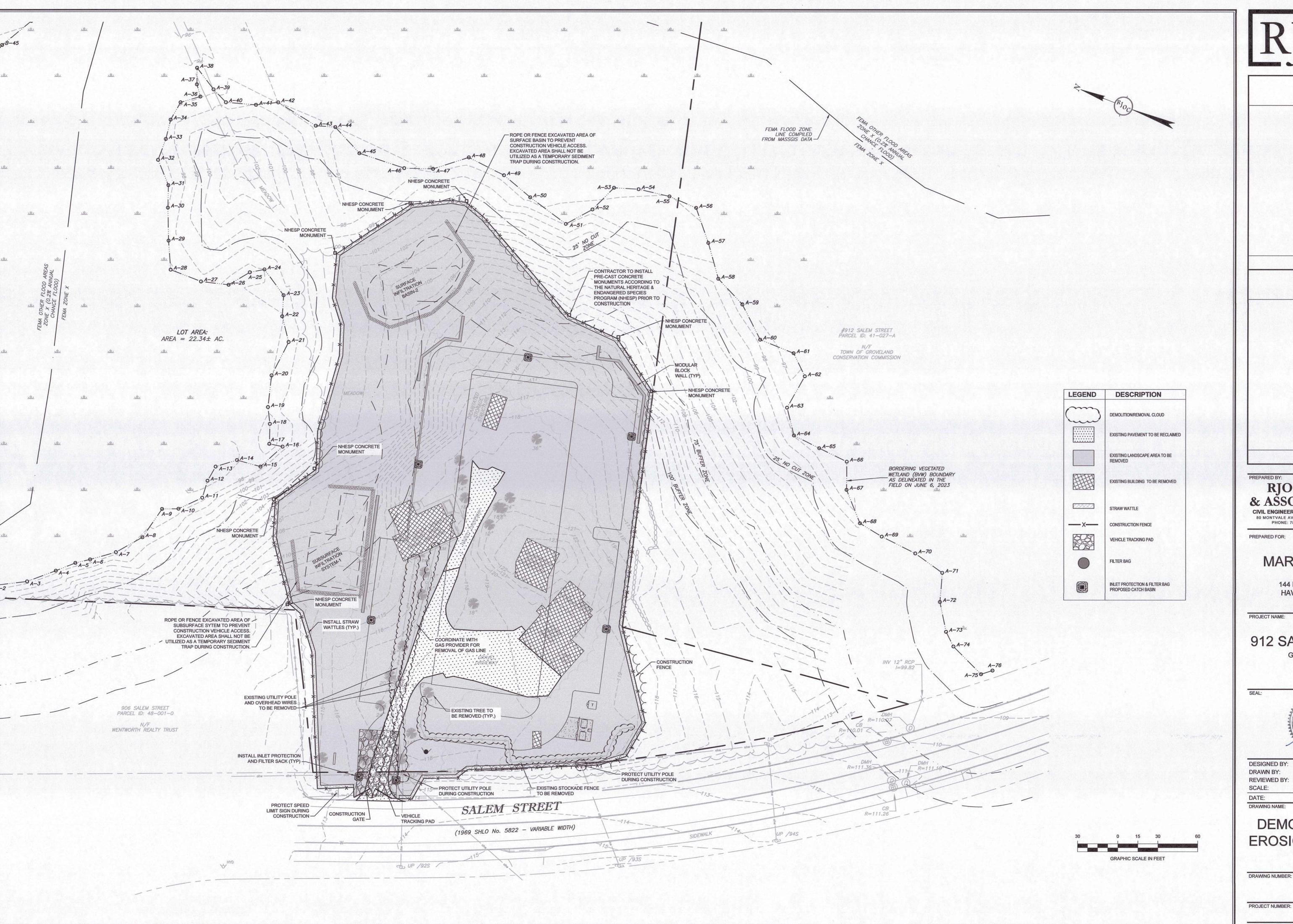


DESIGNED BY: DRAWN BY: REVIEWED BY: N.T.S 08/11/2023 DATE:

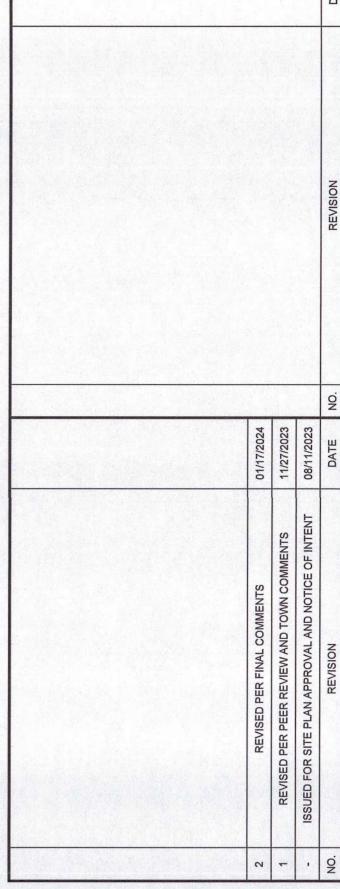
**GENERAL NOTES** 

DRAWING NAME:

PROJECT NUMBER:







# RJO'CONNELL & ASSOCIATES, INC.

80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180 PHONE: 781.279.0180 RJOCONNELL.COM PREPARED FOR:

## MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

#### 912 SALEM STREET GROVELAND, MA



DESIGNI	ED BY:
DRAWN	BY:
REVIEW	ED BY:
SCALE:	
D	Application American

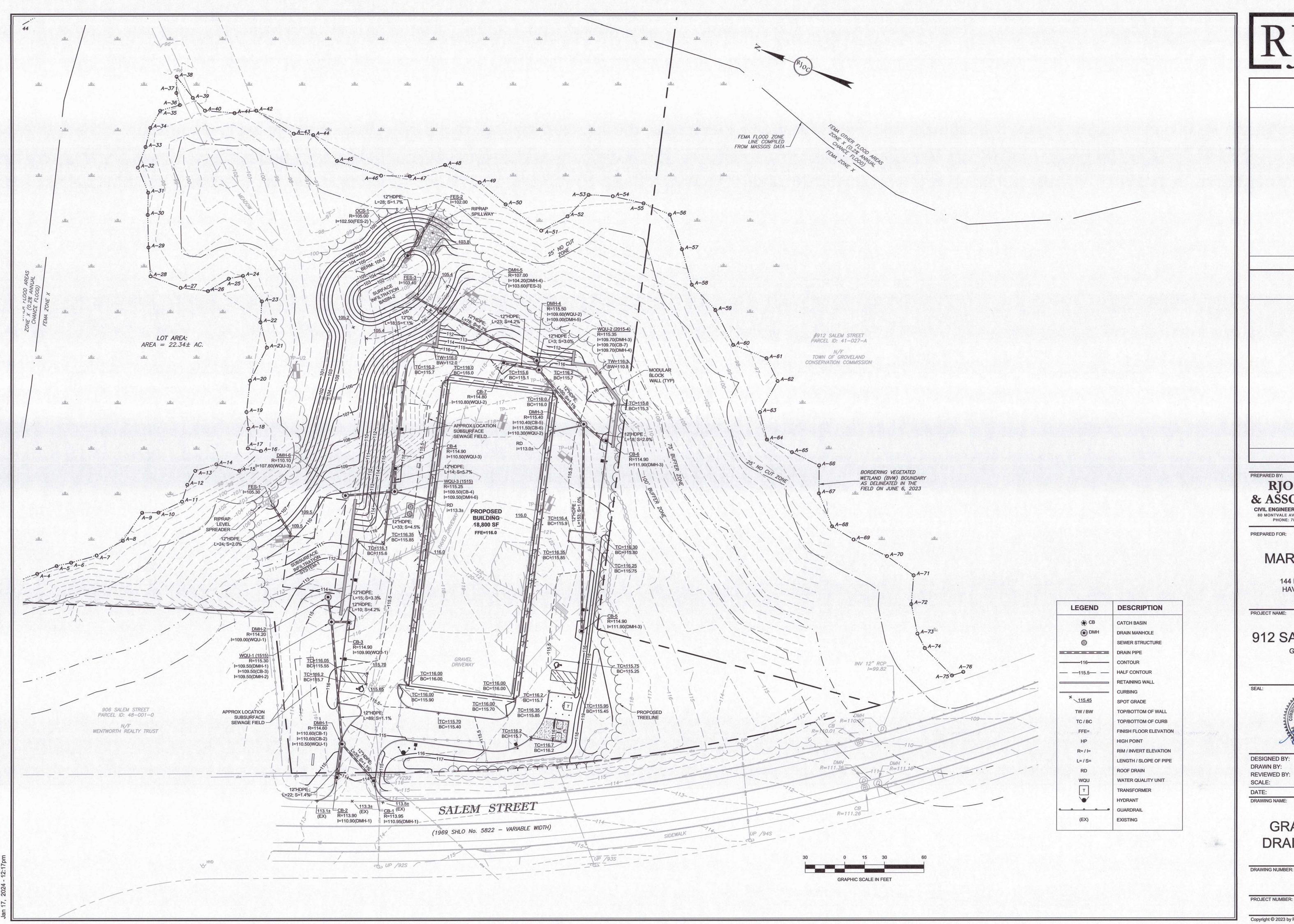
**DEMOLITION AND EROSION CONTROL** PLAN

DRAWING NUMBER:

22021

1" = 30'

08/11/2023





# RJO'CONNELL & ASSOCIATES, INC. 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180 PHONE: 781.279.0180 RJOCONNELL.COM

## MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

#### 912 SALEM STREET GROVELAND, MA

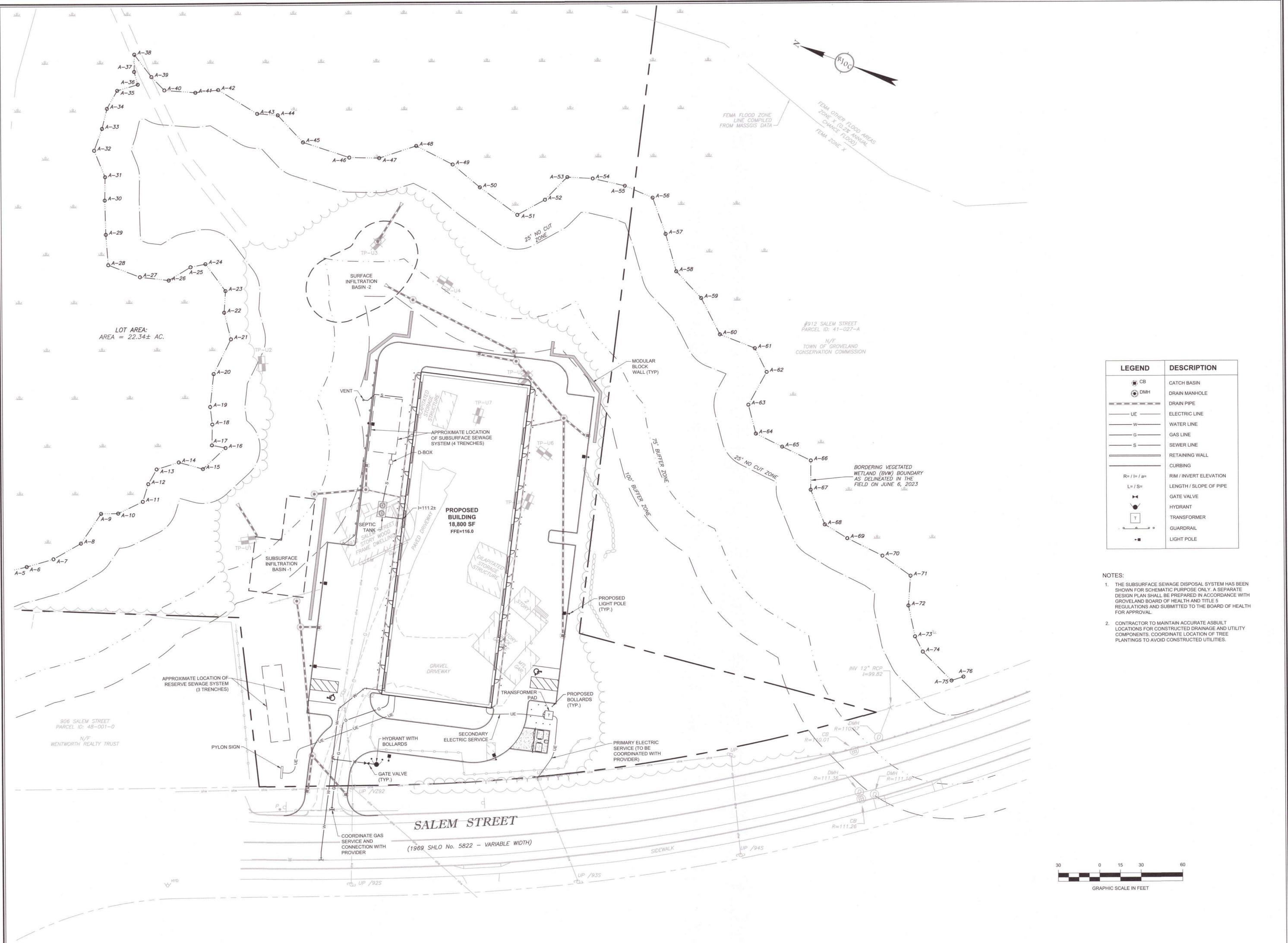


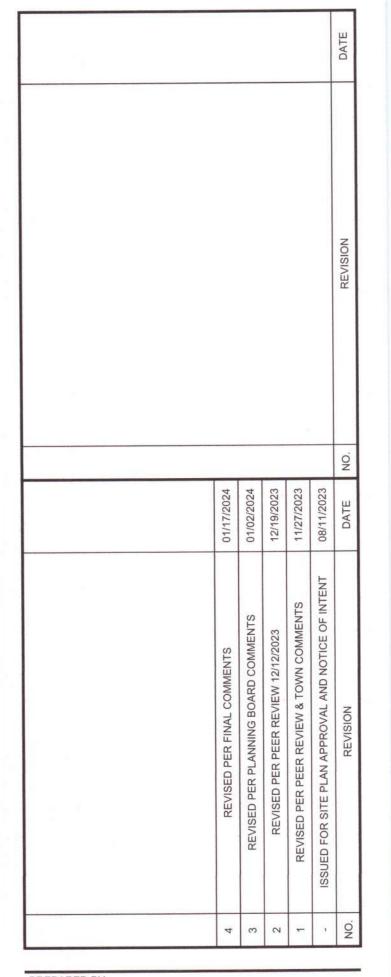
DESIGNED BY:	SPG
DRAWN BY:	HAA
REVIEWED BY:	ACF
SCALE:	1" = 30'
DATE:	08/11/2023
DOMINIO MAME	

#### **GRADING AND** DRAINAGE PLAN

DRAWING NUMBER:

22021





# RJO'CONNELL & ASSOCIATES, INC. CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180 PHONE: 781.279.0180 RJOCONNELL.COM

PREPARED FOR:

#### MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

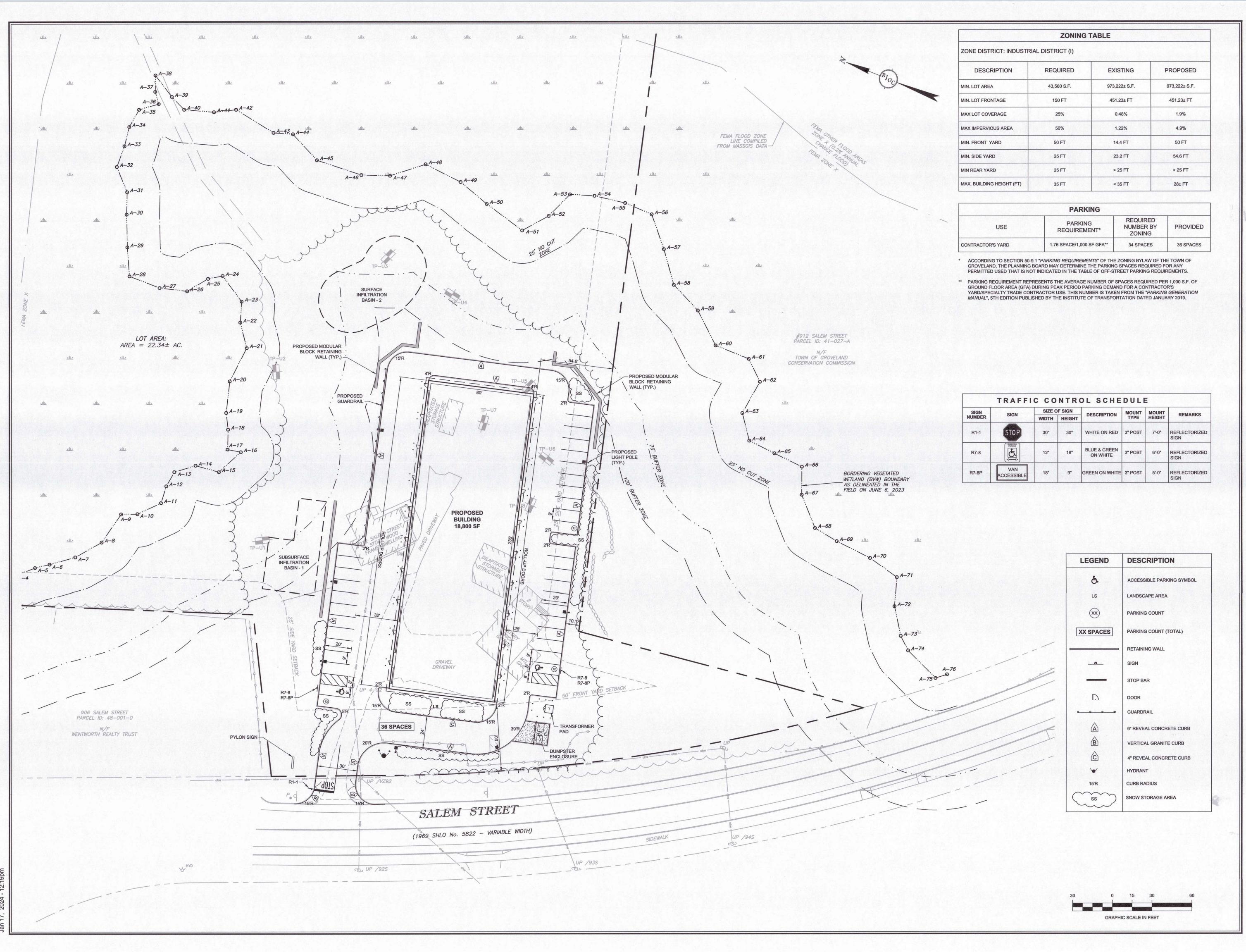
#### 912 SALEM STREET GROVELAND, MA



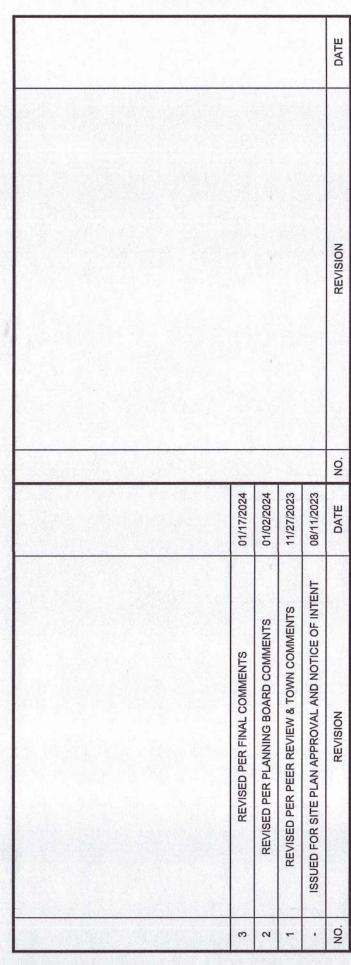
DRAWING NAME:	
DATE:	08/11/2023
SCALE:	1" = 30'
REVIEWED BY:	ACF
DRAWN BY:	HAA
DESIGNED BY:	SPG

**UTILITY PLAN** 

PROJECT NUMBER:







PREPARED BY:

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144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

# 912 SALEM STREET GROVELAND, MA



SPG
HAA
ACF
1" = 30
08/11/2023

#### SITE LAYOUT PLAN

DRAWING NUMBER:

C-4

PROJECT NUMBER: 22021

840 SUMMER STREET SUITE 201A BOSTON, MA 02127

t. 203.592.4788

www.m-d-l-a.com

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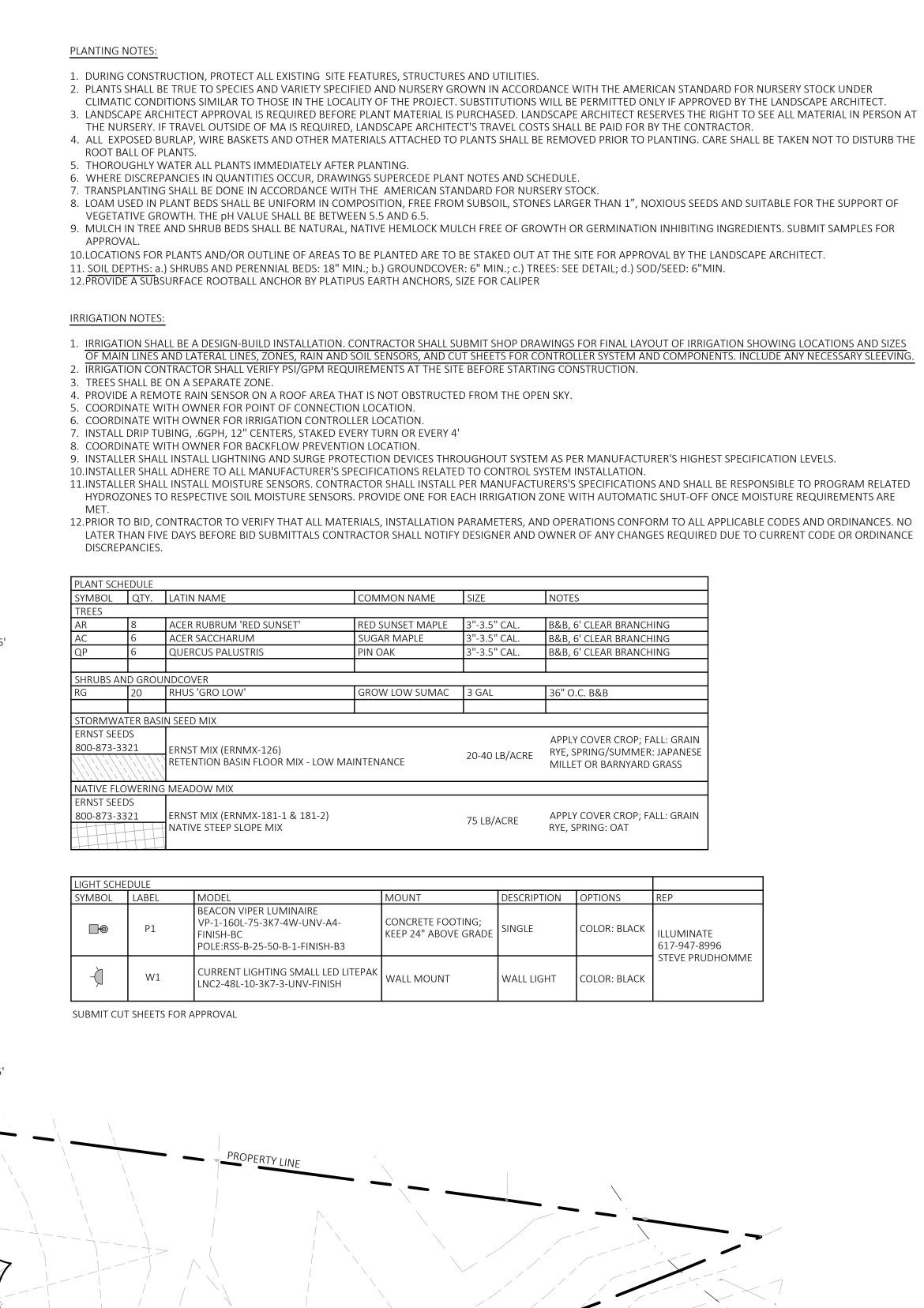
LANDSCAPE PLANTING AND LIGHTING PLAN

AS NOTED

SHEET 1 OF 4

plot date: 2/6/2024

NOT FOR CONSTRUCTION



TREE LINE

NATIVE FLOWERING MEADOW MIX

MH: 12' MH: 12' MH: 25' MH: 12' PROPOSED BUILDING

MH: 25'

MH: 25'

MH: 12'

MH: 12'

BASIN SEED MIX NATIVE FLOWERING MEADOW MIX

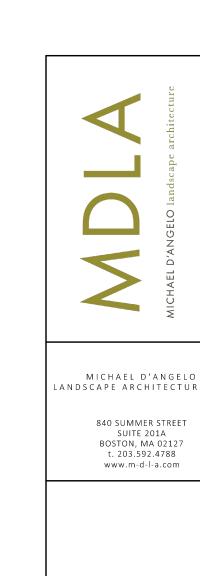
TREÉ LINE /-

**ENTRY MONUMENT** 

NATIVE FLOWERING MEADØW MJX

LANDSCAPE PLANTING AND LIGHTING PLAN

SALEM STREET



ANDSCALLING TO THE PROPERTY OF			
REV. NO.	DATE	DESCRIPTION	
1	08/11/2023	ISSUED FOR SITE PLAN APPROVAL	
2	11/27/2023	REVISED PER PEER REVIEW & TOWN COMMENTS	
3	1/17/2024	REVISED PER FINAL COMMENTS	
4	2/7/2024	REVISED PER ADDITIONAL PEER REVIEW COMMENTS	
		· · · · · · · · · · · · · · · · · · ·	

LANDSCAPE PHOTOMETRIC PLAN

SHEET 2 OF 4

NOT FOR CONSTRUCTION

MH: 12' —

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 $0.0 \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.1 \quad 0.1 \quad 0.2 \quad 0.9 \quad 0.2 \quad 0.5 \quad 0.6 \quad 0.4 \quad 0.7 \quad 0.4 \quad 0.9 \quad 0.9$ 

 $0.0 \ 0.0 \ 0.0 \ 0.0 \ 0.0 \ 0.1 \ 0.1 \ 0.2 \ 0.8 \ 1.9 \ 2.3 \ 2.2 \ 2.0 \ 1.6 \ 1.0 \ 0.0$ 

0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.2 0.3 0.6 1.4 1.9 1.8 1.7 1.5 1

 $0.0 \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.1 \quad 0.2 \quad 0.3 \quad 0.6 \quad 1.2 \quad 0.3 \quad 0.6 \quad 1.2 \quad 0.6 \quad 0.6$ 

0.0 0.0 0.0 0.0 0.0 0.1 0.2 0.2 0.5 1.4 1.8 1.8 1.6 1.4 1

1.1 1.3 1.4 1.6 1.3 1

 5.0
 5.0
 5.0
 5.0
 5.0
 5.1
 5.1

Luminaire Schedule

Calculation Summary

Parking Area-Roadway

Qty Label Arr. Watts Arrangement

SINGLE

LLF Description

Fc 0.46 2.8

Fc | 1.41 | 2.8 | 0.2

0.900 | VP-1-160L-75-3K7-4W-BC

0.900 | LNC2-48L-10-3K7-3-UNV-GTT

7.05 | 14.00

LANDSCAPE PHOTOMETRIC PLAN

U U

AS NOTED DATE: 07/14/23 SHEET 3

DRIP LINE OF EXISTING TREE; HAND EXCAVATION ONLY WITHIN THIS ZONE. REMOVAL OF SOIL SHALL BE ONLY UPON APPROVAL OF LANDSCAPE ARCHITECT, OR OWNER PRESSURE TREATED 2X4 LUMBER STRAPPED AROUND TREE TRUNK 2" SPACE BEWTEEN BOARDS MAX. EXTEND 72" HT. ABOVE - VARIES -- VARIES -ROOT FLARE, TYP. 2" DIA. STEEL PIPE DIRECT-BURIED, 36" DEPTH IN, TYP.

MESH PLASTIC SAFETY FENCE

TREE; 48" HT. MIN. – FINISH GRADE; SEE PLAN

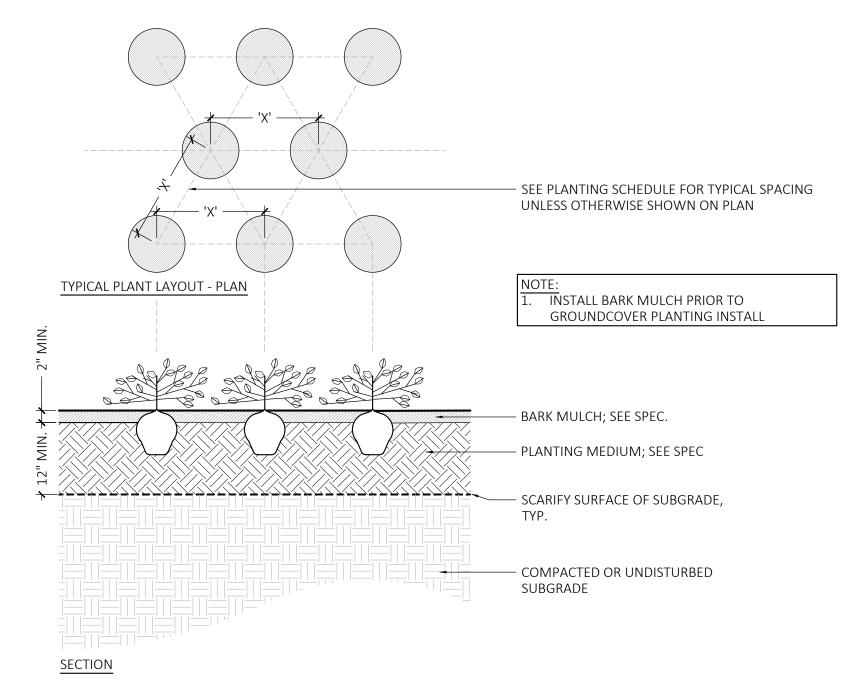
THE DRIPLINE, WHICHEVER IS GREATER

LOCATED OUTSIDE DRIPLINE OF

– 2" DIA. STEEL PIPE DIRECT-BURIED, 36" DEPTH IN, TYP. MESH PLASTIC SAFETY FENCE 12" MIN. LOCATED OUTSIDE DRIPLINE OF TREE; 48" HT. MIN. TREE TRUNK PRESSURE TREATED 2X4 LUMBER STRAPPED AROUND TREE TRUNK 2" SPACE BEWTEEN BOARDS, EXTEND 72" HT. ABOVE ROOT FLARE, TYP. NO MACHINERY OR MATERIALS SHALL BE STORED WITHIN THE FENCED AREA, OR BELOW

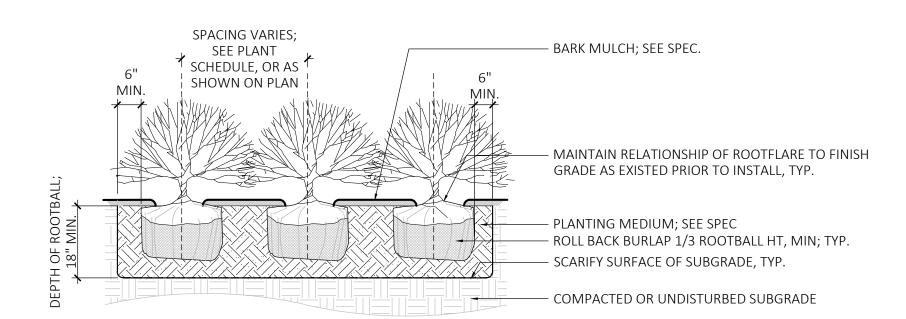
EXISTING TREE PROTECTION

PLAN



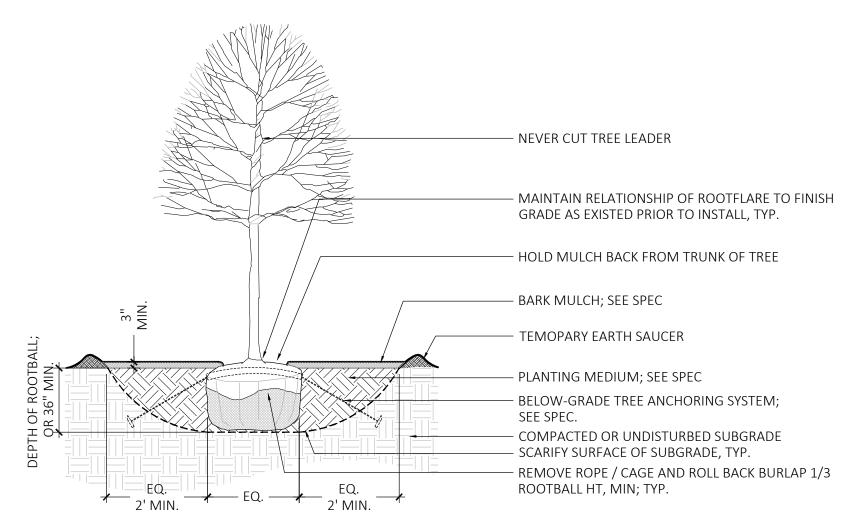
GROUNDCOVER PLANTING

NOT TO SCALE

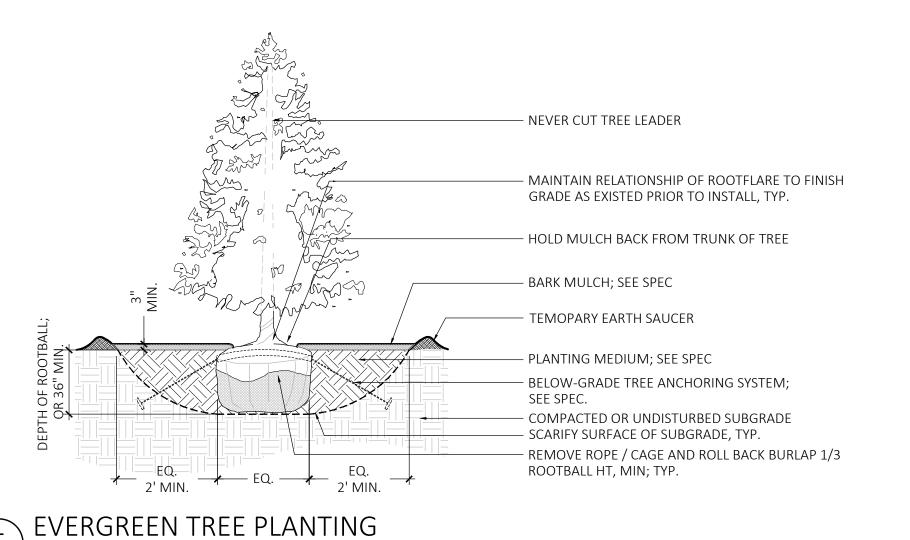


SHRUB PLANTING

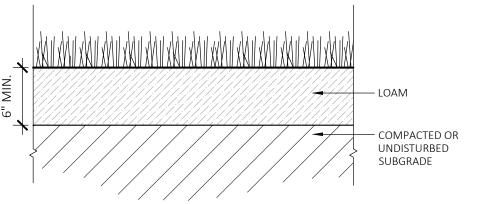
NOT TO SCALE



4 DECIDUOUS TREE PLANTING
NOT TO SCALE



UNDISTURBED SUBGRADE



NOT FOR CONSTRUCTION

Native Steep Slope Mix w/Grain Rye - ERNMX-181-2

Ernst Conservation Seeds 8884 Mercer Pike Meadville, PA 16335 (800) 873-3321 Fax (814) 336-5191 www.ernstseed.com

	Botanical Name	Common Name	Price/lb
40.00 %	Secale cereale, Variety Not Stated	Grain Rye, Variety Not Stated	0.21
20.40 %	Sorghastrum nutans, PA Ecotype	Indiangrass, PA Ecotype	10.60
8.10 %	Andropogon gerardii, 'Niagara'	Big Bluestem, 'Niagara'	13.06
7.50 %	Elymus virginicus, PA Ecotype	Virginia Wildrye, PA Ecotype	7.72
5.20 %	Elymus canadensis	Canada Wildrye	12.87
4.50 %	Schizachyrium scoparium, 'Camper'	Little Bluestem, 'Camper'	12.59
3.70 %	Tridens flavus	Purpletop	18.56
3.00 %	Agrostis perennans, Albany Pine Bush-NY Ecotype	Autumn Bentgrass, Albany Pine Bush-NY Ecotype	14.00
2.30 %	Panicum virgatum, 'Shawnee'	Switchgrass, 'Shawnee'	7.51
1.10 %	Chamaecrista fasciculata, PA Ecotype	Partridge Pea, PA Ecotype	10.00
1.00 %	Echinacea purpurea	Purple Coneflower	36.00
0.80 %	Gaillardia aristata	Perennial Gaillardia (Blanketflower)	32.00
0.80 %	Rudbeckia hirta	Blackeyed Susan	20.00
0.70 %	Heliopsis helianthoides, PA Ecotype	Oxeye Sunflower, PA Ecotype	42.00
0.40 %	Aster lateriflorus	Calico Aster	320.00
0.30 %	Liatris spicata	Marsh (Dense) Blazing Star (Spiked Gayfeather)	210.00
0.20 %	Asclepias syriaca, PA Ecotype	Common Milkweed, PA Ecotype	196.00
100.00 %		Mix Price/lb Bulk:	\$9.88

Seeding Rate: 75 lb per acre Erosion Control & Revegetation

Date: August 28, 2018

Use this formula with grain rye as a cover crop (from August 1st-February 15th). Mix formulations are subject to change wthout notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

## NATIVE FLOWERING MEADOW SEED MIX - FALL



**Ernst Conservation Seeds** 8884 Mercer Pike

Meadville, PA 16335 (800) 873-3321 Fax (814) 336-5191 www.ernstseed.com



Mix Price/lb Bulk: \$10.45

#### Native Steep Slope Mix w/Grain Oats - ERNMX-181-1

	Botanical Name	Common Name	Price/lb
40.00 %	Avena sativa, Variety Not Stated	Oats, Variety Not Stated	0.22
20,40 %	Sorghastrum nutans, NY4 Ecotype	Indiangrass, NY4 Ecotype	12.90
8.10 %	Andropogon gerardii, 'Niagara'	Big Bluestem, 'Niagara'	13.06
7.50 %	Elymus virginicus, PA Ecotype	Virginia Wildrye, PA Ecotype	7.72
5.20 %	Elymus canadensis	Canada Wildrye	12.87
4.50 %	Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype	Little Bluestem, Fort Indiantown Gap-PA Ecotype	12.00
3.70 %	Tridens flavus, Fort Indiantown Gap-PA Ecotype	Purpletop, Fort Indiantown Gap-PA Ecotype	18.78
3.00 %	Agrostis perennans, Albany Pine Bush-NY Ecotype	Autumn Bentgrass, Albany Pine Bush-NY Ecotype	14.00
2.30 %	Panicum virgatum, 'Shawnee'	Switchgrass, 'Shawnee'	7.51
1.10 %	Chamaecrista fasciculata, PA Ecotype	Partridge Pea, PA Ecotype	10.00
1.00 %	Echinacea purpurea	Purple Coneflower	36.00
0.80 %	Gaillardia aristata	Perennial Gaillardia (Blanketflower)	32.00
0.80 %	Rudbeckia hirta	Blackeyed Susan	20.00
0.70 %	Heliopsis helianthoides, PA Ecotype	Oxeye Sunflower, PA Ecotype	42.00
0.40 %	Aster novae-angliae, PA Ecotype	New England Aster, PA Ecotype	360.00
0.20 %	Asclepias syriaca, PA Ecotype	Common Milkweed, PA Ecotype	196.00
0.20 %	Liatris spicata	Marsh (Dense) Blazing Star (Spiked Gayfeather)	210.00
0.10 %	Penstemon digitalis	Tall White Beardtongue	160.00

100.00 % **Seeding Rate:** 75 lb per acre

Erosion Control & Revegetation

Use this formula with grain oats as a cover crop in the spring and summer (until September 1st). Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

#### NATIVE FLOWERING MEADOW SEED MIX -SPRING (8) NOT TO SCALE



**Ernst Conservation Seeds** 8884 Mercer Pike Meadville, PA 16335 (800) 873-3321 Fax (814) 336-5191 www.ernstseed.com

#### Retention Basin Floor Mix - Low Maintenance - ERNMX-126

	Botanical Name	Common Name	Price/L
20.00 %	Panicum clandestinum, Tioga	Deertongue, Tioga	18.
	Puccinellia distans, Fults	Alkaligrass, Fults	3.8
	Elymus virginicus, Madison-NY Ecotype	Virginia Wildrye, Madison-NY Ecotype	8.0
	Agrostis stolonifera, 'Penncross'	Creeping Bentgrass, 'Penncross'	12.0
	Poa palustris	Fowl Bluegrass	14.0
	Carex vulpinoidea, PA Ecotype	Fox Sedge, PA Ecotype	24.0
	Carex scoparia, PA Ecotype	Blunt Broom Sedge, PA Ecotype	68.0
1.00 %	• • •	Soft Rush	40.0
100.00 %		Mix Price/Lb Bulk:	\$13.4

Seeding Rate: 20-40 lbs per acre, or 0.5-1 lb/1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 Ibs/acre), or barnyard grass (1 May to 31 Aug;

Grasses & Grass-like Species - Herbaceous Perennial; Stormwater Management

The hardy inexpensive grass and grass-like species are ideal for retention basins that may have high salt inflows and where mowing may be required. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

STORMWATER BASIN SEED MIX

plot date: 2/6/2024

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

#### **FEATURES**

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction Rated for high vibration applications including bridges and overpasses. All sizes are
- Control options including photo control, occupancy sensing, NX Lighting Controls  $^{\!\scriptscriptstyle{\mathrm{M}}}\!,$
- wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail Field interchangeable mounting provides additional flexibility after the fixture has shipped

cUL)us IP65	AMERI SOLUTI See Certif Specific
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#### CONTROL TECHNOLOGY

#### wiSCAPE"

#### **SPECIFICATIONS**

- CONSTRUCTION Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish • External hardware is corrosion resistant
- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined
- on the same application. Catalog logic found Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side

shields can be added for further reduction of

- illumination behind the pole • One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt Field rotatable optics

#### INSTALLATION Mounting patterns for each arm can be

P1 POLE LIGHT

- found on page 11 Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory
- All mounting hardware included

## Knuckle arm fitter option available for 2-3/8"

INSTALLATION (CONTINUED)

- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper
- **ELECTRICAL** Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz Ambient operating temperature -40°C to 40°C Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes
- fixture off-line for protection when device is Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired
- independently as two sets of leads are extended from the luminaire. Both options cannot be combined CONTROLS
- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming Please consult brand or sales representative
- when combining control and electrical options as some combinations may not operate as anticipated depending on your application 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

### wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration CERTIFICATIONS DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the

10-DAY QUICK SHIP PROGRAM

QS<sub>7</sub>

CONTROLS (CONTINUED)

O-10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must

specify if wiring leads are to be greater than the 6" standard

NX Lighting Controls<sup>™</sup> available with in fixture

wireless control module, features dimming

- most up-to-date list. • Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient
- 1.5 G rated for ANSI C136.31 high vibration
- Fixture is IP65 rated Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

#### WARRANTY 5 year warranty

KEY DATA		
Lumen Range	5,000-80,000	
Wattage Range	36–600	
Efficacy Range (LPW)	92–155	
Weight lbs. (kg)	13.7-30.9 (6.2-13.9	

#### Current @

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Page **1** of **13** Rev 03/13/23 BEA\_VIPERSPEC\_R04 **₩ ←XO** 

LOCATION: PROJECT: CATALOG #:

#### SMALL LED LITEPAK

## FEATURES

- 60% more lumens and increased performance than smaller LNC models
- 3000K, 4000K and 5000K as well as Amber
- Type II, III and IV distributions available for a variety of application needs Quick-mount adapter allows easy installation/maintance
- 347V and 480V versions for industrial applications and Canada
- Full cut-off, neighbor friendly Optional photocontrol for additional energy savings











#### 10-DAY QUICK SHIP PROGRAM QS<sub>10</sub>

CONTROL TECHNOLOGY

- SPECIFICATIONS CONSTRUCTION Rugged die-cast aluminum housing protects components and provides an
- architectural appearance Casting thermally conducts LED heat to
- optimize performance and long life Powder paint finish provides durability in
- outdoor environments. Tested to meet 1000 hour salt spray rating.

#### Zero uplight distributions using individual

- acrylic Micro Strike Optics LED optics provide IES type III and IV
- distributions. Optional (CS) acrylic diffuser available for reduced glare
- Prismatic refractor lens provides ~10% uplight
- for increased vertical footcandles and forward light projection ideal for security lighting • L96 at 60,000hrs (Projected per IESNA

#### TM-21-11), see table on page 3 for all values INSTALLATION

 Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box) Designed for direct j-box mount. Optional 1/2" conduit hubs available

(standard for control options and battery

#### ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option available in 25W and 35W configurations
- Minimum operating temperature is -40°C/-Drivers have greater than .90 power factor
- and less than 20% Total Harmonic Distortion Driver RoHS and IP66
- 10kA surge protector available as an option
- 3000K CCT nominal, 4000K CCT nominal, 5000K CCT nominal (70 CRI)
- CONTROLS
- Universal button photocontrol for use with 120-277V configurations
- Occupancy sensor options available for complete on/off and dimming control NX Lighting Controls<sup>™</sup> available that feature dimming and occupancy sensor
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress. Uses 15 watts of power for about 2000 lumens
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options can not be included in one fixture.

#### CERTIFICATIONS

- Listed to UL1598 and CSAC22.2#250.0-24 for wet locations
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations on this page
- are DLC Qualified. Refer to http://www. designlights.org/ for the most up-to-date list. Fixture is IP65 rated
- This product qualifies as a "designated" country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

#### 5 year warranty

KEY DATA		
Lumen Range	1000-5600	
Wattage Range	10-45	
Efficacy Range (LPW)	108-124	
Weights lbs. (kg)	9.6 (24.5)	

#### Current @

#### currentlighting.com/exo © 2023 HLI Solutions, Inc. All rights reserved. Information and specifications subject to change without notice. All values are design or typical values when measured under laboratory conditions

Page **1** of **5** Rev 06/23/23 HOL\_LNC2LED\_spec\_R02





MICHAEL D'ANGELO ANDSCAPE ARCHITECTURE LI

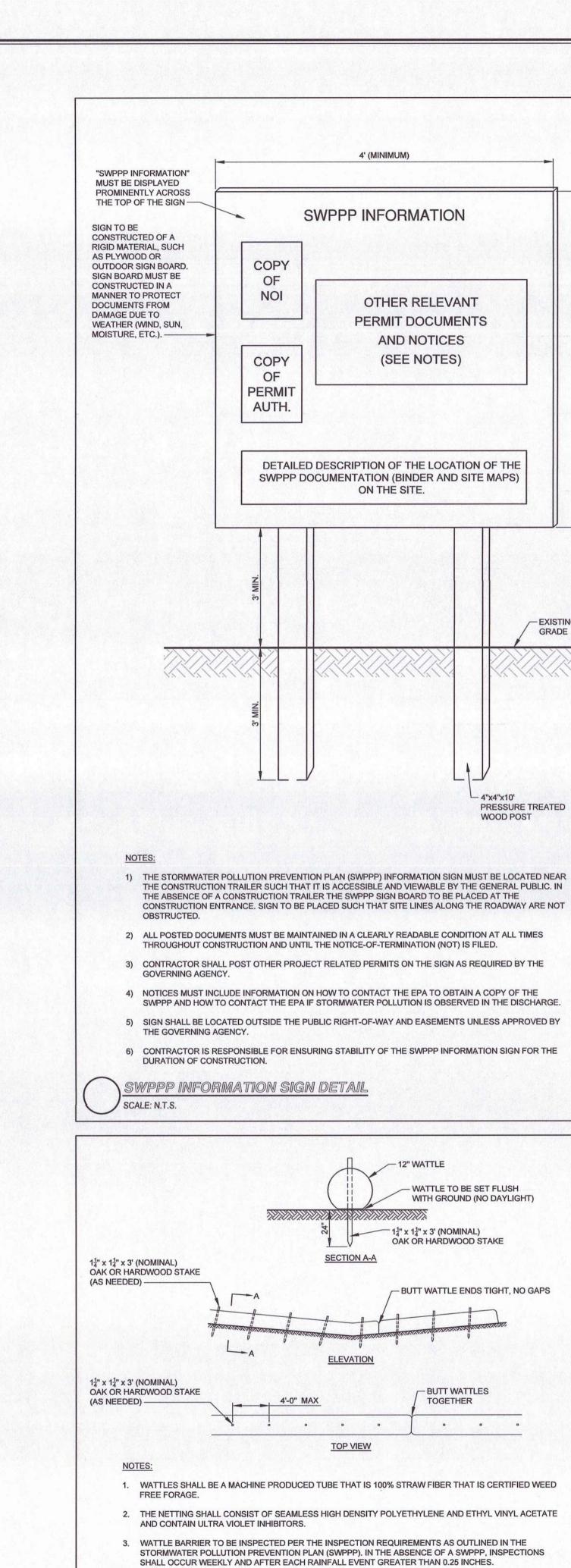
840 SUMMER STREET SUITE 201A BOSTON, MA 02127 t. 203.592.4788 www.m-d-l-a.com

7

·////////				
REV. NO.	DATE	DESCRIPTION		
1	08/11/2023	ISSUED FOR SITE PLAN APPROVAL		
2	11/27/2023	REVISED PER PEER REVIE & TOWN COMMENTS		
3	1/17/2024	REVISED PER FINAL COMMENTS		
4	2/7/2024	REVISED PER ADDITIONA PEER REVIEW COMMENTS		
-				

LIGHTING CUT SHEETS

NOT FOR CONSTRUCTION



4' (MINIMUM)

SWPPP INFORMATION

OTHER RELEVANT

PERMIT DOCUMENTS

AND NOTICES (SEE NOTES)

GRADE

PRESSURE TREATED

WOOD POST

- WATTLE TO BE SET FLUSH WITH GROUND (NO DAYLIGHT)

BUTT WATTLE ENDS TIGHT, NO GAPS

- BUTT WATTLES

. . .

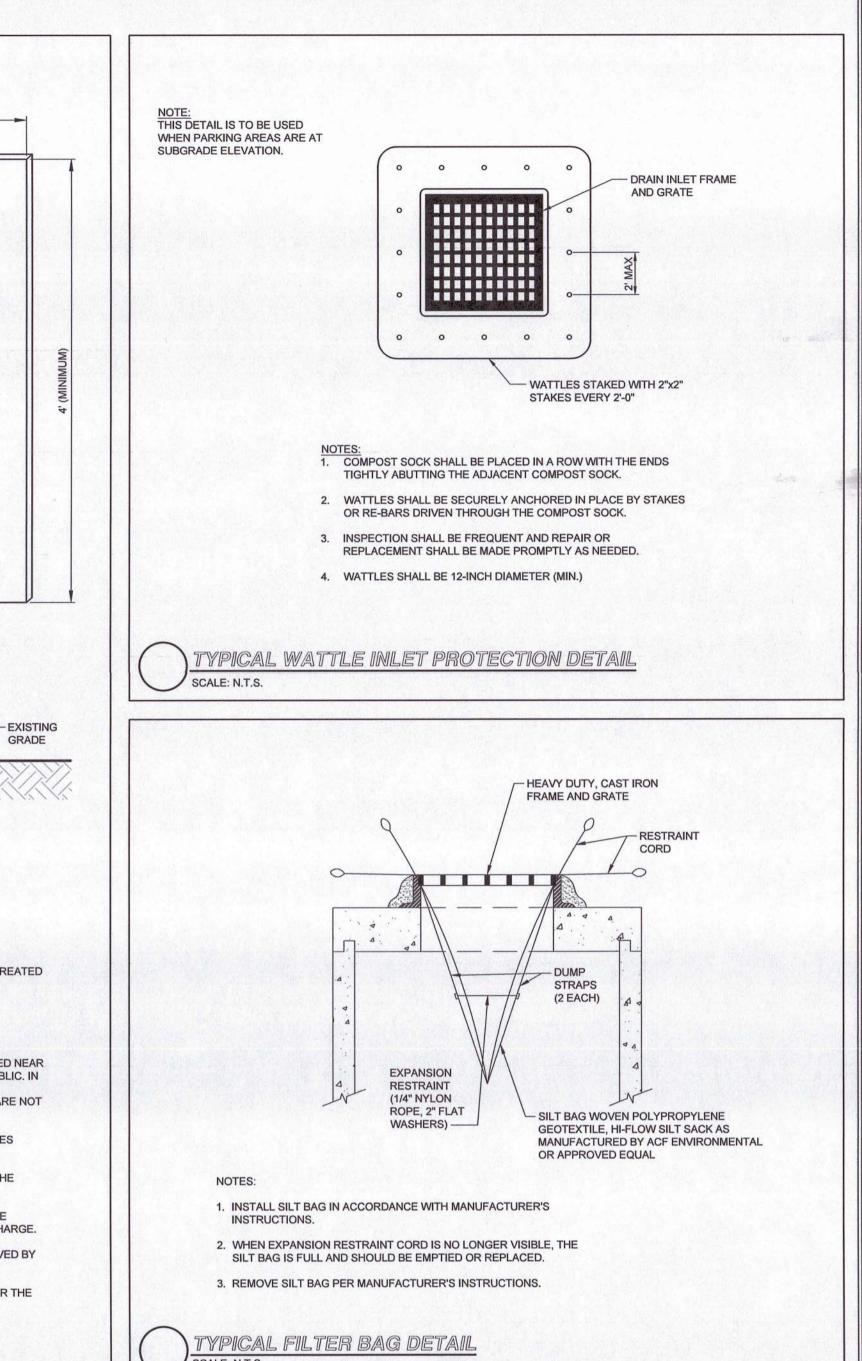
TOGETHER

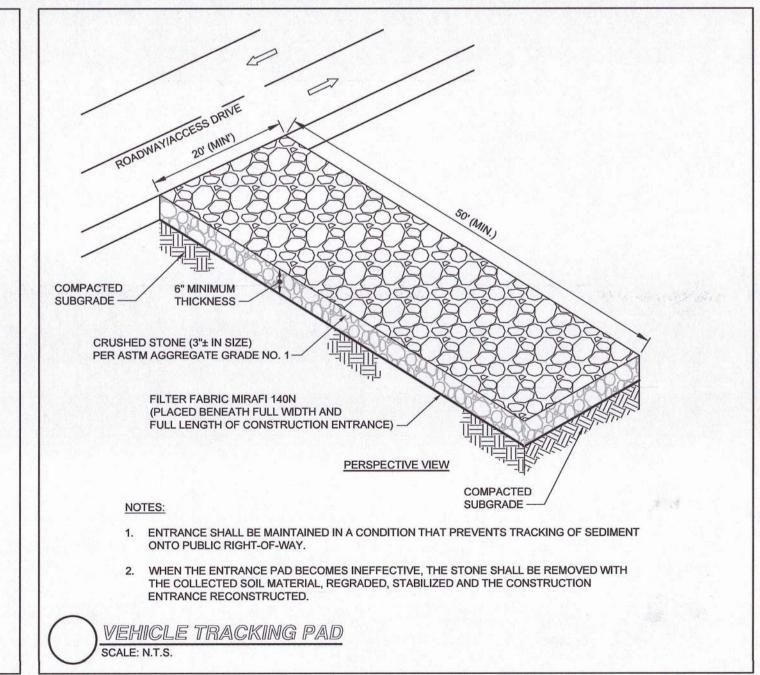
TOP VIEW

4. DAMAGED AND/OR DECOMPOSED WATTLES SHALL BE REPLACED IMMEDIATELY.

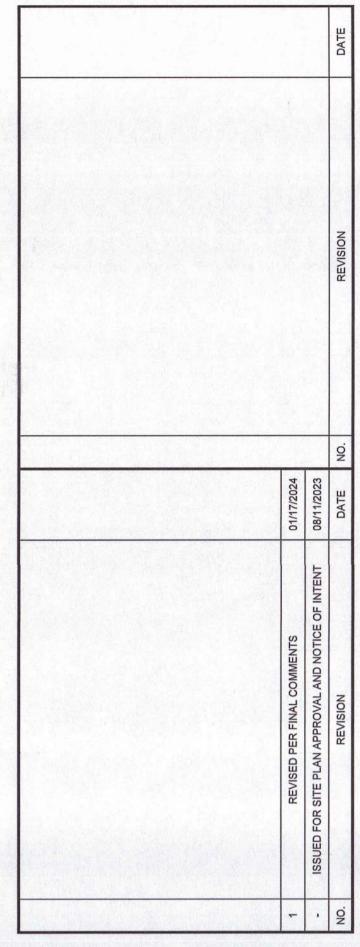
- 1<sup>1</sup>/<sub>4</sub>" x 1<sup>1</sup>/<sub>4</sub>" x 3' (NOMINAL) OAK OR HARDWOOD STAKE

ON THE SITE.









## RJO'CONNELL & ASSOCIATES, INC. 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180

PHONE: 781.279.0180 RJOCONNELL.COM

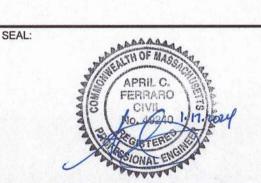
PREPARED FOR:

### MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

#### 912 SALEM STREET GROVELAND, MA



DESIGNED BY:	SP
DRAWN BY:	HA
REVIEWED BY:	AC
SCALE:	N.T.
DATE:	08/11/202
DRAWING NAME:	

#### **EROSION CONTROL DETAILS**

PROJECT NUMBER:

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22021

TYPICAL SINGLE ROW WATTLE INSTALLATION DETAIL

HORIZON Ap: FINE LOAMY SAND 0"-13"

HORIZON Bw: GRAVELY LOAMY SAND LAYER C: GRAVELY SAND 34"-99" NO ESHGW OBSERVED

NO WEEPING/STANDING WATER

HORIZON A: LOAMY SAND LAYER C1: FINE LOAMY SAND LAYER C2: GRAVELY SAND 42"-70" ESHGW @ 45"

WEEPING/STANDING WATER @ 53"

TEST PIT: TP-U3 HORIZON Ap: FINE LOAMY SAND HORIZON Bw: FINE LOAMY SAND LAYER C1: MEDIUM SAND 20"-40" 40"-98" LAYER C2: GRAVELY SAND

ESHGW @ 64" (STREAKS) NO WEEPING/STANDING WATER

TEST PIT: TP-U4 HORIZON Ap: FINE LOAMY SAND 17"-30" HORIZON BW: FINE LOAMY SAND LAYER C1: GRAVELY FINE LOAMY SAND 30"-58" 58"-78"\*\* LAYER C2: GRAVELY SAND

HORIZON Ap: FINE LOAMY SAND

NO ESHGW OBSERVED NO WEEPING/STANDING WATER \*\*78" IS AVERAGE DEPTH OF REFUSAL TEST PIT: TP-U5

12"-22" HORIZON Bw: FINE LOAMY SAND LAYER C1: GRAVELY LOAMY SAND 22"-40" LAYER C2: GRAVELY SAND 40"-75" **ROCK AT BOTTOM** NO ESHGW OBSERVED

FIBERGLASS SEPARATION

PVC HYDRAULIC SHEAR

TO FINISHED GRADE

FIBERGLASS SEPARATION

CYLINDER AND INLET

INLET PIPE

OIL BAFFLE SKIRT -

**PVC HYDRAULIC** 

SOLIDS STORAGE SUMP

SHEAR PLATE

SEPARATION SCREEN

(MULTIPLE INLET PIPES -

MAY BE ACCOMMODATED)

CYLINDER AND INLE

NO WEEPING/STANDING WATER

TEST PIT: TP-U6 0"-10" HORIZON A: LOAMY SAND LAYER C: GRAVELY SAND 10"-48"

NO ESHGW OBSERVED

TEST PIT: TP-U7 HORIZON Ap: FINE LOAMY SAND HORIZON Bw: FINE LOAMY SAND 14"-27" 27"-42" LAYER C1: GRAVELY COARSE SAND 42"-80" LAYER C2: MEDIUM SAND LAYER C3: FINE LOAMY SAND 80"-96"

NO ESHGW OBSERVED NO WEEPING/STANDING WATER TEST PIT: TP-U8 HORIZON Ap: FINE LOAMY SAND HORIZON Bw: FINE LOAMY SAND LAYER C1: MEDIUM SAND 28"-35"

66"-75" LAYER C5: GRAVELY LOAMY SAND R/BOULDER NO ESHGW OBSERVED NO WEEPING/STANDING WATER

CENTER OF CDS STRUCTURE, SCREEN AND

TOP SLAB ACCESS

DETAIL)

36" I.D. MANHOLE

PERMANENT POOL

FRAME AND COVER

(DIAMETER VARIES)

N.T.S.

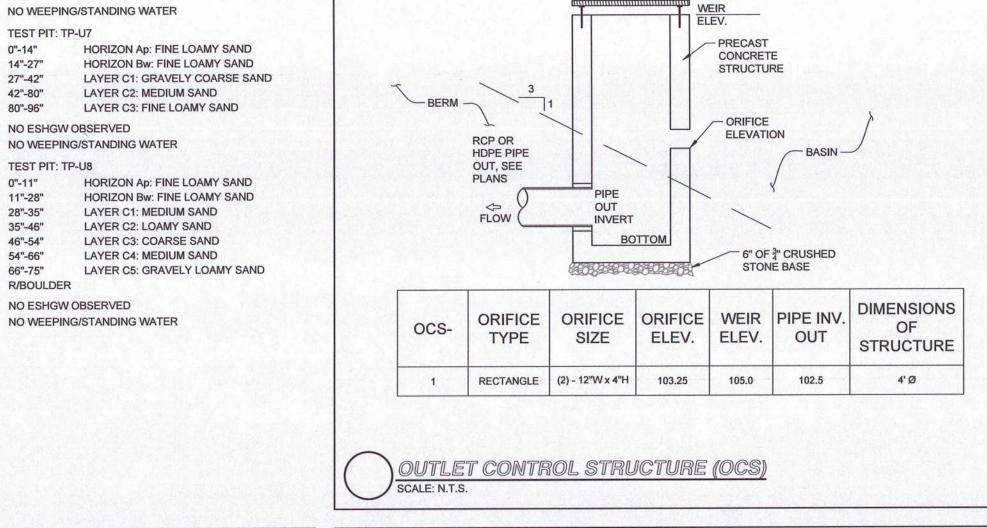
STRUCTURE

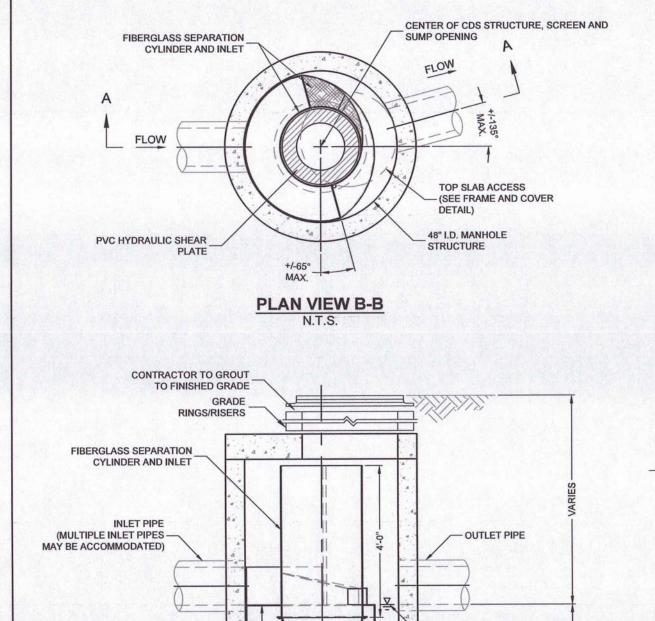
- (SEE FRAME AND COVER

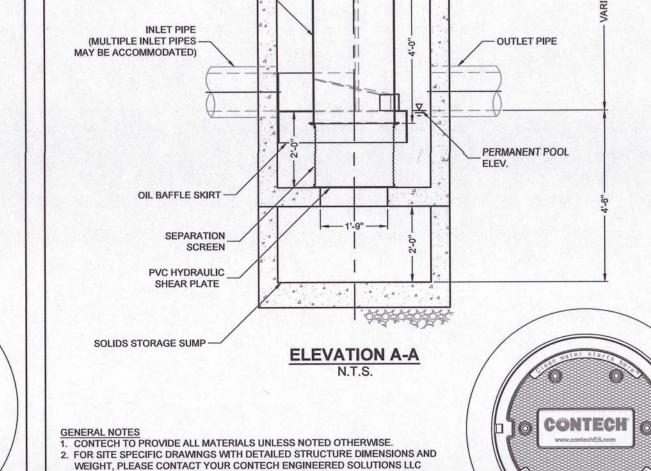
46"-54"

54"-66"

GALVANIZED GRATE, BOLTED TO STRUCTURE - PRECAST CONCRETE STRUCTURE - ORIFICE **ELEVATION** RCP OR HDPE PIPE OUT, SEE 6" OF 3" CRUSHED STONE BASE DIMENSIONS ORIFICE ORIFICE WEIR PIPE INV ORIFICE ELEV. ELEV. TYPE STRUCTURE 4' Ø 105.0 102.5 (2) - 12"W x 4"H 103.25 RECTANGLE







CONTECH GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE. 2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA

**ELEVATION A-A** 

AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO..

SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE 6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF

CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S).

CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH

CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.

MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CDS WATER QUALITY UNIT - WQU-1 & WQU-3 (CDS1515-3) SCALE: N.T.S.

CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT. HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA

STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0'

FLEVATION, ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.

AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM

2' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT

CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO...

IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF

SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE

CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND

ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE

CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH

CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S).

CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS

MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH

CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.

SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF

REPRESENTATIVE. www.ContechES.com

AASHTO LOAD FACTOR DESIGN METHOD.

AND ASSEMBLE STRUCTURE.

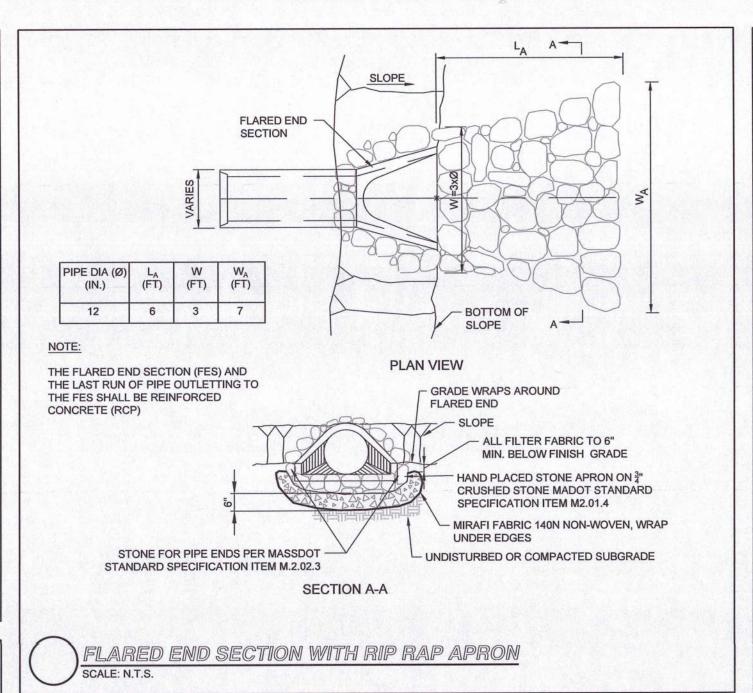
STRUCTURE MEETS REQUIREMENTS OF PROJECT

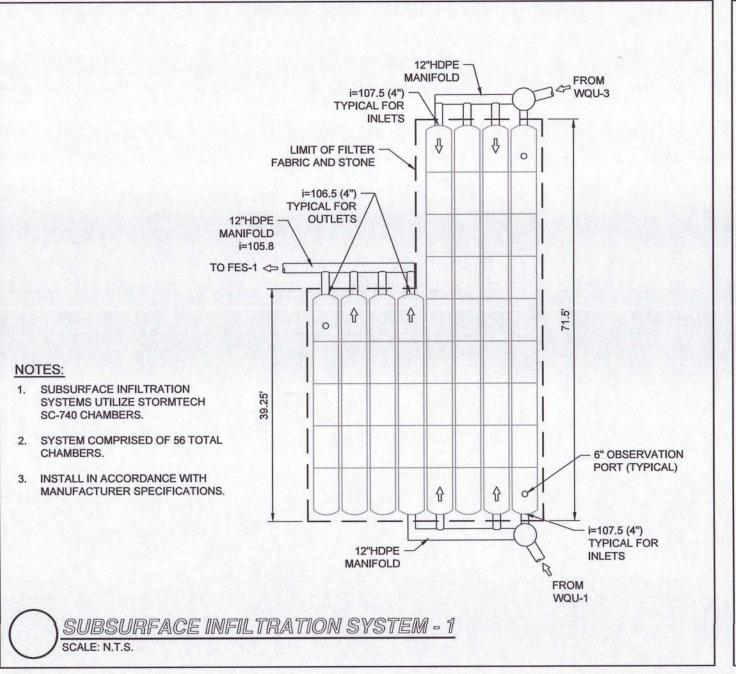
CDS WATER QUALITY UNIT - WQU-2 (CDS1515-4) SCALE: N.T.S.

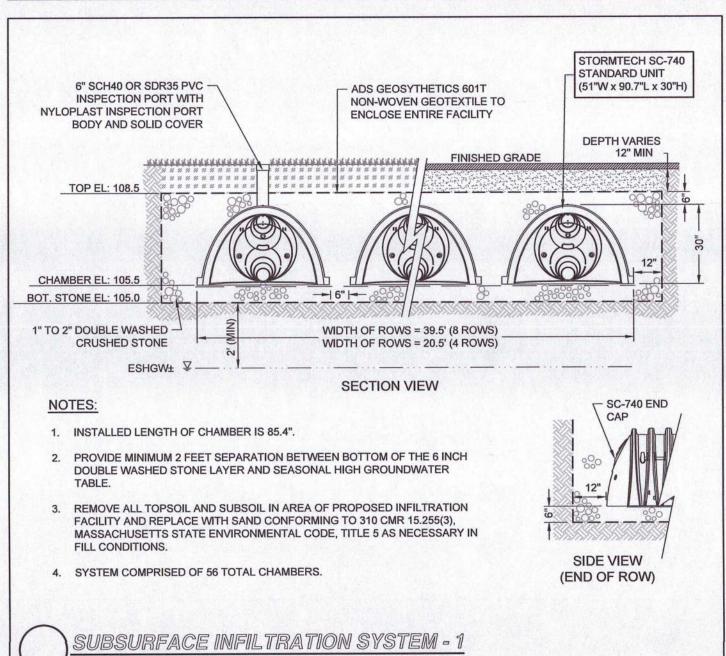
FRAME AND COVER

(DIAMETER VARIES)

N.T.S.







1. MANHOLES AND ALL COMPONENT PARTS SHALL BE OF

REINFORCED CONCRETE. APPROVED MANHOLE

OF MANHOLE.

ASTM C990/AASHTO M-198B

6" (60" DIA.)

6" (72" DIA.)

8" (96" DIA.)

- NON-WOVEN GEOTEXTILE MIRAFI

140N OR APPROVED EQUAL (SEE

SPECIFICATIONS)

YPICAL PRECAST CONCRETE DRAIN MANHOLE (DMH

GROUT (TYP.)

- WATERTIGHT NON-SHRINK

SIZE, STRENGTH AND CONFIGURATION AS SHOWN EXCEPT

THAT TOP SLABS MAYBE SUBSTITUTED FOR ECCENTRIC

CONE SECTIONS. MANHOLES SHALL BE AN ASSEMBLY OF

PER ASTM C478 OR MONOLITHICALLY, CAST-IN-PLACE

REINFORCED, PRECAST CONCRETE BASE RISER SECTIONS

STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED TO

MEET OR EXCEED H20 LOADING AND PREVENT LEAKAGE IN

EXCESS OF ONE (1) GALLON PER DAY PER VERTICAL FOOT

\* DMH DIAMETER

48" FOR PIPES UP TO 30"

72" FOR 48" PIPES

60" FOR 36" AND 42" PIPES

84" FOR 54" AND 60" PIPES

96" FOR 66" AND 72" PIPES

\* DMH DIA. ARE FOR STRAIGHT

TO ACCOMMODATE

ADDITIONAL PIPES

THROUGH PIPE. DIAMETER

MAY HAVE TO BE INCREASED

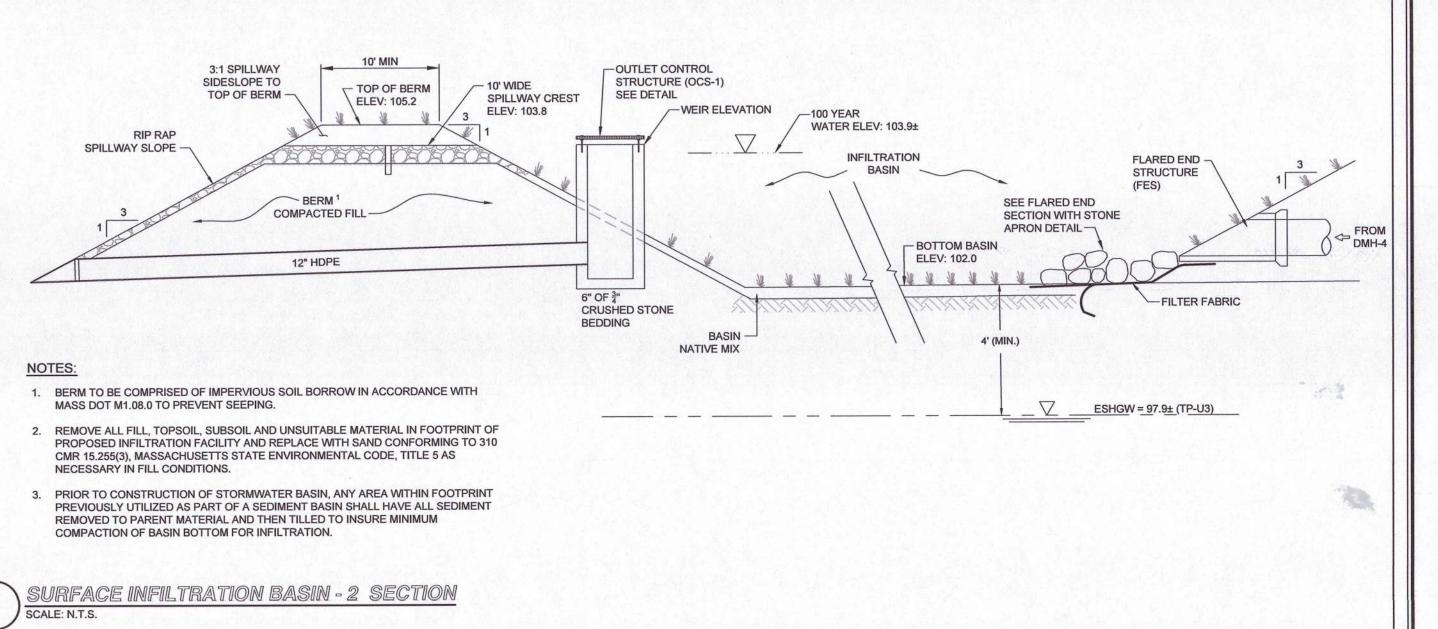
CONNECTING TO MANHOLE

2. MATERIALS AND METHODS OF INSTALLATION TO MEET OR

EXCEED LOCAL MUNICIPAL'S DPW SPECIFICATIONS.

O-RING RUBBER GASKET JOINT PER ASTM C443 OR

BUTYL RUBBER FLEXIBLE ROPE JOINT SEALANT PER



ADJUST TO GRADE WITH SEWER

BRICK PER ASTM C32, GRADE SS

PRECAST CONCRETE RINGS MAX

WORKS OR APPROVED EQUAL -

(OMA124000026) BY EAST JORDAN IRON

COVER TO BE LETTERED

"DRAIN" (3" HIGH LETTERS) -

12" MIN. (TYP)

SECTION

3/4" CRUSHED STONE -

COMPACTED SUBGRADE -

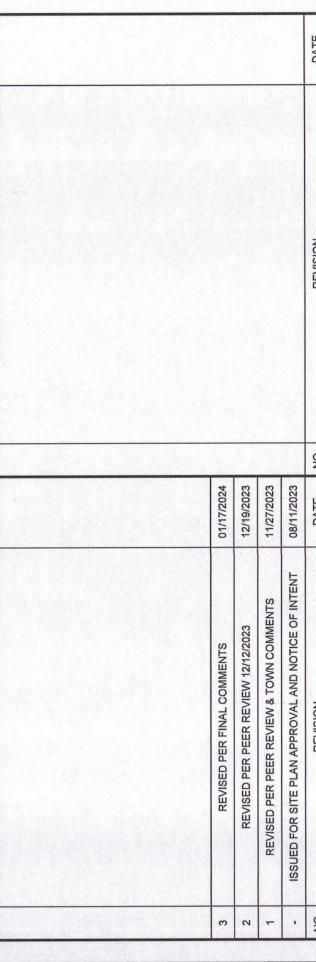
SET IN FULL MORTAR BED OR

24" DIA. MANHOLE FRAME

(OMA124000022) & COVER

12" ADJUSTMENT -





#### **RJO'CONNELL** & ASSOCIATES, INC. 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180

PHONE: 781.279.0180 RJOCONNELL.COM

PREPARED FOR:

#### MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

#### 912 SALEM STREET GROVELAND, MA



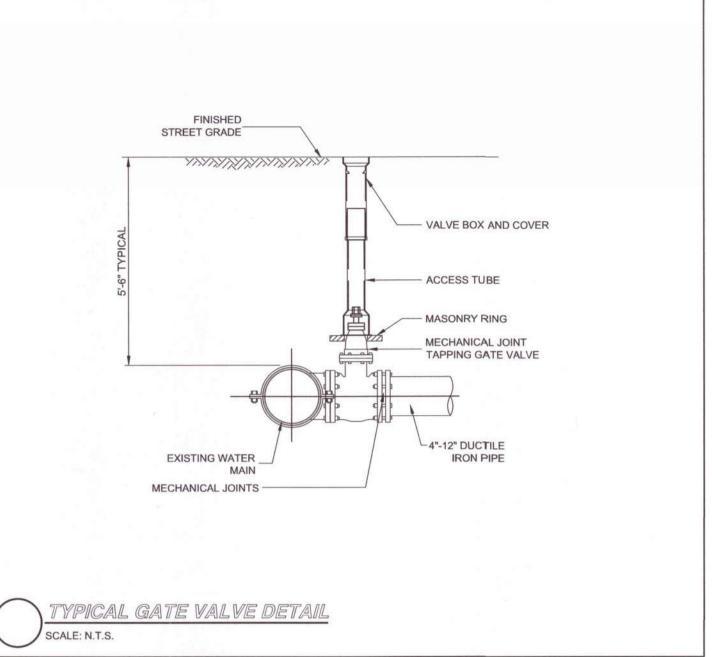
DRAWING NAME:	
DATE:	08/11/2023
SCALE:	N.T.S.
REVIEWED BY:	ACF
DRAWN BY:	HAA
DESIGNED BY:	SPG

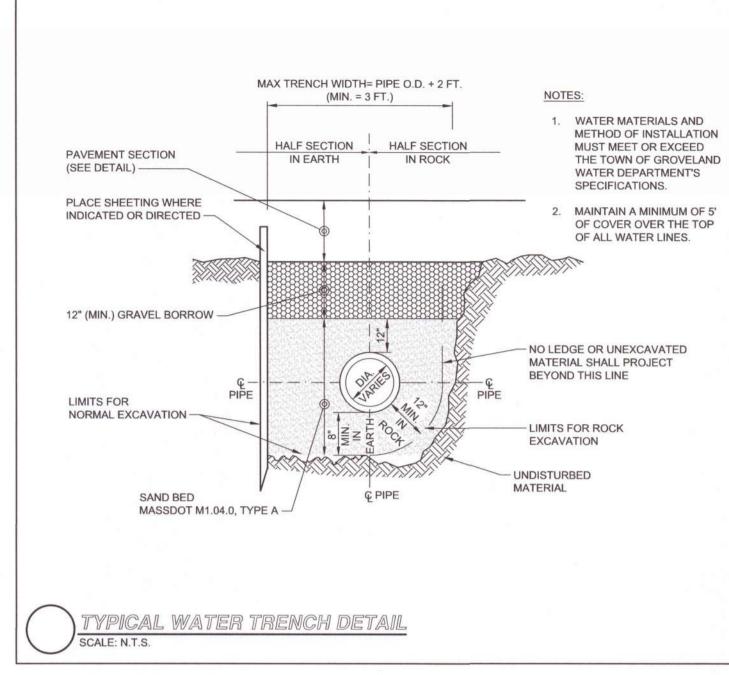
#### DRAINAGE DETAILS

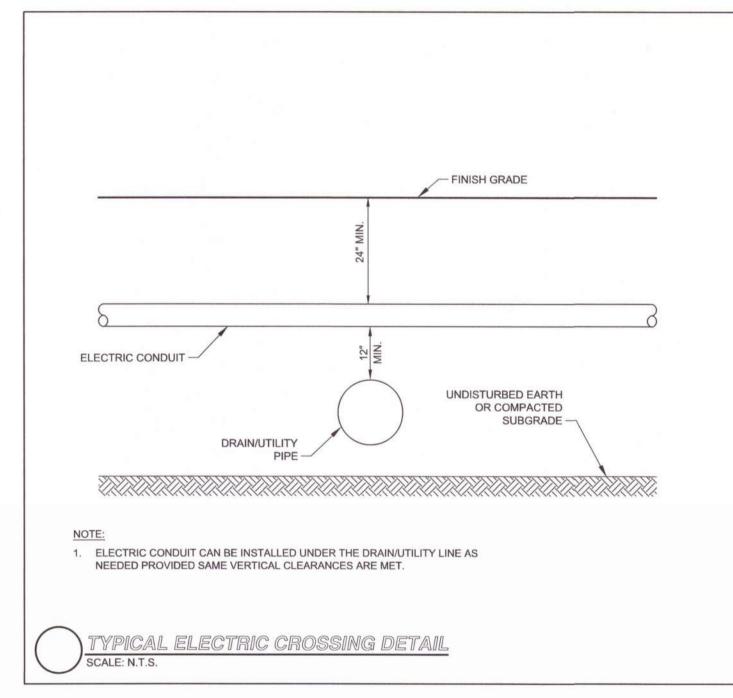
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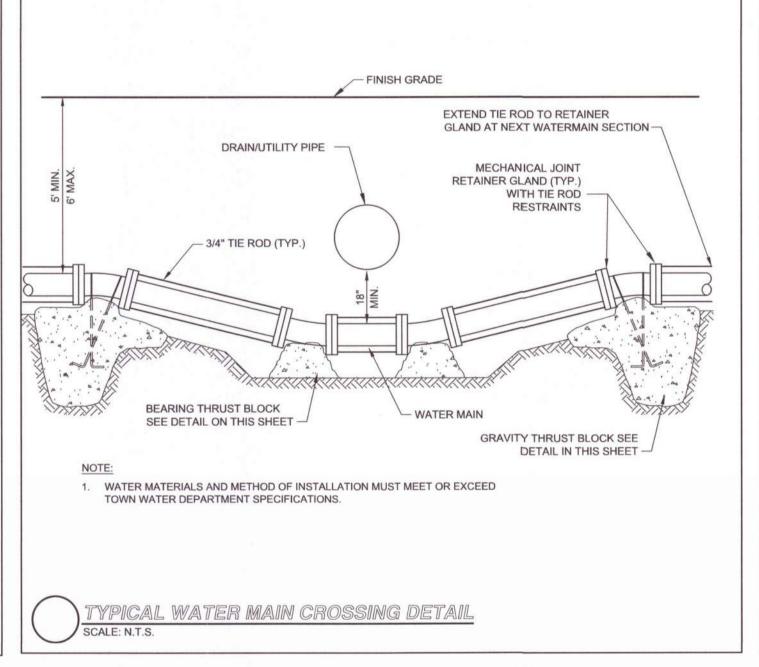
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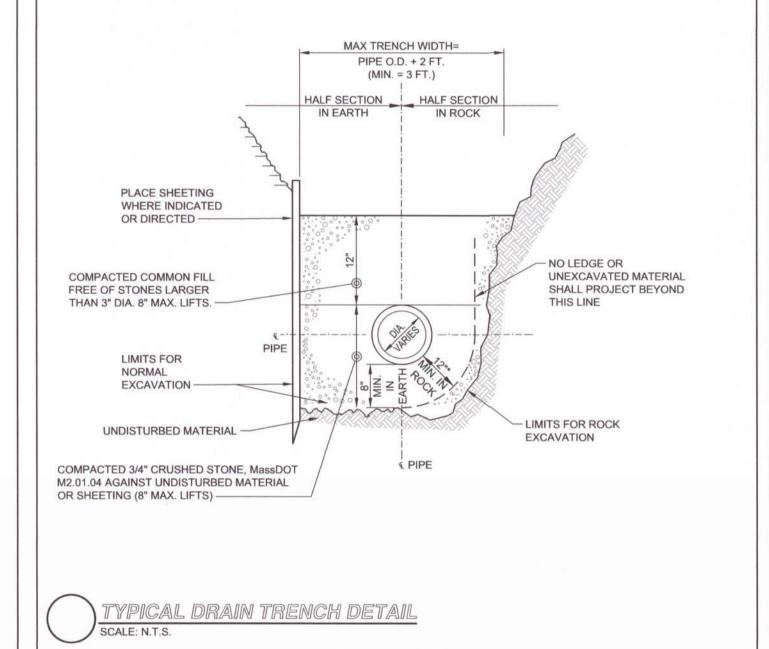
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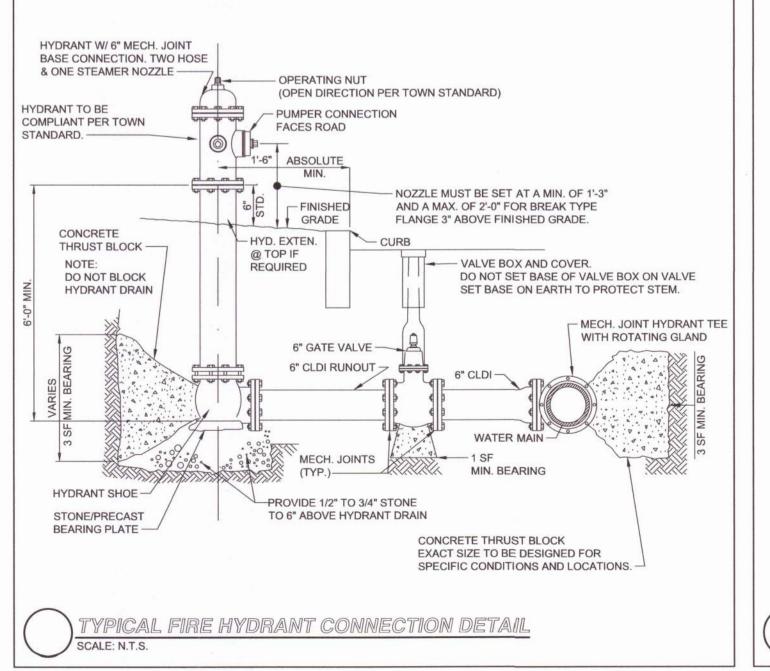


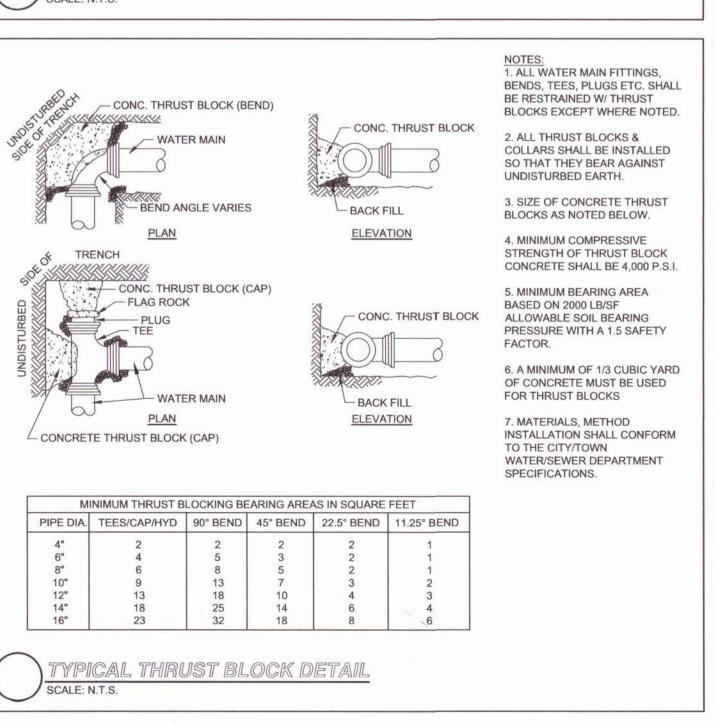




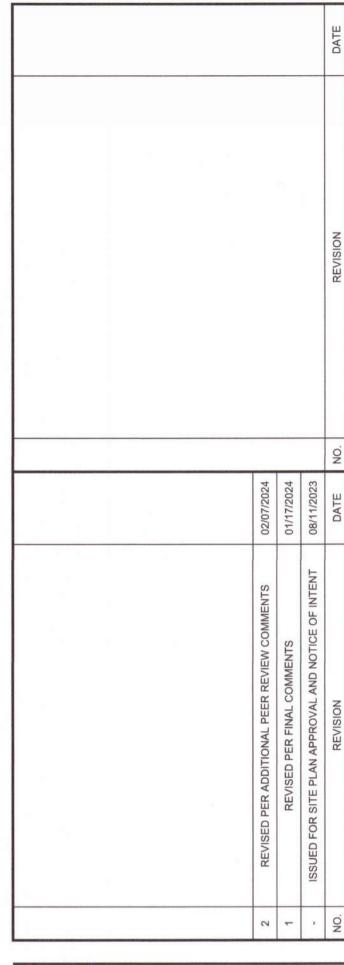












RJO'CONNELL & ASSOCIATES, INC.

CIVIL ENGINEERS, SURVEYORS & LAND PLANNERS
80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180
PHONE: 781.279.0180 RJOCONNELL.COM

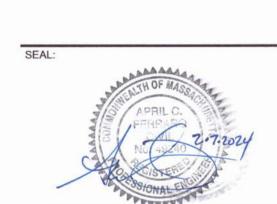
PREPARED FOR:

MARK A. ABARE

144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

912 SALEM STREET
GROVELAND, MA



DESIGNED BY:

DRAWN BY:

REVIEWED BY:

SCALE:

DATE:

DRAWING NAME:

SPG

HAA

ACF

N.T.S.

08/11/2023

**UTILITY DETAILS** 

DRAWING NUMBER:

**C-7** 

PROJECT NUMBER:

22021

THAT HAVE BEEN PREPARED BY A LICENSED ENGINEER. THE CONTRACTOR WILL SUBMIT TO THE ENGINEER A SET OF

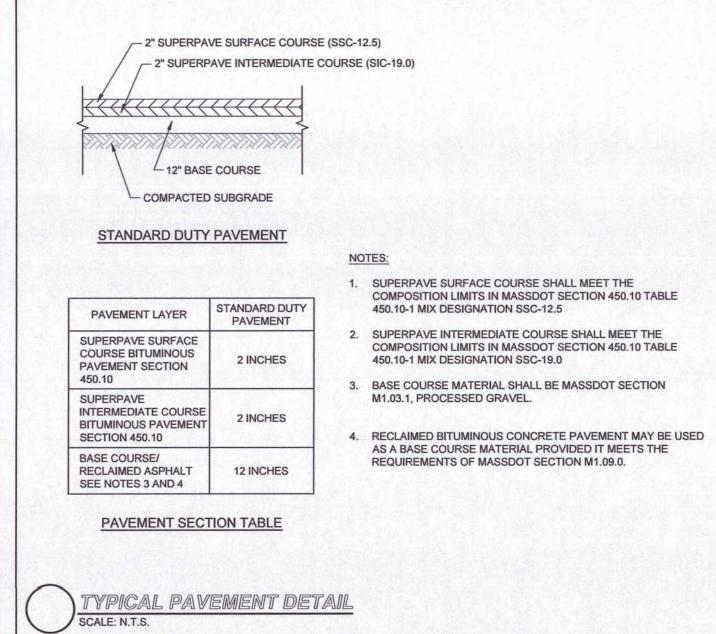
DESIGN OF RETAINING WALL TO INCLUDE A GLOBAL STABILITY ANALYSIS USING FEDERAL HIGHWAY ADMINISTRATION

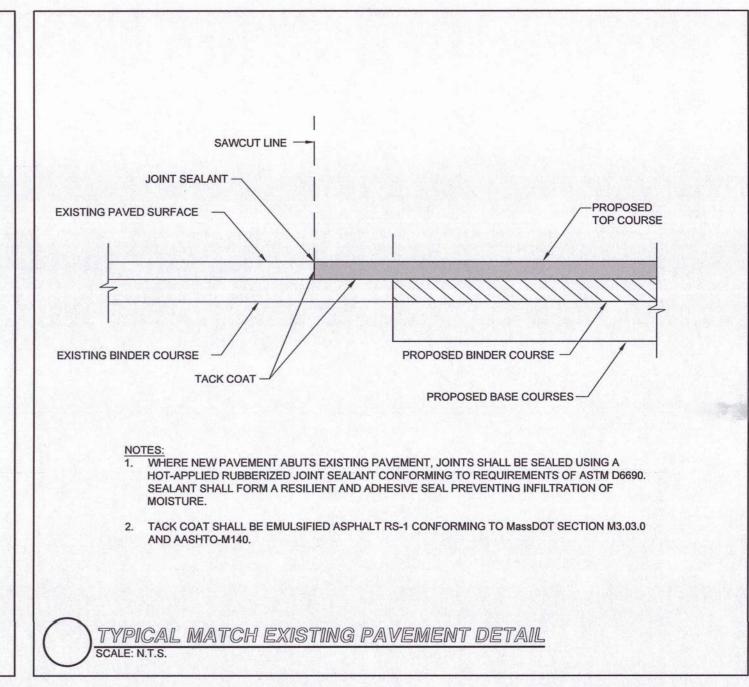
RETAINING WALL PLANS FOR REVIEW OF DIMENSIONAL REQUIREMENTS PRIOR TO INSTALLATION OF THE WALL.

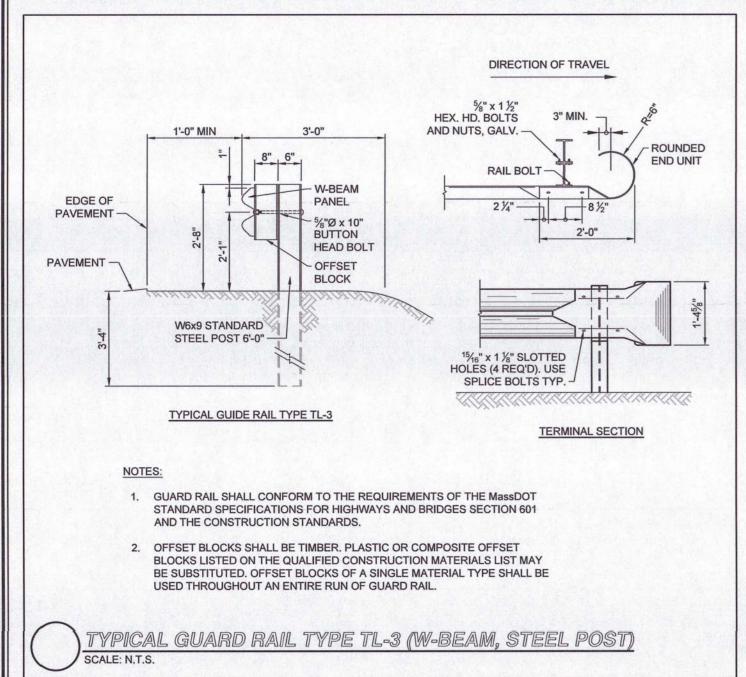
MODULAR CONCRETE RETAINING WALL

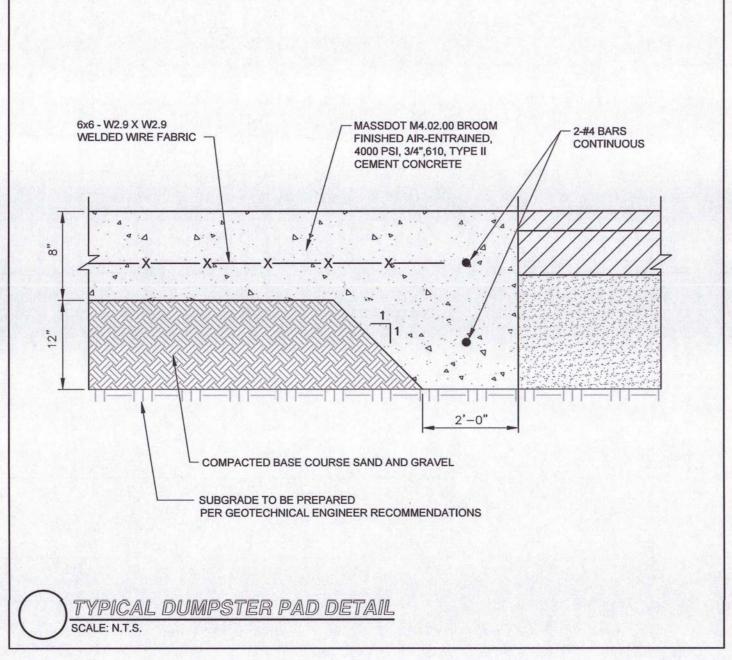
SCALE: N.T.S.

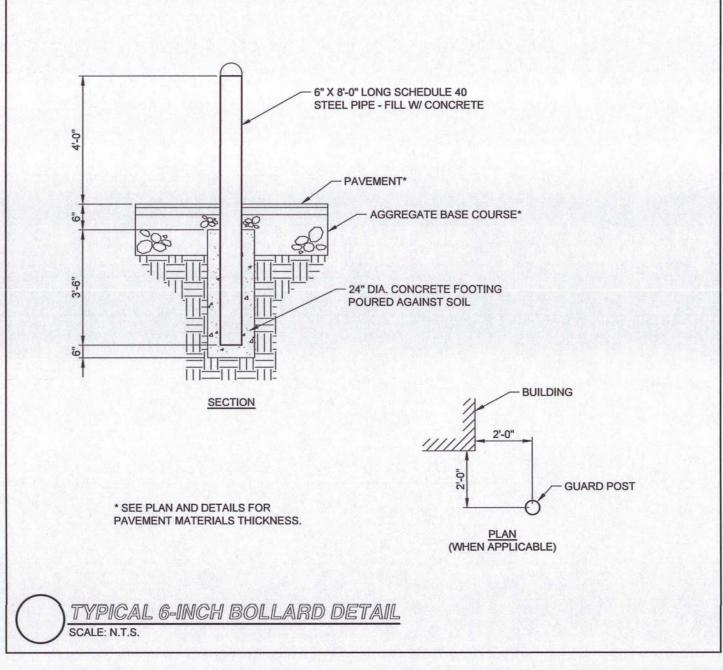
- 1x6 HORIZ. CEDAR BOARDS ON 1x6 VERT. CEDAR BOARDS WEATHER SEALED AND STAINED ON 2x6 WOOD FRAMING 8' HIGH 4x4 WOOD LINE POST (TYP.) -8' HIGH 6x6 GATE POST (TYP) -GATE POST SET IN 1'-6" DIA. CONCRETE 4'-0" DEEP (TYP) -PANEL ELEVATION 1x6 HORIZ. CEDAR BOARDS ON 1x6 VERT. CEDAR BOARDS WEATHER SEALED AND STAINED (TYP) 3" TUBE STEEL FRAME, FULLY WELDED -1035 SERIES STRAP HINGES BY RW HARDWARE (OR EQUAL). HINGES AND LATCH WITH EYE FOR PADLOCK (TYP) -8' HIGH 6x6 GATE POST (TYP) -GATE POST SET IN 1'-6" DIA. CONCRETE 4'-0" DEEP (TYP) -PIVOTING CANE BOLT - GATE LOCK WITH FLAT MOUNT FABRICATED FROM AND ADA STYLE LEVER (TYP) 1" DIA. STEEL ROD (TYP) \_\_ **GATE ELEVATION** TYPICAL WOODEN DUMPSTER ENCLOSURE SCALE: N.T.S.

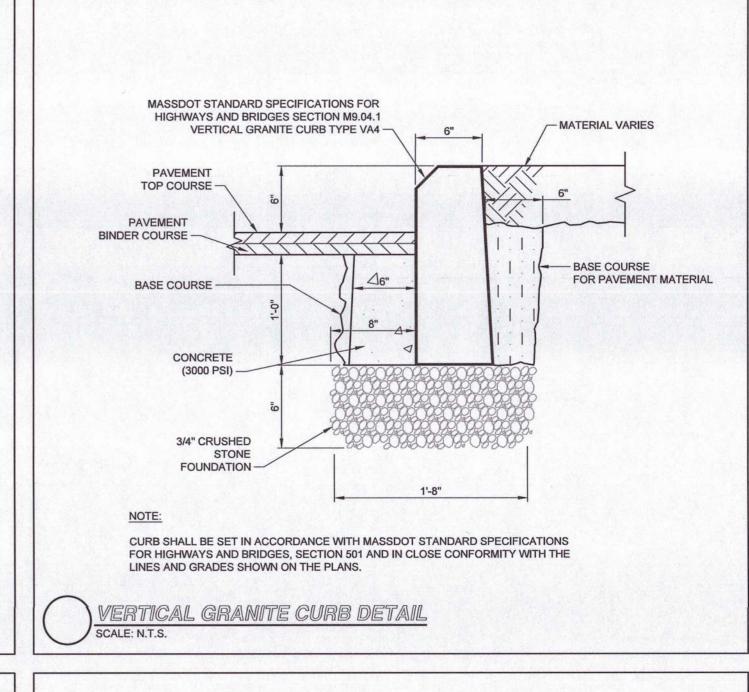


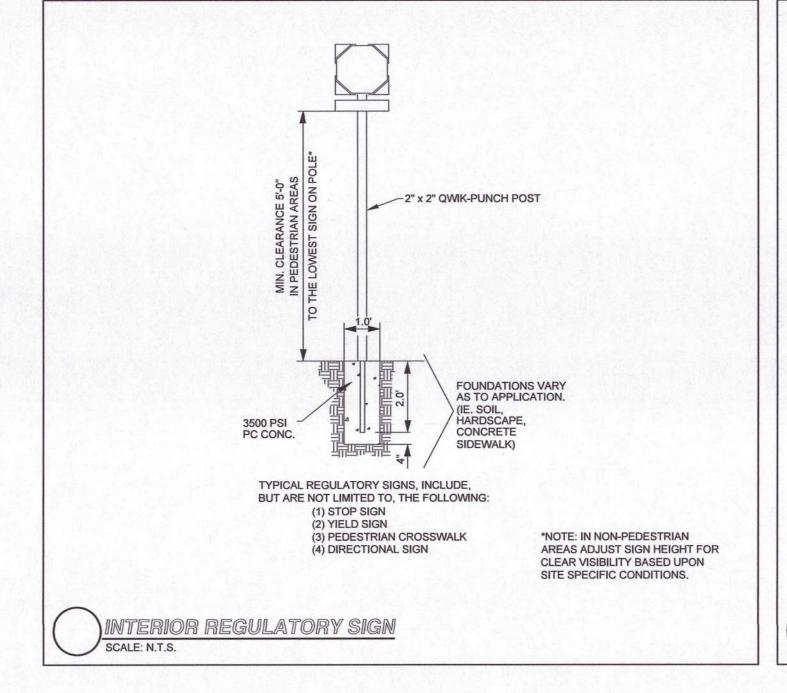


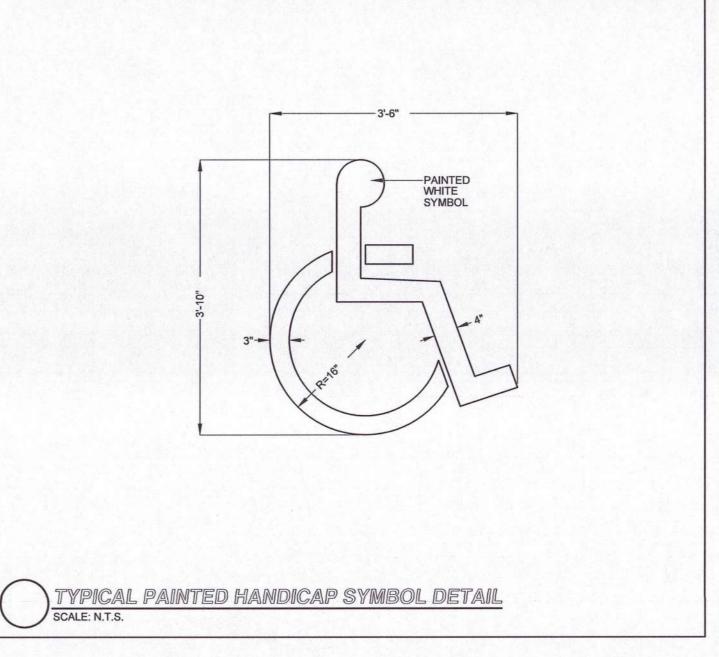


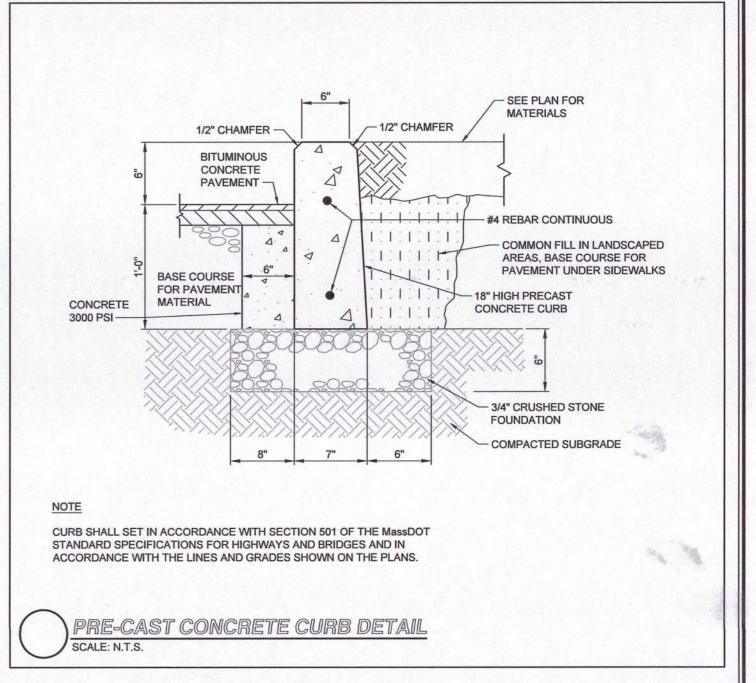




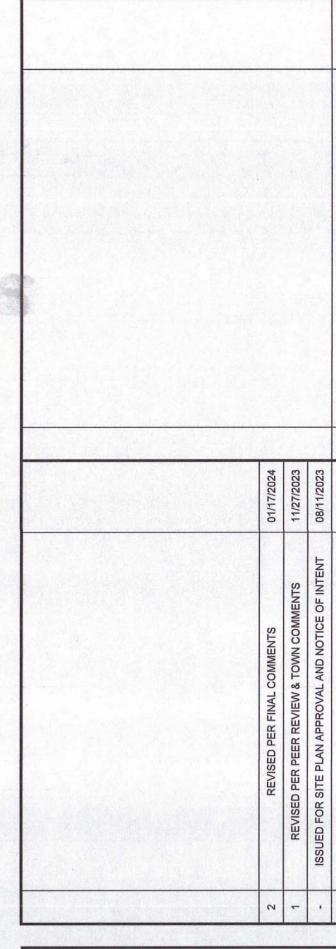












## RJO'CONNELL & ASSOCIATES, INC. 80 MONTVALE AVENUE, SUITE 201 STONEHAM, MA 02180

PREPARED FOR:

#### MARK A. ABARE

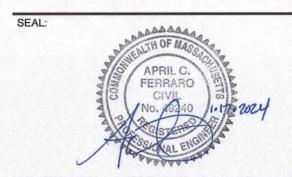
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144 HILLDALE AVENUE HAVERHILL MA 01832

PROJECT NAME:

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GROVELAND, MA



DESIGNED BY:	SPG
DRAWN BY:	HAA
REVIEWED BY:	ACF
SCALE:	N.T.S
DATE:	08/11/2023
DRAWING NAME:	

PARKING AND TRAFFIC CONTROL **DETAILS** 

PROJECT NUMBER:

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22021