LOCUS PLAN
SCALE: 1"=1000'±

PROPERTY:
15 COLEMAN ROAD
NEWBURY, MA 01922
ASSESSOR'S MAP R-02
LOTS 12 & 13 (NEWBURY PORTION)

OWNER OF RECORD:
ZENDKO, LLC
15 ESTES STREET
AMESBURY, MA 01913

SITE PLAN SET

FOR

FIELDSTONE LANE

AN

OPEN SPACE RESIDENTIAL DEVELOPMENT DEFINITIVE PLAN

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

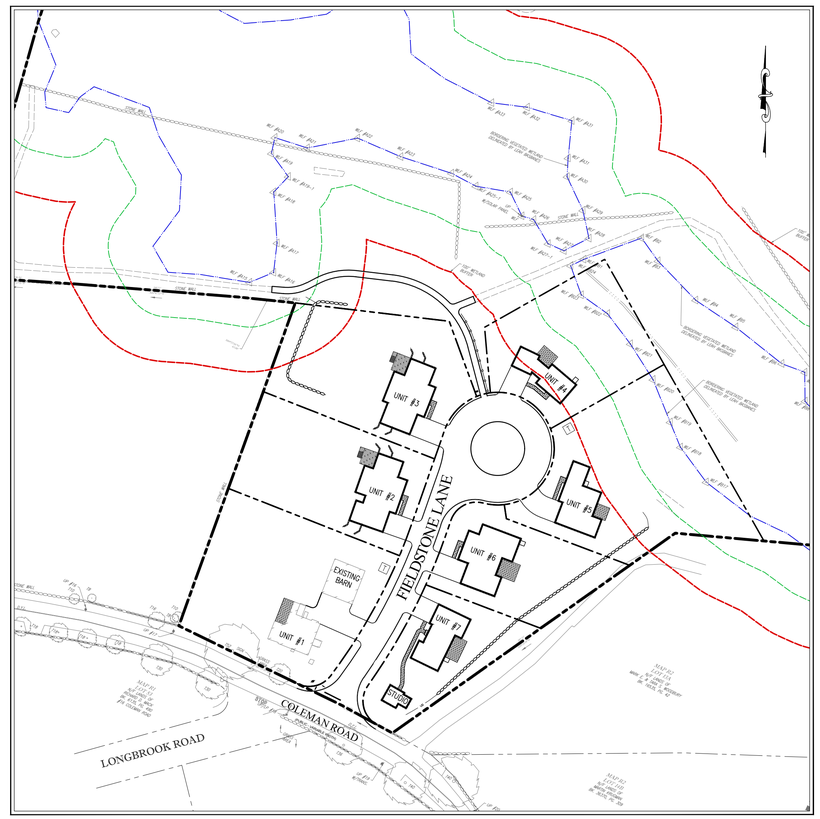
PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE _____ TOWN CLERK _____

DATE	DATE REVISED	SHEET NUMBER	SHEET DESCRIPTION
01/08/2021	01/25/2021	1	COVER SHEET
01/08/2021	01/25/2021	2	LEGEND & NOTES
05/04/2020	01/25/2021	3.1	KEY MAP
05/04/2020	01/25/2021	3.2-3.5	EXISTING CONDITIONS SURVEY
01/08/2021	01/25/2021	4	YIELD PLAN
01/08/2021	01/25/2021	5	SITE CONTEXT MAP
01/08/2021	01/25/2021	6	OVERALL LAYOUT & OPEN SPACE PLAN
01/08/2021	01/25/2021	7	DEMOLITION & EROSION CONTROL PLAN
01/08/2021	01/25/2021	8	LAYOUT PLAN
01/08/2021	01/25/2021	9	GRADING & DRAINAGE PLAN
01/08/2021	01/25/2021	10	UTILITY PLAN
01/08/2021	01/25/2021	11	PLAN & PROFILE
01/08/2021	01/25/2021	12	FIRE APPARATUS ACCESS PLAN
01/08/2021	01/25/2021	13	DEFINITIVE SUBDIVISION & EASEMENT PLAN
01/08/2021	01/25/2021	14-18	CONSTRUCTION DETAILS
01/08/2021	-	L-1	LANDSCAPE PLAN & DETAILS
-	-	-	SEPTIC DESIGN PLAN & DETAILS*

* BOUND SEPARATELY, TO BE PREPARED BY OTHERS



OVERALL LAYOUT PLAN
SCALE: 1"=80'

PREPARED BY:

CIVIL DESIGN GROUP, LLC

21 HIGH STREET SUITE 207
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www.cdgengineering.com
p: 978-794-5400
f: 978-965-3971
CONTACT: PHILIP HENRY, P.E.

PREPARED FOR/APPLICANT:

ZENDKO, LLC
15 ESTES STREET
AMESBURY, MA 01913

CONSULTANTS:

SURVEY:
LEVESQUE GEOMATICS INC.
43 GLENDALE ROAD
STURBRIDGE, MA 01518
508-868-0041
CONTACT: JOSEPH LEVESQUE, P.L.S

WETLAND SCIENTIST:
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LANDSCAPE ARCHITECT:
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SEPTIC DESIGNER:
SULLIVAN ENGINEERING GROUP, LLC
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WOBURN, MA 01888
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CONTACT: JACK SULLIVAN, P.E.

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

PHILIP R. HENRY, P.E.

SHEET:

COVER SHEET

1

DATE: 01/08/2021

GENERAL NOTES

1. ZONING INFORMATION OBTAINED FROM THE LATEST EDITION OF THE MUNICIPAL ZONING MAP AND ZONING BYLAWS PER THE TOWN'S WEBSITE.
2. ROADWAY AND UTILITY INFRASTRUCTURE SHOWN HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPAL SUBDIVISION REGULATIONS IN ADDITION TO THE INFORMATION PROVIDED ON THE PLANS AND DETAILS.
3. THE PROJECT SITE CONSISTS OF LOTS 12 & 13 (NEWBURY PORTION) ON THE TOWN OF NEWBURY ASSESSOR'S MAP R-02 AND LOT A ON THE TOWN OF ROWLEY ASSESSOR'S MAP 21, AND TOTALS 31.69± ACRES.
4. THE PROJECT LIES WITHIN THE AGRICULTURAL RESIDENTIAL 'AR' ZONING DISTRICT.
5. ACCORDING TO THE FLOOD RATE INSURANCE MAP (FIRM), COMMUNITY PANEL #25009C0256G, WITH AN EFFECTIVE DATE OF JULY 16, 2014, THIS SITE LIES WITHIN ZONE X, WHICH IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% (500-YEAR) ANNUAL CHANCE FLOODPLAIN.
6. WETLANDS SHOWN HEREIN WERE DELINEATED BY BASBANES WETLAND CONSULTING AND THE PROJECT IS SUBJECT TO APPROVAL FROM THE CONSERVATION COMMISSION. THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND ADHERE TO ALL CONSTRUCTION-RELATED REQUIREMENTS OF THIS APPROVAL.
7. THE PROJECT IS SUBJECT TO A DEFINITIVE SUBDIVISION APPROVAL AND A SPECIAL PERMIT (OPEN SPACE RESIDENTIAL DEVELOPMENT) ISSUED BY THE NEWBURY PLANNING BOARD. THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND ADHERE TO ALL CONSTRUCTION-RELATED REQUIREMENTS OF THE THESE APPROVALS.
8. THE CONTRACTOR SHALL GIVE TWENTY-FOUR (24) HOUR NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK IN THE FIELD.
9. A PRE-CONSTRUCTION MEETING SHALL OCCUR WITH THE APPLICANT, ENGINEER, CONSTRUCTION MANAGER AND THE CONSERVATION AGENT 72 HOURS PRIOR TO ANY WORK STARTING AT WHICH TIME THE CONSERVATION AGENT WILL RECEIVE THE NAME(S) AND TELEPHONE NUMBER(S) OF THE PERSON(S) RESPONSIBLE ON SITE FOR COMPLIANCE WITH THE ORDER OF CONDITIONS.
10. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER, SITE ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION.
11. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS, AND PLANT SPECIFICATIONS TO THE OWNER AND SITE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
12. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF THE CONSTRUCTION.

SITE & DEMOLITION NOTES

1. THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES SHOWN ON THESE PLANS ARE BASED ON MEASUREMENTS TAKEN IN THE FIELD AND DISCOVERED RECORDS FROM VARIOUS UTILITY COMPANIES AND/OR FROM THE MUNICIPALITY. THIS INFORMATION SHALL NOT BE CONSIDERED EXACT AND THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL NOTIFY 'DIG SAFE' (811) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXISTING UTILITY MARK OUT LOCATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF EXISTING UTILITY LOCATIONS CONFLICT WITH THE PROPOSED DEVELOPMENT PROGRAM SO THAT A REMEDIAL ACTION CAN TAKE PLACE PRIOR TO ANY WORK. THE CONTRACTOR IS RESPONSIBLE FOR RELOCATING ALL EXISTING UTILITIES AS A RESULT OF THE PROPOSED DEVELOPMENT.
2. EXISTING BASE INFORMATION INCLUDING PROPERTY LINE, STRUCTURES, UTILITIES AND TOPOGRAPHY ARE TAKEN FROM PLAN ENTITLED "EXISTING CONDITIONS SURVEY," PREPARED BY LEVESQUE GEOMATICS INC., LAST UPDATED MAY 4, 2020, CONSISTING OF 4 SHEETS.
3. ELEVATIONS SHOWN ARE BASED ON THE DATUM REFERENCED ON THE EXISTING CONDITIONS PLAN.
4. EXISTING STRUCTURES MAY BE UNDER A DEMO DELAY, THEREFORE, THESE STRUCTURES SHALL NOT BE RAZED ON OR BEFORE THE END OF THE DEMO DELAY DATE.
5. ALL WORK MUST BE INSPECTED PER TOWN REQUIREMENTS. CONTRACTOR SHALL CONTACT THE TOWN BUILDING DEPARTMENT PRIOR TO THE START OF WORK.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ALL CONSTRUCTION RELATED CONDITIONS OUTLINED IN THE APPROVALS IN ADDITION TO THE ITEMS OUTLINED IN THESE CONSTRUCTION DOCUMENTS.
7. THE LIMIT OF WORK FOR THIS PROJECT SHALL BE SHOWN ON THE PLANS AS SAWCUT LINES, EROSION CONTROL BARRIER LINES, AND/OR LIMIT OF WORK LINES AND SHALL BE MARKED IN THE FIELD PRIOR TO CONSTRUCTION. EXISTING FEATURES OUTSIDE LIMIT OF WORK LINE ARE TO REMAIN UNLESS OTHERWISE SPECIFIED AND THE EXISTING FEATURES WITHIN LIMIT OF WORK LINE SHALL BE REMOVED UNLESS OTHERWISE SPECIFIED.
8. THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
9. ALL DISTURBED OFF-SITE AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
10. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED PER THE DETAIL WHEREVER CONSTRUCTION ACCESS EXISTS. PAVED AREAS SHALL BE KEPT CLEAN AT ALL TIMES.
11. PEDESTRIAN AND VEHICULAR ACCESS WITHIN THE PUBLIC RIGHT-OF-WAY AND SHARED ACCESS DRIVE SHALL BE KEPT IN GOOD CONDITION THROUGHOUT CONSTRUCTION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS AND UTILITY CONNECTION/DISCONNECTION FEES RELATED TO THE PROJECT. CONTRACTOR SHALL NOTIFY AND COORDINATE ALL UTILITY WORK WITH THE APPLICABLE UTILITY COMPANIES AND/OR LOCAL DEPARTMENTS. ALL PERMITS SHALL BE KEPT WITHIN THE TRAILER AND CLEARLY VISIBLE.
13. THE OFFSITE DISPOSAL OF ALL DEMOLISHED MATERIALS SHALL COMPLY WITH THE APPLICABLE LOCAL, STATE AND FEDERAL GUIDELINES.
14. FILL MATERIAL(S) SHALL NOT CONTAIN HAZARDOUS MATERIALS.
15. CONSTRUCTION DUMPSTERS SHALL BE LOCATED ON A STABLE SURFACE, PROPERLY MAINTAINED, AND EMPTIED ON A REGULAR BASIS.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE GENERAL UPKEEP OF THE SITE DURING THE CONSTRUCTION PROCESS.
17. ALL WALLS GREATER THAN 4 FEET EXPOSED HEIGHT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
18. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM AMOUNT OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
19. REFUELING AND ANY WORK ASSOCIATED WITH THE MAINTENANCE OF CONSTRUCTION EQUIPMENT TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE REGULATIONS.
20. THE AREAS OF CONSTRUCTION SHALL REMAIN IN A STABLE CONDITION AT THE CLOSE OF EACH CONSTRUCTION DAY. EROSION CONTROLS SHALL BE CHECKED AT THIS TIME AND MAINTAINED OR REINFORCED IF NECESSARY.
21. CONTRACTOR SHALL COORDINATE THE LOCATION OF STAGING AREAS AND JOB TRAILER WITH THE ENGINEER AND OWNER PRIOR TO MOBILIZATION OF ANY EQUIPMENT ON THE SITE.
22. CONTRACTOR SHALL NOT STOCKPILE OR LOCATE DUMPSTERS WITHIN WETLAND RESOURCE AREA BUFFER ZONES IF PRESENT ON SITE.
23. CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS, AND EQUIPMENT AND RESTORE OR REPAIR ANY DAMAGE THAT OCCURS TO THE SITE RESULTING FROM CONSTRUCTION ACTIVITY.
24. DISPOSE OF ANY AND ALL DEMOLISHED BUILDING MATERIALS, STOARAGE TANKS, PAVEMANT, BITUMINOUS CURBING, CONCRETE, VEGETATION, SURPLUS MATERIAL, AND SITE RUBBLE OFF-SITE IN ACCORDANCE WITH LOCAL ORDINANCES, THE MASSACHUSETTS WETLAND PROTECTION ACT, CHAPTER 131 SECTION 40, G.L., AND ALL APPLICABLE STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
25. CONTRACTOR SHALL ADHERE TO APPLICABLE PRE-BLASTING & BLASTING PROTOCOLS, INCLUDING DOT REGULATIONS IF ROCK IS ENCOUNTERED DURING CONSTRUCTION.

SITE LAYOUT NOTES

1. ALL STATION LABELS PERTAIN TO CENTERLINE OF ROAD GEOMETRY.
2. NO BUILDINGS, BUILDING PROJECTIONS, OR APPURTENANT STRUCTURES SUCH AS DECKS AND STAIRS SHALL BE CONSTRUCTED IN THE REQUIRED BUILDING SETBACKS.
3. CURB WITHIN THE SITE LIMITS SHALL BE SLOPED GRANITE CURB (SGC).
4. PAVEMENT MARKINGS AND STRIPING SHALL PAINTED WITH 2 COATS OF WHITE PAINT PER FEDERAL SPECIFICATION TI-P-115 TYPE 1: ALKYD.
5. STOP LINE SHALL MEET THE REQUIREMENTS OF SECTION 3B.16 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION (LATEST EDITION).
6. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND EXTERIOR FEATURES.
7. ALL LIMITS OF PAVEMENT SHALL BE CURBED, UNLESS OTHERWISE NOTED.
8. STOP BARS SHALL BE 8" WIDE AND SOLID WHITE LINES SHALL BE 4" IN WIDTH (SEE SITE PLAN FOR LENGTH).
9. DIRECTIONAL AND ACCESSIBLE SIGNAGE SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR COLOR AND SIZE.
10. ALL FLAT WORK WITHIN THE RIGHT OF WAY SHALL CONFORM TO MUNICIPAL/STATE STANDARDS.
11. EACH UNIT INCLUDES A MINIMUM OF 2 PARKING SPACES (GARAGE/DRIVEWAY).

GRADING & DRAINAGE NOTES

1. THE ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON THE DATUM REFERENCE USED ON THE EXISTING CONDITIONS SURVEY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND ELEVATION BENCHMARKS THROUGHOUT CONSTRUCTION.
3. EXTERIOR ELEVATIONS ALONG EACH BUILDING SIDE MAY VARY IN ORDER TO ACHIEVE GRADE IN CERTAIN AREAS. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM THE PROPOSED BUILDING.
4. CONTRACTOR SHALL NOTIFY ENGINEER IF THE ILLUSTRATED GRADES CANNOT BE ACHIEVED WITHIN ACCESSIBLE AREAS, INCLUDING PARKING SPACES.
5. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF THE CONSTRUCTION.
6. PROPOSED BOTTOM OF CURB/EDGE OF PAVEMENT ELEVATIONS ALONG EXISTING STREETS ARE BASED ON EXISTING CONDITIONS INFORMATION AND SHALL BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL MATCH EXISTING EDGE OF PAVEMENT GRADE.
7. EXISTING DRAINAGE AND UTILITY RIM ELEVATIONS LOCATED WITHIN THE LIMIT OF WORK TO REMAIN SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH NEW FINISHED GRADE.
8. ALL DISTURBED AREAS OUTSIDE THE LIMIT OF WORK SHALL BE RESTORED IN KIND.
9. PROPOSED CATCH BASINS SHALL INCLUDE ELIMINATOR HOODS AS SPECIFIED IN THE DETAILS.
10. UNLESS OTHERWISE SPECIFIED, ALL NEW DRAINAGE PIPE SHALL BE ASTM C76 CLASS V REINFORCED CONCRETE PIPE, RATED FOR H-20 LOADING, MINIMUM 12" COVER (UNLESS GREATER COVER IS REQUIRED BY THE MANUFACTURER), AND LAID AT A MINIMUM SLOPE OF 0.005'/'. PIPE SIZES SHALL BE AS FOLLOWS:
    - 10.1. DRAINAGE PIPES CONNECTING CATCH BASINS TO MANHOLES AND MANHOLES TO MANHOLES: SIZE VARIES, REFER TO GRADING AND PROFILE SHEETS FOR SIZES.
    - 10.2. ROOF DRAIN PIPES: 6"
    - 10.3. FOUNDATION DRAIN PIPES: 6"
11. ROOF DRAINS:
    - 11.1. ALL BUILDING ROOFTOPS SHALL BE GUTTERED. GUTTER DOWNSPOUTS SHALL TIE INTO A ROOF DRAIN PIPE AS SHOWN.
    - 11.2. EACH BUILDING SHALL HAVE A MINIMUM OF ONE GUTTER DOWNSPOUT OVERFLOW ON EACH INDEPENDENT PIPE NETWORK. THE OVERFLOW SHALL BE INSTALLED ON THE DOWNSPOUT LOCATED AT THE LOWEST GROUND ELEVATION ALONG THE BUILDING WITHIN EACH PIPE NETWORK.
12. FOUNDATION DRAINS:
    - 12.1. PROPOSED FOUNDATION DRAIN PIPES SHALL HAVE CLEANOUTS INSTALLED AT INTERSECTIONS AND ANGULAR BENDS. NOT REQUIRED AT RADIAL BENDS.
13. SEE DETAIL SHEETS AND PROFILES FOR WATER QUALITY UNITS MANUFACTURER AND MODELS.
14. TOP AND BOTTOM OF WALL ELEVATIONS SHOWN ON GRADING & DRAINAGE PLANS REPRESENT THE EXPOSED PORTION OF THE WALL. ALL WALLS GREATER THAN 4 FEET EXPOSED HEIGHT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
15. ELEVATION OF LANDSCAPED AREAS ARE GIVEN AT PLANTED GRADE.
16. CURB SHALL TRANSITION FROM FLUSH TO FULL DEPTH REVEAL WITHIN 6 FEET.
17. PROVIDE A SMOOTH, FLUSH TRANSITION BETWEEN ALL NEW AND EXISTING PAVEMENTS.
18. ALL FLAT WORK WITHIN THE RIGHT OF WAY SHALL CONFORM TO MUNICIPAL/STATE STANDARDS.
19. EXISTING TREES OUTSIDE OF THE LIMIT OF WORK SHALL BE PROTECTED DURING CONSTRUCTION.
20. REFER TO MANUFACTURER RECOMMENDATIONS AND GUIDELINES FOR PROPER INSTALLATION AND MANAGEMENT OF STORMWATER BMPS DURING CONSTRUCTION.
21. ANY DISTURBED AREAS THAT WILL NOT BE STABILIZED BY PAVEMENT OR BUILDING BASE COURSES SHALL BE SODDED OR SEEDED & MULCHED. MULCHING SHALL BE USED TO STABILIZE DISTURBED AREAS.
22. ALL BACK FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER. BACK FILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIALS, OR OTHER OBJECTIONABLE MATERIAL. BACK FILL MATERIALS SHALL BE CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND THE MATERIAL SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER TAMPING BLOWS OR PROOF ROLLING. ALL BACK FILL MATERIAL SHALL BE PLACED IN LOOSE 6-IN. LIFTS AND COMPACTED BY MECHANICAL MEANS, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
23. ALL BUILDINGS, SIDEWALK, AND PAVEMENT SUB-GRADES SHALL BE COMPACTED TO 98% OF ASTM D698 TO A DEPTH OF 12-IN. AND TO 95% OF ASTM D698 BELOW 12-IN DEPTHS. ALL OTHER NON-STRUCTURAL AREAS SHALL BE COMPACTED TO 90% OF ASTM D698.

UTILITY NOTES

1. ALL UTILITIES ARE TO BE LOCATED UNDERGROUND UNLESS OTHERWISE NOTED.
2. ALL UTILITIES, PIPE MATERIALS, STRUCTURES, INSTALLATION METHODS, AND TESTING SHALL CONFORM TO MUNICIPALITY STANDARDS AND REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE INSPECTIONS BY THE MUNICIPALITY WHEN REQUIRED.
3. WATER WILL BE SUPPLIED TO THE PROJECT VIA AN EXISTING WATER MAIN IN COLEMAN ROAD.
4. ON-SITE WATER MAIN SHALL BE 8" CLASS 52 CLDI WITH A MINIMUM OF 5' OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.
5. WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM 5' OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.
6. NO WATER SERVICE PIPES SHALL BE LAID IN THE SAME TRENCH WITH GAS PIPES, SEWER PIPE OR ANY OTHER FACILITY OF A PUBLIC SERVICE COMPANY, OR WITHIN THREE FEET OF ANY OPEN EXCAVATION OR VAULT.
7. WASTEWATER FROM THE PROJECT WILL BE DIRECTED VIA GRAVITY SEWER PIPES TO AN ON-SITE COMMON SEWAGE DISPOSAL SYSTEM. THE SEWERAGE DISPOSAL SYSTEM WILL BE FINALIZED UNDER SEPARATE COVER.
8. SEWER PIPE SIZES AND MATERIALS SHALL BE AS FOLLOWS:
    - 8.1. PVC GRAVITY SEWER PIPES SHALL BE SDR-35 PVC.
    - 8.2. PVC FORCE MAIN SHALL BE SCHEDULE 40 PVC.
    - 8.3. SEWER MAIN: 8" PVC LAID AT A MINIMUM SLOPE OF 0.004'/'.
    - 8.4. DOMESTIC SEWER SERVICE BETWEEN BUILDING MAIN: 6" PVC LAID AT A MINIMUM SLOPE OF 0.02'/'.
9. SEWER SHALL NOT BE PLACED WITHIN 10' (HORIZONTALLY) OF A WATER LINE AND THE SEWER MUST BE 18" BELOW THE WATER LINE AT NECESSARY CROSSINGS.
10. THE ONSITE COMMON SEPTIC SYSTEM IS DESIGNED BY OTHERS UNDER SEPARATE COVER. CONTRACTOR SHALL REFER TO THE SEPTIC DESIGN PLANS FOR ADDITIONAL INFORMATION AND DETAILS.
11. THE CONTRACTOR, ON BEHALF OF THE DEVELOPER, SHALL SUBMIT UTILITY AS-BUILT PLANS IN PAPER AND PDF FORMAT INCLUDING SWING TIES FOR SEWER AND WATER TO THE TOWN ENGINEERING DEPARTMENT.
12. THE CONTRACTOR SHALL COORDINATE ALL PROPOSED GAS, ELECTRIC, TELEPHONE, AND CABLE UTILITY WORK WITH THE RESPECTIVE UTILITY COMPANIES THE PROPOSED CONNECTION LOCATIONS AND DETAILS PROVIDED HEREIN ARE FOR REPRESENTATION PURPOSES ONLY. FINAL CONNECTION POINTS AND DETAILS SHALL BE AS DETERMINED AND REQUIRED BY THE UTILITY COMPANIES.
13. TRANSFORMERS AND ASSOCIATED PROTECTIVE BOLLARDS SHALL BE PAINTED DARK GREEN IN COLOR, UNLESS OTHERWISE SPECIFIED BY THE OWNER OR UTILITY COMPANY.
14. DUE TO THE SCALE OF THE SITE WORK DRAWINGS, THE EXACT LOCATION OF UTILITY SERVICES TO THE BUILDING SHALL BE VERIFIED WITH THE BUILDING DRAWINGS.
15. SUITABLE, TEMPORARY PLUGS SHALL BE INSTALLED IN THE OPEN ENDS OF UTILITY SERVICES TO THE BUILDING PRIOR TO BACKFILLING. STUB LOCATIONS SHALL BE MARKED IN THE FIELD SO THAT THEY MAY BE EASILY LOCATED.
16. EXISTING DRAINAGE AND UTILITY RIM ELEVATIONS LOCATED WITHIN THE LIMIT OF WORK TO REMAIN SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH NEW FINISHED GRADE.
17. GUY WIRES SHALL BE INSTALLED AS REQUIRED/DESIGNED BY THE UTILITY COMPANY.
18. ALL SITE DRAINAGE, WATER, AND SEWER WORK OUTSIDE THE BUILDING FOOTPRINT SHALL BE PERFORMED BY A LICENSED DRAIN LAYER.
19. CONTRACTOR TO FIELD VERIFY DEPTH OF EXISTING UTILITIES ALONG THE PATH OF THE PROPOSED UTILITY CONNECTIONS AND NOTIFY ENGINEER IMMEDIATELY IF A CONFLICT EXISTS.
20. EXCAVATION, CONDUIT INSTALLATION AND BACKFILLING FOR ELECTRICAL AND TELEPHONE SERVICES TO BE PERFORMED BY SITE CONTRACTOR.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. THIS SITE IS SUBJECT TO THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY. SITE OPERATORS SHALL CONFORM TO MEET THE CRITERIA FOR A NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.
2. ADAPTATION TO ACTUAL FIELD CONDITIONS MAY WARRANT VARIATIONS FROM WHAT IS SHOWN ON THESE PLANS FOR EROSION CONTROLS IN ORDER TO MAXIMIZE THE EFFECTIVENESS OF THE CONTROLS.
3. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ALL CONSTRUCTION RELATED CONDITIONS OUTLINED IN THE APPROVALS IN ADDITION TO THE ITEMS OUTLINED IN THESE CONSTRUCTION DOCUMENTS. THE SEQUENCING PLANS INCLUDED HEREIN ARE PROVIDED AS A GUIDANCE DOCUMENT TO ASSIST IN THE IMPLEMENTATION OF EROSION/SEDIMENTATION CONTROLS AND STABILIZATION OF THE SITE. ADAPTATION TO ACTUAL FIELD CONDITIONS MAY WARRANT VARIATIONS FROM WHAT IS SHOWN ON THESE PLANS TO MAXIMIZE THE EFFECTIVENESS OF THE CONTROLS.
4. THE CONTRACTOR SHALL ADHERE TO PROCEDURES OUTLINED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH THE EPA NPDES CONSTRUCTION GENERAL PERMIT REQUIREMENTS.
5. IN ACCORDANCE WITH THE NPDES CONSTRUCTION GENERAL PERMIT AND ASSOCIATED STORMWATER POLLUTION PREVENTION PLAN (SWPPP), EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST EVERY 14 DAYS AND WITHIN 24 HOURS OF A 0.25" STORM. REPORTS DOCUMENTING THE RESULTS OF EACH INSPECTION AND ANY CORRECTIVE ACTIONS SHALL BE KEPT ON-FILE WITH THE SWPPP.
6. PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES WILL INCLUDE WATTLES, CRUSHED STONE, RIPRAP, LOAM/SEED, HYDROSEEDING, MULCHING, EROSION CONTROL MATTING, DIVERSION BERMS, AND SEDIMENTATION BASINS AS FURTHER DESCRIBED HEREIN.
7. WATTLES WILL BE USED FOR THE PERIMETER EROSION CONTROL BARRIER AS SHOWN ON THIS PLAN AND ELSEWHERE AS CONDITIONS WARRANT. SILT SACKS WILL BE USED TO PROTECT OFFLINE CATCH BASINS (PRIOR TO BINDER) AND ELSEWHERE AS CONDITIONS WARRANT. THE CONTRACTOR WILL BE REQUIRED TO KEEP A REASONABLE STOCK OF WATTLES ON SITE TO BE ABLE TO SUPPLEMENT OR MAKE REPAIRS AS NECESSARY.
8. LOAMING AND SEEDING OR HYDROSEEDING WILL BE USED AS A PERMANENT STABILIZATION MEASURE FOR ALL REVEGETATED AREAS OF THE SITE.
9. ALL PROPOSED SLOPES 3:1 AND STEEPER SHALL BE STABILIZED WITH AN EROSION CONTROL MATTING AND SHALL BE HYDROSEEDED.
10. MULCHING MAY BE USED TO REINFORCE SEEDED AREAS WHERE EROSION CONTROL MATTING IS NOT REQUIRED OR WARRANTED, BUT WHERE SOME PROTECTION IS WARRANTED. MULCHING MAY ALSO BE USED TO STABILIZE AREAS WHERE CONSTRUCTION ACTIVITIES WILL TEMPORARILY CEASE FOR MORE THAN 14 DAYS.
11. SEDIMENTATION BASINS SHALL BE USED THROUGHOUT THE SITE TO TREAT RUNOFF. DIVERSION BERMS SHALL BE UTILIZED TO DIVERT UNTREATED STORMWATER TO THE SEDIMENTATION BASINS. SEDIMENTATION BASINS AND DIVERSION BERMS SHALL BE ADDED, REMOVED, AND ADJUSTED AS THE SITE EVOLVES THROUGHOUT THE CONSTRUCTION PROCESS.
12. UPON CONVERTING ANY TEMPORARY SEDIMENTATION BASINS TO PERMANENT DETENTION/INFILTRATION BASINS, THE BASINS SHALL BE CLEANED OF ALL ACCUMULATED SEDIMENT TO ENSURE THAT THE VOLUMETRIC AND INFILTRATION DESIGN CAPACITIES ARE MAINTAINED.
13. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, IN ACCORDANCE WITH THE NPDES CONSTRUCTION GENERAL PERMIT. STABILIZATION MEASURES SHALL BE IMPLEMENTED NOT MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS IN WHICH CASE STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
14. EROSION AND SEDIMENTATION CONTROLS WILL BE REQUIRED TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT TO ENSURE THAT THEY FUNCTION AS INTENDED. DEFICIENCIES WILL BE CORRECTED BY CLEANING, REPAIRING, OR REPLACING THE AFFECTED CONTROL(S) OR PORTION(S) THEREOF TO REESTABLISH PROPER FUNCTIONING AS QUICKLY AS POSSIBLE. SEDIMENTATION CONTROLS WILL BE REQUIRED TO BE CLEANED OR REPLACED WHEN THE ACCUMULATED SEDIMENT EXCEEDS 50 PERCENT OF THE DESIGN CAPACITY OF THE CONTROL. ANY OFF-SITE ACCUMULATIONS OF SEDIMENT WILL BE REQUIRED TO BE REMOVED AS QUICKLY AS POSSIBLE IN A MANNER THAT MINIMIZES ADDITIONAL DISTURBANCE.
15. EROSION CONTROL BARRIER (WHERE SHOWN) REPRESENTS THE LIMIT OF WORK. WHERE NO EROSION CONTROL BARRIER IS REQUIRED (SUCH AS UPSLOPE AREAS), A LIMIT OF WORK LINE HAS BEEN SHOWN. WHERE NO EROSION CONTROL BARRIER IS REQUIRED, THE LIMIT OF WORK SHALL BE DELINEATED IN THE FIELD BY A VISUAL BARRIER SUCH AS TEMPORARY CONSTRUCTION FENCING IN ORDER TO KEEP CONSTRUCTION ACTIVITIES OUT OF THOSE AREAS.
16. THE PROPOSED ONSITE DRAINAGE SYSTEM SHALL BE INSTALLED AS SOON AS PRACTICABLE. ALL EXISTING AND PROPOSED CATCH BASIN INLETS SHALL BE PROTECTED WITH A SILT SACK (SEE DETAIL).
17. DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT BASIN OR OTHER SETTLING AREA TO ALLOW FOR SUFFICIENT SETTLING PRIOR TO DISCHARGE.
18. DUST SHALL BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO LOCAL, STATE AND FEDERAL STANDARDS.
19. ABUTTING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS FROM THIS PROJECT AT ALL TIMES. WORK ON ABUTTING PROPERTY SHALL REQUIRE WRITTEN AUTHORIZATION FROM THE OWNER PRIOR TO ANY LAND DISTURBANCE.
20. THE EROSION CONTROL MEASURES ILLUSTRATED IN THIS PLAN SET SHALL BE THE MINIMUM REQUIRED CONTROLS IMPLEMENTED.
21. STOCKPILING LOCATIONS SHALL BE FIELD DETERMINED AND SHALL NOT LIE WITHIN THE 100-FOOT WETLAND BUFFER. DIVERSION BERMS AND EROSION CONTROL BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES IN ACCORDANCE WITH THE PLAN AND DETAILS.
22. ESTIMATED STABILIZED AREA AS SHOWN ON THE SEQUENCING PLANS PROVIDED HEREIN REPRESENTS THE APPROXIMATE AREA THAT WILL BE STABILIZED (EITHER TEMPORARILY OR PERMANENTLY) BY THE END OF THE CONSTRUCTION SEQUENCE.
23. CRUSHED STONE AND/OR RIPRAP SHALL BE USED TO CONSTRUCT THE TRACKING PAD, CUT SLOPE TREATMENT AREAS, CHECK DAMS, SEDIMENTATION BASIN OUTLET PROTECTION, AND ELSEWHERE AS CONDITIONS WARRANT. THE CONTRACTOR WILL BE REQUIRED TO KEEP A REASONABLE STOCK OF CRUSHED STONE AND RIPRAP ON SITE TO BE ABLE TO SUPPLEMENT OR MAKE REPAIRS AS NECESSARY.
24. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT BASIN TO ALLOW FOR SUFFICIENT SETTLING PRIOR TO DISCHARGE.
25. PROVIDE AND STORE AUXILIARY DEWATERING EQUIPMENT ON THE SITE IN THE EVENT OF BREAKDOWN. PROVIDE NON-WOVEN FILTER FABRIC SHALL BE SPECIFICALLY DESIGNED FOR SUBSURFACE DRAINAGE APPLICATIONS.
26. WATER FROM THE TRENCHES AND EXCAVATIONS SHALL BE DISPOSED OF IN SUCH A MANNER AS TO AVOID PUBLIC NUISANCE, INJURY TO PUBLIC HEALTH OR THE ENVIRONMENT, OR DAMAGE TO PUBLIC OR PRIVATE PROPERTY, OR DAMAGE TO THE WORK COMPLETED OR IN PROGRESS. DO NOT DISCHARGE WATER INTO ANY SANITARY SEWER SYSTEM. SILTATION BARRIERS SHALL BE UTILIZED IF NECESSARY.
27. WATER FROM TRENCHES AND EXCAVATIONS SHALL NOT BE DISCHARGED DIRECTLY TO STORM DRAIN SYSTEMS. PROPER TREATMENT TO A SEDIMENTATION AREA IS TO TAKE PLACE PRIOR TO DISCHARGE TO ANY DRAINAGE SYSTEMS.
28. THE CONTRACTOR SHALL REPAIR ANY DAMAGE RESULTING FROM THE FAILURE OF THE DEWATERING OPERATIONS OR FROM FAILURE TO MAINTAIN ALL AREAS OF WORK IN SUITABLE DRY CONDITION.
29. DO NOT EXCAVATE UNTIL THE DEWATERING SYSTEM IS OPERATIONAL AND THE EXCAVATION MAY PROCEED WITHOUT DISTURBANCE TO THE FINAL SUBGRADE.
30. UNLESS OTHERWISE SPECIFIED, CONTINUE DEWATERING UNINTERRUPTED UNTIL THE STRUCTURES, PIPES. AND APPURTENANCES TO BE BUILT HAVE BEEN PROPERLY INSTALLED. WHERE SUBGRADE MATERIALS ARE UNABLE TO MEET SUBGRADE DENSITY REQUIREMENTS DUE TO IMPROPER DEWATERING TECHNIQUES, REMOVE AND REPLACE THE MATERIALS AS DIRECTED BY THE ENGINEER.
31. THE PROPOSED ONSITE DRAINAGE SYSTEM SHALL BE INSTALLED AS SOON AS PRACTICABLE. ALL EXISTING AND PROPOSED CATCH BASIN INLETS SHALL BE PROTECTED WITH A SILT SACK (SEE DETAIL).
32. BMPS TO BE USED FOR INFILTRATION AFTER CONSTRUCTION SHALL NOT BE USED AS BMPS DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE BOARD. MANY INFILTRATION TECHNOLOGIES ARE NOT DESIGNED TO HANDLE THE HIGH CONCENTRATIONS OF SEDIMENTS TYPICALLY FOUND IN CONSTRUCTION RUNOFF, AND THUS MUST BE PROTECTED FROM CONSTRUCTION RELATED SEDIMENT LOADINGS.
33. ABUTTING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS FROM THIS PROJECT AT ALL TIMES. WORK ON ABUTTING PROPERTY SHALL REQUIRE WRITTEN AUTHORIZATION FROM THE OWNER PRIOR TO ANY LAND DISTURBANCE.
34. THE EROSION CONTROL MEASURES ILLUSTRATED IN THIS PLAN SET SHALL BE THE MINIMUM REQUIRED CONTROLS IMPLEMENTED. THE CONTRACTOR SHALL KEEP ADDITIONAL EROSION CONTROL MEASURES SUCH AS WATTLES ONSITE AT ALL TIMES TO RELOCATE OR ADD SUCH MEASURES AS THE PROJECT EVOLVES OR AN UNFORESEEN CONDITION OCCURS.
35. STOCKPILES SHALL BE LOCATED ONSITE OUTSIDE OF ALL WETLAND RESOURCE AREA BUFFER ZONES IF PRESENT ON SITE. EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE FOOT OF THE STOCKPILE AND AND SHALL BE COVERED TO PREVENT WASHOUT.
36. NO EARTH IS ANTICIPATED TO BE REMOVED OFFSITE IN CONJUNCTION WITH CONSTRUCTION.

WAIVER REQUESTS

THE APPLICANT REQUESTS A WAIVER FROM THE FOLLOWING SUBDIVISION DESIGN STANDARD REGULATIONS.

1. REDUCE AREA AND FRONTAGE FROM THE REQUIRED AGRICULTURAL RESIDENTIAL ZONING DIMENSIONAL REGULATIONS OF 40,000 SQUARE FEET AND 125 LINEAL FOOT, RESPECTIVELY.
2. SECTION 117-18.B.13 – TREES OVER 6" IN DIAMETER – HUNDREDS OF TREES OVER 6" ONSITE, WAIVER REQUESTED
3. SECTION 117-18.C1-2 – ENVIRONMENTAL ANALYSIS – DUE TO THE SMALL SCALE OF THE PROJECT, WAIVER REQUESTED
4. SECTION 117-23 – GENERAL LAYOUT AND DIMENSIONS – SEEKING REDUCTION OF THE FOLLOWING TO REDUCE DISTURBED AREA
    - 4.1. R.O.W WIDTH – 53 FEET REQUIRED, 40 FEET PROPOSED
    - 4.2. CUL-DE-SAC – 165 FEET R.O.W. DIAMETER & 140 FEET OUTSIDE PAVEMENT DIAMETER, 126 FEET AND 120 FEET PROVIDED, RESPECTIVELY
5. SECTION 117-34.A.1 – UTILITIES – PROPOSING HDPE PIPING INSTEAD OF REINFORCED CONCRETE PIPE
6. SECTION 117-35 – SIDEWALKS/BIKEWAYS – LACK OF SIDEWALKS ON ADJACENT STREETS, ONSITE TRAILS PRESERVED, WAIVER REQUESTED

LEGEND

EXISTING	PROPOSED	DESCRIPTION
— — — —		PROPERTY LINE
□	SINGLE GRATE ▦ ▦ DOUBLE GRATE	CATCH BASIN
Ⓓ	Ⓓ	DRAIN MANHOLE
Ⓢ	Ⓢ	SEWER MANHOLE
— D —	— D —	DRAIN PIPE
GM — G —	— G —	GAS LINE
— OHW —	— OH —	OVERHEAD WIRES
— ET&C —	— ET&C —	UNDERGROUND WIRES
— S —	— S —	SEWER LINE
⊕ WG — W —	— W — W —	WATER LINE
— FM —	— FM —	FORCE MAIN
	— FD —	FOUNDATION DRAIN
	— RD —	ROOF DRAIN
— —498— —	— — 498 — — —	MINOR CONTOUR
—500—	— 500 —	INDEX CONTOUR
—x— —□—	—□—□—□—	FENCE
		CONSTRUCTION FENCE
		GUIDERAIL
⬭⬭⬭⬭⬭	⬭⬭⬭⬭⬭	STONE WALL
		ECON: WATTLES + SILT FENCE
		ECON: WATTLES ONLY
⌒⌒⌒	⌒⌒⌒	TREELINE
▨	▭	BUILDING
	▒	CRUSHED STONE
	▒	RIPRAP
	▒	CONSTRUCTION ENTRANCE
	▨	MILL & OVERLAY
HYD	●	HYDRANT
—○—	—○—	SIGN
☼	◉	SITE/STREET LIGHT
	◎	BOLLARD LIGHT
—●—	—●—	UTILITY POLE
	▦	OUTLET CONTROL STRUCTURE
	▷	FLARED END SECTION
◪ TP-1		TEST PIT LOCATION
	TC 459.00 BC 458.00	TOP/BOTTOM CURB ELEVATION
300.5x	473.10	SPOT ELEVATION
	Ⓧ	NUMBER OF PARKING SPACES
	X'R	CURB RADIUS
	♿	ACCESSIBLE MARKINGS

GENERAL ABBREVIATIONS

ASSESSORS PARCEL	A.P.
BOTTOM OF CURB	BC
BITUMUNOUS CONCRETE	BIT. CONC
BEST MANAGEMENT PRACTICE	BMP
BORDERING VEGETATED WETLAND	BVW
CATCH BASIN	CB
CAPE COD BERM	CCB
CELLAR FLOOR	CF
CENTERLINE	CL
CLEANOUT	CO
CONCRETE SURFACE	CONC.
DRAIN MANHOLE	DMH
DIRECTION SIGN	DS
EMERGENCY SPILLWAY	ES
FLARED END SECTION	FES
FOOTING DRAIN	FD
GAS TRAP	GT
HIGH DENSITY POLYETHYLENE	HDPE
HIGH POINT	HP
INVERT ELEVATION	I=
IRON PIPE/PIN	IP
LINEAL FEET	LF
LOW POINT	LP
LIMIT OF WORK	LOW
MATCH EXISTING	ME
NOW OR FORMERLY	N/F
NYLOPLAST DRAINAGE STRUCTURE	NP
OUTLET CONTROL STRUCTURE	OCS
PRECAST CONCRETE CURB	PCC
RADIUS	X'R
RIM ELEVATION	R=
ROOF DRAIN	RD
REMOVE	REM
SLOPED GRANITE CURB	SGC
SPEED LIMIT	SL
SUBSURFACE INFILTRATION SYSTEM	SIS
TOP OF CURB	TC
TOP OF FOUNDATION	TF
TYPICAL	TYP.
UNDERDRAIN	UD
UTILITY POLE	UP
WATER QUALITY UNIT	WQU
VERTICAL GRANITE CURB	VGC

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
2		
3		
4		
5		
6		
7		
8		
9		
10		

PLANNING BOARD:

____

____

____

____

____

____

I, ________________ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON ______________ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE ________ TOWN CLERK ____________

SEAL:

PHILIP R. HENRY
CIVIL
No. 48547

PHILIP R. HENRY, P.E.

PREPARED BY:

CIVIL DESIGN GROUP, LLC

21 HIGH STREET, SUITE 207
NORTH ANDOVER, MA 01845
www.cdgengineering.com
p: 978-794-5400 f: 978-965-3971

PREPARED FOR:

ZENDKO, LLC

15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

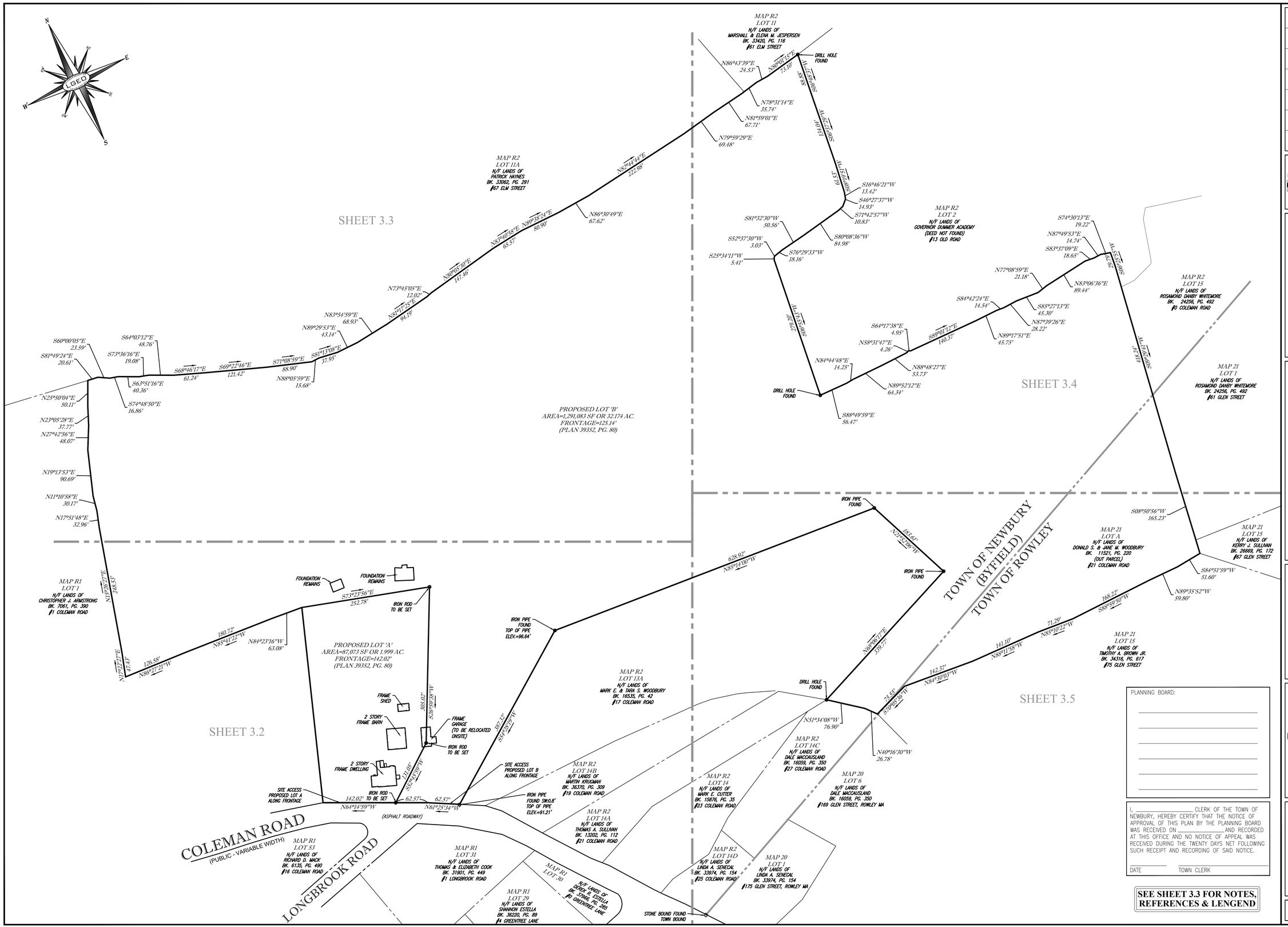
SCALE:

SHEET:

LEGEND & NOTES

2

DATE: 01/08/2021



REV	DATE	COMMENT
1	8/5/2020	REVISED TO SHOW TEST PIT LOCATIONS
2	1/25/2021	REVISED TO REFLECT ANR PLAN & TOWN COMMENTS

SCALE:

80 0 40 80 160

GRAPHIC SCALE IN FEET

SEAL:

THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

COMMONWEALTH OF MASSACHUSETTS
JOSEPH I LEVESQUE III
NO. 53840
REGISTERED
PROFESSIONAL LAND SURVEYOR

JOSEPH I LEVESQUE III, PLS
MASS. PROFESSIONAL LAND SURVEYOR #53840

PREPARED FOR:

ZENDKO, LLC
4 HIGH STREET
NORTH ANDOVER, MA 01845

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

CIVIL ENGINEER:

CIVIL DESIGN GROUP, LLC

21 HIGH STREET, SUITE 207
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p: 978-794-5400 f: 978-965-3971

SURVEYED BY:

LEVESQUE GEOMATICS INC

43 GLENDALE ROAD
STURBRIDGE, MA 01518
www.l-geo.net
p: 508-868-0041

PLANNING BOARD:

_____
_____
_____
_____
_____
_____

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

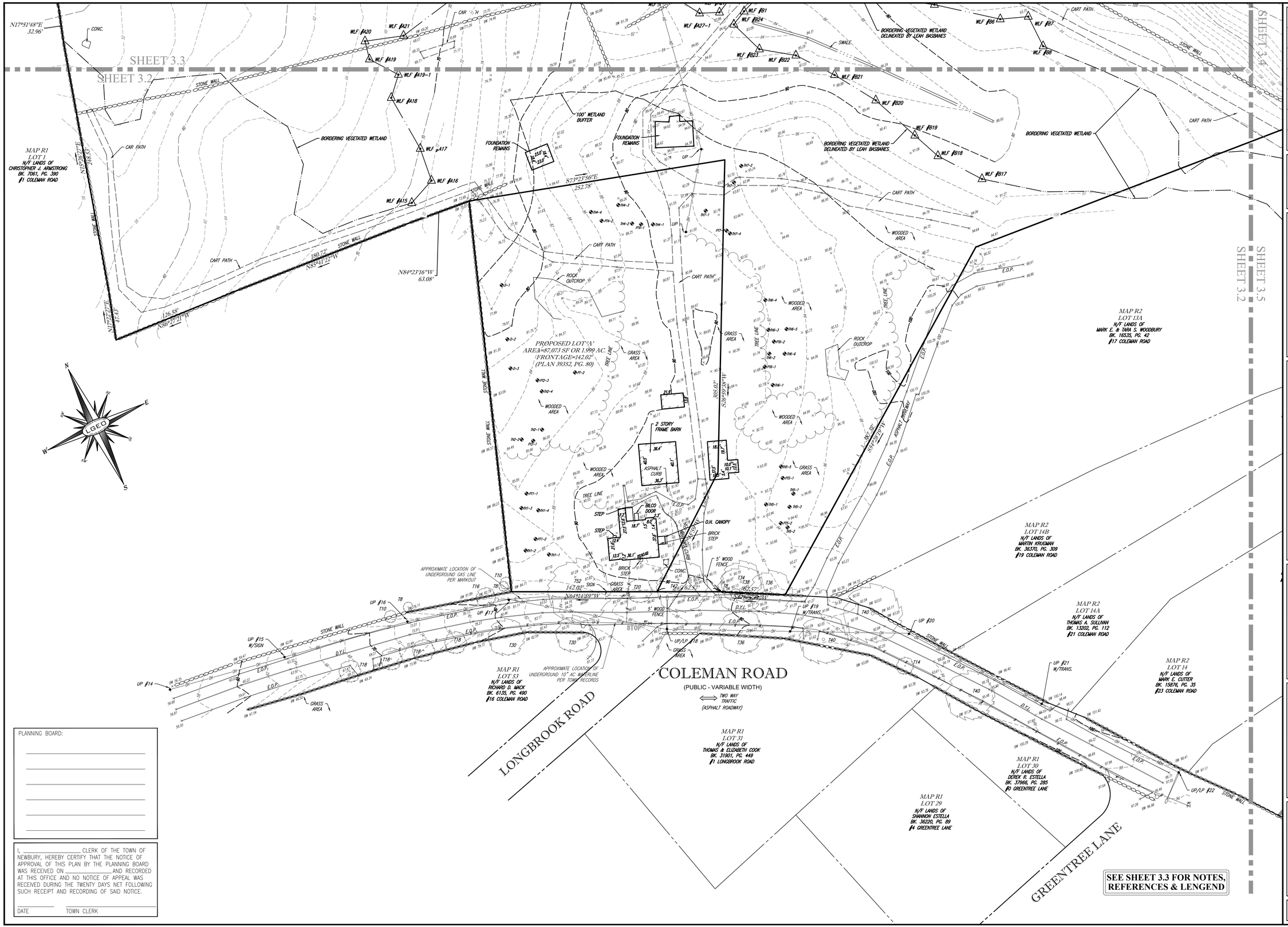
SEE SHEET 3.3 FOR NOTES, REFERENCES & LENGEND

SHEET:

KEY MAP

3.1

DATE: 5/04/2020
PROJECT NO: 19025



REV	DATE	COMMENT
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SCALE:

40 0 20 40 80

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH I LEVESQUE III
NO. 53840
REGISTERED
PROFESSIONAL LAND SURVEYOR

JOSEPH I LEVESQUE III, PLS
MASS. PROFESSIONAL LAND SURVEYOR #53840

PREPARED FOR:

ZENDKO, LLC
4 HIGH STREET
NORTH ANDOVER, MA 01845

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

PREPARED BY:

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43 GLENDALE ROAD
STURBRIDGE, MA 01518
www.l-geo.net
p: 508-868-0041

SHEET:

EXISTING CONDITIONS SURVEY

3.2

DATE: 5/04/2020
PROJECT NO: 19025

PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

NOTES:

1. PROPERTY KNOWN AS MAP R2, LOTS 12 & 13 IN THE TOWN OF NEWBURY AND MAP 21, LOT A IN THE TOWN OF ROWLEY AS SHOWN ON THE GIS MAPS OF THE TOWN OF SAID TOWNS, ESSEX COUNTY, COMMONWEALTH OF MASSACHUSETTS.
2. AREA = 1,488,597 SF OR 34.173 AC.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. LEVESQUE GEOMATICS INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
4. THE BEARING BASIS OF THIS SURVEY IS BASED ON THE NORTH AMERICAN DATUM OF 1983 MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM.
5. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY LEVESQUE GEOMATICS INC AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
6. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
7. THE WETLAND DELINEATION LINE WAS PLACED IN THE FIELD BY LEAH BASBANES MARCH 2020 AND FIELD LOCATED BY LEVESQUE GEOMATICS INC. APRIL 2020.
8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON RTK GPS OBSERVATIONS ON THE KEYSTONE REAL TIME NETWORK AND ARE SUBJECT TO LOCAL BENCHMARK ADJUSTMENT.
9. THE PROPERTY SHOWN IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON FLOOD INSURANCE RATE MAP 25009C0256G WITH AN EFFECTIVE DATE OF 7/16/2014.
10. THE BENCHMARKS SHOWN ON SHEET 3.1' ARE TO BE VERIFIED BY THIS SURVEYOR PRIOR TO ANY CONSTRUCTION OR PLANNED ACTIVITIES.

PLAN REFERENCES:

PLAN BOOK /	PLAN #
117	42
167	46
176	21
199	41
217	62
234	94
256	1
345	70
448	1969
39352	80

OWNER INFO:

ZENDKO, LLC
4 HIGH STREET
NORTH ANDOVER, MASS. 01845
BK. 38735, PAGE 125

LEGEND

124	EXISTING CONTOUR
125	EXISTING CONTOUR
× 123.45	EXISTING SPOT ELEVATION
×170.9	AERIAL SURVEY SPOT ELEVATION
× TC 123.45	EXISTING TOP OF CURB ELEVATION
× G 122.95	EXISTING GUTTER ELEVATION
× TW 123.45	EXISTING TOP OF WALL ELEVATION
× BW 122.95	EXISTING BOTTOM OF WALL ELEVATION
× FF 123.45	EXISTING FINISHED FLOOR ELEVATION
× DS 123.45	EXISTING DOOR SILL ELEVATION
	HYDRANT
WV	WATER VALVE
GV	GAS VALVE
EM	ELECTRIC METER
G	APPROX. LOC. UNDERGROUND GAS LINE
OH	OVERHEAD WIRES
W	APPROX. LOC. UNDERGROUND WATER LINE
UP	UTILITY POLE
GW	GUY WIRE
UPLP	UTILITY POLE/LIGHT POLE
	SIGN
	MAIL BOX
LSA	LANDSCAPED AREA
EOP	EDGE OF PAVEMENT
CB	CATCH BASIN OR INLET
SMH	SANITARY/SEWER MANHOLE
	DELINEATION FLAG
TF	DECIDUOUS TREE & TRUNK SIZE

PLANNING BOARD:

_____

_____

_____

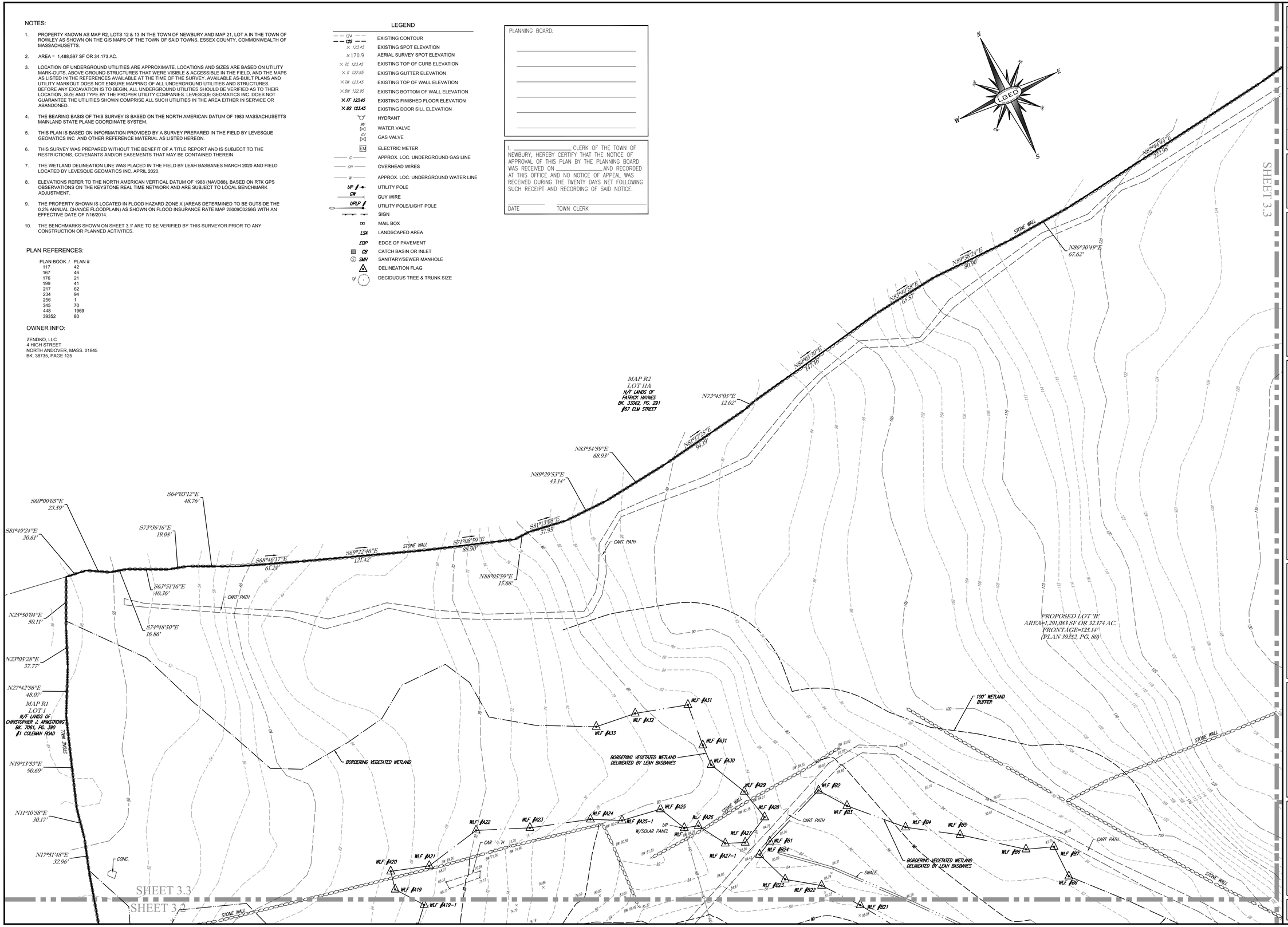
_____

_____

_____

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

_____ _____
DATE TOWN CLERK



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COMMONWEALTH OF MASSACHUSETTS
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REGISTERED
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PREPARED FOR:

ZENDKO, LLC
4 HIGH STREET
NORTH ANDOVER, MA 01845

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY,
MASSACHUSETTS 01922

PREPARED BY:

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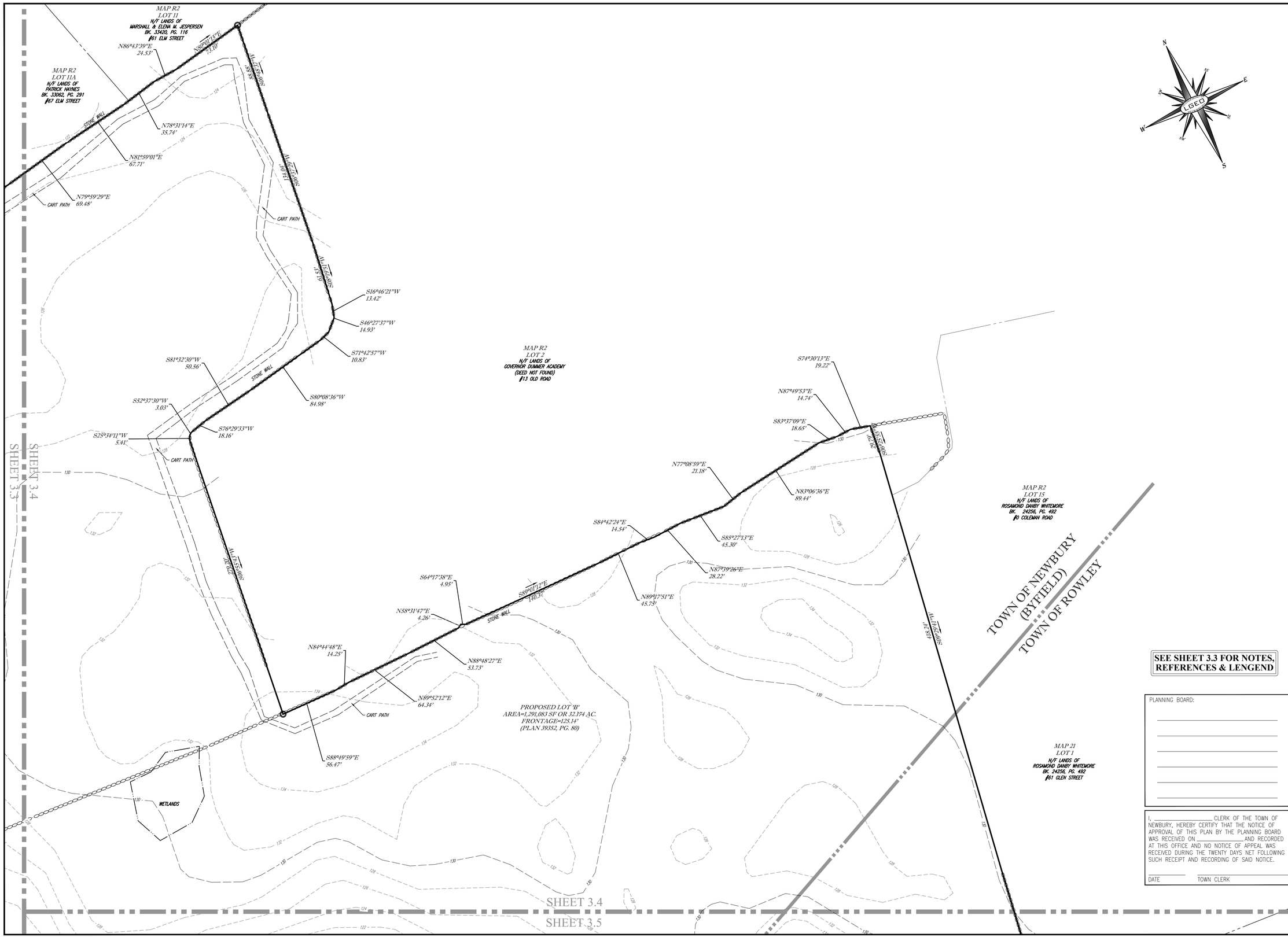
STURBRIDGE, MA 01518
www.l-geo.net
p: 508-868-0041

SHEET:

EXISTING CONDITIONS SURVEY

3.3

DATE: 5/4/2020
PROJECT NO: 19025



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OPEN SPACE RESIDENTIAL DEVELOPMENT
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SEE SHEET 3.3 FOR NOTES, REFERENCES & LENGEND

PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

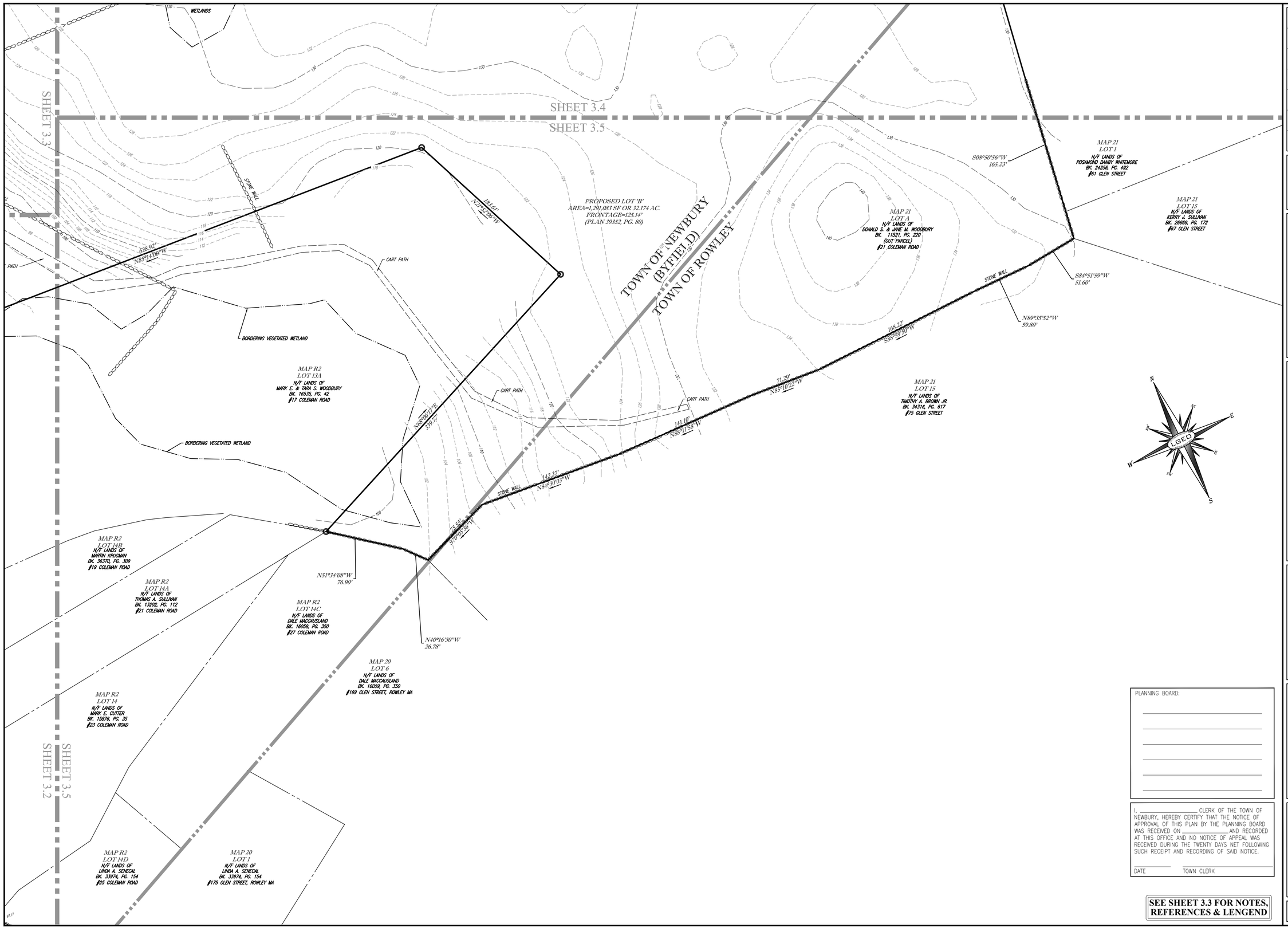
DATE TOWN CLERK

SHEET:

EXISTING CONDITIONS SURVEY

3.4

DATE: 5/4/2020
PROJECT NO: 19025



REV	DATE	COMMENT
1	8/5/2020	REVISED TO SHOW TEST PIT LOCATIONS
2	1/25/2021	REVISED TO REFLECT ANR PLAN & TOWN COMMENTS

SCALE:

40 0 20 40 80

GRAPHIC SCALE IN FEET

SEAL:

THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

COMMONWEALTH OF MASSACHUSETTS
JOSEPH I LEVESQUE III
NO. 53840
REGISTERED PROFESSIONAL LAND SURVEYOR

JOSEPH I LEVESQUE III, PLS
MASS. PROFESSIONAL LAND SURVEYOR #53840

PREPARED FOR:

ZENDKO, LLC
4 HIGH STREET
NORTH ANDOVER, MA 01845

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY,
MASSACHUSETTS 01922

PREPARED BY:

CIVIL DESIGN GROUP, LLC

21 HIGH STREET, SUITE 207
NORTH ANDOVER, MA 01845
www.cdgengineering.com
p: 978-794-5400 f: 978-965-3971

SURVEYED BY:

LEVESQUE GEOMATICS INC

43 GLENDALE ROAD
STURBRIDGE, MA 01518
www.l-geo.net
p: 508-868-0041

PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

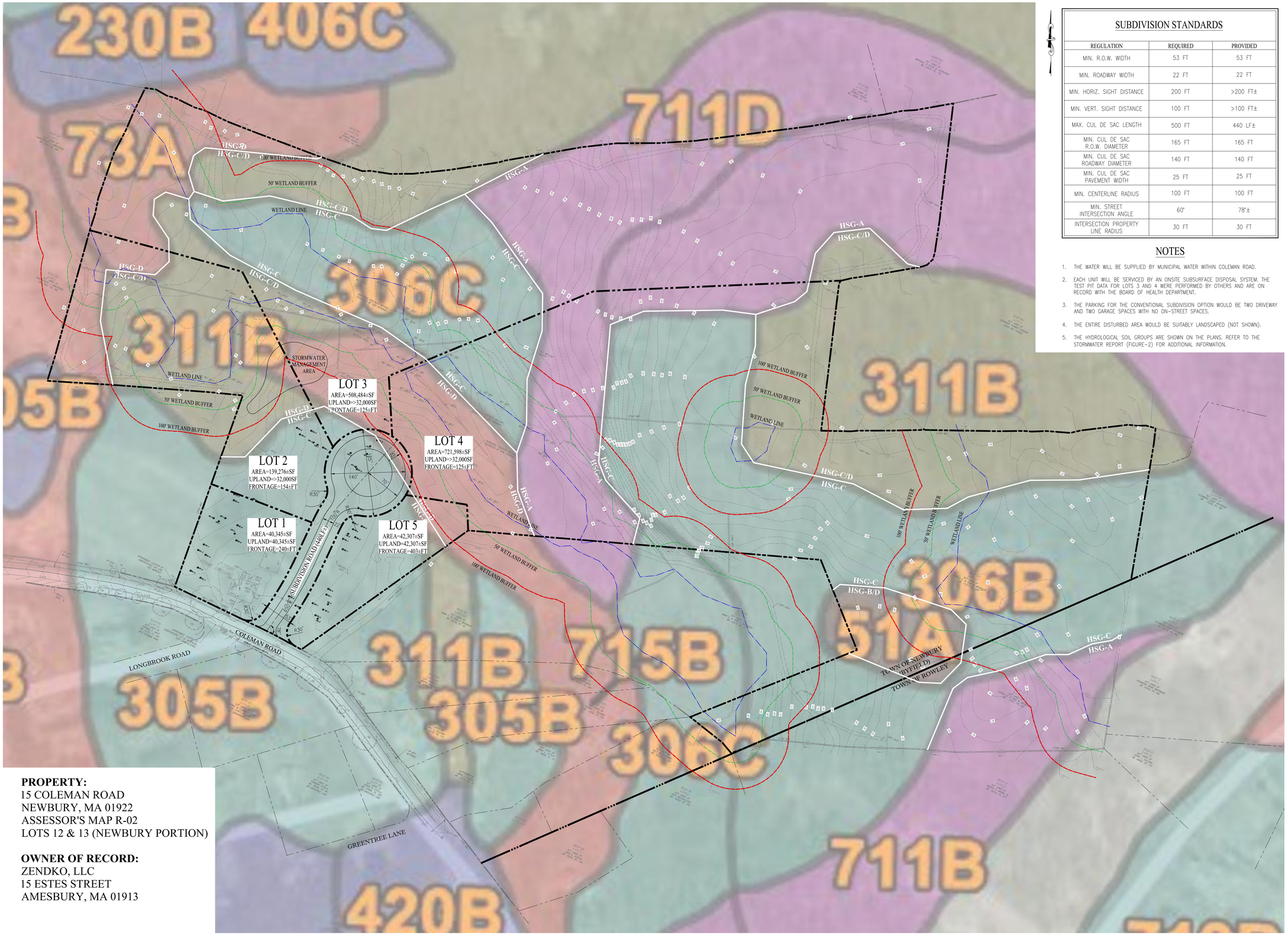
SEE SHEET 3.3 FOR NOTES, REFERENCES & LENGEND

SHEET:

EXISTING CONDITIONS SURVEY

3.5

DATE: 5/4/2020
PROJECT NO: 19025



PROPERTY:
15 COLEMAN ROAD
NEWBURY, MA 01922
ASSESSOR'S MAP R-02
LOTS 12 & 13 (NEWBURY PORTION)

OWNER OF RECORD:
ZENDKO, LLC
15 ESTES STREET
AMESBURY, MA 01913

SUBDIVISION STANDARDS

REGULATION	REQUIRED	PROVIDED
MIN. R.O.W. WIDTH	53 FT	53 FT
MIN. ROADWAY WIDTH	22 FT	22 FT
MIN. HORIZ. SIGHT DISTANCE	200 FT	>200 FT±
MIN. VERT. SIGHT DISTANCE	100 FT	>100 FT±
MAX. CUL DE SAC LENGTH	500 FT	440 LF±
MIN. CUL DE SAC R.O.W. DIAMETER	165 FT	165 FT
MIN. CUL DE SAC ROADWAY DIAMETER	140 FT	140 FT
MIN. CUL DE SAC PAVEMENT WIDTH	25 FT	25 FT
MIN. CENTERLINE RADIUS	100 FT	100 FT
MIN. STREET INTERSECTION ANGLE	60°	78°±
INTERSECTION PROPERTY LINE RADIUS	30 FT	30 FT

NOTES

1. THE WATER WILL BE SUPPLIED BY MUNICIPAL WATER WITHIN COLEMAN ROAD.
2. EACH UNIT WILL BE SERVICED BY AN ONSITE SUBSURFACE DISPOSAL SYSTEM. THE TEST PIT DATA FOR LOTS 3 AND 4 WERE PERFORMED BY OTHERS AND ARE ON RECORD WITH THE BOARD OF HEALTH DEPARTMENT.
3. THE PARKING FOR THE CONVENTIONAL SUBDIVISION OPTION WOULD BE TWO DRIVEWAY AND TWO GARAGE SPACES WITH NO ON-STREET SPACES.
4. THE ENTIRE DISTURBED AREA WOULD BE SUITABLY LANDSCAPED (NOT SHOWN).
5. THE HYDROLOGICAL SOIL GROUPS ARE SHOWN ON THE PLANS. REFER TO THE STORMWATER REPORT (FIGURE-2) FOR ADDITIONAL INFORMATION.

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
2		
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PLANNING BOARD:

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DATE TOWN CLERK

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

PHILIP R. HENRY, P.E.

PREPARED BY:
CIVIL DESIGN GROUP, LLC
21 HIGH STREET, SUITE 207
NORTH ANDOVER, MA 01845
www.cdgengineering.com
p: 978-794-5400 f: 978-965-3971

PREPARED FOR:
ZENDKO, LLC
15 ESTES STREET
AMESBURY, MA 01913

PROJECT:
OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:
80 0 40 80 160
GRAPHIC SCALE IN FEET

SHEET:
YIELD PLAN
4

DATE: 01/08/2021

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
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DATE TOWN CLERK

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COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

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PREPARED FOR:

ZENDKO, LLC
15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:
200 0 100 200 400
GRAPHIC SCALE IN FEET

SHEET:

SITE CONTEXT MAP

5

DATE: 01/08/2021

SIGHT DISTANCE NOTE:
THE REQUIRED SIGHT DISTANCE FOR A 25 MPH ROADWAY (COLEMAN ROAD) IS 155 FEET. THE PROPOSED DRIVEWAY LOCATION PROVIDES APPROXIMATELY 290 FEET LOOKING WEST AND 390 FEET LOOKING EAST, WHICH WOULD SATISFY ROADWAY SPEEDS UP TO 35 MPH. THE MEASURED SIGHT DISTANCE ALSO CONSIDERED THE VERTICAL ROADWAY CHANGES.

LAND COVERAGE CALCULATIONS

TOTAL AREA: 31.69± ACRES

COVER	EXISTING	%	PROPOSED	%
BUILDING	0.10± AC	>1%	0.46± AC	1%
PAVEMENT/CONCRETE	0.07± AC	>1%	0.53± AC	2%
NON-DESIGNATED/DEVELOPED UPLAND OPEN SPACE	25.01± AC	79%	3.52± AC	11%
DESIGNATED UPLAND OPEN SPACE	0.00 AC	0%	20.67± AC*	65%
WETLAND	6.51± AC	21%	6.51± AC*	21%
TOTAL	31.69± AC	100%	31.69± AC	100%

* COMPRISES OPEN SPACE LOT 8 OF 27.18± ACRES

THERE IS CURRENTLY A TOTAL OF 25.18± ACRES OF UPLAND ON THE TRACT OF LAND, WHEREBY 50%, OR 12.6± ACRES, OF WHICH IS REQUIRED TO BE DESIGNATED OPEN SPACE. OPEN SPACE LOT 8 INCLUDES 20.67± ACRES OF UPLAND OR 65% OF THE PROJECT TRACT, THEREBY SATISFYING THE OPEN SPACE REQUIREMENT.

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
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PLANNING BOARD:

_____
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I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE _____ TOWN CLERK _____

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COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
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PREPARED FOR:

ZENDKO, LLC

15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

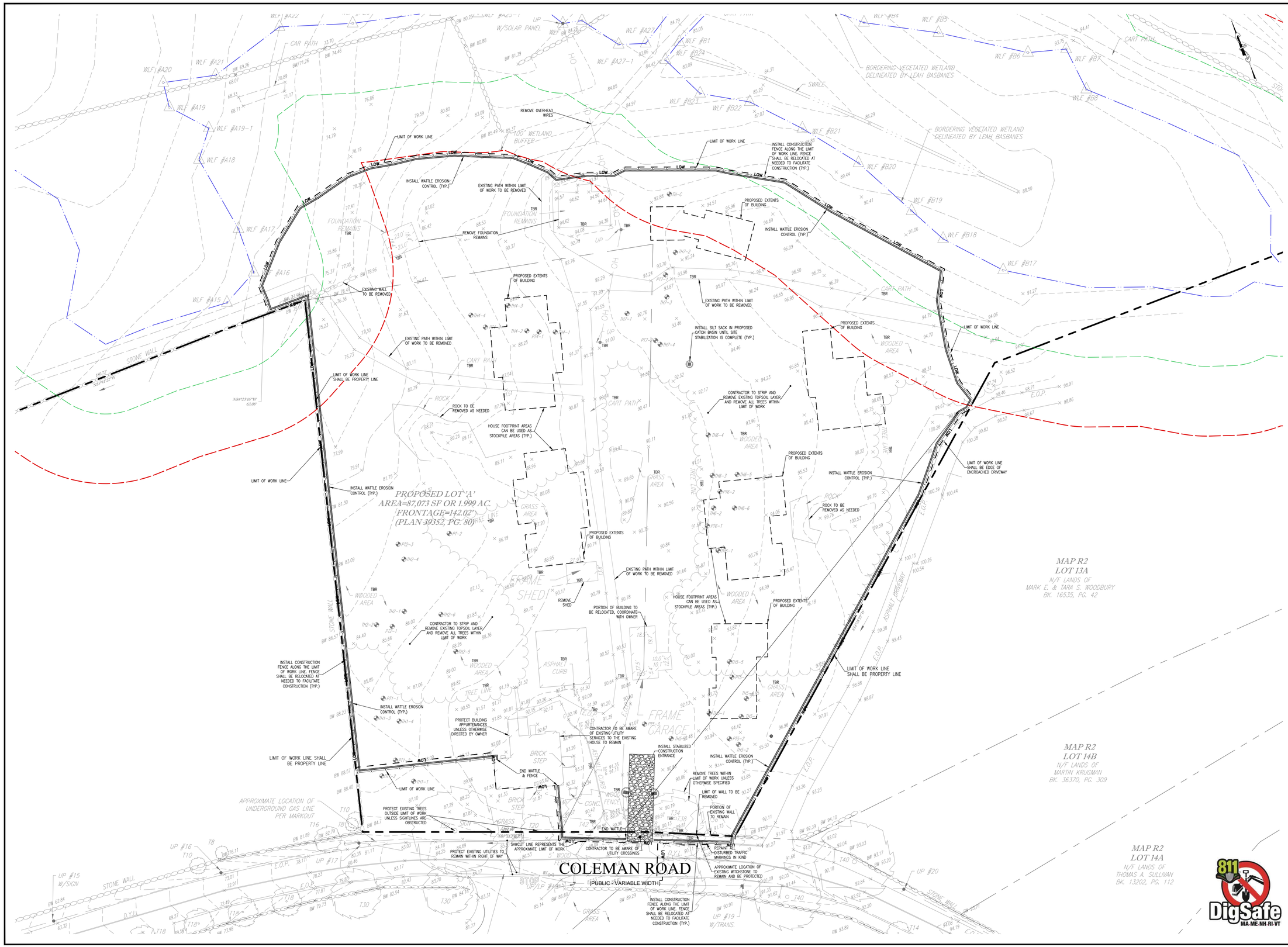
SCALE:
80 0 40 80 160
GRAPHIC SCALE IN FEET

SHEET:

OVERALL LAYOUT & OPEN SPACE PLAN

6

DATE: 01/08/2021



NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

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PLANNING BOARD:

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DATE _____ TOWN CLERK _____

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15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:

30 0 15 30 60

GRAPHIC SCALE IN FEET

SHEET:

DEMOLITION & EROSION CONTROL PLAN

7

DATE: 01/08/2021

ZONING INFORMATION

ZONING DISTRICT : AGRICULTURAL RESIDENTIAL (AR) DISTRICT
OVERLAY : OPEN SPACE RESIDENTIAL DEVELOPMENT (OSRD)

REGULATION	REQUIRED (AR)	REQUIRED (OSRD)	PROPOSED
MIN. LOT AREA	40,000 SF (80% UPLAND)	REDUCED AREA PERMITTED (1)	SEE PLANS
MIN. LOT FRONTAGE	125 LF	50 LF	SEE PLANS
MIN. FY SETBACK	20'	20'	SEE PLANS
MIN. SY SETBACK	10'	10'	SEE PLANS
MIN. RY SETBACK	10'	10'	SEE PLANS
MAX. BUILDING HEIGHT	35 FT	35 FT	<35 FT
MIN. OPEN SPACE	NOT SPECIFIED	50% OF UPLAND OF ENTIRE TRACT	65%± 20.7 ACRES

(1) SECTION 97-5.C.10 OF THE TOWN OF NEWBURY ZONING REGULATIONS

SUBDIVISION STANDARDS

REGULATION	REQUIRED	PROVIDED
MIN. R.O.W. WIDTH	53 FT	40 FT*
MIN. ROADWAY WIDTH	22 FT	22 FT
MIN. HORIZ. SIGHT DISTANCE	200 FT	>200 FT±
MIN. VERT. SIGHT DISTANCE	100 FT	>100 FT±
MAX. CUL DE SAC LENGTH	500 FT	420 LF±
MIN. CUL DE SAC R.O.W. DIAMETER	165 FT	126 FT*
MIN. CUL DE SAC ROADWAY DIAMETER	140 FT	120 FT*
MIN. CUL DE SAC PAVEMENT WIDTH	25 FT	30 FT
MIN. CENTERLINE RADIUS	100 FT	135 FT
MIN. STREET INTERSECTION ANGLE	60°	90°±
INTERSECTION PROPERTY LINE RADIUS	30 FT	30 FT

* WAIVER REQUESTED

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
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DATE TOWN CLERK

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

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PREPARED FOR:

ZENDKO, LLC

15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE: 30 0 15 30 60
GRAPHIC SCALE IN FEET

SHEET:

LAYOUT PLAN

8

DATE: 01/08/2021

CATCH BASIN SCHEDULE			
NAME	DIA.	GRATE	INV. (OUT)
CB-1	60"	89.70'	86.70 (12", DMH-1)
CB-2	60"	89.71'	86.70 (12", DMH-1)
CB-3	48"	91.58'	86.00 (12", DMH-3(HS5))

DRAIN MANHOLE SCHEDULE				
NAME	DIA.	RIM	INV. (IN)	INV. (OUT)
DMH-1	48"	90.21	86.60 (8", YD-1) 86.60 (12", CB-1) 86.60 (12", CB-2)	86.50 (12", DMH-2)
DMH-2	48"	93.68	85.80 (12", DMH-1)	85.70 (12", DMH-3(HS5))
DMH-3(HS5)	48"	93.50	84.65 (12", CB-3) 84.65 (12", DMH-2)	84.40 (12", DMH-4)
DMH-4	48"	93.25	84.20 (12", DMH-3(HS5))	84.10 (12", DMH-5)
DMH-5	48"	85.50	82.50 (12", DMH-4)	80.75 (12", SIS#1)

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
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PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:

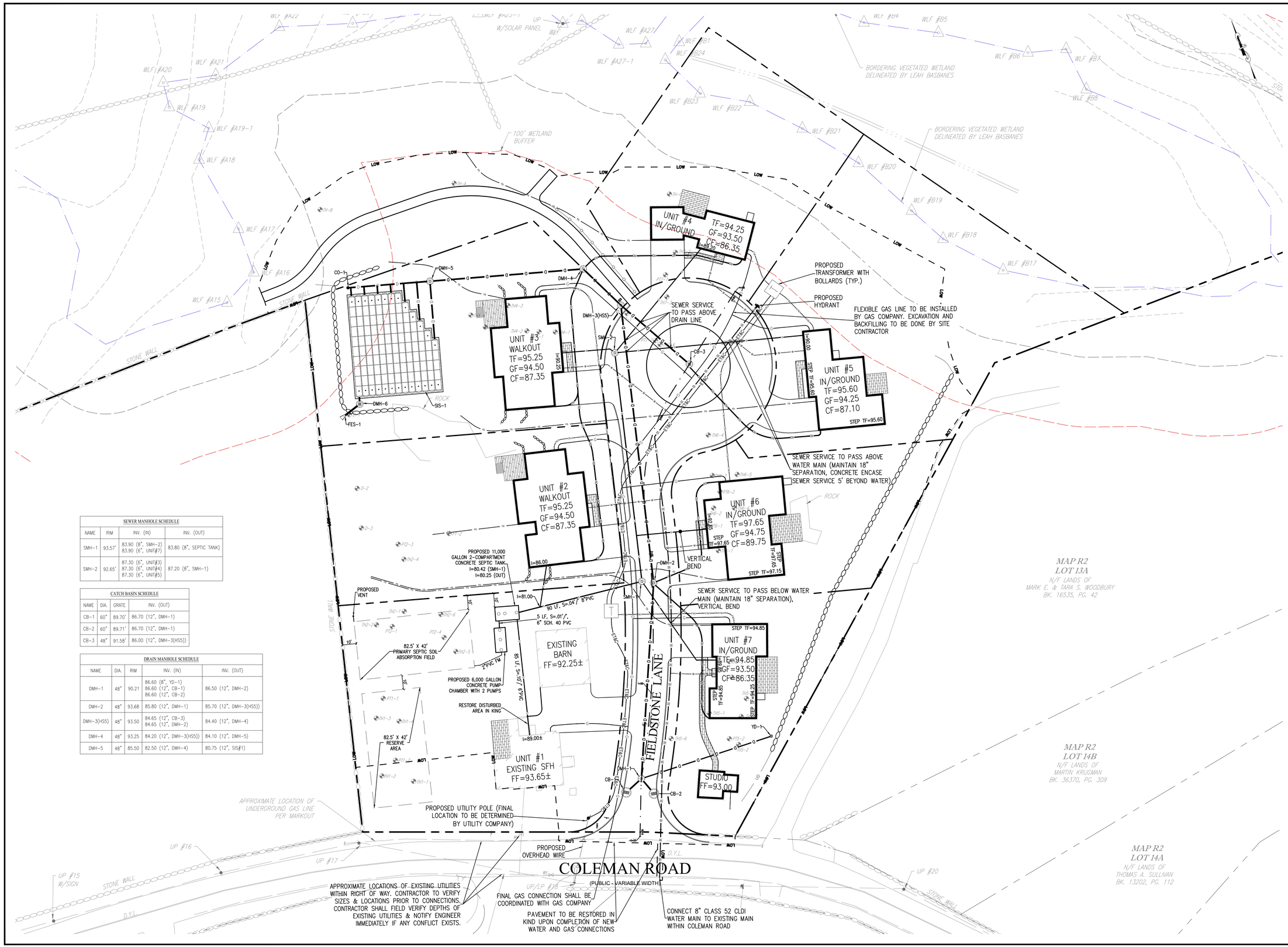
30 0 15 30 60
GRAPHIC SCALE IN FEET

SHEET:

GRADING & DRAINAGE PLAN

9

DATE: 01/08/2021



SEWER MANHOLE SCHEDULE

NAME	RIM	INV. (IN)	INV. (OUT)
SMH-1	93.57'	83.90 (8", SMH-2) 83.90 (6", UNIT#7)	83.80 (8", SEPTIC TANK)
SMH-2	92.65'	87.30 (6", UNIT#3) 87.30 (6", UNIT#4) 87.30 (6", UNIT#5)	87.20 (8", SMH-1)

CATCH BASIN SCHEDULE

NAME	DIA.	GRATE	INV. (OUT)
CB-1	60"	89.70'	86.70 (12", DMH-1)
CB-2	60"	89.71'	86.70 (12", DMH-1)
CB-3	48"	91.58'	86.00 (12", DMH-3(HS5))

DRAIN MANHOLE SCHEDULE

NAME	DIA.	RIM	INV. (IN)	INV. (OUT)
DMH-1	48"	90.21	86.60 (8", YD-1) 86.60 (12", CB-1) 86.60 (12", CB-2)	86.50 (12", DMH-2)
DMH-2	48"	93.68	85.80 (12", DMH-1)	85.70 (12", DMH-3(HS5))
DMH-3(HS5)	48"	93.50	84.65 (12", CB-3) 84.65 (12", DMH-2)	84.40 (12", DMH-4)
DMH-4	48"	93.25	84.20 (12", DMH-3(HS5))	84.10 (12", DMH-5)
DMH-5	48"	85.50	82.50 (12", DMH-4)	80.75 (12", SIS#1)

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
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DATE TOWN CLERK

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
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AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

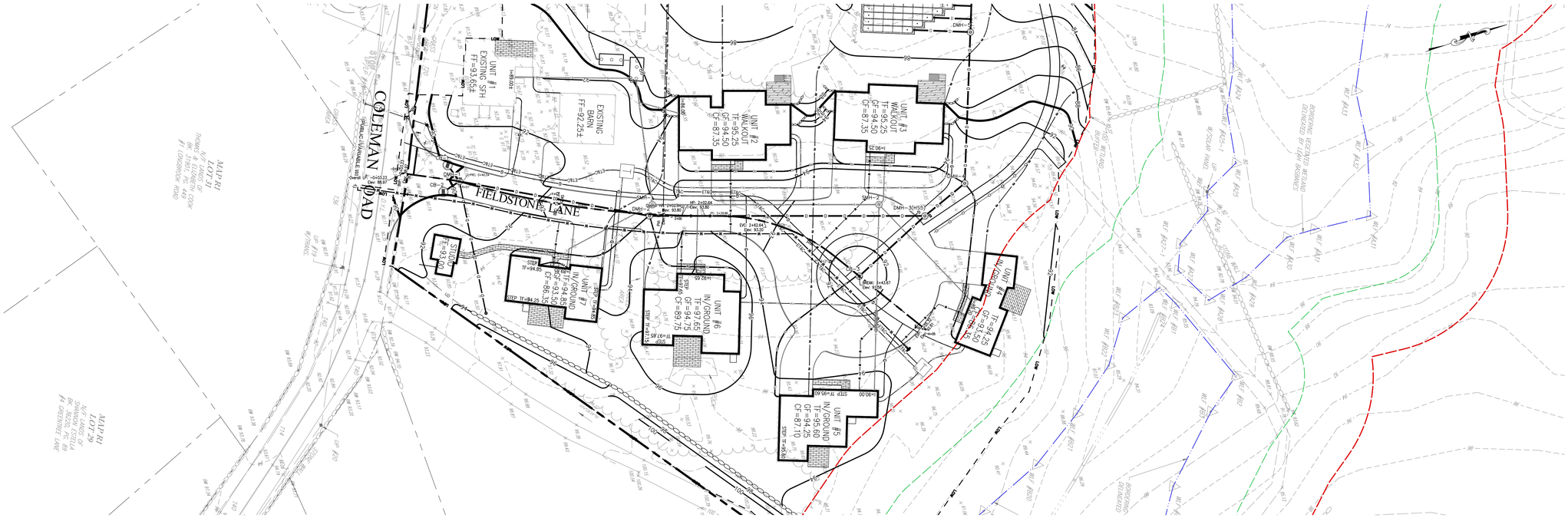
SCALE:
30 0 15 30 60
GRAPHIC SCALE IN FEET

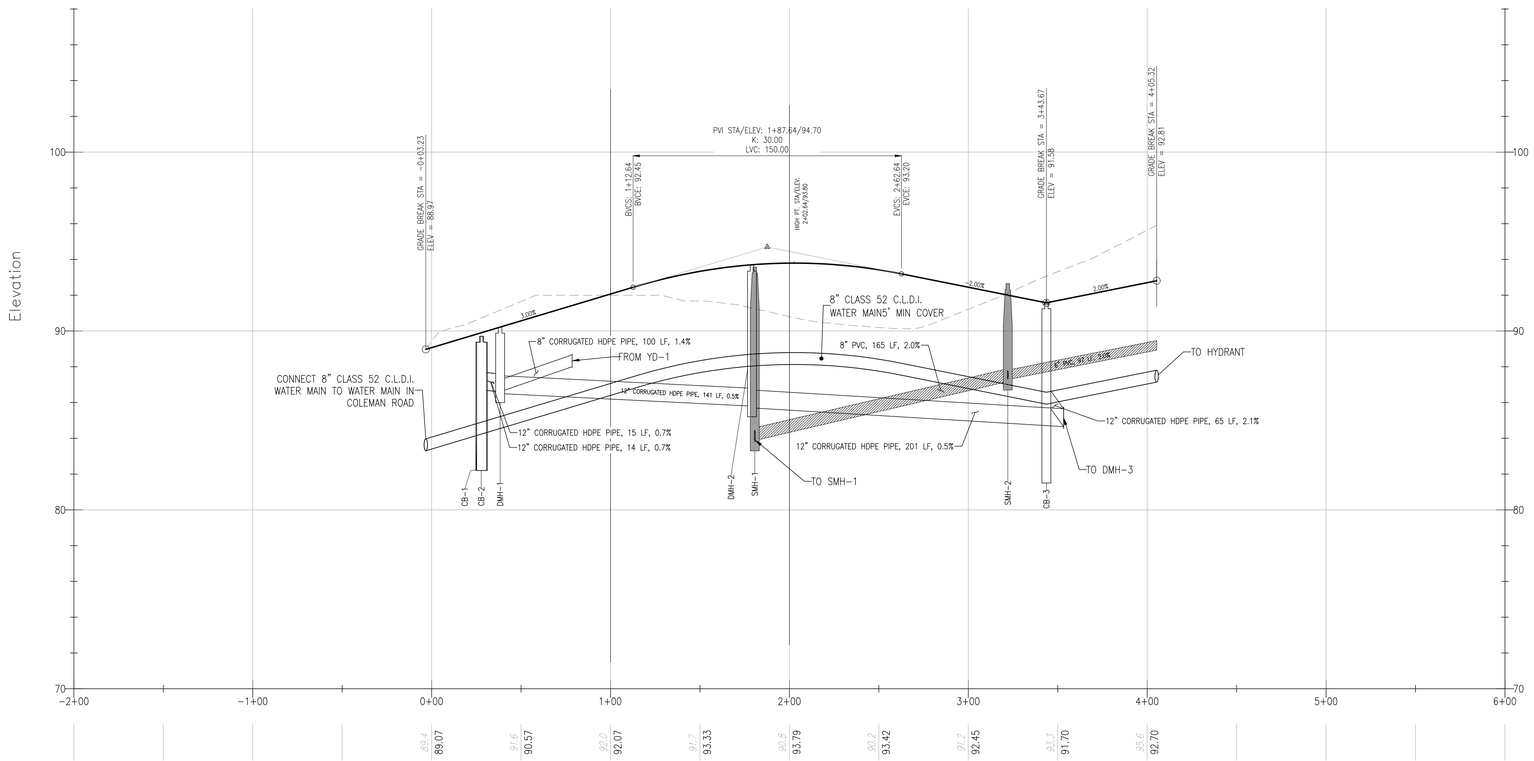
SHEET:

UTILITY PLAN

10

DATE: 01/08/2021





DRAIN MANHOLE SCHEDULE

NAME	STA.	OFFSET	RIM	INV. (IN)	INV. (OUT)
DMH-1	0+38.29	0.07'L	90.21	86.60 (8", YD-1) 86.60 (12", CB-1) 86.60 (12", CB-2)	86.50 (12", DMH-2)
DMH-2	1+79.09	1.27'R	93.68	85.80 (12", DMH-1)	85.70 (12", DMH-3(HS5))

CATCH BASIN SCHEDULE

NAME	STA.	OFFSET	GRATE	INV. (OUT)
CB-1	0+28.19	10.47'L	89.70	86.70 (12", DMH-1)
CB-2	0+27.72	9.39'R	89.71	86.70 (12", DMH-1)
CB-3	3+43.68	0.01'R	91.58	86.00 (12", DMH-3(HS5))

SEWER MANHOLE SCHEDULE

NAME	STA.	OFFSET	RIM	INV. (IN)	INV. (OUT)
SMH-1	1+80.67	7.04'L	93.57	83.90 (8", SMH-2) 83.90 (6", UNIT#7)	83.80 (8", SEPTIC TANK)
SMH-2	3+22.10	49.57'L	92.65	87.30 (6", UNIT#3) 87.30 (6", UNIT#4) 87.30 (6", UNIT#5)	87.20 (8", SMH-1)

PROFILE FIELDSTONE LANE : STA 0+00 THROUGH 4+05.32

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
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DATE TOWN CLERK

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COMMONWEALTH OF MASSACHUSETTS
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PROJECT:

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15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:

40 0 20 40 80

GRAPHIC SCALE IN FEET

SHEET:

PLAN & PROFILE

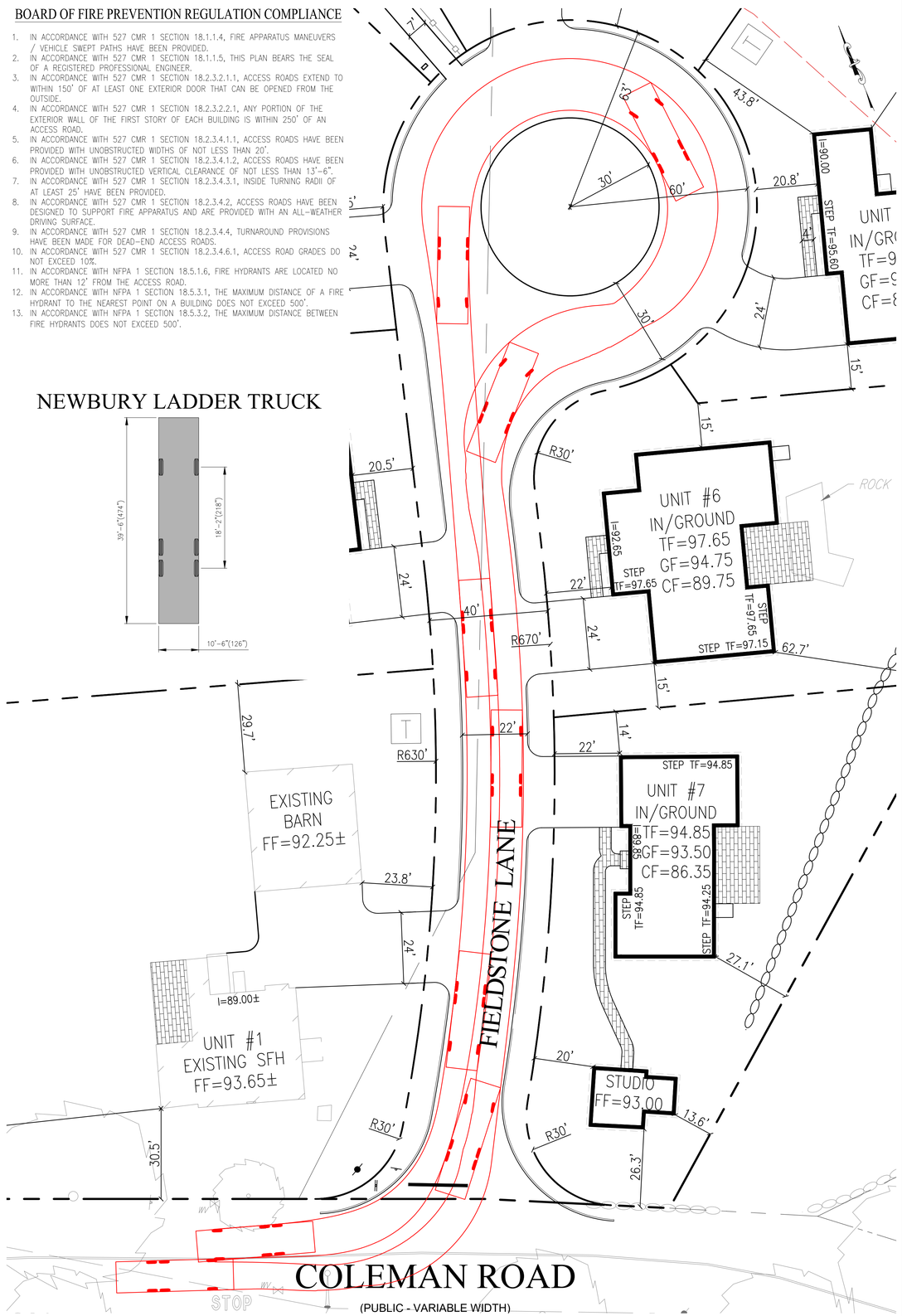
11

DATE: 01/08/2021

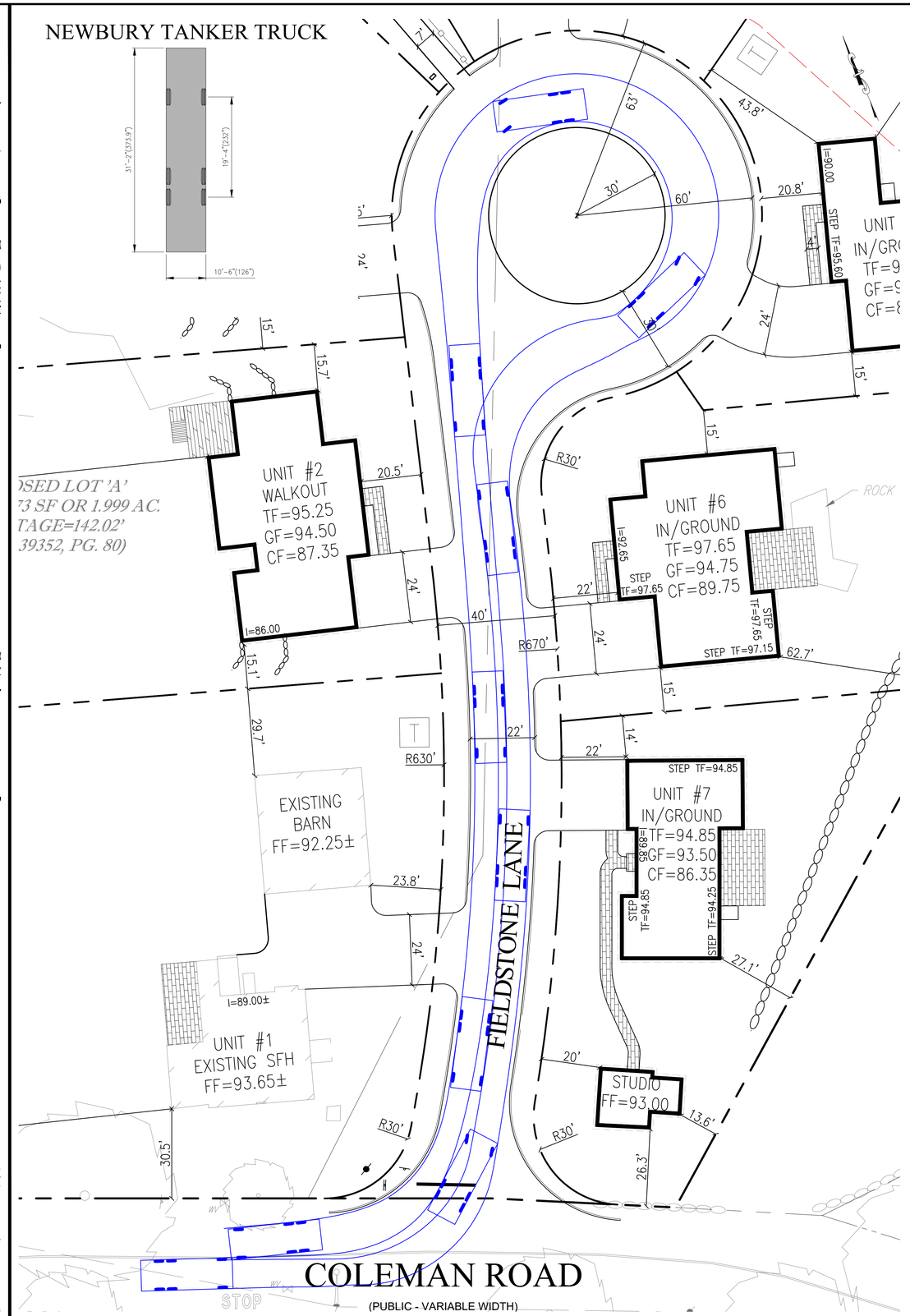
BOARD OF FIRE PREVENTION REGULATION COMPLIANCE

1. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.1.1.4, FIRE APPARATUS MANEUVERS / VEHICLE SWEPT PATHS HAVE BEEN PROVIDED.
2. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.1.1.5, THIS PLAN BEARS THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER.
3. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.2.1.1, ACCESS ROADS EXTEND TO WITHIN 150' OF AT LEAST ONE EXTERIOR DOOR THAT CAN BE OPENED FROM THE OUTSIDE.
4. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.2.2.1, ANY PORTION OF THE EXTERIOR WALL OF THE FIRST STORY OF EACH BUILDING IS WITHIN 250' OF AN ACCESS ROAD.
5. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.4.1.1, ACCESS ROADS HAVE BEEN PROVIDED WITH UNOBSTRUCTED WIDTHS OF NOT LESS THAN 20'.
6. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.4.1.2, ACCESS ROADS HAVE BEEN PROVIDED WITH UNOBSTRUCTED VERTICAL CLEARANCE OF NOT LESS THAN 13'-6".
7. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.4.3.1, INSIDE TURNING RADII OF AT LEAST 25' HAVE BEEN PROVIDED.
8. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.4.2, ACCESS ROADS HAVE BEEN DESIGNED TO SUPPORT FIRE APPARATUS AND ARE PROVIDED WITH AN ALL-WEATHER DRIVING SURFACE.
9. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.4.4, TURNAROUND PROVISIONS HAVE BEEN MADE FOR DEAD-END ACCESS ROADS.
10. IN ACCORDANCE WITH 527 CMR 1 SECTION 18.2.3.4.6.1, ACCESS ROAD GRADES DO NOT EXCEED 10%.
11. IN ACCORDANCE WITH NFPA 1 SECTION 18.5.1.6, FIRE HYDRANTS ARE LOCATED NO MORE THAN 12' FROM THE ACCESS ROAD.
12. IN ACCORDANCE WITH NFPA 1 SECTION 18.5.3.1, THE MAXIMUM DISTANCE OF A FIRE HYDRANT TO THE NEAREST POINT ON A BUILDING DOES NOT EXCEED 500'.
13. IN ACCORDANCE WITH NFPA 1 SECTION 18.5.3.2, THE MAXIMUM DISTANCE BETWEEN FIRE HYDRANTS DOES NOT EXCEED 500'.

NEWBURY LADDER TRUCK



NEWBURY TANKER TRUCK



NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
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PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

PHILIP R. HENRY, P.E.

PREPARED BY:

CIVIL DESIGN GROUP, LLC

21 HIGH STREET, SUITE 207
NORTH ANDOVER, MA 01845
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PREPARED FOR:

ZENDKO, LLC

15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:

20 0 10 20 40
GRAPHIC SCALE IN FEET

SHEET:

FIRE APPARATUS PLAN

12

DATE: 01/08/2021

NOTE:
THE FINAL DEFINITIVE SUBDIVISION PLAN WILL BE PREPARED BY A LICENSED SURVEYOR. THE INFORMATION SHOWN ON THIS PLAN WITH RESPECT TO LOTTING, EASEMENTS AND MONUMENTATION SHALL BE CONSIDERED DRAFT.

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

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SCALE:

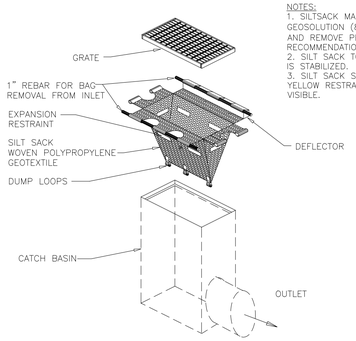
80 0 40 80 160
GRAPHIC SCALE IN FEET

SHEET:

DEFINITIVE SUBDIVISION & EASEMENT PLAN

13

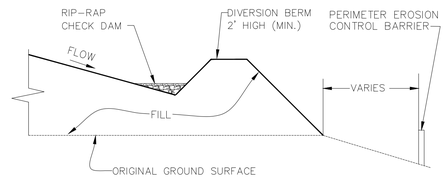
DATE: 01/08/2021



NOTES:
1. SILTSACK MANUFACTURED BY SI GEOSOLUTION (800-621-0444); INSTALL AND REMOVE PER MANUFACTURER'S RECOMMENDATIONS.
2. SILT SACK TO BE REMOVED WHEN SITE IS STABILIZED.
3. SILT SACK SHALL BE EMPTIED WHEN YELLOW RESTRAINT CORD IS NO LONGER VISIBLE.

TYPICAL SILT SACK DETAIL

NOT TO SCALE



NOTES:

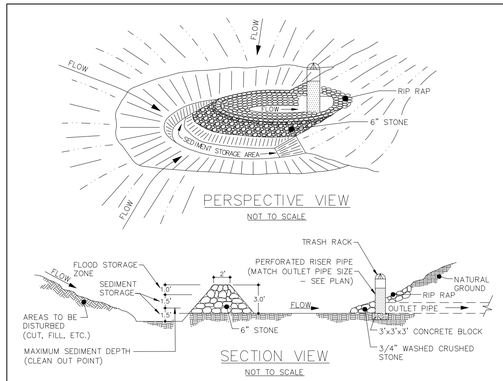
1. CHECK DAMS SHALL BE PROVIDED IN ALL UNSTABILIZED CHANNELS, SWALES AND ALONG DIVERSION BERMS AS NEEDED.

2. CHECK DAMS SHALL BE CLEANED OUT OF ALL DEBRIS AND SEDIMENT AS NEEDED.

3. ALL SEDIMENTATION BASIN BERMS SHALL BE 4' MIN. IN HEIGHT.

TYPICAL DIVERSION BERM DETAIL

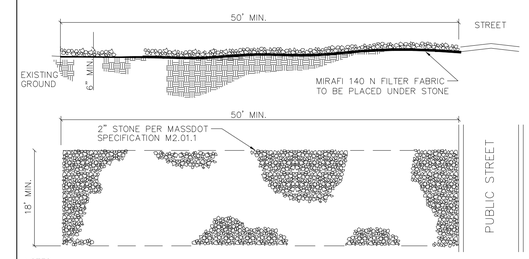
NOT TO SCALE



NOTE:
THIS DETAIL IS PROVIDED FOR GENERAL REPRESENTATION PURPOSES ONLY. TEMPORARY SEDIMENTATION BASINS SHALL BE SIZED IN ACCORDANCE WITH NPDES REQUIREMENTS.

TYPICAL TEMPORARY SEDIMENT BASIN WITH RISER PIPE DETAIL

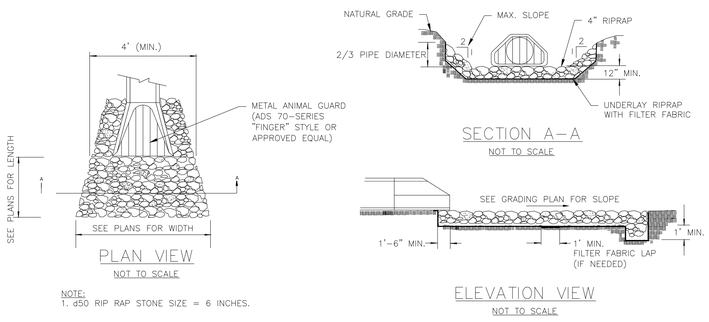
NOT TO SCALE



NOTES:
1. A STABILIZED CONSTRUCTION ENTRANCE COMPRISED OF 2"-3" CRUSHED STONE SHALL BE LOCATED WHERE CONSTRUCTION RELATED VEHICLES WILL ACCESS THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR ADJACENT LAND. ADDITIONAL STONE SHALL BE ADDED AS CONDITIONS WARRANT.
3. ANY SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED IMMEDIATELY.
4. WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET, IF APPLICABLE. WHEEL WASHING SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS TO A DESIGNATED SEDIMENT TRAP.

TYPICAL STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

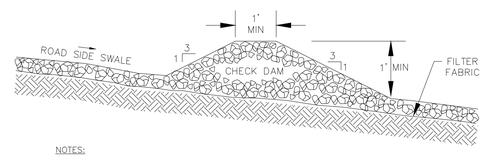


NOTE:
1. d50 RIP RAP STONE SIZE = 6 INCHES.

NOTES:
1. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
2. THE AREA TO BE RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL.
3. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
4. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
5. FILTER FABRIC SHALL BE INSTALLED ON COMPACTED SUBGRADE PRIOR TO PLACEMENT OF RIP RAP.
6. ANY DISTURBED AREA FROM END OF APRON TO RECEIVING CHANNEL MUST BE STABILIZED.

RIP-RAP APRON DETAIL

NOT TO SCALE

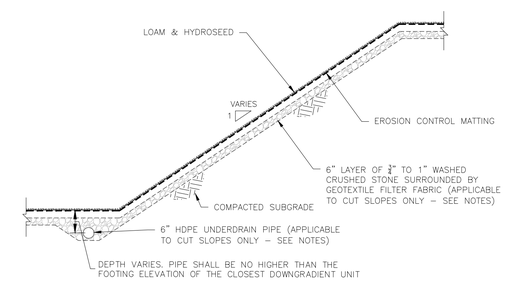


NOTES:

CHECK DAM STONES SHALL BE ANGULAR AND WELL GRADED:
- MINIMUM STONE SIZE IS 2" DIAMETER
- MAXIMUM STONE SIZE IS 3" DIAMETER

RIP-RAP CHECK DETAIL

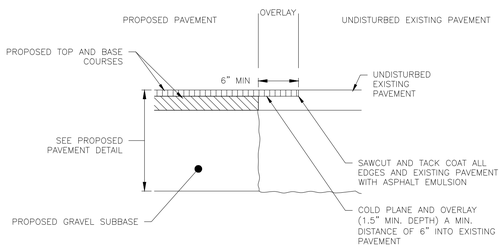
NOT TO SCALE



NOTES:
1. THIS DETAIL APPLIES TO ALL SLOPES 3H:1V AND STEEPER.
2. STONE LAYER AND ASSOCIATED UNDERDRAIN ONLY APPLY WHERE SLOPE IS IN A CUT (NOT APPLICABLE TO FILL SLOPES).

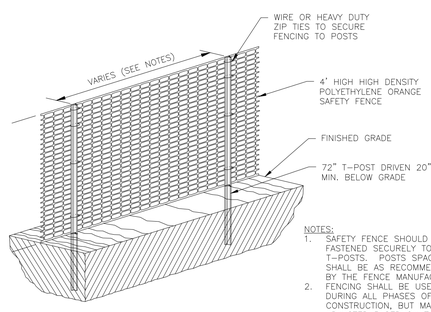
TYPICAL SLOPE STABILIZATION DETAIL

NOT TO SCALE



PAVEMENT TIE-IN DETAIL

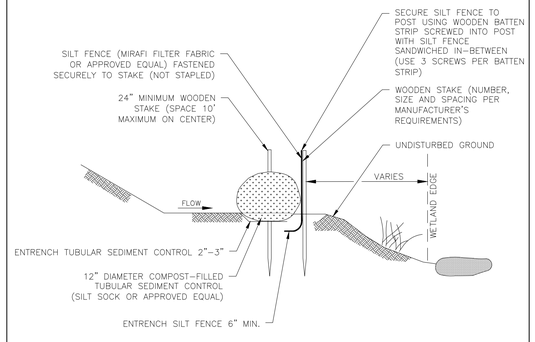
NOT TO SCALE



NOTES:
1. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS. POSTS SPACING SHALL BE AS RECOMMENDED BY THE FENCE MANUFACTURER.
2. FENCING SHALL BE USED DURING ALL PHASES OF CONSTRUCTION, BUT MAY BE ADJUSTED BASED ON THE ACTIVE CONSTRUCTION AREA AT ANY GIVEN TIME.

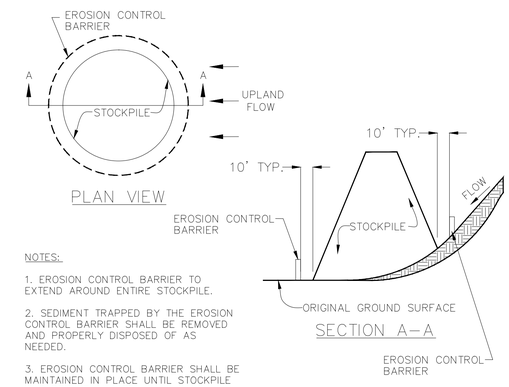
TEMPORARY CONSTRUCTION DELINEATION FENCING DETAIL

NOT TO SCALE



TYPICAL EROSION CONTROL BARRIER DETAIL

NOT TO SCALE



NOTES:

1. EROSION CONTROL BARRIER TO EXTEND AROUND ENTIRE STOCKPILE.

2. SEDIMENT TRAPPED BY THE EROSION CONTROL BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF AS NEEDED.

3. EROSION CONTROL BARRIER SHALL BE MAINTAINED IN PLACE UNTIL STOCKPILE HAS BEEN ELIMINATED.

TYPICAL TEMPORARY STOCKPILE DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

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OPEN SPACE RESIDENTIAL DEVELOPMENT

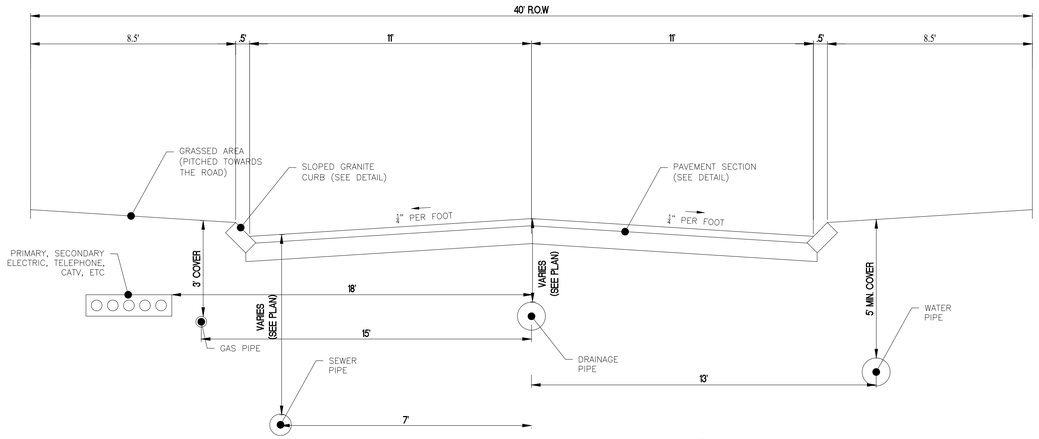
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE: **AS-NOTED**

SHEET: **CONSTRUCTION DETAILS**

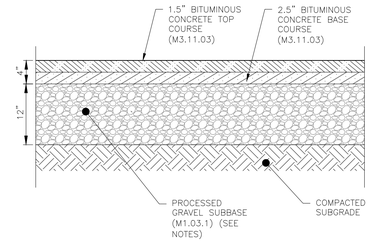
14

DATE: 01/08/2021



TYPICAL ROADWAY CROSS-SECTION @ STA:2+00±

NOT TO SCALE

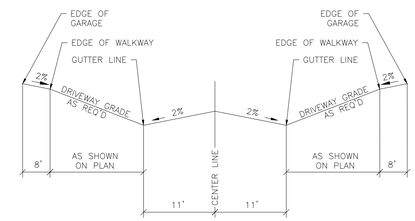


NOTES:

1. THIS DETAIL PROVIDES A MINIMUM STANDARD FOR PAVEMENT CONSTRUCTION BASED ON THE AASHTO GUIDE FOR DESIGN OF PAVEMENT STRUCTURES. THE FINAL PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL ENGINEER AND SHALL BE UTILIZED IF MORE STRINGENT THAN THIS DETAIL.
2. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MassDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
3. THE SOIL MUST HAVE A MOISTURE CONTENT DRY OF OPTIMUM AS DETERMINED BY THE MOISTURE–DENSITY RELATIONSHIP TEST METHOD ASTM D1557.
4. THE SOIL CAN BE COMPACTED TO 98% OF THE MAXIMUM STANDARD PROCTOR DENSITY AS DETERMINED BY THE MOISTURE–DENSITY RELATIONSHIP TEST METHOD ASTM D698.
5. THE SOIL SHALL NOT BE USED IF THE MATERIAL CONTAINS ORGANIC MATTER, RUBBLE, DEBRIS OR ANY OTHER DELETERIOUS MATERIAL.

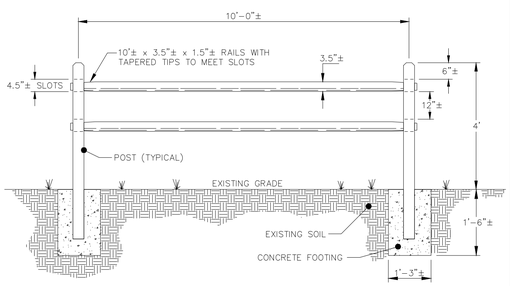
TYPICAL BITUMINOUS PAVEMENT DETAIL

NOT TO SCALE



TYPICAL HOME DRIVEWAY DETAIL

NOT TO SCALE

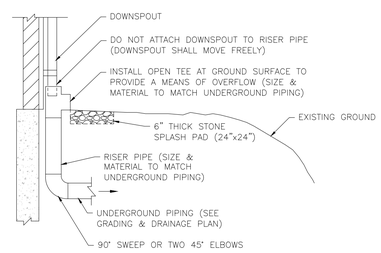


NOTES:

1. ALL WOOD FOR SPLIT RAIL FENCE IS PRESSURE TREATED.
2. END POSTS SHALL BE TERMINAL POST.

TYPICAL WOODEN SPLIT RAIL FENCE DETAIL

NOT TO SCALE

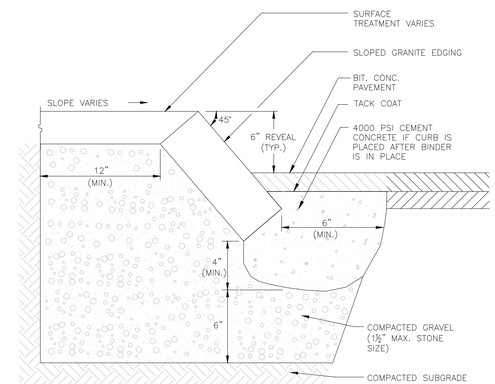


NOTES:

1. EACH BUILDING OR UNIT SHALL HAVE A MINIMUM OF ONE GUTTER DOWNSPOUT OVERFLOW ON EACH INDEPENDENT PIPE NETWORK. THE OVERFLOW SHALL BE INSTALLED ON THE DOWNSPOUT LOCATED AT THE LOWEST GROUND ELEVATION ALONG THE BUILDING WITHIN EACH PIPE NETWORK.
2. FOR GUTTER SYSTEMS THAT TIE INTO DRYWELLS, EACH DOWNSPOUT SHALL INCLUDE AN OVERFLOW.

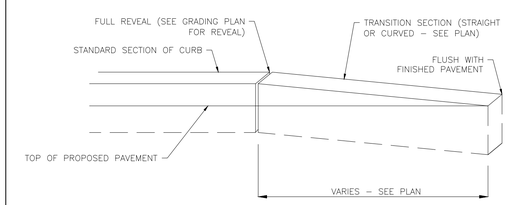
GUTTER DOWNSPOUT DETAIL

NOT TO SCALE



SLOPED GRANITE CURB DETAIL

NOT TO SCALE

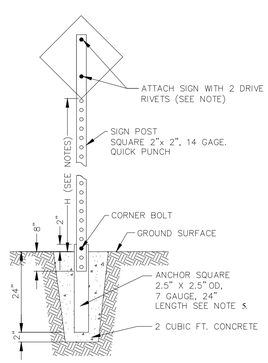


NOTES:

1. SEE TYPICAL CURB DETAIL FOR ADDITIONAL INFORMATION.

TRANSITION CURB DETAIL

NOT TO SCALE



NOTES:

1. TYPICAL HEIGHT (H) SHALL BE 7'–0", EXCEPT FOR ACCESSIBLE PARKING SIGNAGE, WHICH SHALL HAVE A HEIGHT AS SPECIFIED IN THE APPLICABLE DETAIL.
2. METAL POSTS SHALL BE QUICK PUNCH POST.
3. FOR IN–SIDEWALK INSTALLATIONS, CORE 4" DIA. HOLE. ANCHOR LENGTH MAY BE DECREASED TO 12".
4. POST SHALL BE GALVANIZED ROLLED CARBON SHEET STEEL, ASTM A570 GRADE 50 AND SHALL HAVE 7/16" DIE–PUNCHED KNOCKOUTS ON 1" CENTERS FULL LENGTH, FOUR SIDES.
5. ANCHOR SHALL HAVE 4 7/16" HOLES ONE EACH SIDE 2" FROM TOP END. FINISH SHALL BE ZINC HOT DIPPED GALVANIZED MATERIAL TO MEET ASTM A500 GRADE B.
6. DRIVE RIVETS TO BE TL3806 3/8" DIA.
7. CORNER BOLTS TO BE TLCB516M.
8. SIGNS SHALL BE MOUNTED 7' FROM BOTTOM OF SIGN TO GROUND SURFACE AND 6' FROM THE BOTTOM OF THE LOWER SIGN FOR MULTIPLE SIGNS ON A SINGLE POST, UNLESS OTHERWISE SPECIFIED.

TYPICAL SIGN POST DETAIL

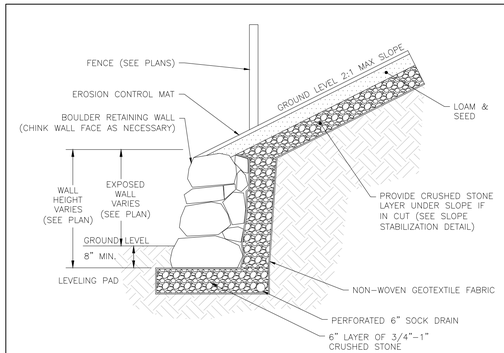
NOT TO SCALE

NOTE:

ALL PAVEMENT STRIPING AND MARKINGS SHALL CONSIST OF CHLORINATED RUBBER PAINT APPLIED TO A DRY SURFACE WHEN THE TEMPERATURE IS GREATER THAN 40°F. PAINT SHALL BE APPLIED AT A MINIMUM OF 0.015" (15 MIL) FILM THICKNESS.

TYPICAL PAINTED STOP BAR

NOT TO SCALE

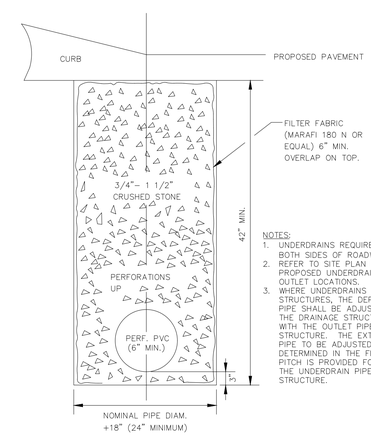


NOTES:

1. TOP AND BOTTOM OF WALL ELEVATIONS SHOWN ON GRADING & DRAINAGE PLANS REPRESENT THE EXPOSED PORTION OF THE WALL.
2. ALL WALLS WITH GREATER THAN 4 FEET EXPOSED HEIGHT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.

TYPICAL LANDSCAPE WALL DETAIL

NOT TO SCALE



NOTES:

1. UNDERDRAINS REQUIRED IN CUTS ONLY (TYP. BOTH SIDES OF ROADWAY).
2. REFER TO SITE PLAN FOR LOCATIONS OF PROPOSED UNDERDRAIN AND PROPOSED OUTLET LOCATIONS.
3. WHERE UNDERDRAINS TIE INTO DRAINAGE STRUCTURES, THE DEPTH OF THE UNDERDRAIN PIPE SHALL BE ADJUSTED AS IT APPROACHES THE DRAINAGE STRUCTURE TO MATCH CROWNS WITH THE OUTLET PIPE OF THE DRAINAGE STRUCTURE. THE EXTENT OF THE UNDERDRAIN PIPE TO BE ADJUSTED IN DEPTH SHALL BE DETERMINED IN THE FIELD SUCH THAT POSITIVE PITCH IS PROVIDED FOR THE FULL LENGTH OF THE UNDERDRAIN PIPE TO THE DRAINAGE STRUCTURE.

TYPICAL ROADWAY SUBDRAIN DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION

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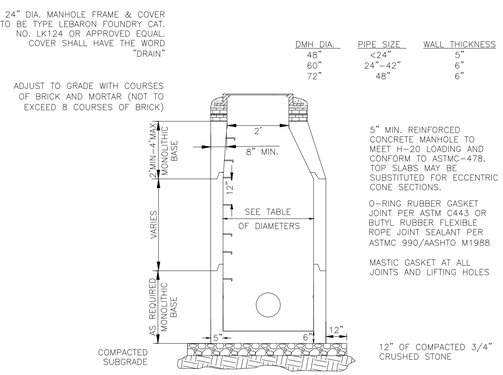
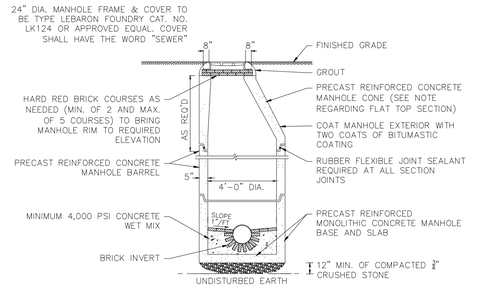


TYPICAL DRAIN MANHOLE DETAIL

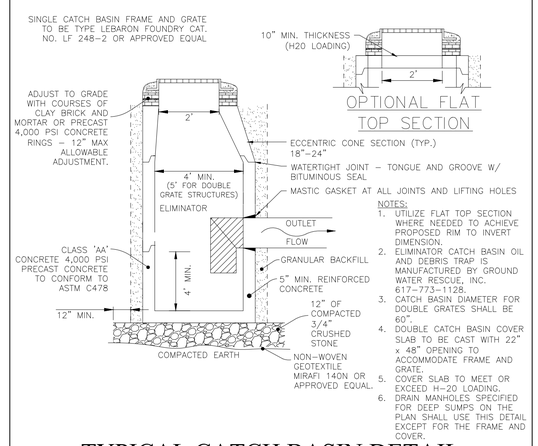
NOT TO SCALE



NOTES:
1. TYPICAL SANITARY MANHOLE TO BE 4 FEET IN DIAMETER.
2. 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 12 FEET (6" MIN. WALL THICKNESS AND 7" MIN. BASE THICKNESS FOR 5'-0" DIAMETER MANHOLES).
3. UTILIZE FLAT TOP SECTION IF NEEDED FOR SHALLOW INSTALLATION.
4. INNER EDGE OF BRICK TABLE TO BE AT ELEVATION OF CROWN OF TOP OF PIPE.
5. DESIGN LOAD – HS20.
6. ALL INVERTS SHALL BE 4,000 PSI CEMENT CONCRETE IN VOID AREAS AND RED SEWER BRICK CONSTRUCTION.
7. ALL INVERTS SHALL BE BUILT IN PLACE AFTER ALL PIPES HAVE BEEN INSTALLED.
8. FILL ALL LIFTING HOLES WITH NON-SHRINK GROUT AFTER INSTALLATION.

TYPICAL SEWER MANHOLE DETAIL

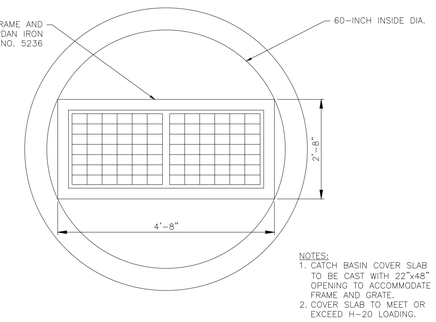
NOT TO SCALE



NOTES:
1. UTILIZE FLAT TOP SECTION WHERE NEEDED TO ACHIEVE PROPOSED RIM TO INVERT DIMENSION.
2. ELIMINATOR CATCH BASIN OIL AND DEBRIS TRAP IS MANUFACTURED BY GROUND WATER RESCUE, INC. 617-773-1128.
3. CATCH BASIN DIAMETER FOR DOUBLE GRATES SHALL BE 60".
4. DOUBLE CATCH BASIN COVER SLAB TO BE CAST WITH 22" x 48" OPENING TO ACCOMMODATE FRAME AND GRATE.
5. COVER SLAB TO MEET OR EXCEED H-20 LOADING.
6. DRAIN MANHOLES SPECIFIED FOR DEEP SUMPS ON THE PLAN SHALL USE THIS DETAIL EXCEPT FOR THE FRAME AND COVER.

TYPICAL CATCH BASIN DETAIL

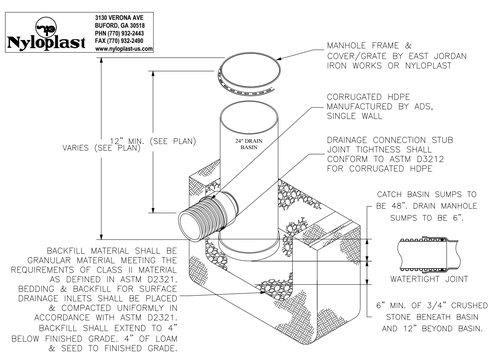
NOT TO SCALE



NOTES:
1. CATCH BASIN COVER SLAB TO BE CAST WITH 22"x48" OPENING TO ACCOMMODATE FRAME AND GRATE.
2. COVER SLAB TO MEET OR EXCEED H-20 LOADING.

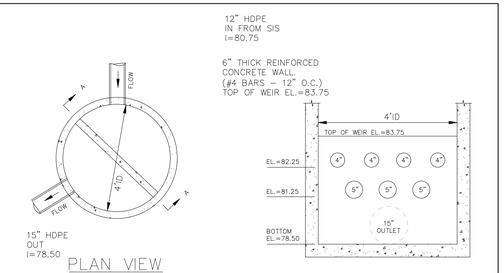
TYPICAL DOUBLE CATCH BASIN GRATE DETAIL

NOT TO SCALE



NYLOPLAST (NP) 24" MANHOLE OR YARD DRAIN

NOT TO SCALE



PLAN VIEW

NOT TO SCALE

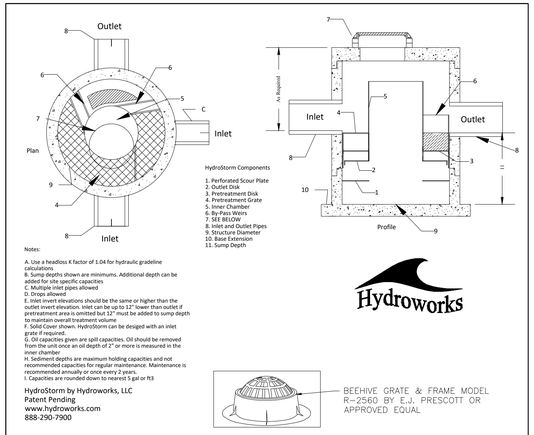
SECTION VIEW

NOT TO SCALE

NOTES:
1. OUTLET CONTROL PRECAST STRUCTURE SHALL CONFORM TO THE TYPICAL DRAIN MANHOLE DETAIL.
2. INVERT ELEVATIONS SHALL BE VERIFIED BY THE CONTRACTOR.

OUTLET CONTROL STRUCTURE (DMH-6) DETAIL

NOT TO SCALE



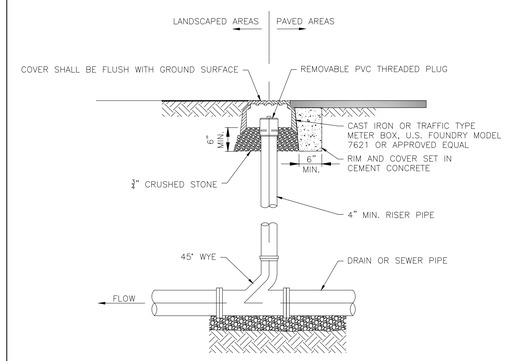
Notes:

A. Use a headloss K factor of 1.04 for hydraulic gradeline calculations
B. Sump depths shown are minimums. Additional depth can be added for site specific capacities
C. Multiple inlet pipes allowed
D. Drops allowed
E. Inlet invert elevations should be the same or higher than the outlet invert elevation. Inlet can be up to 12" lower than outlet if pretreatment area is omitted but 12" must be added to sump depth to maintain overall treatment volume
F. Solid Cover shown. HydroStorm can be designed with an inlet grate if required.
G. Oil capacities given are spill capacities. Oil should be removed from the unit once an oil depth of 2" or more is measured in the inner chamber
H. Sediment depths are maximum holding capacities and not recommended capacities for regular maintenance. Maintenance is recommended annually or once every 2 years.
I. Capacities are rounded down to nearest 5 gal or ft3

HydroStorm by Hydroworks, LLC
Patent Pending
www.hydroworks.com
888-290-7900

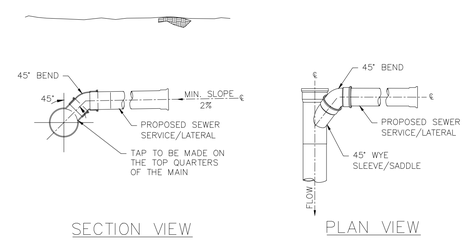
TYPICAL HYDROWORKS HS5 DETAIL

NOT TO SCALE



TYPICAL CLEANOUT DETAIL

NOT TO SCALE



SECTION VIEW

NOT TO SCALE

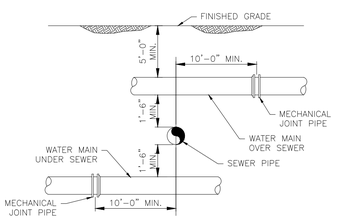
PLAN VIEW

NOT TO SCALE

NOTES:
1. SEWER SERVICES SHALL BE 6" SDR-35 PVC UNLESS OTHERWISE NOTED ON THE PLAN. THE CONTRACTOR SHALL CONFIRM THE PIPE SIZE AND MATERIAL WITH THE MUNICIPALITY PRIOR TO INSTALLATION.
2. SEWER TAP AND LATERAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE MUNICIPAL REQUIREMENTS AND/OR STANDARDS.
3. SEWER LATERAL SHALL BE PITCHED AT 2.0% MINIMUM SLOPE UNLESS OTHERWISE INDICATED OR UNLESS OTHERWISE REQUIRED BY THE MUNICIPALITY.

TYPICAL SEWER SERVICE CONNECTION DETAIL

NOT TO SCALE



NOTES:
1. SEWERS SHALL BE KEPT REMOTE FROM WATER SUPPLY PIPING AND STRUCTURES. WHEREVER FEASIBLE, SEWERS SHOULD BE LAID AT A MINIMUM HORIZONTAL DISTANCE OF 10 FEET FROM WATER MAINS. IF LOCAL CONDITIONS PREVENT THIS, THE WATER MAIN SHOULD BE LAID IN A SEPARATE TRENCH, AND THE ELEVATIONS OF THE CROWN OF THE SEWER PLACED AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.
2. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE CROWN OF THE SEWER SHOULD BE PLACED A MINIMUM OF 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IN ADDITION, THE WATER MAIN MUST BE CONSTRUCTED WITH ONE FULL LENGTH OF PIPE CENTERED ABOVE THE CROSSING. THE WATER PIPE SHALL HAVE MECHANICAL JOINTS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING.
3. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER AND THE SEWER PIPING SHALL BE CONSTRUCTED SUCH THAT THE PIPE JOINTS ARE PLACED AS FAR AWAY FROM THE CROSSING AS POSSIBLE AND THE PIPE CROSSING SHALL BE ENCASED IN CONCRETE FOR A DISTANCE OF 10 FEET ON ALL SIDES OF THE CROSSING.

WATER/SEWER CROSSING DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
2		
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PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

PHILIP R. HENRY, P.E.

PREPARED BY:

CIVIL DESIGN GROUP, LLC

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NORTH ANDOVER, MA 01845
www.cdgengineering.com
p: 978-794-5400 f: 978-965-3971

PREPARED FOR:

ZENDKO, LLC

15 ESTES STREET
AMESBURY, MA 01913

PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:

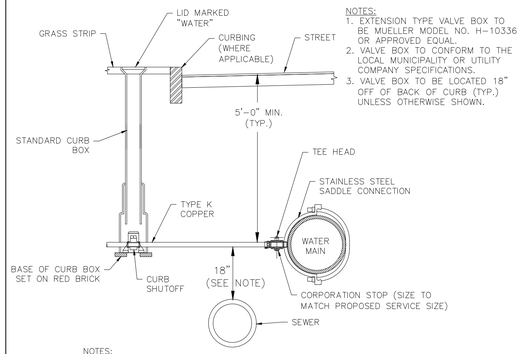
AS-NOTED

SHEET:

CONSTRUCTION DETAILS

16

DATE: 01/08/2021

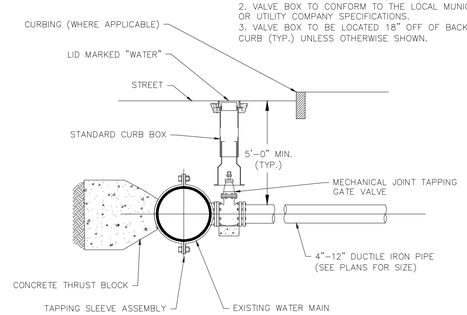


NOTES:
1. EXTENSION TYPE VALVE BOX TO BE MUELLER MODEL NO. H-10336 OR APPROVED EQUAL.
2. VALVE BOX TO CONFORM TO THE LOCAL MUNICIPALITY OR UTILITY COMPANY SPECIFICATIONS.
3. VALVE BOX TO BE LOCATED 18" OFF OF BACK OF CURB (TYP.) UNLESS OTHERWISE SHOWN.

NOTES:
1. SEWER SHALL BE ENCASED IN CONCRETE (SEE DETAIL) IF THE SEWER IS PLACED WITHIN 10' (HORIZONTALLY) OF A WATER LINE AND THE SEWER IS EITHER ABOVE OR WITHIN 18" BELOW THE WATER LINE.

TYPICAL WATER SERVICE CONNECTION DETAIL

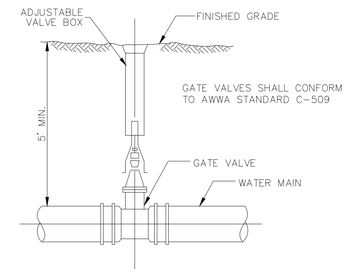
NOT TO SCALE



NOTES:
1. EXTENSION TYPE VALVE BOX TO BE MUELLER MODEL NO. H-10336 OR APPROVED EQUAL.
2. VALVE BOX TO CONFORM TO THE LOCAL MUNICIPALITY OR UTILITY COMPANY SPECIFICATIONS.
3. VALVE BOX TO BE LOCATED 18" OFF OF BACK OF CURB (TYP.) UNLESS OTHERWISE SHOWN.

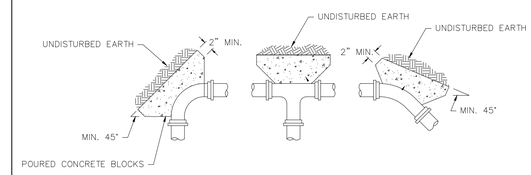
TAPPING SLEEVE CONNECTION DETAIL

NOT TO SCALE

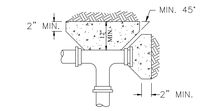


TYPICAL GATE VALVE DETAIL

NOT TO SCALE

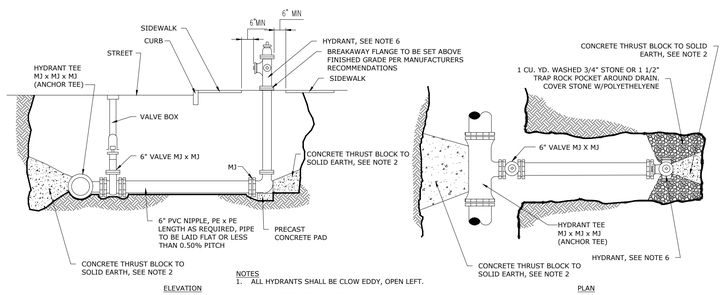


NOTES:
1. THRUST BLOCKS SHALL BE USED AT ALL WATER MAIN BENDS AND TEES.
2. SPECIFIC THRUST BLOCK DESIGN SHALL CONFORM TO AWWA GUIDELINES.
3. PLACE 4 mil. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT).
4. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.
5. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
6. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.



TYPICAL THRUST BLOCK DETAIL

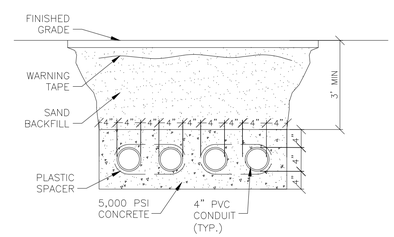
NOT TO SCALE



NOTES
1. ALL HYDRANTS SHALL BE CLOW EDDY, OPEN LEFT.
2. ALL CONCRETE TO BE CAST-IN-PLACE (3000 PSI).
3. ALL MJ JOINTS SHALL HAVE RETAINER GLANDS.
4. CARE SHALL BE TAKEN TO SHIELD HYDRANT BASE DRAIN HOLES DURING PLACEMENT OF THE CONCRETE THRUST BLOCK. DRAIN HOLES SHALL BE VERIFIED AS OPEN AND FREE OF OBSTRUCTIONS PRIOR TO BACKFILLING.
5. CARE SHALL BE TAKEN TO SHIELD ALL MECHANICAL JOINT GLANDS AND BOLTS DURING PLACEMENT OF CONCRETE THRUST BLOCK. ALL BOLTS AND GLANDS SHALL BE FREE AND UNOBSTRUCTED BEFORE BACKFILLING.
6. HYDRANT SHALL BE SET PLUMB. VERTICAL HYDRANT EXTENSIONS SHALL BE USED AS NECESSARY TO PROPERLY LOCATE THE BREAKAWAY FLANGE PER MANUFACTURERS RECOMMENDATIONS.
7. POLYETHYLENE SHEETING SHALL BE PLACED OVER THE FITTING AND/OR HYDRANT BASE TO PREVENT DIRECT CONTACT OF CONCRETE WITH THE FITTING.

TYPICAL HYDRANT INSTALLATION DETAIL

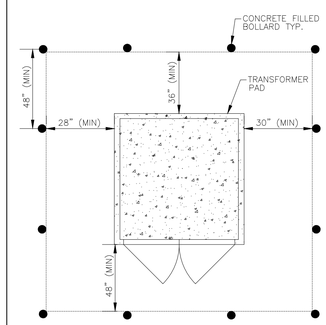
NOT TO SCALE



NOTES:
1. DUCT BANK TO BE CONSTRUCTED PER UTILITY COMPANY STANDARDS IF DIFFERENT THAN THIS DETAIL.

TYPICAL ELECTRICAL/TELEPHONE/CABLE DUCT BANK DETAIL

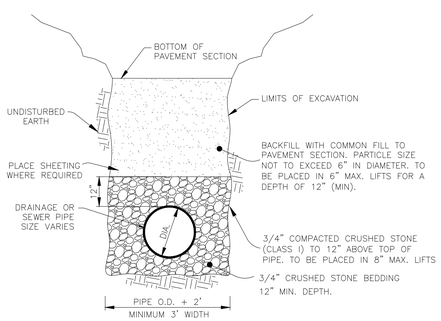
NOT TO SCALE



NOTES:
1. FINAL TRANSFORMER PAD SIZE TO BE AS DETERMINED BY THE UTILITY COMPANY.
2. TRANSFORMER PAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY.
3. UTILITY COMPANY MAY REQUIRE AN OIL CONTAINMENT AROUND THE TRANSFORMER PAD TO BE CONSTRUCTED IN ACCORDANCE WITH THEIR REQUIREMENTS.
4. BOLLARDS SHALL BE 6" SCHEDULE 40 GALVANIZED STEEL 5' EXPOSED HEIGHT, UNLESS OTHERWISE REQUIRED BY THE UTILITY COMPANY (REFER TO BOLLARD DETAIL FOR ADDITIONAL INFORMATION ON BOLLARD CONSTRUCTION).

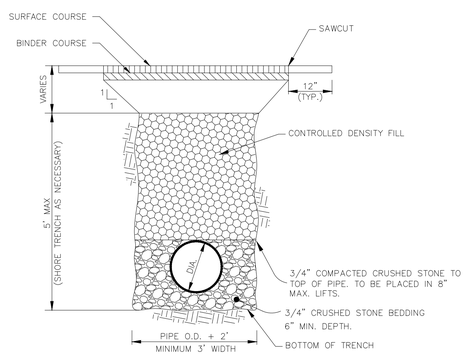
TYPICAL TRANSFORMER PAD DETAIL

NOT TO SCALE



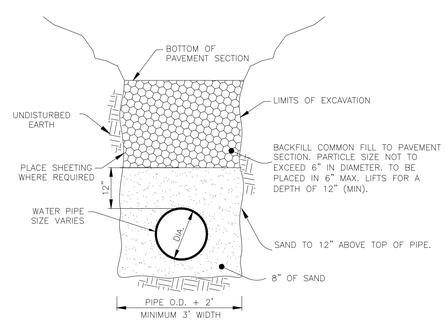
TYPICAL DRAIN & SEWER TRENCH DETAIL

NOT TO SCALE



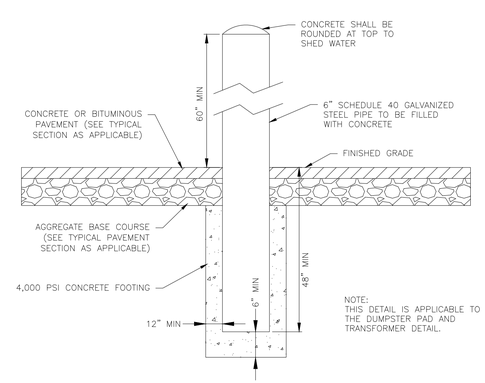
UTILITY TRENCH DETAIL IN EXISTING PAVEMENT TO REMAIN

NOT TO SCALE



TYPICAL WATER TRENCH DETAIL

NOT TO SCALE



NOTE:
THIS DETAIL IS APPLICABLE TO THE DUMPSTER PAD AND TRANSFORMER DETAIL.

TYPICAL PAD BOLLARD DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
2		
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PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

SEAL:

COMMONWEALTH OF MASSACHUSETTS
PHILIP R. HENRY
CIVIL
No. 48547
REGISTERED PROFESSIONAL ENGINEER

PHILIP R. HENRY, P.E.

PREPARED BY:

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p: 978-794-5400 f: 978-965-3971

PREPARED FOR:

ZENDKO, LLC

15 ESTES STREET
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PROJECT:

OPEN SPACE RESIDENTIAL DEVELOPMENT

15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE:

AS-NOTED

SHEET:

CONSTRUCTION DETAILS

17

DATE: 01/08/2021

ADVANCED DRAINAGE SYSTEMS, INC.

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

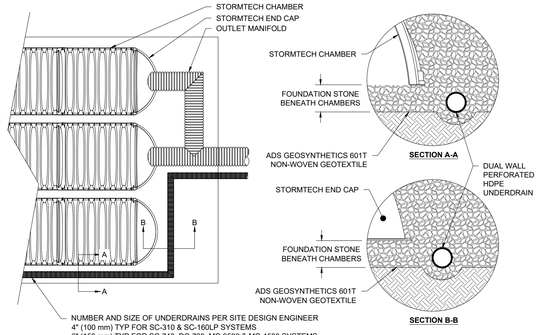
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

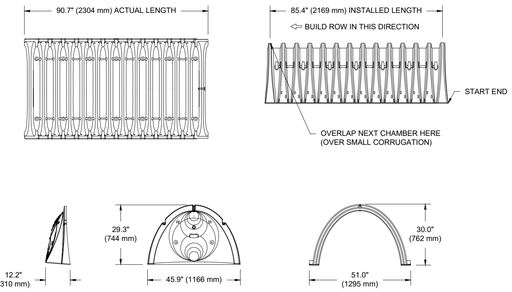
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



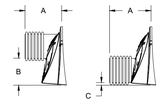
5 UNDERDRAIN DETAIL



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m^3)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m^3)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

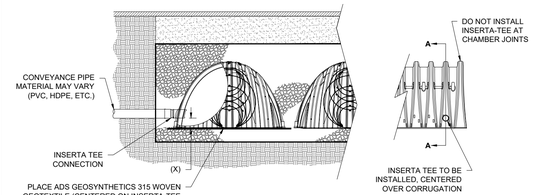
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

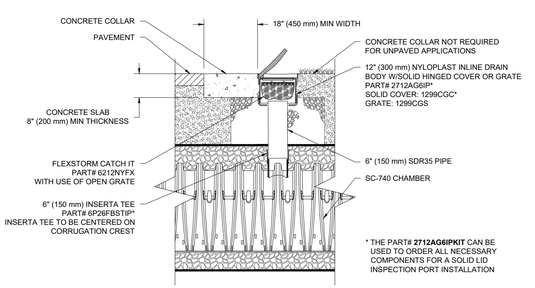
2 SC-740 TECHNICAL SPECIFICATIONS



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

6 INSERTA-TEE SIDE INLET DETAIL



4 SC-740 6" (150 mm) INSPECTION PORT DETAIL

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

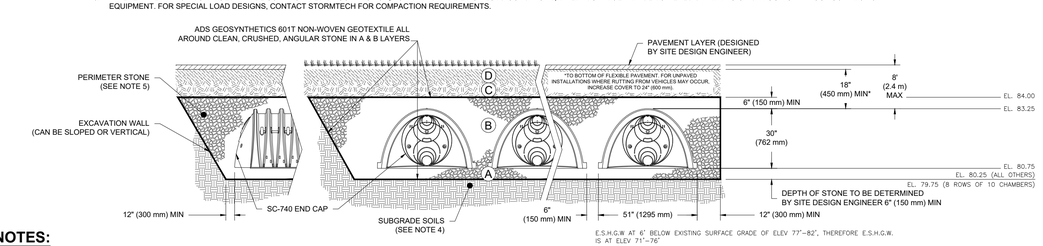
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY 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.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE 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 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 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

1 SC-740 CROSS SECTION DETAIL

NOT FOR CONSTRUCTION

CDG PROJECT #: 19025

REVISIONS:

REV	DATE	COMMENT
1	01/25/21	MODIFIED PLAN PER PLANNER COMMENTS
2		
3		
4		
5		
6		
7		
8		
9		
10		

PLANNING BOARD:

I, _____ CLERK OF THE TOWN OF NEWBURY, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE PLANNING BOARD WAS RECEIVED ON _____ AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NET FOLLOWING SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE TOWN CLERK

SEAL: COMMONWEALTH OF MASSACHUSETTS PHILIP R. HENRY CIVIL No. 48547 REGISTERED PROFESSIONAL ENGINEER

PHILIP R. HENRY, P.E.

PREPARED BY:
CIVIL DESIGN GROUP, LLC
21 HIGH STREET, SUITE 207
NORTH ANDOVER, MA 01845
www.cdgengineering.com
p: 978-794-5400 f: 978-965-3971

PREPARED FOR:
ZENDKO, LLC
15 ESTES STREET
AMESBURY, MA 01913

PROJECT:
OPEN SPACE RESIDENTIAL DEVELOPMENT
15 COLEMAN ROAD
NEWBURY, MASSACHUSETTS 01922

SCALE: **AS-NOTED**

SHEET: **CONSTRUCTION DETAILS**
18

DATE: 01/08/2021

1 15 COLEMAN ROAD - LANDSCAPE PLAN AND DETAILS

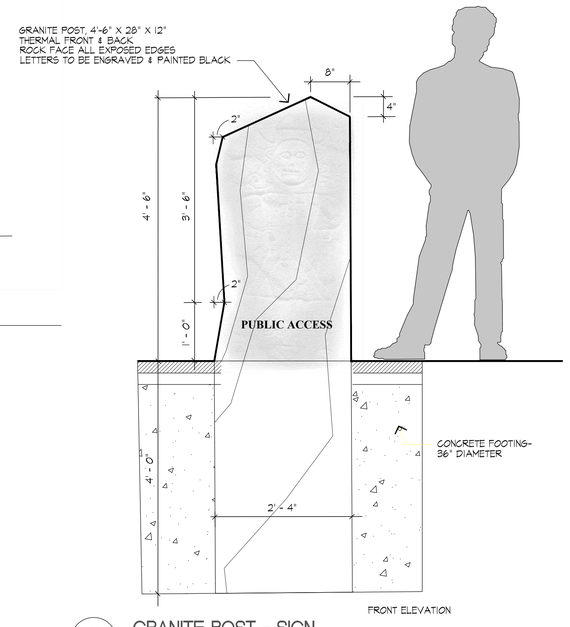
SCALE: 1" = 40'

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	SIZE
SHADE TREES				
AR	ACER RUBRUM ' RED SUNSET'	RED MAPLE	12	2 - 2 1/2" CAL.
EVERGREEN TREES				
PA	PICEA ABIES	NORWAY SPRUCE	11	8-10' HT.
PP	PICEA PUNGENS GLAUCA	COLORADO BLUE SPRUCE	11	8-10' HT.
ORNAMENTAL TREES				
BN	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	16	8-10' HT. CLMP
AC	AMELANCHIER CANADENSIS	SHADBLOW	14	8-10' HT. CLMP

PLANTING NOTES

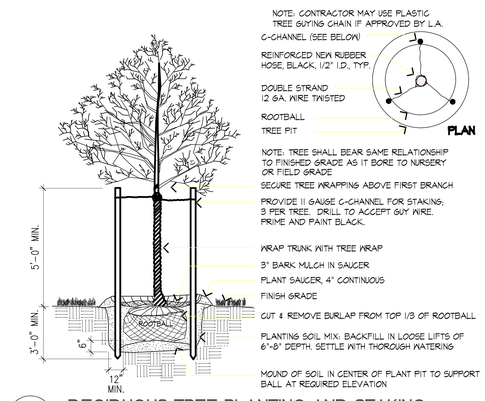
1. PRIOR TO THE START OF ANY EXCAVATION FOR THE PROJECT BOTH ON AND OF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED WITH A DIGSAFE NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED.
2. CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND WILL CONTINUE UNTIL FINAL ACCEPTANCE.
3. CONTRACTOR SHALL VERIFY ALL TREE REMOVALS WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION START.
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS, STRUCTURES, AND PLANTING BEDS.
5. MAXIMUM SLOPE WITHIN DISTURBED AREAS SHALL NOT EXCEED 3:1, UNLESS OTHERWISE NOTED.
6. THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE ALL PLANTINGS SHOWN ON THIS DRAWING.
7. ALL MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
8. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS TO ORIGINAL GRADES BEFORE DIGGING.
9. ALL PLANTS TO BE BALLED IN BURLAP OR CONTAINERIZED.
10. MULCH FOR PLANTED AREAS TO BE AGED PINE BARK; PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS THICKER THAN 1/4 INCH.
11. PLANTING SOIL MIX: LOAM THOROUGHLY INCORPORATED WITH ROTTED MANURE PROPORTIONED 5 C.Y. TO 1 C.Y. OR EQUIVALENT. PEAT MOSS WITH FERTILIZER ADDED PER MANUFACTURER'S RECOMMENDED RATES.
12. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF ACCEPTANCE.
13. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT, AT THE NURSERY, AND AT THE SITE.
14. LANDSCAPE ARCHITECT TO FLAG ALL TREES TO BE TRANSPLANTED PRIOR TO CONSTRUCTION START.
15. ALL AREAS OF THE SITE WHICH HAVE BEEN DISTURBED AND NOT OTHERWISE DEVELOPED SHALL BE LOAMED AND SEEDED WITH A MINIMUM DEPTH OF 6" DEPTH TOPSOIL.



3 GRANITE POST - SIGN

SCALE: NTS

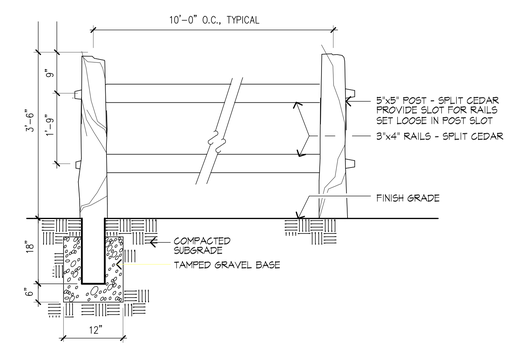
SI-FLAGP



2 DECIDUOUS TREE PLANTING AND STAKING

SCALE: NTS

PL-TREDP



4 NATURAL CEDAR SPLIT RAIL FENCE

SCALE: NTS

FE-SPLIT

Huntress Associates, Inc.

Landscape Architecture & Land Planning

17 Tewksbury Street
Andover, Massachusetts 01810
978 470 8882 FAX 978 470 8890

Project:

15 Coleman Road

Newbury, Massachusetts

Drawing Title:

Landscape Plan & Details

Revision	Date

Scale:	1" = 40'	Drawing No.
Date:	01.08.21	L-1
Job:	00-107	
File:	PR-det	of
Drawn:	CCH	1
Checked:	--	

PLOT @ 1"=40'