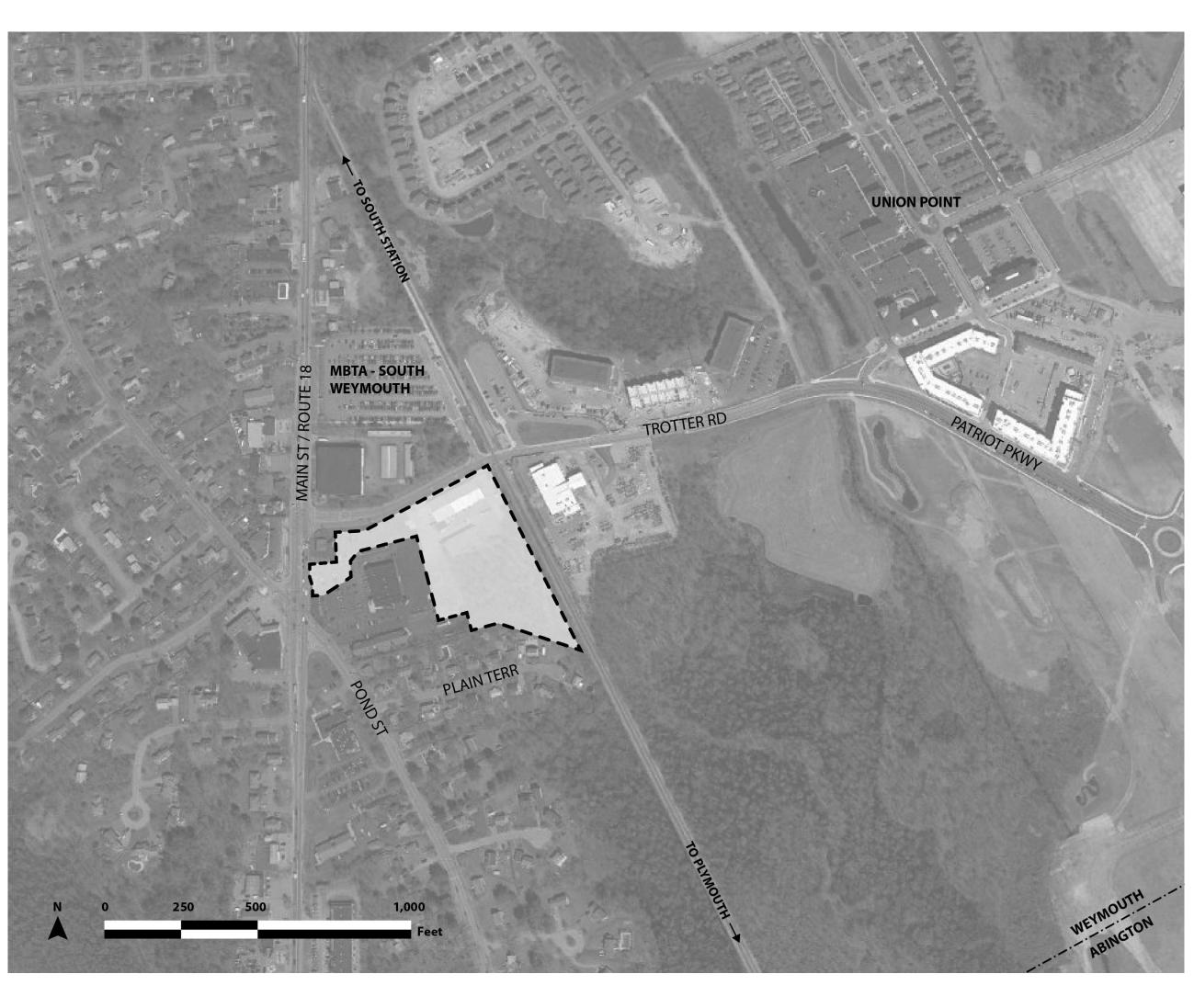


The Residences at 1500 Main

John M. Corcoran & Co. LLC



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SUPPLEMENTAL DRAWINGS

C801 RESOURCE AREA PLAN

ZONING SUMMARY

COMMERCIAL CORRIDOR OVERLAY DISTRICT - ROUTE 18 [CHAPTER 120, ARTICLE VIIB]

| DIMENSIONAL REQUIREMENT | AS-OF-RIGHT | PROPOSED CONDITION | ZONING RELIEF REQUIRED | MBTA STATION PROXIMITY EXCEPTIONS |
|--|-------------|--------------------|------------------------------|--------------------------------------|
| FAR | 1.25 | 1.07 | No | MAY INCREASE BASE FAR BY 0.25 |
| MAX BUILDING COVERAGE | 60% | <26% | No | |
| MIN. OPEN SPACE | 15% | >28% | No | |
| MAX IMPERVIOUS SURFACE | 75% | <72% | No | |
| HEIGHT - MAXIMUM STORIES | 5 | 5 | No | |
| HEIGHT - MAXIMUM DIMENSION | 70' | <65' | No | |
| HEIGHT - MINIMUM STORIES | 3 | 5 | No | |
| HEIGHT - MINIMUM DIMENSION | 45' | >50' | No | |
| SETBACK - FRONT MINIMUM | 25' | 31' | No | |
| SETBACK - SIDES | 10' | 15' / 10' | No | |
| SETBACK - REAR | 15' | 81' | No | |
| SETBACK - FRONT MAXIMUM | 70' | REF TO SHEET A0.02 | No | |
| PARKING SPACES - RESIDENTIAL MINIMUM | 259 | 362 * | No | REDUCTION |
| PARKING SPACES - RESIDENTIAL MAXIMUM | 400 | 362 * | No | |
| PARKING SPACES - COMMERCIAL MINIMUM | 31 | 362 * | No | |
| PARKING SPACES - ELECTRIC VEHICLE CHARGING STATIONS MINIMUM | 6 | 8 | No | |
| PARKING SPACES - BICYCLES | 36 | >80 | No | 15% OF DWELLING UNITS |
| | | | | |

APPLICABLE CODES

ZONING: WEYMOUTH ZONING ORDINANCE ACCESSIBILITY: MASSACHUSETTS ARCHITECTURAL ACCESS BOARD 521 CMR THE AMERICANS WITH DISABILITIES ACT GUIDELINES (ADAAG) DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT FAIR HOUSING ACT BUILDING CODES: MASSACHUSETTS STATE BUILDING CODE (780 CMR) - 9TH EDITION **ELECTRICAL:** MASSACHUSETTS ELECTRICAL CODE 527 CMR, 12.00 **ELEVATORS:** MASSACHUSETTS ELEVATOR CODE 524 CMR **ENERGY: INTERNATIONAL ENERGY CONSERVATION CODE, 2015, AS ADOPTED AN** AMENDED BY 780 CMR, 13 (IECC) FIRE PROTECTION: MASSACHUSETTS FIRE PREVENTION REGULATIONS 527 CMR MECHANICAL: INTERNATIONAL MECHANICAL CODE, 2015, AS ADOPTED AND AMENDED BY 780 CMR (IMC)

DEVELOPMENT SUMMARY

241,563 SF

50,864 SF

99,773 SF

107,037 SF

36 UNITS

PLUMBING: MASSACHUSETTS FUEL GAS AND PLUMBING CODES, 248 CMR

USE & OCCUPANCY USE DWELLING UNITS COMMERICAL

OCCUPANCY CLASSIFICATION A-2, A-3, B, M (TO BE DETERMINED)

PROJECT AREA SITE AREA

GROSS FLOOR AREA 257,674 SF BUILDING A BUILDING B BUILDING C

DWELLING UNIT MIX STUDIO 1-BR

113 UNITS 81 UNITS 2-BR 3-BR 7 UNITS TOTAL **237 UNITS**

RETAIL /COMMERCIAL LEASABLE

6,121 SF [INCLUDED IN TOTAL GFA ABOVE]

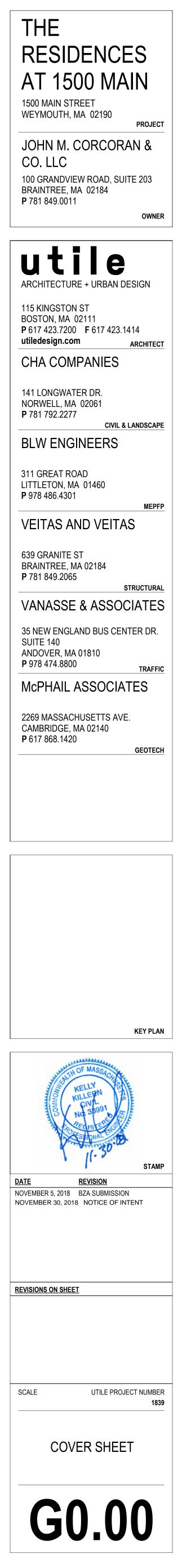
PARKING

SURFACE LOTS ENCLOSED GARAGES PARALLEL STREET SHARED TOTAL

143 SPACES 139 SPACES 7 SPACES 73 SPACES 362 (289 EXCLUSIVE) SPACES

* SEE DEVELOPMENT SUMMARY BELOW

FOR BREAKDOWN OF PARKING SPACES



SURVEY NOTES:

- 1. THE EXISTING CONDITIONS INFORMATION SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY CHA CONSULTING, INC. IN JULY OF 2018.
- 2. ALL DEED REFERENCES ARE TO NORFOLK COUNTY REGISTRY OF DEEDS UNLESS OTHERWISE NOTED.
- 3. LOCUS OWNER OF RECORD: GMS REALTY, LLC
- DEED BOOK 16371 PAGE 86 PARCEL ID 61-627-25
- 4. TOPOGRAPHY, CONTOURS AND BENCHMARKS ARE BASED ON THE TOWN OF WEYMOUTH VERTICAL DATUM. TEMPORARY BENCHMARKS, REFERENCED TO THE DATUM ARE INDICATED ON THE SURVEY. IN THE EVENT THAT BENCHMARKS (TBM'S), ESTABLISHED FOR THIS PROJECT AND PUBLISHED ON THIS SURVEY ARE DESTROYED, NOT RECOVERABLE OR A DISCREPANCY IS FOUND, THE USER SHOULD NOTIFY THIS FIRM IN WRITING
- PRIOR TO COMMENCING OR CONTINUING ANY WORK.5. THE PROJECT AREA IS LOCATED IN FLOOD ZONES "A" & "X" AS SHOWN ON FLOOD INSURANCE RATE MAP FOR NORFOLK COUNTY, COMMUNITY PANEL
- NUMBER 25021C0239E, EFFECTIVE DATE JULY 17, 2012.
 6. LOCATION OF SUBSURFACE UTILITIES SHOWN HEREON ARE APPROXIMATE AND ADDITIONAL UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS PLAN. LOCATIONS ARE COMPILED FROM UTILITY PLANS OF RECORD AND DIG-SAFE FIELD MARKINGS. RIM AND INVERT INFORMATION HAS BEEN COMPILED AND FIELD VERIFIED WHERE POSSIBLE. THIS INFORMATION IS NOT TO BE USED FOR CONSTRUCTION. PRIOR TO ANY CONSTRUCTION,
- CONTACT DIG-SAFE (1-800-344-7233) TO FIELD VERIFY LOCATION OF ALL UTILITIES.
 7. PLAN REFERENCES:
 PLAN 59 OF 1984
- PLAN 454 OF 1986 MAIN STREET 2016 ALTERATION LAYOUT #8326
- PLAN BOOK 166, PAGE 1121 PLAN 273 OF 1964
- 8. WETLAND FLAGS SHOWN HEREON ARE BASED ON FIELD LOCATIONS BY CHA CONSULTING, INC. IN JULY OF 2018. WETLAND FLAGS WERE DELINEATED BY CHA CONSULTING, INC. WETLAND SCIENTIST IN JULY OF 2018.

GENERAL

- 1. PROTECTIONS
- A. PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS, TREES OR VEGETATION.
- B. PROTECT IMPROVEMENTS ON ADJOINING PROPERTIES AND ON OWNER'S PROPERTY.C. RESTORE DAMAGED IMPROVEMENTS TO ORIGINAL CONDITION AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
- D. CONDUCT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH OPERATIONS, STREETS, WALKS, AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION. STREETS AND ROADWAYS SHALL BE THOROUGHLY CLEANED AND/OR SWEPT ON A DAILY BASIS OR MORE FREQUENTLY AS REQUIRED BY THE GOVERNING AUTHORITY.
- UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MASSACHUSETTS DOT SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AND/OR THE APPROPRIATE LOCAL AUTHORITIES.
 ALL SLOPES, UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION AS SOON AS POSSIBLE TO PREVENT EROSION TOWARD RESOURCE
- AREAS AND BUFFERS, ABUTTING PROPERTIES, OR PUBLIC WAYS. EROSION CONTROL BLANKETS ARE REQUIRED FOR ALL 2H:1V SLOPES. SLOPES MAY NOT EXCEED 2H:1V.
 4. ANY DEVIATIONS, I.E. "FIELD CHANGES" FROM THE DESIGN PLAN(S) MUST BE APPROVED BY THE DESIGN ENGINEER IN WRITING. CONTRACTOR SHOULD BE AWARE THAT LOCAL AND STATE AUTHORITIES HAVE JURISDICTION AND APPROVALS MUST BE OBTAINED FROM THE APPROPRIATE AUTHORITY PRIOR TO THE IMPLEMENTATION OF THE "FIELD CHANGE." CHA INC. ASSUMES NO LIABILITY OR RESPONSIBILITY FOR WORK ASSOCIATED WITH FIELD CHANGES COMPLETED
- WITHOUT REGARD TO THE "FIELD CHANGE" PROCEDURE.
 5. RELOCATION OF ANY UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
- 6. *** DIG SAFE NOTE *** IN ACCORDANCE WITH MGL. CH. 82, SEC. 40 INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES, IN WRITING, OF THE INTENT TO EXCAVATE, BLAST, DEMOLISH, BORE, OR PERFORM OTHER EARTH MOVING OPERATIONS NO LESS THAN 72 HOURS AND NO MORE THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF SUCH WORK (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS) OR CALL "DIG SAFE" AT 1-888-DIG-SAFE.
- ADDITIONAL BENCHMARKS TO BE SET BY CONTRACTOR PRIOR TO CONSTRUCTION TO ENSURE QUALITY WORKMANSHIP.
 ANY STILLING AND/OR DETENTION BASINS SHOULD RECEIVE PERIODIC MAINTENANCE DURING CONSTRUCTION TO REMOVE DEPOSITED SILTS AND DEBRIS TO
- ENSURE PROPERTY DRAINAGE AND SETTLING OF PARTICULATE MATTER.9. ALL MANHOLE COVERS FOR CROSS-COUNTRY LOCATIONS OR IN PUBLIC GATHERING LOCATIONS SHALL BE FITTED WITH BOLT LOCKS OR EQUIVALENT.
- 10. UNLESS OTHERWISE LABELED, ALL REINFORCED CONCRETE PIPE, RCP, SHALL BE CLASS III; ALL DUCTILE IRON PIPE SHALL BE CEMENT LINED CLASS 52; ALL PVC SEWER SHALL BE SDR 35; ALL HDPE PIPE TO BE N-12 WATER TIGHT JOINT OR APPROVED EQUAL.
- 11. PERMITS: THE SITE IS SUBJECT TO A SPECIAL PERMIT WITH SITE PLAN REVIEW FROM THE WEYMOUTH ZONING BOARD OF APPEALS. IT IS ALSO SUBJECT TO A NPDES CONSTRUCTION GENERAL PERMIT TO BE ISSUED PRIOR TO COMMENCEMENT OF WORK. THE PROJECT HAS BEEN DESIGNED TO REMAIN ENTIRELY OUTSIDE OF ALL RESOURCE AREAS, RIPARIAN ZONES AND ASSOCIATED BUFFERS. CONTRACTOR SHALL LIMIT WORK AREA TO WITHIN THE "LIMIT OF WORK" LINE IDENTIFIED ON THE PLANS. CONTRACTOR SHALL MAINTAIN COPIES OF ALL PERMITS ON SITE DURING CONSTRUCTION AND SHALL ADHERE TO ANY / ALL CONDITIONS IMPOSED BY THOSE PERMITS.

SITE WORK

CAUTION - NOTICE TO CONTRACTOR THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN PLANS AND LIMITED AS-BUILT INFORMATION. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS) PRIOR TO ANY EXCAVATION, DEMOLITION, BORING. OR OTHER EARTH MOVING OPERATIONS TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS AT NO ADDITIONAL EXPENSE TO OWNER. 2. FILL MATERIAL A. ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH, AND DEBRIS PRIOR TO FILL PLACEMENT. B. PLACE APPROPRIATE FILL MATERIAL AS DESIGNATED BY THE GEOTECHNICAL ENGINEER IN HORIZONTAL LAYERS NOT EXCEEDING EIGHT INCHES (8") IN LOOSE DEPTH AND COMPACT EACH LAYER AT OPTIMUM MOISTURE CONTENT TO THE GREATER OF: B.1. ADJACENT UNDISTURBED SOIL, OR B.2. 95% OF THE MAXIMUM DRY DENSITY OF THE EMBANKMENT MATERIAL AS DETERMINED BY AASHTO STANDARD METHOD T99, METHOD C. 3. FINISH GRADING A. GRADE ALL AREAS WHERE FINISH GRADE ELEVATIONS ARE INDICATED ON DRAWINGS, OTHER THAN PAVED AREAS AND BUILDINGS, INCLUDING EXCAVATED AREAS, FILLED AND TRANSITION AREAS, AND LANDSCAPED AREAS. GRADED AREAS SHALL BE UNIFORM AND SMOOTH, FREE FROM DEBRIS, OR IRREGULAR SURFACE CHANGES. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.10 FEET ABOVE OR BELOW ESTABLISHED SUBGRADE ELEVATIONS, AND ALL GROUND SURFACES SHALL VARY UNIFORMLY BETWEEN INDICATED ELEVATIONS. FINISH DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE EROSION POTENTIAL B. GRADE SURFACE TO MATCH ADJACENT GRADES AND TO PROVIDE FLOW TO SURFACE DRAINAGE STRUCTURES, OR GRADE AS DESIGNATED ON THE PLANS AFTER FILL PLACEMENT AND COMPACTION. 4. THE CONTRACTOR IS RESPONSIBLE FOR GENERAL CLEANUP OF THE PROJECT ON A DAILY BASIS AND AT THE COMPLETION OF THE PROJECT. OPEN TRENCHES, DITCHES, EXCAVATIONS, ETC. SHALL NOT BE PERMITTED TO BE LEFT OPEN OVERNIGHT. CONTRACTOR WILL BACKFILL OR UTILIZE SUITABLE STEEL PLATES FOR THE SECURING OF THE PROJECT SITE PRIOR TO CEASING WORK EACH DAY. 5. APPROPRIATE TRAFFIC CONTROL, I.E. SIGNAGE, BARRICADES, AND OTHER MEANS, WILL BE SUPPLIED BY THE CONTRACTOR IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL AGENCIES. 6. UNDER NO CIRCUMSTANCES MAY ANY UTILITY, STRUCTURE, AND/OR REPAIR BE BACKFILLED UNLESS INSPECTED AND APPROVED BY THE TOWN OFFICIALS AND/OR REPRESENTATIVE. RECEIPT OF APPROVAL TO BACKFILL WILL NOT RELEASE THE CONTRACTOR FROM ANY RESPONSIBILITY OR LIABILITY FOR PERFORMANCE TESTS REQUIRED AS PART OF THIS PROJECT 7. PROPER SHORING AND TRENCH BOXES SHALL BE UTILIZED AS REQUIRED BY LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES TO PROVIDE A SAFE WORKING ENVIRONMENT. SHORING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS WITH EXPERIENCE IN SHORING DESIGN. 8. ALL UTILITIES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. 9. <u>WATER</u> A. ALL WATER PIPING, VALVES, HYDRANTS, AND FITTINGS ETC. TO CONFORM TO LOCAL GUIDELINES OR AS DIRECTED BY THE WATER DEPARTMENT. CONSTRUCTION OF WATER LINE TO CONFORM TO ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION. B. ALL WATER PIPE SHALL BE THICKNESS CLASS 52 DUCTILE IRON. ALL PIPES AND FITTINGS SHALL HAVE A CEMENT LINING TWICE THE THICKNESS SPECIFIED IN AWWA C104 AND SHALL HAVE A BITUMINOUS SEAL COAT APPLIES INSIDE AND OUTSIDE CONFORMING TO AWWA C104, "TYTON" OR MECHANICAL JOINTS ARE PERMITTED UNLESS OTHERWISE DIRECTED. C. REFER TO PLUMBING PLANS FOR WATER SERVICE, FIRE PROTECTION, AND SANITARY SEWER CONNECTIONS UNLESS OTHERWISE NOTED. 10. CONTRACTOR SHALL OBTAIN APPROVAL FOR ALL TRANSFORMER LOCATIONS FROM THE FIRE DEPARTMENT AND BUILDING INSPECTOR PRIOR TO CONSTRUCTION.

SEWER

- ALL TESTING SHALL BE PER TOWN OF WEYMOUTH STANDARDS.
- 1. THESE NOTES ARE INTENDED TO SUPPLEMENT THE LOCAL REQUIREMENTS FOR MATERIALS AND WORKMANSHIP.
- WATER AND SEWER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST LOCAL AND STATE CODES INCLUDING THE RECOMMENDATIONS OF THE AMERICAN WATER WORKS ASSOCIATION AND THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION TECHNICAL REPORT 16. CONSTRUCTION SHALL PROCEED IN A WORKMANLIKE MANNER WITH STATE-OF-THE-ART CONSTRUCTION TECHNIQUES.
 THE CONTRACTOR SHALL INSULATE WATER AND SEWER MAINS AS INDICATED ON THE PLANS OR WHEN DESIGN OR CONSTRUCTION ENCUMBRANCES DICTATE
- ALIGNMENT TO OCCUR ABOVE THE FROST LINE. PROCUREMENT AND INSTALLATION OF PIPE INSULATION SHALL CONFORM TO THE REQUIREMENTS LISTED IN THE LATEST MASS. DOT STANDARD SPECIFICATIONS FOR SECTION 301.60P AND MATERIAL SPECIFICATION M9.11.1. THE PIPE INSULATION SHALL BE PRE-MOLDED TYPE CELLULAR GLASS INSULATION WITH ALUMINUM JACKET CONFORMING TO THE LATEST REQUIREMENTS OF ASTM-522 OR APPROVED EQUAL. 4. THE CONTRACTOR SHALL FOLLOW ALTERNATE CONSTRUCTION PROCEDURES WHEN DESIGN OR CONSTRUCTION ENCUMBRANCES PREVENT HORIZONTAL
- SEPARATION OF 10 FEET OR THE ALTERNATE OF 18 INCHES OF VERTICAL SEPARATION BETWEEN WATER AND SEWER MAINS. IN AREAS WHERE THE ABOVE OFFSETS CANNOT BE MAINTAINED, THE WATER MAIN SHALL BE CONSTRUCTED WITH MEGA-LUG MECHANICAL TYPE FITTINGS OR APPROVED EQUAL FOR A DISTANCE OF 10-FEET ON EITHER SIDE OF THE CROSSING OR LATERAL ENCROACHMENT AND SHALL STRADDLE A FULL LENGTH OF CLASS 52 CEMENTED LINED DUCTILE IRON WATER PIPE.
- 5. THE DEFLECTION IN ALL GRAVITY SEWER PIPE SHALL BE TESTED USING A GO, NO-GO MANDREL TEST TO ENSURE THAT PROPER INSTALLATION HAS OCCURED. TEST SHALL CONFORM WITH PIPE MANUFACTURER'S RECOMMENDATIONS AND SHALL NOT INDICATE MORE THAN 7.5% DEFLECTION, U.O.N.
- EACH SEGMENT OF THE SEWER MAIN INCLUDING MANHOLES SHALL BE LEAK TESTED AND OBSERVED BY A REPRESENTATIVE OF THE TOWN AND/OR ENGINEER IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:
 <u>EXFILTRATION TEST FOR NEW SEWER MAIN :</u>
- 1. PREPARATION OF TEST. AFTER THE MANHOLE HAD BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND THOSE EXTERIOR JOINTS WITHIN SIX FEET OF THE GROUND SURFACE SHALL BE FILLED AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. THE TEST SHALL BE MADE PRIOR TO PLACING THE SHELF AND INVERT AND BEFORE FILLING AND POINTING THE HORIZONTAL JOINTS BELOW THE 6- FOOT DEPTH LINE. IF THE GROUNDWATER TABLE HAS BEEN ALLOWED TO RISE ABOVE THE BOTTOM OF THE MANHOLE, IT SHALL BE LOWERED FOR THE DURATION OF THE TEST. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLE PLUGGED AND PLUGS BRACED TO PREVENT BLOW OUT.
- 2. TEST PROCEDURE. THE MANHOLE SHALL THEN BE FILLED WITH WATER TO THE TOP OF THE CONE SECTION. IF THE EXCAVATION HAS NOT BEEN BACKFILLED AND OBSERVATION INDICATED NO VISIBLE LEAKAGE, THAT IS, NO WATER VISIBLY MOVING DOWN THE SURFACE OF THE MANHOLE, THE MANHOLE MAY BE CONSIDERED TO BE SATISFACTORILY WATERTIGHT. IF THE TEST AS DESCRIBED ABOVE IS UNSATISFACTORY AS DETERMINED BY THE ENGINEER OR IF THE MANHOLE EXCAVATION HAS BEEN BACKFILLED THE TEST SHALL BE CONTINUED. A PERIOD OF TIME MAY BE PERMITTED, IF THE CONTRACTOR WISHES, TO ALLOW FOR ABSORPTION.
- 3. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST EIGHT HOURS BEGUN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE EXTRAPOLATED TO A 24-HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24-HOUR PERIOD. IF THE TEST FAILS THIS REQUIREMENTS, BY THE LEAKAGE DOES NOT EXCEED THREE GALLONS PER VERTICAL FOOT PER DAY, REPAIRS BY APPROVED METHODS MAY BE MADE AS DIRECTED BY THE ENGINEER TO BRING THE LEAKAGE WITHIN THE ALLOWABLE RATE ON ONE GALLON PER VERTICAL FOOT PER DAY. LEAKAGE DUE TO A DEFECTIVE SECTION OR JOINT OF EXCEEDING THE THREE-GALLON PER VERTICAL FOOT PER DAY RATE, SHALL BE CAUSE FOR THE REJECTION OF THE MANHOLE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNCOVER, DISASSEMBLE, RECONSTRUCT OR REPLACE THE MANHOLE AS DIRECTED BY THE ENGINEER. THE MANHOLE SHALL THEN BE RE-TESTED AND, IF SATISFACTORY, INTERIOR JOINTS SHALL BE FILLED AND POINTED.
- 4. BACKFILLING. THE TEST MAY BE CONDUCTED EITHER BEFORE OR AFTER BACKFILLING AROUND THE MANHOLE. HOWEVER, IF THE CONTRACTOR ELECTS TO BACKFILL PRIOR TO TESTING, IT SHALL BE AT HIS OWN RISK AND IT SHALL BE INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE REASON FOR ANY FAILURE OF THE TEST. NO ADJUSTMENT IN THE LEAKAGE ALLOWANCE WILL BE MADE FOR UNKNOWN CAUSES SUCH AS LEAKING PLUGS, ABSORPTION, ETC., I.E., IT WILL BE ASSUMED THAT ALL LOSS OF WATER DURING THE TEST IS A RESULT OF LEAKS THROUGH THE JOINTS OF THROUGH THE CONCRETE. FURTHERMORE, THE CONTRACTOR SHALL TAKE ANY STEPS NECESSARY TO ASSURE THE ENGINEER THAT THE WATER TABLE IS BELOW THE BOTTOM OF THE MANHOLE THROUGHOUT THE TEST. B.
- VACUUM TEST FOR NEW SEWER MAIN :
- 1. THE VACUUM TESTING SYSTEM SHALL BE SUPPLIED BY NPC SYSTEMS, INC. OR EQUIVALENT AS APPROVED BY THE ENGINEER. THE TESTING SHALL BE DONE IMMEDIATELY AFTER ASSEMBLY OF THE MANHOLE AND BEFORE BACKFILLING. A 60 LB-FT. TORQUE WRENCH SHALL BE USED TO TIGHTEN EXTERNAL CLAMPS THAT SECURE THE TEST COVER TO THE TOP OF THE MANHOLE. ALL LIFT HOLES SHALL BE PLUGGED WITH A NON-SHRINKING MORTAR. THE CONTRACTOR SHALL PLUG THE PIPE OPENINGS, TAKING CARE TO SECURELY BRACE THE PLUGS AND THE PIPE TO PREVENT THE PLUGS FROM BEING DRAWN INTO THE MANHOLE.
- 2. A VACUUM OF 10 INCHES OF MERCURY, HG (4.9 PSI), SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. THE MANHOLE PASSES THE TEST IF THE VACUUM REMAINS GREATER THAN OR EQUAL TO 9 INCHES HG (4.4 PSI) FOR A PERIOD GREATER THAN ONE MINUTE FOR MANHOLES UP TO 10 FEET DEEP; ONE MINUTE FIFTEEN SECONDS FOR MANHOLES 10-15 FEET DEEP; AND ONE MINUTE THIRTY SECONDS FOR MANHOLES 15-25 FEET DEEP.
- 3. IF THE MANHOLE FAILS THE INITIAL TEST, THE CONTRACTOR SHALL LOCATE THE LEAKS AND MAKE PROPER REPAIRS. LEAKS MAY BE FILLED WITH A WET SLURRY OF ACCEPTED QUICK SETTING MATERIAL. IF THE MANHOLE FAILS THE VACUUM TEST AGAIN, ADDITIONAL REPAIRS MUST BE MADE, AND THE MANHOLE MUST BE TESTED BY EXFILTRATION AS OUTLINED IN PARAGRAPH 3.03 (A). FIELD QUALITY CONTROL

LEAKAGE TEST :

- 1. THE PIPELINES SHALL BE MADE AS NEARLY WATERTIGHT AS PRACTICABLE, AND LEAKAGE TESTS AND MEASUREMENTS SHALL BE MADE AFTER THE PIPELINE HAS BEEN BACKFILLED
- 2. WHERE THE GROUNDWATER LEVEL IS MORE THAN 1 FT ABOVE THE TOP OF THE PIPE AT ITS UPPER END, THE CONTRACTOR SHALL CONDUCT EITHER INFILTRATION TESTS OR LOW PRESSURE AIR TESTS.
- 3. WHERE THE GROUNDWATER LEVEL IS LESS THAN 1 FT. ABOVE THE TOP OF THE PIPE AT ITS UPPER END, THE CONTRACTOR SHALL CONDUCT EITHER EXFILTRATION TESTS OR LOW PRESSURE AIR TESTS.
- 4. AT THE TIME OF THE TEST, THE CONTRACTOR SHALL DETERMINE THE GROUNDWATER ELEVATION FROM OBSERVATION WELLS, EXCAVATIONS OR OTHER MEANS, ALL SUBJECT TO REVIEW BY THE ENGINEER.
- 5. FOR MAKING THE LOW PRESSURE AIR TESTS, THE CONTRACTOR SHALL USE EQUIPMENT SPECIFICALLY DESIGNED AND MANUFACTURED FOR THE PURPOSE OF TESTING SEWER PIPELINES USING LOW PRESSURE AIR. THE EQUIPMENT SHALL BE PROVIDED WITH AN AIR REGULATORY VALVE OR AIR SAFETY SO SET THAT THE INTERNAL AIR PRESSURE IN THE PIPELINE CANNOT EXCEED 8 PSIG.
- 6. THE LEAKAGE TEST USING LOW PRESSURE AIR SHALL BE MADE ON EACH MANHOLE-TO-MANHOLE SECTION OF PIPELINE AFTER PLACEMENT OF THE BACKFILL.
- 7. PNEUMATIC PLUGS SHALL HAVE A SEALING LENGTH EQUAL TO OR GREATER THAN THE DIAMETER OF THE PIPE TO BE TESTED. PNEUMATIC PLUGS SHALL RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRING EXTERNAL BRACING OR BLOCKING.
- 8. ALL AIR USED SHALL PASS THROUGH A SINGLE CONTROL PANEL.
- 9. LOW PRESSURE AIR SHALL BE INTRODUCED INTO THE SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES 4 PSIG. GREATER THAN THE MAXIMUM PRESSURE EXERTED BY THE GROUNDWATER THAT MAY BE ABOVE THE INVERT OF THE PIPE AT THE TIME OF THE TEST. HOWEVER, THE INTERNAL AIR PRESSURE IN THE SEALED LINE SHALL NOT BE ALLOWED TO EXCEED 8 PSIG. WHEN THE MAXIMUM PRESSURE EXERTED BY THE GROUNDWATER IS GREATER THAN 4 PSIG., THE CONTRACTOR SHALL CONDUCT ONLY AN INFILTRATION TEST.
- 10. AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE IN THE SECTION UNDER TEST. AFTER THE STABILIZATION PERIOD, THE LOW PRESSURE AIR SUPPLY HOSE SHALL BE QUICKLY DISCONNECTED FROM THE CONTROL PANEL. THE TIME REQUIRED IN MINUTES FOR THE PRESSURE IN THE SECTION UNDER TEST TO DECREASE FROM 3.5 TO 2.5 PSIG (GREATER THAN THE MAXIMUM PRESSURE EXERTED BY GROUNDWATER THAT MAY BE ABOVE THE INVERT OF THE PIPE) SHALL NOT BE LESS THAN THAT SHOWN IN THE FOLLOWING TABLE:

| PIPE | DIAMETER IN INCHES VS. MINUTES |
|------|--------------------------------|
| 6" | 5.0 MIN. 40 SEC. |
| 8" | 7.0 MIN. 34 SEC. |
| 10" | 9.0 MIN. 26 SEC. |
| 12" | 11.0 MIN. 20 SEC. |
| 15" | 14.0 MIN. 10 SEC. |
| 10" | |

- 18" 17.0 MIN. 0 SEC. 21" 19.0 MIN. 50 SEC 24" 22.0 MIN. 40 SEC
- 27" 25.0 MIN. 30 SEC
- 11. FOR MAKING THE INFILTRATION AND EXFILTRATION TESTS, THE CONTRACTOR SHALL FURNISH SUITABLE TEST PLUGS, WATER PUMPS, AND APPURTENANCES, AND ALL LABOR REQUIRED TO PROPERLY CONDUCT THE TESTS ON SECTIONS OF ACCEPTABLE LENGTH.
- 12. FOR MAKING THE INFILTRATION TESTS, UNDERDRAINS, IF USED, SHALL BE PLUGGED AND OTHER GROUNDWATER DRAINAGE SHALL BE STOPPED TO PERMIT
- THE GROUNDWATER TO RETURN TO ITS NORMAL LEVEL INSOFAR AS PRACTICABLE
 13. UPON COMPLETION OF A SECTION OF THE SEWER, THE CONTRACTOR SHALL DEWATER IT AND CONDUCT AN EXFILTRATION TEST TO MEASURE THE INFILTRATION FOR AT LEAST 24 HOURS. THE AMOUNT OF INFILTRATION, INCLUDING MANHOLES, TEES, AND CONNECTIONS, SHALL NOT EXCEED 200 GAL. PER INCH DIAMETER PER MILE OF SEWER PER 24 HOURS.
- 14. FOR MAKING THE EXFILTRATION TESTS, THE SEWERS SHALL BE SUBJECTED TO AN INTERNAL PRESSURE BY PLUGGING THE PIPE AT THE LOWER END AND THEN FILLING THE PIPELINES AND MANHOLES WITH CLEAN WATER TO A HEIGHT OF 2 FT. ABOVE THE TOP OF THE SEWER AT ITS UPPER END. WHERE CONDITIONS BETWEEN MANHOLES, MAY RESULT IN TEST PRESSURES WHICH WOULD CAUSE LEAKAGE AT THE STOPPERS IN BRANCHES, PROVISIONS SHALL
- BE MADE BY SUITABLE TIES, BRACES, AND WEDGES TO SECURE THE STOPPERS AGAINST LEAKAGE RESULTING FROM THE TEST PRESSURE.
 15. THE RATE OF LEAKAGE FROM THE SEWERS SHALL BE DETERMINED BY MEASURING THE AMOUNT OF WATER REQUIRED TO MAINTAIN THE LEVEL 2 FT. ABOVE THE TOP OF THE PIPE.
- 16. LEAKAGE FROM THE SEWERS UNDER TEST SHALL NOT EXCEED THE REQUIREMENTS FOR LEAKAGE INTO SEWERS AS HEREIN BEFORE SPECIFIED.
- 17. THE SEWERS SHALL BE TESTED BEFORE ANY CONNECTIONS ARE MADE TO BUILDINGS.
- 18. THE CONTRACTOR SHALL CONSTRUCT WEIRS OR OTHER MEANS OF MEASUREMENTS AS MAY BE REQUIRED.
- 19. SUITABLE BULKHEADS SHALL BE INSTALLED, AS REQUIRED, TO PERMIT THE TEST OF THE SEWER.
- 20. SHOULD THE SECTIONS UNDER TEST FAIL TO MEET THE REQUIREMENTS, THE CONTRACTOR SHALL DO ALL WORK OF LOCATING AND REPAIRING LEAKS AND RETESTING AS THE ENGINEER MAY REQUIRE WITHOUT ADDITIONAL COMPENSATION.
- 21. IF, IN THE JUDGMENT OF THE ENGINEER, IT IS IMPRACTICABLE TO FOLLOW THE FOREGOING PROCEDURES FOR ANY REASON, ACCEPTABLE MODIFICATIONS IN THE PROCEDURES SHALL BE MADE AS REQUIRED, BUT IN ANY EVENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ULTIMATE TIGHTNESS OF THE LINE WITHIN THE ABOVE TEST REQUIREMENTS.

WATER TESTING ALL TESTING SHALL CONFORM TO TOWN OF WEYMOUTH STANDARD SPECIFICATIONS.

1. REQUIRED TESTS FOR WATERLINES AND FORCE MAINS:

A. PERFORM THE FOLLOWING AFTER THE PIPE HAS BEEN INSTALLED AND PRIOR TO FINAL ACCEPTANCE:

- A.1. PRESSURE TEST. / A.2. LEAKAGE TEST.
- PRESUMPTIVE HYDROSTATIC TESTS MAY BE PERFORMED WHEN THE SYSTEM IS PARTIALLY BACKFILLED TO "CHECK" THE WORK, BUT FINAL ACCEPTANCE SHALL BE BASED ON HYDROSTATIC TESTS PERFORMED ON THE FINISHED SYSTEM AFTER IT IS COMPLETELY BACKFILLED.
 PRESSURE TEST:
- A. TEST PIPING TO 1.5 TIMES THE PIPE WORKING PRESSURE, OR 150 PSI, WHICHEVER IS GREATER. MEASURE TEST PRESSURES AT THE LOWEST POINT IN THE PIPE SECTION AND CORRECT TO THE ELEVATION OF THE GAUGE.
- B. RELIEVE TRAPPED AIR AT THE SECTION HIGH POINTS THROUGH HYDRANTS, OR TAPS INSTALLED FOR THIS PURPOSE, PROVIDED TEMPORARY INSTALLATIONS ARE REMOVED AND PLUGGED AFTER ACCEPTANCE.
 C. MAINTAIN THE TEST PRESSURE FOR A PERIOD OF TWO (2) HOURS. AT THE END OF THE TEST PERIOD, IF THE TEST PRESSURE REMAINS CONSTANT, THE PIPE SECTION
- SHALL HAVE PASSED THE TEST. IF THE PRESSURE HAS DROPPED, IT SHALL BE BROUGHT BACK TO THE TEST PRESSURE BY PUMPING A KNOWN VOLUME OF WATER (BY PUMPING FROM A GRADUATED CONTAINER OR BY METERING) BACK INTO THE PIPE. THE VOLUME OF WATER THUS USED, REPRESENTING LEAKAGE FROM THE PIPE, SHALL BE RECORDED. IF THE LEAKAGE IS LESS THAN THE ALLOWABLE LEAKAGE SPECIFIED BELOW, THE PIPE SHALL HAVE PASSED THE TEST. IF THE LEAKAGE EXCEEDS THE ALLOWABLE LEAKAGE SPECIFIED BELOW, THE PIPE SHALL HAVE PASSED THE TEST. IF THE LEAKAGE EXCEEDS THE ALLOWABLE LEAKAGE SPECIFIED BELOW, THE PIPE SHALL HAVE PASSED THE TEST. IF THE LEAKAGE EXCEEDS THE ALLOWABLE LEAKAGE SPECIFIED BELOW, THE PIPE SHALL HAVE PASSED THE TEST. IF THE LEAKAGE EXCEEDS THE ALLOWABLE LEAKAGE SPECIFIED, THE CONTRACTOR SHALL LOCATE THE LEAK, PERMANENTLY REPAIR THE SECTION OF PIPE WHERE THE LEAK IS OCCURRING TO THE SATISFACTION OF THE ENGINEER, AND RETEST THE PIPE AS SPECIFIED ABOVE.
- 4. <u>LEAKAGE TEST:</u>
- A. CONDUCT THE LEAKAGE TEST CONCURRENTLY WITH THE PRESSURE TEST.B. THE MAXIMUM ALLOWED LEAKAGE IS DETERMINED BY THE FOLLOWING FORMULA:

L = <u>N x D x P 1/2</u> 7400 WHERE L = ALLOWABLE LEAKAGE, IN GPH ; WHERE N = NO. OF JOINTS IN TEST SECTION WHERE D = NOMINAL PIPE DIAMETER, IN INCHES ; WHERE P = AVERAGE TEST PRESSURE, IN PSIG

5. ACCEPTANCE SHALL BE DETERMINED ON THE BASIS OF ALLOWABLE LEAKAGE. IF ANY PIPE SECTION DISCLOSES LEAKAGE GREATER THAN THAT SPECIFIED, LOCATE, REPAIR

AND RETEST UNTIL THE LEAKAGE IS WITHIN THE LIMITS SPECIFIED.
6. MAKE ALL VISIBLE LEAKS TIGHT REGARDLESS OF THE AMOUNT OF LEAKAGE, AND IF THE LINES DO NOT MEET THE ABOVE LEAKAGE TEST, REPAIR AND RETEST AS NECESSARY UNTIL THE LEAKAGE REQUIREMENT IS MET. REPAIR OR REPLACE ALL DEFECTIVE WORK.

DISINFECTION OF POTABLE WATER MAINS

- DISINFECT ALL POTABLE WATER MAINS IN ACCORDANCE WITH THE LATEST VERSION OF AWWA C651, EXCEPT THAT THE PLACEMENT OF CHLORINE POWDER OR TABLETS INSIDE THE PIPE DURING INSTALLATION SHALL NOT BE ALLOWED. DISINFECT WATER MAINS AFTER THE PIPING HAS PASSED THE PRESSURE AND LEAKAGE TESTING.
 FLUSH THE PIPE WITH WATER AT A MINIMUM VELOCITY OF 2.5 FEET PER SECOND (FPS) TO CLEAR ALL FOREIGN MATERIAL FROM THE PIPE.
- 3. APPLY A CHLORINE SOLUTION WITH A CONCENTRATION BETWEEN 50 PARTS PER MILLION (PPM) AND 100 PPM. THE CHLORINE SOLUTION SHALL REMAIN IN THE PIPING FOR A MINIMUM OF 24 HOURS. THE CONCENTRATION AT THE END OF THIS PERIOD SHALL BE AT LEAST 25 PPM IN ALL SECTIONS OF THE MAIN. REPEAT THE ENTIRE PROCEDURE IF THE RESIDUAL IS LESS THAN 25 PPM.
- A. WHILE THE CHLORINATED WATER IS BEING ADDED, ALL APPURTENANCES (VALVES, HYDRANTS, ETC.) SHALL BE OPERATED SO AS TO COMPLETELY DISINFECT THE NEW WORK.
- B. POSITION VALVES SO THAT THE CHLORINE SOLUTION IN THE SECTION BEING DISINFECTED WILL NOT FLOW INTO WATER MAINS IN ACTIVE SERVICE.C. CHLORINE RESIDUAL SAMPLES SHALL BE TAKEN AS DIRECTED BY THE ENGINEER.
- 4. AFTER THE TWENTY FOUR (24) HOUR RETENTION PERIOD, FLUSH THE MAIN UNTIL RESIDUAL TESTING INDICATES THAT THE CHLORINE CONCENTRATION IS APPROXIMATELY THAT OF THE NEIGHBORING SERVICE AREA.
 A. DISPOSE OF HEAVILY CHLORINATED WATER INTO SANITARY SEWER OR TANK TRUCK.
- B. THE OWNER AND THE OWNER OF THE SANITARY SEWER SYSTEM SHALL BE NOTIFIED A MINIMUM OF TWENTY-FOUR (24) HOURS PRIOR TO THE DISCHARGE OF ANY WATER TO THE SANITARY SEWER. CONTRACTOR SHALL SUBMIT TO THE ENGINEER WRITTEN CONFIRMATION THAT THE OWNER OF SANITARY SEWER SYSTEM (THE TOWN), HAS APPROVED THE DISCHARGE OF WATER TO ITS SANITARY SEWER.
- C. UNDER NO CIRCUMSTANCES WILL THE EMPTYING OF WATER ONTO ROADWAYS, OR INTO DITCHES, CULVERTS, STREAMS OR WETLANDS BE ALLOWED.
 5. AFTER DISINFECTION AND FINAL FLUSHING, AND PRIOR TO PLACING THE LINES IN SERVICE, THE CONTRACTOR SHALL COLLECT BACTERIOLOGICAL SAMPLES (BOTH COLIFORM AND HETEROTROPHIC PLATE COUNT) AND SUBMIT SAMPLES TO AN APPROVED TESTING LABORATORY. TWO CONSECUTIVE SETS OF SAMPLES SHALL BE TAKEN AT LEAST 24 HOURS APART IN ACCORDANCE WITH AWWA C651. THE COLLECTION POINTS SHALL BE AS DIRECTED BY THE ENGINEER AND LOCAL AUTHORITY HAVING JURISDICTION.
- A. THE TESTING LABORATORY PERFORMING THE BACTERIOLOGICAL ANALYSIS SHALL BE ACCEPTABLE TO THE ENGINEER
- B. SUBMIT THREE (3) COPIES OF THE LABORATORY ANALYSIS TO THE ENGINEER.
- A. SHOULD SAFE RESULTS NOT OCCUR AFTER LABORATORY TESTS, THE CONTRACTOR SHALL, AT HIS EXPENSE, REPEAT THE DISINFECTION PROCEDURE UNTIL SAFE RESULTS ARE OBTAINED. THIS INCLUDES A POSITIVE RESULT FOR COLIFORM OR A MEASURED HETEROTROPHIC PLATE COUNT OF GREATER THAN 500 COLONY-FORMING UNITS PER ML.
 B. CONTRACTOR SHALL PAY FOR ALL TESTING REQUIRED.
- 6. ALL PRECAUTION SHALL BE TAKEN TO MAINTAIN DRY AND SANITARY CONDITIONS AND PREVENT CONTAMINATION OF ANY PIPING. IF, IN THE OPINION OF THE ENGINEER, CONTAMINATION HAS OCCURRED, THE CONTRACTOR SHALL REPEAT THE DISINFECTION PROCEDURE AND TESTING AT HIS COST AND EXPENSE.

| | ///// | BUILDING LINE | 🖾 EB | ELECTRIC BOX |
|---|-------------------------------|------------------------------------|----------|--------------------|
| | | PARCEL BOUNDARY LINE | . | WETLAND FLAG |
| | | EASEMENT LINE | · | |
| | | ADJOINING PARCEL LINE | ⊙ BOL | BOLLARD |
| | | STREET/HIGHWAY LINE | P | SINGLE POST SIGN |
| | | EDGE OF ASPHALT | p p | DOUBLE POST SIGN |
| | | EDGE OF CONCRETE | | |
| | | EDGE OF GRAVEL/CRUSHED STONE | | MONITORING WELL |
| | W | WATER LINE | ⊙ post | POST |
| D | D | DRAIN LINE | ß | HANDICAP ICON |
| S | S | SEWER LINE | GL | HANDICAL LEON |
| G | — G | GAS LINE | TREE | PINE TREE |
| OHW | | OVERHEAD UTILITY LINE W/POWER POLE | TREE | DECIDUOUS TREE |
| $\frown \frown $ | $\frown \frown \frown \frown$ | TREE LINE | Las INLL | |
| | TEL PED | TELEPHONE PEDESTAL | C SHRUB | SHRUB |
| | GV GV | GAS VALVE | | FLOOR DRAIN |
| | ⊙ GAS MTR | GAS METER | O DRAIN | SQUARE CATCH BASIN |
| | • MHSA | SEWER MANHOLE | СВ | SQUARE CATCH DASIN |
| | O VENT | VENT | MHST | STORM MANHOLE |
| | Ø | UTILITY POLE | < inv. | INVERT |
| | * | LIGHT POLE | O WSO | WATER SHUT OFF |
| | | GUY WIRE | | WATER VALVE |
| | • MHE | ELECTRIC MANHOLE | | HYDRANT |

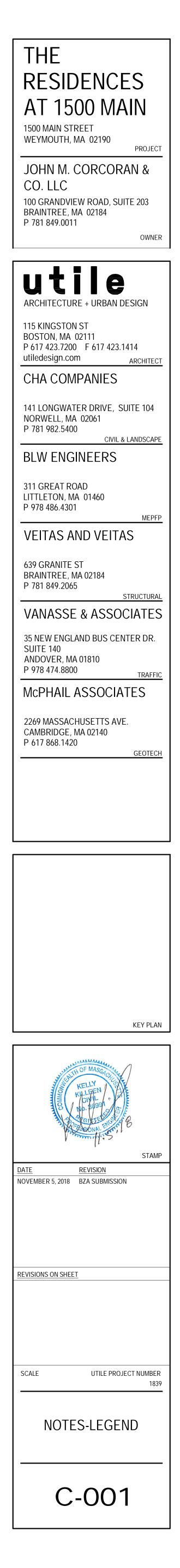
LEGEND - EXISTING

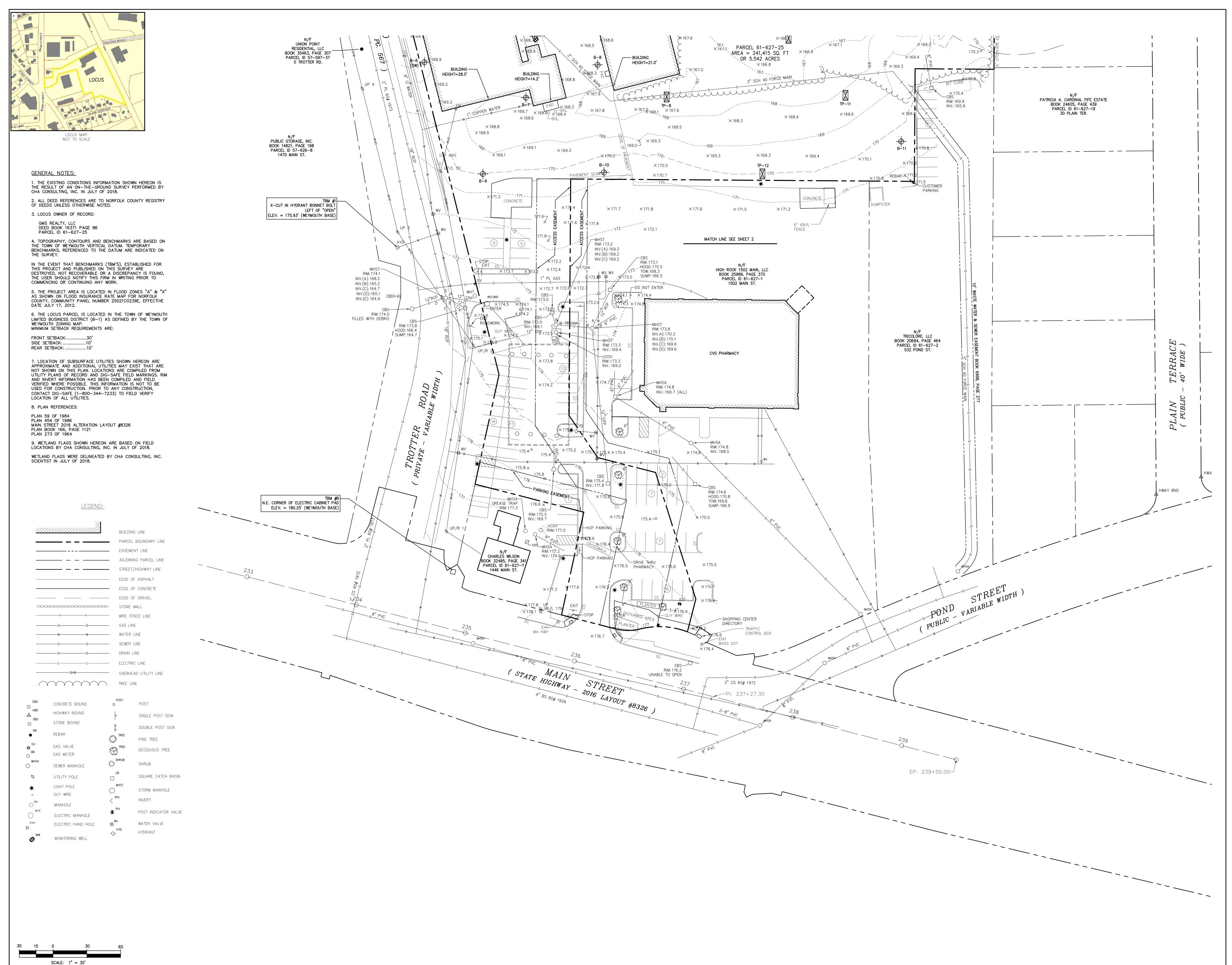
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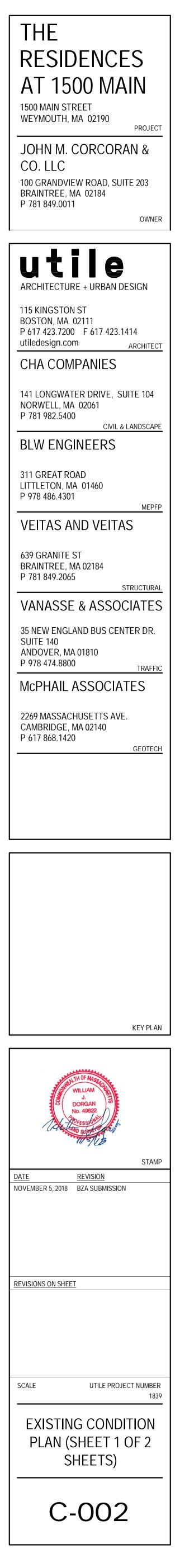
| | — MAJOR CONTOUR | 0 | CATCH BASIN |
|--|-------------------|------------------|-------------------------|
| 586 | — MINOR CONTOUR | Θ | DOUBLE CATCH BASIN |
| w | — DOMESTIC WATER | Ø | DRAIN MANHOLE |
| <i>FP</i> | - FIRE PROTECTION | × <u>†</u> • ● ♦ | HYDRANT ASSEMBLY |
| —————————————————————————————————————— | | | LINE VALVE |
| <i>s</i> | — SANITARY SEWER | Ţ | ELBOW WITH THRUST BLOCK |
| ——— <i>FM</i> ——— | — FORCEMAIN | ۲ Ø | POST INDICATOR VALVE |
| <i>ST</i> | — STORM SEWER | 6 | SANITARY MANHOLE |
| | | | ELECTRIC MANHOLE |
| - — — GAS — — | — NATURAL GAS | | |
| x x | — CHAINLINK FENCE | | SEWER GRINDER PUMP |
| | | \odot | OIL/WATER SEPARATOR |
| | | | RETAINING WALL |

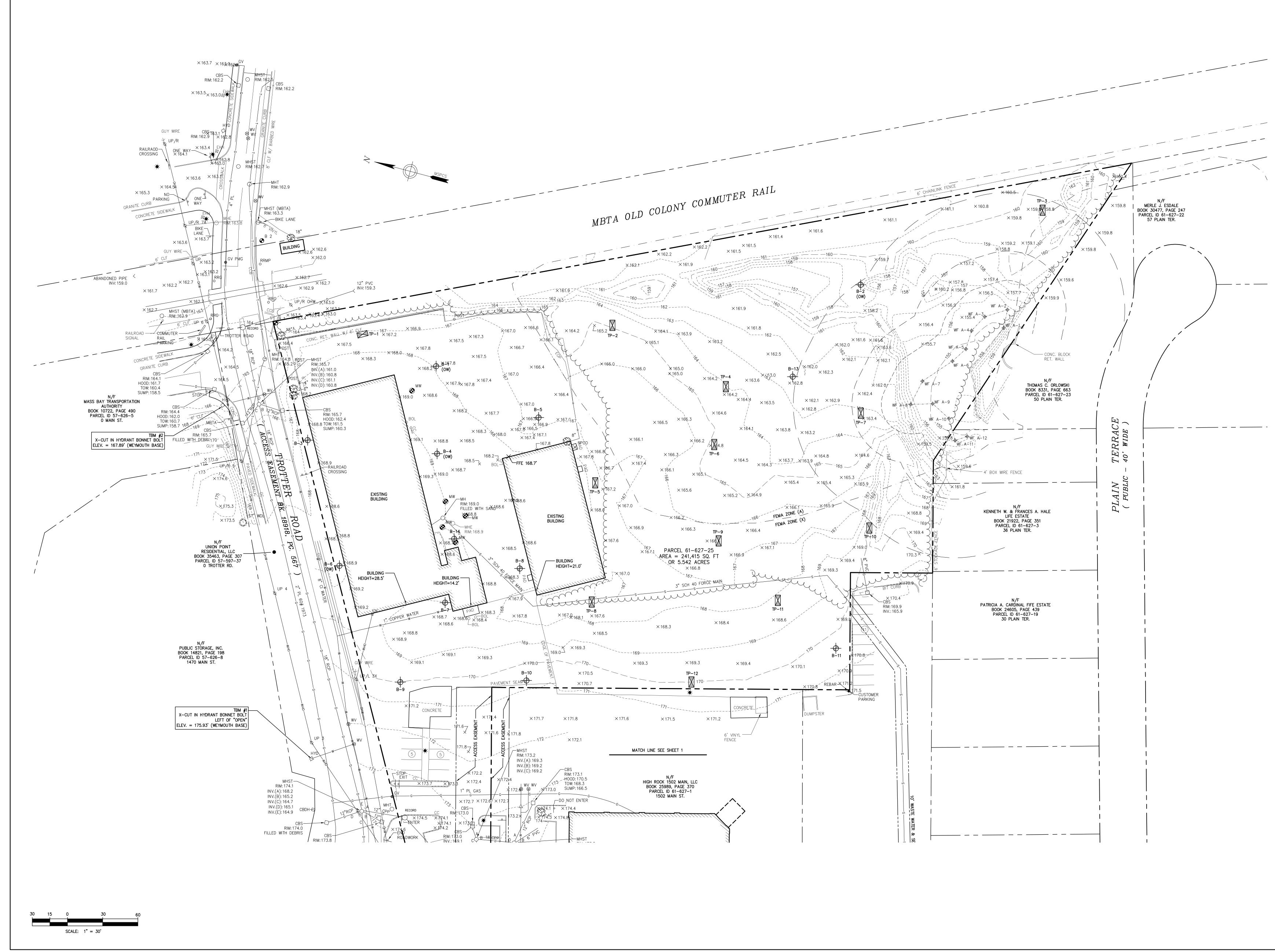
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LIGHT FIXTURE

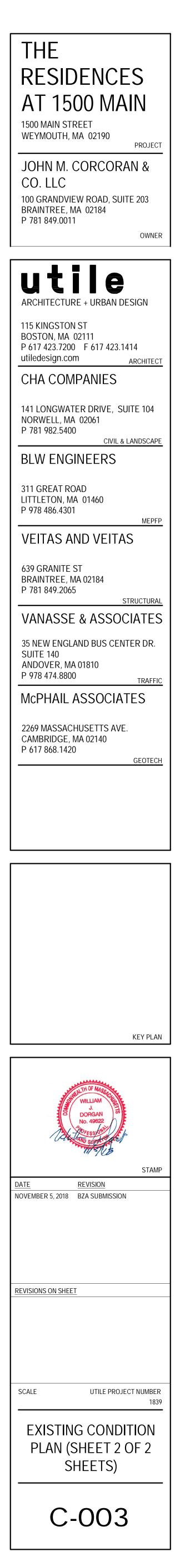


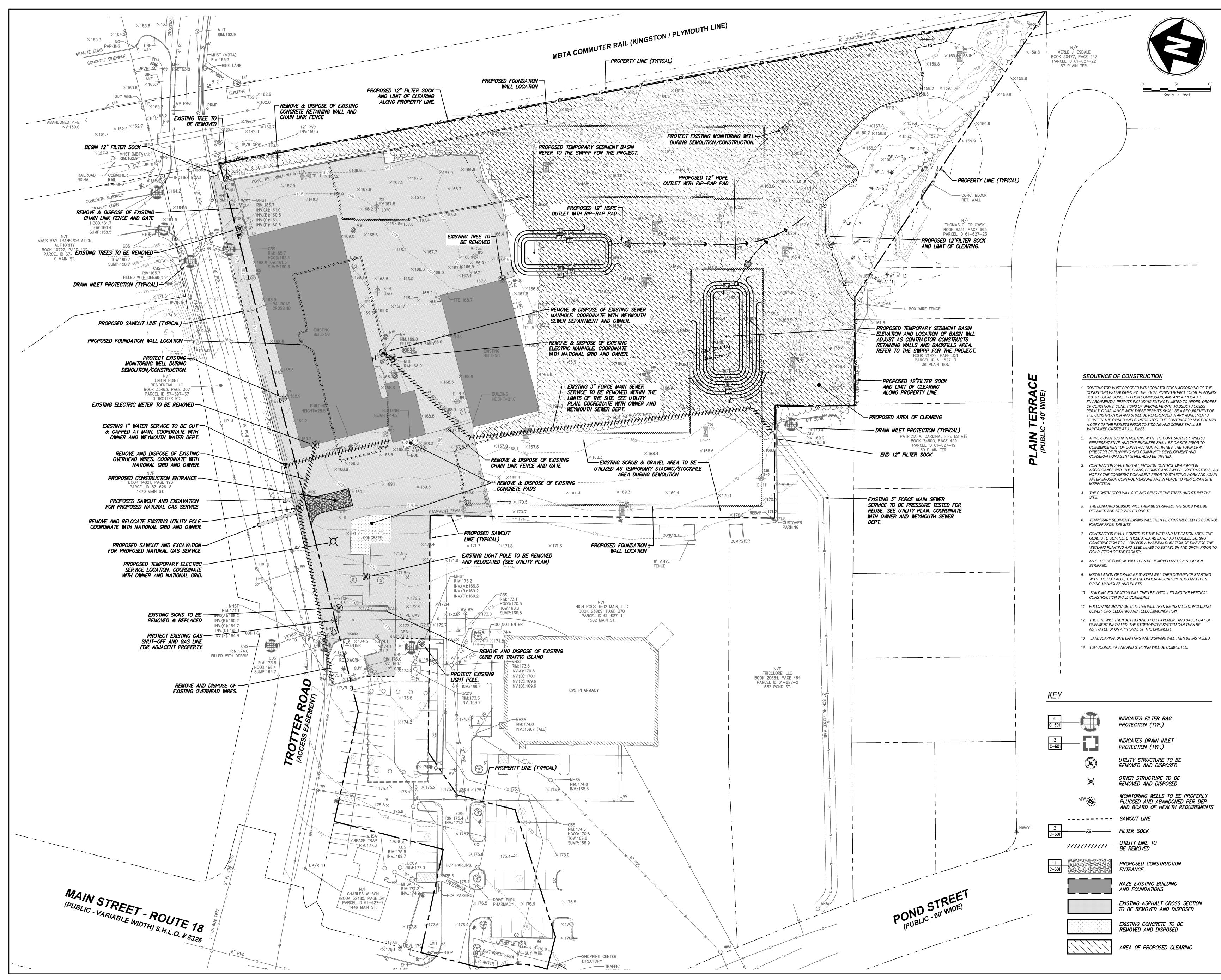




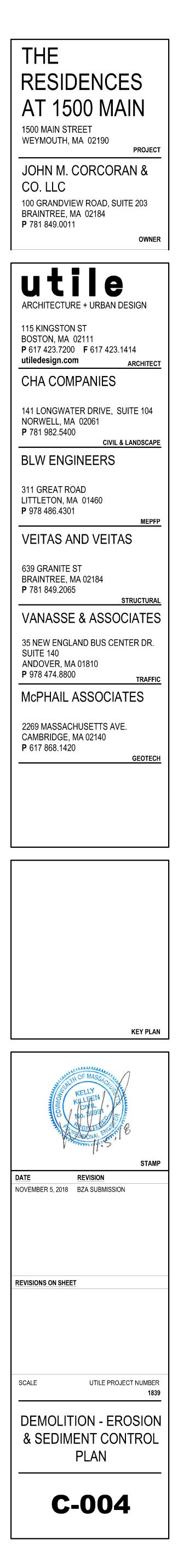


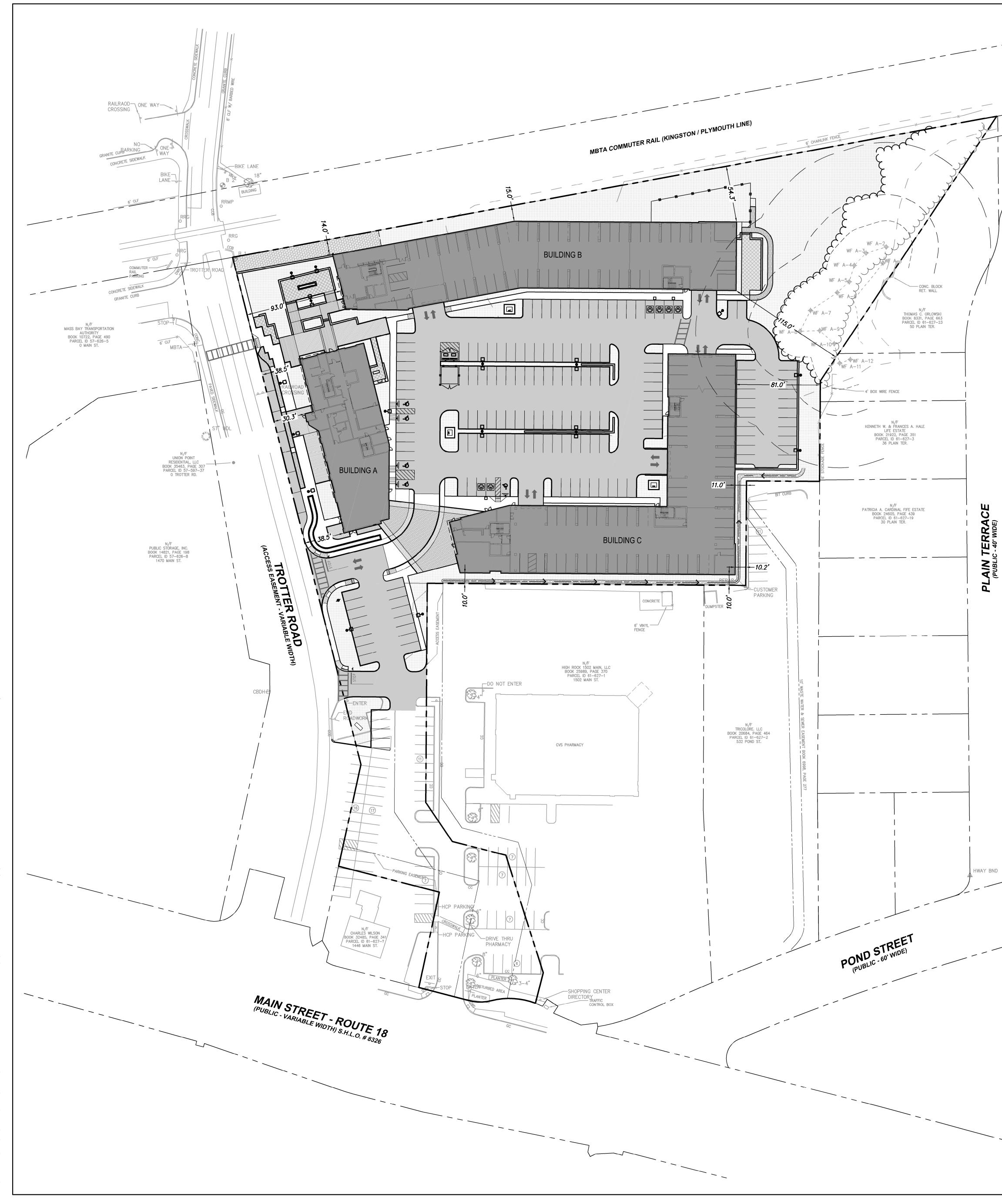
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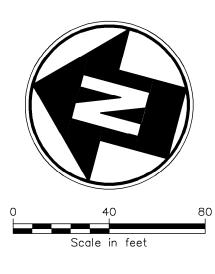


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| ZONING TABLE | | | | | |
|---|-------------------------------------|---|--|--|--|
| ZONING DISTRICT: (B-1) LIMITED BUSINESS , OVERLAY DISTRICT: (CCOD) COMMERCIAL CORRIDOR - ROUTE 18 | | | | | |
| | B-1 REQUIRED | CCOD REQUIRED | PROVIDED/ PROPOSED | | |
| MINIMUM LOT SIZE | 10,000 SF (See § 120-58) | 30,000 SF | 241,415 SF (5.542 ACRES) | | |
| MINIMUM LOT WIDTH | 100 FT (See § 120-56 and 120-58) | N/A | 50 FT (EXISTING NONCONFORMING) | | |
| FLOOR AREA RATIO (FAR) | NONE | 1.25 (MAX) (WITHIN 1000' OF COMMUTING RAIL STATION) | FAR OF 1.09 (264,104± S.F ÷ 241,415 S.F.) | | |
| LOT FRONTAGE | NONE | NONE | 114 \pm FT (Trotter Rd); 600 \pm FT (Main St) ¹ | | |
| FRONT YARD SETBACK | 30 FT (MIN) (EXCLUDING SIGN) | MAX: 70 FT (AVERAGE) MIN: 25 FT (WITH 5' LANDSCAPE AREA) | 70 FT. (AVERAGE) 30.0 FT. (MINIMUM) | | |
| SIDE YARD SETBACK | 10 FT (MIN) (See § 120-59) | 10 FT ² | 10.0 FT | | |
| REAR YARD SETBACK | 10 FT (MIN) (See § 120-59) | 15 FT ² | 81.1 FT | | |
| BUILDING COVERAGE | BUILDING & LOT: 50% (MAX) | 60% (MAX) | 26% (62,625 S.F. ÷ 241,415 S.F.) | | |
| LOT COVERAGE (IMPERVIOUS) | BUILDING & LOT: 50% (MAX) | 75% (MAX-INCLUDES BUILDING) | 71% (172,380 S.F. ÷ 241,415 S.F.) | | |
| OPEN SPACE | 50% (MIN) | 15% (MIN) | 28% (66,360 S.F. ÷ 241,415 S.F. {EXCLUDES WETLAND}) | | |
| BUILDING HEIGHT | 6 STORIES / 80 FEET (MAX) | 3 STORIES / 45 FEET (MIN) 5 STORIES / 70 FEET (MAX) | 5 STORIES w/ BASEMENT LEVEL PARKING; 58.3 FT | | |

 TROTTER ROAD IS BEING USED TO CALCULATE BUILDING SETBACKS ONLY.
 A 20-FOOT "NO BUILD" AND "NO PARKING" BUFFER WILL BE PROVIDED ALONG ANY PROPERTY LINE ABUTTING AN EXISTING RESIDENTIAL USE PROPERTY. THE BUILDING IS ALSO LOCATED OUTSIDE OF THE "STEP-UP" BUFFER WHICH IS LOCATED WITHIN THE FIRST 25-FEET AFTER THE ABOVE MENTIONED 20-FOOT BUFFER.

RESIDENTIAL PARKING REQUIREMENTS

MERLE J. ESDALE BOOK 30477, PAGE 247 PARCEL ID 61-627-22 57 PLAIN TER.

(36) ------ STUDIO AT 1.0 SPACE/UNIT (WITHIN 1000 FT OF COMMUTER RAIL) = 36 SPACES
(113) ------ 1 BEDROOM AT 1.0 SPACES/UNIT (WITHIN 1000 FT OF COMMUTER RAIL) = 113 SPACES
(81) ------ 2 BEDROOM AT 1.25 SPACES/UNIT (WITHIN 100 FT OF COMMUTER RAIL) = 101 SPACES
(7) ------ 3 BEDROOM AT 1.25 SPACES/UNIT (WITHIN 100 FT OF COMMUTER RAIL) = 9 SPACES

TOTAL REQUIRED = 259 SPACES

HWAY BND

COMMERCIAL PARKING REQUIREMENTS

COMMERCIAL SPACE (6,121 S.F.) AT 1 SPACE PER 200 SF = 31 SPACES

TOTAL REQUIRED = 31 SPACES

TOTAL PARKING SPACES

TOTAL REQUIRED = 290 SPACES (259 RESIDENTIAL + 31 COMMERCIAL) TOTAL PROVIDED = 289 SPACES (259 RESIDENTIAL + 30 COMMERCIAL) TOTAL PROVIDED (INCLUDING SHARED) = 362 (289 TOTAL + 73 SHARED)

*THE COMMERCIAL TOTAL EXCLUDES SHARED PARKING. A TOTAL OF 20 REBUILT SHARED PARKING SPACES ARE PROPOSED, AND AN ADDITIONAL 53 SHARED PARKING SPACES ARE EXISTING ADJACENT TO THE EXISTING CVS AND CAN BE USED BY RIGHT.

ELECTRIC CAR CHARGING STATION REQUIREMENTS

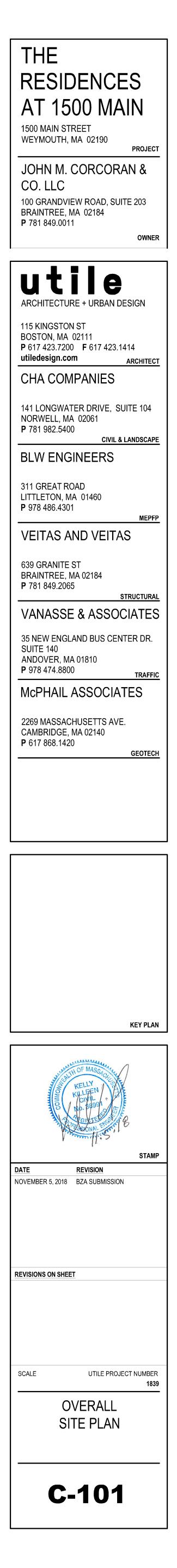
50-100 PARKING SPACES = 2 CHARGING SPACES EVERY 50 ADDITIONAL SPACES = 1 CHARGING SPACE

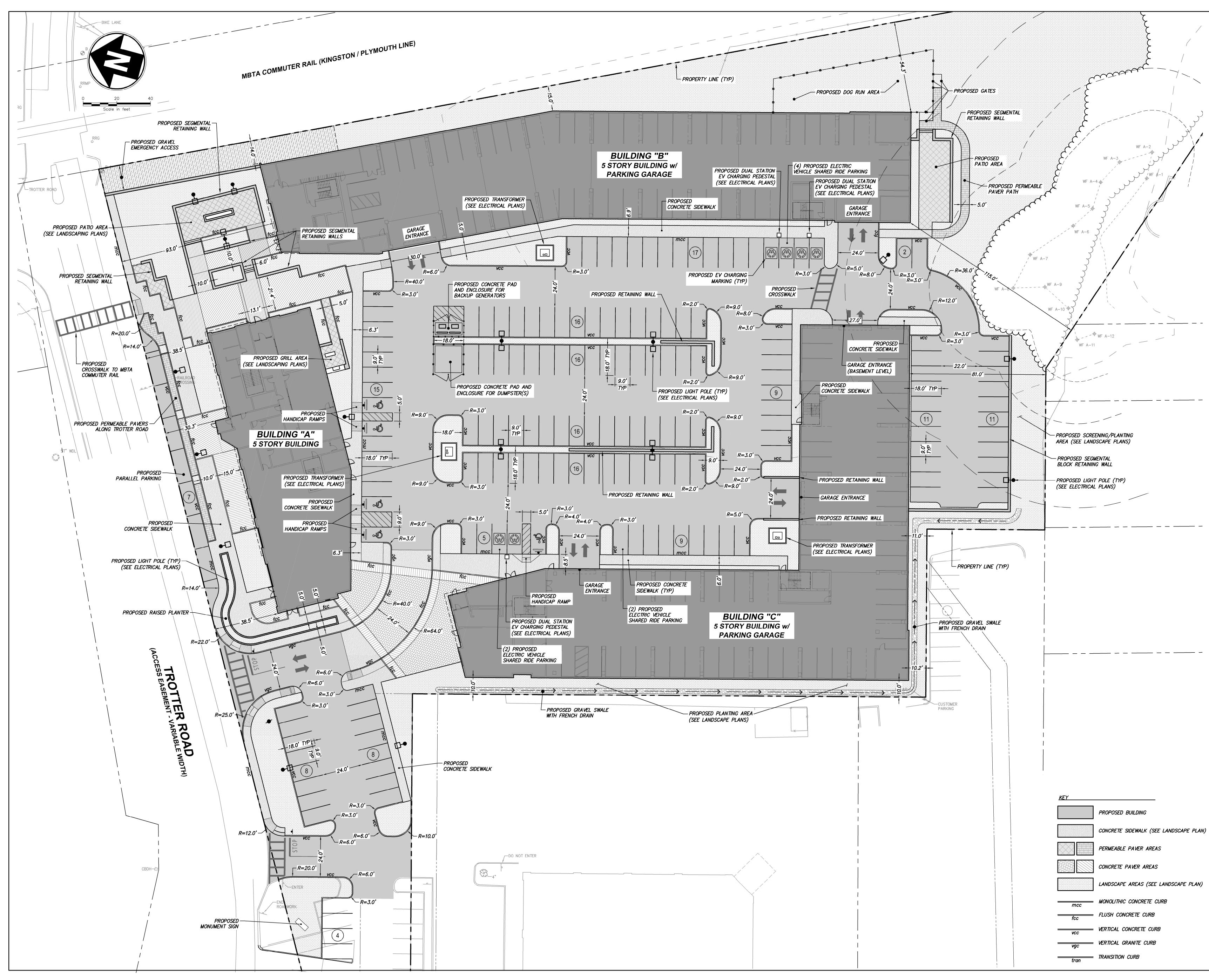
TOTAL REQUIRED PARKING ON SITE = 290 SPACES (259 RESIDENTIAL + 31 RETAIL) TOTAL REQUIRED CHARGING SPACES = 6 SPACES (2 + [190 ÷ 50]) TOTAL PROVIDED CHARGING SPACES = 6 SPACES

BICYCLE STALL REQUIREMENTS

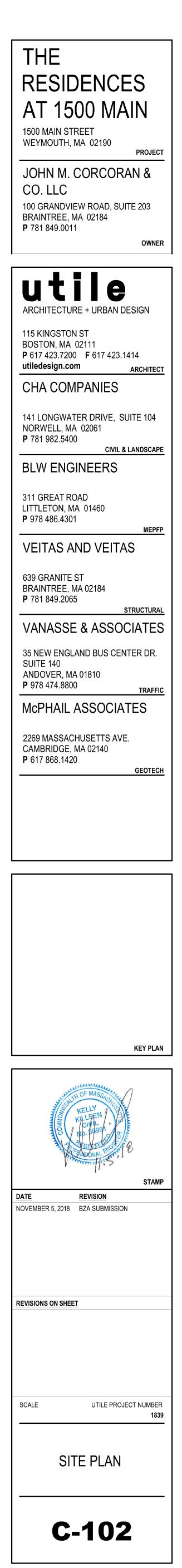
TOTAL UNITS X 15% = 237 UNITS X 15% = 36 SPACES

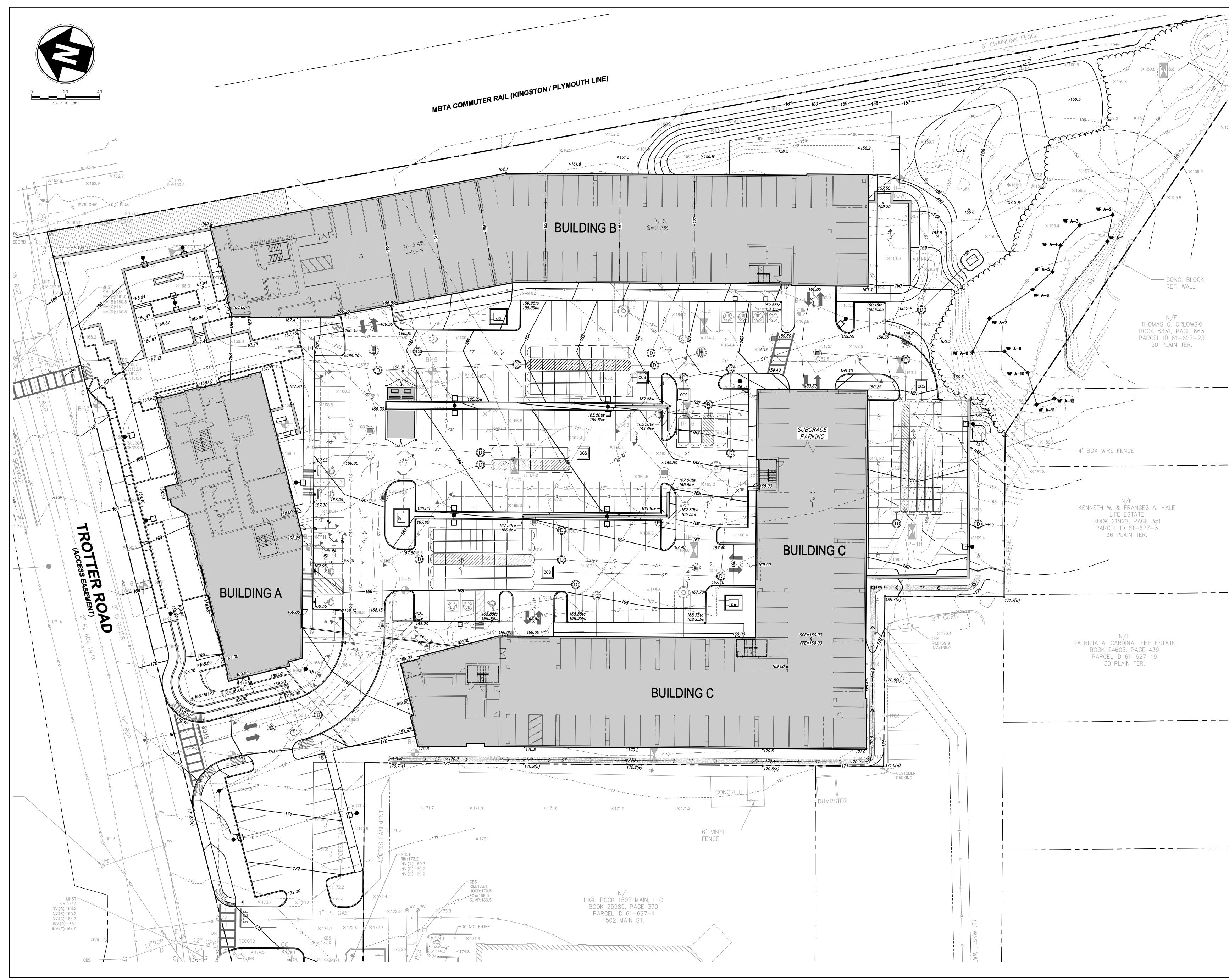
TOTAL REQUIRED = 36 SPACES TOTAL PROVIDED = 92+ (80+ INTERIOR SPACES + 12 EXTERIOR SPACES)



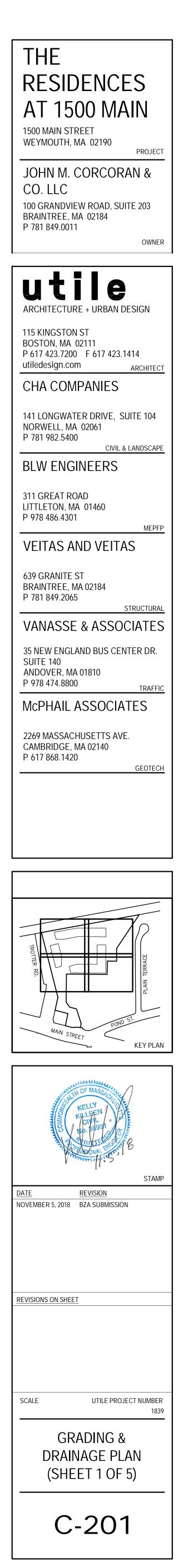


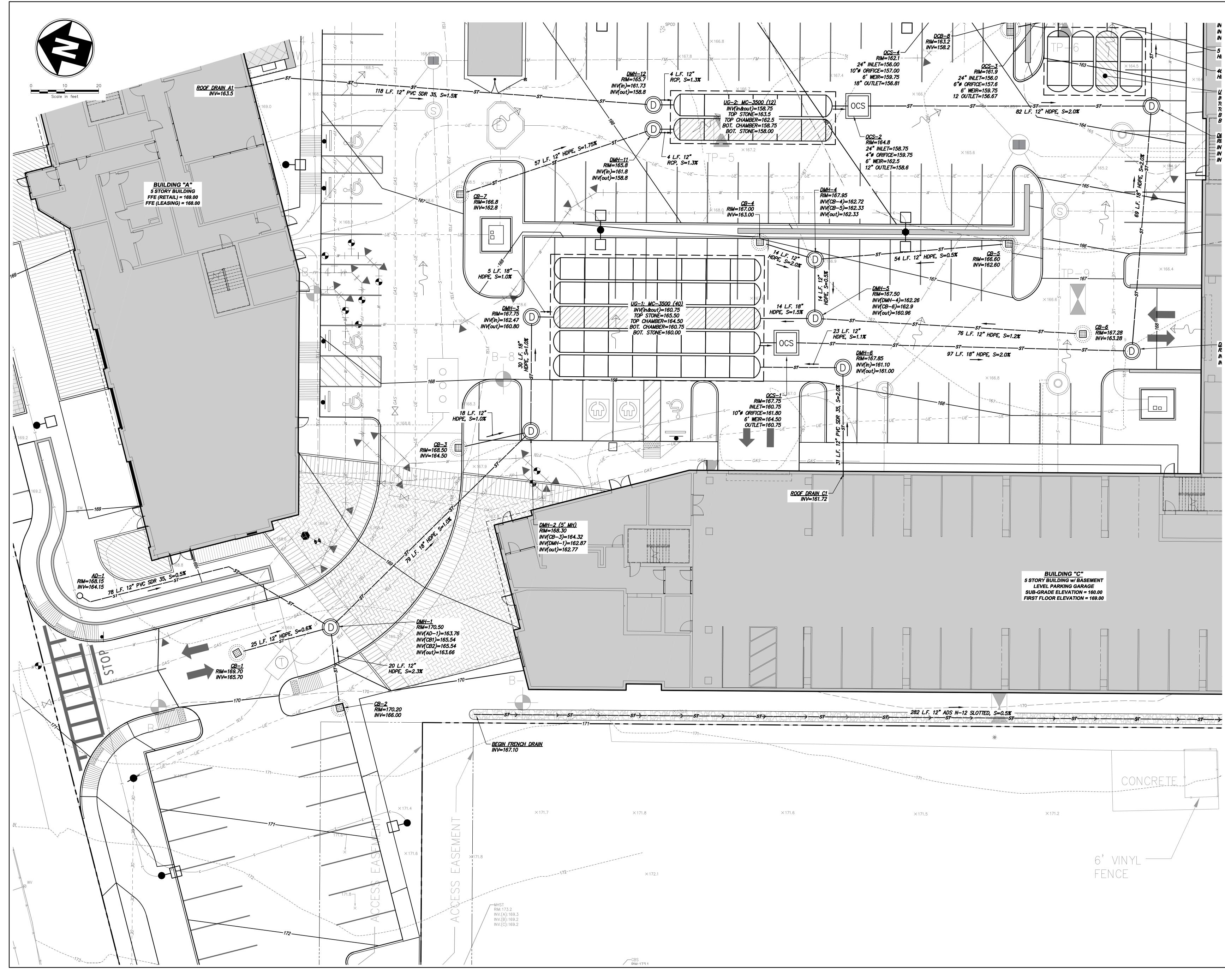
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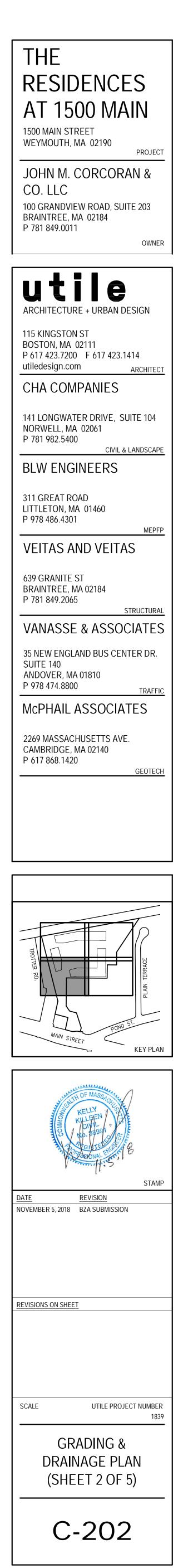


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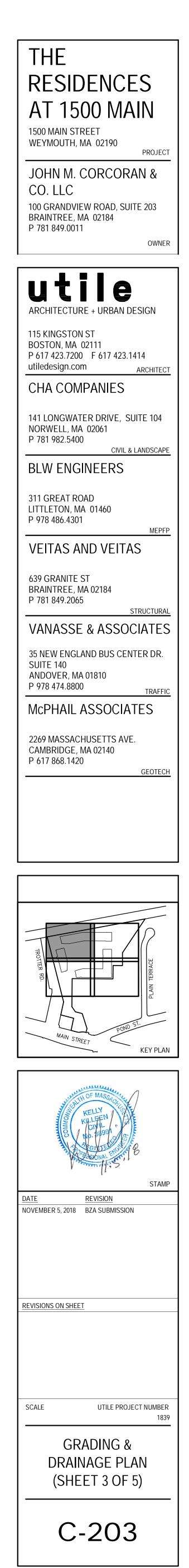


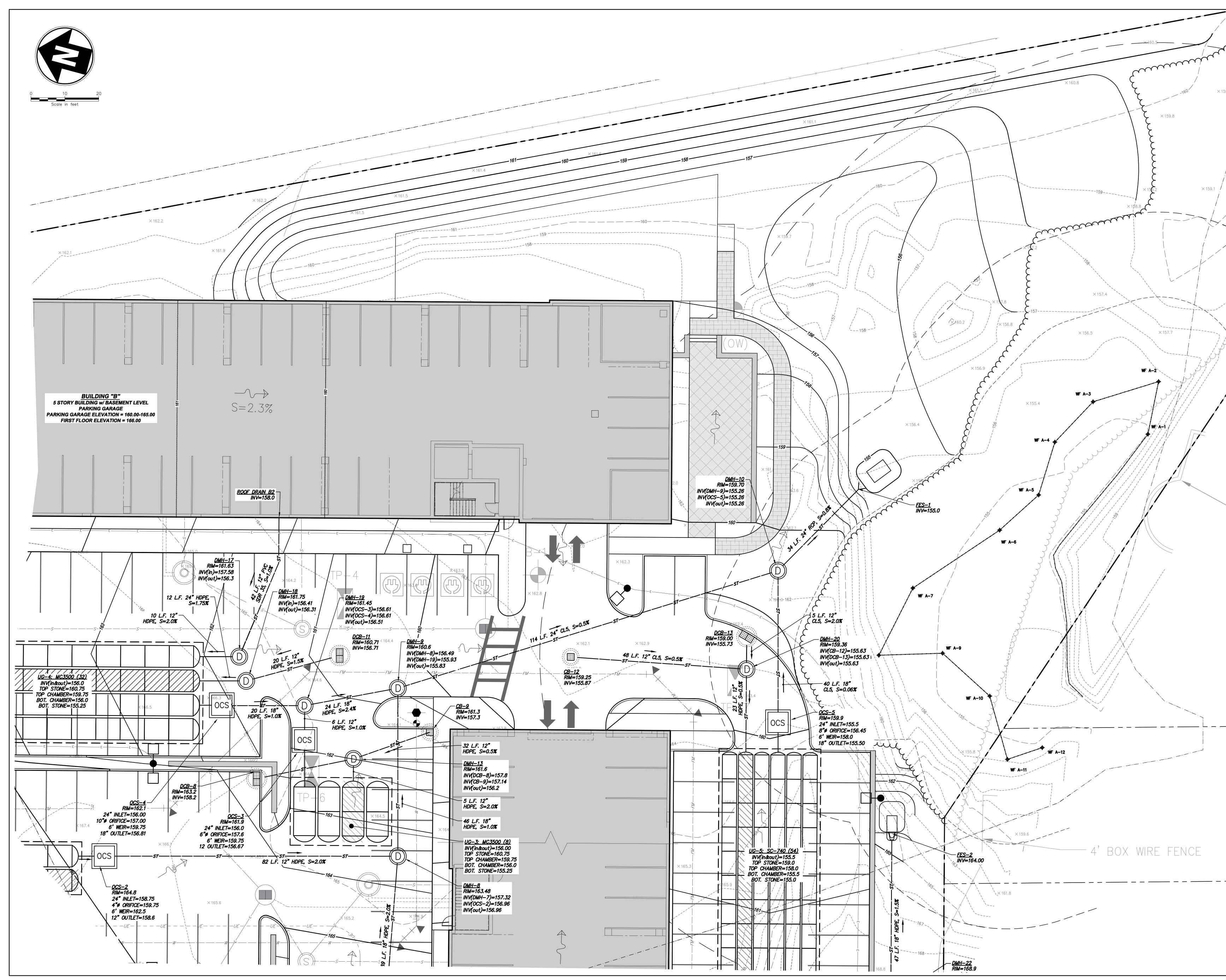
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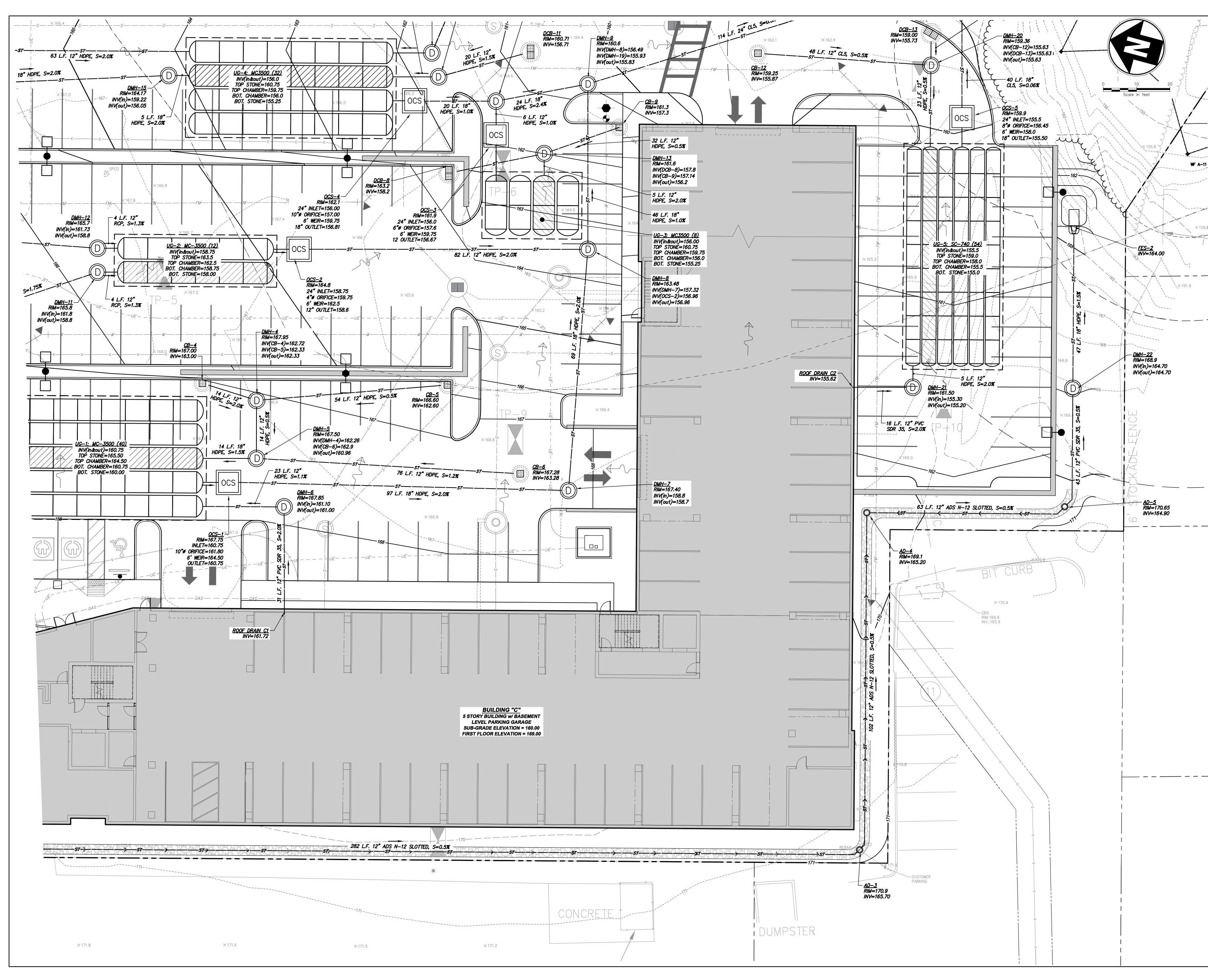
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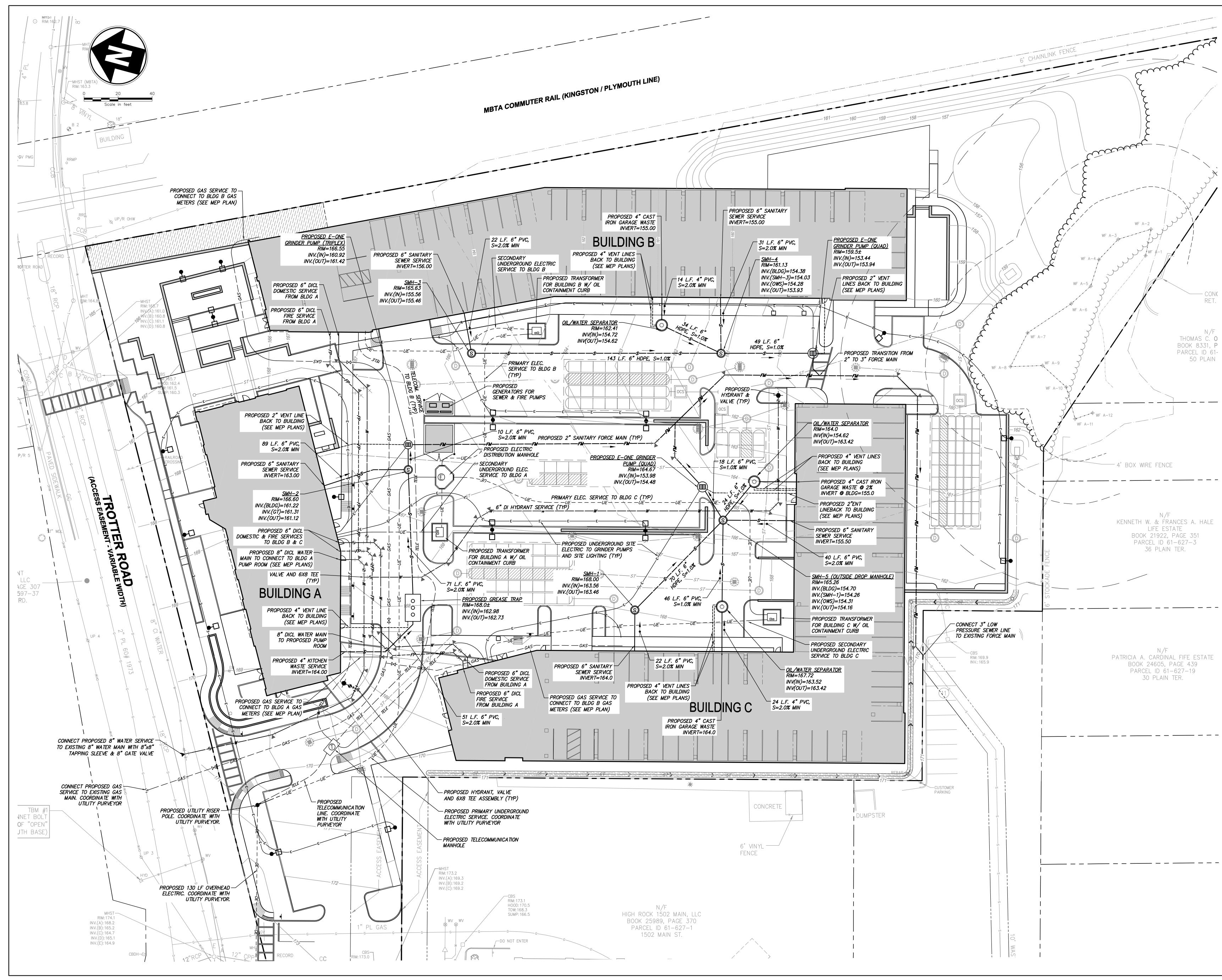
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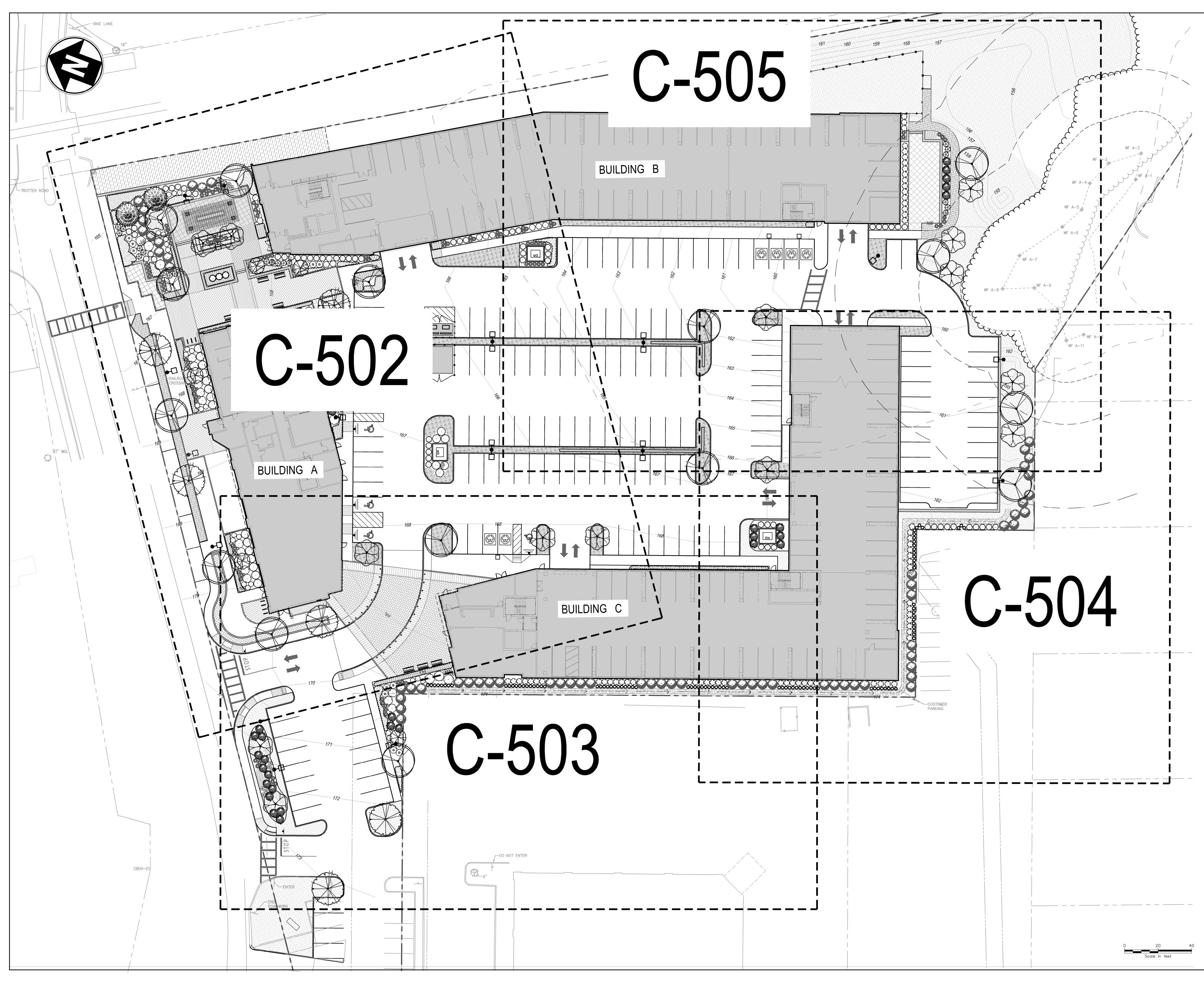


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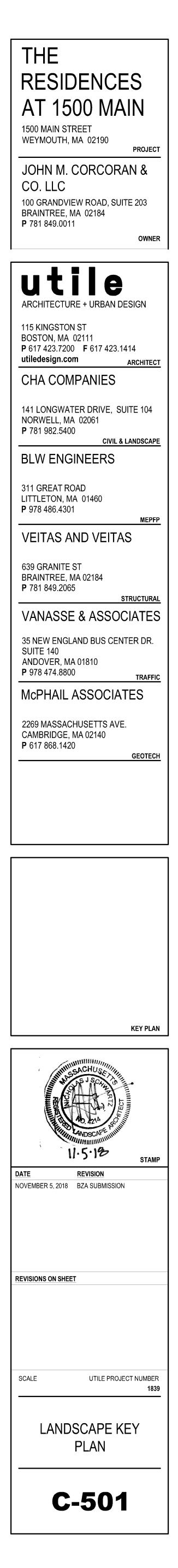


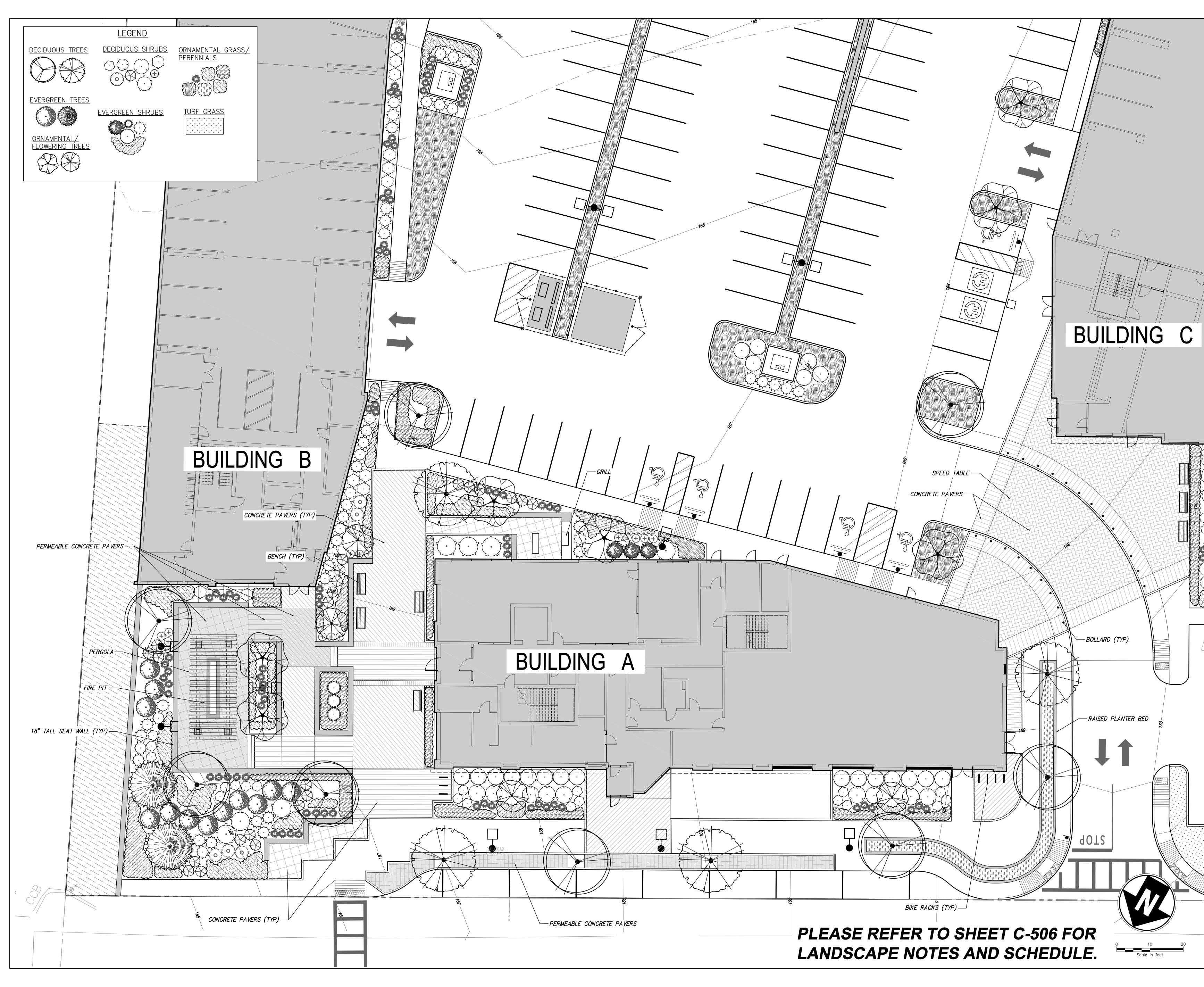




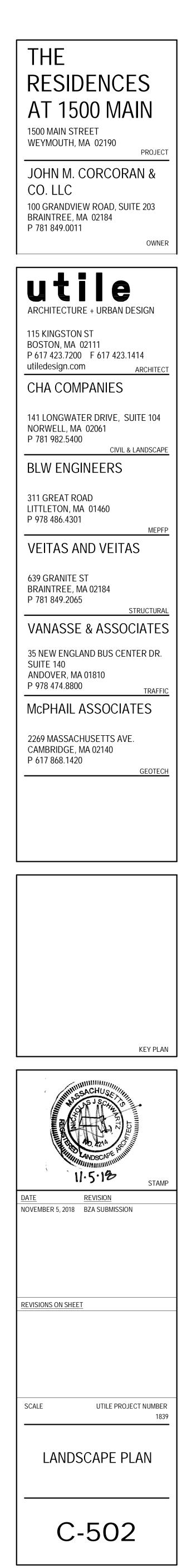


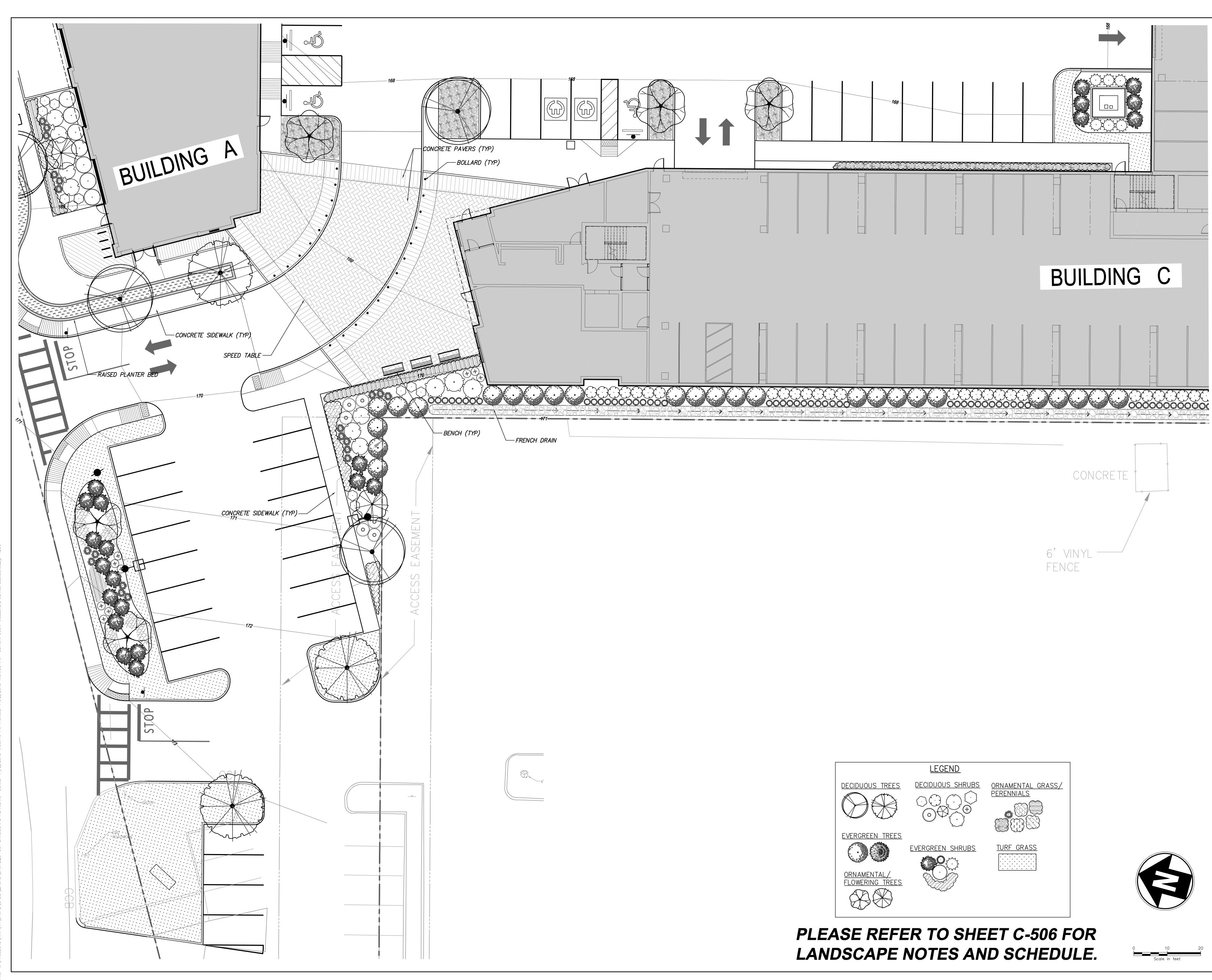
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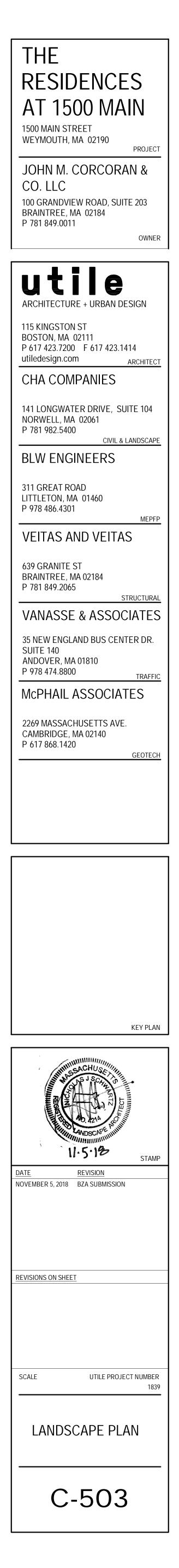


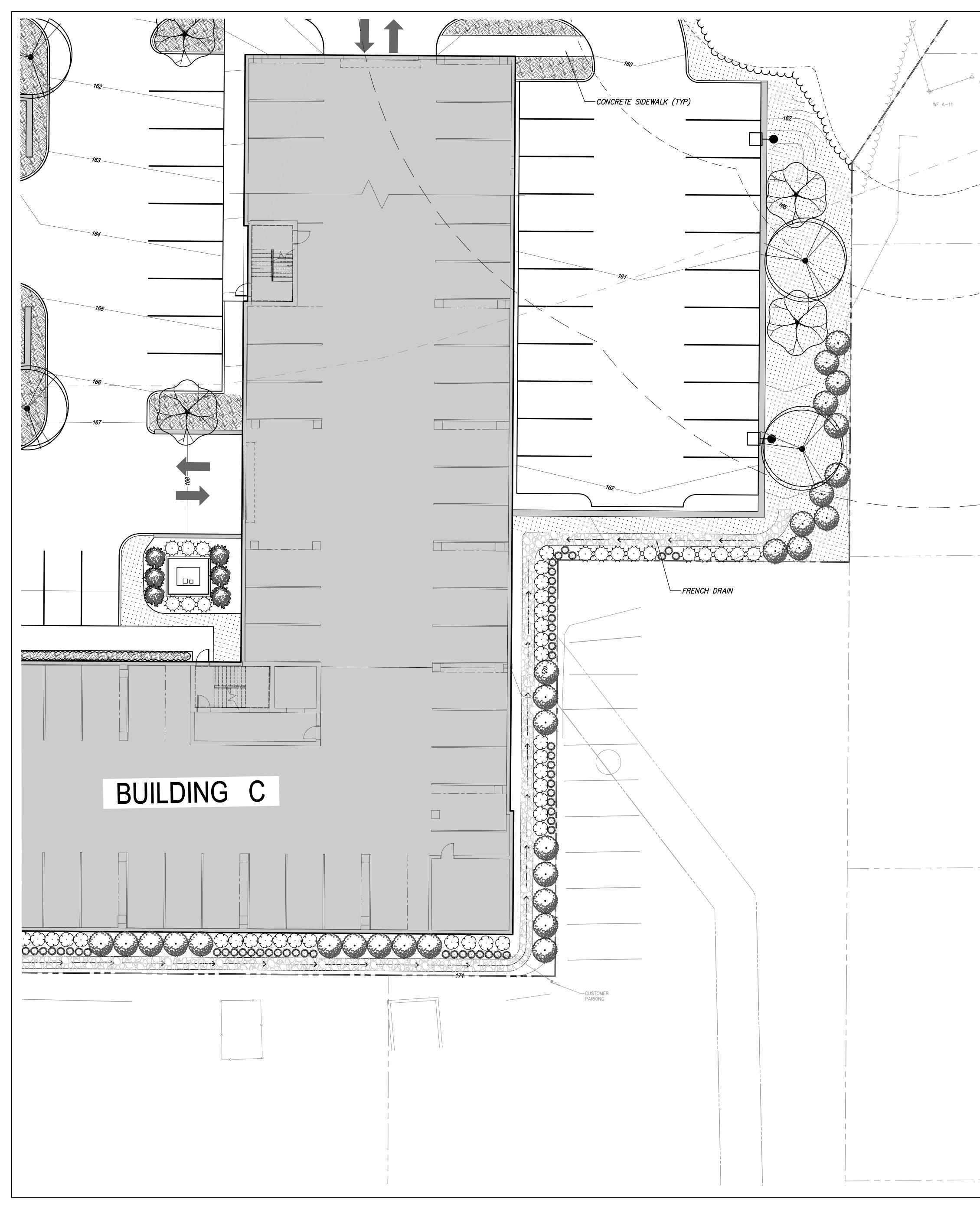


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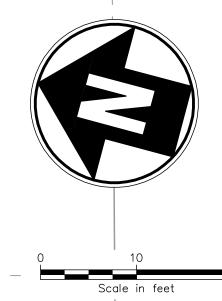


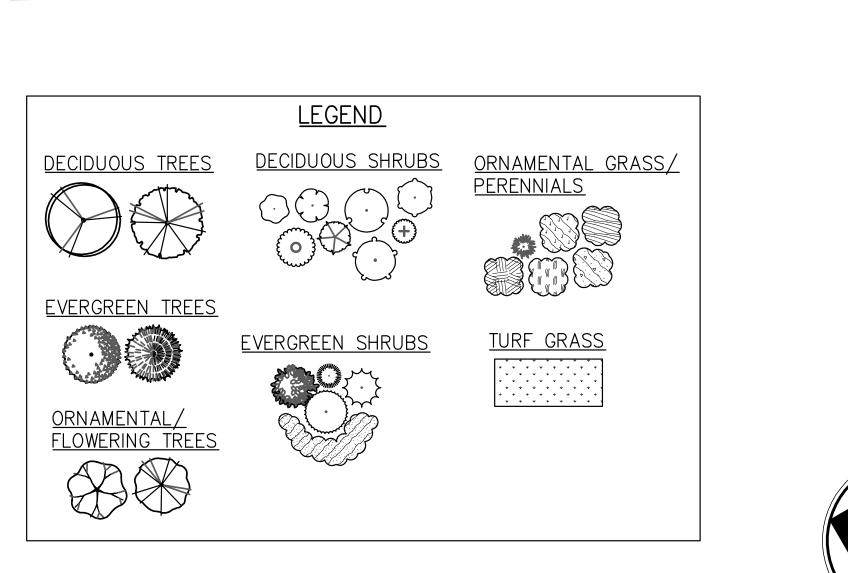


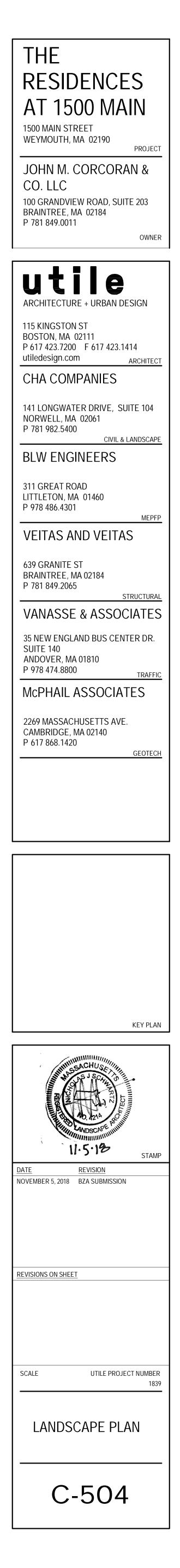


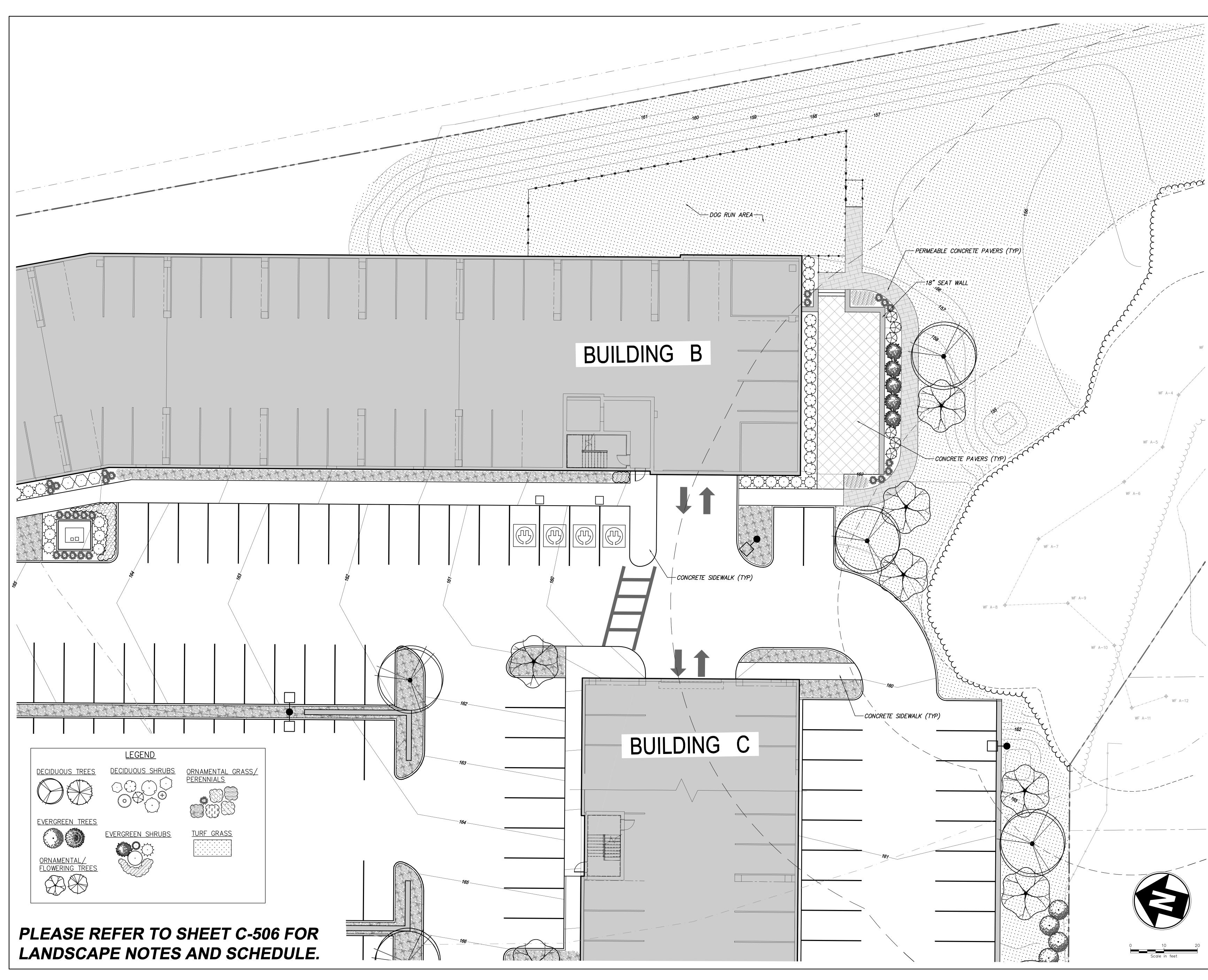


PLEASE REFER TO SHEET C-506 FOR LANDSCAPE NOTES AND SCHEDULE.

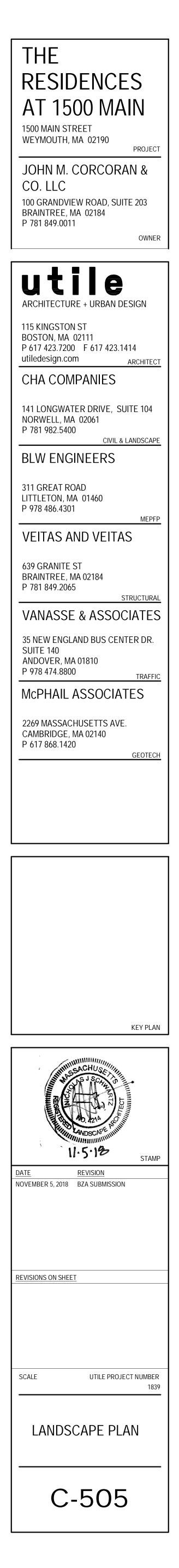








V:\PROJECTS\ANY\K4\34672\CADD_ACAD\34672_C-501 LANDSCAPE PLAN.DWG Saved: 11/2/2018 1:30:40 PM Plotted: 11/2/2018 1:34:24 PM Current User: MacLellan, James LastSavedBy: 429C



| CONTRACTOR SHALL SUPPLY PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETI NTITIES SHOWN ON THE PLANT SCHEDULE AND THOSE REQUIRED BY THE CONTRACT DRA ITIONAL REMUNERATION. CONTRACTOR SHALL VERIFY AND VISUALLY INSPECT FINAL SELECTION OF PLANT MATER R TO INSTALLATION. PLANTING LOCATIONS SHALL BE STAKED OUT AND APPROVED IN THE FIELD BY THE LAY ALLATION. PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR MECHA ECT ANY PLANT MATERIAL DEEMED UNFIT. TRACTOR MAY SUBSTITUTE ANY OF THE PLANTINGS LISTED IN THE PLANT SCHEDULE DU DSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION. STING VEGETATION SHALL REMAIN UNDISTURBED IN ALL AREAS WHICH ARE NOT PART OF RANTEE: FOR A PERIOD OF TWELVE MONTHS FROM THE DATE THAT THE WORK UNDER THIS CONT SHALL: 1) GUARANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2) R PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO TH REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PI THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS OR MORE AFTER BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF P CH: PROVIDE MINIMUM 3" THICK LAYER OF DARK BROWN SHREDDED BARK MULCH. MULC NTING BED AS SHOWN ON THE PLANS. ER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING. |
|---|
| OR TO INSTALLATION. PLANTING LOCATIONS SHALL BE STAKED OUT AND APPROVED IN THE FIELD BY THE LAY ALLATION. PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR MECHA ECT ANY PLANT MATERIAL DEEMED UNFIT. TRACTOR MAY SUBSTITUTE ANY OF THE PLANTINGS LISTED IN THE PLANT SCHEDULE DU DSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION. STING VEGETATION SHALL REMAIN UNDISTURBED IN ALL AREAS WHICH ARE NOT PART OF RANTEE: FOR A PERIOD OF TWELVE MONTHS FROM THE DATE THAT THE WORK UNDER THIS CONTRACT; 2) R PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO TH REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PI THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF P CH: PROVIDE MINIMUM 3" THICK LAYER OF DARK BROWN SHREDDED BARK MULCH. MULCON NTING BED AS SHOWN ON THE PLANS. ER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING. |
| TALLATION. PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR MECHA EGT ANY PLANT MATERIAL DEEMED UNFIT. TRACTOR MAY SUBSTITUTE ANY OF THE PLANTINGS LISTED IN THE PLANT SCHEDULE DU DSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION. STING VEGETATION SHALL REMAIN UNDISTURBED IN ALL AREAS WHICH ARE NOT PART OF RANTEE: FOR A PERIOD OF TWELVE MONTHS FROM THE DATE THAT THE WORK UNDER THIS CONT SHALL: 1) GUARANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2) R PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO TH REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PI THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF P CH: PROVIDE MINIMUM 3" THICK LAYER OF DARK BROWN SHREDDED BARK MULCH. MULC NTING BED AS SHOWN ON THE PLANS. ER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING. |
| ECT ANY PLANT MATERIAL DEEMED UNFIT. TRACTOR MAY SUBSTITUTE ANY OF THE PLANTINGS LISTED IN THE PLANT SCHEDULE DU DSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION. STING VEGETATION SHALL REMAIN UNDISTURBED IN ALL AREAS WHICH ARE NOT PART OF RANTEE: FOR A PERIOD OF TWELVE MONTHS FROM THE DATE THAT THE WORK UNDER THIS CONT SHALL: 1) GUARANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2) R PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO TH REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PI THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF PI CH: PROVIDE MINIMUM 3" THICK LAYER OF DARK BROWN SHREDDED BARK MULCH. MULCH NTING BED AS SHOWN ON THE PLANS. ER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING. |
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| RANTEE: FOR A PERIOD OF TWELVE MONTHS FROM THE DATE THAT THE WORK UNDER THIS CONT SHALL: 1) GUARANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2) R PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO TH REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PI THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF P CH: PROVIDE MINIMUM 3" THICK LAYER OF DARK BROWN SHREDDED BARK MULCH. MULC NTING BED AS SHOWN ON THE PLANS. |
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| NTING BED AS SHOWN ON THE PLANS. TER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING. |
| |
| <u>.</u> |
| |
| AREAS OF THE SITE WHICH ARE DISTURBED AND NOT PLANTED, MULCHED, PAVED, ETC. TALLED TO A MINIMUM 3" DEPTH IN AREAS OF SEED. SEED SHALL BE FRESH, CLEAN, NE FORMING TO FEDERAL AND STATE STANDARDS. |
| VIDE AND INSTALL A MULCH ADEQUATE TO PROTECT THE SEEDING DURING ITS GROWING TRACTOR TO DETERMINE THE APPROPRIATE MULCHING TECHNIQUES FOR THE PARTICULAF IE FROM THE OWNER. |
| SOIL SHALL CONSIST OF FERTILE, FRIABLE, NATURAL LOAM FREE OF SUBSOIL, CLAY LUM NES OR OTHER DELETERIOUS MATERIALS LARGER THAN 2" IN GREATEST DIMENSION. |
| POSED TOPSOIL SHALL BE TESTED BY INDEPENDENT TESTING FACILITY WITH TEST RESULT TRACTOR SHALL PAY FOR ALL TESTING. ACCEPTANCE OF TOPSOIL SHALL BE BASED UPO 100 C.Y. OF TOPSOIL. SIEVE PERCENT PASSING 1/4" 65–100 1" 85–100 NO. 200 20–60 |
| URAL TOPSOIL MAY BE AMENDED WITH APPROVED MATERIALS, BY APPROVED METHODS, |
| |

TE THE WORK SHOWN. ANY DISCREPANCIES BETWEEN RAWINGS SHALL NOT ENTITLE THE CONTRACTOR TO

RIALS WITH THE LANDSCAPE ARCHITECT OR OWNER

ANDSCAPE ARCHITECT OR OWNER PRIOR TO

ANICAL DAMAGE. THE OWNER RETAINS THE RIGHT TO

UE TO AVAILABILITY WITH APPROVAL BY THE

F THE PROPOSED CONTRACT LIMIT LINE.

NTRACT IS CERTIFIED AS COMPLETE, THE CONTRACTOR REMOVE AND REPLACE DURING THIS GUARANTEE PERIOD K OF SAME SIZE AND QUALITY AS ORIGINALLY THE OWNER.

PERIOD SHALL NOT EXTEND THE GUARANTEE PERIOD OF R THE BEGINNING OF THE GUARANTEE PERIOD SHALL PLACEMENT.

CH SHALL BE USED ONLY AS TREE COLLARS AND IN

C. SHALL BE TOPSOILED AND SEEDED. TOPSOIL TO BE NEW-CROP SEED MIXED IN WITH SPECIES AND VARIETY

G PERIOD. IT SHALL BE THE RESPONSIBILITY OF THE AR SITE CONDITIONS AND ACQUIRE APPROVAL OF THE

IMPS, BRUSH, TWIGS, ENVIRONMENTAL CONTAMINANTS,

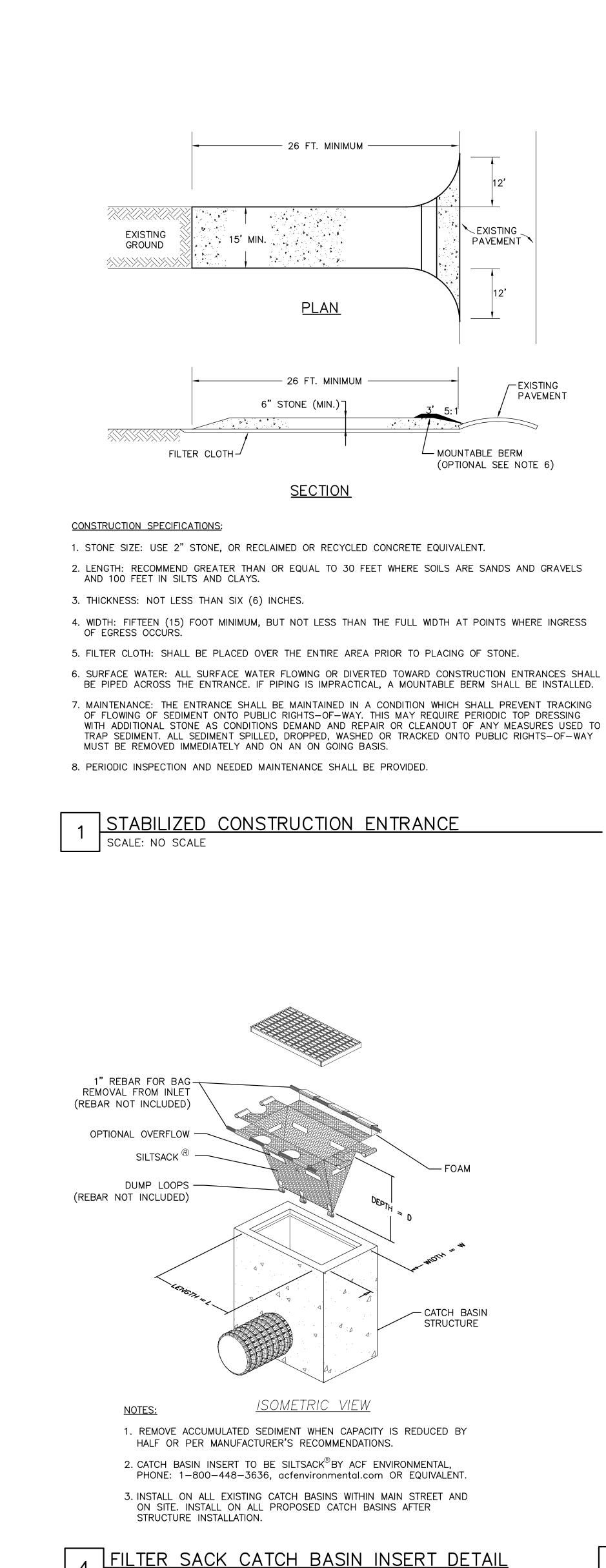
ILTS SUBMITTED TO THE ENGINEER FOR APPROVAL. PON TEST RESULTS. ONE TEST SHALL BE PERFORMED

, TO MEET THE ABOVE SPECIFICATIONS.

| PLANT_SCHEDU | ILE |
|---|----------------------------------|
| DECIDUOUS TREES | COMMON NAME |
| | OCTOBER GLORY MAPLE |
| | SHADEMASTER LOCUST |
| EVERGREEN TREES | COMMON NAME |
| | DARK AMERICAN ARBORVITAE |
| | WHITE SPRUCE |
| FLOWERING TREES | COMMON NAME |
| | `AUTUMN BRILLIANCE` SERVICEBERRY |
| | KOUSA DOGWOOD |
| SHRUBS | COMMON NAME |
| \bigotimes | ARTIC FIRE DOGWOOD |
| MANAGE STREET | BLUE ARROW JUNIPER |
| $\overline{\bigcirc}$ | GREENWAVE SPREADING YEW |
| <u> </u> | INKBERRY |
| | KOREAN SPICE VIBURNUM |
| | LIMELIGHT HYDRANGEA |
| \bigcirc | LITTLE LIME HYDRANGEA |
| \bigcirc | RED SPRITE WINTERBERRY |
| | SEA GREEN JUNIPER |
| Ę | SUMMERSWEET |
| | THE FAIRY ROSE |
| ÷ | VIRGINIA SWEETSPIRE |
| GRASSES | COMMON NAME |
| | BLUE SWITCH GRASS |
| SHRUB AREAS | COMMON NAME |
| | BLUE CHIP JUNIPER |
| PERENNIALS & GRASSES | COMMON NAME |
| | BIG BLUE LILYTURF |
| | BLUE SEDGE |
| A P () () () () () () () () () (| |
| | GRASS/SEDGE MIX* |
| | HAPPY RETURNS DAYLILY |
| | MIX INCLUDES: |

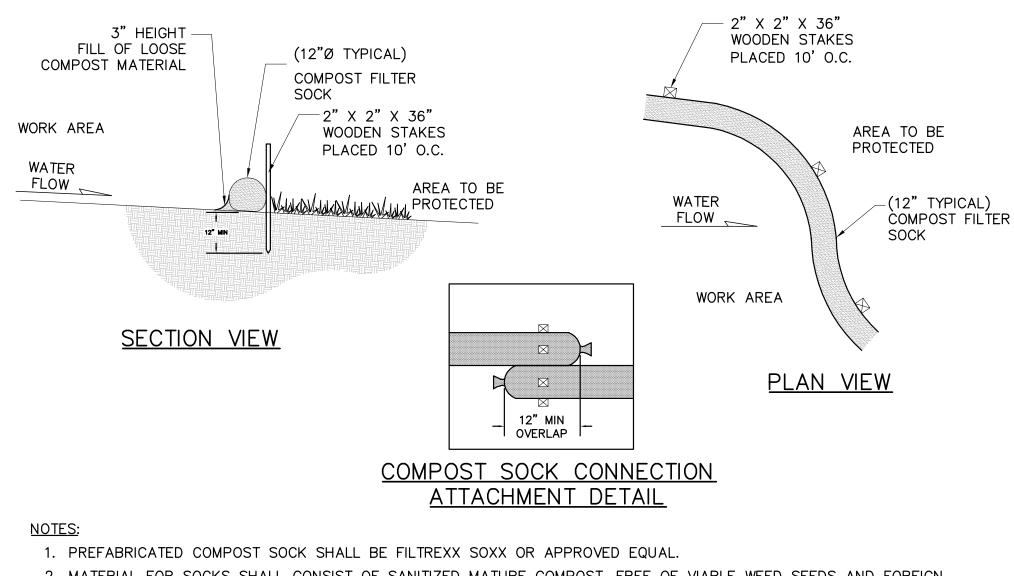
* GRASS/SEDGE MIX INCLUDES: BLUE SEDGE CREEPING RED FESCUE LITTLE BUNNY SWITCHGRASS PRAIRIE MUNCHKIN LITTLE BLUESTEM





SCALE: NO SCALE

5



- 2. MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED. CONTRACTOR SHALL REFER TO MASSDOT SPECIFICATIONS M1.06.0 FOR MATERIAL SPECIFICATIONS.
- 3. SOCK SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.

12-INCH COMPOST FILTER SOCK

PRACTICE: COMPOST FILTER SOCK:

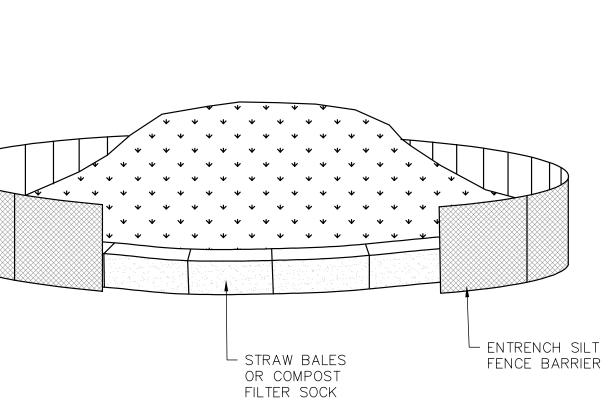
A COMPOST FILTER SOCK IS A TYPE OF CONTAINED COMPOST FILTER BERM CONSISTING OF A MESH TUBE FILLED WITH COMPOST MATERIAL THAT IS PLACED PERPENDICULAR TO SHEET FLOW RUNOFF TO RETAIN SEDIMENT FROM DISTURBED AREAS. THE COMPOST FILTER SOCK ACTS AS A FILTER TO RETAIN SEDIMENT AND OTHER POLLUTANTS (E.G., SUSPENDED SOLIDS, NUTRIENTS) WHILE ALLOWING THE WATER TO FLOW THROUGH IT. COMPOST QUALITY MUST MEET AASHTO 2010 SPECIFICATIONS.

INSTALLATIONS REQUIREMENTS:

SCALE: NO SCALE

ONCE THE FILTER SOCK IS FILLED AND PUT IN PLACE, IT SHOULD BE ANCHORED TO THE SLOPE BY STAKES ALONG THE DOWNHILL SIDE OF THE SOCK AT 10' SPACING ON CENTER (O.C.)O THE ENDS OF THE FILTER SOCK SHOULD BE DIRECTED UPSLOPE, TO PREVENT STORMWATER FROM RUNNING AROUND THE END OF THE TUBE. MAINTENANCE REQUIREMENTS:

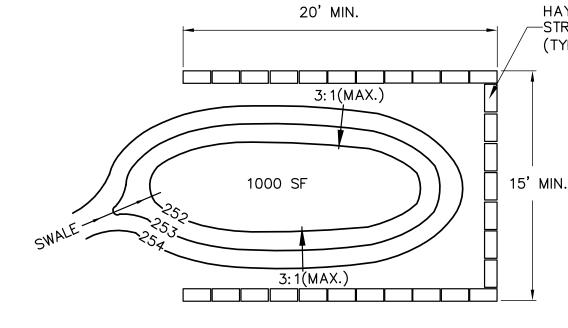
SOCK MUST BE INSPECTED FOR SEDIMENT ACCUMULATION. IF THERE IS EXCESSIVE PONDING BEHIND THE FILTER SOCK OR ACCUMULATED SEDIMENT REACHES THE TOP OF THE SOCK, AN ADDITIONAL SOCK SHOULD BE ADDED ON TOP OR INFRONT OF THE EXISTING SOCK IN THESE AREAS. AN ADEQUATE RESERVE OF SOCKS MUST BE KEPT ON SITE AT ALL TIMES FOR EMERGENCY AND/OR ROUTINE REPLACEMENT. SOCKS SHALL BE REMOVED ONLY AFTER EXPOSED SOILS IN THE CONTRIBUTING DRAINAGE AREA ACHIEVE FINAL STABILIZATION. SEDIMENT ACCUMULATION MUST BE REMOVED ONCE IT HAS REACHED 1/2 OF THE EXPOSED HEIGHT OF THE SOCK.



INSTALLATION NOTES:

- 1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE. 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
- 3. UPON COMPLETION OF STOCKPILING, EACH PILE SHALL BE SURROUNDED
- WITH STRAW BALES, THEN STABILIZED WITH VEGETATION, OR COVERED. 4. SEE SPECIFICATIONS FOR INSTALLATION OF STRAW BALES.

SOIL STOCKPILE SCALE: NO SCALE



- 1. SEDIMENT BASINS AND TRAPS SHALL BE SIZED IN ACCORDANCE WITH EPA NPDES GUIDELINES.
- SEDIMENT TRAPS ARE UTILIZED FOR DRAINAGE AREAS SMALLER THAN 5 ACRES. THE SEDIMENT TRAP SHOULD HAVE A MINIMUM VOLUME BASED ON 1/2 INCH OF STORAGE FOR EACH ACRE OF DRAINAGE AREA. THIS VOLUME EQUATES TO 1800 CUBIC FEET OF STORAGE OR 67 CUBIC YARDS FOR EACH ACRE OF DRAINAGE AREA.
- 3. SEDIMENT BASIN ARE UTILIZED FOR DRAINAGE AREAS FROM 5 TO 100 ACRES. THE TEMPORARY SEDIMENT BASIN SHOULD HAVE A MINIMUM VOLUME OF 3,600 CUBIC FEET FOR EACH ACRE OF DRAINAGE AREA.
- 4. LOCATION DICTATED BY SEQUENCE OF CONSTRUCTION. CONTRACTOR TO PROVIDE WHERE NECESSARY TO FILTER RUNOFF FROM CONSTRUCTION AREAS PRIOR TO DISCHARGE.

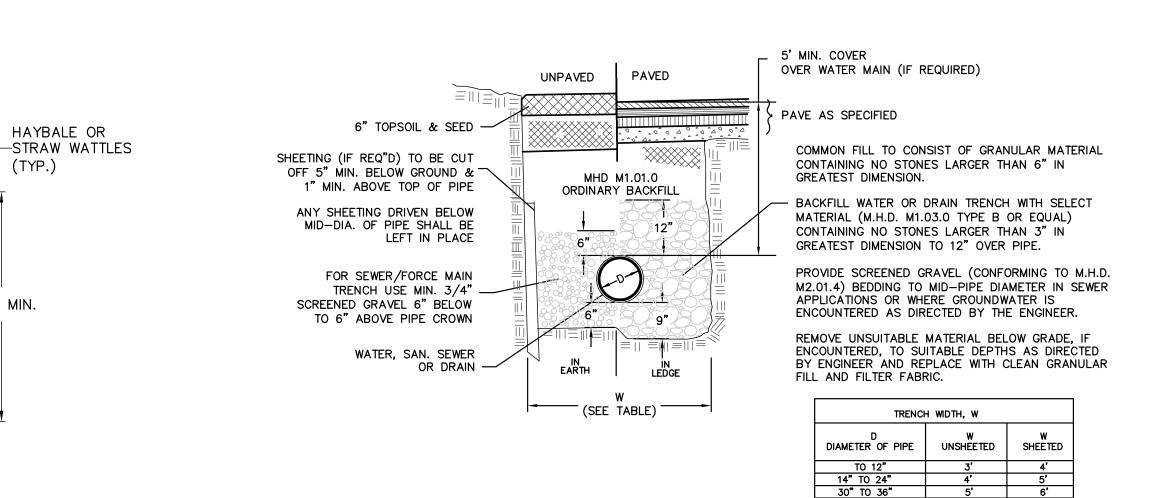
| 6 | TEMPORARY | SEDIMENT | BASIN |
|---|-----------------|----------|-------|
| 0 | SCALE: NO SCALE | | |

DESCRIBED IN ASTM D 2321 AND TR-16 GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS. 5. BC TO 12" ABOVE PIPE CROWN OR AS DIRECTED BY MANUFACTURER OR ENGINEER. 6. PROVIDE MINIMUM 5 FT. COVER OVER WATER MAIN AS MEASURED FROM BOTTOM OF CURB LINE. INSULATE WATER MAIN IN ACCORDANCE WITH M.H.D. SECTION 301 WATER SYSTEMS IN AREAS PRONE TO FROST ACTION AND/OR LESS THAN 5' MIN. COVER. 7 TYPICAL TRENCH SECTION

SCALE: NO SCALE

AS DIRECTED BY MANUFACTURER OR ENGINEER. 4. MATERIALS FOR SEWER BEDDING, HAUNCHING, AND BACKFILL TO CONFORM TO CLASSES I, II, OR III AS

- TYPE 2. BACKFILL TO CONFORM TO MHD M1.03.0 GRAVEL BURROW TYPE c TO 12" ABOVE PIPE CROWN OR
- 3. INSTALL DUCTILE IRON WATER PIPE IN ACCORDANCE WITH ANSI A21.51 (AWWA C151) LAYING CONDITION
- 2. COMPACT FILL AND TAMP PIPE TO 95% MAX. DRY DENSITY IN 8" LIFTS UNLESS OTHERWISE SPECIFIED.
- 1. ALL TRENCH CONSTRUCTION TO CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

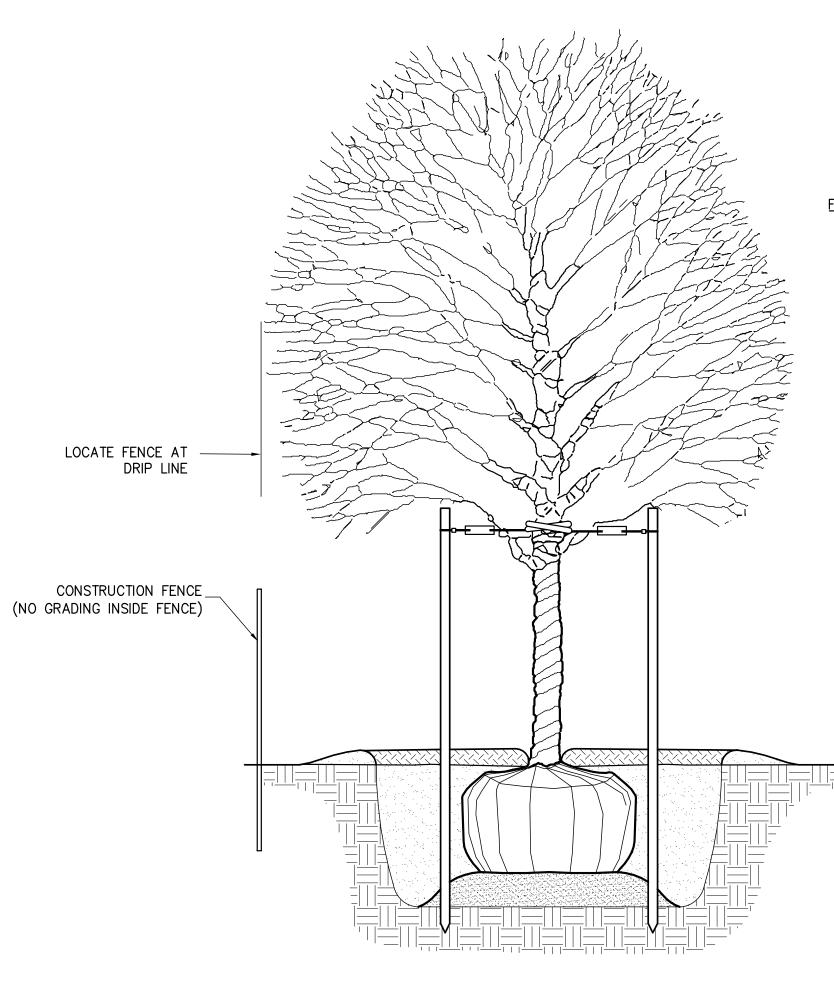


TREE PROTECTION DETAIL SCALE: NO SCALE

<u>NOTES:</u>

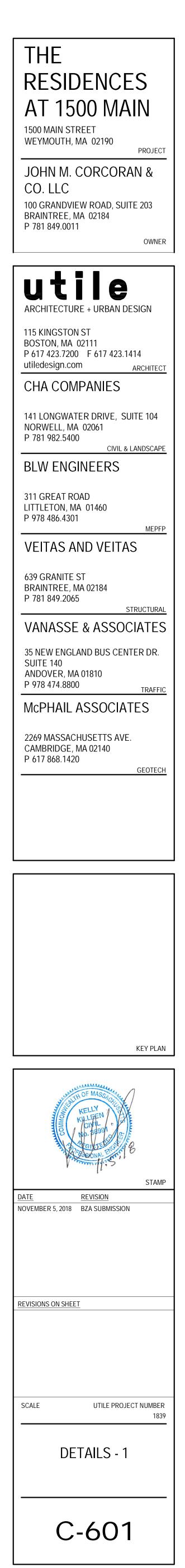
HAYBALE OR

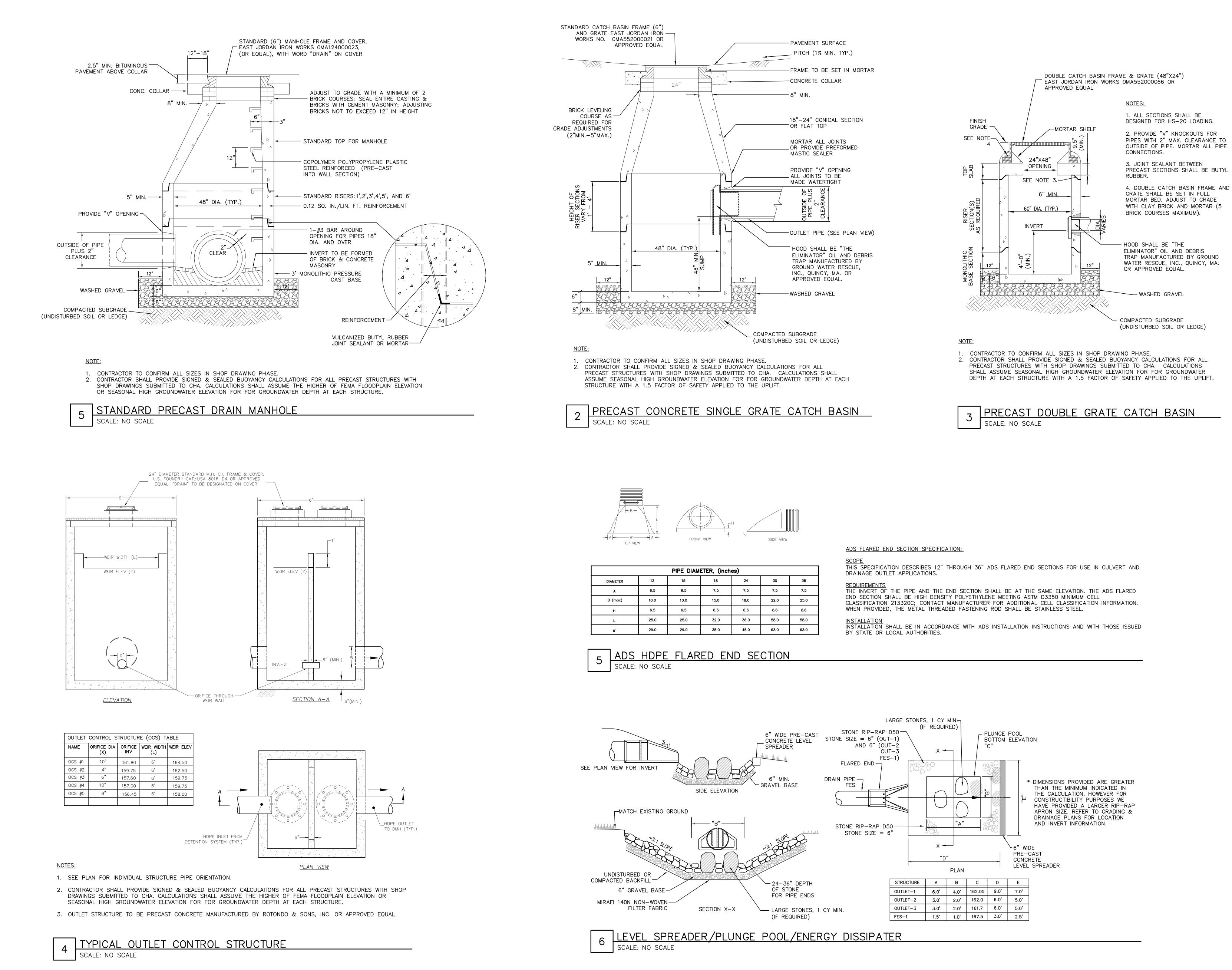
(TYP.)



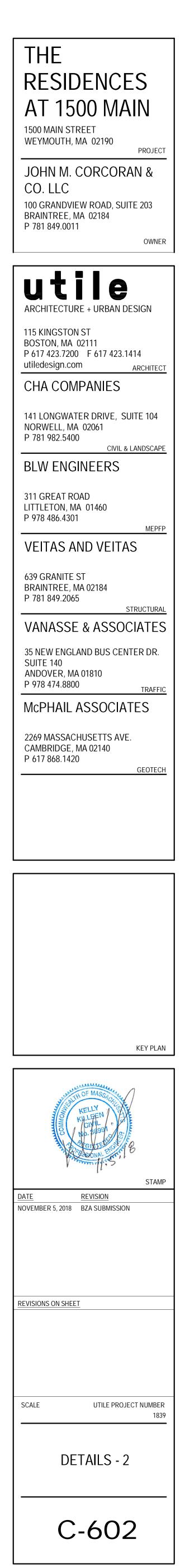
- CARRIAGE BOLTS. 9. IF LANDSCAPE PLANS CONTAIN TREE PROTECTION DETAIL, THAT DETAIL SHALL GOVERN OVER THIS DETAIL.
- POSTS AND AT ALL END POSTS 8. BRACE / TENSION BANDS TO BE 1/8" x 1"AND FASTENED WITH ¾" x 1 ½"
- STEEL INSTALL BRACE RAIL ASSEMBLIES IN EACH DIRECTION FROM CORNER
- 5. ALL TIES TO BE 9 GAUGE. 6. ALL COMPONENTS TO BE GALVANIZED
- REMOVE FENCE AND RESTORE LAWN AT COMPLETION OF CONTRACT.
- BASE BRANCHES. IF ROCK IS ENCOUNTERED BEFORE DRIVEN DEPTH SHOWN, SECURE POST IN 12" DIAMETER CONCRETE FOOTING.
- DURATION OF PROJECT. FOR EVERGREEN TREES LOCATE CONSTRUCTION FENCE 5' CLEAR OF
- CONTRACTOR TO MAINTAIN INTEGRITY OF CONSTRUCTION FENCE FOR

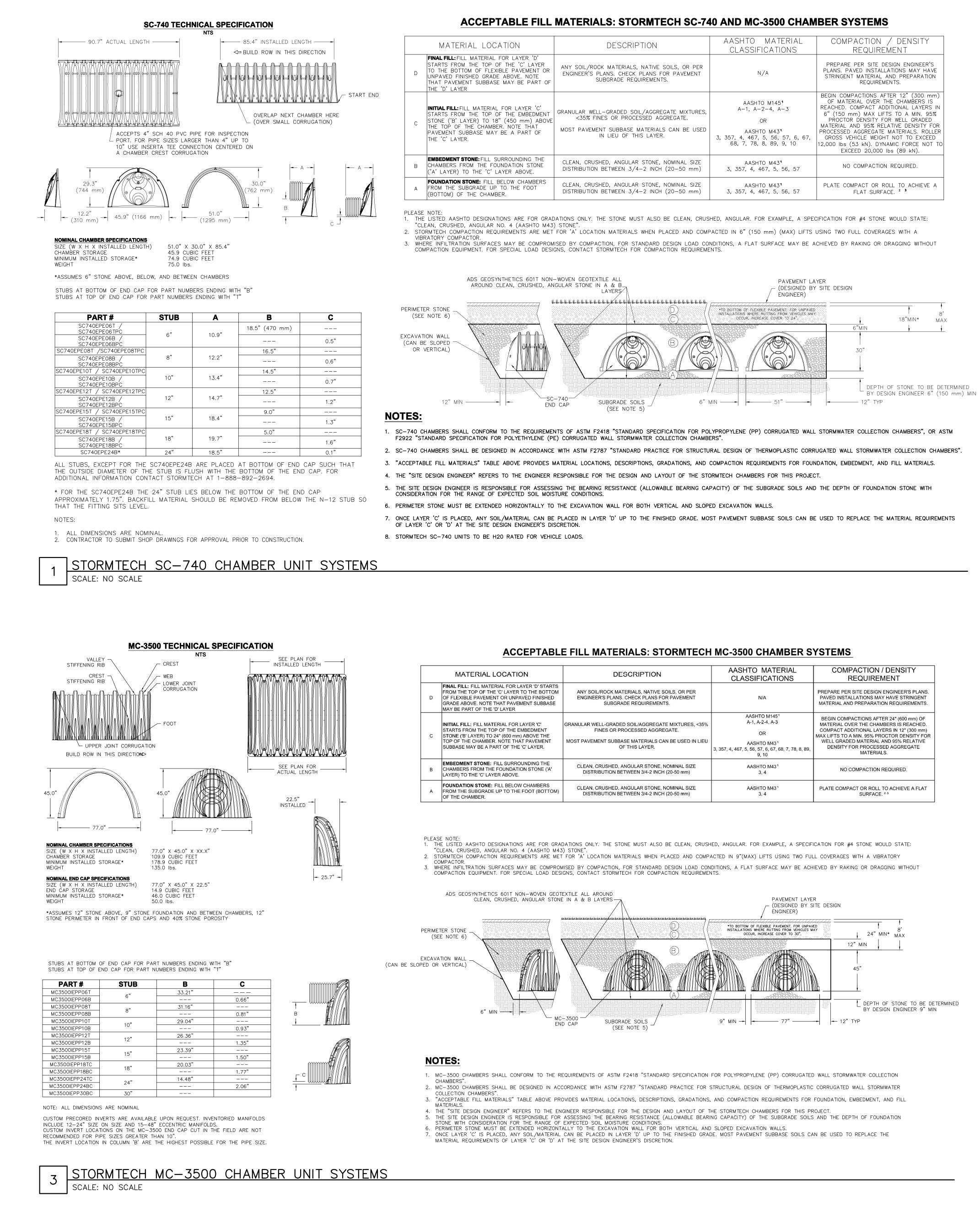
FENCE NOTES:





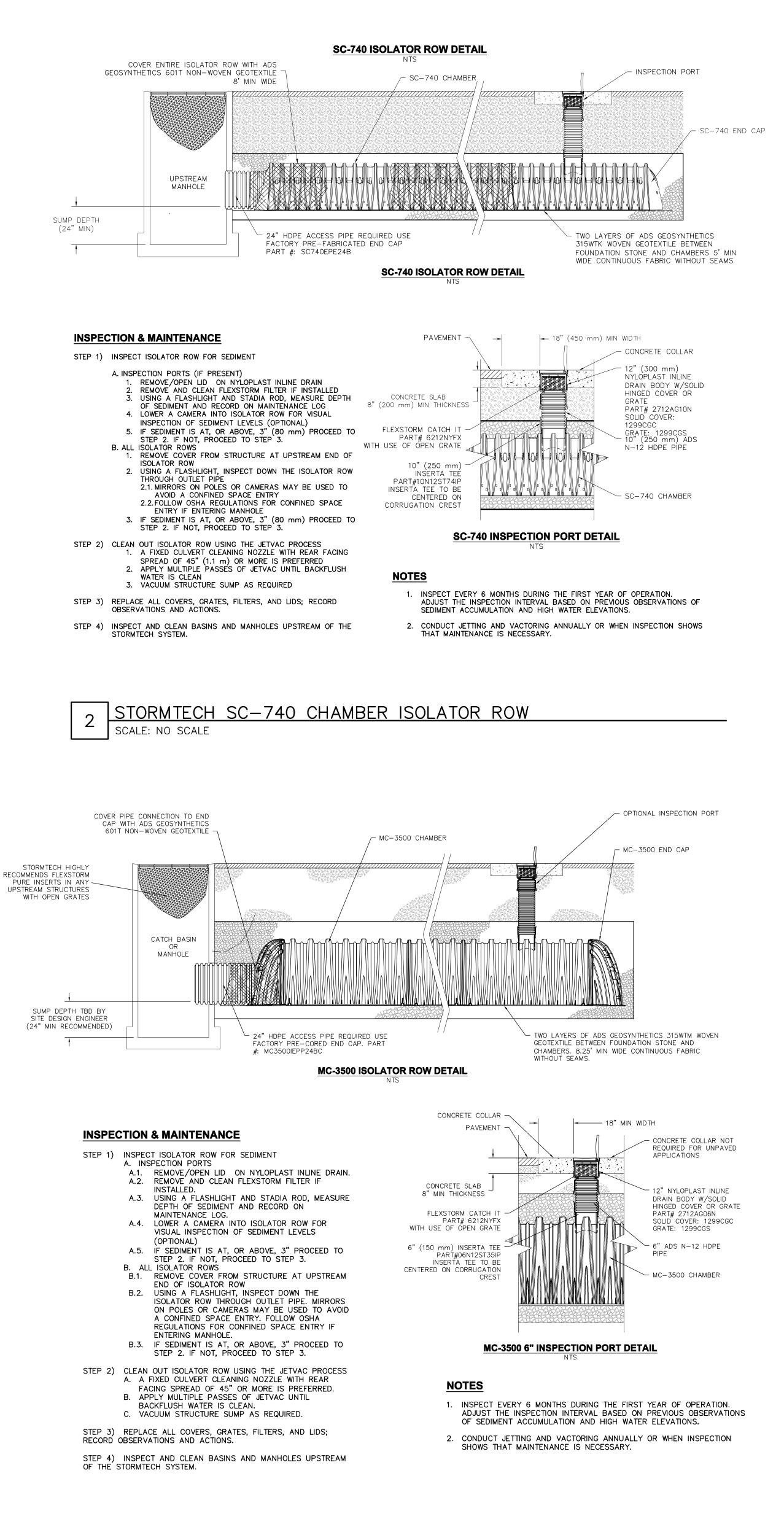
(UNDISTURBED SOIL OR LEDGE)



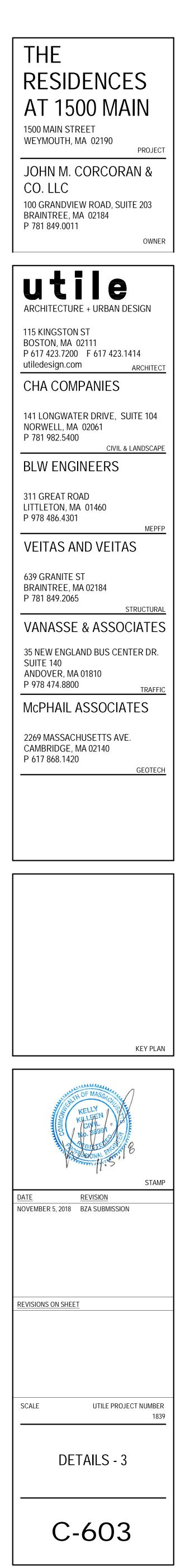


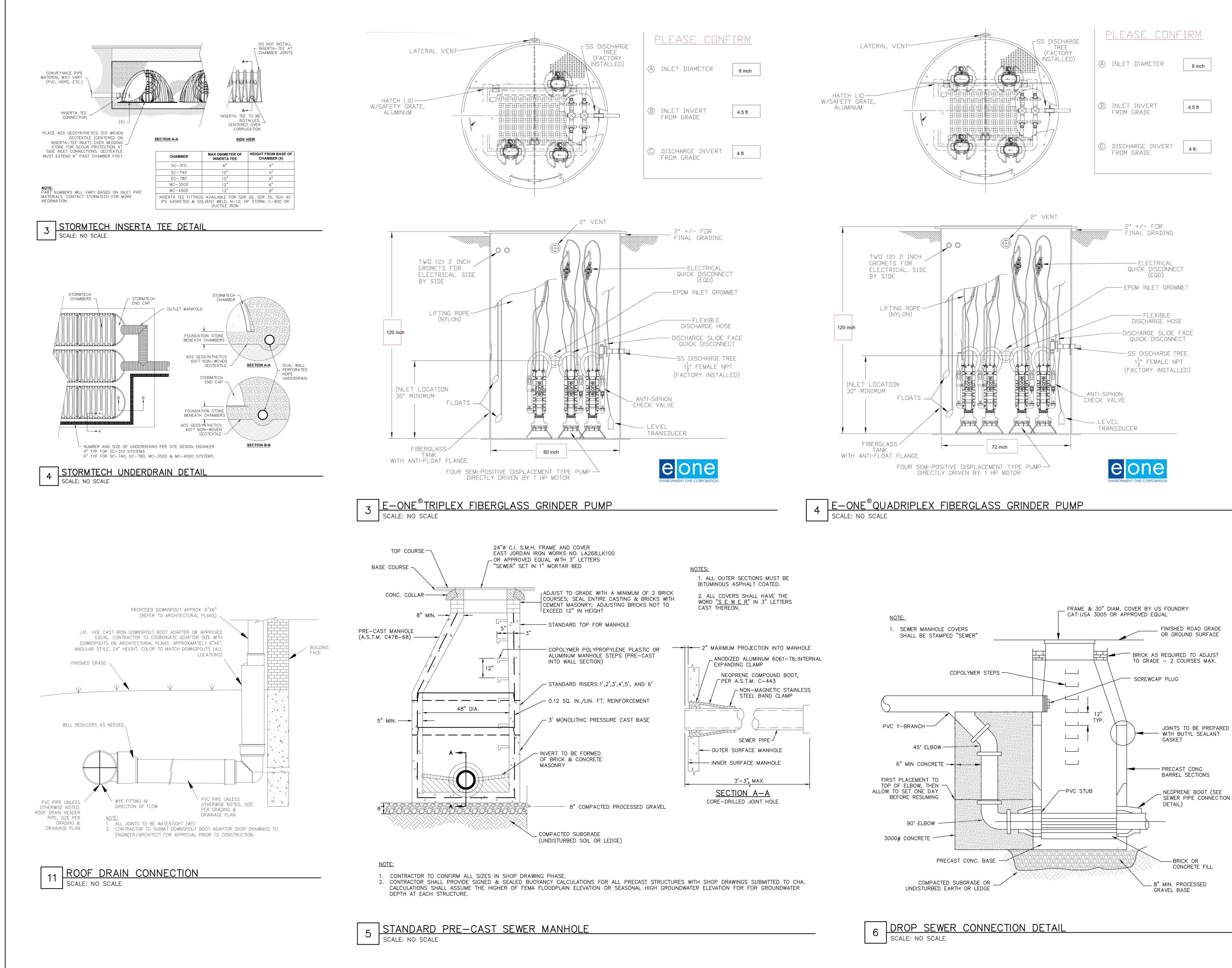
| TERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
|--|--|--|---|
| L'FILL MATERIAL FOR LAYER 'D' FROM THE TOP OF THE 'C' LAYER BOTTOM OF FLEXIBLE PAVEMENT OR FINISHED GRADE ABOVE. NOTE VEMENT SUBBASE MAY BE PART OF LAYER | ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| L:FILL MATERIAL FOR LAYER 'C' FROM THE TOP OF THE EMBEDMENT B' LAYER) TO 18" (450 mm) ABOVE OF THE CHAMBER. NOTE THAT T SUBBASE MAY BE A PART OF AYER. | GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER. | AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 Ibs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 Ibs (89 kN). |
| INT STONE: FILL SURROUNDING THE IS FROM THE FOUNDATION STONE IR) TO THE 'C' LAYER ABOVE. | CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm) | AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57 | NO COMPACTION REQUIRED. |
| ION STONE: FILL BELOW CHAMBERS E SUBGRADE UP TO THE FOOT) OF THE CHAMBER. | CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm) | AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57 | PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ² ³ |
| | | | |

| MATERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
|--|--|--|---|
| AL FILL: FILL MATERIAL FOR LAYER 'D' STARTS M THE TOP OF THE 'C' LAYER TO THE BOTTOM FLEXIBLE PAVEMENT OR UNPAVED FINISHED DE ABOVE. NOTE THAT PAVEMENT SUBBASE BE PART OF THE 'D' LAYER | ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| IAL FILL: FILL MATERIAL FOR LAYER 'C' RTS FROM THE TOP OF THE EMBEDMENT NE ('B' LAYER) TO 24" (600 mm) ABOVE THE OF THE CHAMBER. NOTE THAT PAVEMENT BASE MAY BE A PART OF THE 'C' LAYER. | GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER. | AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. |
| EDMENT STONE: FILL SURROUNDING THE MBERS FROM THE FOUNDATION STONE ('A' ER) TO THE 'C' LAYER ABOVE. | CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm) | AASHTO M431 3, 4 | NO COMPACTION REQUIRED. |
| NDATION STONE: FILL BELOW CHAMBERS M THE SUBGRADE UP TO THE FOOT (BOTTOM) THE CHAMBER. | CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm) | AASHTO M431 3, 4 | PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2 3} |

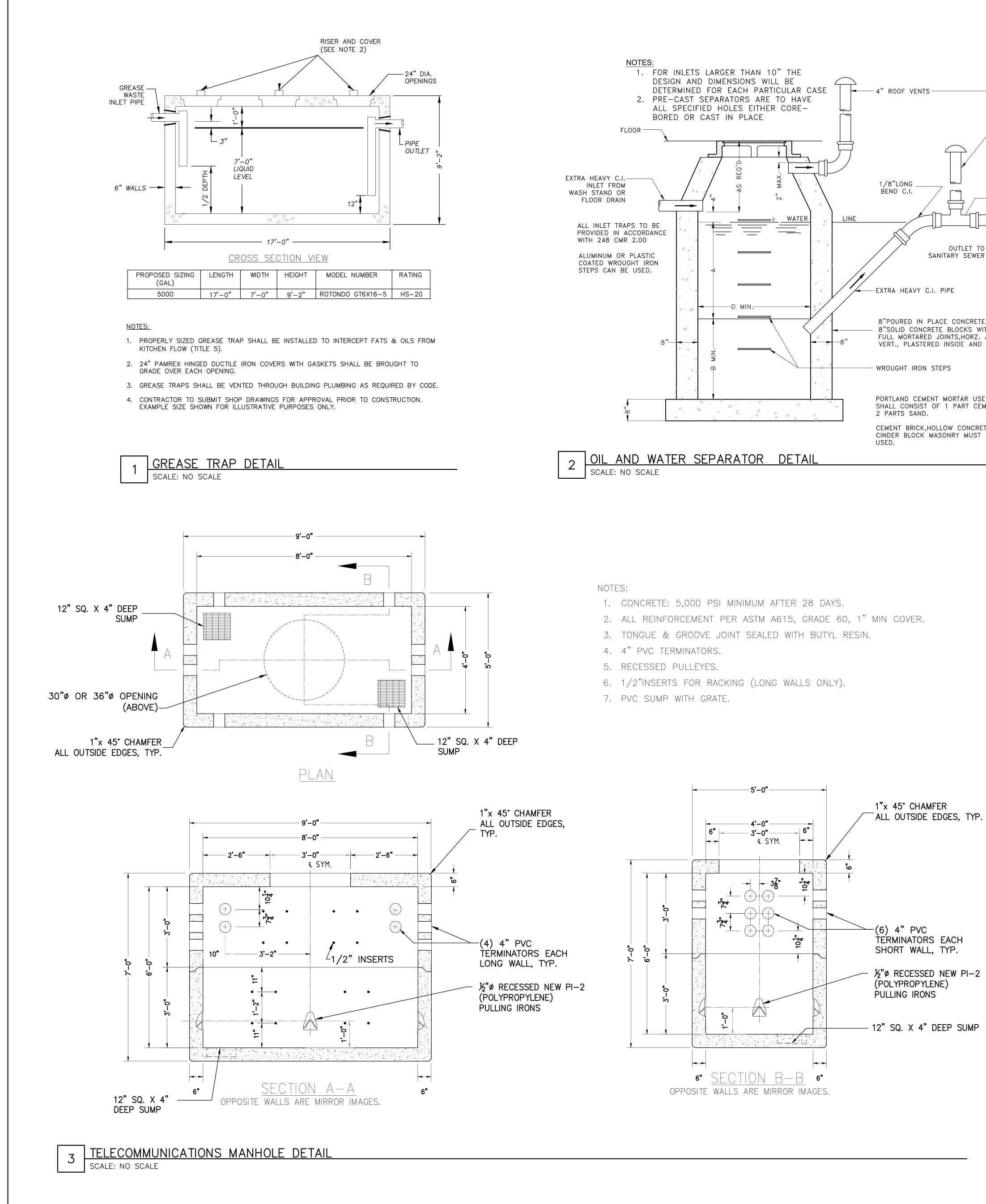


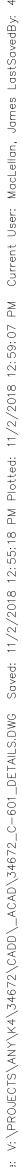
STORMTECH MC-3500 CHAMBER ISOLATOR ROW SCALE: NO SCALE

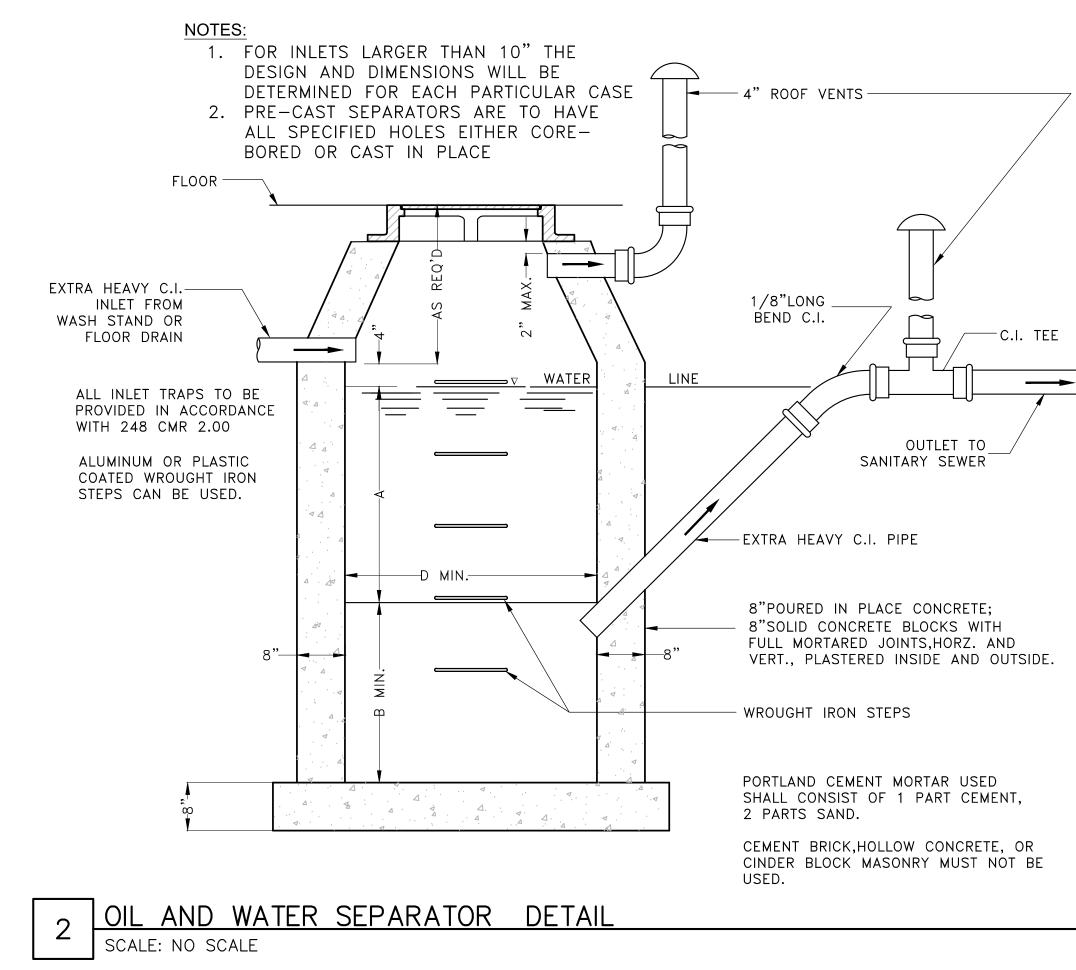




| THE RESIDENCES AT 1500 MAIN STREET WEYMOUTH, MA 02190 PROJECT JOHN M. CORCORAN & CO. LLC 100 GRANDVIEW ROAD, SUITE 203 BRAINTREE, MA 02184 P 781 849.0011 |
|---|
| ARCHITECTURE + URBAN DESIGN 115 KINGSTON ST BOSTON, MA 02111 P 617 423.7200 F 617 423.1414 utiledesign.com ARCHITECT CHA COMPANIES 141 LONGWATER DRIVE, SUITE 104 NORWELL, MA 02061 P 781 982.5400 CIVIL & LANDSCAPE BLW ENGINEERS 311 GREAT ROAD LITTLETON, MA 01460 P 978 486.4301 MEPFP VEITAS AND VEITAS 639 GRANITE ST BRAINTREE, MA 02184 P 781 849.2065 STRUCTURAL VANASSE & ASSOCIATES 35 NEW ENGLAND BUS CENTER DR. SUITE 140 ANDOVER, MA 01810 P 978 474.8800 TRAFFIC MCPHAIL ASSOCIATES 2269 MASSACHUSETTS AVE. CAMBRIDGE, MA 02140 P 617 868.1420 GEOTECH |
| KEY PLAN |
| DATE REVISION NOVEMBER 5, 2018 BZA SUBMISSION |
| REVISIONS ON SHEET |
| SCALE UTILE PROJECT NUMBER 1839 DETAILS - 4 |
| C-604 |







| INLET | D | А | В | INLET | D | А | В |
|-------|---|---|---|-------|---|---|---|
| 4" | 3'-6"ø | 3'-0" | 2'-6" | 8" | 5'-0"ø | 6'-0" | 5'-0" |
| 5" | 3'-6"ø $3'-6"\times 3'-6"$ 4'-0" $4'-0"\times 4'-0"$ | 5'-0" 4'-0" 3'-8" 3'-0" | 4'-0" 3'-0" 3'-0" 2'-6" | | 5'-6"x 5'-6" 6'-0"ø 6'-0"x 6'-0" 6'-6"ø | 3'-6" | 4'-0" 3'-6" 2'-6" 3'-0" |
| | 4'-6" 4'-0"ø 4'-0"x 4'-0" 4'-6"ø 4'-6"x 4'-6" 5'-0"ø 5'-0"x 5'-0" | 3'-0" $5'-0"$ $4'-0"$ $3'-6"$ $3'-6"$ $3'-0"$ | 2'-6" $4'-6"$ $3'-6"$ $3'-6"$ $3'-0"$ $3'-0"$ $2'-6"$ | 10" | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 3'-0" 7'-6" 5'-6" 6'-6" 5'-0" | 2'-6" 6'-6" 4'-6" 5'-6" 4'-0" |

GENERAL CONSTRUCTION NOTES

BASIN TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE, COVER TO HAVE A CENTER HOLE. A TIGHT COVER MUST BE USED IF BASIN IS LOCATED INSIDE OF BUILDING. OPENING SHALL BE NOT LESS THAN 24" DIA.

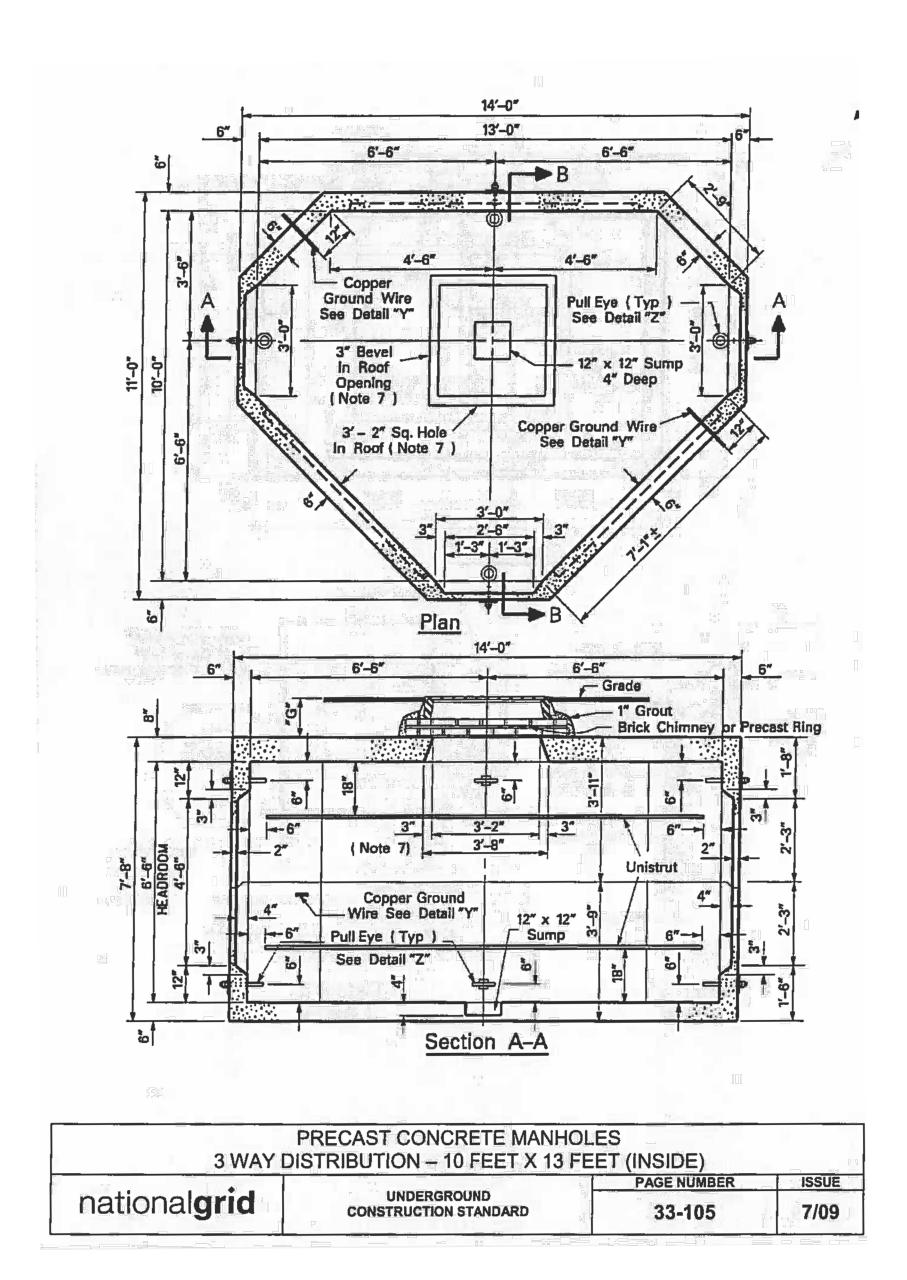
THE CATCH BASIN SHALL BE SO LOCATED AND

CONSTRUCTED THAT SURFACE WATER SHALL BE EXCLUDED. APART. INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE. WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.

THE NEW CATCH BASIN MUST BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.

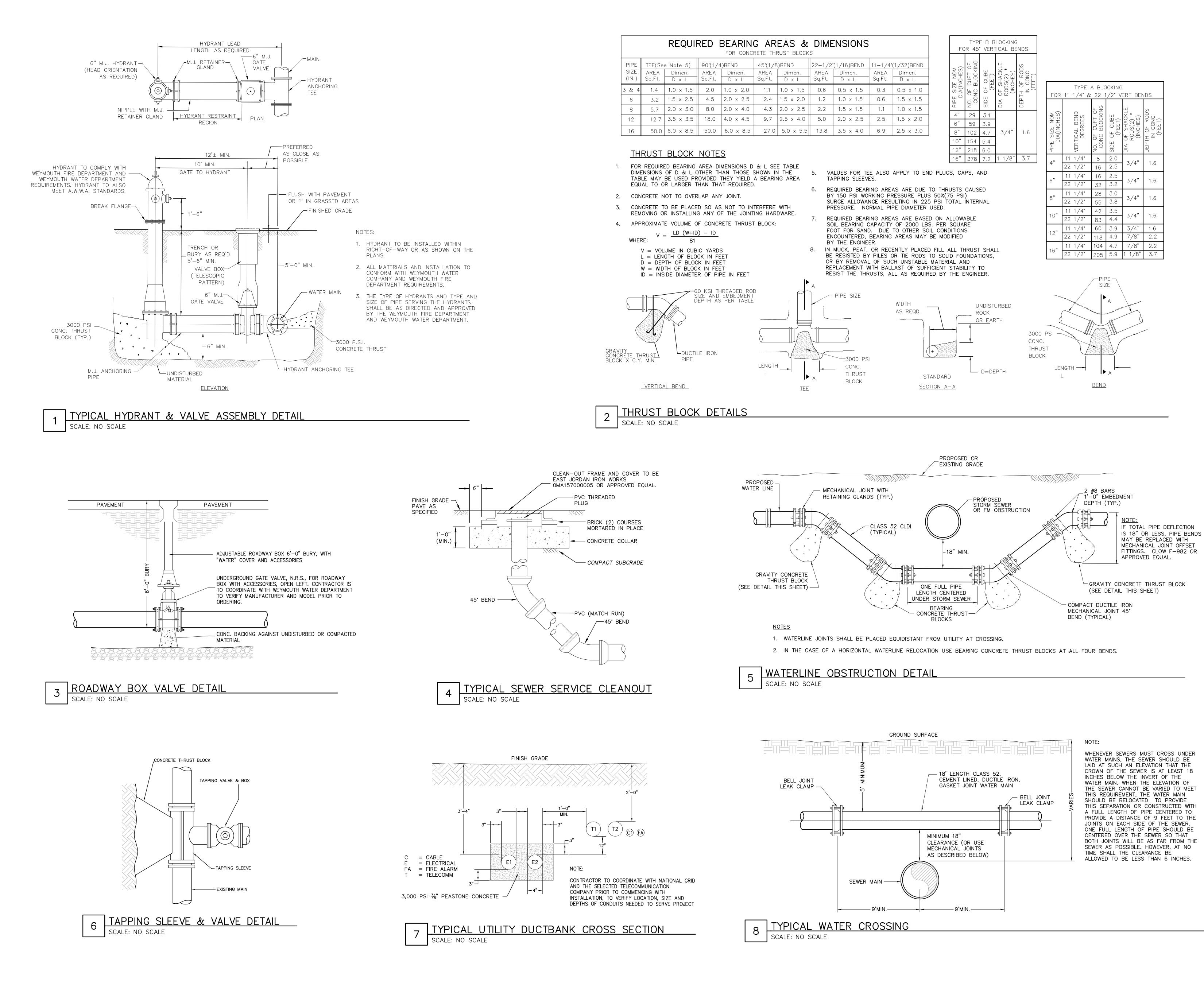
ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE BASIN, AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER FIXTURES. SPECIFICATIONS FOR COVERING SPECIAL CASES OR CONDITIONS, SHALL BE APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A. WROUGHT IRON STEPS SHALL BE SPACED ABOUT 18"

BOTH VENTS SHALL BE EXTENED INDEPENDENTLY 18" ABOVE THE ROOF, OR AS APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A. OUTLET PIPE TO BE 45 DEGREE ANGLE.



3 WAY DISTRIBUTION ELECTRIC MANHOLE DETAIL SCALE: NO SCALE

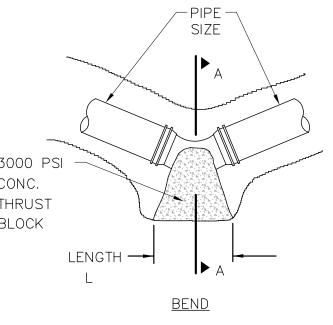
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| JOHN M. CORCORAN & |
| CO. LLC 100 GRANDVIEW ROAD, SUITE 203 |
| BRAINTREE, MA 02184 P 781 849.0011 |
| OWNER |
| utile |
| UTILE ARCHITECTURE + URBAN DESIGN |
| 115 KINGSTON ST BOSTON, MA 02111 |
| P 617 423.7200 F 617 423.1414 utiledesign.com ARCHITECT |
| CHA COMPANIES |
| 141 LONGWATER DRIVE, SUITE 104 NORWELL, MA 02061 |
| P 781 982.5400 CIVIL & LANDSCAPE |
| BLW ENGINEERS |
| 311 GREAT ROAD LITTLETON, MA 01460 |
| Р 978 486.4301 МЕРЕР |
| VEITAS AND VEITAS |
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| P 781 849.2065 |
| VANASSE & ASSOCIATES |
| 35 NEW ENGLAND BUS CENTER DR. SUITE 140 ANDOVER, MA 01810 |
| P 978 474.8800 TRAFFIC |
| McPHAIL ASSOCIATES |
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| SCALE UTILE PROJECT NUMBER |
| 1839 |
| DETAILS - 5 |
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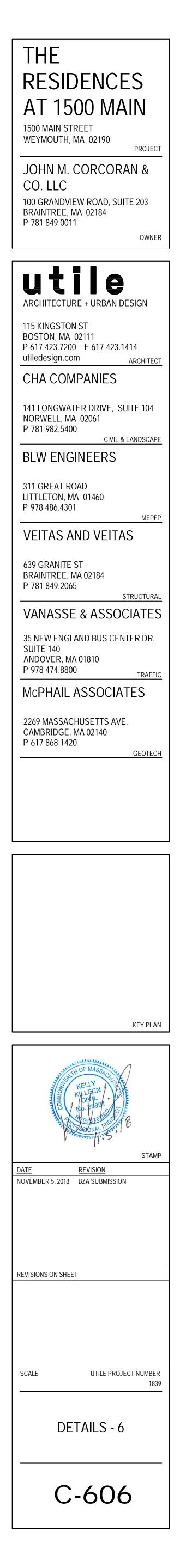


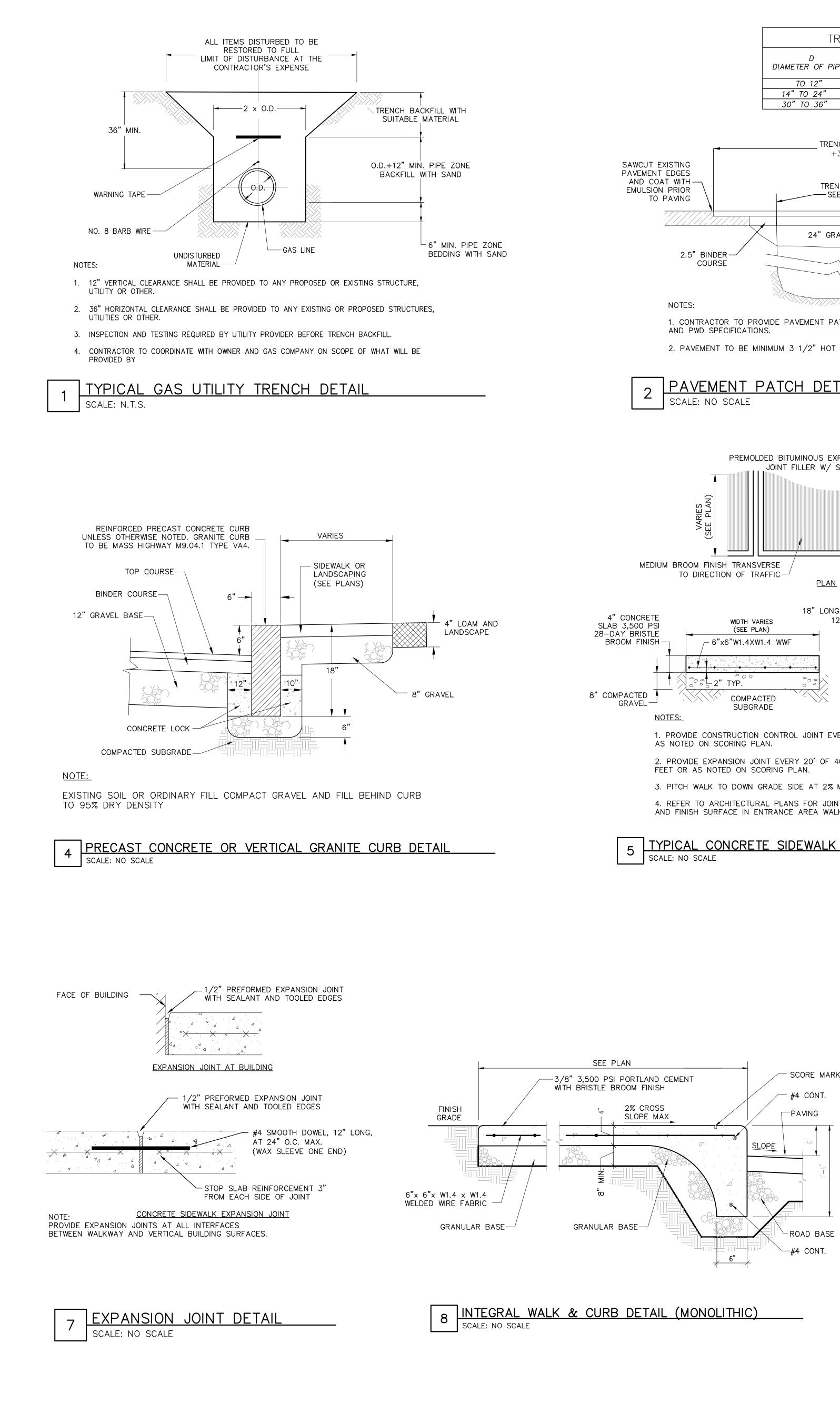
| с К | | INSIONS | | |
|---------------|--------|------------|---------|------------|
| | 22-1/2 | (1/16)BEND | 11-1/4° | (1/32)BEND |
| | AREA | Dimen. | AREA | Dimen. |
| | Sq.Ft. | DxL | Sq.Ft. | DxL |
| | 0.6 | 0.5 x 1.5 | 0.3 | 0.5 x 1.0 |
| | 1.2 | 1.0 x 1.5 | 0.6 | 1.5 x 1.5 |
| | 2.2 | 1.5 x 1.5 | 1.1 | 1.0 x 1.5 |
| | 5.0 | 2.0 x 2.5 | 2.5 | 1.5 x 2.0 |
| 5 | 13.8 | 3.5 x 4.0 | 6.9 | 2.5 x 3.0 |
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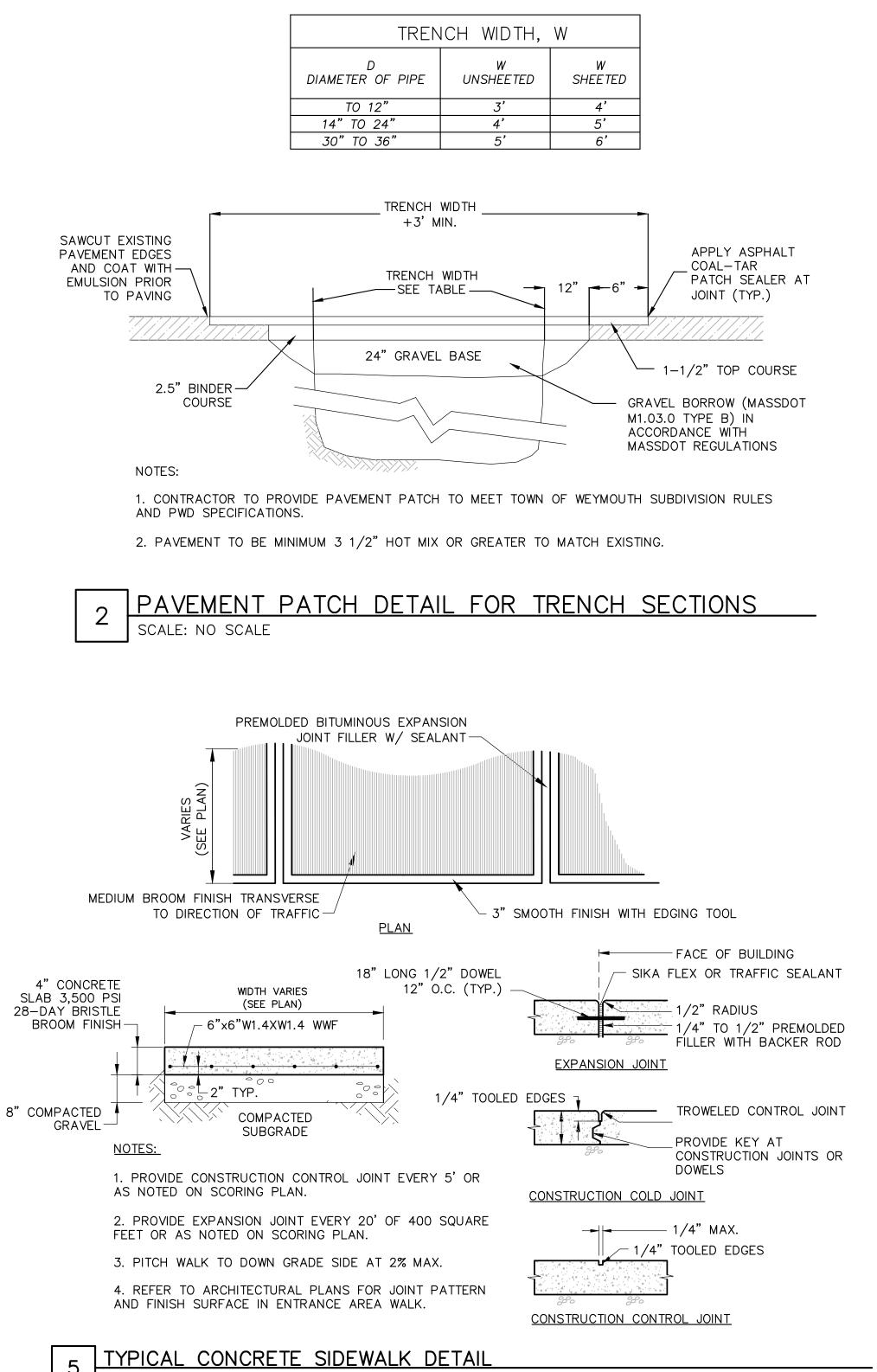
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| PIPE SIZE NOM DIA(INCHES) | LG NG | | DIA OF SHACKLE RODS(2) * (INCHES) | DEPTH OF RODS IN CONC (FEET) |
| 4" | 29 | 3.1 | | |
| 6" | 59 | 3.9 | | |
| 6" 8" | 102 | 4.7 | 3/4" | 1.6 |
| 10" | 154 | 5.4 | | |
| 12" 16" | 218 | 6.0 | | |
| 16" | 378 | 7.2 | 1 1/8" | 3.7 |

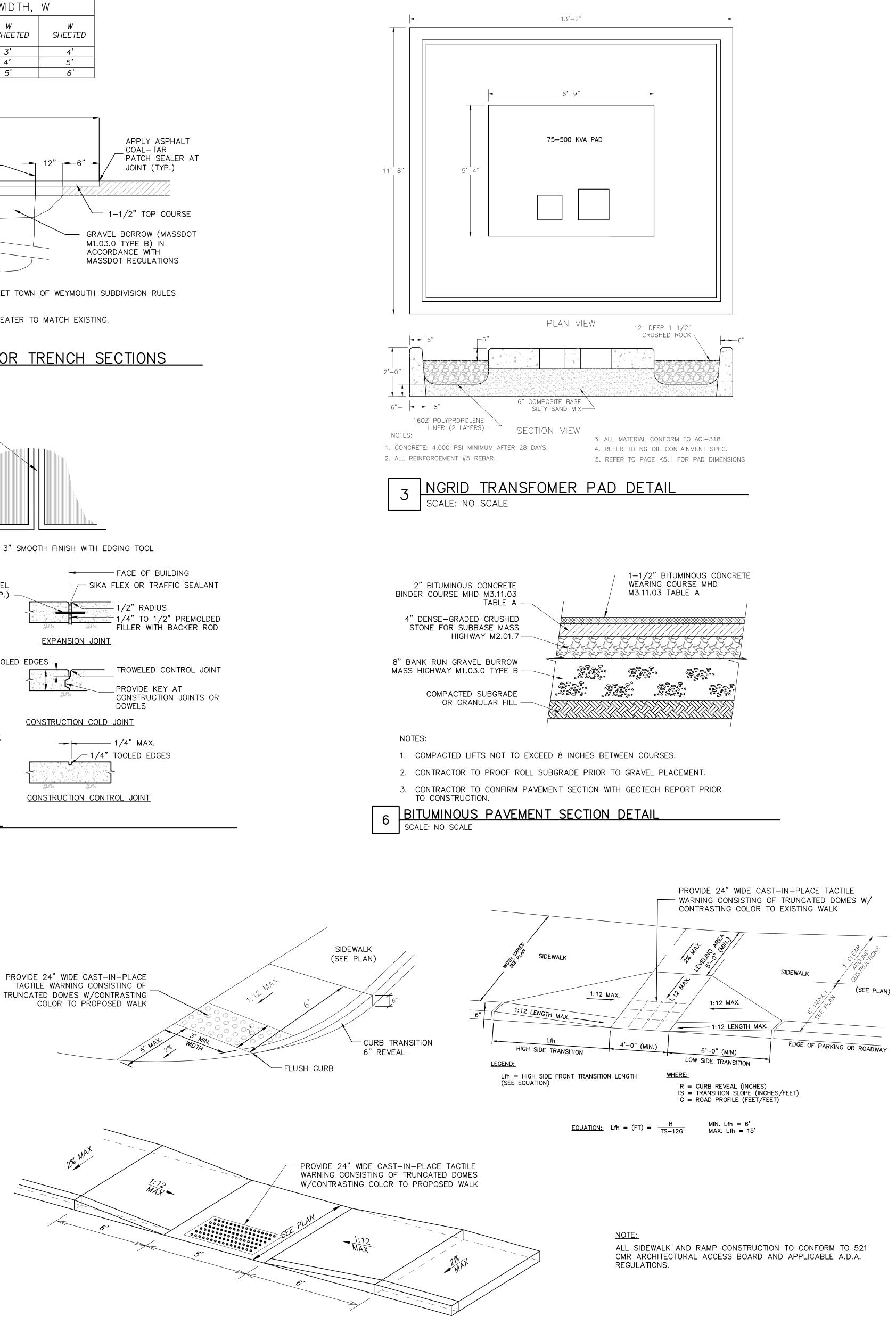
| FOR | 11 1/4°& | 22 1 | /2° V | ERT BEN | NDS |
|------------------------------|--------------------------|---------------------------------|------------------------|---|------------------------------------|
| PIPE SIZE NOM DIA(INCHES) | VERTICAL BEND DEGREES | NO. OF CUFT OF CONC BLOCKING | SIDE OF CUBE (FEET) | DIA OF SHACKLE RODS(2) * (INCHES) | DEPTH OF RODS IN CONC (FEET) |
| . " | 11 1/4° | 8 | 2.0 | ¬ / . " | |
| 4" | 22 1/2° | 16 | 2.5 | 3/4" | 1.6 |
| 0" | 11 1/4° | 16 | 2.5 | | 1.0 |
| 6" | 22 1/2° | 32 | 3.2 | 3/4" | 1.6 |
| 8" | 11 1/4° | 28 | 3.0 | 7 / 4 " | 1.0 |
| Ö | 22 1/2° | 55 | 3.8 | 3/4" | 1.6 |
| 10" | 11 1/4° | 42 | 3.5 | z / / " | 1.6 |
| 10 | 22 1/2° | 83 | 4.4 | 3/4" | 1.0 |
| 12" | 11 1/4° | 60 | 3.9 | 3/4" | 1.6 |
| | 22 1/2° | 118 | 4.9 | 7/8" | 2.2 |
| 16" | 11 1/4° | 104 | 4.7 | 7/8" | 2.2 |
| 10 | 22 1/2° | 205 | 5.9 | 1 1/8" | 3.7 |









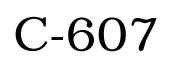


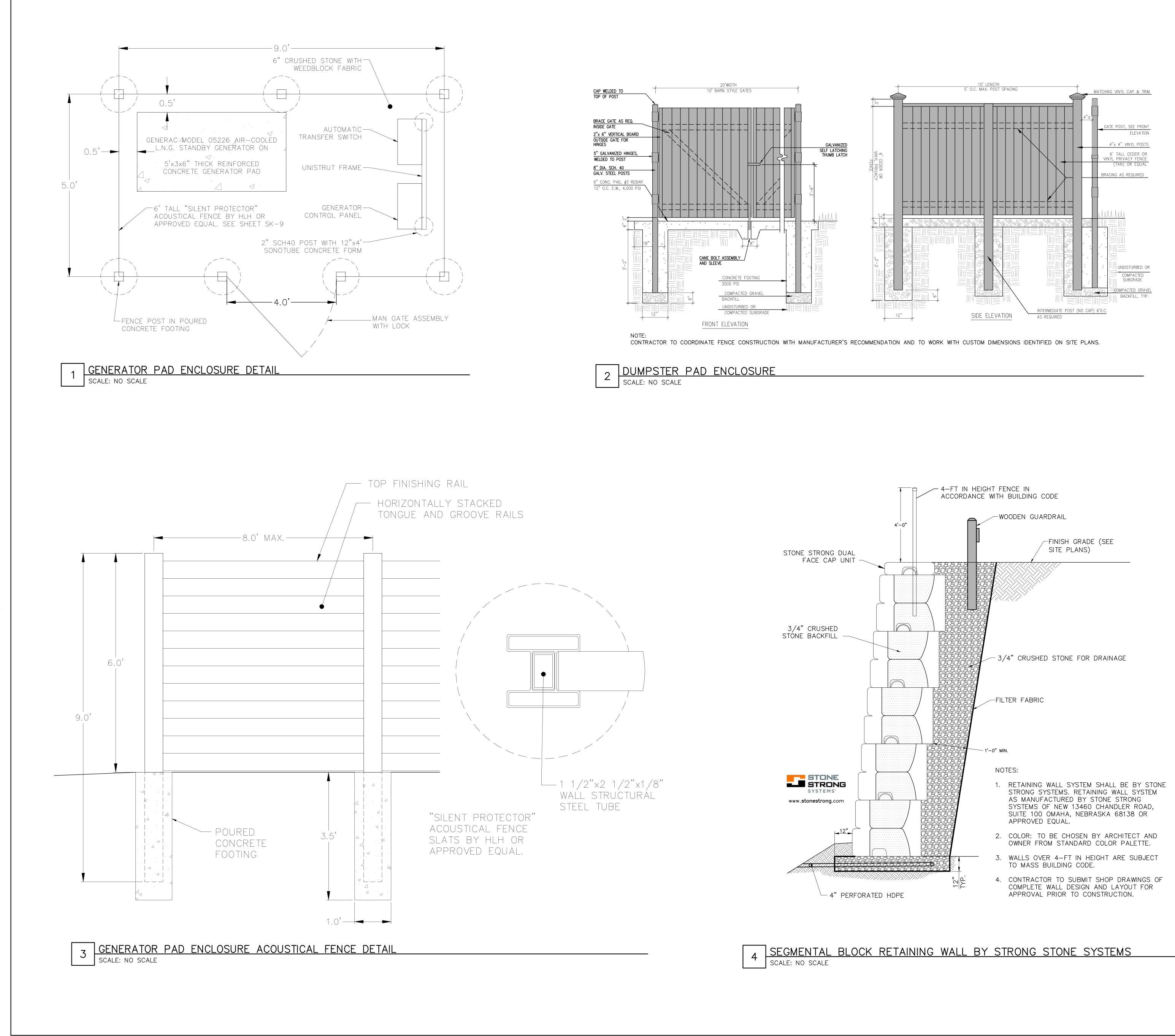
9 ADA CURB RAMP DETAILS SCALE: NO SCALE

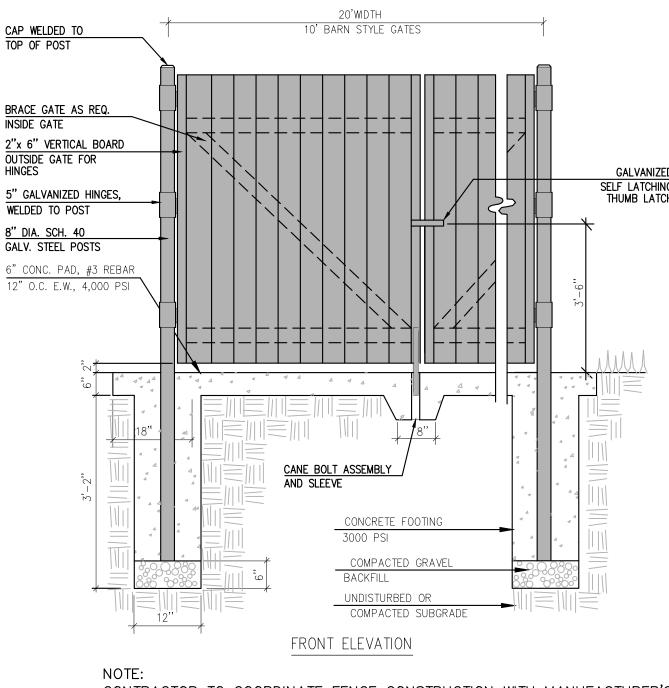


SCALE UTILE PROJECT NUMBER 1839

DETAILS - 7



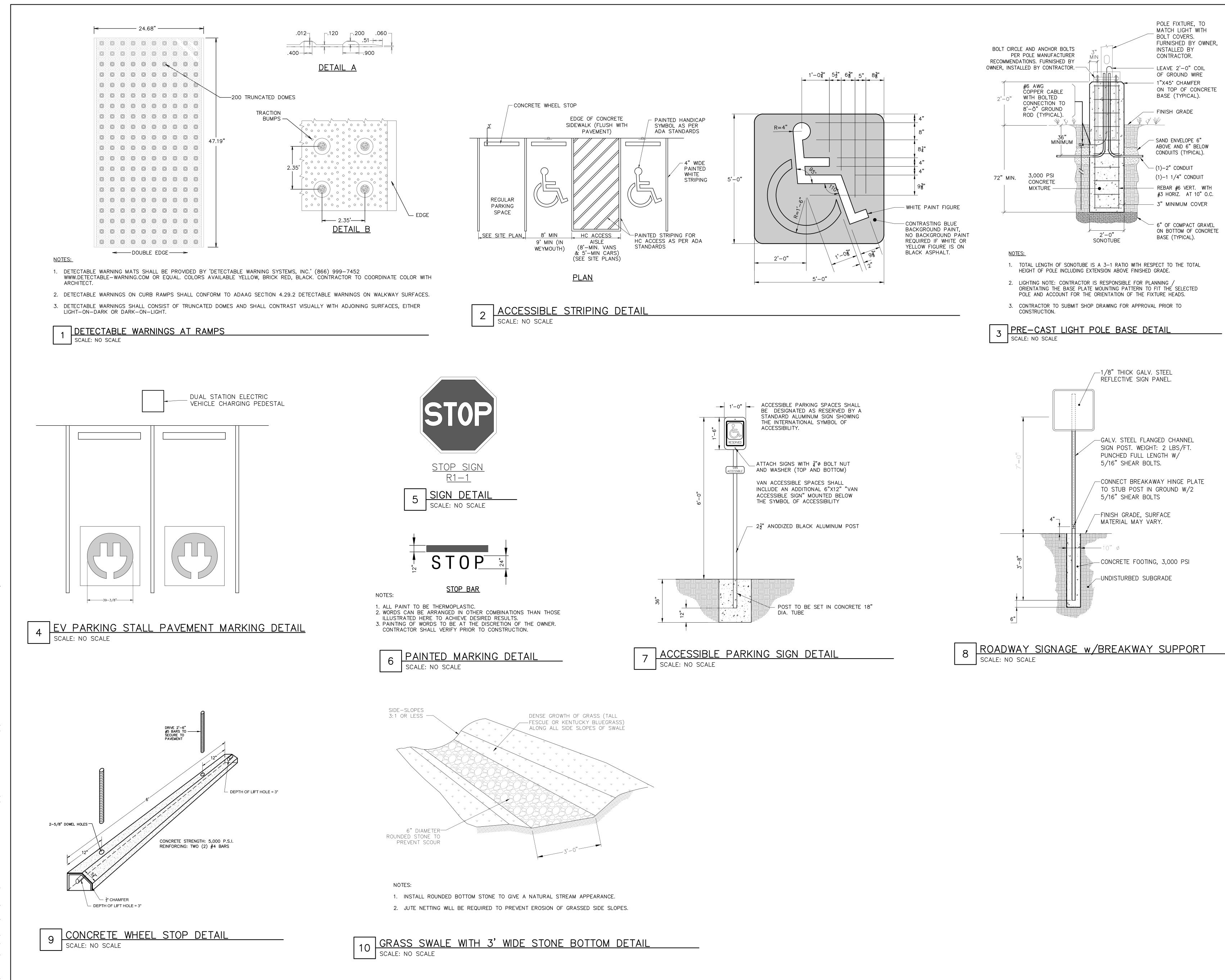






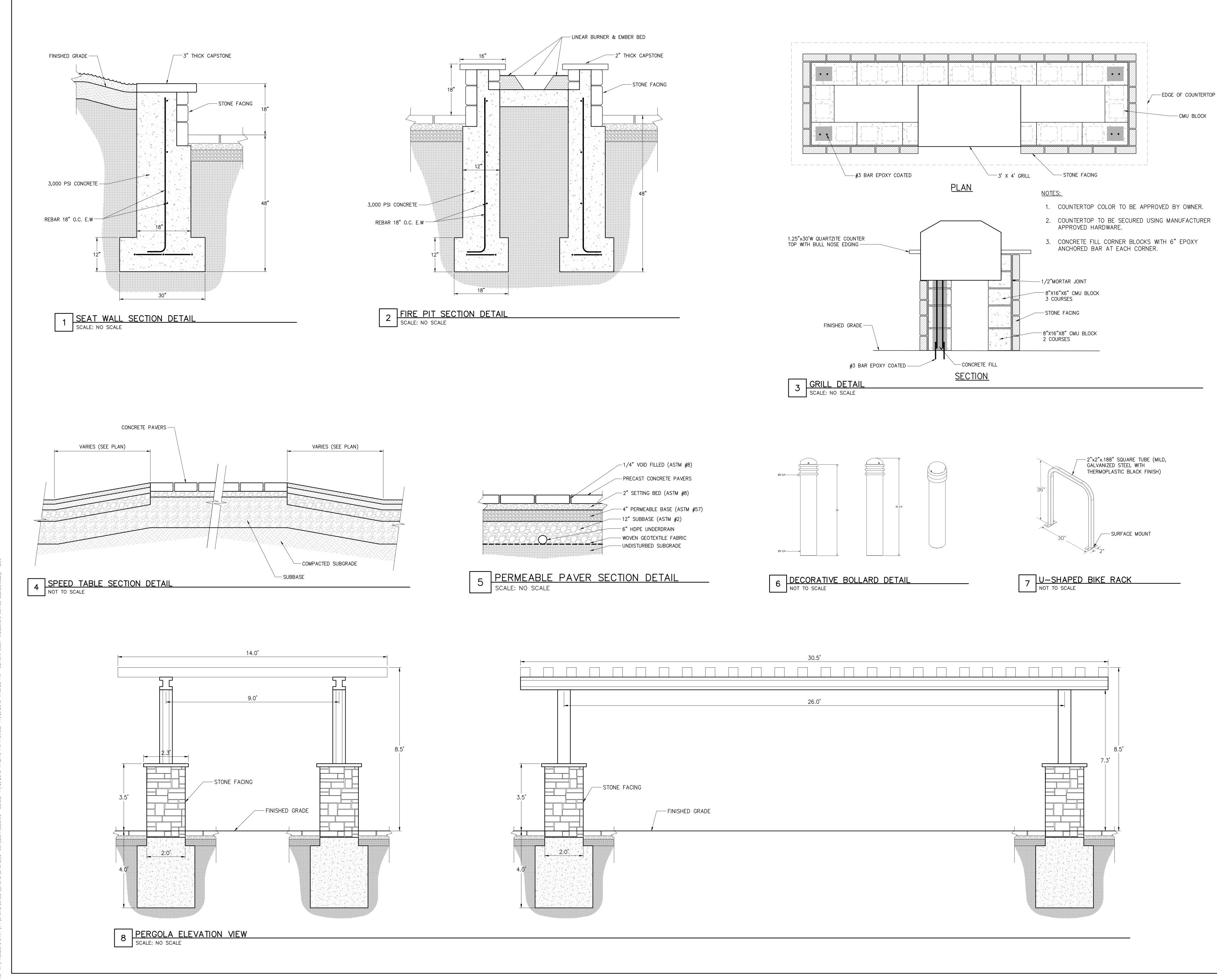


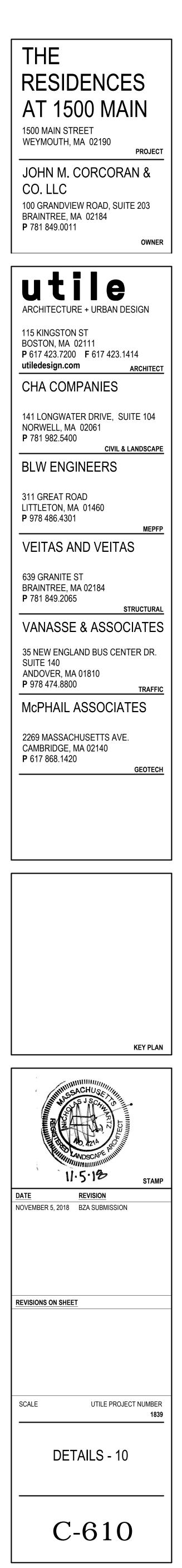
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| utiledesign.com ARCHITECT CHA COMPANIES 141 LONGWATER DRIVE, SUITE 104 NORWELL, MA 02061 P 781 982.5400 CIVIL & LANDSCAPE BLW ENGINEERS 311 GREAT ROAD LITTLETON, MA 01460 P 978 486.4301 |
| MEPFP VEITAS AND VEITAS 639 GRANITE ST BRAINTREE, MA 02184 P 781 849.2065 <u>STRUCTURAL</u> VANASSE & ASSOCIATES 35 NEW ENGLAND BUS CENTER DR. SUITE 140 ANDOVER, MA 01810 P 978 474.8800 <u>TRAFFIC</u> |
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| SCALE UTILE PROJECT NUMBER 1839 DETAILS - 8 |
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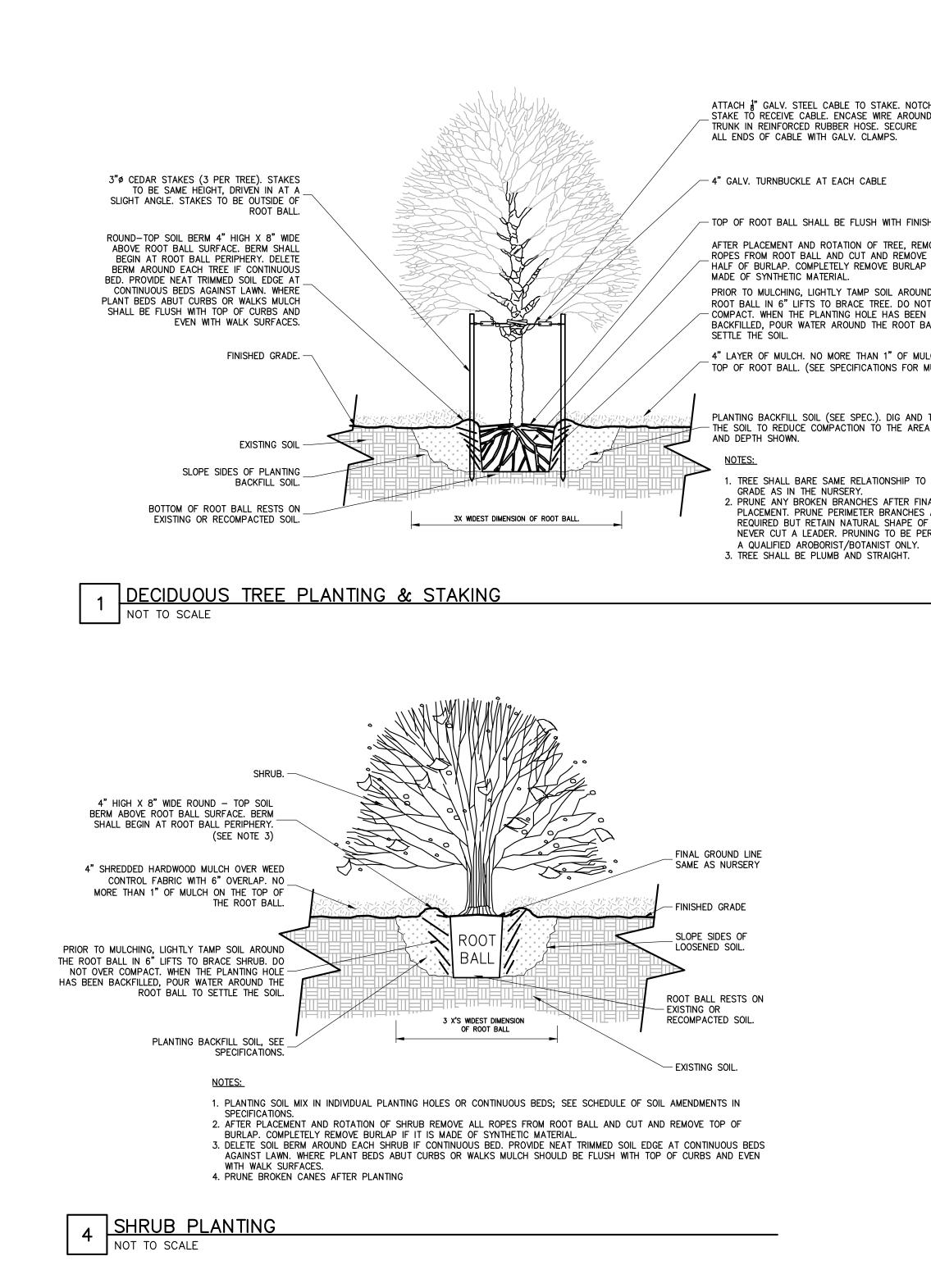


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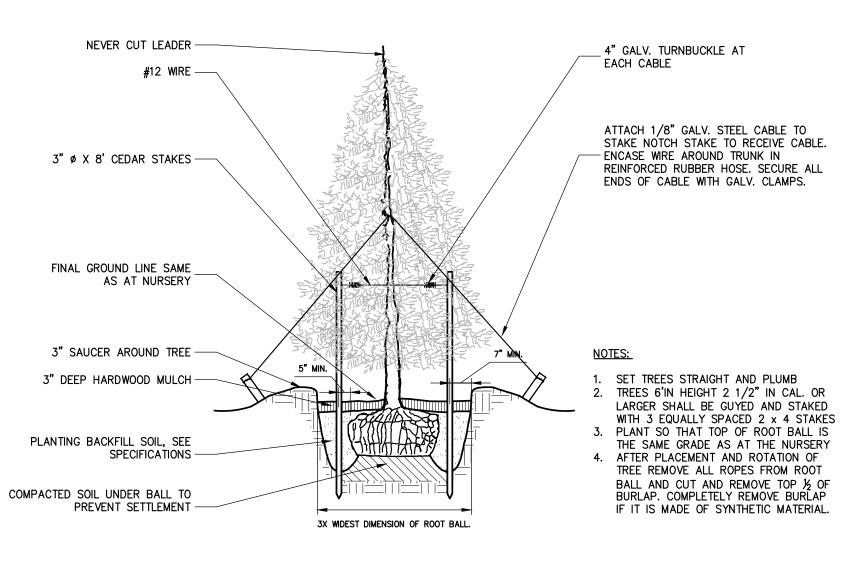
ATTACH **1**" GALV. STEEL CABLE TO STAKE. NOTCH ______STAKE TO RECEIVE CABLE. ENCASE WIRE AROUND TRUNK IN REINFORCED RUBBER HOSE. SECURE

- TOP OF ROOT BALL SHALL BE FLUSH WITH FINISHED GRADE. AFTER PLACEMENT AND ROTATION OF TREE, REMOVE ALL __ ROPES FROM ROOT BALL AND CUT AND REMOVE TOP HALF OF BURLAP. COMPLETELY REMOVE BURLAP IF IT IS PRIOR TO MULCHING, LIGHTLY TAMP SOIL AROUND THE ROOT BALL IN 6" LIFTS TO BRACE TREE. DO NOT OVER - COMPACT. WHEN THE PLANTING HOLE HAS BEEN BACKFILLED, POUR WATER AROUND THE ROOT BALL TO

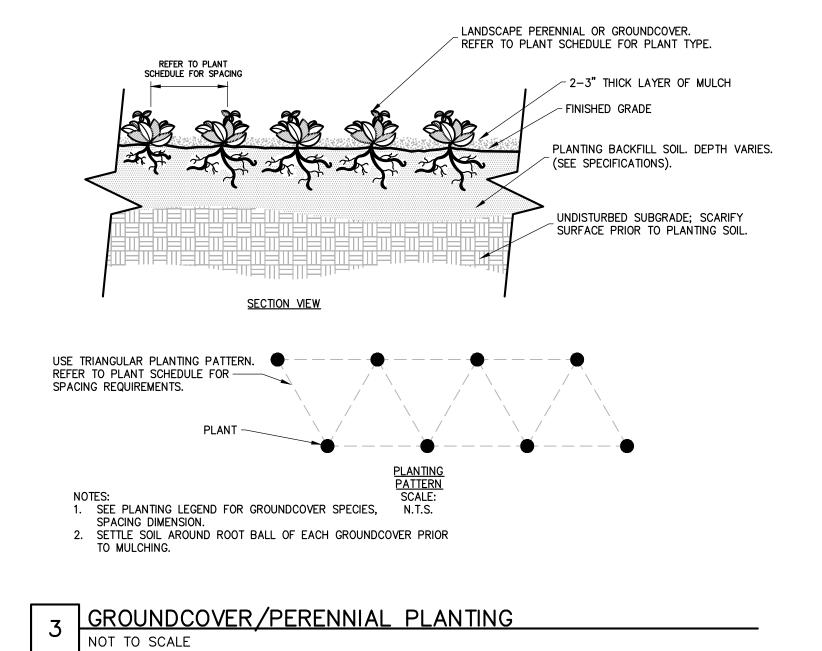
4" LAYER OF MULCH. NO MORE THAN 1" OF MULCH ON TOP OF ROOT BALL. (SEE SPECIFICATIONS FOR MULCH).

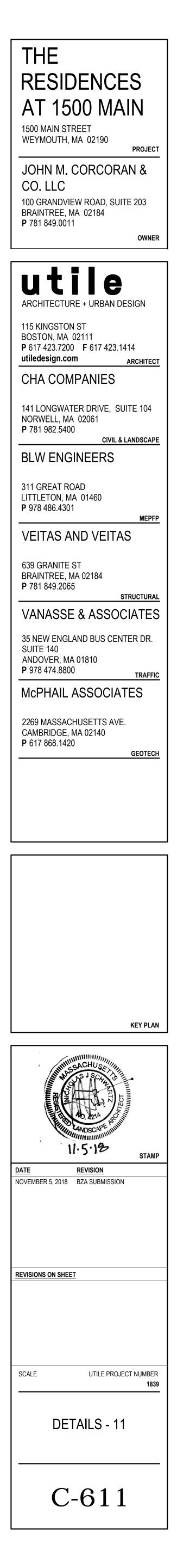
PLANTING BACKFILL SOIL (SEE SPEC.). DIG AND TURN — THE SOIL TO REDUCE COMPACTION TO THE AREA AND DEPTH SHOWN.

TREE SHALL BARE SAME RELATIONSHIP TO FINISH GRADE AS IN THE NURSERY. 2. PRUNE ANY BROKEN BRANCHES AFTER FINAL PLACEMENT. PRUNE PERIMETER BRANCHES AS REQUIRED BUT RETAIN NATURAL SHAPE OF TREE. NEVER CUT A LEADER. PRUNING TO BE PERFORMED BY



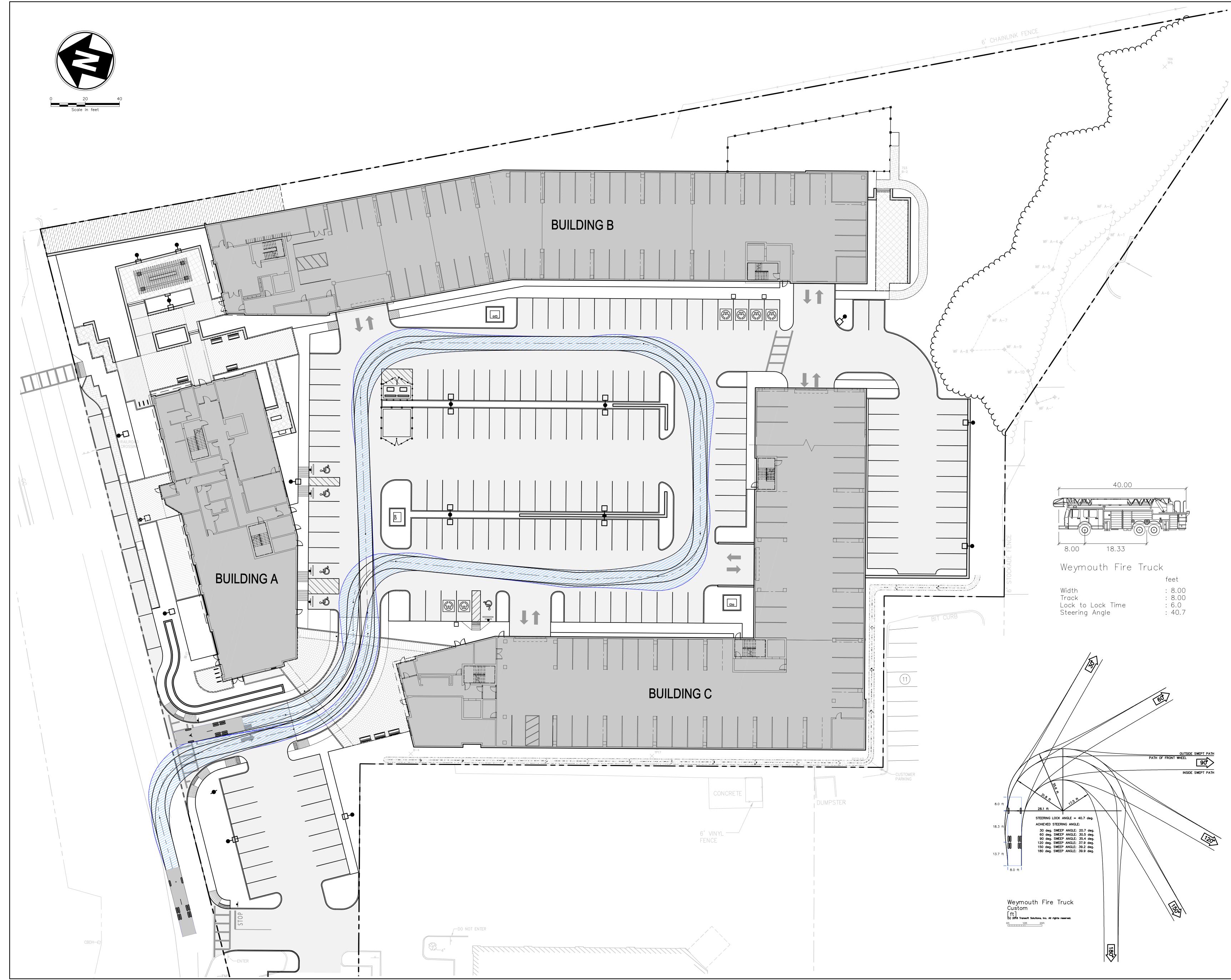
2 CONIFEROUS TREE PLANTING & STAKING DETAIL SCALE: N.T.S.





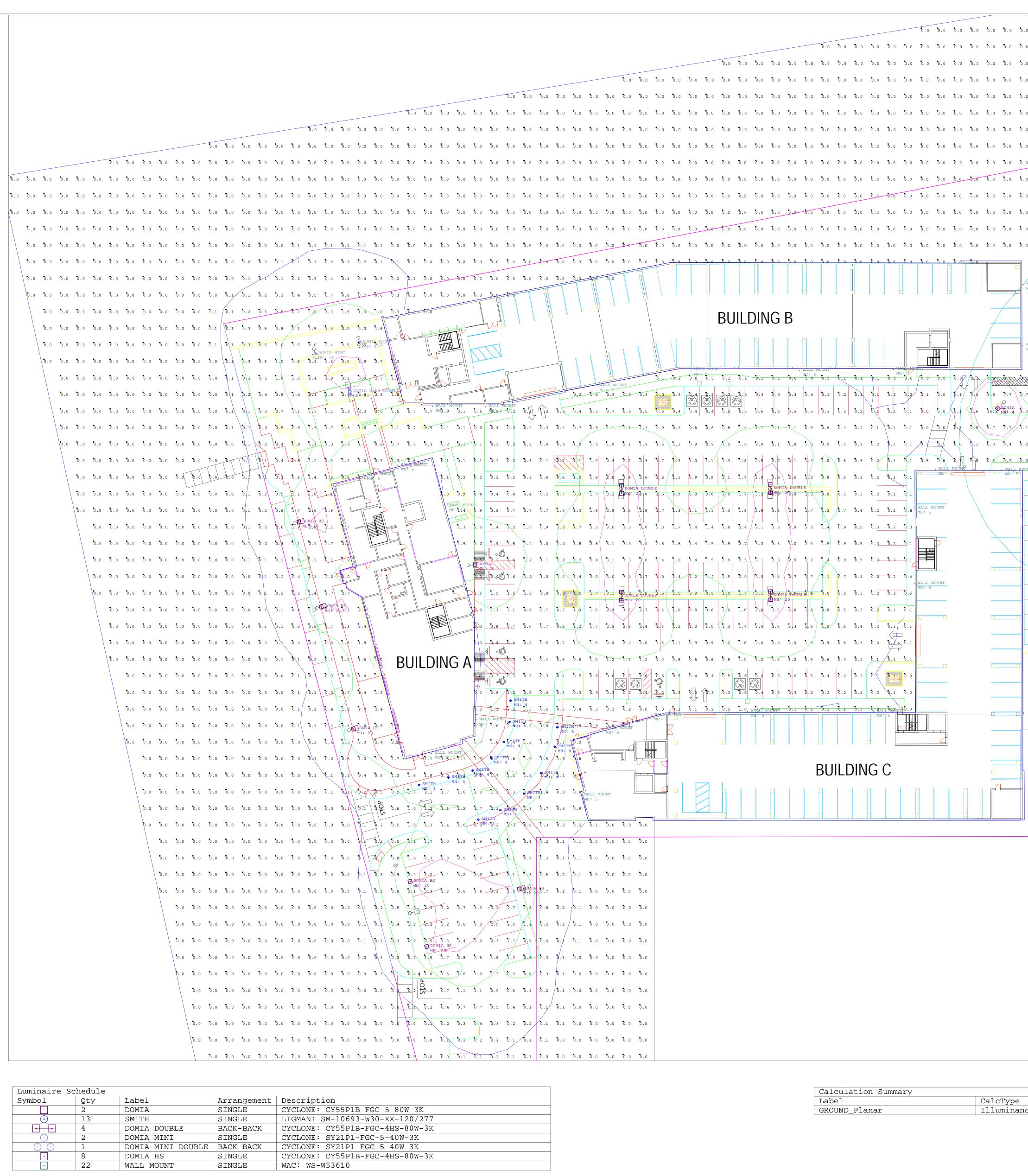


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