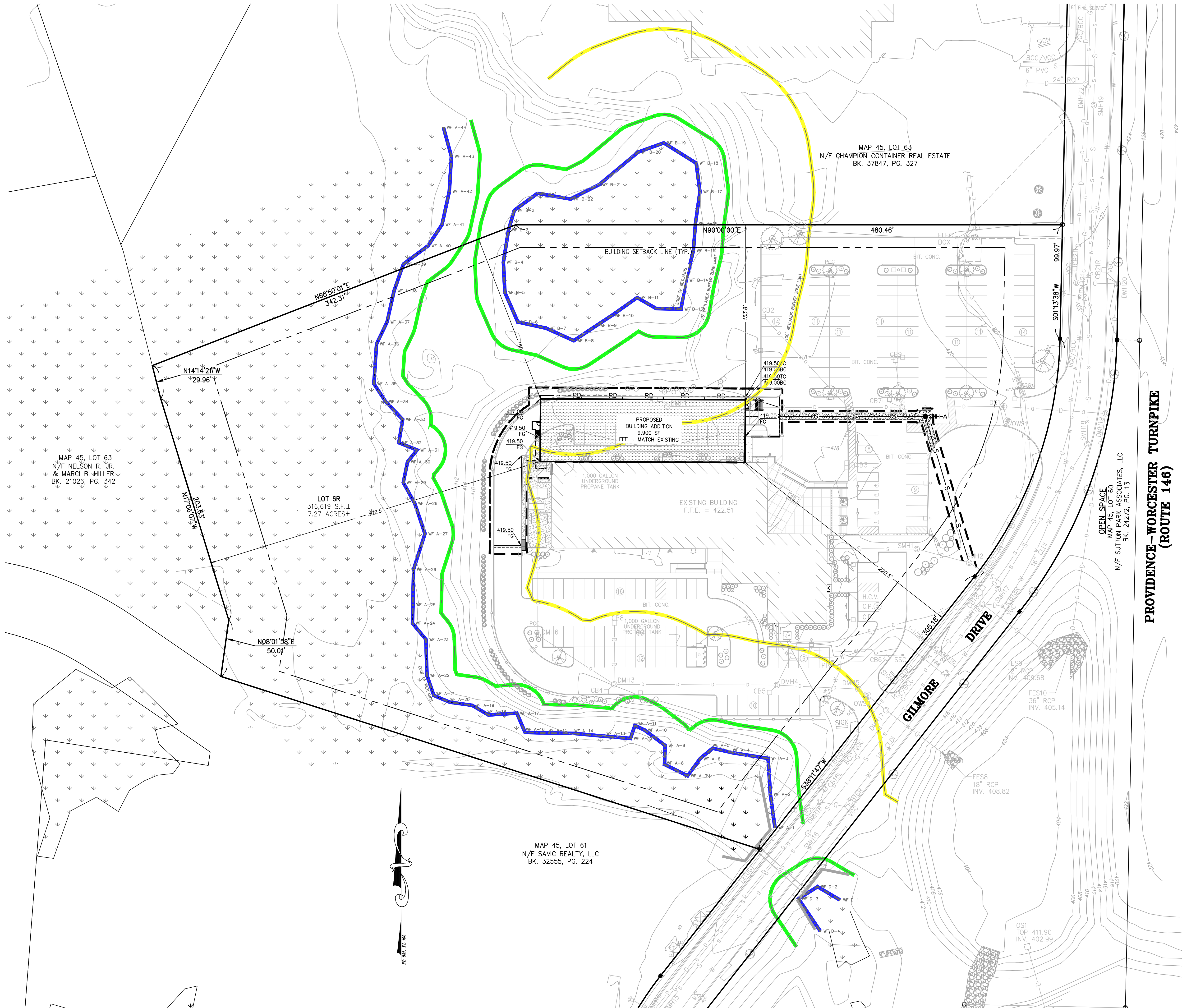
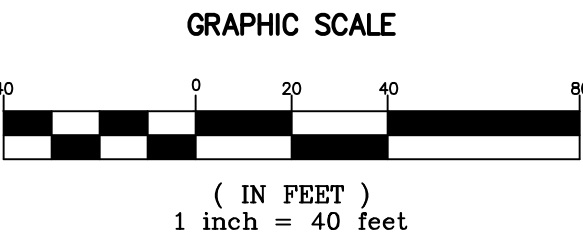


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ZONING REQUIREMENTS  
ZONE: OFFICE LIGHT INDUSTRIAL  
BUILDING SETBACKS:  
FRONT: 50 FEET  
SIDE: 20 FEET, 50 FEET ALONG R-1 DISTRICT



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FOR  
CONSTRUCTION

**ASE**  
Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning  
P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289



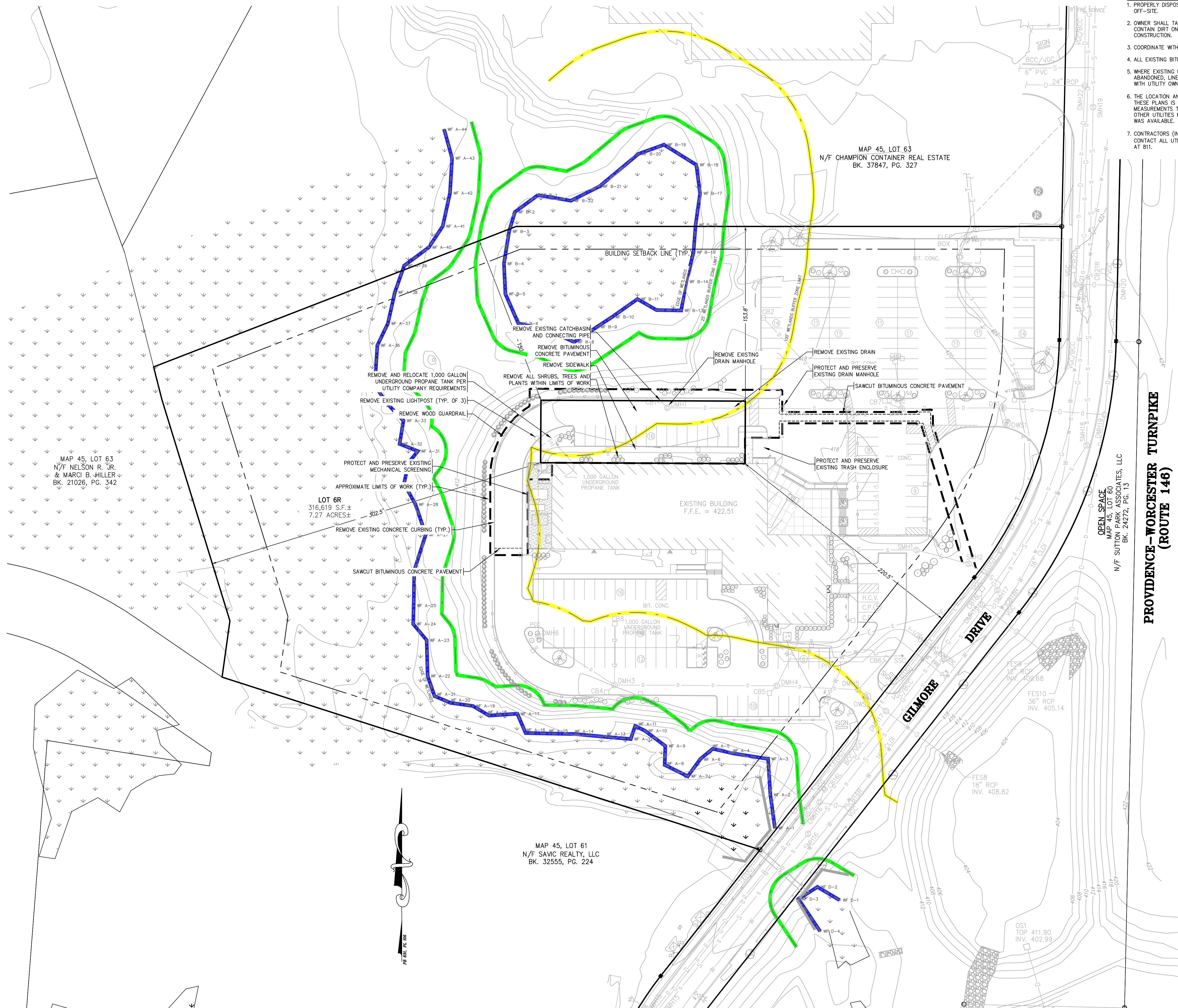
ADDITIONS & RENOVATIONS TO:  
**LIFESONG CHURCH**  
65 GILMORE DRIVE  
SUTTON, MA 01590

PROJECT #: 19-793  
ISSUE DATE: 02/03/2021  
DRAWN BY:  
CHECKED BY:

REVISIONS:  
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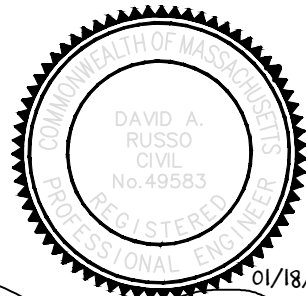
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**C1**  
EXISTING CONDITIONS PLAN





**DEMOLITION NOTES:**

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FOR  
CONSTRUCTION**



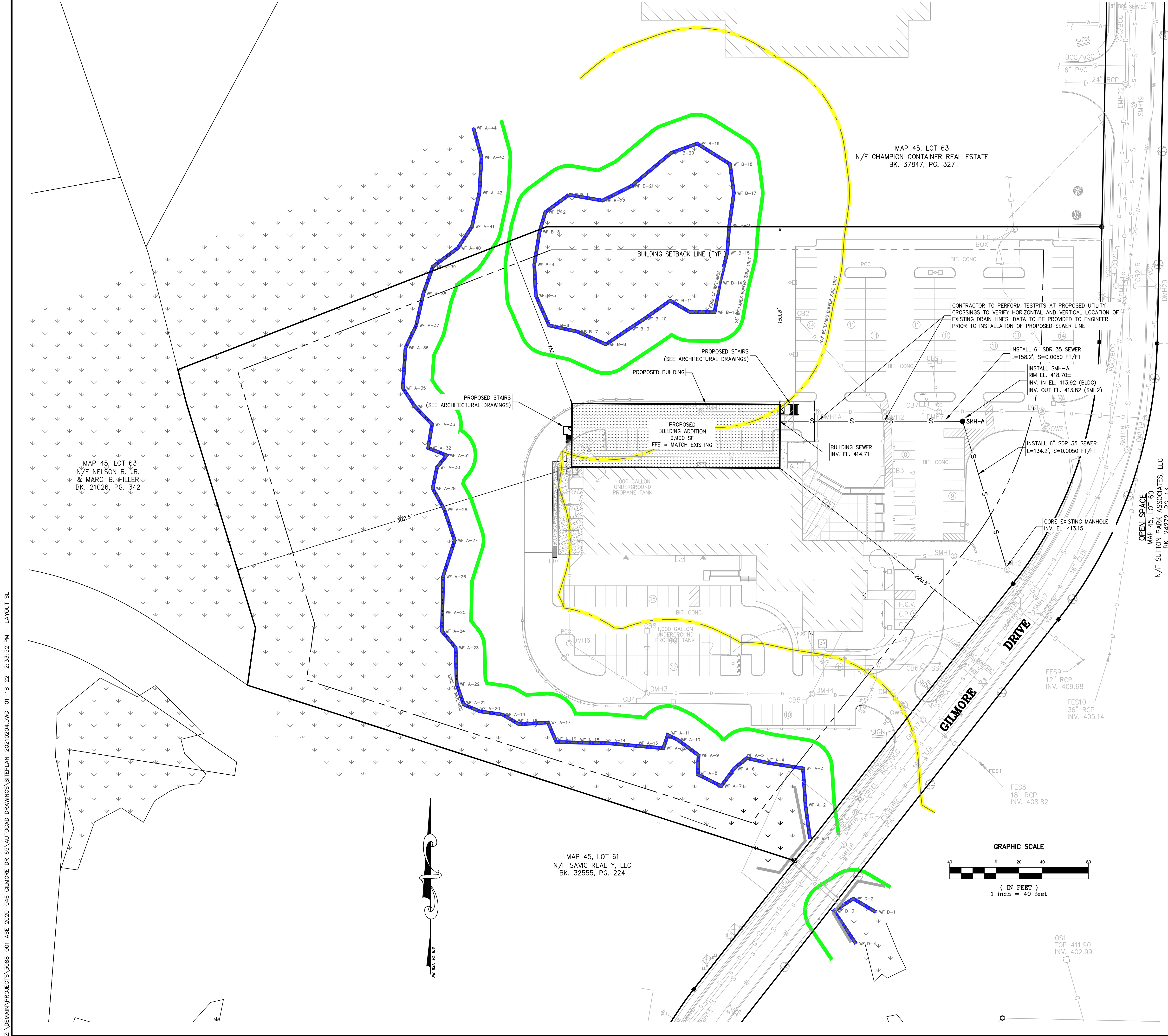
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 DRAWN BY: \_\_\_\_\_  
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**SHEET No.**



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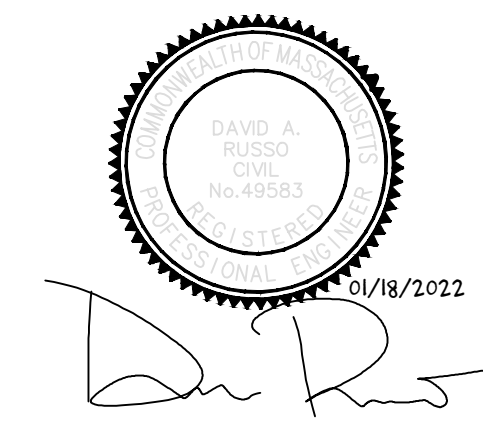
PROVIDENCE - WORCESTER TURNPIKE  
(ROUTE 146)

UTILITY NOTES:

1. LOCATION OF EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE WITH THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UPWARD. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL UTILITIES AND SERVICES INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION AT NO COST TO THE OWNER.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
5. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE INDIVIDUAL SERVICE PROVIDER RULES AND REGULATIONS AS WELL AS THE TOWN OF SUTTON REGULATIONS AND ORDINANCES.
6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE WATER SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY SERVICE. WHERE CONFLICTS EXIST WITH THESE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.
7. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER PERMITTING AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.
8. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION.
9. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTS.

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65 GILMORE DRIVE  
SUTTON, MA 01590

PROJECT #: 19-793  
ISSUE DATE: 02/03/2021  
DRAWN BY:  
CHECKED BY:

REVISIONS:

SHEET No.  
**C3**  
SITE LAYOUT AND  
UTILITIES PLAN







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GENERAL NOTES

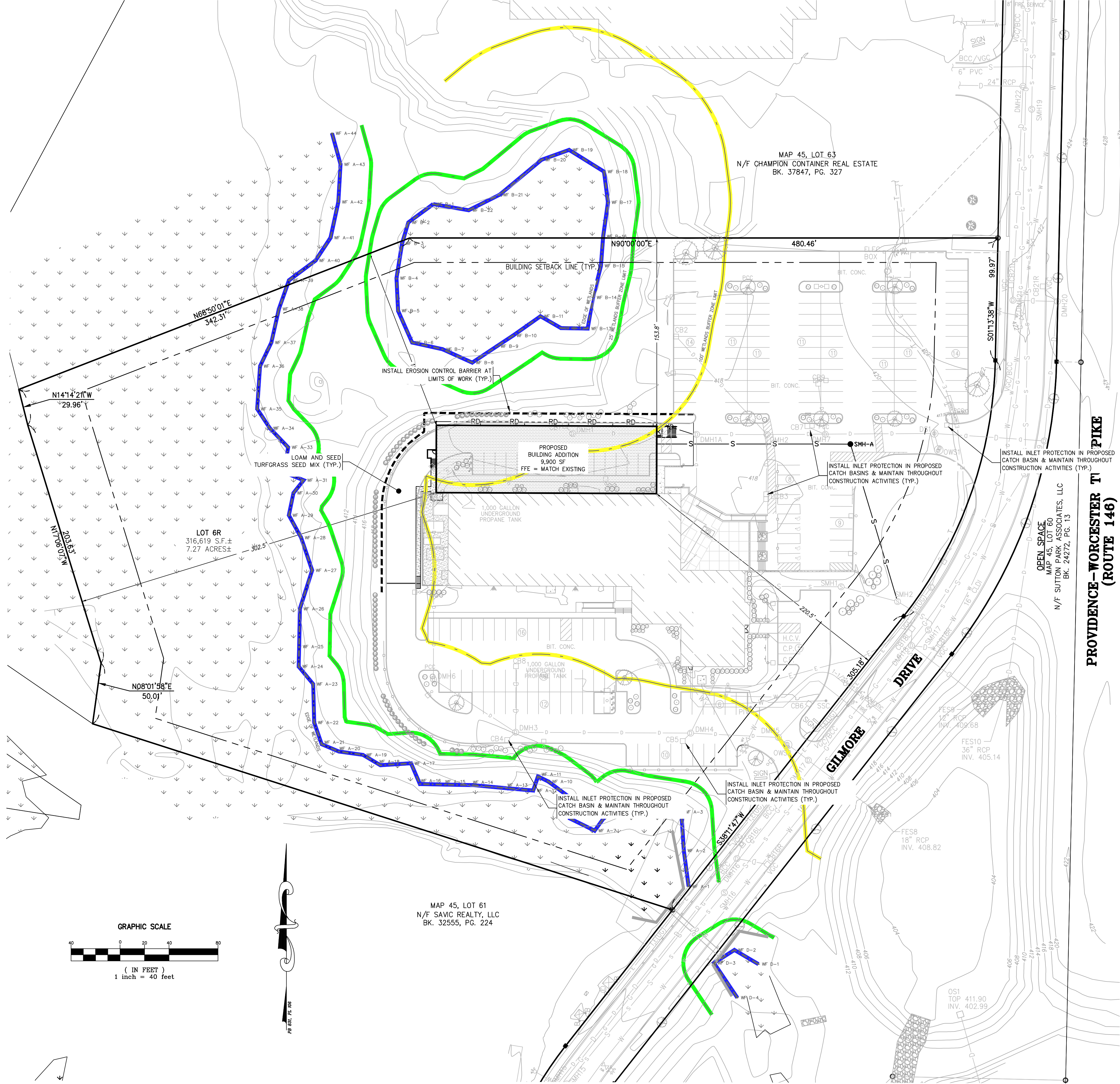
1) ALL BARE SOILS WITHIN THE LIMITS OF WORK THAT ARE NOT DESIGNATED AS PLANT BEDS OR PERENNIAL SEED BEDS SHALL BE SOWN WITH TURFGRASS, NEW ENGLAND WILDFLOWER MIX OR NORTHEAST CONSERVATION/WILDLIFE SEED MIX. ALL SEEDING SHALL BE IN ACCORDANCE WITH THE TECHNICAL NOTES BELOW.

TECHNICAL NOTES FOR TURFGRASS & PERENNIAL SEEDING:

- 1) **SCOPE OF WORK:** FOR THIS PROJECT, THE WORK SHALL INCLUDE SEEDING AREAS DENUDIED BY CONSTRUCTION.
- 2) ALL AREAS SHALL BE SEEDED WITHIN 30 DAYS AFTER FINISHED GRADES ARE ESTABLISHED AND OTHER ELEMENTS INCLUDED IN THIS CONTRACT ARE CONSTRUCTED.
- 3) **SEED SPECIFICATIONS:**
- A) CERTAIN AREAS ON THE PLAN SHALL BE SEEDED WITH PERENNIAL SEED MIXES AS LABELED ON SHEET L-1. THESE SEED MIXES SHALL BE SUPPLIED BY NEW ENGLAND WETLAND PLANTS, AMHERST, MA, PHONE # 413-548-800. PREPARE SOIL AND SOW SEED IN ACCORDANCE WITH THIS COMPANY'S INSTRUCTIONS FOR EACH TYPE OF SEED MIX.
- B) TURFGRASS: AREAS RECEIVING FULL SUN OR PART SHADE
- FESCUE/BUEGRASS/PERENNIAL RYEGRASS MIXTURE:  
MIXTURE REQUIREMENTS ARE AS FOLLOWS (WITH APPROXIMATE PERCENTAGES):
- 35% FINE FESCUE (ENDOPHYTIC)  
35% KENTUCKY BLUEGRASS  
30% PERENNIAL RYEGRASS (ENDOPHYTIC)
- C) TURFGRASS: AREAS RECEIVING MOSTLY SHADE:
- FESCUE/PERENNIAL RYEGRASS MIXTURE:  
MIXTURE REQUIREMENTS ARE AS FOLLOWS (WITH APPROXIMATE PERCENTAGES):
- 90% FINE FESCUE (ENDOPHYTIC)  
10% PERENNIAL RYEGRASS (ENDOPHYTIC)
- D) ANY PROPOSED SUBSTITUTIONS SHALL BE PRESENTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO SEEDING.
- E) ALL TURFGRASS SEED SHALL HAVE A MINIMUM PURITY OF 98 PERCENT AND A GERMINATION RATE OF 85 PERCENT.
- F) ALL TURFGRASS SEED SHALL BE LABELED TO SHOW THAT IT IS WITHIN THE REQUIREMENTS OF THE USDA AS TO PURITY, GERMINATION, AND PRESENCE OF RESTRICTED OR PROHIBITED WEEDS.
- 4) **BED PREPARATION FOR AREAS TO BE SEEDED WITH TURFGRASS:** A ROTOVATOR, CHISEL PLOW, OR CULTIVATOR SHALL BE USED TO WORK THE SOIL TO A DEPTH OF SIX INCHES. AFTER THIS OPERATION, REMOVE AND DISPOSE OF STICKS, STONES OVER 1 INCH DIAMETER, AND RUBBISH TO A MINIMUM DEPTH OF TWO INCHES.
- 5) **LIME AND NUTRIENTS FOR TURFGRASS AREAS:** LIME SHALL BE GROUND DOLOMITIC LIMESTONE, APPLIED AT THE RATE OF 50 POUNDS PER 1000 SQUARE FEET. LIME SHALL BE WELL-MIXED INTO THE TOP THREE INCHES OF LOAM.
- 6) **FERTILIZER FOR TURFGRASS AREAS:** FERTILIZER SHALL BE A COMMERCIAL GRADE WITH A MINIMUM OF 50 PERCENT OF THE NITROGEN COMPONENT IN A CONTROLLED RELEASE FORM LABELED TO RELEASE NITROGEN FOR A MINIMUM OF SIX WEEKS. FERTILIZER SHALL HAVE AN N/P/K RATIO IN THE RANGE OF 1:1:1 TO 1:2:2. IT SHALL BE APPLIED AT A RATE WHICH ACHIEVES ONE POUND OF NITROGEN PER 1000 SQUARE FEET.
- 7) **SEEDING PROCEDURE FOR TURFGRASS:** SOWING OF SEED SHALL BE DONE ONLY AFTER THE PREPARED SOIL, TO WHICH LIME AND FERTILIZER HAVE BEEN ADDED AS SPECIFIED, HAS BEEN THOROUGHLY SETTLED BY RAINFALL OR ARTIFICIAL WATERING. IMMEDIATELY BEFORE ANY SEED IS SOWN, THE GROUND SHALL BE SCARIFIED AS SPECIFIED. LAWN AREAS SHALL BE SEEDED EVENLY WITH A MECHANICAL SPREADER. SEED MIXTURES SHALL BE SOWN AT A RATE OF 5 POUNDS PER 1000 SQUARE FEET. AFTER SEEDING, THE LAWN SHALL BE LIGHTLY RAKED, ROLLED WITH A 200-POUND ROLLER, AND WATERED WITH A FINE SPRAY. THIS METHOD OF SEEDING MAY BE VARIED AT THE DISCRETION OF THE CONTRACTOR ON HIS OWN RESPONSIBILITY TO ESTABLISH A SMOOTH, UNIFORMLY GRASSED LAWN.
- 8) SEED FOR PERMANENT TURFGRASS SHALL ONLY BE SOWN FROM THE THIRD WEEK IN APRIL THROUGH JUNE AND DURING THE MONTH OF SEPTEMBER.
- 9) **TEMPORARY SEEDING FOR EROSION CONTROL:** IN THE EVENT THAT THE CONTRACT IS SUSPENDED, TEMPORARY SEEDING SHALL BE USED ON ANY BARE AREAS THAT MAY BE SUBJECT TO EROSION AND WHERE TEMPORARY VEGETATION CAN BE USED TO RETARD EROSION FROM 2 TO 12 MONTHS. THE SEED TYPE USED FOR TEMPORARY COVER SHALL BE 100 PERCENT TALL FESCUE APPLIED AT A RATE OF 300 POUNDS PER ACRE.
- 10) **MAINTENANCE:** MAINTAIN THE TURFGRASS FROM TIME OF INSTALLATION UNTIL THE FINAL INSPECTION IMMEDIATELY PRIOR TO THE BEGINNING OF THE GUARANTEE PERIOD. MAINTENANCE SHALL INCLUDE WATERING OF TURF AREAS, REPAIRS TO TURF AREAS, AND OTHER NECESSARY OPERATIONS. THE MAINTAINED TURF AREAS SHALL BE MOVED TO A UNIFORM HEIGHT OF APPROXIMATELY TWO AND ONE-HALF INCHES. MOWING SHALL BE PROVIDED AS REQUIRED SO THAT THE TURF NEVER EXCEEDS FOUR INCHES IN HEIGHT. TURF SHALL BE PROTECTED AND REPLANTED AS NECESSARY TO ESTABLISH A UNIFORM STAND OF THE SPECIFIED TURFGRASS UNTIL ACCEPTANCE. BARE SPOTS, NONE OF WHICH IS LARGER THAN ONE SQUARE FOOT, WILL BE ALLOWED UP TO A MAXIMUM OF THREE PERCENT OF ANY TURF AREA. WHEN TURF AREAS ARE READY FOR FINAL INSPECTION, THE MAINTAINED TURF AREAS SHALL BE NEATLY MOVED TO THE UNIFORM HEIGHTS AS NOTED ABOVE. THE LAWNS SHALL BE CONSIDERED ESTABLISHED ONLY WHEN THE SPECIFIED GRASS IS VIGOROUS AND GROWING WELL IN ADDITION TO MEETING THE OTHER REQUIREMENTS SPECIFIED. AT THE TIME OF ACCEPTANCE FOLLOWING FINAL INSPECTION, THE CONTRACTOR IS RELIEVED OF ROUTINE MAINTENANCE RESPONSIBILITIES FOR THE TURF UNDER THIS CONTRACT.
- 11) **FINAL INSPECTION, CLEANUP AND COMPLETION:** FINAL INSPECTION SHALL BE FOR THE COMPLETED LANDSCAPE AND SHALL BE MADE AT THE CONCLUSION OF THE LANDSCAPE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL EQUIPMENT AND OTHER ARTICLES USED. ALL EXCESS SOIL, STONES, AND DEBRIS SHALL BE REMOVED FROM THE SITE. ALL WORK AREAS SHALL BE LEFT IN A CLEAN AND NEAT CONDITION. ALL DAMAGE TO EXISTING CONSTRUCTION CAUSED BY THE LANDSCAPING OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- 12) **QUARANTY AND REPLACEMENT:** IF A SATISFACTORY STAND OF MAINTAINED TURF HAS BEEN PRODUCED AT THE TIME OF FINAL INSPECTION, IT SHALL BE GUARANTEED THROUGH ONE COMPLETE GROWING SEASON. IF RENOVATION AND/OR RESEEDING ARE REQUIRED AT THE END OF THE GUARANTEE PERIOD, THIS WORK SHALL BE DONE IN CONFORMANCE WITH THE REQUIREMENTS NOTED ABOVE. IF A SATISFACTORY STAND OF MAINTAINED TURF HAS NOT BEEN PRODUCED AT THE TIME OF FINAL INSPECTION, NECESSARY REPAIRS SHALL BE PERFORMED IN CONFORMANCE WITH THE REQUIREMENTS NOTED ABOVE. UPON COMPLETION OF THESE REPAIRS, THE TURF GRASS SHALL BE GUARANTEED AS NOTED ABOVE.

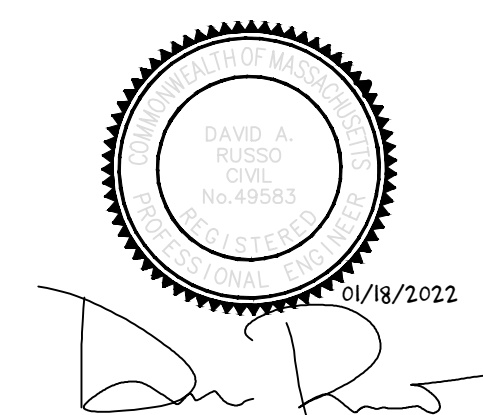
TECHNICAL NOTES FOR LOAM BORROW:

- 1) **SCOPE OF WORK:** FOR THIS PROJECT, THE WORK SHALL INCLUDE PLACING LOAM ON ALL AREAS TO RECEIVE PLANTS AND TURFGRASS SEEDING.
- 2) THE CONTRACTOR SHALL FURNISH A CERTIFIED LABORATORY REPORT SHOWING THE SOILS CLASSIFICATION AND NUTRIENT ANALYSIS OF REPRESENTATIVE SAMPLES OF THE LOAM THIS IS PROPOSED TO BE USED, INCLUDING THE EXTENT OF LIME AND FERTILIZER REQUIRED. ALL COSTS FOR SUCH WORK SHALL BE BORNE BY THE CONTRACTOR.
- 3) IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF THIS PROJECT, EXISTING ON-SITE SOIL MAY BE RE-USED AS LOAM BORROW ONLY IF IT MEETS THIS SPECIFICATION. EXISTING TOPSOIL THAT DOES NOT MEET THIS SPECIFICATION MAY BE RE-USED ONLY UP TO THE SUBGRADE ELEVATION WITHIN THE LIMITS OF AREAS TO RECEIVE NEW LOAM BORROW. THE CONTRACTOR SHALL FURNISH ALL REQUIRED LOAM BORROW, FROM OFF-SITE SOURCES, AS NECESSARY, TO COMPLETE THE PROJECT.
- 4) SCREENED LOAM SHALL BE "FINE SANDY LOAM" OR "SANDY LOAM" DETERMINED BY MECHANICAL ANALYSIS (ASTM D-422) AND BASED ON THE "USDA CLASSIFICATION SYSTEM". SCREENED LOAM SHALL HAVE THE FOLLOWING MECHANICAL ANALYSIS:
- | TEXTURAL CLASS %          | % OF TOTAL WEIGHT | AVERAGE % |
|---------------------------|-------------------|-----------|
| SAND (0.05 - 2.0 MM)      | 45 - 75           | 60        |
| SILT (0.002 - 0.05 MM)    | - 35              | 25        |
| CLAY (LESS THAN 0.002 MM) | 5 - 20            | 15        |
- 5) SCREENED LOAM SHALL BE A NATURAL PRODUCT CONSISTING PRIMARILY OF NATURAL TOPSOIL, FREE FROM SUBSOIL, AND OBTAINED FROM AN AREA THAT HAS NEVER BEEN STRIPPED BEFORE. SCREENED LOAM SHALL NOT CONTAIN LESS THAN FIVE PERCENT (5%) NOR MORE THAN TEN PERCENT (10%) ORGANIC MATTER. TO ADJUST ORGANIC MATTER CONTENT, THE SOIL MAY BE AMENDED, PRIOR TO SITE DELIVERY, BY THE ADDITION OF COMPOSTED LEAF MOLD OR PEAT MOSS. NO MIXING OR AMENDING OF LOAM IS PERMITTED ON SITE.
- 6) THE LOAM SHALL NOT BE DELIVERED IN A WET OR FROZEN CONDITION.
- 7) SCREENED LOAM SHALL CONSIST OF FERTILE, FRIABLE, LOAM CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. LOAM SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND REFUSE. IT SHALL BE A HOMOGENEOUS MATERIAL FREE OF STONES GREATER THAN ONE-HALF (1/2) INCH IN THE LONGEST DIMENSION; FREE OF LUMPS, PLANTS, GRASS, ROOTS, STICKS, EXCESSIVE STONE CONTENT, DEBRIS, AND EXTRANEOUS MATTER AS DETERMINED BY THE OWNER.
- 8) SCREENED LOAM SHALL BE WITHIN THE PH RANGE OF 6.0 TO 6.5. IT SHALL BE UNCONTAMINATED BY SALT WATER, FOREIGN MATTER, AND SUBSTANCES HARMFUL TO PLANT GROWTH. THE MAXIMUM SOLUBLE SALT INDEX SHALL BE 100. SCREENED LOAM SHALL NOT HAVE LEVELS OF ALUMINUM GREATER THAN 200 PARTS PER MILLION.
- 9) SEE TURFGRASS NOTES FOR LIME AND FERTILIZER REQUIREMENTS FOR LAWN AREAS.
- 10) TOPSOIL STRUCTURE SHALL NOT BE DESTROYED THROUGH EXCESSIVE AND UNNECESSARY HANDLING OR COMPACTION. INAPPROPRIATE HANDLING LEADING TO THE COMPACTION OF DETERIORATION OF SOIL STRUCTURE WILL RESULT IN REJECTION OF TOPSOIL FOR USE.
- 11) AT NO TIME SHALL EQUIPMENT OR MATERIAL REST ON THE SOIL.
- 12) THE CONTRACTOR SHALL FURNISH AND SPREAD LOAM TO A MINIMUM 4-INCH DEPTH (AFTER SOIL SETTLEMENT) IN ALL LAWN AND PLANT BED AREAS. THE TOP OF THE SETTLED LOAM BORROW LAYER SHALL BE TO GRADES SPECIFIED ON THE DRAWINGS. NO COMPACTION SHALL BE REQUIRED BEYOND THAT EXTENT NECESSARY TO PLACE SOD OR TO PLANT TREES AND SHRUBS TO ENSURE AGAINST UNEVENNESS OR SETTLING BELOW ACCEPTED GROWTH LINES.



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SUTTON, MA 01590

PROJECT #: 19-793  
ISSUE DATE: 02/03/2021  
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SHEET No.  
**C5.1**  
EROSION & SEDIMENT  
CONTROL PLAN



EROSION AND SEDIMENT CONTROL REQUIREMENTS

PART 1 – GENERAL  
1.01 SUMMARY

A. FURNISH, INSTALL, AND MAINTAIN TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS, BUT NOT NECESSARILY LIMITED TO, STRAW BALE AND SILT FENCE BARRIERS, RIPRAP, VEHICLE TRACKING PADS, DIVERSION CHANNELS AND BERMS, CHECK DAMS, STRATEGICALLY LOCATED STOCKPILES, SEDIMENT BASINS, MULCH, AND SEED MIX (HEREINAFTER "CONTROL MEASURES") ADEQUATE TO PREVENT THE CONVEYANCE OF EROSION PRODUCTS (E.G. SOIL, MULCH, SOD) OFF SITE, OR INTO ENVIRONMENTALLY SENSITIVE AREAS, OR INTO AREAS WHERE WORK WILL BE ADVERSELY IMPACTED. ENVIRONMENTALLY SENSITIVE AREAS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, WETLANDS, TRIBUTARIES TO WETLANDS, WETLAND BUFFER ZONES, INTERMITTENT AND PERENNIAL STREAMS / RIVERS, AND THEIR ATTENDANT BUFFER ZONES.

ALL METHODS AND MATERIALS USED FOR EROSION CONTROL SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN "EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS A GUIDE FOR PLANNERS, DESIGNERS, AND MUNICIPAL OFFICIALS" AS PUBLISHED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF RESOURCE PROTECTION, UNLESS OTHERWISE APPROVED IN WRITING.

1. REFER TO DRAWINGS FOR LOCATION AND DETAILS OF LIMITS OF DISTURBANCE AND CONTROL MEASURES REQUIRED TO COMMENCE WORK. LIMITS OF DISTURBANCE SHALL BE MARKED WITH TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES. CONTROL MEASURES WILL BE ADEQUATE ONLY FOR VEGETATION CLEARING. THE DRAWINGS ARE NOT INTENDED TO GRAPHICALLY DEPICT ALL CONTROL MEASURES THAT WILL BE REQUIRED TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A.

2. DEVISE AND EMPLOY CONTROL MEASURES THROUGHOUT THE DURATION OF PROJECT, OVER ALL AREAS DISTURBED OR UNDISTURBED BY CONSTRUCTION, AS NECESSARY TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A.

3. DEVISE AND EMPLOY TEMPORARY CONTROL MEASURES AS NECESSARY TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A, WHILE ALLOWING WORK TO PROCEED IN AN EFFICIENT, COST EFFECTIVE MANNER.

4. DEVISE, EMPLOY AND MAINTAIN CONTROL MEASURES UNTIL SUCH TIME AS THE ENTIRE SITE IS PERMANENTLY STABILIZED BY ESTABLISHED VEGETATION, FINISH LANDSCAPE MATERIALS, PAVED SURFACES, AND/OR ROOF AREA.

5. ONCE THE SITE IS PERMANENTLY STABILIZED AND CERTIFIED AS SUCH BY ENGINEER, REMOVE TEMPORARY CONTROL MEASURES WHILE PROTECTING STABILIZED SURFACES.

1.02 SUBMITTALS

A. SUBMIT PRODUCT DATA, WARRANTY, AND TEST REPORTS AS INDICATED ON THE DRAWINGS.

B. SUBMIT SKETCH SHOWING LOCATIONS OF PROPOSED STOCKPILE AREAS, CONSTRUCTION ENTRANCES AND EROSION CONTROLS IF NOT SHOWN ON THE SITE PLAN OR DIFFERENT FROM THOSE LOCATIONS SHOWN ON THE SITE PLAN.

C. A SITE SPECIFIC SEQUENCE OF CONSTRUCTION FOR EACH PORTION OF THE SITE. NO PORTION OF THE SITE SHALL EXCEED FIVE (5) ACRES.

1.03 QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS FROM ACCEPTABLE MANUFACTURERS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CONFORM TO CONDITIONS OF APPROVAL ISSUED BY REGULATORY AGENCIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, LOCAL PLANNING BOARD, CONSERVATION COMMISSION, CITY COUNCIL, BOARD OF HEALTH, PUBLIC WORKS / HIGHWAY DEPARTMENT, STATE ENVIRONMENTAL PROTECTION DEPARTMENT, AND U.S. GOVERNMENT, ENVIRONMENTAL PROTECTION AGENCY, WHERE CONDITIONS OF REGULATORY APPROVAL DIFFER FROM REQUIREMENTS CONTAINED HEREIN OR ON THE DRAWINGS, COMPLY WITH THE MORE STRINGENT REQUIREMENT.

PART 2 – PRODUCTS

2.01 MATERIALS

A. STRAW BALES: WEED FREE DRY GRASS OR STRAW, MACHINE BOUND WITH JUTE OR WIRE, APPROXIMATE SIZE EACH BALE 42" X 16" X 16". EACH BALE SHALL BE STAKED WITH A MINIMUM OF TWO 24" LONG HARDWOOD STAKES. NOTE: HAY SHALL NOT BE USED.

B. SILTSOXX: FILTREXX NORTHEAST SYSTEMS OR APPROVED EQUAL.

C. SILT FENCE: NON-WOVEN, UV-RESISTANT, POLYPROPYLENE FABRIC, FLOW RATED AT 10 GPM/SF MINIMUM, GRAB TENSILE RATED AT 124 POUNDS MINIMUM, WITH INTEGRAL STAKE LOOPS, AND HARDWOOD STAKES. USE NO. 2130 BY AMOCO FABRICS & FIBERS, OR APPROVED EQUAL.

D. MULCH: ORGANICS INCLUDING STRAW, PROCESSED PINE / HEMLOCK TWIGS AND NEEDLES.

E. SEED MIXES: SHALL MEET THE REQUIREMENTS OF MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION SECTION 6.03.0 OR 6.03.1 AS APPROPRIATE.

F. EXCELSIOR BLANKET: CURLED WOOD FIBER ON PHOTODEGRADABLE EXTRUDED PLASTIC MATRIX, 80% OF FIBERS 6-INCHES LONG OR LONGER, WEIGHT 0.975 POUNDS / SY, CONTAINING NO CHEMICAL ADDITIVES. USE CURLEX I BLANKET BY AMERICAN EXCELSIOR COMPANY, OR APPROVED EQUAL.

G. ROCK RIPRAP: SOUND, ANGULAR, 6-INCH MINUS PROCESSED ROCK, BLAST ROCK, OR TAILINGS.

H. CRUSHED STONE: SOUND, ANGULAR, 2-INCH MINUS PROCESSED CRUSHED STONE.

PART 3 – EXECUTION

3.01 THROUGHOUT CONSTRUCTION

A. DEVISE WORK SEQUENCE SO AS TO LIMIT DRAINAGE AREA THAT IS TRIBUTARY TO DISTURBED AREAS. DEVISE, EMPLOY, AND MAINTAIN CONTROL MEASURES SUCH AS DIVERSION CHANNELS AND BERMS, STRATEGICALLY LOCATED STOCKPILES, AND SEDIMENT BASINS TO SUBDIVIDE DRAINAGE AREAS INTO SMALL, MANAGEABLE SUBAREAS, THEREBY MINIMIZING RUNOFF AND THE POTENTIAL FOR EROSION.

B. MAINTAIN BARRIER AT LIMIT OF WORK AND PROTECT EXISTING VEGETATION / FACILITIES OUTSIDE OF LIMIT OF WORK.

C. MAINTAIN SPARE MATERIAL STOCKPILES FOR IMMEDIATE EMPLOYMENT / REPAIR / EXPANSION OF CONTROL MEASURES. AT A MINIMUM, SUCH MATERIALS SHALL INCLUDE HAY BALES, SILT FENCE AND STAKES, AND CRUSHED STONE.

D. INSPECT AND MAINTAIN EFFECTIVENESS OF CONTROL MEASURES BY REPAIRING AS NECESSARY TO ENSURE INTENDED FUNCTION; BY SUPPLEMENTING AS NECESSARY FOR ADEQUATE EXTENT; BY REMOVING TRAPPED PRODUCTS OF EROSION AS NECESSARY TO MAINTAIN EFFECTIVE TRAP VOLUME.

E. LIMIT EXTENT OF WORK AREA SO THAT ALL DISTURBED AREAS CAN BE STABILIZED WITH CONTROL MEASURES WITHIN A 24-HOUR PERIOD.

F. INSTALL CONTROL MEASURES AS SOON AS PRACTICABLE AFTER EACH MANAGEABLE PORTION OF EARTHWORK IS COMPLETE. EMPLOY TEMPORARY MEASURES AS NECESSARY TO STABILIZE DISTURBED AREAS, EVEN WHERE SUBSEQUENT CONSTRUCTION OPERATIONS MAY REQUIRE RE-DISTURBANCE.

PART 3 – CONTINUED

G. WHEN INTENSE RAINFALL IS EXPECTED, CONSIDER, DEVISE, AND EMPLOY REINFORCING CONTROL MEASURES PRIOR TO THE RAINFALL EVENT TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A. IF NECESSARY, EMPLOY TEMPORARY CONTROL MEASURES ON MATERIAL STOCKPILES TO COUNTERACT POTENTIAL SEDIMENT TRANSPORT DURING INTENSE RAINFALL.

H. WHEN VEHICLE REFUELING IS REQUIRED ON SITE, CONDUCT REFUELING OPERATIONS OUTSIDE OF ENVIRONMENTALLY SENSITIVE AREAS.

I. PROPERLY DISPOSE OF DEBRIS, SOLID WASTE, TRASH, AND CONSTRUCTION WASTE / BYPRODUCTS OFF SITE.

J. SWEEP ON-SITE PAVED AREAS AND OFF-SITE STREETS AS NECESSARY TO PREVENT SILT AND DEBRIS ORIGINATING ON SITE FROM ENTERING CLOSED DRAINAGE SYSTEMS AND / OR ENVIRONMENTALLY SENSITIVE AREAS. WHEN NECESSARY UTILIZE WATER SPRAYING, SURFACE ROUGHENING AND/OR APPLY POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS FOR DUST CONTROL.

K. INSPECT EROSION CONTROLS DAILY THROUGHOUT CONSTRUCTION REPAIR DAMAGED CONTROLS IMMEDIATELY.

3.02 SITE PREPARATION AND ACCESS

A. WALK SITE AND IDENTIFY LOCATIONS OF LIMIT OF WORK AND ENVIRONMENTALLY SENSITIVE AREAS. ESTABLISH CONSTRUCTION STAGING AREA, LOCATED BEYOND ENVIRONMENTALLY SENSITIVE AREAS.

B. INSTALL CONTROL MEASURES AS SHOWN ON THE DRAWINGS, INCLUDING THOSE DEFINING THE LIMIT OF WORK.

C. LIMIT VEHICULAR TRAFFIC TO AND FROM SITE TO MINIMIZE TRANSPORT OF SEDIMENT.

3.03 CLEARING, GRUBBING, AND STRIPPING

A. SCHEDULE GRUBBING AND STRIPPING TO OCCUR IMMEDIATELY PRIOR TO EARTH DISTURBANCE. DEPENDING ON SITE AREA, CONSIDER MULTIPLE GRUBBING PHASES, SEQUENCED TO TAKE ADVANTAGE OF THE EROSION PREVENTION POTENTIAL OF EXISTING VEGETATIVE COVER.

B. MINIMIZE THE AREA OF EXISTING VEGETATION REMOVED WHEREVER POSSIBLE. NO GREATER THAN FIVE (5) ACRES SHALL BE UNSTABLE AT ANY TIME.

C. LOCATE AND SIZE STOCKPILES TO MINIMIZE EROSION POTENTIAL, TAKING ADVANTAGE OF TERRAIN SLOPE AND ASPECT, WHERE APPROPRIATE.

D. PROTECT VEGETATION, INCLUDING ROOT SYSTEMS, BEYOND LIMIT OF CLEARING.

E. PROCESS TIMBER, STUMPS, SLASH, AND BRUSH SO AS TO PROTECT ENVIRONMENTALLY SENSITIVE AREAS AND INSTALLED CONTROL MEASURES. PROPERLY DISPOSE OF EXCESS OFF SITE. BURIAL OF STUMPS ON SITE IS PROHIBITED.

3.04 EXCAVATION FOR BUILDING FOUNDATIONS AND UTILITIES

A. DEVISE AND INSTALL CONTROL MEASURES ADEQUATE TO HANDLE DISCHARGES AND TRAP SEDIMENT FROM FOOTING SUMP AND WELL POINT PUMPS PRIOR TO EXCAVATION.

B. ARMOR SUMP PUMP DISCHARGE LOCATIONS TO PREVENT EROSION AT POINT OF DISCHARGE AND AREAS DOWNSTREAM.

C. IF FOUNDATION EXCAVATIONS GRADE TO DAYLIGHT ON THE LOW SIDE, DEVISE AND INSTALL CONTROL MEASURES TO HANDLE SURFACE AND GROUNDWATER FLOW FROM EXCAVATION LOW POINT.

D. STOCKPILE EXCAVATED MATERIALS TO BAFFLE OVERLAND RUNOFF, AVOIDING THE CREATION OF LENGTHY PATHS OF CONCENTRATED RUNOFF. STOCKPILE SLOPES SHALL NOT EXCEED 2:1.

E. BACKFILL UTILITY TRENCHES AS SOON AS PRACTICABLE TO PREVENT FLOODING, SLOUGHING, POTENTIAL OVERFLOW, AND REPETITIVE EARTH DISTURBANCE.

3.05 SITE GRADING

A. WHERE APPLICABLE, FOLLOW EXCAVATION AND FILL PRACTICES SHOWN ON DRAWINGS TO LOCALIZE AND MINIMIZE EROSION.

B. MONITOR SEDIMENT VOLUME IN TEMPORARY SEDIMENT BASINS AND AT DIVERSION BERMS AND CHECK DAMS. IN ALL AREAS EXCEPT THOSE THAT DO NOT PRESENT POTENTIAL PROBLEMS WITH REGARD TO FUTURE SOIL STABILITY, DRAINAGE, OR BEARING CAPACITY, REMOVE AND PROPERLY DISPOSE OF TRAPPED SEDIMENT BEFORE BRINGING SITE TO FINAL SUBGRADE.

C. EXPOSED SOILS SHALL BE PERMANENTLY STABILIZED WITHIN FIVE (5) BUSINESS DAYS OF COMPLETION OF CONSTRUCTION OF A GIVEN AREA. EXPOSED AREAS WHERE NO WORK HAS OCCURRED FOR FOURTEEN (14) DAYS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEED OR OTHER APPROVED METHOD.

D. SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IMMEDIATELY AFTER COMPLETION.

3.06 LANDSCAPING

A. COMPLETE LANDSCAPING AS SOON AS POSSIBLE AFTER COMPLETION OF FINAL SUBGRADE.

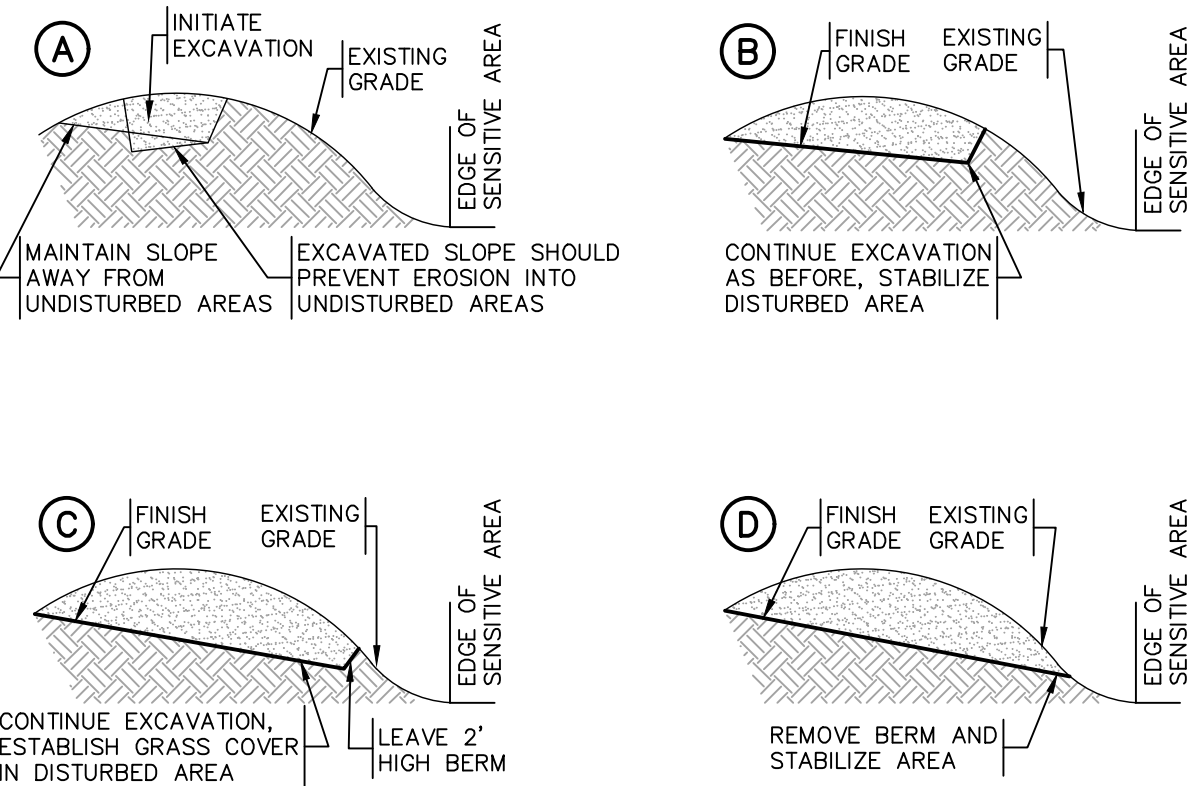
B. IMMEDIATELY AFTER PLACEMENT OF TOPSOIL, STABILIZE WITH CONTROL MEASURES INCLUDING, BUT NOT NECESSARILY LIMITED TO, SEED MIX, MULCH, AND / OR BLANKET.

C. PERMANENT SEEDING MAY BE PERFORMED IN THE SPRING PRIOR TO JULY 1 AND IN BETWEEN AUGUST 1 AND OCTOBER 15. PERMANENT SEEDING AT OTHER TIMES SHALL BE APPROVED AND SHALL ONLY BE ALLOWED WITH AN APPROVED MULCHING AND IRRIGATION PROGRAM.

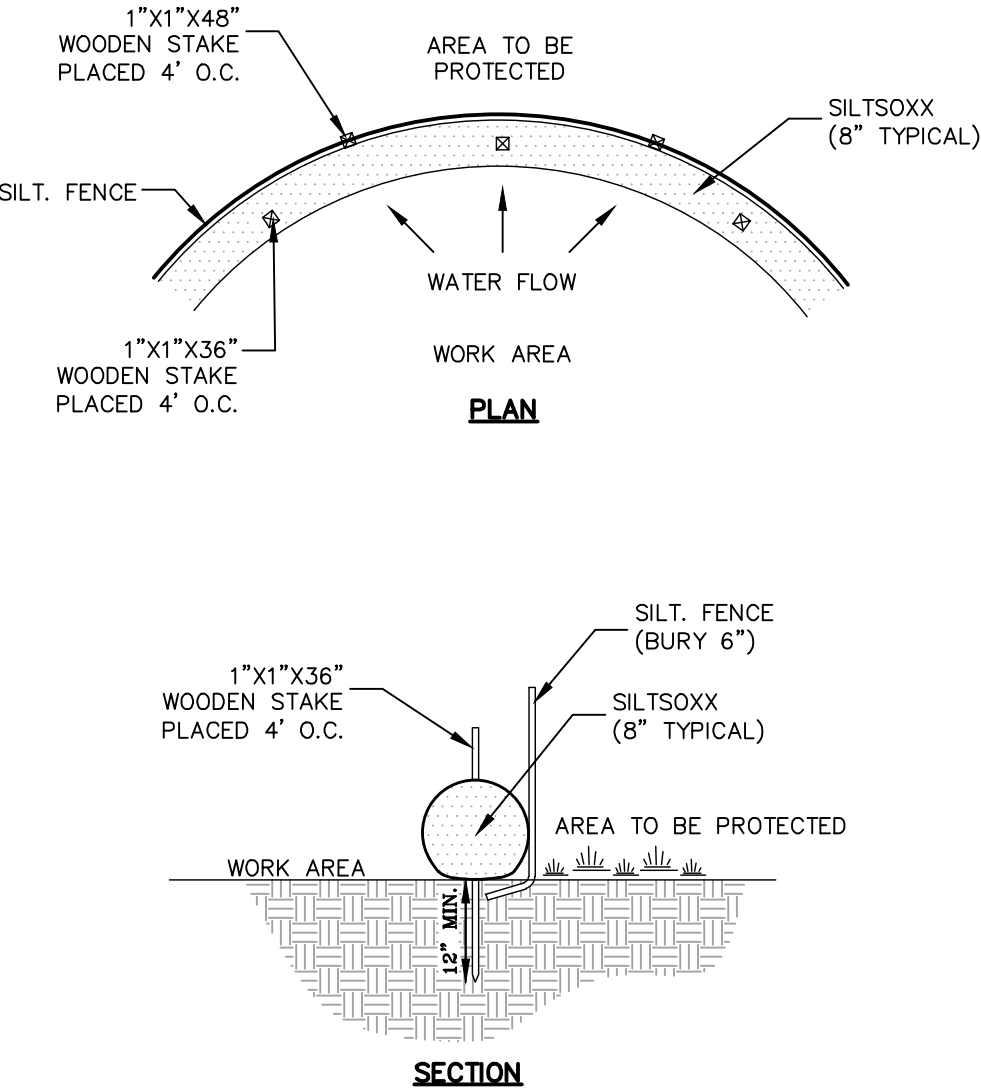
GENERAL SEQUENCE OF CONSTRUCTION

1. PLACE LIMIT OF WORK BARRIERS, FENCES, CONSTRUCTION ENTRANCES AND REQUIRED FENCING & SIGNS.
2. CONSTRUCT SEDIMENT TRAPS & BARRIERS AND PLACE OTHER CONTROLS, DIVERSION TRENCHES, PERIMETER DIKES, WATER BARS & OUTLET PROTECTION.
3. ESTABLISH STOCKPILE AND STAGING AREAS.
4. CUT TREES AND SHRUBS AND REMOVE FROM SITE OR STOCKPILE AND PROTECT STOCKPILE(S) BY APPROVED METHODS.
5. EXCAVATE STUMPS AND REMOVE FROM SITE OR STOCKPILE AND PROTECT STOCKPILE(S) BY APPROVED METHODS.
6. BEGIN EARTHWORKS, ESTABLISH, STABILIZE AND PROTECT CUT AND FILL SLOPES.
7. BEGIN INSTALLATION OF OTHER UTILITIES. ESTABLISH COVER, STABILIZE AND PROTECT AREAS DISTURBED FOR UTILITY INSTALLATION.
8. BEGIN EXCAVATION FOR STRUCTURES, STOCKPILE AND PROTECT EXCAVATED MATERIALS.
9. BACKFILL FOUNDATIONS STABILIZE ALL DISTURBED AREAS AND REMOVE EXCESS SOIL FROM SITE.
10. PERFORM SITE WORK IN ACCORDANCE WITH "EROSION AND SEDIMENT CONTROL REQUIREMENTS, PART 3 – EXECUTION".
11. VERIFY ALL AREAS HAVE BEEN STABILIZED, RE-SEED EXPOSED SOILS.
12. CLEAN CATCH BASINS AND STORM DRAINS. REMOVE SOILS FROM SITE.
13. REMOVE ALL EROSION CONTROLS, LIMIT OF WORK BARRIERS, FENCES, CONSTRUCTION ENTRANCES, SIGNS AND SWEEP PAVED AREAS.

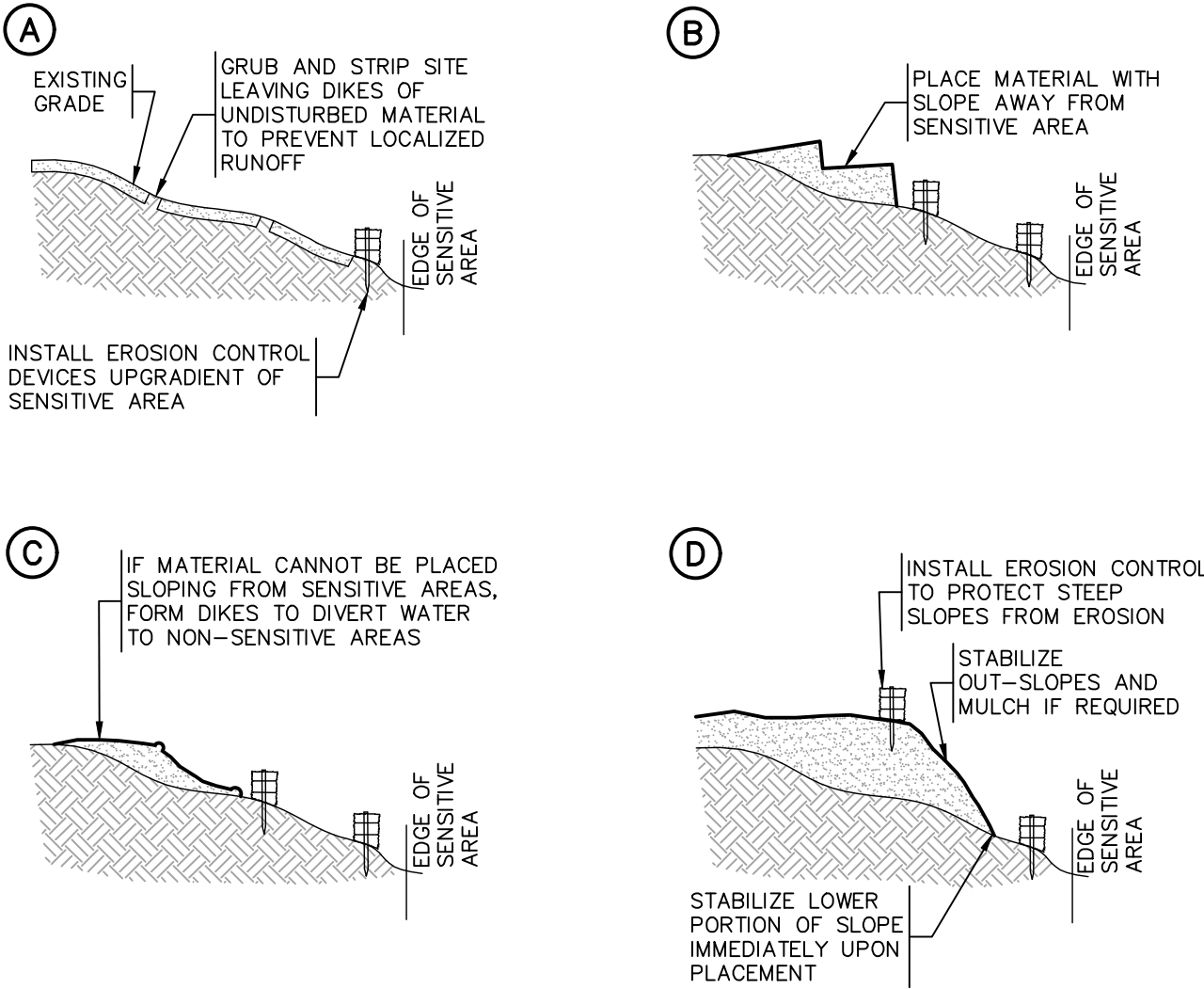
1 EXCAVATION PROCEDURE  
SCALE: N.T.S.



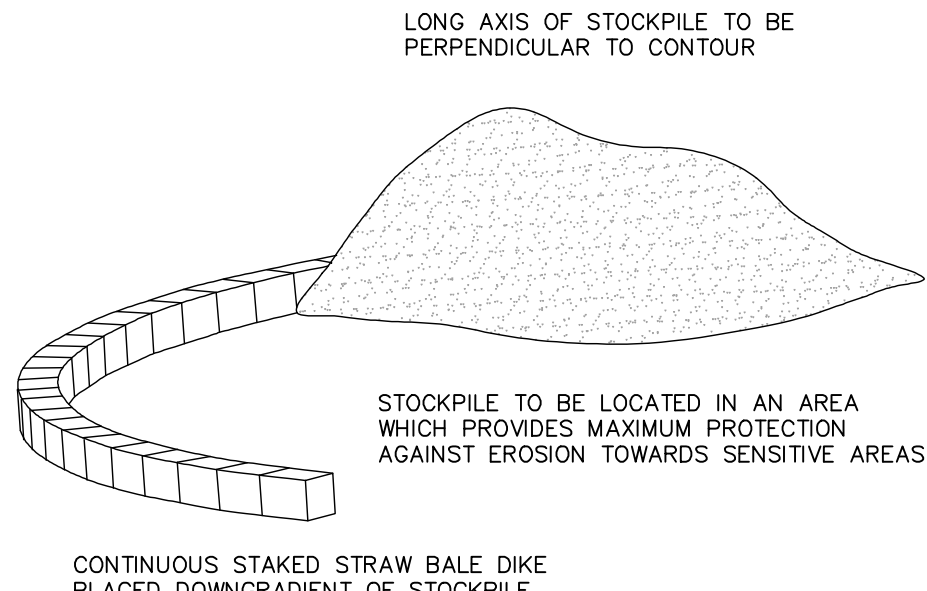
2 EROSION CONTROL BARRIER (ECB)  
SCALE: N.T.S.



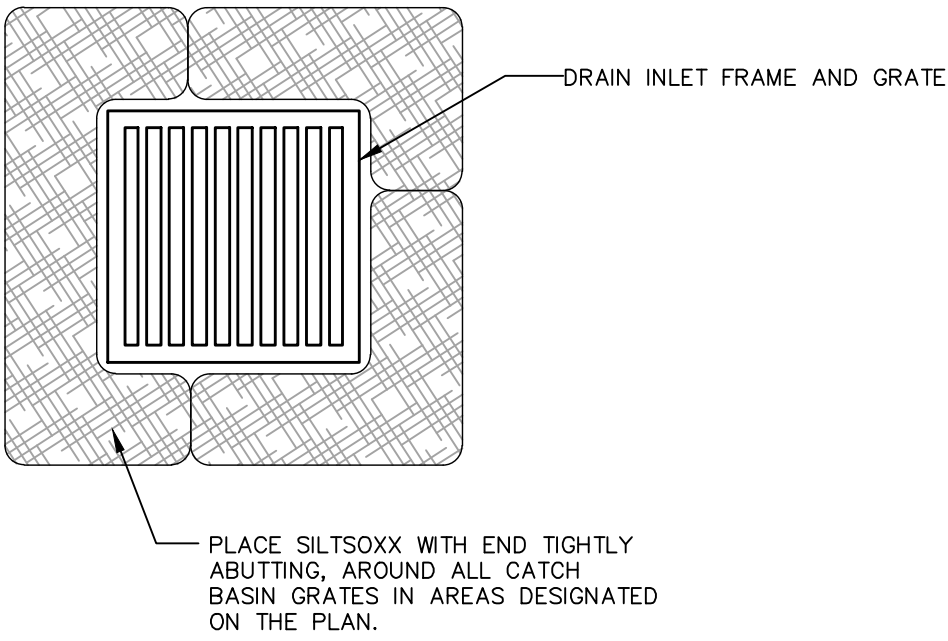
3 FILL PROCEDURE  
SCALE: N.T.S.



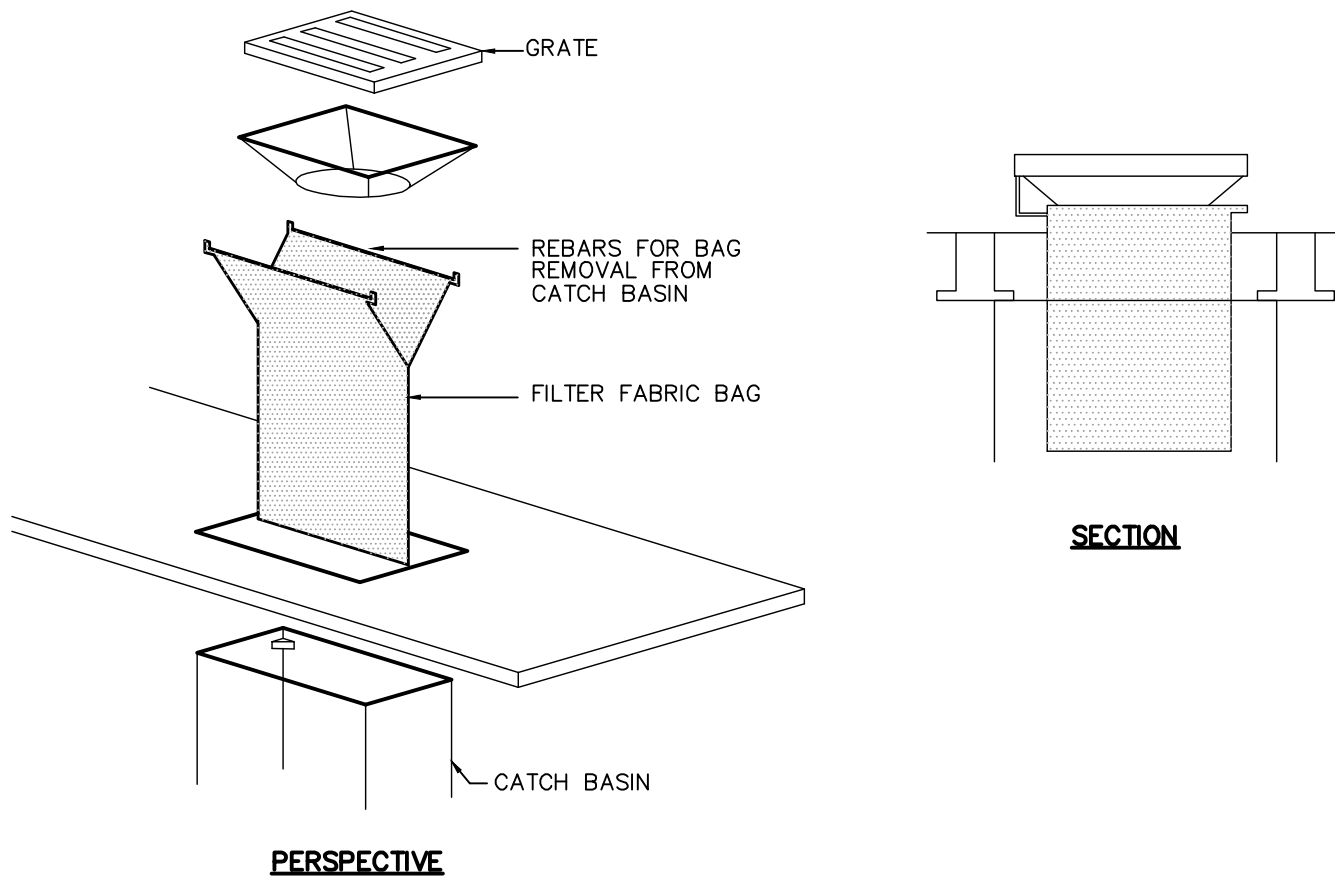
4 TEMPORARY STOCKPILE  
SCALE: N.T.S.



5 CATCH BASIN STRAW WATTLE/FILTER SOCK  
SCALE: N.T.S.



6 TYPICAL CATCH BASIN FILTER BAG DETAIL  
SCALE: N.T.S.



NOTES:  
[1] TO BE SILTSTACK BY ATLANTIC CONSTRUCTION FABRICS, INC., OR APPROVED EQUAL.  
[2] TO BE INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF CATCH BASIN STRUCTURE AND REMAIN UNTIL FINISH COURSE IS PLACED.  
[3] FILTER BAG SHALL BE MAINTAINED AND CLEANED AS NEEDED.

ISSUED  
FOR  
CONSTRUCTION

**ASE**  
Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning  
P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

DAVID A. RUSSO  
CIVIL  
No. 45583  
01/18/2022

ADDITIONS & RENOVATIONS TO:  
**LIFESONG CHURCH**  
65 GILMORE DRIVE  
SUTTON, MA 01590

PROJECT #: 19-793  
ISSUE DATE: 02/03/2021  
DRAWN BY:  
CHECKED BY:  
REVISIONS:

SHEET No.  
**C5.2**  
EROSION & SEDIMENT  
CONTROL NOTES & DETAILS





SAW CUT EXISTING PAVEMENT USING SLIGHT UNDERCUT ( $2'' \pm 1/2''$ ). AT TIME OF PATCHING, EDGES SHALL BE REQUIT IF DAMAGE HAS OCCURRED.

NEW BITUMINOUS CONCRETE

TACK COAT

[1]

FLUSH

EXISTING

PAVEMENT

12" MIN.

[2]

12" MIN.

2" MINUS GRANULAR BASE, MHD 1.03.0, TYPE C

TRENCH WIDTH

The diagram illustrates the saw cut existing pavement patching method. It shows a cross-section of a pavement structure. The existing pavement is shown on the left and right, with a central section labeled [1] representing the new bituminous concrete. A tack coat is applied to the existing pavement. The patching material is shown on the right, with a slight undercut indicated by a dashed line. The edges of the patching material are labeled [2]. The minimum depth of the undercut is 12 inches. The trench width is indicated as 2 inches minus granular base, MHD 1.03.0, Type C. The diagram also shows a flush edge and a 12-inch minimum width for the patching material.

Diagram illustrating the installation of a sewer cleanout. The cleanout is shown as a vertical pipe with a cap, labeled "CLEANOUT FRAME & COVER LEBARON MODEL 'LA0910' OR APPROVED EQUAL". The cleanout is installed through a "FINISH GRADE" and "COMPACTED BEDDING MATERIAL". The cleanout is connected to a "SEWER CLEANOUT SAME MATERIAL AS BUILDING SEWERLINE". The cleanout is installed at a "MINIMUM SLOPE: 6\"

The diagram illustrates the installation of a utility pipe in two different ground conditions: UNPAVED and PAVED. The UNPAVED section on the left shows a utility pipe with a diameter 'D' and a bedding width 'W'. The bedding is composed of gravel, with a 6-inch layer on top and a 2-inch layer on the bottom. The pipe is surrounded by select backfill. The PAVED section on the right shows the pipe installed under a pavement structure. The bedding is composed of gravel, with a 12-inch layer on top and a 2-inch layer on the bottom. The pipe is surrounded by select backfill. The diagram also shows the match existing pavement detail.

Labels and dimensions include:

- UNPAVED
- PAVED
- 6" LOAM & SEED
- SHEETING (IF REQ'D) TO BE CUT OFF 5' MIN. BELOW GROUND & 2' MIN. ABOVE TOP OF PIPE
- ANY SHEETING DRIVEN BELOW MID-DIA. OF PIPE SHALL BE LEFT IN PLACE
- UTILITY PIPE
- SELECT BACKFILL
- BACKFILL ABOVE PIPE BEDDING WITH COMPACTED GRAVEL BASE (SEE BIT. PAVEMENT DETAIL)
- BACKFILL WITH GRAVEL BEDDING 12" OVER PIPE WHEN PVC PIPE IS USED
- BACKFILL WITH GRAVEL BEDDING TO MID-DIAMETER PIPE IS USED
- HALF SECTION IN EARTH
- HALF SECTION IN ROCK
- W
- D+2' (3' MIN.)
- 6"
- 2"
- D
- MATCH EXISTING

### NOTES:

1. REINFORCED STEEL CONFORMS TO LATEST A185 SPEC. 0.12 SQ. IN./SQ. IN./LINEAL FT. (0.15 SQ. IN. FOR 60° DIA) AND BASE BOTTOM.
2. CONCRETE COMPRESSIVE STRENGTH 4000 PSI MIN.
3. MANHOLE DESIGN CONFORMS TO LATEST ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. JOINT SEALANT SHALL BE SYNTHETIC RUBBER GASKET THAT COMPLIES W/ C-443 OR C-361. 5. BASE SECTION SHALL BE ONE POUR MONOLITHIC.

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LEBARON LX-110 FRAME & COVER OR PER DPW

MORTAR BED & CONCRETE COLLAR

4'-0"

MANHOLE STEPS

MANHOLE SECTIONS TO BE WATERPROOFED

SHELF ELEVATION SAME AS CROWN OF HIGHEST PIPE

PRECAST CONC. BASE

UNDISTURBED EARTH OR LEDGE

FINISHED ROAD GRADE OR GROUND SURFACE

BRICK AS REQUIRED TO ADJUST TO GRADE (3 COURSES MAX.)

PRECAST CONC. TRANSITION SECTIONS OR BARREL SECTIONS WITH PRECAST TOP SLAB DESIGNED FOR H=20 LOADING (MIN.)

JOINTS TO BE PREPARED WITH BUTYL SEALANT GASKET

PRECAST CONC. BARREL SECTIONS

NEOPRENE BOOT (SEE SEWER PIPE CONNECTION DETAIL)

BRICK OR CONCRETE FILL

8" MIN SCREENED GRAVEL BASE

2'-0"

4'-0"

BRICK LINED SHAPED INVERT

WALL OF MANHOLE

BRICK SHELF SLOPE 1"/FT.

PLAN

SLOPE 1"/FT.

SHELF ELEVATION SAME AS CROWN OF HIGHEST PIPE

WALL OF MANHOLE

SHAPED INVERT WITH BRICK LINING

SECTION A-A

SECTION B-B

## TYPICAL PRECAST CONCRETE SEWER MANHOLE

INSIDE FACE OF MANHOLE

CORED OPENING

NON-SHRINK WATERPROOF GROUT

NEOPRENE BOOT

STAINLESS STEEL CLAMP

PIPE

ANODIZED ALUMINUM OR STEEL KORBAND

EXPOSED METAL TO BE PROTECTED FROM CORROSION WITH A BITUMINOUS COAT

**SHEET No.**  
**C6.2**  
**CONSTRUCTION DETAILS**