

LOCATION MAP
NOT TO SCALE

RESIDENTIAL SITE PLAN

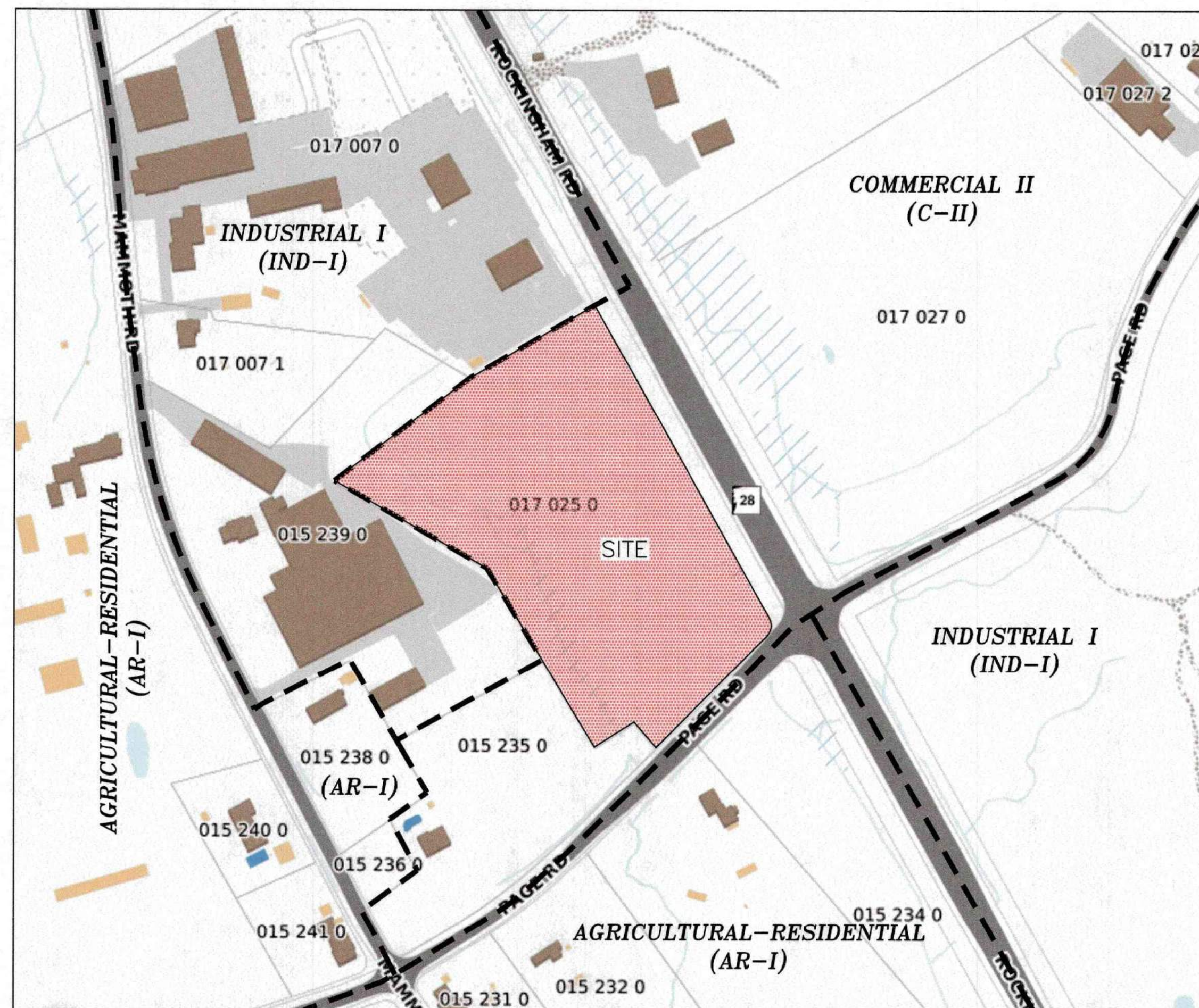
ROCK ROAD TOWNHOMES

TAX MAP 17 LOT 25 ~ 295 ROCKINGHAM ROAD LONDONDERRY, NEW HAMPSHIRE

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VICINITY MAP
SCALE: 1" = 2,500'±

INDEX OF SHEETS



TAX MAP PLAN
SCALE: 1" = 200'±

ENGINEER & SURVEYOR:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881

WETLAND CONSULTANT:
CHRISTOPHER K. DANFORTH, CWS #077
TFMORAN, INC.
48 CONSTITUTION DR
BEDFORD, NH 03110
(603) 472-4488

SOIL SCIENTIST:
LUKE HURLEY, CSS
HURLEY ENVIRONMENTAL & LAND PLANNING, LLC
PO BOX 356
EPSOM, NH
(603)583-1745

OWNER OF MAP 17 LOT 25

SIGNATURE: Deane Nade

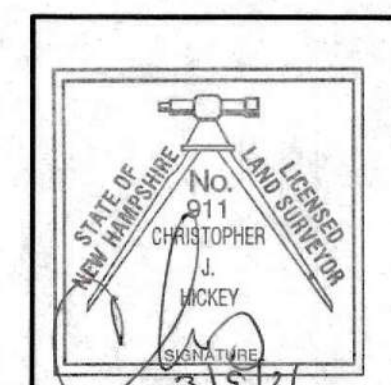
DATE: 2/16/2026

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

ZONING NOTE

THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY KEACH-NORDSTROM ASSOCIATES, INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SINCE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS, PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO INSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.



OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

COVER SHEET
ROCK ROAD TOWNHOMES
MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

LEGEND	
	EXISTING PROPERTY LINE
	DISTRICT BOUNDARY

BENCHMARK DATA			REVISIONS			
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM

APPROVED BY THE LONDONDERRY, NH PLANNING BOARD
DATE: _____
CERTIFIED BY: _____

Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. COVER

CHECKLIST NOTES:

- 1. THE PURPOSE OF THE PLAN IS TO SHOW A PROPOSED TOWNHOUSE DEVELOPMENT, CONSISTING OF TWELVE (12) 2-BEDROOM UNITS, AND THE ASSOCIATED SITE IMPROVEMENTS.
2. OWNER OF RECORD: PAGE ROCK, LLC, 5 HUTCHINGS DRIVE, SUITE 5D, HOLLIS, N.H. 03049
3. MAP AND LAYOUT OF LONDONDERRY TAX ASSESSORS MAP AND LOT NUMBER.
4. THE SUBJECT PROPERTY, MAP 17 LOT 25, IS LOCATED IN THE TOWN OF LONDONDERRY'S COMMERCIAL II (C-II) ZONING DISTRICT.
5. AREA OF THE SUBJECT PARCEL: 344,183 SF OR 7.901 ACRES.
6. THE SUBJECT PARCEL IS LOCATED WITHIN THE COMMERCIAL II (C-II) ZONING DISTRICT AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS:
- MINIMUM LOT AREA 1 ACRE 7,901 ACRES
- MINIMUM LOT FRONTAGE 150 FT 1,098 FT
MINIMUM BUILDING SETBACKS:
- FRONT 60 FT 62 FT
- SIDE 30 FT 106 FT
- REAR 30 FT 488 FT
BUILDING HEIGHT 50 FT 30 FT
MAXIMUM BUILDING COVERAGE 25% 4%

- 7. LANDSCAPE DIMENSIONAL REQUIREMENTS FOR PROPERTIES IN THE C-II DISTRICT:
- MINIMUM GREEN AREA LOT COVERAGE 33% 91.6%
- MINIMUM GREEN AREA WIDTH ALONG FRONTAGE 40 FT 125 FT
- MINIMUM GREEN AREA WIDTH
- GREEN PERIMETER 15 FT 406 FT
- GREEN PERIMETER (ABUTTING PUBLIC R.O.W.) 30 FT 77 FT
- GREEN PERIMETER (RESIDENTIAL WITHIN 200 FT) 50 FT 102 FT
8. THE EXISTING PROPERTY IS CURRENTLY UNDEVELOPED. THE PROPOSED USE IS MULTI-FAMILY HOUSING.
9. THE PROJECT WILL BE SERVED BY MUNICIPAL SEWER.
10. THE PROJECT WILL BE SERVED BY MUNICIPAL WATER DELIVERED BY MANCHESTER WATER WORKS.
11. THE PROPOSED PROJECT IS NOT SUBJECT TO PREVIOUS ZONING VARIANCE REQUESTS, DECISIONS AND RESTRICTION OF CONDITIONS.
12. EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE TOWN OF LONDONDERRY, NEW HAMPSHIRE, ROCKINGHAM COUNTY, COMMUNITY PANEL NUMBER 33015C0317E PANEL NUMBER 317 OF 681. EFFECTIVE DATE: MAY 17, 2005, INDICATES THAT NO PORTION OF THE SUBJECT PREMISES IS LOCATED WITHIN A DESIGNATED FLOOD ZONE.
13. THE FOLLOWING STATE AND LOCAL PERMITS ARE REQUIRED FOR THIS PROJECT:
PERMIT TYPE PERMIT # APPROVAL DATE EXPIRATION DATE
LONDONDERRY - DRIVEWAY PERMIT
LONDONDERRY - STORMWATER PERMIT
LONDONDERRY - SEWER PERMIT
LONDONDERRY - CONDITIONAL USE PERMIT FOR MULTIFAMILY
LONDONDERRY - RESIDENTIAL USE IN C-II ZONE
LONDONDERRY - CONDITIONAL USE PERMIT FOR DISTURBANCE IN CO DISTRICT
NHDES - SEWER CONNECTION PERMIT
NHDES - CONSTRUCTION GENERAL PERMIT REQUIRED PRIOR TO CONSTRUCTION
14. ALL SHEETS IN THIS PLAN SET ARE ON FILE WITH THE TOWN OF LONDONDERRY.
15. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE TOWN.
16. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE TOWN.
17. ALL MATERIALS OF CONSTRUCTION SHALL CONFORM TO TOWN OF LONDONDERRY SITE PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".
18. PARKING CALCULATIONS:
REQUIRED PARKING:
MULTIFAMILY (3 OR MORE UNITS)
2 SPACES PER DWELLING UNIT X 12 DWELLING UNITS = 24 SPACES
PROPOSED PARKING:
12 GARAGE SPACES + 12 DRIVEWAY SPACES + 10 GUEST SPACES = 34 SPACES
19. IN ACCORDANCE WITH SECTION 6.01 RSA 676:13, ALL IMPROVEMENTS SPECIFIED ON THESE SITE PLANS SHALL BE CONSTRUCTED, COMPLETED, AND INSPECTED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
20. IN ACCORDANCE WITH SECTION 6.01 OF THE LONDONDERRY SITE PLAN REGULATIONS AND RSA 676:12, ALL OFF-SITE IMPROVEMENTS SPECIFIED ON THESE SITE PLANS SHALL BE CONSTRUCTED, COMPLETED, AND INSPECTED AND APPROVED BY THE TOWN OF LONDONDERRY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
21. DENSITY FOR LOT 25 IS CALCULATED AS FOLLOWS PER LZO 4-2.2.(B):
UNUSABLE LAND = 17,722 SF STEEP SLOPES + 77,619 SF WETLANDS + 0 SF UTILITY EASEMENTS
USABLE LAND AREA = TOTAL LOT AREA - UNUSABLE LAND AREA = 344,183 SF - 95,341 SF = 248,842 SF
DENSITY = (0.8 x 116,081 SF OF "USABLE LAND")/7,000-SF PER UNIT = 28.44 OR 28 UNITS
22. THE ANTICIPATED DELIVERED VEHICLES FOR THE PROJECT SITE ARE A TYPICAL POSTAL DELIVERY VEHICLE AND AN OCCASIONAL MOVING VAN.

GENERAL NOTES:

- 23. HORIZONTAL DATUM IS NAD83, VERTICAL DATUM IS NAVD83 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS, NORTH ORIENTATION IS NAD83.
24. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN JANUARY OF 2022.
25. EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS, OTHER EASEMENTS, RIGHTS, AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
26. THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. UTILITIES SHOWN HEREON ARE ONLY THOSE FOUND WITHIN THE AREA OF KNA FIELD SURVEY AND ARE SOLELY BASED UPON VISIBLE SURFACE EVIDENCE. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG-SAFE AT 811.
27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK.
28. THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED JULY 8, 2022, AND WAS PREPARED BY LUKE HURLEY, CSS #095. THE SURVEY AREA IS LOCATED AT 299 ROCKINGHAM ROAD, LONDONDERRY, NH. SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.
29. WETLANDS WERE DELINEATED IN JANUARY OF 2022 BY CHRIS DANFORTH, CWS, #77 OF TR MORAN, INC. USING THE TECHNICAL CRITERIA IN THE CORPUS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT Y-87-1, JANUARY 1987).
30. REGIONAL SUPPLEMENT TO THE CORPUS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
31. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.2. UNITED STATES DEPARTMENT OF AGRICULTURE (2018).
32. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMISSION, 2020 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEEDED FOR INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
33. U.S. ARMY CORPS OF ENGINEERS NATIONAL WETLAND LIST, VERSION 3.5, (2020).
34. CONSERVATION OVERLAY SIGNS TO BE INSTALLED ALONG THE CONSERVATION OVERLAY DISTRICT BOUNDARY, AS SHOWN ON THE PLAN.
35. THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.
36. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND/OR OWNER IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
37. PRECONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION AND SHALL BE ARRANGED WITH THE DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES.
38. THE PROJECT MUST BE BUILT AND EXECUTED AS SPECIFIED IN THE APPROVED APPLICATION PACKAGE UNLESS MODIFICATIONS ARE APPROVED BY THE PLANNING DEPARTMENT & DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES, OR, IF STAFF DEEMS APPLICABLE, THE PLANNING BOARD.
39. ALL OF THE DOCUMENTATION SUBMITTED IN THE APPLICATION PACKAGE BY THE APPLICANT AND ANY REQUIREMENTS IMPOSED BY OTHER AGENCIES ARE PART OF THIS APPROVAL UNLESS OTHERWISE UPDATED, REVISED, CLARIFIED IN SOME MANNER, OR SUPERSEDED IN FULL OR IN PART. IN THE CASE OF CONFLICTING INFORMATION BETWEEN DOCUMENTS, THE MOST RECENT DOCUMENTATION AND THIS NOTICE HEREIN SHALL GENERALLY BE DETERMINING.
40. PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY, ALL SITE IMPROVEMENTS AND OFF-SITE IMPROVEMENTS SHALL BE COMPLETED.
41. IT IS THE RESPONSIBILITY OF THE APPLICANT TO OBTAIN ALL OTHER LOCAL, STATE, AND FEDERAL PERMITS, LICENSES, AND APPROVALS WHICH MAY BE REQUIRED AS PART OF THIS PROJECT (THAT WERE NOT RECEIVED PRIOR TO CERTIFICATION OF THE PLANS). CONTACT THE BUILDING DIVISION AT EXTENSION 115 REGARDING BUILDING PERMITS.
42. THE OWNER SHALL INSPECT THE ON-SITE STORMWATER MANAGEMENT FACILITIES IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN AND MAINTENANCE REQUIREMENTS LISTED ON THIS PLAN. A COPY OF ALL INSPECTION REPORTS SHALL BE MADE AVAILABLE TO THE TOWN OF LONDONDERRY DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES.
43. THE PROPOSED DUMPSTER ENCLOSURE SHALL BE THE ONLY OUTDOOR STORAGE AREA ON SITE.
44. THE PROJECT HAS BEEN APPROVED WITH NO CONNECTION TO THE LONDONDERRY SEWER DIVISION.

EROSION CONTROL NOTES:

- 45. TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN THE NEW HAMPSHIRE STORMWATER MANUAL DATED FEBRUARY 2025, AS AMENDED FROM TIME TO TIME.
46. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
47. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
48. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, EROSION CONTROL MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.5" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
49. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE

- 50. WATERS SHALL BE PROTECTED FROM SEDIMENT.
51. AREAS HAVING FRESH WATER AND UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHEREAS FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
52. ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
53. ALL SWALES AND DITCHES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
54. IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL COMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF ORDER TO ELIMINATE FLOW ACROSS SURFACE AREAS.
55. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
56. DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
57. NO WAY ARE TO BE TAKEN TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
58. THE TOWN OF LONDONDERRY SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.
59. AREAS HAVING STEEP SLOPES OF 3:1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN THE NEW HAMPSHIRE STORMWATER MANUAL DATED FEBRUARY 2025.
60. THE OWNER IS RESPONSIBLE FOR FINAL STABILIZATION OF ALL SLOPES GREATER THAN 3:1 TO THE SATISFACTION OF LONDONDERRY DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES.
61. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
62. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
63. EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING THIRTY (30) CONSECUTIVE DAYS. SHOULD THE CONTRACTOR REQUEST MORE THAN FIVE (5) AREAS BE DISTURBED AT ONE TIME THEN THE CONTRACTOR SHALL:
(1) SUBMIT DOCUMENTATION TO NHDES-AOT AND THE DESIGN ENGINEER, THAT THE REQUIRED AREAS OF EARTH CUTS AND FILLS ARE SUCH THAT AN AREA OF DISTURBANCE OF 5 ACRES OR LESS WOULD UNREASONABLY LIMIT THE CONSTRUCTION SCHEDULE;
(2) SUBMIT A CONSTRUCTION SEQUENCE PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST; AND
(3) EMPLOY AN ENVIRONMENTAL MONITOR DURING CONSTRUCTION.

WINTER CONSTRUCTION NOTES:

- 62. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SHORDED WITHIN 14 DAYS OF THE END OF CONSTRUCTION. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
63. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESTROYED FLOW CONDITIONS.
64. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
65. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
A. BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION NOTES:

- 66. ALL CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN. THE DOCUMENT SHALL BE KEPT ON-SITE AND UPDATED AS NEEDED.
67. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ON-SITE STUMPS.
68. ALL DRAINAGE PIPE SHALL MEET H=20 LOADING REQUIREMENTS AND SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
69. DRAINAGE STRUCTURE RIM ELEVATIONS ARE APPROXIMATE, ALL RIMS SHALL BE SET FLUSH WITH THE FINAL GRADE.
70. PROVIDE 6" PERFORATED UNDERDRAIN AS REQUIRED BY THE TOWN ENGINEER.
71. ALL HEADWALLS/RETAINING WALLS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW HAMPSHIRE.
72. ALL UTILITIES SHALL BE UNDERGROUND.
73. PRIOR TO CONSTRUCTION THE SITE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE ASSOCIATED WITH THE MAIN LINES AND CONNECTION LOCATIONS AT EACH LOT. THE UTILITY LAYOUT PLAN SHALL BE PROVIDED TO THE DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES FOR REVIEW AND APPROVAL.
74. ROAD AND DRAINAGE LAYOUT SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR TYPICAL DETAILS FOR SITE AND ROADWAY INFRASTRUCTURE, LONDONDERRY, NEW HAMPSHIRE.
75. COMPACTION TESTING SERVICES ARE TO BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR. TESTING REQUIREMENTS TO BE ESTABLISHED AT THE PRECONSTRUCTION MEETING.

CONSTRUCTION SEQUENCE:

- 76. THE FOLLOWING CONSTRUCTION SEQUENCE IS A GENERAL GUIDELINE FOR THE CONTRACTOR TO FOLLOW. ADJUSTMENTS SHALL BE MADE DUE TO WEATHER CONDITIONS, PERMIT CONDITIONS AND/OR MARKET CONDITIONS. THE CONSTRUCTION SEQUENCE SHALL ALSO BE ADJUSTED ACCORDING TO THE REQUIREMENTS OF EACH PHASE.
77. CONTRACTOR TO NOTIFY DIG-SAFE 72-HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
78. CUT AND CLEAR TREES AND BRUSH FROM CONSTRUCTION AREAS TO THE EXTENT NECESSARY. ALL BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF BY CONTRACTOR. THIS PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
79. PRIOR TO GRUBBING OF CLEARED AREAS, ALL SALTATION BARRIERS DESIGNED FOR USE AS TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED AS CALLED FOR ON PROJECT PLANS. INSTALL STABILIZED CONSTRUCTION EXIT AT LOCATION OF CONSTRUCTION ACCESS AT LOCATION OF INTERSECTION WITH EXISTING PAVEMENT.
80. COMPLETE GRUBBING OPERATIONS UNDER THE ROADWAY AND SLOPE SECTIONS. ALL STUMPS AND SIMILAR DEBRIS SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR. ORGANIC MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN NEW ENGLAND. ALL STOCKPILED MATERIAL SHALL BE COVERED WITH WINTER RYE AND, IF NECESSARY, SURROUNDED WITH HAY BALES IN ORDER TO PREVENT LOSS DUE TO EROSION.
81. BEGIN ANY BLASTING OPERATIONS, IF REQUIRED, IN ACCORDANCE WITH PERMIT REQUIREMENTS.
82. CONSTRUCT AND STABILIZE ALL DITCHLINES AND POND(S) PRIOR TO DIRECTING FLOW INTO THEM.
83. CONSTRUCT THE DRAINAGE SYSTEM, SEWER SYSTEM AND OTHER SUBSURFACE UTILITIES AS ROUGH GRADES ARE ESTABLISHED.
84. BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
85. ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
86. COMMENCE CONSTRUCTION OF DRIVEWAY AND PARKING LOT, PERFORM EXCAVATION ACTIVITIES REQUIRED TO ACHIEVE SUBGRADE ELEVATION. ALL EXCAVATED EMBANKMENTS, DITCHES, AND SWALES SHALL BE INSTALLED AND STABILIZED. ALL SWALES AND DITCHLINES SHALL BE PROTECTED FROM EROSION BY IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON PROJECT PLANS. DIVERT STORMWATER RUNOFF THROUGH THE USE OF TEMPORARY CULVERTS, OR OTHER MEANS NECESSARY PRIOR TO THE COMPLETIONS OF A FUNCTIONAL STORM DRAINAGE SYSTEM. SLOPES AND EMBANKMENTS SHALL BE STABILIZED BY TRACKING AND TEMPORARY SEEDING WITH WINTER RYE PRIOR TO TURF ESTABLISHMENT. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
87. COMPLETE CONSTRUCTION OF DRIVEWAY AND PARKING LOT EMBANKMENTS BY ADDING APPROPRIATE BASE MATERIALS GRADED TO PROPER ELEVATION.
88. APPLY TOPSOIL TO DRIVEWAY AND PARKING LOT SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED MAY BE NATIVE ORGANIC MATERIAL SCREENED SO AS TO BE FREE OF ROOTS, BRANCHES, STONES AND OTHER DANGEROUS MATERIALS. TOPSOIL SHALL BE APPLIED TO A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEEDED AND MULCHED. CONSTRUCTION PERSONNEL SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS HAS BECOME ESTABLISHED.
89. PERFORM FINAL GRADING OF DRIVEWAY AND PARKING LOT BASE OF GRAVELS.
90. PAVE DRIVEWAY AND PARKING LOT BINDER COURSE AND PLACE BITUMINOUS CURBING. TEMPORARY PAVEMENT MARKINGS AND SIGNAGE SHALL BE INSTALLED.
91. UPON APPROVAL FROM THE TOWN OF LONDONDERRY DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES, ALL RIMS CAN BE ADJUSTED AND THE WEARING SURFACE PAVED.
92. MAINTAIN, REPAIR AND REPLACE AS NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENTIRE CONSTRUCTION AREA HAS BEEN STABILIZED (A MINIMUM OF ONE WINTER SHALL HAVE PASSED).
93. AFTER STABILIZATION, REMOVE AND SUITABLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES.
94. MONITOR CONSTRUCTION ACTIVITIES FOR TO ENSURE CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUCH A WAY AS NOT TO ENDANGER THE INTEGRITY OF THE DRIVEWAY OR EMBANKMENTS, STORMWATER SYSTEMS AND UTILITIES.

INSPECTIONS:

- 95. THE APPLICANT'S CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY REPORTS AND OBTAINING THE NECESSARY INSPECTIONS BY THE DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES FOR REQUIRED IMPROVEMENTS DURING CONSTRUCTION. THE NECESSARY INSPECTIONS AND REPORTS ARE AS FOLLOWS:
• INSPECTION OF DRIVEWAY AND PARKING LOT SUBGRADE AND RELATED IMPROVEMENTS AFTER CLEARING GRUBBING
• INSPECTION OF THE INSTALLATION OF ALL DRAINAGE STRUCTURES, SWALES, AND OTHER DRAINAGE IMPROVEMENTS.
• DRIVEWAY AND PARKING LOT SUBGRADE INSPECTION PRIOR TO IMPORT OF GRAVELS. A COMPACTION TEST REPORT FOR REVIEW AND APPROVAL INDICATING THE SUBGRADE IS COMPACTED IN COMPLIANCE WITH NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION REQUIREMENTS SHALL BE PROVIDED;

- SIEVE ANALYSIS REPORTS OF GRAVELS TO BE USED IN SUBBASE IN COMPLIANCE WITH NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION REQUIREMENTS SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT;
• INSPECTION DURING PLACEMENT OF BANKING GRAVEL AND CRUSHED GRAVEL AND FINE GRADING PRIOR TO PLACEMENT OF PAVEMENT. COMPACTION TESTS INDICATING THE GRAVELS WERE COMPACTED IN COMPLIANCE WITH NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION REQUIREMENTS SHALL BE PROVIDED;
• INSPECTION OF BASE COURSE AND WEARING COURSE PAVEMENT INSTALLATION;
• INSPECTION OF REMOVAL OF EROSION CONTROL MEASURES;
• FINAL INSPECTION;
• ADDITIONAL INSPECTIONS AS NECESSARY TO VERIFY PROPER CONSTRUCTION METHODS; AND
• CERTIFICATION STATEMENT(S) ON THE AS-BUILT PLANS VERIFYING THAT EACH ROAD INTERSECTION WAS PROPERLY CONSTRUCTED TO PROVIDE THE REQUIRED SIGHT DISTANCES. THE CERTIFICATION STATEMENT SHALL BE ENDORSED AND SIGNED BY A LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.

BEST MANAGEMENT PRACTICES FOR BLASTING

- ALL ACTIVITIES RELATED TO BLASTING SHALL FOLLOW BEST MANAGEMENT PRACTICES (BMPs) TO PREVENT CONTAMINATION OF GROUNDWATER INCLUDING PREPARING, REVIEWING AND FOLLOWING AN APPROVED BLASTING PLAN; PROPER DRILLING, EXPLOSIVE HANDLING AND LOADING PROCEDURES; OBSERVING THE ENTIRE BLASTING PROCEDURES; EVALUATING BLASTING PERFORMANCE; AND HANDLING AND STORAGE OF BLASTED ROCK.
1. LOADING PRACTICES.
THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
A. DRILLING LOSS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOSS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS.
B. EXPLOSIVE PRODUCTS SHALL BE MANAGED ON SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF SITE DISPOSAL.
C. SPILLAGE FROM THE BOREHOLE SHALL BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF SITE DISPOSAL.
D. LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED.
E. LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT.
F. EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
2. EXPLOSIVE SELECTION.
THE FOLLOWING BMPs SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
A. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION.
B. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER.
3. PREVENTION OF MISFIRE.
APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
4. MUCK PILE MANAGEMENT.
MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
A. REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE.
B. MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
5. SPILL PREVENTION MEASURES AND SPILL MITIGATION.
A. SPILL PREVENTION AND MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:
A.1. THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE:
A.1.1. STORAGE OF REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE.
A.1.2. SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY.
A.1.3. LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY.
A.1.4. INSPECT STORAGE AREAS WEEKLY.
A.1.5. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS.
A.1.6. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS.
A.1.7. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
B. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
B.1. EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED.
B.2. PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS.
B.3. HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS.
B.4. USE FUEL TIGHT CONTAINERS FOR FUEL TRANSFER.
B.5. PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
C. THE TRAINING OF ON SITE EMPLOYEES AND THE ON SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
D. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT WILL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES. NOTE THESE REQUIREMENTS ARE SUMMARIZED IN WD-DW6B-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT OR ITS SUCCESSOR DOCUMENT.

TOWN OF LONDONDERRY PERMITS & NOTIFICATION FOR BLASTING:

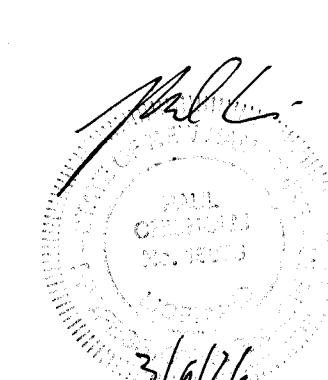
- 1. A PERMIT TO BLAST MUST BE OBTAINED FROM THE LONDONDERRY FIRE DEPARTMENT PRIOR TO ANY BLASTING.
2. A PERMIT IS REQUIRED FOR EACH INDIVIDUAL BLASTER; PERMITS WILL NOT BE ISSUED SOLELY TO BLASTING CORPORATIONS.
3. PERMITTEES MUST PROVIDE THE FOLLOWING DOCUMENTATION PRIOR TO A PERMIT BEING ISSUED.
3.a. A VALID STATE OF NH CERTIFICATE OF COMPETENCY
3.b. A VALID STATE OF NH LICENSE TO PURCHASE, USE AND TRANSPORT
3.c. AN INSURANCE BINDER SPECIFICALLY COVERING BLASTING OPERATIONS FOR NOT LESS THAN ONE MILLION DOLLARS.
4. NOTIFICATION MUST BE MADE TO THE LONDONDERRY FIRE DEPARTMENT NOT LESS THAN ONE HOUR TO EACH BLAST OR SERIES OF BLAST.
5. BLASTING HOURS SHALL BE FROM 8:00AM TO 4PM, MONDAY THROUGH SATURDAY, UNLESS OTHERWISE STATED ON THE PERMIT.
6. ALL HANDLING, STORAGE, TRANSPORTATION AND USE OF BLASTING MATERIAL SHALL CONFORM TO NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES §SAFE-C-1601.
7. WARNING SIGNALS ARE TO BE USED AS FOLLOWS:
7.a. 3 LONG -5 MINUTES TO DETONATION
7.b. 2 LONG -1 MINUTE TO DETONATION
7.c. DETONATE
7.d. FLARE -ALL CLEAR
7.e. FIRE MATS SHALL BE USED TO COVER ALL BLASTS.
8. THE PERMITTEE SHALL TAKE ALL REASONABLE PRECAUTIONS, INCLUDING BUT NOT LIMITED TO SIGNAGE, WARNING SIGNALS, FLAGS AND BARRICADES TO ENSURE THE PUBLIC SAFETY.
9. WHENEVER A PRE-BLAST INSPECTION IS REQUIRED, A COPY OF THE SEISMIC GRAPH REPORT MUST BE SUBMITTED TO THE LONDONDERRY FIRE DEPARTMENT.

WAIVER REQUESTS/CONDITIONAL USE PERMITS/VARIANCES:

- THE FOLLOWING WAIVER IS REQUESTED FROM THE LONDONDERRY SITE PLAN REGULATIONS:
• SECTION 4.12.c.19.iii - TO WAIVE THE REQUIREMENT TO IDENTIFY TREES GREATER THAN 15" IN DIAMETER, AND SPECIES.
THE FOLLOWING CONDITIONAL USE PERMITS ARE REQUESTED FROM THE LONDONDERRY ZONING ORDINANCE:
• SECTION 4.1.2 - TO ALLOW A MULTIFAMILY RESIDENTIAL DEVELOPMENT IN THE COMMERCIAL (C-II) ZONING DISTRICT
• SECTION 4.6.1.4 - TO ALLOW APPROXIMATELY 1,522 SF OF DISTURBANCE WITHIN THE CONSERVATION OVERLAY DISTRICT
THE FOLLOWING VARIANCE IS REQUESTED FROM THE LONDONDERRY ZONING ORDINANCE:
• SECTION 4.3.3.B.2 - TO ALLOW A PROPOSED DRIVEWAY WITHIN THE REQUIRED 50' LANDSCAPE BUFFER ZONE

REFERENCE PLANS:

- 1. "SUBDIVISION PLAN OF LAND OF A.J. & G.Y. HUARD; SUBDIVISION PLAN OF LAND OF MR. & MRS. LEO DUBOIS. SCALE: 1"=50'. DATED: JUNE, 1969. PREPARED BY: P. BRUSQUINI P.E. R.C.R.D. PLAN #1438
2. "TOWN OF LONDONDERRY, N.H. MAP 17 PARCEL 25." SCALE: 1"=50'. DATED: JANUARY, 1982. PREPARED BY: EDWARD N. HERBERT ASSOC. INC. R.C.R.D. PLAN #12463
3. "RESOLUTION PLAN, OLD PAGE ROAD." SCALE: 1"=40'. DATED: JANUARY 29, 2008. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #36063
4. "LOT LINE ADJUSTMENT-MAP 15 LOTS 235 & 239." SCALE: 1"=100'. DATED: JANUARY 15, 2014. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #38211
5. "LOT 17-7 SUBDIVISION PLAN." SCALE: 1"=60'. DATED: DECEMBER 19, 2014. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #40123
6. "PLAN OF PROPOSED FEDERAL AID PROJECT" ROCKINGHAM ROAD. SCALE: 1"=50'. LAST REVISED: DECEMBER 22, 1954 N.H. PROJECT NO. R-2979



OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

PROJECT NOTES

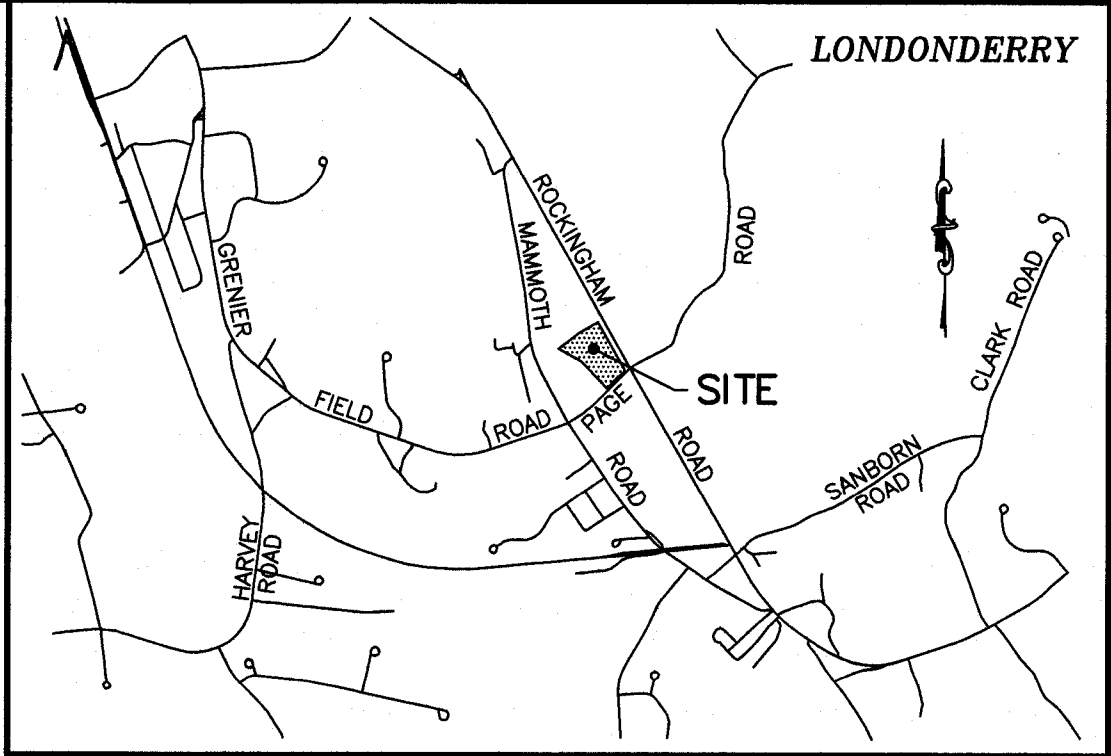
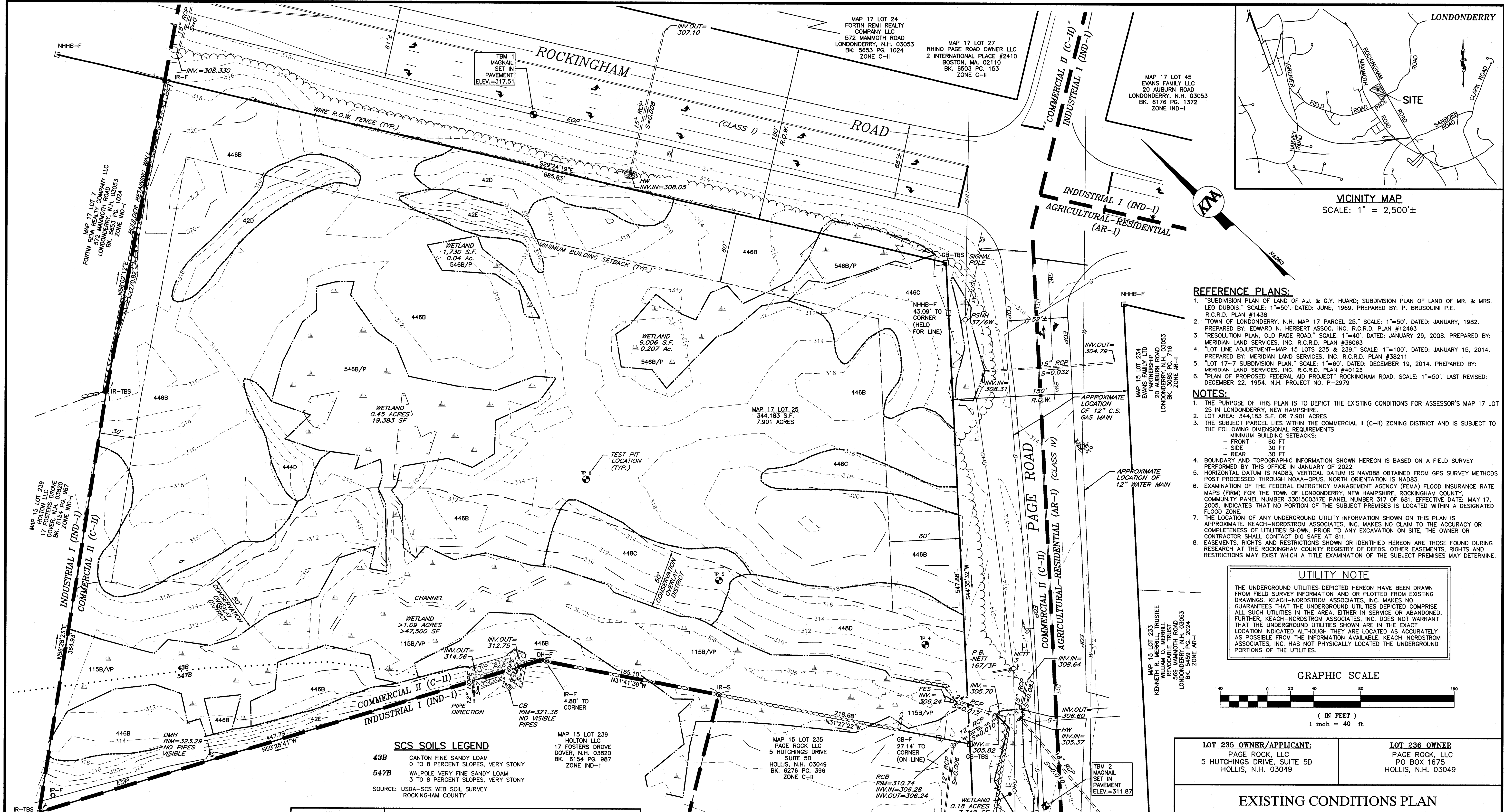
ROCK ROAD TOWNHOMES

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. 1 OF 20

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

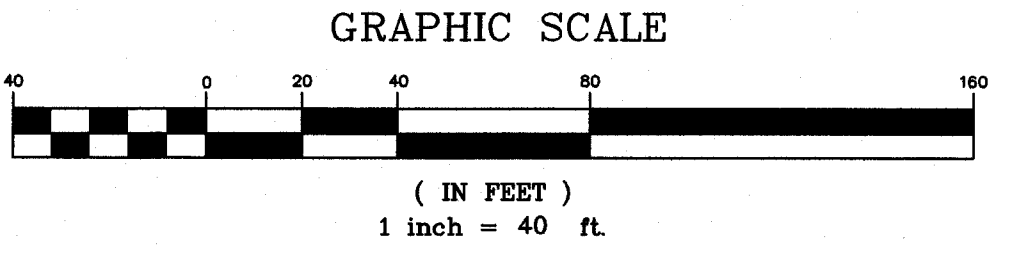


- REFERENCE PLANS:**
- "SUBDIVISION PLAN OF LAND OF A.J. & G.Y. HUARD; SUBDIVISION PLAN OF LAND OF MR. & MRS. LEO DUBOIS." SCALE: 1"=50'. DATED: JUNE, 1969. PREPARED BY: P. BRUSQUINI P.E. R.C.R.D. PLAN #1438
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 - "RESOLUTION PLAN, OLD PAGE ROAD." SCALE: 1"=40'. DATED: JANUARY 29, 2008. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #36063
 - "LOT LINE ADJUSTMENT-MAP 15 LOTS 235 & 236." SCALE: 1"=100'. DATED: JANUARY 15, 2014. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #38211
 - "LOT 17-7 SUBDIVISION PLAN." SCALE: 1"=60'. DATED: DECEMBER 19, 2014. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #40123
 - "PLAN OF PROPOSED FEDERAL AID PROJECT" ROCKINGHAM ROAD. SCALE: 1"=50'. LAST REVISED: DECEMBER 22, 1954. N.H. PROJECT NO. P-2979

- NOTES:**
- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS FOR ASSESSOR'S MAP 17 LOT 25 IN LONDONDERRY, NEW HAMPSHIRE.
 - LOT AREA: 344,183 S.F. OR 7.901 ACRES
 - THE SUBJECT PARCEL LIES WITHIN THE COMMERCIAL II (C-II) ZONING DISTRICT AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS:
MINIMUM BUILDING SETBACKS:
- FRONT 60 FT
- SIDE 30 FT
- REAR 30 FT
 - BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN JANUARY OF 2022.
 - HORIZONTAL DATUM IS NAD83, VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS. NORTH ORIENTATION IS NAD83.
 - EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE TOWN OF LONDONDERRY, NEW HAMPSHIRE, ROCKINGHAM COUNTY, COMMUNITY PANEL NUMBER 33015C0317E PANEL NUMBER 317 OF 681. EFFECTIVE DATE: MAY 17, 2005, INDICATES THAT NO PORTION OF THE SUBJECT PREMISES IS LOCATED WITHIN A DESIGNATED FLOOD ZONE.
 - THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE, THE OWNER OR CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
 - EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND/OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.



SCS SOILS LEGEND

43B CANTON FINE SANDY LOAM 0 TO 8 PERCENT SLOPES, VERY STONY

547B WALPOLE VERY FINE SANDY LOAM 3 TO 8 PERCENT SLOPES, VERY STONY

SOURCE: USDA-SCS WEB SOIL SURVEY ROCKINGHAM COUNTY

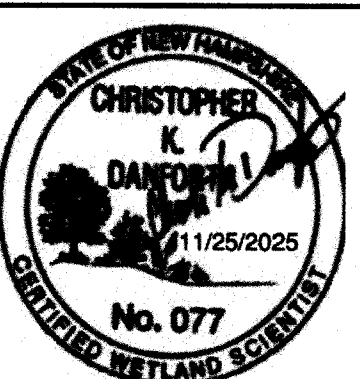
OWNER OF MAP 17 LOT 25

SIGNATURE: *Deane Nye*

DATE: 2/16/2026

WETLAND CERTIFICATION:

JURISDICTIONAL WETLANDS SHOWN ON THIS PLAN WERE DELINEATED IN JANUARY OF 2022 BY CHRISTOPHER K. DANFORTH OWS #077. THE WETLANDS WERE DELINEATED ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2, JANUARY 2012. DOMINANT HYDRIC SOILS WITHIN THE WETLAND(S) WERE IDENTIFIED USING "FIELD INDICATORS OF HYDRIC SOILS OF THE UNITED STATES" A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, NROS, VERSION 8.1, 2017. DOMINANCE OF HYDROPHYTIC VEGETATION WAS DETERMINED USING THE USACE 2020 NATIONAL WETLAND PLANT LIST, NWPL 2020 VERSION 3.5 [HTTP://WETLAND-PLANTS.USACE.ARMY.MIL](http://wetland-plants.usace.army.mil).



LEGEND

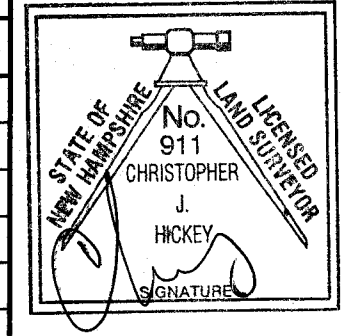
NHBB-F	NH HWY BOUND FOUND	---	PROPERTY LINE
GB-F	GRANITE BOUND FOUND	---	R.O.W. LINE
IP-F	IRON PIPE FOUND	---	ZONE LINE
IR-S	IRON ROD SET	---	TREELINE
GB-TBS	GRANITE BOUND TO BE SET	---	OVERHEAD UTILITIES
IR-TBS	IRON ROD TO BE SET	---	GAS LINE
	BENCHMARK	---	WATER LINE
	SIGN	---	DRAINAGE LINE
	CATCH BASIN	---	EDGE OF PAVEMENT
	WATER VALVE	---	10' CONTOUR
	HYDRANT	---	2' CONTOUR
	FLARED END SECTION	---	STONEWALL
	UTILITY POLE	---	SCS SOIL LINE
		---	SSS SOIL LINE
		---	BUILDING SETBACK
		---	WETLAND BUFFER
		---	LANDSCAPE BUFFER

BENCHMARK DATA

LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM



SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE DURING JANUARY OF 2022. SAID SURVEY HAS A RELATIVE ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000) OR BETTER.

SIGNATURE: *Christopher K. Danforth*

DATE: 3/9/26

LICENSED LAND SURVEYOR

EXISTING CONDITIONS PLAN

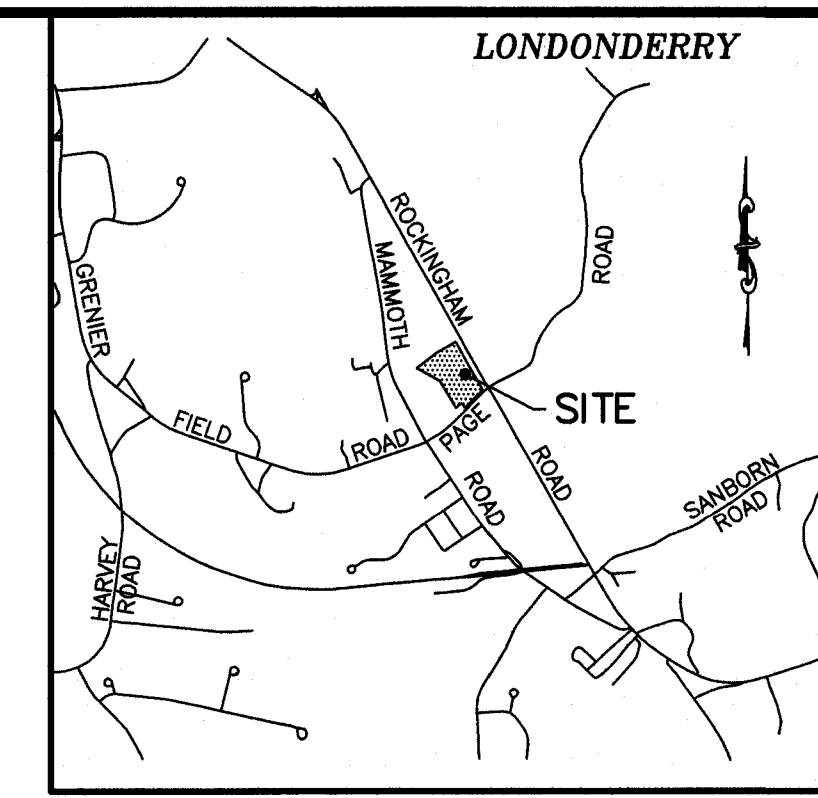
PAGE ROCK TOWNHOMES

MAP 15 LOTS 235 & 236
3 PAGE ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

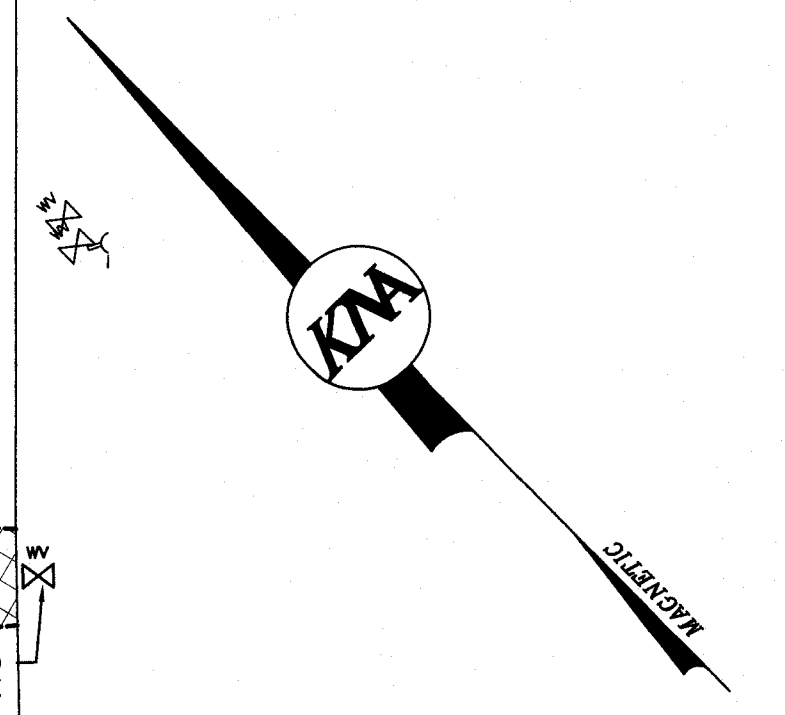
LOT 235 OWNER/APPLICANT: PAGE ROCK, LLC 5 HUTCHINGS DRIVE, SUITE 5D HOLLIS, N.H. 03049	LOT 236 OWNER: PAGE ROCK, LLC PO BOX 1675 HOLLIS, N.H. 03049
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KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1
DATE: MARCH 20, 2025
SCALE: 1" = 40'
FILE NO.:
SHEET NO. 2 OF 22



VICINITY MAP
SCALE: 1" = 2,500'±



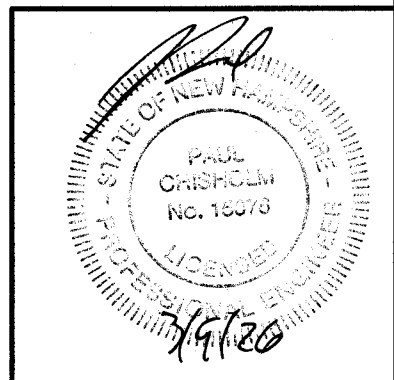
SEE SHEET 1 FOR NOTES AND REFERENCE PLANS



OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

RESIDENTIAL SITE PLAN
ROCK ROAD TOWNHOMES

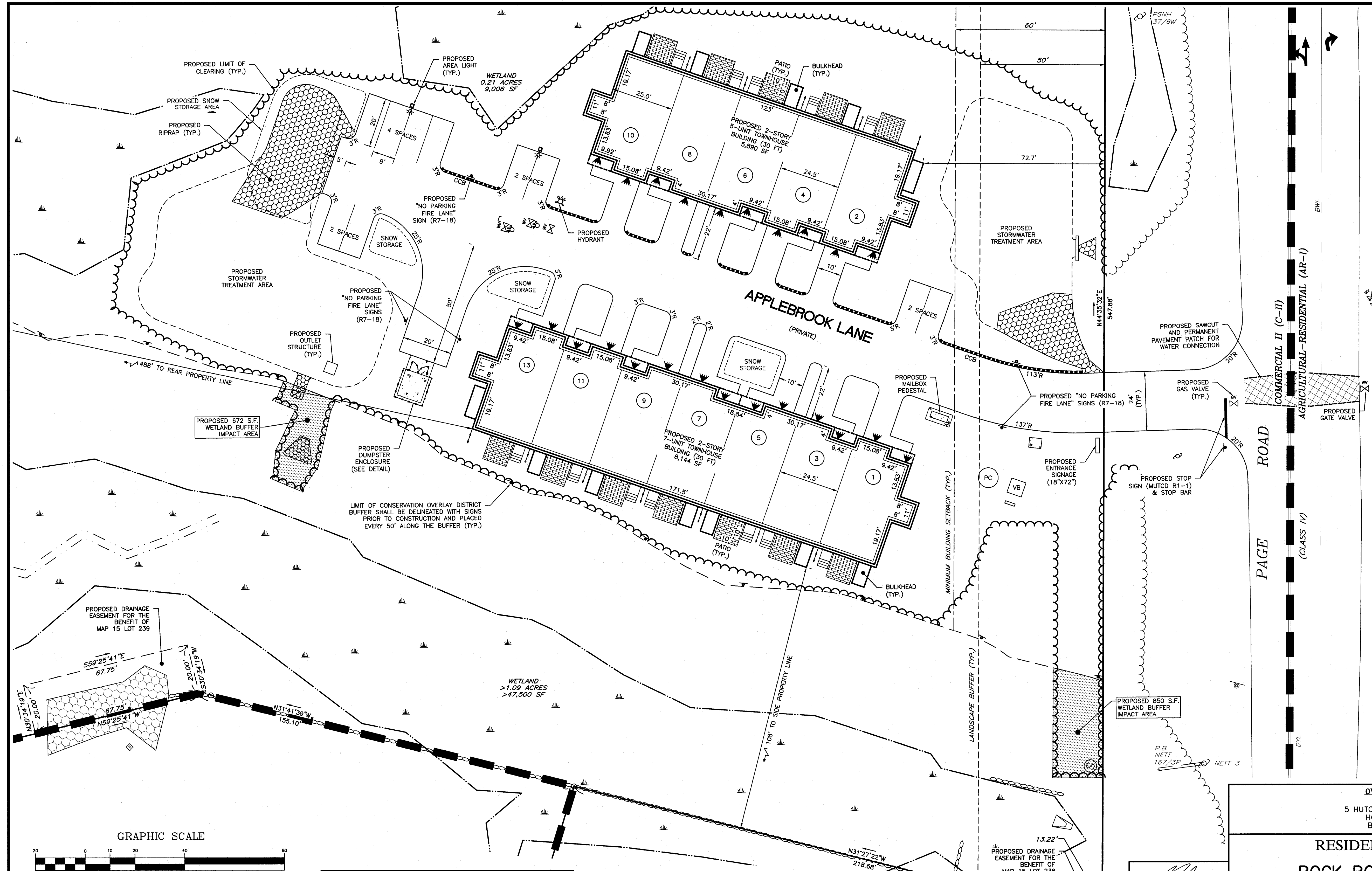
MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY



APPROVED BY THE LONDONDERRY, NH PLANNING BOARD FOR PHASE _____
ON DATE: _____
CERTIFIED BY: _____

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

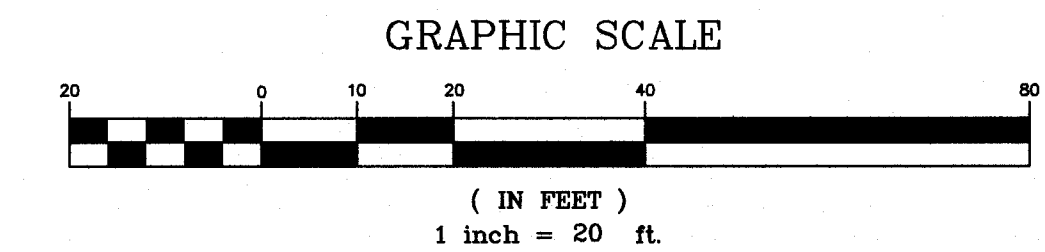
PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: 1" = 20'
FILE NO.:
SHEET NO. 3 OF 20



ZONING NOTE
THE ZONING/BUILDING SETBACKS DEPICTED ON THIS PLAN ARE THOSE WE HAVE INTERPRETED FROM THE LATEST ZONING ORDINANCE OF THE MUNICIPALITY AND, AS SUCH, ARE ONLY OPINIONS EXPRESSED BY KEACH-NORDSTROM ASSOCIATES, INC. THE FINAL INTERPRETATION OF THE ORDINANCE CAN ONLY BE MADE BY THE APPROPRIATE ZONING AUTHORITY. SINCE BUILDING ORIENTATION, PROPOSED USES, AND OTHER FACTORS CAN AFFECT THE SETBACKS, PRIOR TO ANY DEVELOPMENT OF THIS PROPERTY, THE BUILDER/OWNER MUST CONSULT WITH THE TOWN/CITY TO INSURE THE CORRECT APPLICATION OF THE ZONING ORDINANCE.

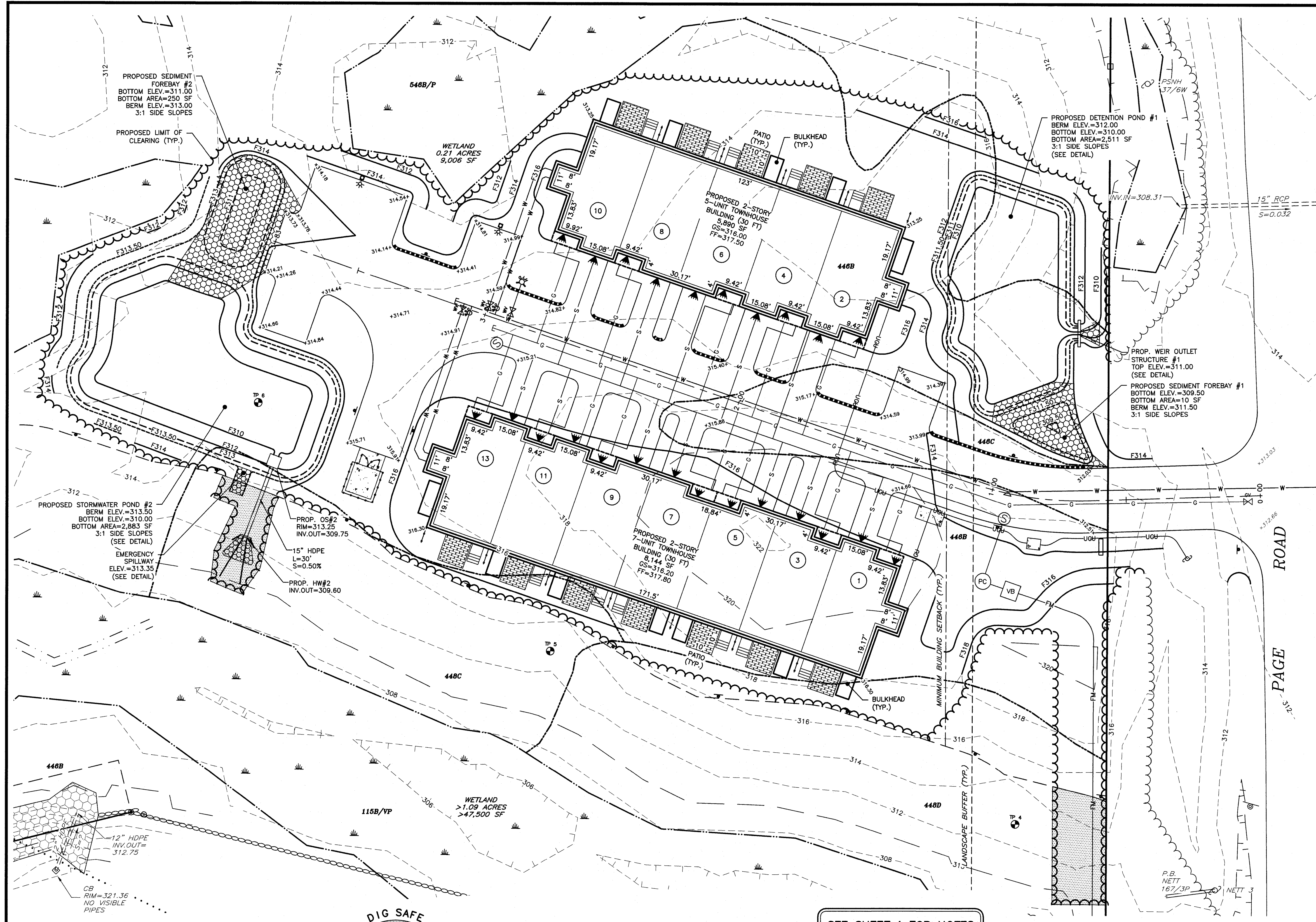
OWNER OF MAP 17 LOT 25
SIGNATURE: *Donna N...*
DATE: 2/16/2026

BENCHMARK DATA			REVISIONS			
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM



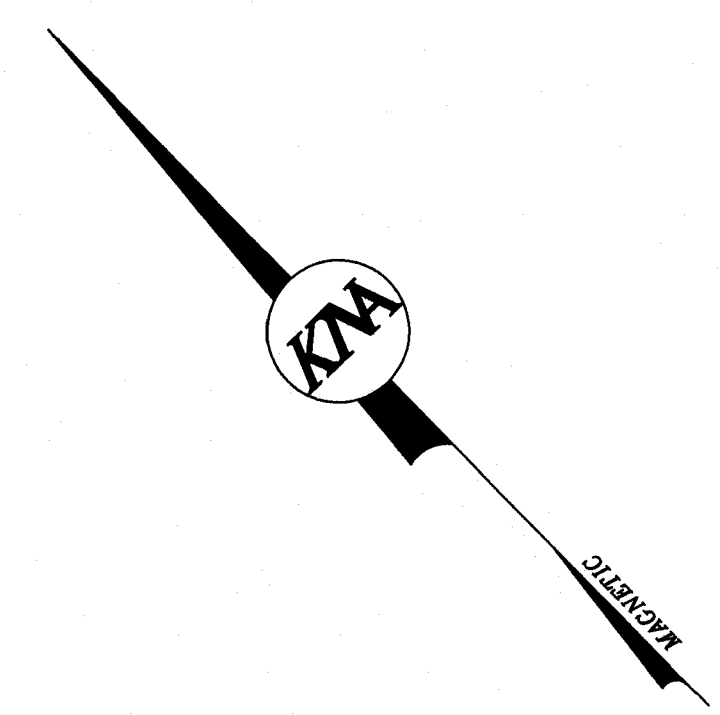
LEGEND

●	REBAR FOUND	---	PROPERTY LINE
○	IRON PIPE FOUND	- - -	ABUTTER LINE
○	UTILITY POLE	~ ~ ~	TREELINE
○	SIGN	---	EDGE OF PAVEMENT
○	GAS VALVE	---	BUILDING SETBACK
○	WATER VALVE	---	BUFFER LINE
○	HYDRANT	○ ○ ○ ○	STONEWALL
○	WATER SHUT OFF	---	ZONE LINE
○	CATCH BASIN	---	BITUMINOUS CONCRETE CURB
○	SEWER MANHOLE	---	WETLAND
○	RIPRAP	○ ○ ○ ○	
○	CONCRETE	---	



CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING AND DRAINAGE FOR THIS SITE.
2. THE EDGE OF THE CONSERVATION OVERLAY DISTRICT AND NON-DISTURBANCE ZONES SHALL BE DELINEATED APPROPRIATELY PRIOR TO CONSTRUCTION.
3. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF LONDONDERRY, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2010 ARE HEREBY INCORPORATED BY REFERENCE.
4. EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE IN LOCATION AND POSSIBLY INCOMPLETE. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT SIZE, LOCATION, DEPTH AND EXISTENCE OF ALL EXISTING UNDERGROUND UTILITIES THAT ARE TO BE ACCESSED OR CROSSED DURING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. ALL FILL EMBANKMENT SLOPES SHALL BE PROPERLY PREPARED AND CONSTRUCTED WITH FILL MATERIAL CONFORMING TO NHDOT ITEM NO. 203.6 (EMBANKMENT IN PLACE) AND COMPACTED TO 92% OF MAX.
7. ALL DISTURBED AREAS ARE TO BE LOAMED AND SEEDDED.



SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HSG
44B	MONTAUK	0-8%	WELL DRAINED	C
42D	CANTON	15-25%	WELL DRAINED	B
42E	CANTON	25+%	WELL DRAINED	B
440B	SCITUATE-NEWFIELDS COMPLEX	0-8%	MODERATELY WELL DRAINED	C
440C	SCITUATE-NEWFIELDS COMPLEX	8-15%	MODERATELY WELL DRAINED	C
440B	SCITUATE	0-8%	MODERATELY WELL DRAINED	C
440C	SCITUATE	8-15%	MODERATELY WELL DRAINED	C
440D	SCITUATE	15-25%	MODERATELY WELL DRAINED	C
444D	NEWFIELDS	15-25%	MODERATELY WELL DRAINED	C
546B/P	WALPOLE	0-8%	POORLY DRAINED	C
115B/VP	SCITUATE-NEWFIELDS COMPLEX	0-8%	VERY POORLY DRAINED	D

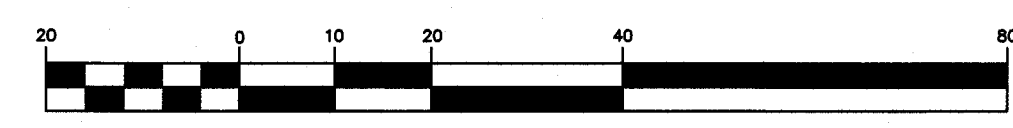
THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED JULY 8, 2022, AND WAS PREPARED BY LUKE HURLEY, CWS # 095, BSC, INC. THE SURVEY AREA IS LOCATED AT 295 ROCKINGHAM ROAD, LONDONDERRY, NH.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE COMPONENTS OF THE COMPLEX.

HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

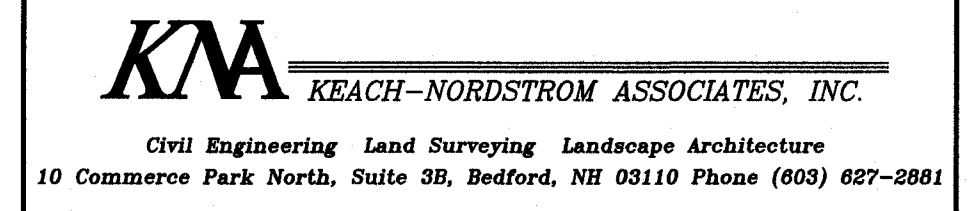
OWNER/APPLICANT:

PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

**GRADING & DRAINAGE PLAN
ROCK ROAD TOWNHOMES**

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: 1" = 20'
FILE NO.:
SHEET NO. 4 OF 20



SEE SHEET 1 FOR NOTES AND REFERENCE PLANS

LOAM & SEED ALL DISTURBED AREAS UNLESS OTHERWISE SPECIFIED (TYP.)

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.



LEGEND

●	REBAR FOUND	—	PROPERTY LINE
○	IRON PIPE FOUND	—	ABUTTER LINE
□	UTILITY POLE	—	TREELINE
△	SIGN	—	EDGE OF PAVEMENT
▽	GAS VALVE	—	BUILDING SETBACK
◇	WATER VALVE	—	BUFFER LINE
+	HYDRANT	—	10' CONTOUR
×	WATER SHUT OFF	—	2' CONTOUR
○	CATCH BASIN	—	DRAINAGE LINE
□	TOP OF WALL	—	STONEWALL
□	BOTTOM OF WALL	—	WETLAND
□	TOP OF CURB	—	
□	BOTTOM OF CURB	—	
□	SEWER MANHOLE	—	
□	RIPRAP	—	
□	CONCRETE	—	

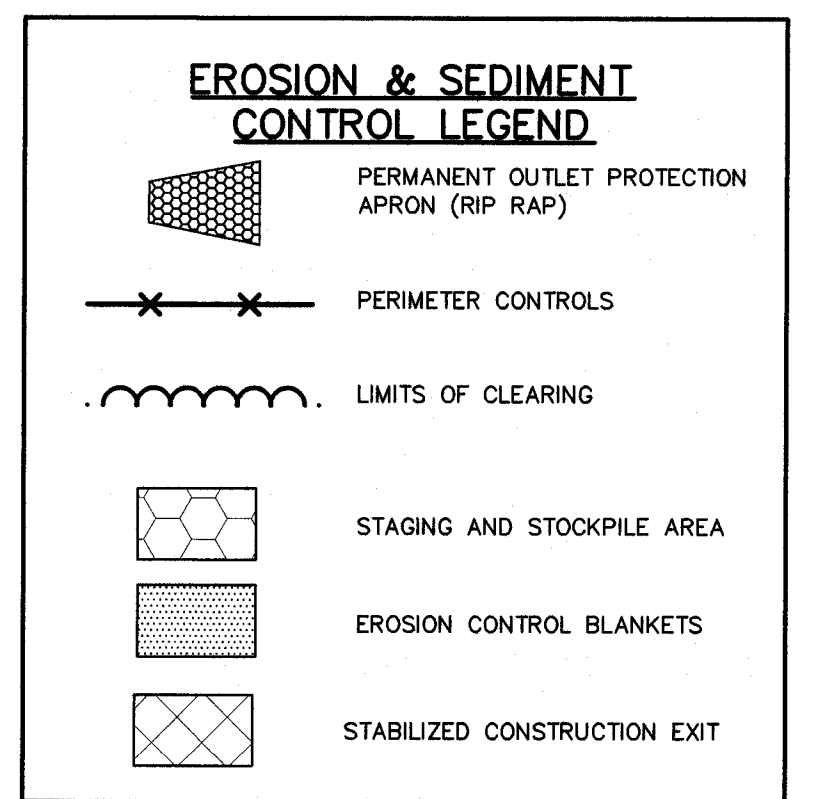
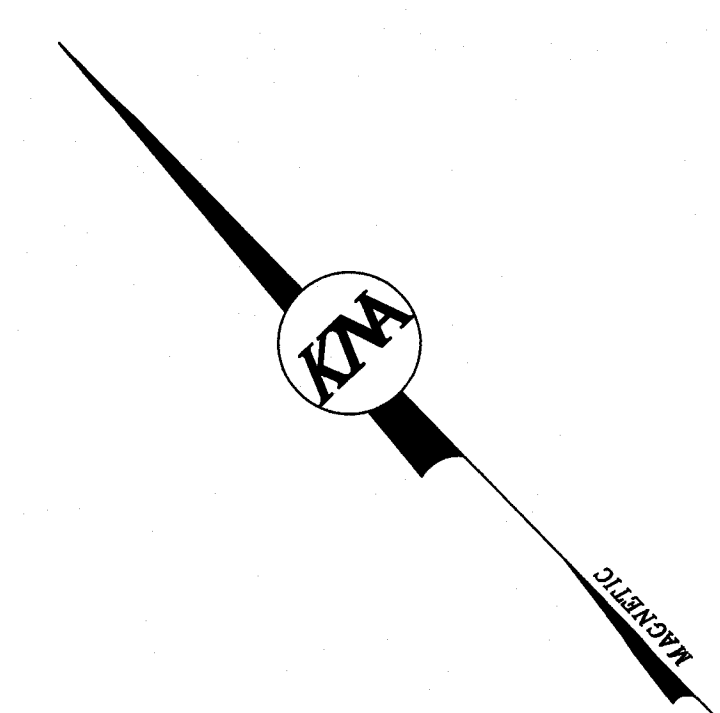
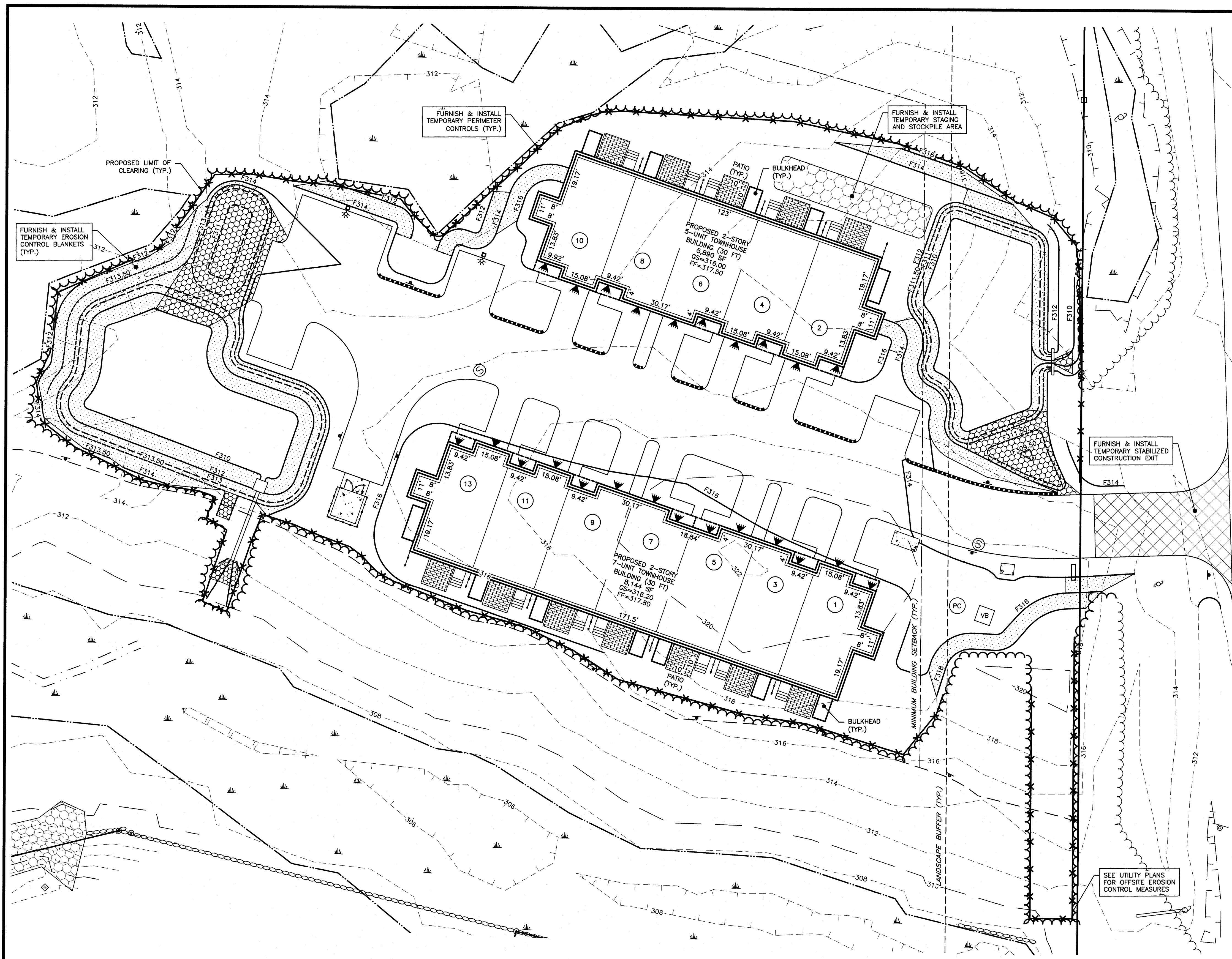
BENCHMARK DATA

LOCATION	DATUM	DESCRIPTION	NO.	DATE	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	PCM

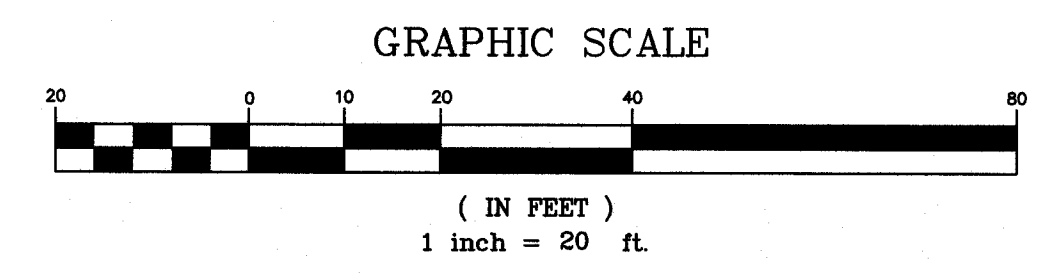
REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

- EROSION CONTROL NOTES:**
- ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN THE NEW HAMPSHIRE STORMWATER MANUAL DATED FEBRUARY 2025, AS AMENDED FROM TIME TO TIME.
 - WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
 - APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
 - THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
 - MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES.
 - OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
 - ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
 - ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
 - THE OWNER IS RESPONSIBLE FOR FINAL STABILIZATION OF ALL SLOPES GREATER THAN 3:1 TO THE SATISFACTION OF LONDONDERRY DPW.
 - THE TOWN OF LONDONDERRY SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.



LOAM & SEED ALL DISTURBED AREAS (TYP.)



OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

**EROSION CONTROL PLAN
 ROCK ROAD TOWNHOMES**

**MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY**

PROJ. NO: 21-0113-1
 DATE: MAY 6, 2025
 SCALE: 1" = 20'
 FILE NO.:
 SHEET NO. 5 OF 20

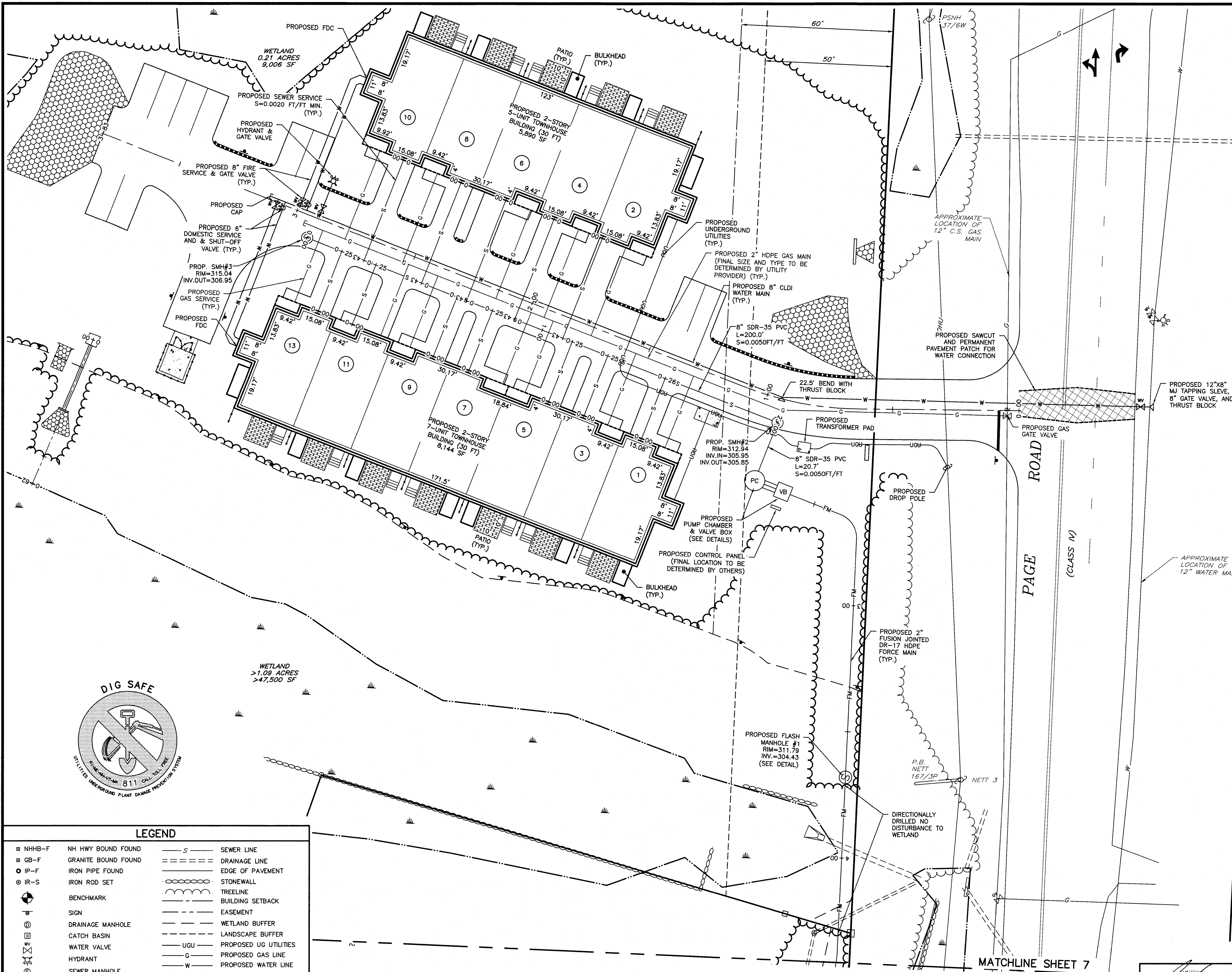
LEGEND

	REBAR FOUND		PROPERTY LINE
	IRON PIPE FOUND		ABUTTER LINE
	UTILITY POLE		TREELINE
	SIGN		EDGE OF PAVEMENT
	GAS VALVE		BUILDING SETBACK
	WATER VALVE		BUFFER LINE
	HYDRANT		10' CONTOUR
	WATER SHUT OFF		2' CONTOUR
	CATCH BASIN		DRAINAGE LINE
			STONEWALL
			WETLAND

BENCHMARK DATA				REVISIONS		
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM



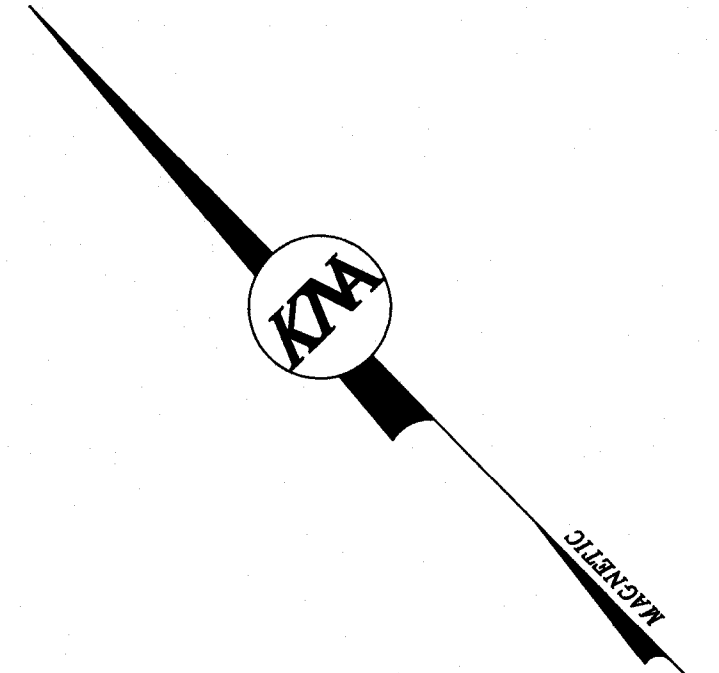
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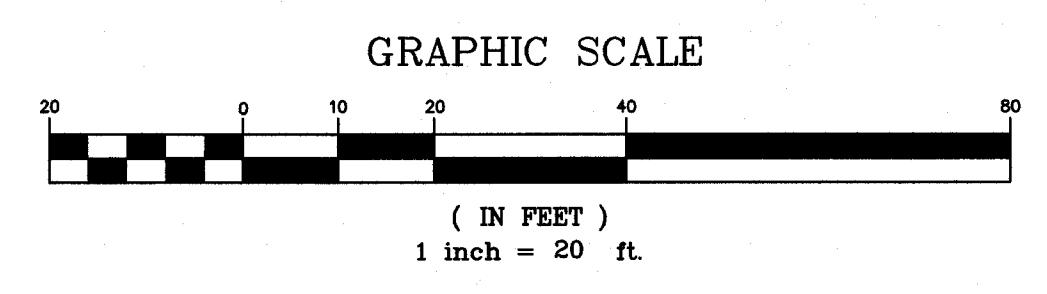
- CONSTRUCTION NOTES:**
1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED UTILITY SYSTEMS FOR THIS SITE.
 2. ALL WORK SHALL CONFORM TO THE TOWN OF LONDONDERRY, LATEST EDITION, CONSTRUCTION STANDARDS AND DETAILS. IN THE ABSENCE OF A TOWN STANDARD/SPECIFICATION, WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS PUBLISHED BY THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, ARE HEREBY INCORPORATED BY REFERENCE.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS. PRIOR TO THE START OF ANY CONSTRUCTION THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
 4. ALL DISTURBED AREAS NOT TO BE PAVED OR COVERED WITH EROSION STONE SHALL BE LOAMED AND SEEDDED.
 5. ALL PIPES SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 6. FINAL LAYOUT OF UNDERGROUND UTILITIES TO BE APPROVED BY LOCAL PROVIDER PRIOR TO CONSTRUCTION.
 7. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE.
 8. COORDINATE WATER CONNECTION, METER SIZE, AND WATERLINE SIZE WITH MANCHESTER WATER WORKS AND MEP.
 9. NO FOUNDATION DRAINS, ROOF DRAINS, OR OTHER "NON-SANITARY DRAINS" SHALL BE CONNECTED TO THE MUNICIPAL SEWER.
 10. THE SEWER CONNECTION SHALL BE INSPECTED BY AUTHORIZED TOWN OF LONDONDERRY DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES PERSONNEL BEFORE ANY BACKFILLING. INSPECTION HOURS BETWEEN 9:00 AM AND 4:30 PM, MONDAY-FRIDAY, WITH AT LEAST 2 DAYS OF ADVANCE NOTICE.
 11. ALL SEWER CONSTRUCTION AND USE SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SEWER CONSTRUCTION SPECIFICATIONS AND THE TOWN OF LONDONDERRY SEWER USE ORDINANCE.
 12. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD WITH THE TOWN, CONTRACTOR, OWNER AND ALL UTILITY REPRESENTATIVES PRIOR TO ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL APPROVAL BY THE DEPARTMENT OF ENGINEERING & ENVIRONMENTAL SERVICES.
 13. COORDINATE GAS MAIN SIZE AND TYPE WITH UTILITY PROVIDER AND MEP PRIOR TO CONSTRUCTION.

UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

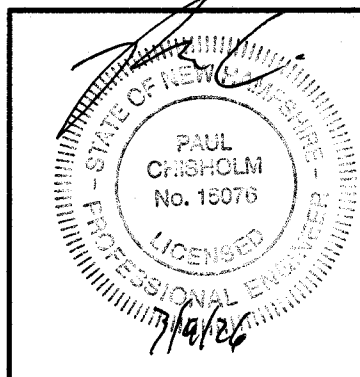


SEE SHEET 1 FOR NOTES AND REFERENCE PLANS



OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

UTILITY PLAN
ROCK ROAD TOWNHOMES
 MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY



KMA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 687-8881

PROJ. NO: 21-0113-1
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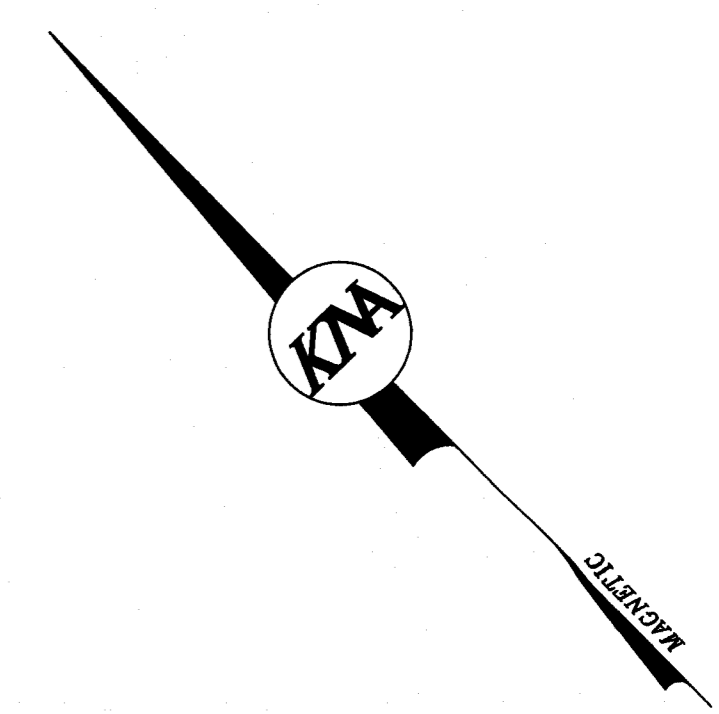
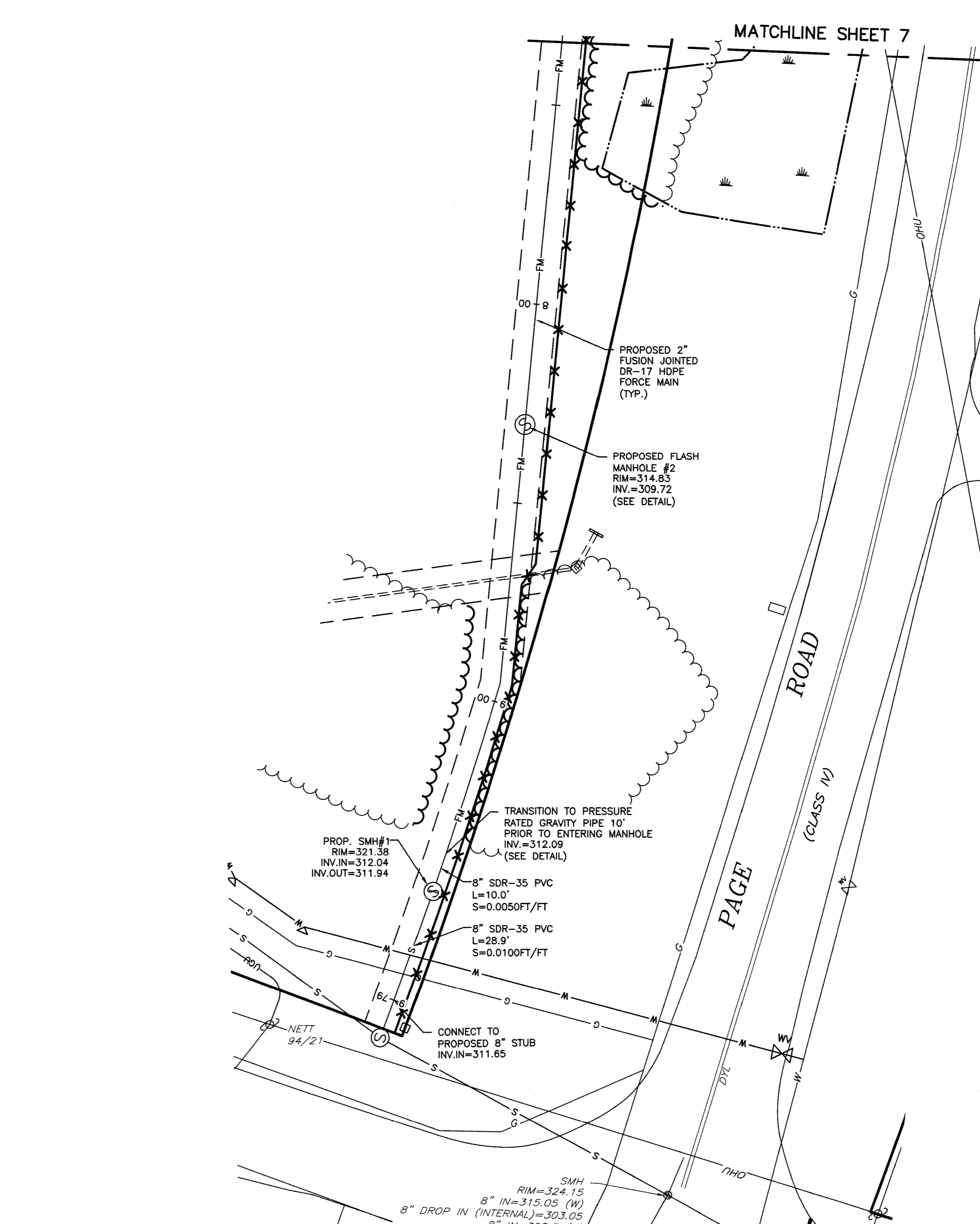
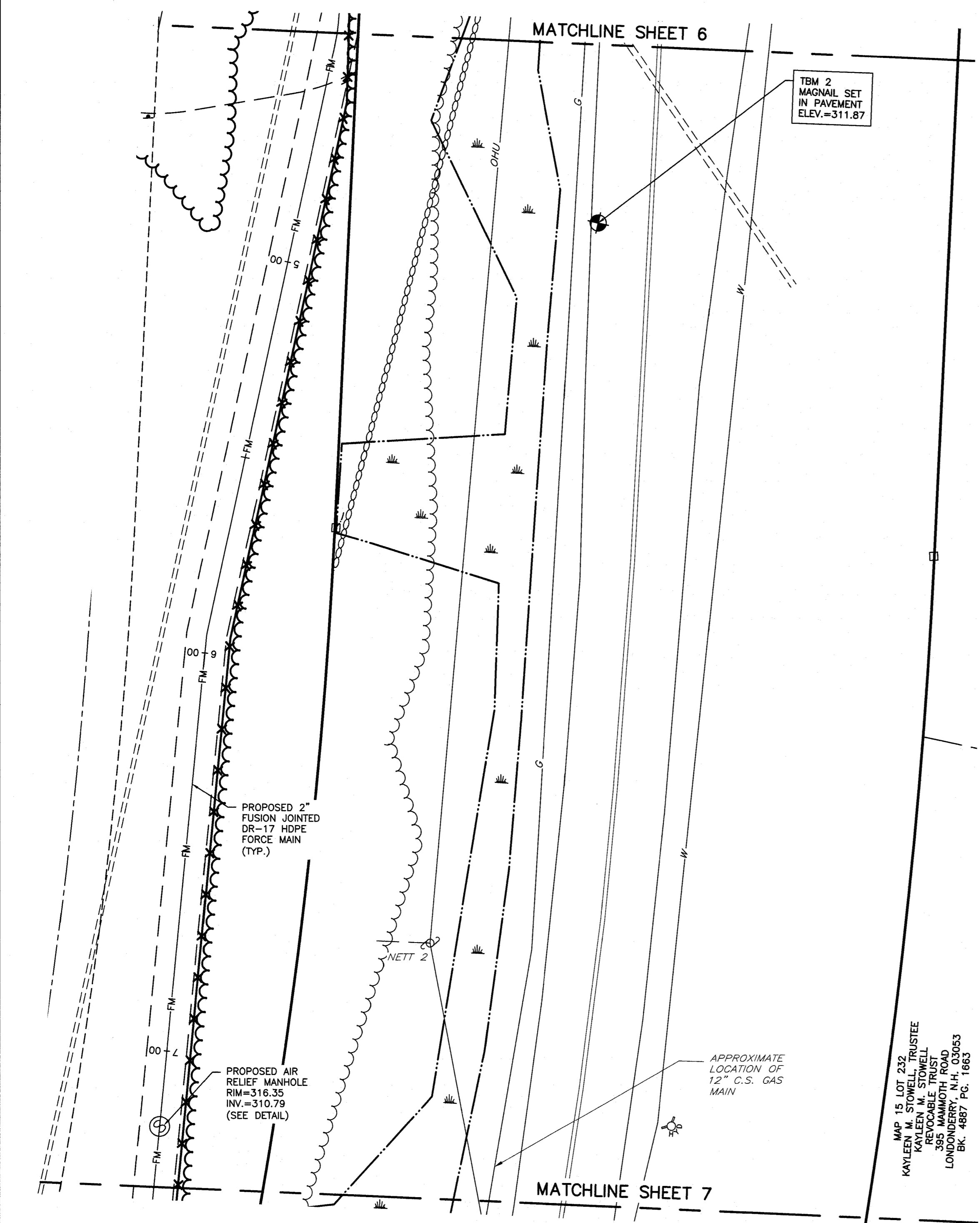


LEGEND

■ NHFB-F	NH HWY BOUND FOUND	—S—	SEWER LINE
■ GB-F	GRANITE BOUND FOUND	==	DRAINAGE LINE
● IP-F	IRON PIPE FOUND	---	EDGE OF PAVEMENT
○ IR-S	IRON ROD SET	~	STONEWALL
⊕	BENCHMARK	~	TREELINE
⊕	SIGN	---	BUILDING SETBACK
⊕	DRAINAGE MANHOLE	---	EASEMENT
⊕	CATCH BASIN	---	WETLAND BUFFER
⊕	WATER VALVE	---	LANDSCAPE BUFFER
⊕	HYDRANT	---	PROPOSED UG UTILITIES
⊕	SEWER MANHOLE	---	PROPOSED GAS LINE
⊕	FLARED END SECTION	---	PROPOSED WATER LINE
⊕	UTILITY POLE	---	PROPOSED SEWER LINE
⊕	WELL	---	PROPOSED DRAINAGE LINE
⊕	PROPERTY LINE	---	PROPOSED TREELINE
⊕	R.O.W. LINE	---	PROPOSED EOP
⊕	OVERHEAD UTILITIES	---	PROPOSED BIT. CURB
⊕	GAS LINE	---	PROPOSED RET. WALL
⊕	WATER LINE	---	PROPOSED GUARDRAIL
		---	PROPOSED RIP RAP

BENCHMARK DATA				REVISIONS			
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY	
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM	
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM	

MATCHLINE SHEET 7



LEGEND

□ NHFB-F	NH HWY BOUND FOUND	— S —	SEWER LINE
□ GB-F	GRANITE BOUND FOUND	— D —	DRAINAGE LINE
● IP-F	IRON PIPE FOUND	— E —	EDGE OF PAVEMENT
⊙ IR-S	IRON ROD SET	— ST —	STONEWALL
⊕	BENCHMARK	— TL —	TREELINE
⊕	SIGN	— BS —	BUILDING SETBACK
⊕	DRAINAGE MANHOLE	— EB —	EASEMENT
⊕	CATCH BASIN	— WB —	WETLAND BUFFER
⊕	WATER VALVE	— LB —	LANDSCAPE BUFFER
⊕	HYDRANT	— UG —	PROPOSED UG UTILITIES
⊕	SEWER MANHOLE	— G —	PROPOSED GAS LINE
⊕	FLARED END SECTION	— W —	PROPOSED WATER LINE
⊕	UTILITY POLE	— S —	PROPOSED SEWER LINE
⊕	WELL	— D —	PROPOSED DRAINAGE LINE
— PL —	PROPERTY LINE	— TL —	PROPOSED TREELINE
— RL —	R.O.W. LINE	— EOP —	PROPOSED EOP
— OHU —	OVERHEAD UTILITIES	— CB —	PROPOSED BIT. CURB
— G —	GAS LINE	— W —	PROPOSED RET. WALL
— W —	WATER LINE	— GR —	PROPOSED GUARDRAIL
		— RR —	PROPOSED RIP RAP

UTILITY NOTE

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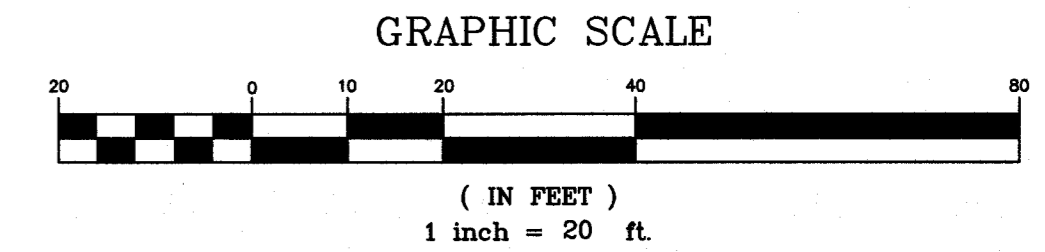
BENCHMARK DATA

LOCATION	DATUM	DESCRIPTION	NO.	DATE
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

SEE SHEET 1 FOR NOTES AND REFERENCE PLANS



OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

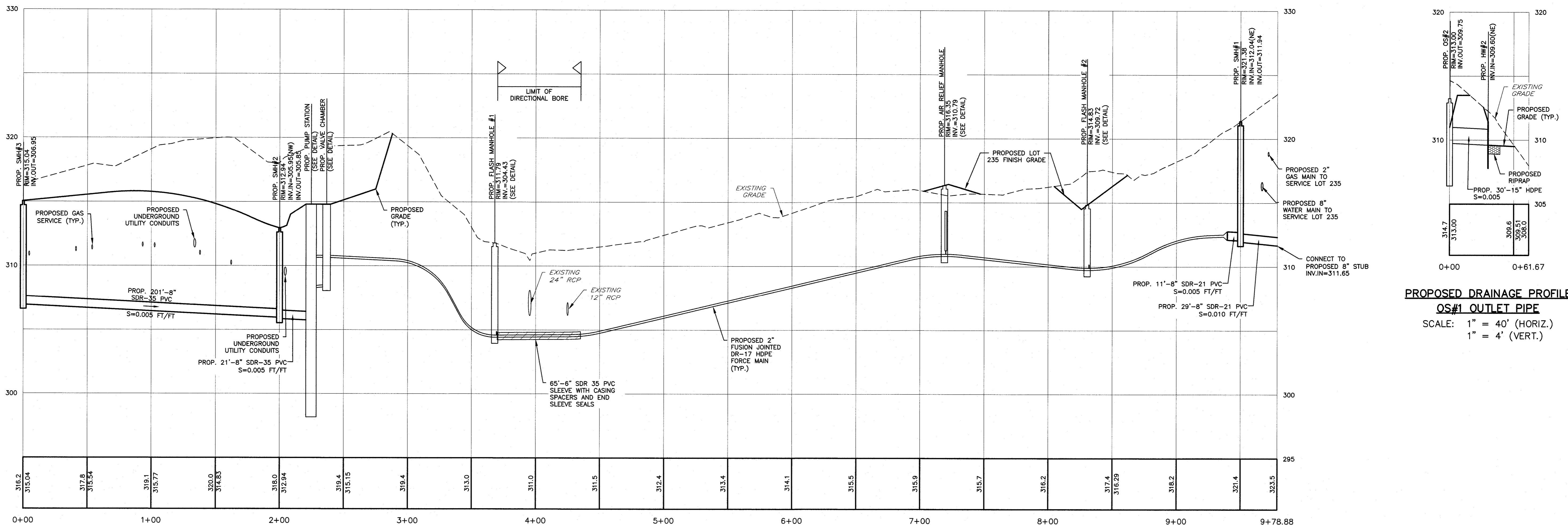
UTILITY PLAN
ROCK ROAD TOWNHOMES

MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY



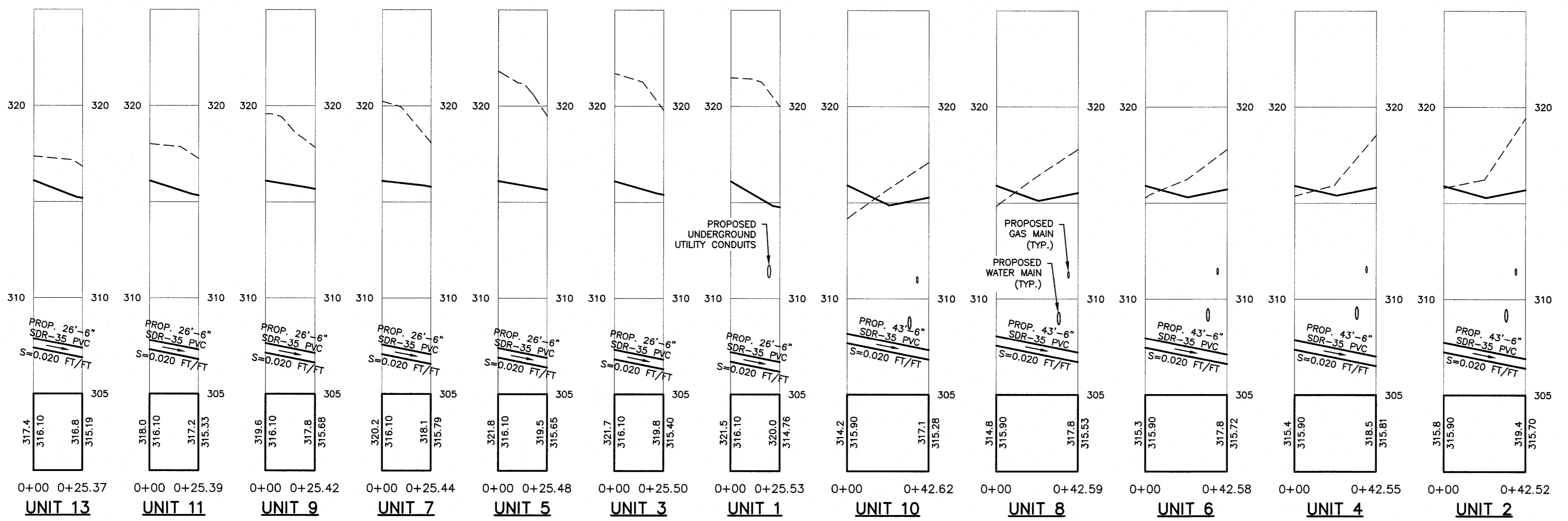
KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1
 DATE: MAY 6, 2025
 SCALE: 1" = 20'
 FILE NO.:
 SHEET NO. 7 OF 20

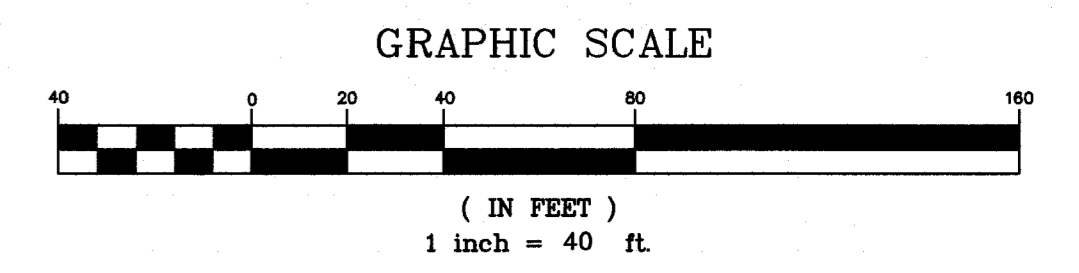
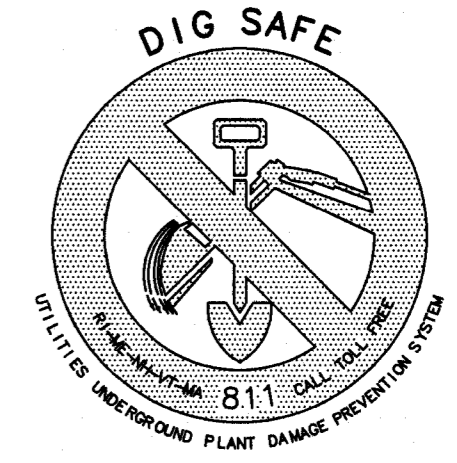


GRAVITY SEWER AND FORCE MAIN PROFILE
 SCALE: 1" = 40' (HORIZ.)
 1" = 4' (VERT.)

PROPOSED DRAINAGE PROFILE
OS#1 OUTLET PIPE
 SCALE: 1" = 40' (HORIZ.)
 1" = 4' (VERT.)



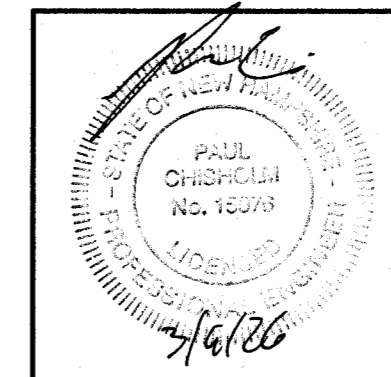
SEWER SERVICE PROFILES
 SCALE: 1" = 40' (HORIZ.)
 1" = 4' (VERT.)



OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

UTILITY PROFILES
ROCK ROAD TOWNHOMES

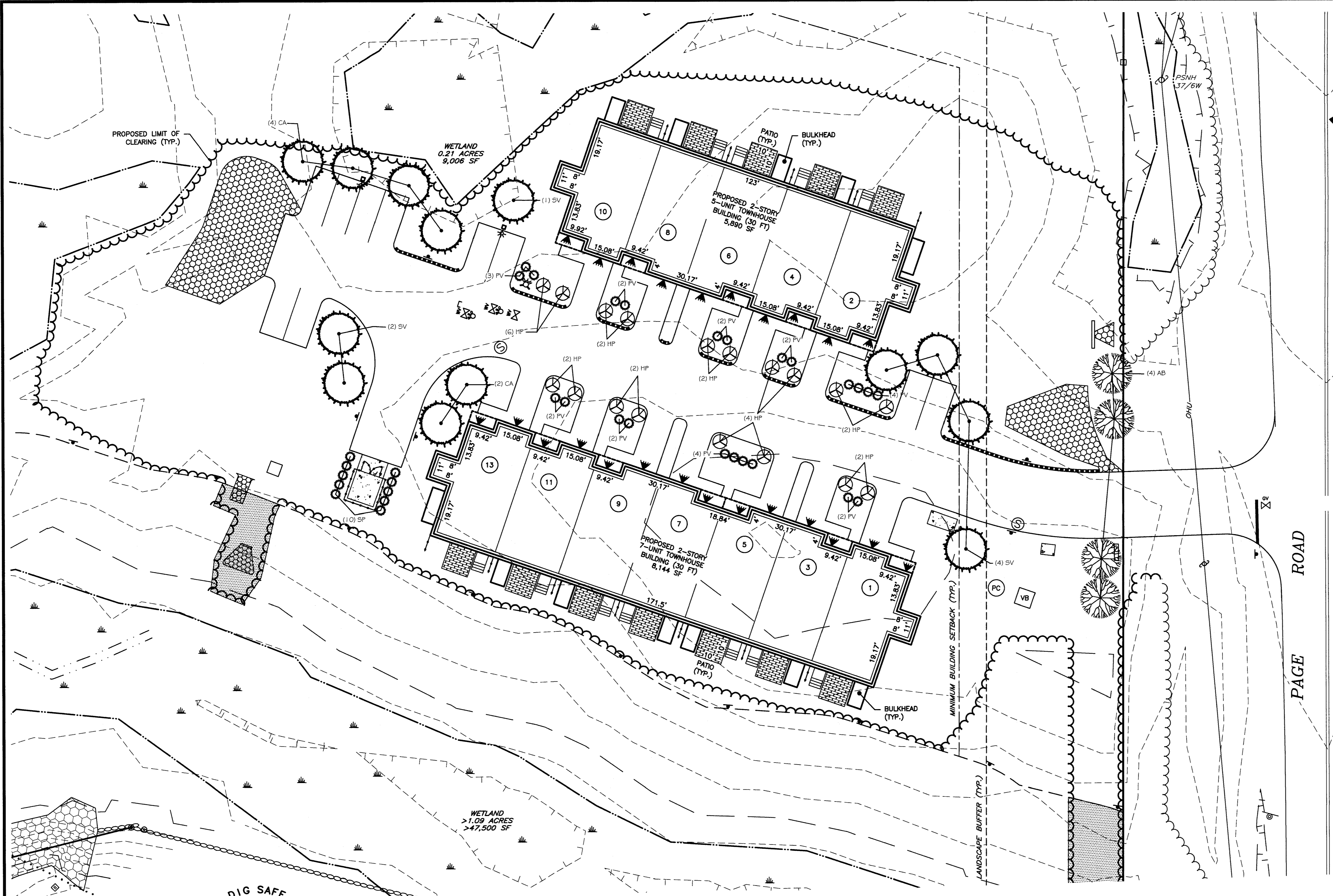
MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY



KMA
 KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 687-2881

PROJ. NO: 21-0113-1
 DATE: MAY 6, 2025
 SCALE: 1" = 40'
 FILE NO.:
 SHEET NO. 8 OF 20

LEGEND		BENCHMARK DATA		REVISIONS			
SYMBOL	DESCRIPTION	LOCATION	DATUM	NO.	DATE	DESCRIPTION	BY
—	PROPERTY LINE	N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
—	R.O.W. LINE	N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	2	2/20/25	ENGINEERING REVISIONS	PCM
—	OVERHEAD UTILITIES						
—	GAS LINE						
—	WATER LINE						
—	PROPOSED BIT. CURB						
—	PROPOSED RET. WALL						
—	PROPOSED GUARDRAIL						
—	PROPOSED RIP RAP						

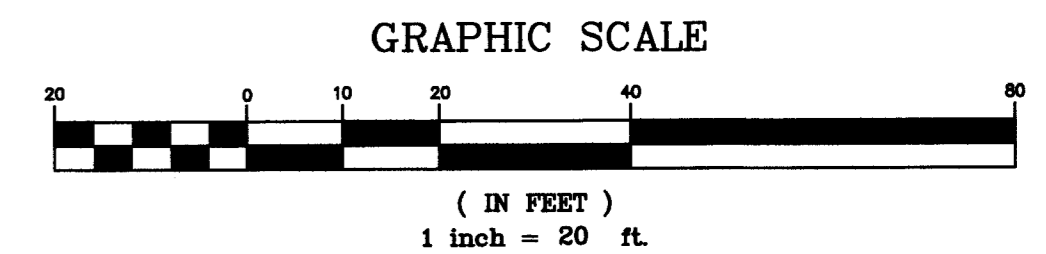


- LANDSCAPE NOTES:**
- THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SITE LANDSCAPE WHICH PROVIDES CLIMATIC RELIEF AND AESTHETIC APPEAL.
 - ALL PLANT MATERIALS USED SHALL BE NURSERY STOCK AND SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION. ANY MATERIAL WHICH DIES OR DOES NOT SHOWN HEALTHY APPEARANCE WITHIN THIS TIME SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE; WITH SAME WARRANTY REQUIREMENTS AS THE ORIGINAL WARRANTIES TYPICALLY DO NOT COVER LOSS DUE TO INSECT INFESTATION OR MECHANICAL DAMAGE (I.E. SNOW STORAGE).
 - IF THE SOIL CONDITIONS ARE EXTREMELY SANDY, ALL TREES SHALL HAVE A 6" LAYER OF COMPACTED TOPSOIL PLACED IN THE BASE OF THE PLANT PIT AS A MOISTURE RETENTION LAYER. THE PLANT PIT SIDEWALLS SHALL BE OVER EXCAVATED BY AN ADDITIONAL 12" BEYOND THE NORMAL OUTSIDE RADIUS OF THE HOLE. A TOPSOIL MIXTURE SHALL BE USED TO BACKFILL THE HOLE AS FOLLOWS: ORGANIC TOPSOIL, AMENDED WITH 10% WOOD ASH, 10% MANURE, 30% COMPOST AND A GRANULAR HYDROGEL TO ABSORB AND RETAIN WATER.
 - PLANTING BEDS AND SAUCERS SHALL RECEIVE A 4" MINIMUM THICKNESS OF PINE/HEMLOCK BARK MULCH OVER A 5oz. POLYPROPYLENE WEED CONTROL FABRIC.
 - PAVEMENT AND ROAD BASE MATERIAL ENCOUNTERED IN ANY LAWN OR PLANTING BED SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SUITABLE AMENDED SOIL INSTALLED AS SPECIFIED IN THE TURF ESTABLISHMENT SCHEDULE.
 - NO PLANTINGS SHALL CONFLICT WITH SNOW STORAGE AREAS, LIGHT FIXTURES AND UNDERGROUND UTILITIES.

- LANDSCAPE CALCULATIONS**
- FRONT BUFFER:**
REQUIRED FRONT BUFFER = 1 NEW TREE/30 FT OF BUILDING FACING R.O.W. OR
= 1 EXISTING ≥ 4 INCH CALIPER TREE = 1 NEW TREE OR
= 1 EXISTING ≥ 6 INCH CALIPER TREE = 2 NEW TREES
PROVIDED = 4 TREES PROPOSED
 - SIDE AND REAR BUFFER:**
REQUIRED SIDE AND REAR BUFFER = 20 FT MIN BUFFER WITH 6FT TALL SCREENING
PROVIDED = >75 FT OF EXISTING TREE LINE ON SIDES AND REAR THAT MEET SCREENING REQUIREMENT
 - INTERIOR GREEN SPACE:**
REQUIRED REAR (5%)
= 4,440 SF PARKING = 222 SF REQUIRED
PROVIDED = 250 SF PROPOSED
 - INTERNAL PARKING:**
REQUIRED = 1 DECIDUOUS SHADE TREE/15 SPACES
= 10 SPACES/15 = 0.6 OR 1 DECIDUOUS SHADE TREES REQUIRED
PROVIDED = 4 DECIDUOUS SHADE TREES PROPOSED
 - PERIMETER:**
REQUIRED = 1 SHADE TREE/20' PARKING LOT PERIMETER
= 250'/20' = 12.5 OR 13 SHADE TREES REQUIRED
PROVIDED = 13 SHADE TREES PROPOSED

SEE SHEET 1 FOR NOTES AND REFERENCE PLANS

UTILITY NOTE
THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND PLOTTED FROM EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.



OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

LANDSCAPE PLAN
ROCK ROAD TOWNHOMES
MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY



OWNER OF MAP 17 LOT 25
SIGNATURE: *DANE N...*
DATE: 2/16/2026

PLANTING SCHEDULE

Botanical Name / Common Name	Size	Label	Quantity	Mature Height	USDA Hardiness Zone
Trees					
<i>Abies balsamea</i> / Balsam Fir	6-7 B&B	AB	4	30-40'	3-6
<i>Cornus alternifolia</i> / Pagoda Dogwood	2.5-3" CAL	CA	6	20-30'	3-7
<i>Syringa vulgaris</i> / Common Lilac	2.5-3" CAL	SV	7	20-30'	3-7
Shrubs					
<i>Hydrangea paniculata</i> 'Little Quick Fire' / Little Quick Fire Panicle Hydrangea	2-2.5'	HP	18	2-3'	3-8
<i>Syringa Patula</i> 'Miss Kim' / Miss Kim Lilac	#7	SP	10	6'-8'	3-8
Grasses					
<i>Panicum virgatum</i> 'Shenandoah' / Shenandoah Switch Grass	#2 Gal.	PV	19	3-4'	4-9

Signature
3/9/26

LEGEND

●	REBAR FOUND	---	PROPERTY LINE
○	IRON PIPE FOUND	---	ABUTTER LINE
○	UTILITY POLE	---	TREELINE
○	SIGN	---	EDGE OF PAVEMENT
○	GAS VALVE	---	BUILDING SETBACK
○	WATER VALVE	---	BUFFER LINE
○	HYDRANT	---	STONEWALL
○	WATER SHUT OFF	---	WETLAND
○	CATCH BASIN	---	

BENCHMARK DATA				REVISIONS		
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155185.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM

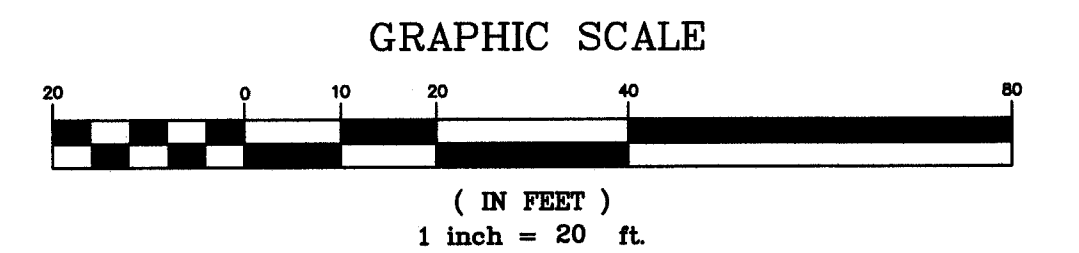
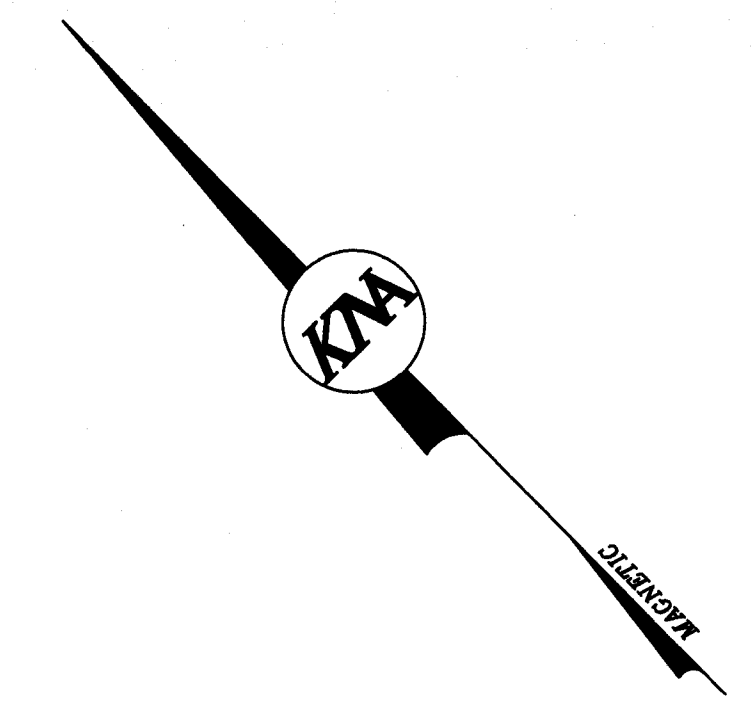
APPROVED BY THE LONDONDERRY, NH PLANNING BOARD FOR PHASE _____
ON DATE: _____
CERTIFIED BY: _____

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881

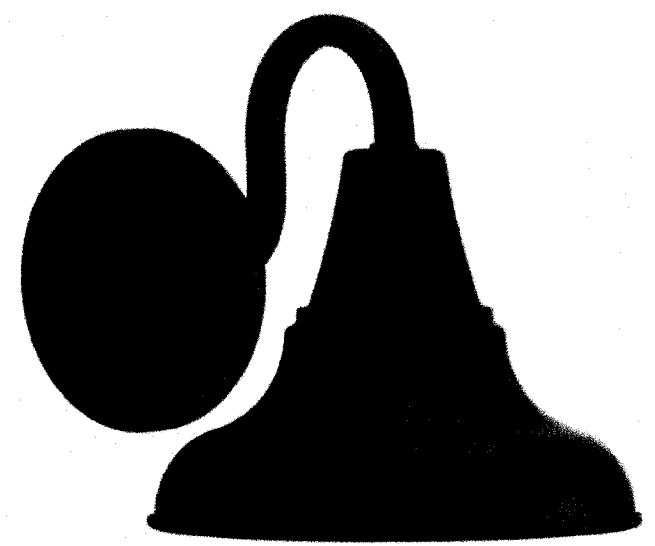
PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: 1" = 20'
FILE NO.:
SHEET NO. 9 OF 20



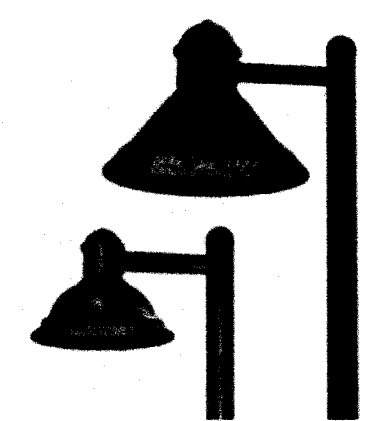
- LIGHTING NOTES:**
1. ALL LIGHTS/FIXTURES SHALL BE AS SPECIFIED BY EXPOSURE LIGHTING.
 2. ALL PROPOSED FIXTURES ARE TO BE FULL CUTOFF.
 3. POLE MOUNTED FIXTURES SHALL BE MOUNTED AT HEIGHTS SPECIFIED IN TABLE.
 4. ALL FINAL SITE LIGHTING AND CONDUIT LAYOUT SHALL BE COORDINATED WITH LOCAL UTILITY PROVIDER.
 5. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ELECTRICIAN FOR THE EXACT LOCATION, LAYOUT, CONDUIT SIZE AND CIRCUITS ASSOCIATED WITH THE SITE LIGHTING.
 6. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION REGARDING LIGHT INSTALLATION AND WIRING REQUIREMENTS.
 7. ALL LIGHTING MUST COMPLY WITH THE TOWN OF LONDONDERRY DEVELOPMENT REGULATIONS.



LUMINAIRE SCHEDULE						
SYMBOL	QTY.	LABEL	ARRANGEMENT	DESCRIPTION	MANUFAC	MOUNTING HEIGHT
⬤*	2	P	SINGLE	XDLSB-3L-3W-UNV-30K8-BLK-CH / 4RP-I-S10G-14-BLK / 4 GBC (70 CRI CW, 80 CRI NW AND WW)	LSI INDUSTRIES, INC.	14' POLE
➤	24	W	SINGLE	945622-2030K9 (90 CRI)	PROGRESS	WALL MOUNTED 6' AFG AT DOORS & 8' AFG AT GARAGES



DISTRICT LED (P5622-2030K9)



LIFESTYLE SMALL (XDLS)



LSI ROUND POLES



LEGEND

●	REBAR FOUND	—	PROPERTY LINE
○	IRON PIPE FOUND	- - -	ABUTTER LINE
⊕	UTILITY POLE	~ ~ ~	TREELINE
⊗	SIGN	—	EDGE OF PAVEMENT
⊕	GAS VALVE	- - -	BUILDING SETBACK
⊕	WATER VALVE	- - -	BUFFER LINE
⊕	HYDRANT	○ ○ ○ ○	STONEWALL
⊕	WATER SHUT OFF	—	WETLAND
⊕	CATCH BASIN	—	ZONE LINE
		—	BITUMINOUS CONCRETE CURB

BENCHMARK DATA				REVISIONS		
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM

OWNER SIGNATURE: _____
DATE: _____

IN ASSOCIATION WITH:

EXPOSURE ESS KEN SWEENEY | APPLICATIONS ENGINEER
 Cell: 603.759.1043
 501 BANGOR ST | SUITE 14 | PORTSMOUTH, NH 03801 | 603.501.8080
 ExposureLighting.com | ESS@ESS.COM

OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

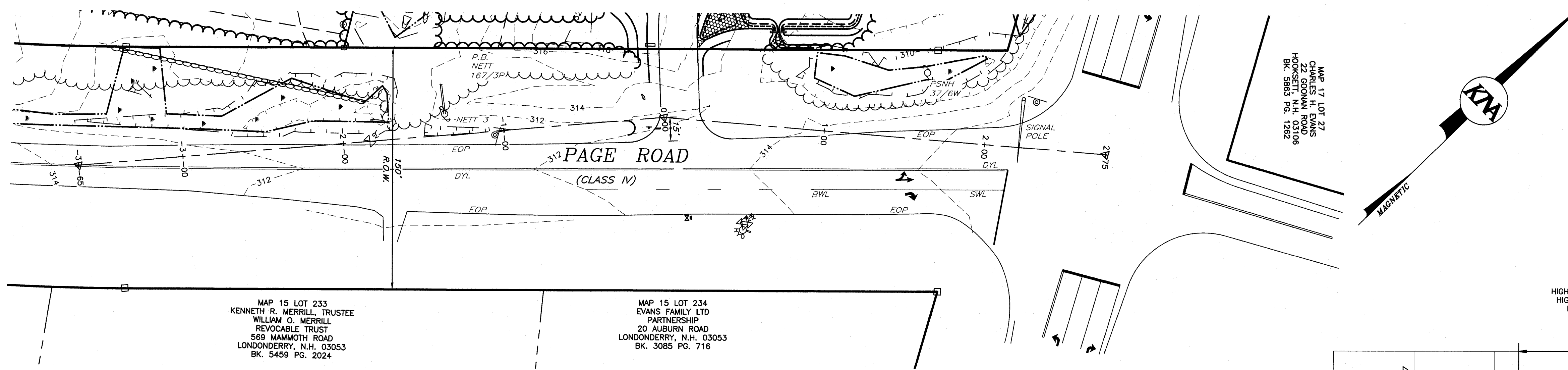
LIGHTING PLAN

ROCK ROAD TOWNHOMES

MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY

KMA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 887-8881

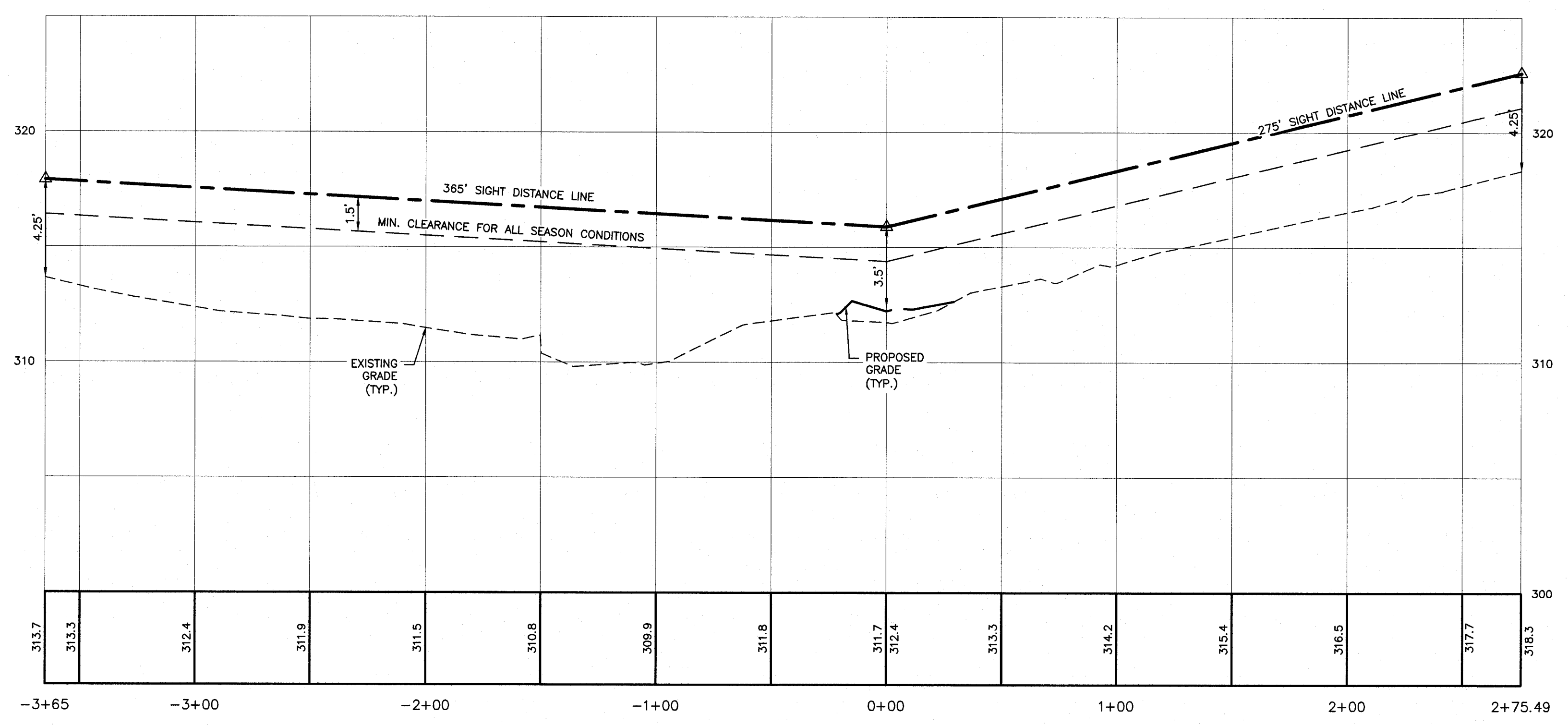
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 DATE: MAY 6, 2025
 SCALE: 1" = 20'
 FILE NO.:
 SHEET NO. 10 OF 20



SIGHT DISTANCE PLAN

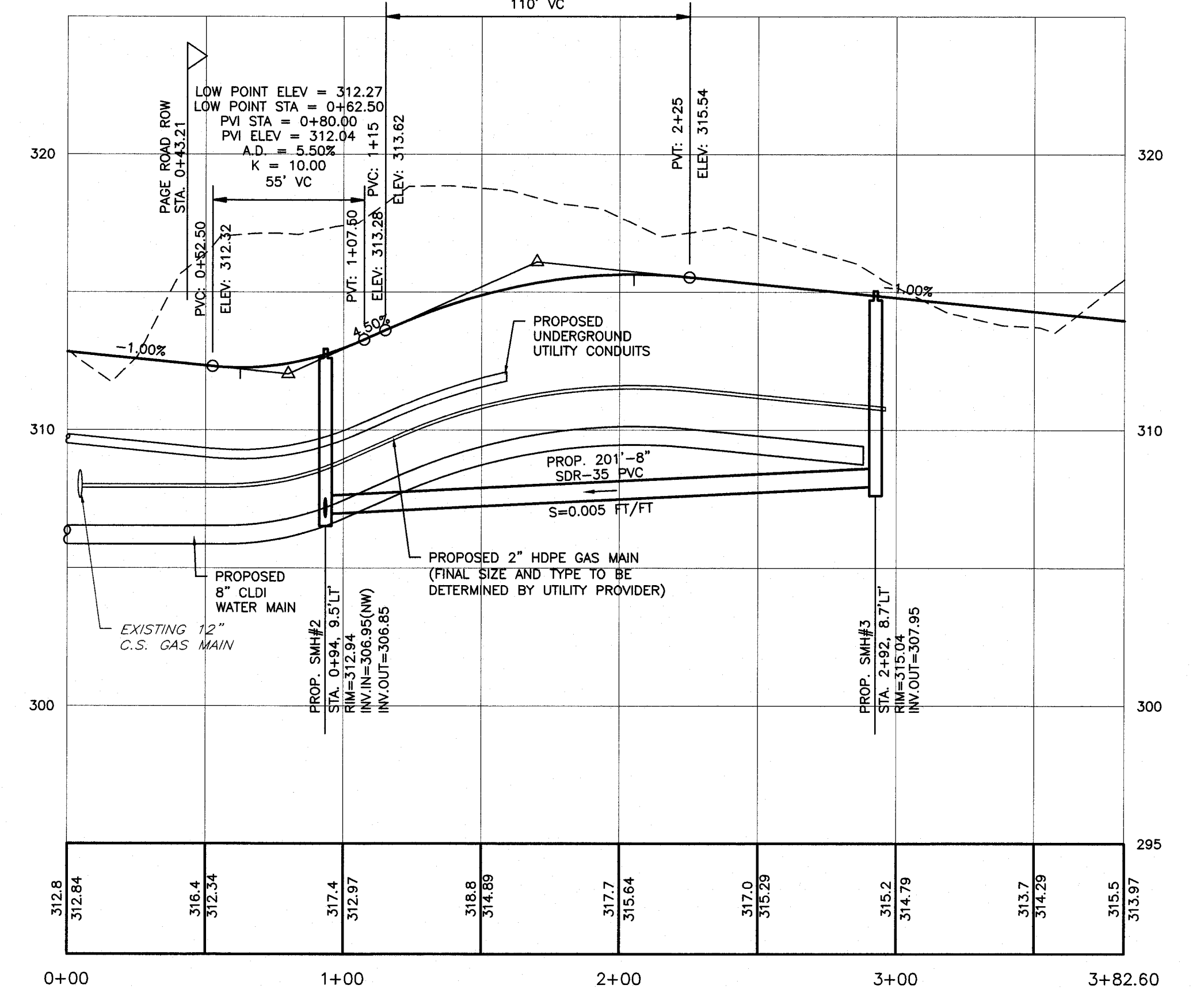
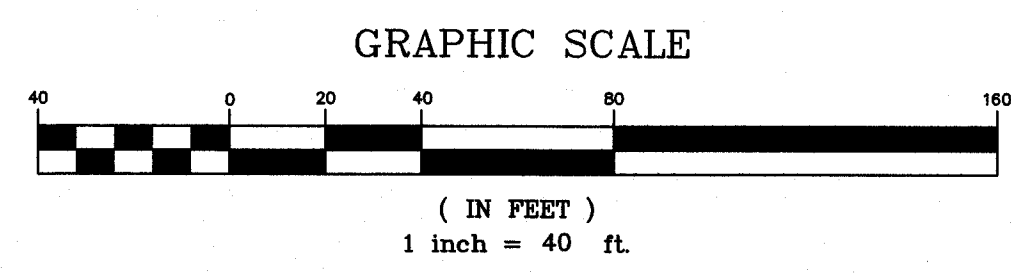
SCALE: 1" = 40'

HIGH POINT ELEV = 315.64
HIGH POINT STA = 2+05
PVI STA = 1+70.00
PVI ELEV = 316.09
A.D. = -5.50%
K = 20.00
110' VC



SIGHT DISTANCE PROFILE

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)



DRIVEWAY PROFILE

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

LEGEND

●	REBAR FOUND	---	PROPERTY LINE
○	IRON PIPE FOUND	---	ABUTTER LINE
⊕	UTILITY POLE	---	TREELINE
⊗	SIGN	---	EDGE OF PAVEMENT
⊙	GAS VALVE	---	BUILDING SETBACK
⊕	WATER VALVE	---	BUFFER LINE
⊙	HYDRANT	---	STONEWALL
⊕	WATER SHUT OFF	---	PROP. EDGE OF PAVEMENT
⊕	CATCH BASIN		

BENCHMARK DATA

LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM

SIGHT DISTANCE NOTES:

1. THE PURPOSE OF THIS PLAN IS TO ILLUSTRATE THE AVAILABLE SIGHT DISTANCE AT THE PROPOSED DRIVEWAY AND PAGE ROAD.
2. THE CONTRACTOR SHALL REMOVE ALL OBSTRUCTIONS BETWEEN THE DRIVEWAY AND THE SIGHT LINES TO ACHIEVE VISIBILITY.
3. THE OWNER SHALL MAINTAIN SIGHT LINES VISIBILITY AND REMOVE ALL OBSTRUCTIONS BETWEEN THE DRIVEWAY AND THE SIGHT LINES TO ACHIEVE VISIBILITY.

KEACH-NORDSTROM ASSOCIATES, INC. HEREBY CERTIFIES THAT THE ALL SEASON SAFE SIGHT DISTANCE, AS REQUIRED BY THE TOWN OF LONDONDERRY, IS ACHIEVED UPON COMPLETION OF THE IMPROVEMENTS SHOWN ON THIS PLAN

[Signature]
PROFESSIONAL ENGINEER

3/9/26
DATE

OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

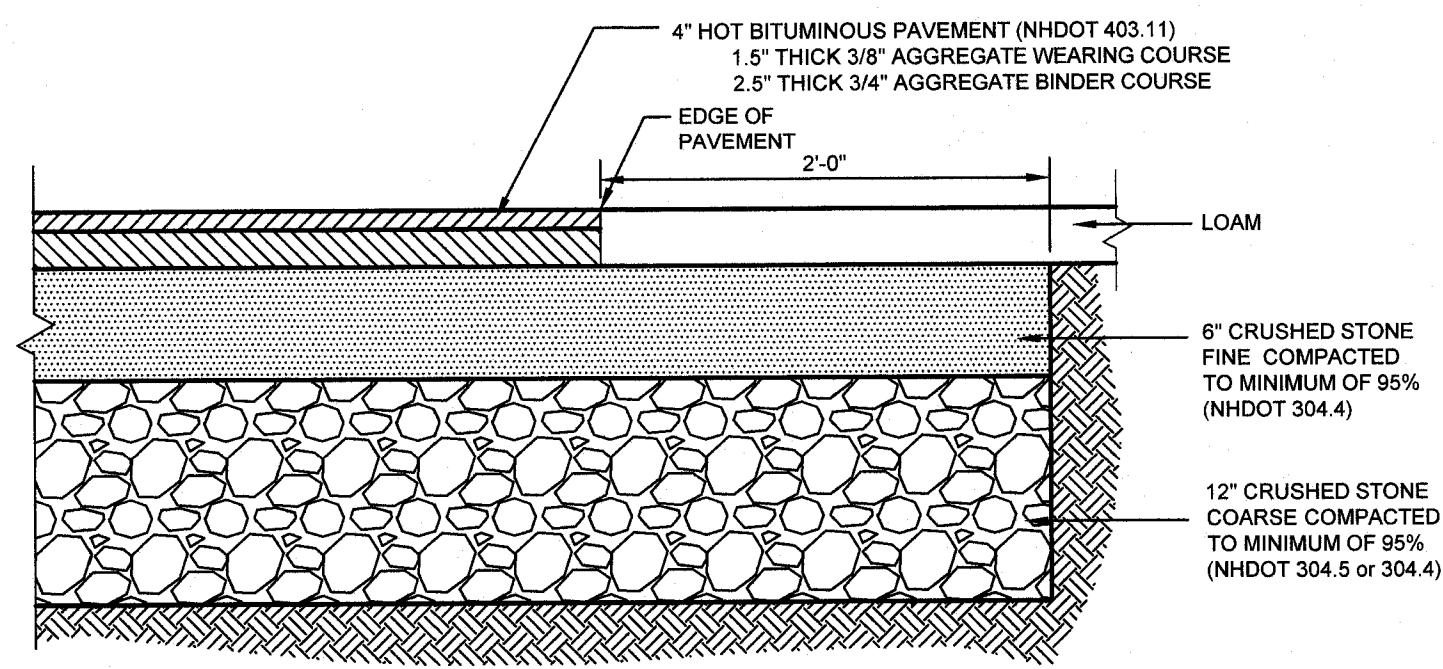
SIGHT DISTANCE & DRIVEWAY PLAN & PROFILE

ROCK ROAD TOWNHOMES

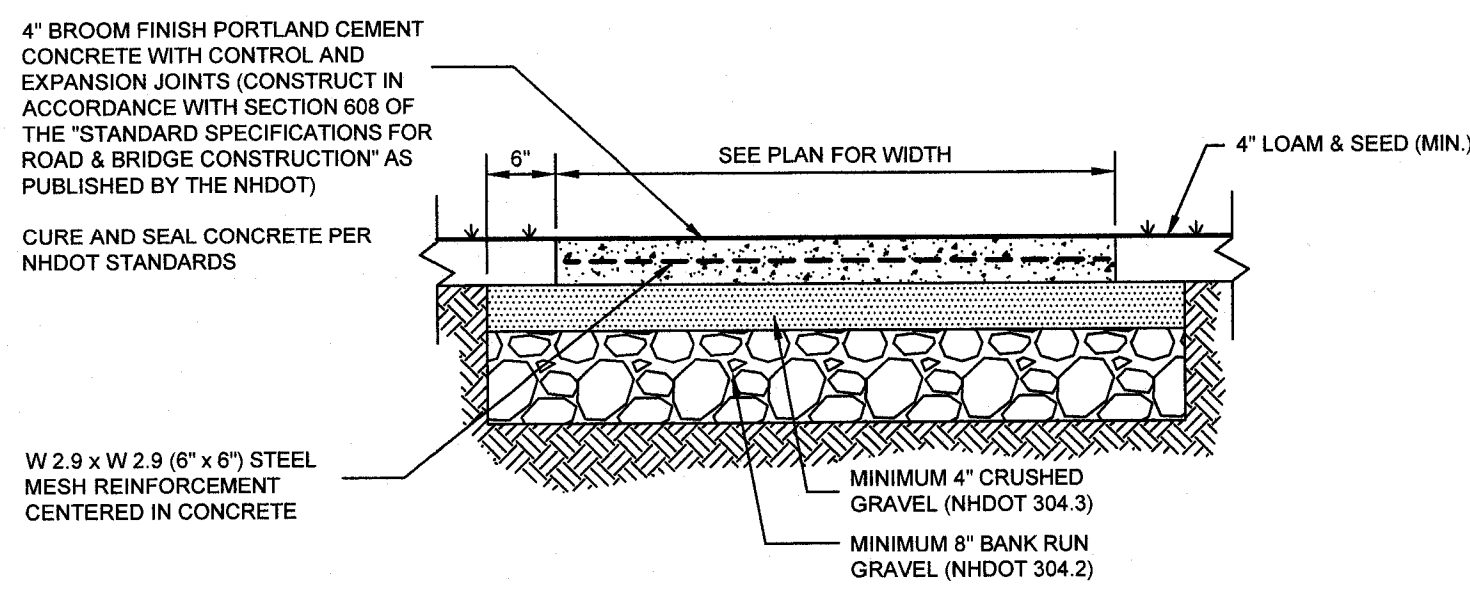
MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

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Civil Engineering Land Surveying Landscape Architecture
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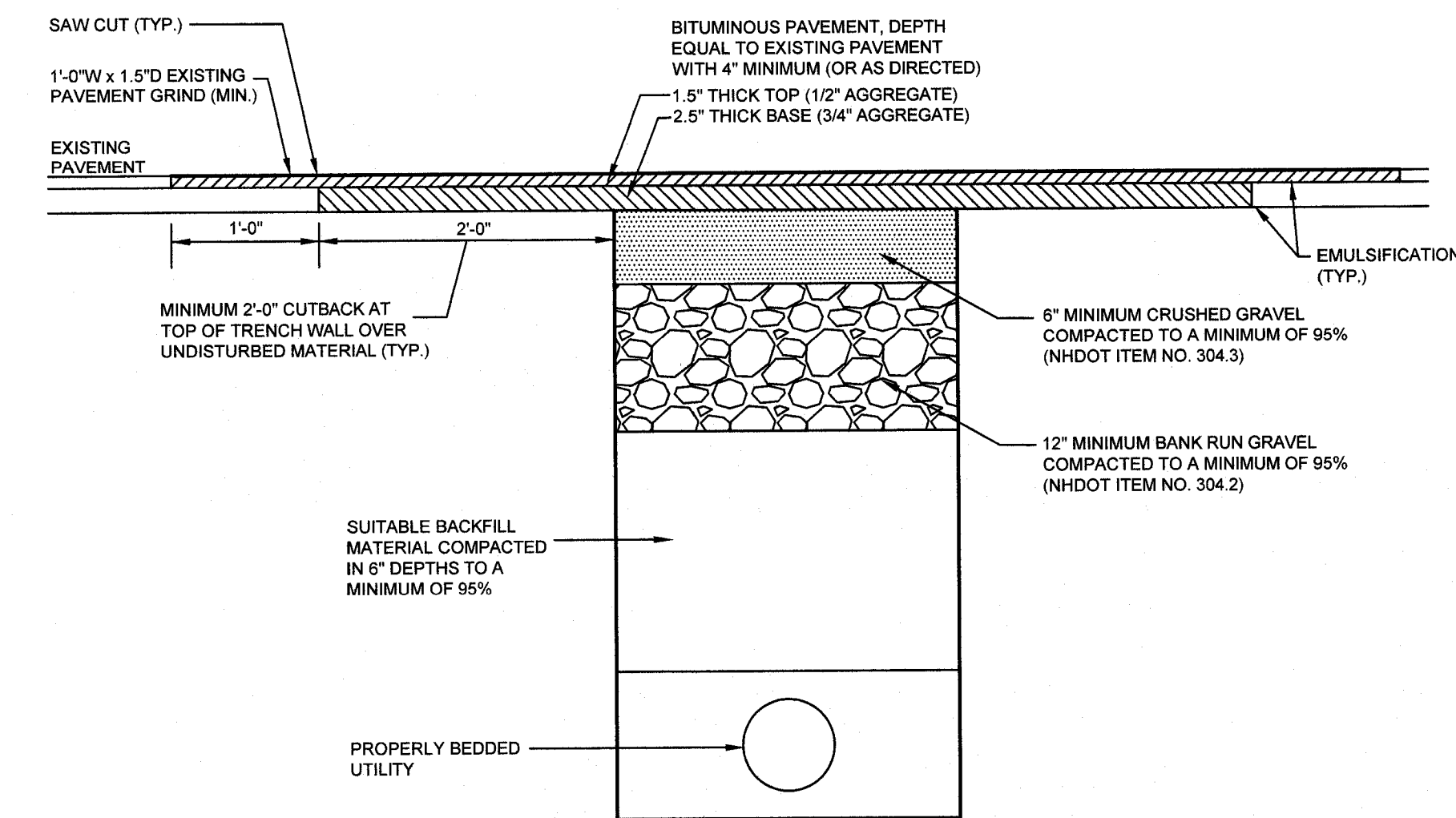
PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: 1" = 40'
FILE NO.:
SHEET NO. 11 OF 20



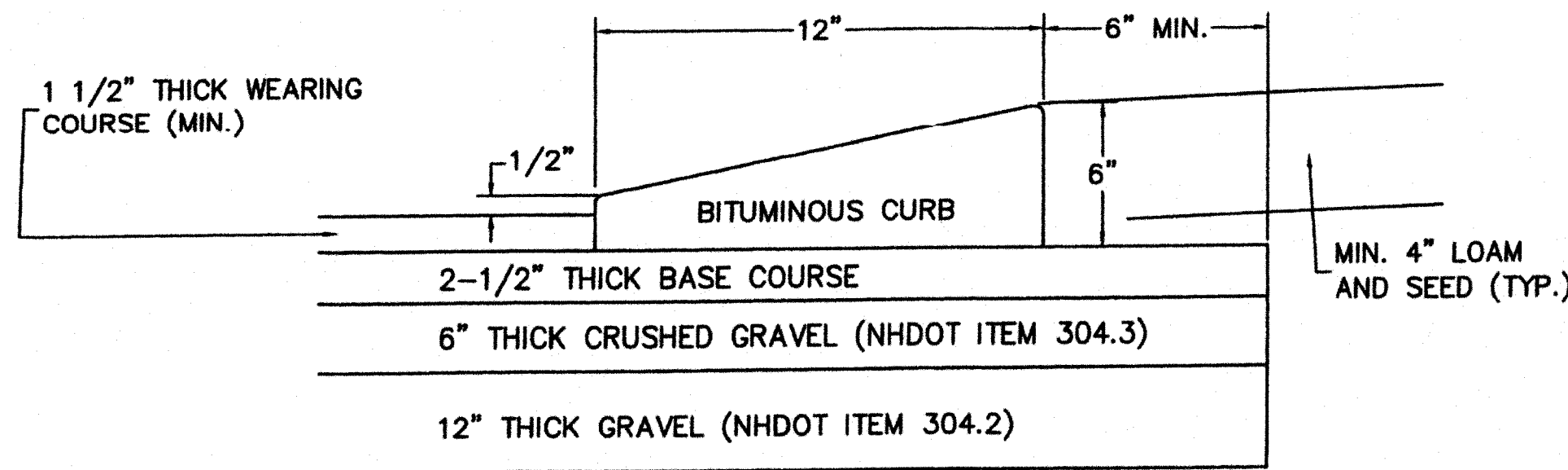
DRIVEWAY AND PARKING LOT SECTION
NOT TO SCALE



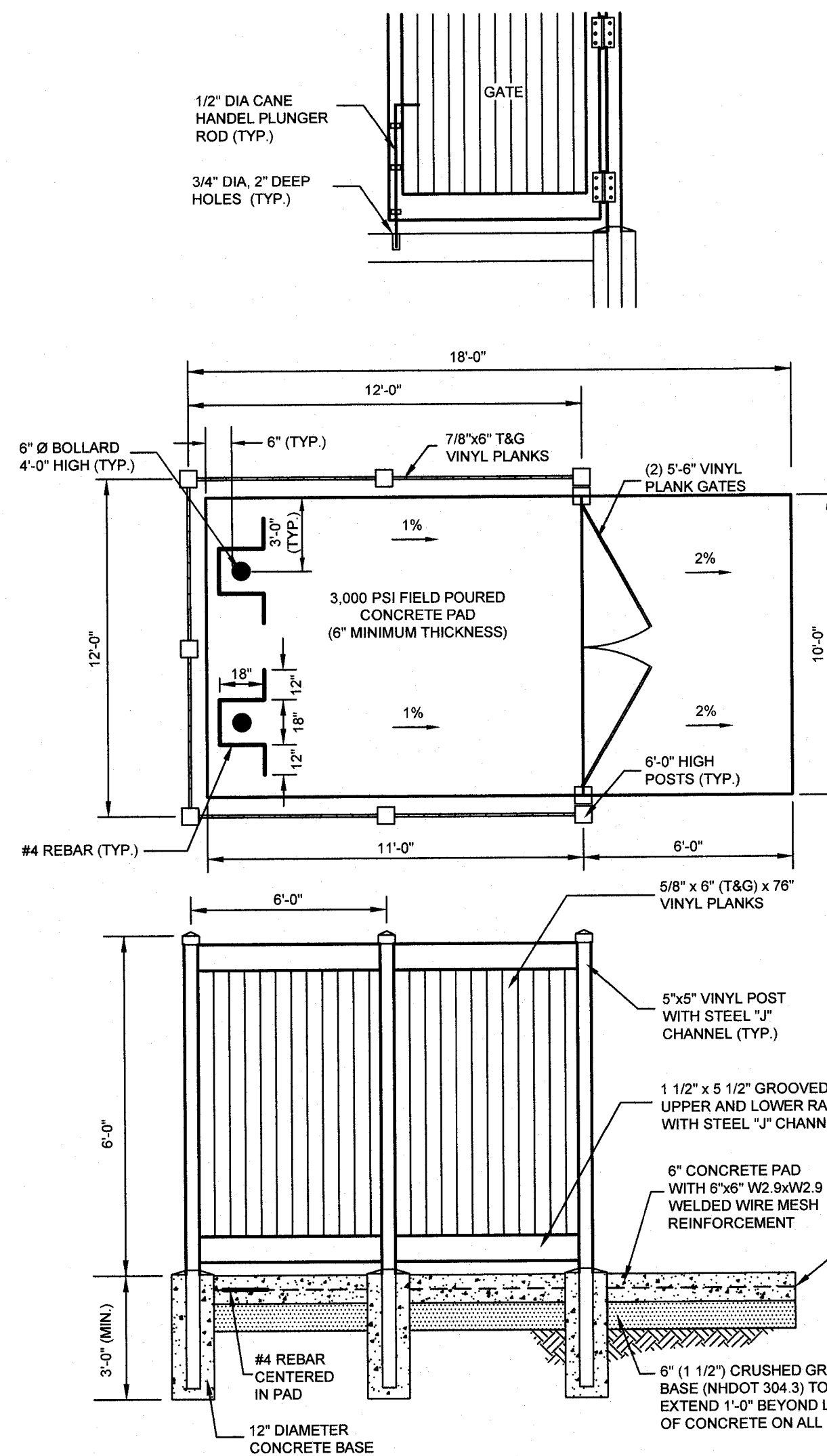
CONCRETE PAD DETAIL
NOT TO SCALE
(MARCH 2008)



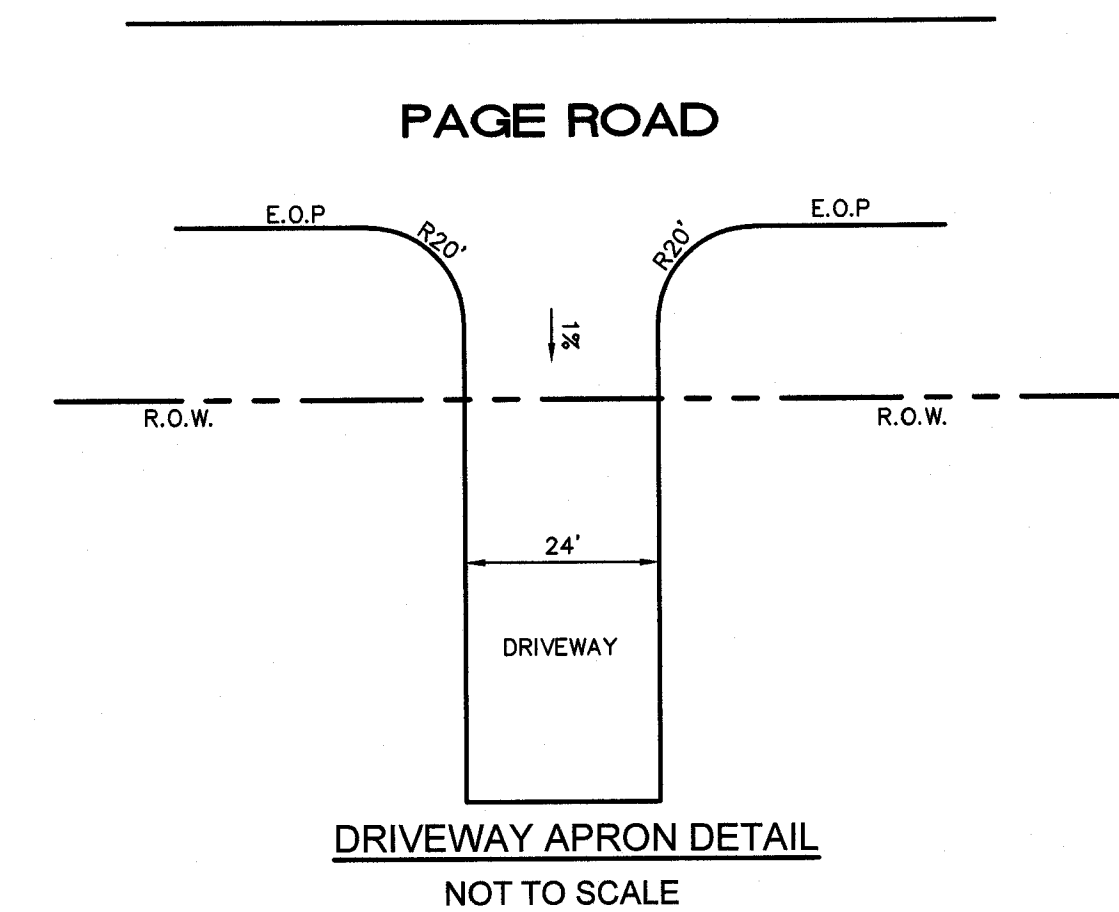
PERMANENT PAVEMENT REPAIR
NOT TO SCALE
(MARCH 2008)



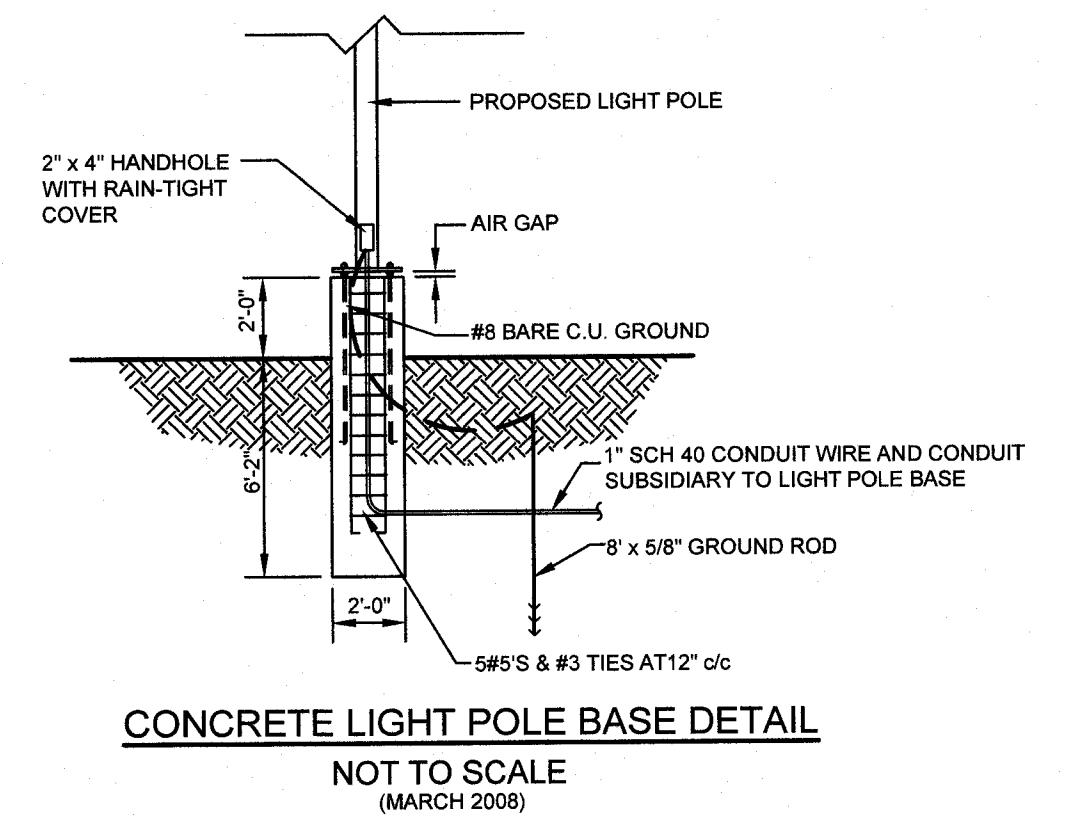
TYPICAL CAPE COD BERM
NOT TO SCALE
EXHIBIT R104



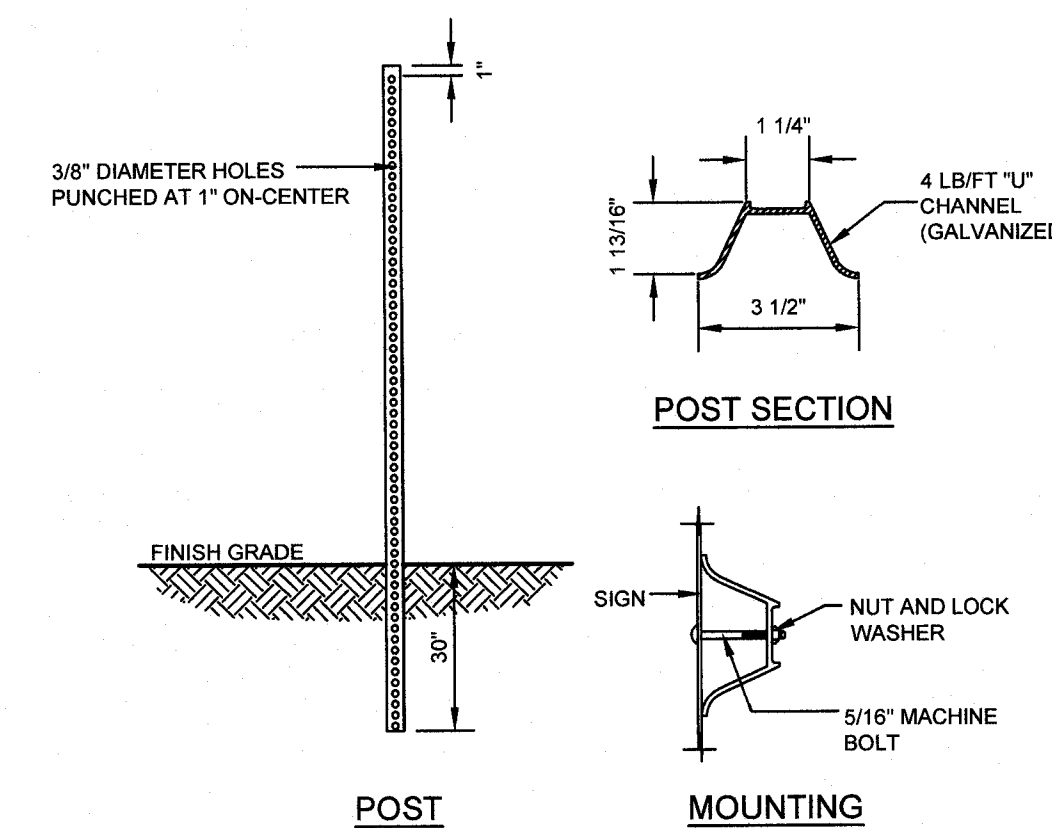
VINYL TRASH ENCLOSURE DETAIL
NOT TO SCALE
(MARCH 2008)



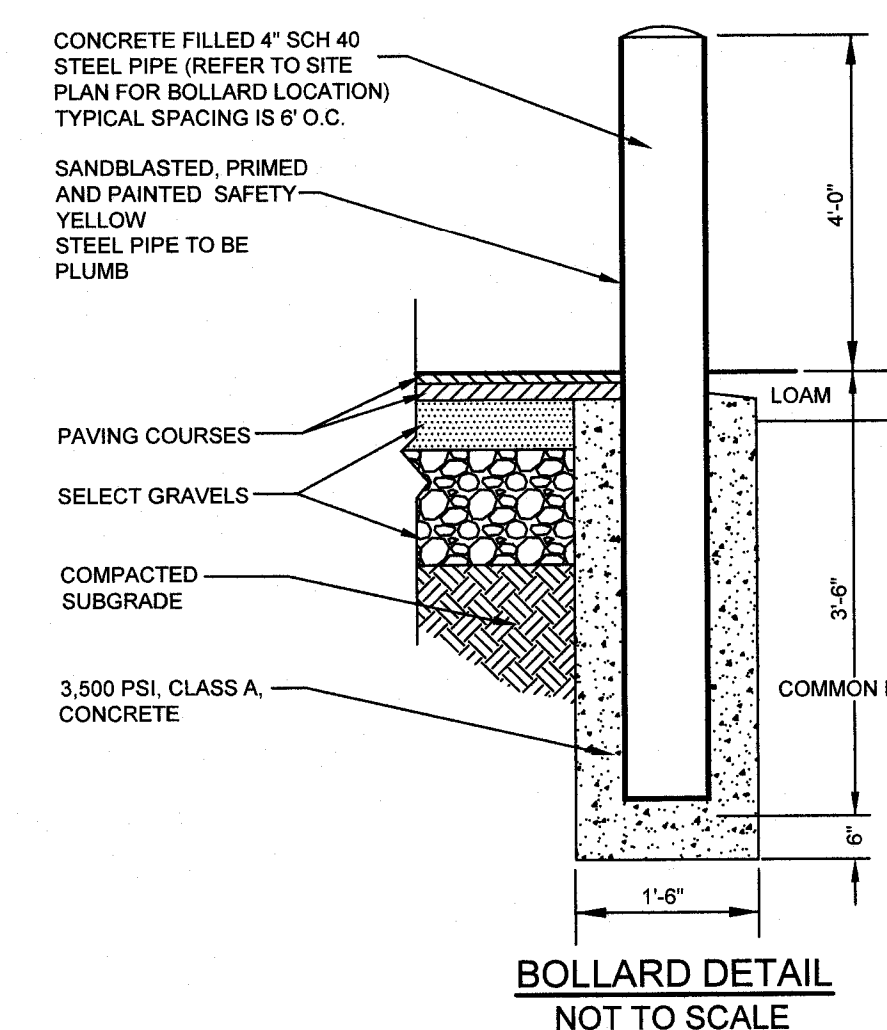
DRIVEWAY APRON DETAIL
NOT TO SCALE



CONCRETE LIGHT POLE BASE DETAIL
NOT TO SCALE
(MARCH 2008)



STEEL SIGN POST DETAIL
NOT TO SCALE
(MARCH 2008)



BOLLARD DETAIL
NOT TO SCALE

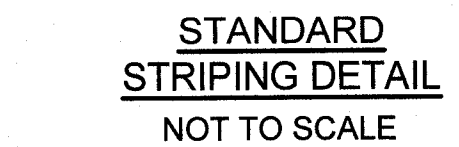
- NOTES:**
1. APPLY TACK COAT PRIOR TO PLACEMENT OF CURB
 2. BITUMINOUS CURB MATERIAL SHALL MEET THE REQUIREMENTS OF NHDOT SECTION 609.
 3. CAPE COD BERM DIMENSIONS SHALL MATCH THOSE GIVEN IN THIS DETAIL.



VAN ACCESSIBLE HANDICAP PARKING SIGN DETAIL
NOT TO SCALE
(NOVEMBER 2016)



STOP SIGN DETAIL
NOT TO SCALE
(MARCH 2008)

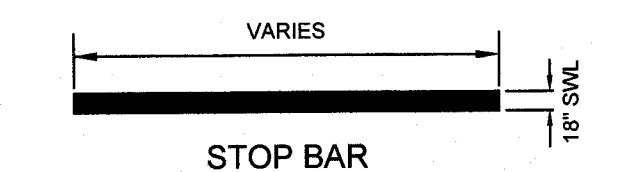


STANDARD STRIPING DETAIL
NOT TO SCALE

ON SITE STRIPING NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE STANDARDS AND THE CURRENT EDITION OF MUTCD.
2. WIDTH OF LINES SHALL VARY NO MORE THAN = 1/4 INCH FROM THAT SPECIFIED.
3. THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 15 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED.
4. OVERSPRAY SHALL BE KEPT TO AN ABSOLUTE MINIMUM.
5. BROKEN LINES SHALL BEGIN AND END WITH THE NEAREST FULL CYCLE OF BROKEN LINE.
6. SOLID LONGITUDINAL LINES SHALL BEGIN AND END WITHIN + 2 INCHES OF A LAYOUT SYMBOL INDICATING THE END OF THE LINE, OR WITH A FULL CYCLE OF BROKEN LINE (IF APPROPRIATE).

- TRAFFIC SIGN NOTES:**
1. ALL TRAFFIC SIGN FACES AND SHAPES SHALL CONFORM WITH THE MUTCD.
 2. ALL SIGN POST MOUNTS SHALL CONFORM WITH THE AASHTO AND NHDOT SPECIFICATIONS.



STOP BAR

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

CONSTRUCTION DETAILS
ROCK ROAD TOWNHOMES

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. 12 OF 20

KMA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

TURF ESTABLISHMENT SCHEDULE

PURPOSE:
TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

- RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
- PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
- IF THE PH OF THE SOIL NEEDS TO BE RAISED, APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
- APPLY FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
- DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
- SEEDING AND INITIAL FERTILIZING SHALL BE DONE BETWEEN APRIL 1 AND JUNE 1 OR BETWEEN AUGUST 15 AND OCTOBER 14, OR AS PERMITTED. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER OR WHEN THE GROUND IS FROZEN, EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
- WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3:1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
- PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEEDED.
- WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 14, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

APPLICATION RATES:

- LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
- LIME SHALL BE USED WHEN NECESSARY TO RAISE THE PH OF THE SOIL AND APPLIED AT ONE OF THE FOLLOWING RATES:

EXISTING SOIL Ph	TONS/ACRE	POUNDS/CUBIC YARD
4.0 - 4.4	3	12
4.5 - 4.9	2	8
5.0 - 5.4	1	4

- FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:

INITIAL APPLICATION	POUNDS/1,000 SF	MEASUREMENT FACTOR
10-10-10	20.0	1.0
15-15-15	13.4	1.5
19-19-19	10.5	1.9

REFERTILIZATION	POUNDS/1,000 SF	MEASUREMENT FACTOR
10-3-6	20.0	1.0
12-2-8	16.7	1.2
12-4-8	16.7	1.2

- MULCH SHALL BE APPLIED AT A RATE OF 13 CUBIC YARDS PER 1,000 S.F. OF LANDSCAPE BED.

MATERIALS:

- LOAM SHALL CONSIST OF LOOSE, FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. IT SHALL BE FREE OF VIABLE PARTS OF PROHIBITED INVASIVE PLANTS AND BE GENERALLY FREE OF STONES, LUMPS, STUMPS AND SIMILAR OBJECTS LARGER THAN 2 INCHES IN GREATEST DIAMETER, SUBSOIL, ROOTS AND WEEDS. THE MINIMUM AND MAXIMUM PH VALUE SHALL BE FROM 5.5 TO 7.6.
- LIME SHALL BE A CALCIUM OR DOLOMITIC GROUND AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF EITHER CALCIUM OR MAGNESIUM CARBONATE, OR BOTH. IT SHALL CONFORM TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS AND SHALL COMPLY WITH ALL STATE AND FEDERAL RULES AND REGULATIONS.
- FERTILIZER SHALL BE STANDARD COMMERCIAL GRADE FERTILIZER CONFORMING TO ALL STATE AND FEDERAL RULES AND REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. EXCEPT AS PERMITTED, THE ANALYSIS RATIO SHALL BE 1:1:1 FOR INITIAL APPLICATION AND 3:1:2 FOR REFERTILIZATION APPLICATION.
- GRASS SEED SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE AGRICULTURAL AND VEGETABLE SEED LAWS AND SHALL INCLUDE NO "PRIMARY NOXIOUS WEED SEEDS."
- SEED MIXTURE FOR LAWN AREAS SHALL CONSIST OF THE FOLLOWING:

KIND OF SEED	MINIMUM PURITY (%)	MINIMUM GERMINATION (%)	POUNDS/ACRE (TOTAL 120 POUNDS)
CREeping RED FESCUE	96	85	40
PERENNIAL RYEGRASS	98	90	50
KENTUCKY BLUEGRASS	97	85	25
REDTOP	95	80	5

- SEED MIXTURE FOR SLOPE AREAS SHALL CONSIST OF THE FOLLOWING:

KIND OF SEED	MINIMUM PURITY (%)	MINIMUM GERMINATION (%)	POUNDS/ACRE (TOTAL 95 POUNDS)
CREeping RED FESCUE	96	85	35
PERENNIAL RYEGRASS	98	90	30
REDTOP	95	80	5
ALSIKE CLOVER	97	90	5
BIRDSFOOT TREFLOIL	98	80	5
LANCE-LEAVED COREOPSIS	95	80	4
OXEYE DAISY	95	80	3
BLACKEYED SUSAN	95	80	4
WILD LUPINE	95	80	4

- TEMPORARY SEEDING MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 SF AND SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:

- 15% BLACKWELL OR SHELTER SWITCHGRASS
- 30% NIAGRA OR KAW BIG BULSTEM
- 30% CAMPER OR BLAZE LITTLESTEM
- 15% NE-27 OR BLAZE SAND LOVEGRASS
- 10% VIKING BIRDSFOOT TREFLOIL
- INOCULUM SPECIFIC TO BIRDSFOOT TREFLOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.

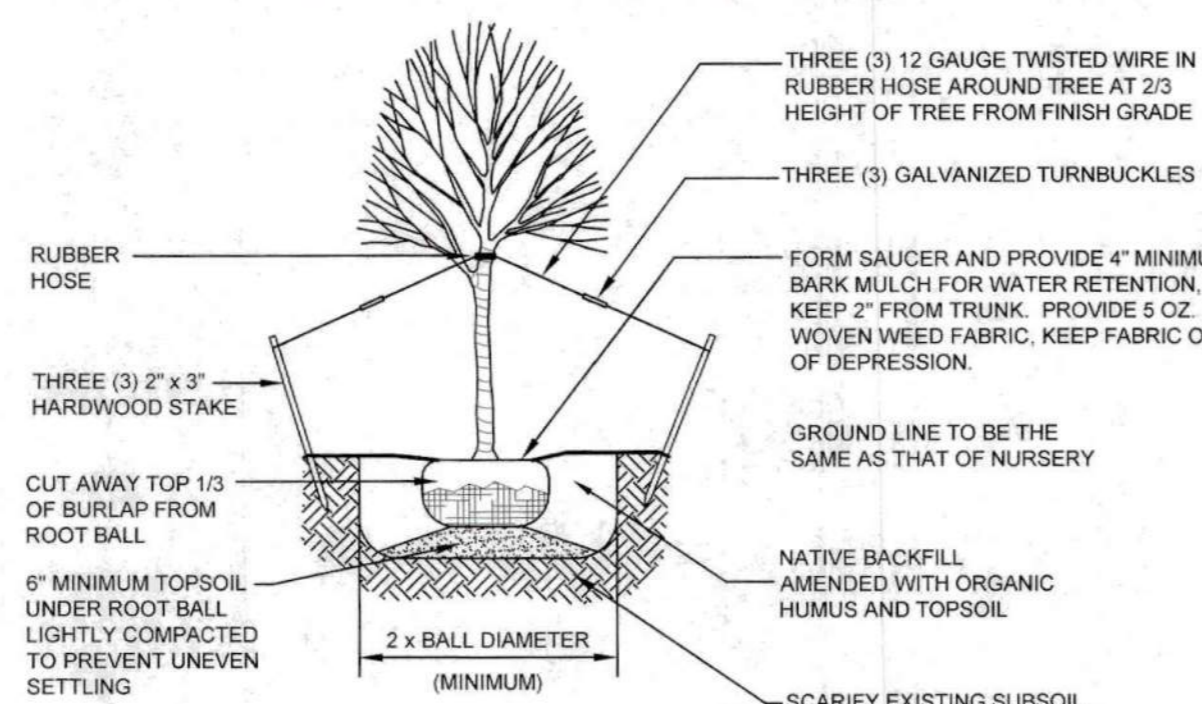
- SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES, SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 SF, AND SHALL CONSIST OF THE FOLLOWING:

- 25% CREeping RED FESCUE
- 15% SWITCH GRASS
- 15% FOX SEDGE
- 15% CREeping BENTGRASS
- 10% FLATPEA
- 20% WILDFLOWER VARIETY

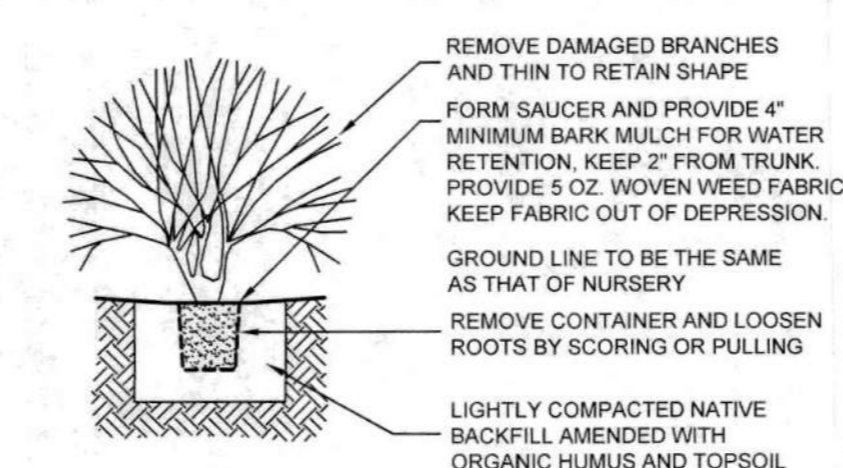
- STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS, INVASIVE SPECIES OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.

SOD SPECIFICATIONS:

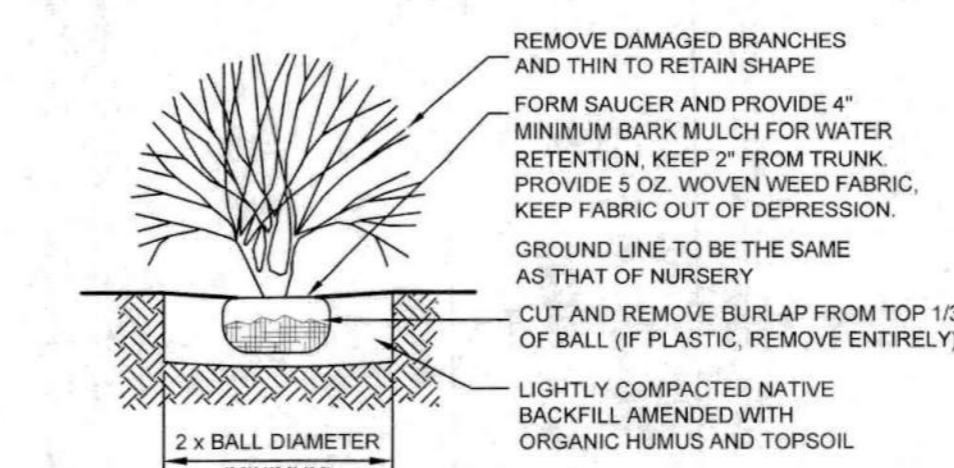
- SOD SHALL BE PROVIDED WITH A STRONG ROOT SYSTEM, NOT LESS THAN TWO YEARS OLD AND SHALL BE FREE OF ANY UNDESIRABLE NATIVE GRASSES OR WEEDS.
- SOD SHALL BE MACHINE CUT TO A THICKNESS NOT LESS THAN 3/4", EXCLUDING THATCH, AND SHALL BE CAPABLE OF VIGOROUS GROWTH WHEN PLANTED.
- SOD PADS SHALL BE OF UNIFORM SIZE AND COMPOSED OF AT LEAST TWO LOCAL GRASS VARIETIES.
- LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. DO NOT OVERLAP. STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES. TAMP SOD TO ENSURE CONTACT WITH WITH SOIL.
- WATER WITHIN ONE HOUR OF PLANTING WITH A FINE SPRAY.



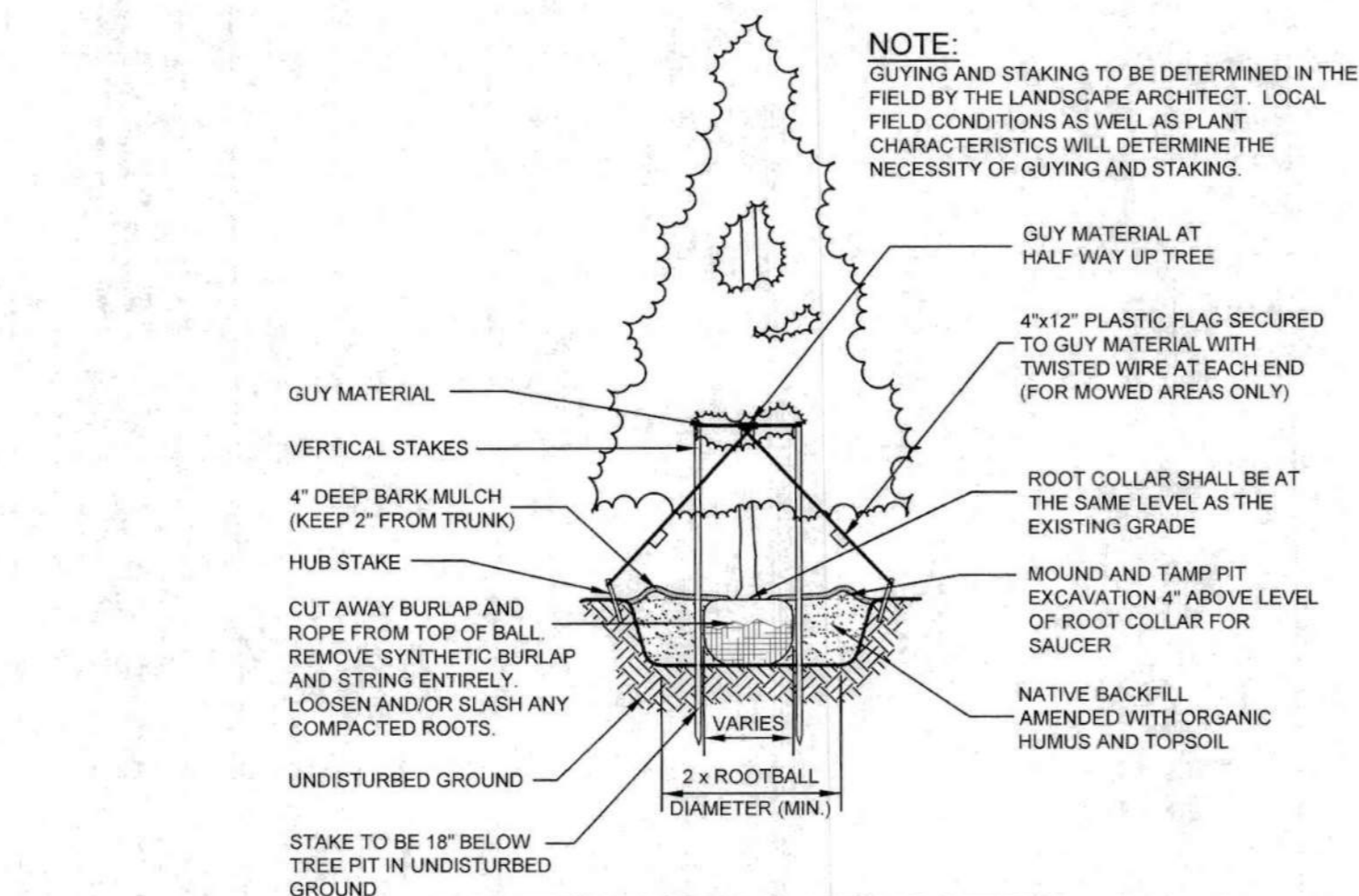
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



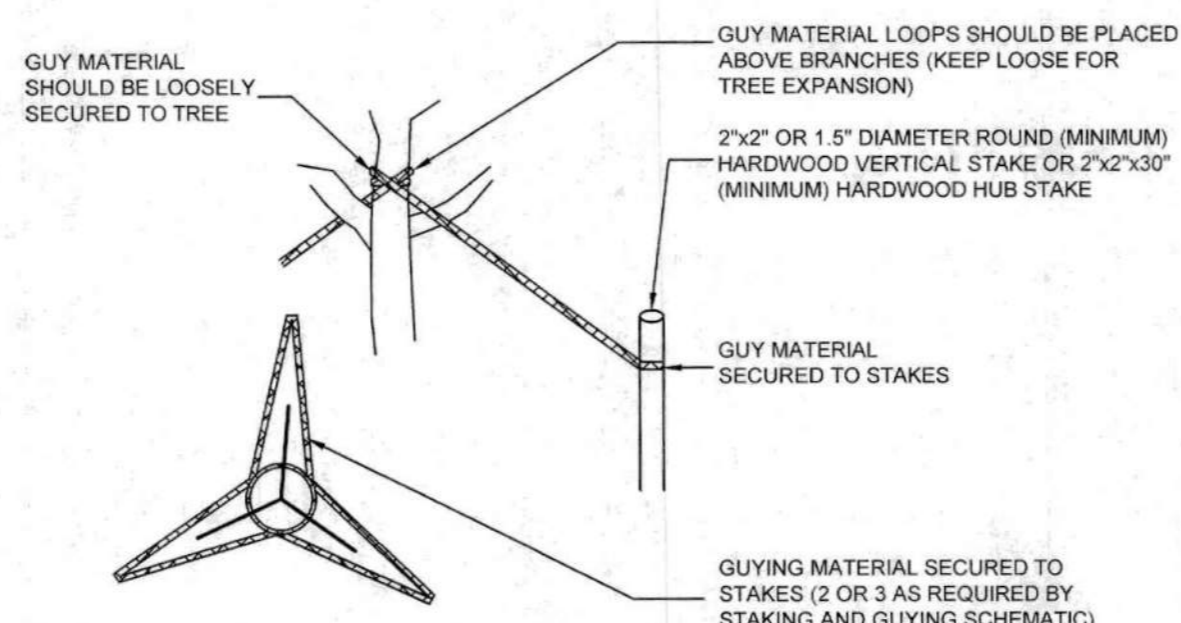
CONTAINER SHRUB PLANTING DETAIL
NOT TO SCALE



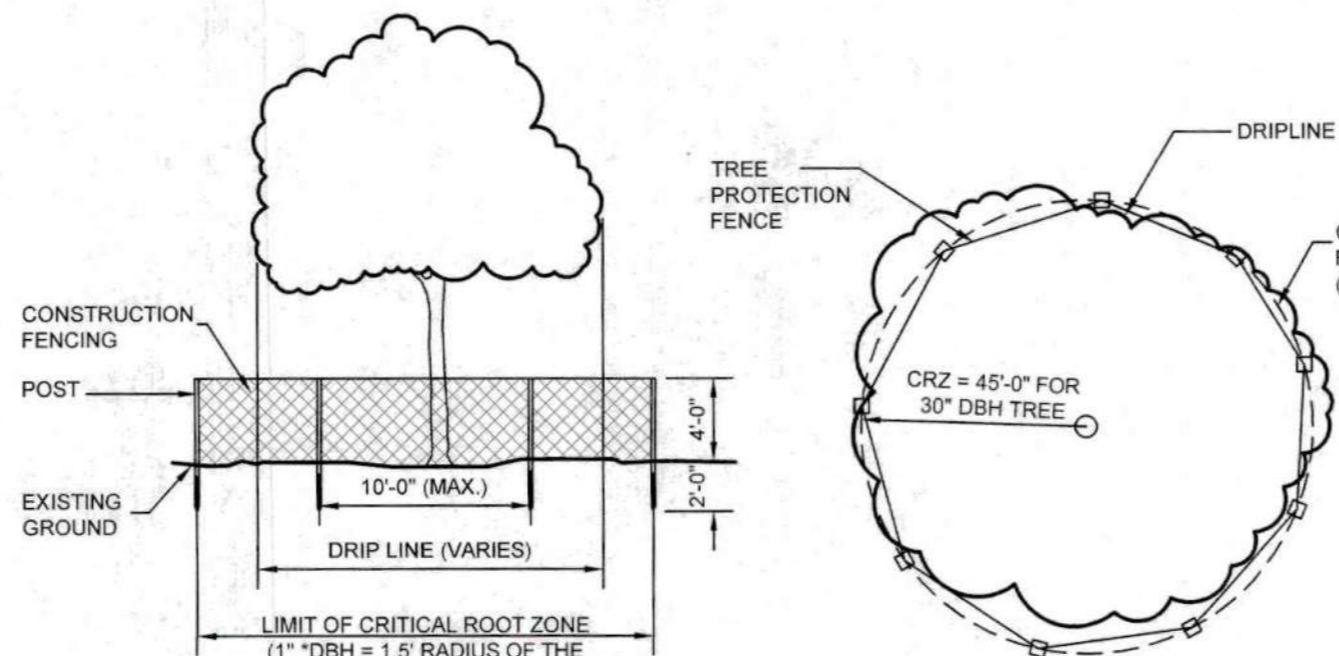
BALLED & BURLAP SHRUB PLANTING DETAIL
NOT TO SCALE



EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



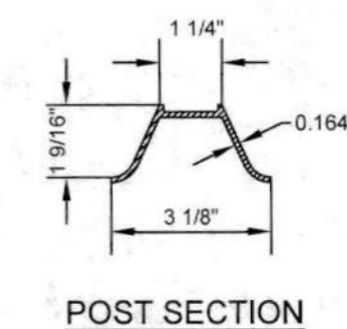
DECIDUOUS TREE - GUYING & STAKING
NOT TO SCALE



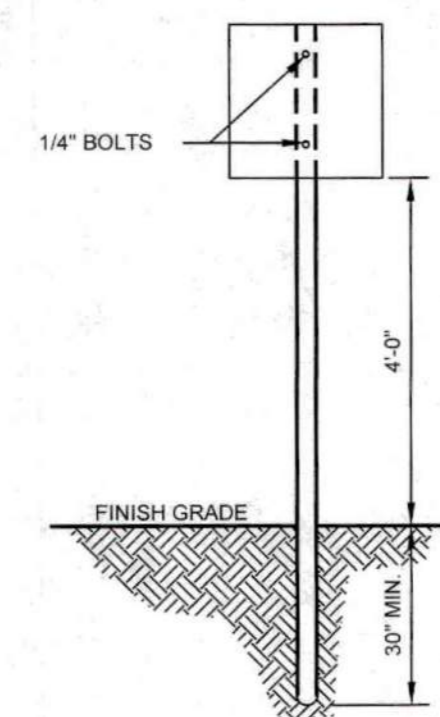
TREE PROTECTION DETAIL
NOT TO SCALE



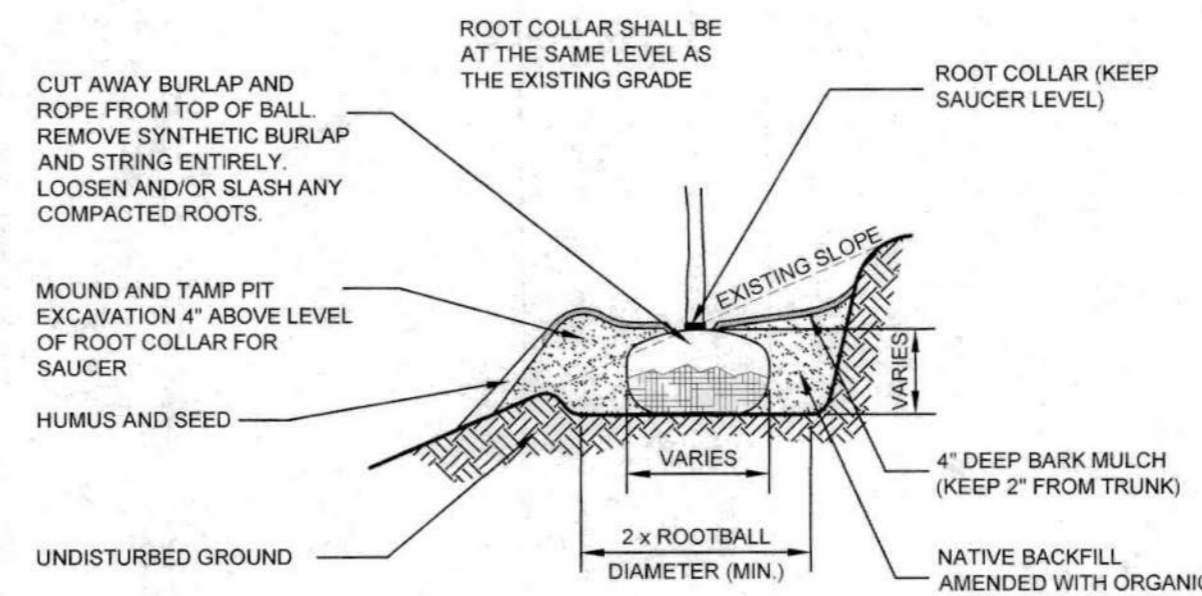
SITE ENTRY SIGNAGE
NOT TO SCALE



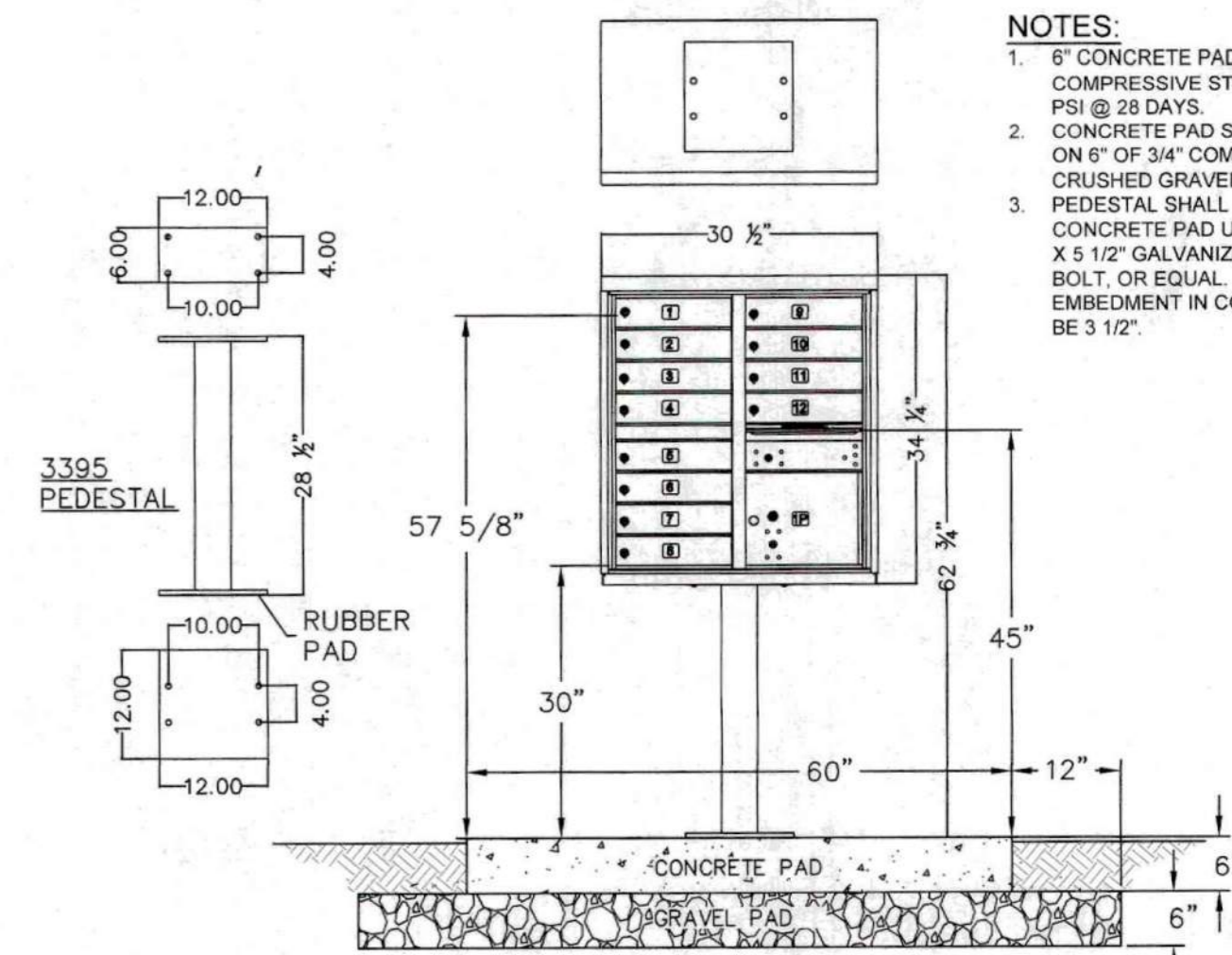
POST SECTION



SIGN POST DETAIL



TYPICAL PLANTING PIT ON SLOPE 4:1 OR GREATER
NOT TO SCALE



MAILBOX UNIT AND MOUNTING PAD DETAIL
NOT TO SCALE

NOTES:
1. 6\"/>

PROTECTED CONSERVATION AREA
DO NOT DISTURB SOILS OR VEGETATION
VIOLATORS WILL BE PROSECUTED
FOR INFORMATION OR TO REPORT A VIOLATION CALL THE CODE ENFORCEMENT OFFICER AT 432-1100, EXT. 125

SIGN DETAIL

POST NOTES:

- POSTS SHALL BE PLUMB, ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
- WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH, AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN LAYERS NOT TO EXCEED 6\"/>

SIGN NOTE:

TAGS SHALL BE PLACED IN NEAREST TREE ALONG 50 FOOT WETLANDS BUFFER AS SHOWN, IN AREAS WHERE THERE ARE NO TREES, SIGN POSTS SHALL BE USED AND INSTALLED.

CONSERVATION OVERLAY SIGNAGE DETAIL
NOT TO SCALE

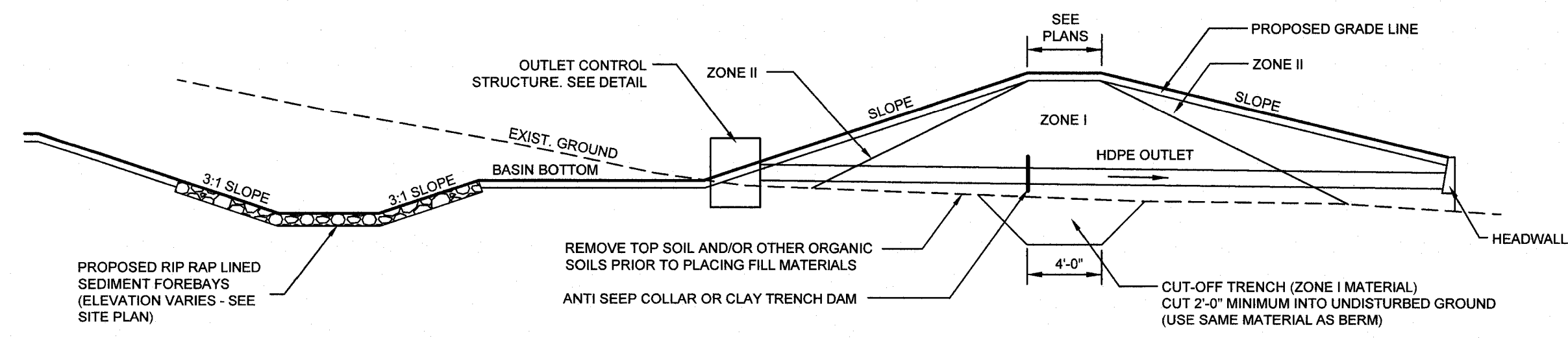
OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

CONSTRUCTION DETAILS
ROCK ROAD TOWNHOMES
MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

KMA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. 13 OF 20



STORMWATER PONDS CONSTRUCTION SEQUENCE

- CONTRACTOR TO NOTIFY DIG-SAFE 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- CUT AND CLEAR TREES AND BRUSH FROM CONSTRUCTION AREAS TO THE EXTENT NECESSARY. ALL BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF BY CONTRACTOR.
- PRIOR TO GRUBBING OF CLEARED AREAS, ALL SILTATION BARRIERS DESIGNED FOR USE AS TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED AS CALLED FOR ON PROJECT PLANS.
- COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR DEBRIS SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR. ORGANIC MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS. ALL STOCKPILES SHALL BE SEED WITH WINTER RYE AND, IF NECESSARY, SURROUNDED WITH HAY BALES IN ORDER TO PREVENT LOSS DUE TO EROSION.
- CONSTRUCT TEMPORARY CULVERTS AS NECESSARY TO FACILITATE CONSTRUCTION ACTIVITIES. ALL SUCH CROSSINGS SHALL BE PROTECTED WITH HAY BALE BARRIERS TO LIMIT EROSION.
- CONSTRUCT CUT-OFF TRENCH (PART OF ZONE I).
- CONSTRUCT OUTLET AND OVERFLOW STRUCTURE, CULVERT, ANTI SEEP COLLARS, HEADWALL, AND RIP RAP OUTLET PROTECTION AS SHOWN ON PLANS.
- CONSTRUCT ZONE I PORTION OF EARTH EMBANKMENT.
- CONSTRUCT ZONE II PORTION OF EARTH EMBANKMENT.
- APPLY TOPSOIL TO SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED MAY BE NATIVE ORGANIC MATERIAL SCREENED SO AS TO BE FREE OF ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEED AND MULCHED. CONSTRUCTION PERSONNEL SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS HAS BECOME ESTABLISHED.
- MAINTAIN, REPAIR, AND REPLACE AS NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENTIRE CONSTRUCTION AREA HAS BEEN STABILIZED (A MINIMUM OF ONE WINTER SHALL HAVE PASSED).
- AFTER STABILIZATION, REMOVE AND SUITABLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES.
- MONITOR CONSTRUCTION ACTIVITIES TO INSURE CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUCH A WAY AS NOT TO ENDANGER THE INTEGRITY OF EARTH EMBANKMENTS, STORMWATER CONTROL STRUCTURE, CULVERT AND RIP RAP OUTLET PROTECTION.

MATERIAL TYPE/SPECIFICATIONS

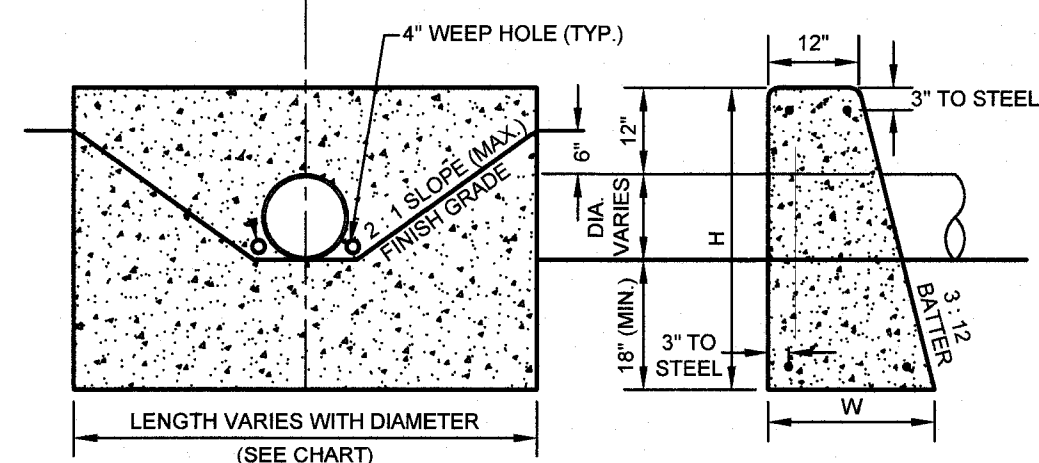
ZONE I
WELL GRADED MIXTURE OF GRAVEL, SAND, SILT OR CLAY WITH MAX. 6-INCH SIZE STONE AND GEADATION AS INDICATED BELOW. PLACE IN MAX. 12-INCH THICK LIFTS TO 95% OF MAX. DRY DENSITY IN ACCORDANCE WITH ASTM D1557. SCARIFY SURFACE PRIOR TO PLACING SUBSEQUENT LIFT. IN ADDITION, REMOVE ORGANIC SOILS.

SIEVE SIZE	PERCENT BY WEIGHT PASSING
6-INCH	100
NO. 4	50 TO 100
NO. 40	30 TO 70
NO. 200	20 TO 40

ZONE II
DRAINAGE LAYER: PLACE IN MAX. 12-INCH THICK LIFTS TO 95% OF MAX. DRY DENSITY IN ACCORDANCE WITH ASTM D1557.

SIEVE SIZE	PERCENT BY WEIGHT PASSING
1-INCH	100
NO. 4	70-100
NO. 200	0-12 (IN SAND PORTION ONLY)

DETENTION POND EMBANKMENT DETAIL



REINFORCED CONCRETE

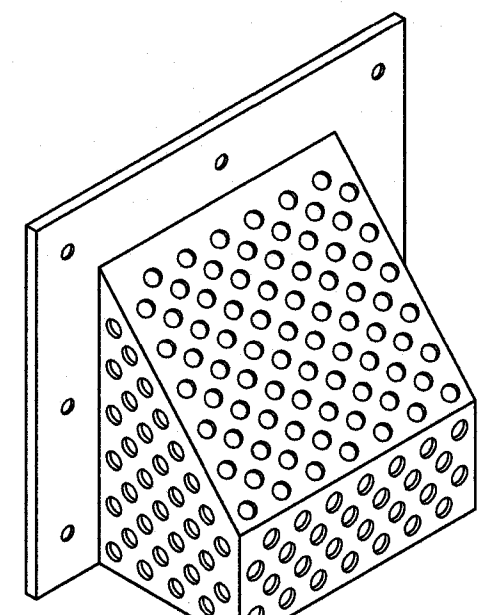
DRAIN PIPE DIAMETER	15"	18"	24"
LENGTH	4'-6"	5'-6"	7'-6"
HEIGHT (H)	3'-9"	4'-0"	4'-6"
BOTTOM WIDTH (W)	1'-11.25"	2'-0"	2'-1.5"
CONCRETE (CU.YD.)	0.85	1.13	1.78
STEEL (LBS.)	11	14	20

ALL STEEL SHALL BE #4 BARS, MEETING NHDOT REQUIREMENTS

NOTES:

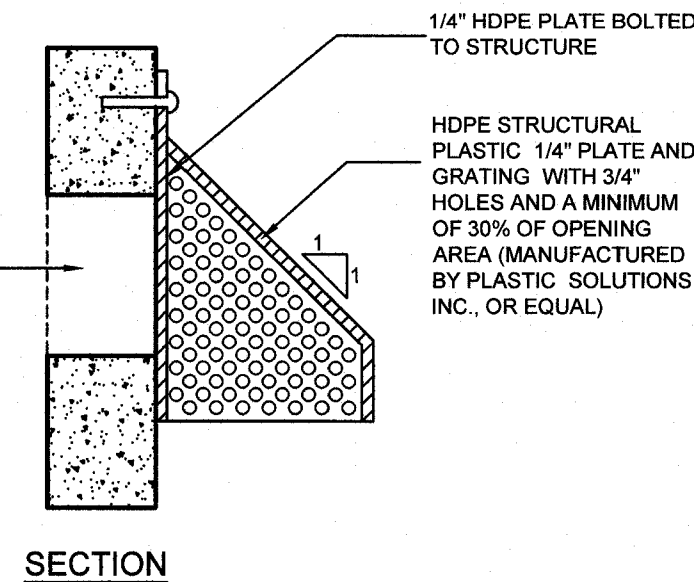
- ALL CONCRETE SHALL BE CLASS A.
- ALL HEADWALLS SHALL MEET NHDOT REQUIREMENTS. FOR LARGER PIPE DIAMETERS, USE THE NHDOT STANDARD PLANS.

CONCRETE HEADWALL NOT TO SCALE

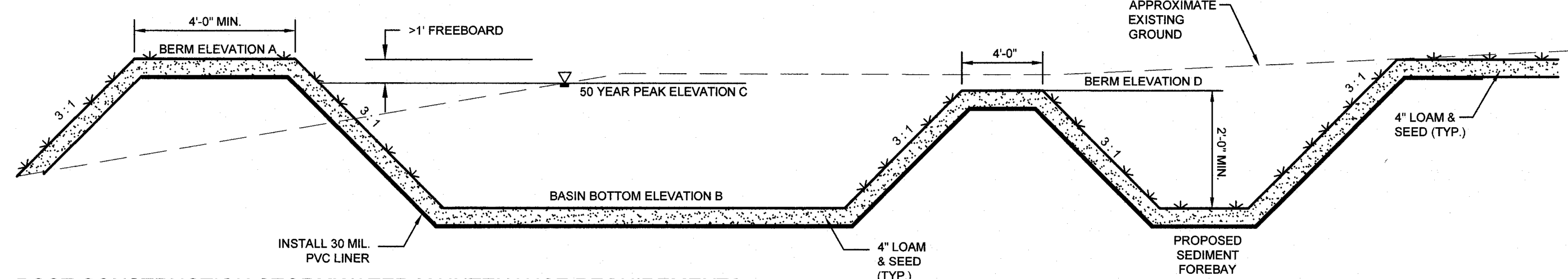


ISOMETRIC

TRASH RACK DETAIL NOT TO SCALE



SECTION



POST CONSTRUCTION STORMWATER MAINTENANCE REQUIREMENTS:

THE FOLLOWING STANDARDS WILL BE MET AFTER CONSTRUCTION IS COMPLETE:

DOCUMENTATION:

A MAINTENANCE LOG WILL BE KEPT SUMMARIZING INSPECTIONS, MAINTENANCE, AND ANY CORRECTIVE ACTIONS TAKEN. THE LOG WILL INCLUDE THE DATE ON WHICH EACH INSPECTION OR MAINTENANCE TASK WAS PERFORMED, A DESCRIPTION OF THE INSPECTION FINDINGS OR MAINTENANCE COMPLETED, AND THE NAME OF THE INSPECTOR OR MAINTENANCE PERSONNEL PERFORMING THE TASK. IF A MAINTENANCE TASK REQUIRES THE CLEAN OUT OF ANY SEDIMENTS OR DEBRIS, THE LOCATION WHERE THE SEDIMENT AND DEBRIS WAS DISPOSED AFTER REMOVAL WILL BE INDICATED. THE MAINTENANCE LOG SHALL BE SENT TO THE TOWN OF LONDONDERRY DEPARTMENT OF PUBLIC WORKS ON A YEARLY BASIS AND SHALL BE MADE AVAILABLE TO NHDOS UPON REQUEST.

MAINTENANCE REQUIREMENTS:

STORMWATER POND:

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
- TRASH AND DEBRIS SHOULD BE REMOVED AT EACH INSPECTION.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

OUTLET PROTECTION:

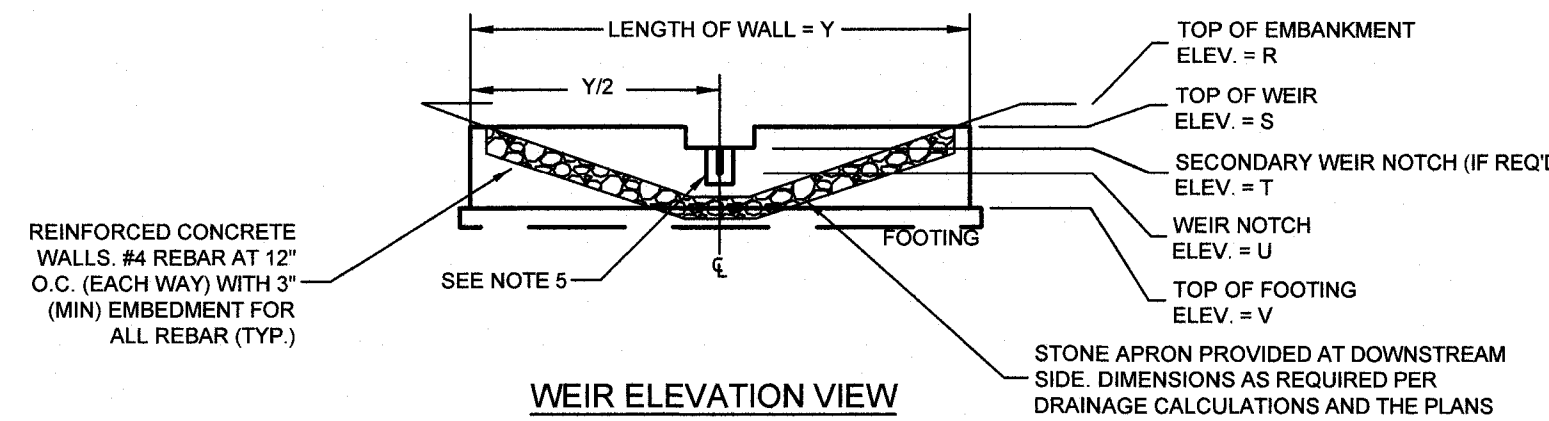
- INSPECT THE OUTLET PROTECTION ANNUALLY FOR DAMAGE AND DETERIORATION. REPAIR DAMAGES IMMEDIATELY.

GENERAL:

- IF ANY INVASIVE SPECIES BEGIN TO GROW IN THE STORMWATER MANAGEMENT PRACTICES THE SPECIE SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER THAT WILL NOT ALLOW THE PEST TO SURVIVE OR SPREAD. THE DISPOSAL OF SUCH SPECIES SHALL BE WITNESSED OR APPROVED BY A STATE INSPECTOR. METHODS FOR DISPOSAL MAY INCLUDE, BUT NOT BE LIMITED TO:
 - ENCAPSULATING THE PLANT(S) IN PLASTIC BAGS AND DISPOSING OF THE PLANT MATERIAL IN ONE OF THE FOLLOWING WAYS:
 - TRASH PICKUP.
 - DISCARDING.
 - OPEN BURNING.
 - INCINERATION, OR
 - BURIAL OF INFESTED NURSERY.

POND NUMBER	ELEV. A	ELEV. B	ELEV. C	ELEV. D
DETENTION POND #1	312.00	310.00	311.00	311.50
DETENTION POND #2	313.50	311.00	312.17	313.00

PROPOSED DETENTION POND CROSS-SECTION NOT TO SCALE



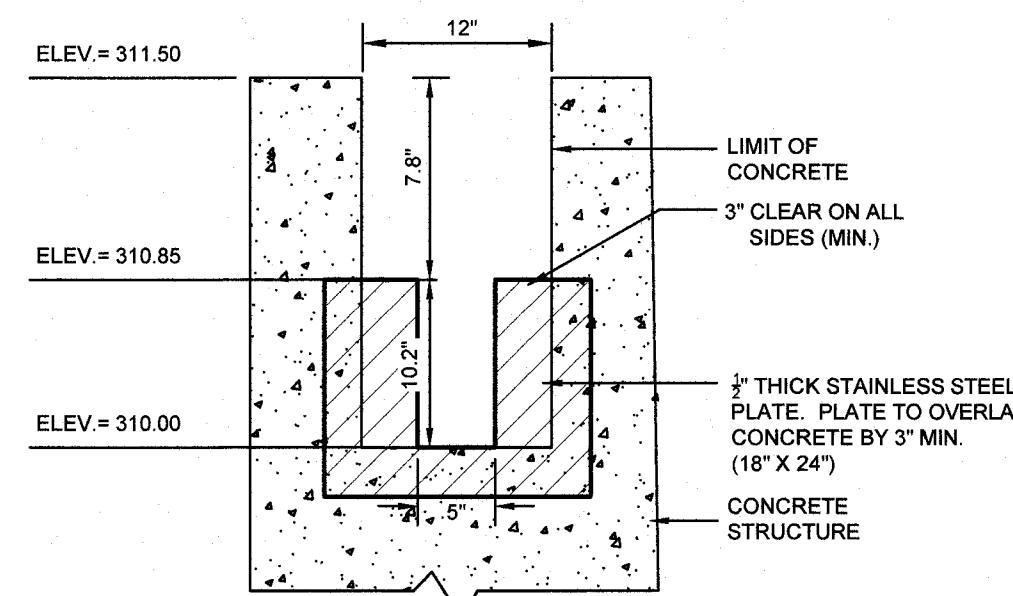
WEIR ELEVATION VIEW

POND	ELEVATION/DIMENSIONS								
	R	S	T	U	V	W	X	Y	
DETENTION POND #1	312.00	311.50	310.85	310.00	309.00	5'	12"	10'	

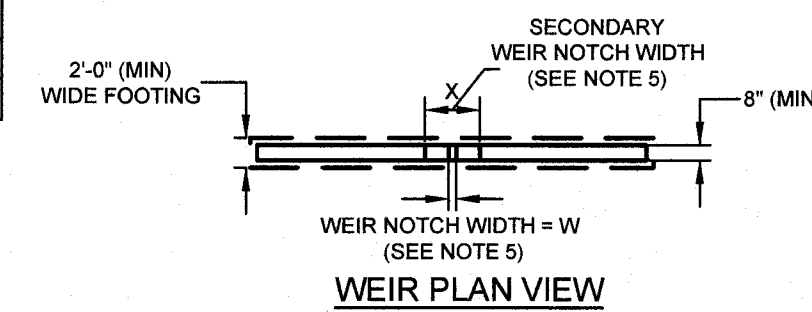
NOTES:

- ALL CEMENT CONCRETE TO BE 4000 PSI (MIN).
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING DESIGN DETAILS AND STEEL REINFORCING PREPARED BY NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- LOW FLOW STRUCTURE CAN BE USED AT DETENTION BASINS WITH INFLOW OF LESS THAN 3 CFS.
- CONTROL WEIR SHALL BE CAST IN AS REQUIRED. MINIMUM CONCRETE WEIR WIDTH SHALL BE 2 INCHES.
- CONTROL WEIR(S) SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS AND IN ACCORDANCE WITH THE APPROVED DRAINAGE CALCULATIONS. STAINLESS STEEL PLATE SHALL BE USED FOR CONTROL WEIR LESS THAN 2 INCHES ATTACHED PER EXHIBIT D107. STAINLESS STEEL SHALL BE GRADE 316.
- MINIMUM EMBANKMENT ELEVATION TO BE 12" ABOVE 50-YEAR STORM ELEVATION.

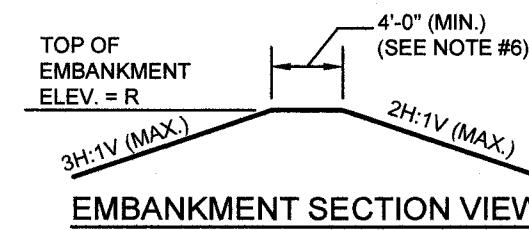
TYPICAL LOW FLOW OUTLET STRUCTURE AT DETENTION BASINS NOT TO SCALE



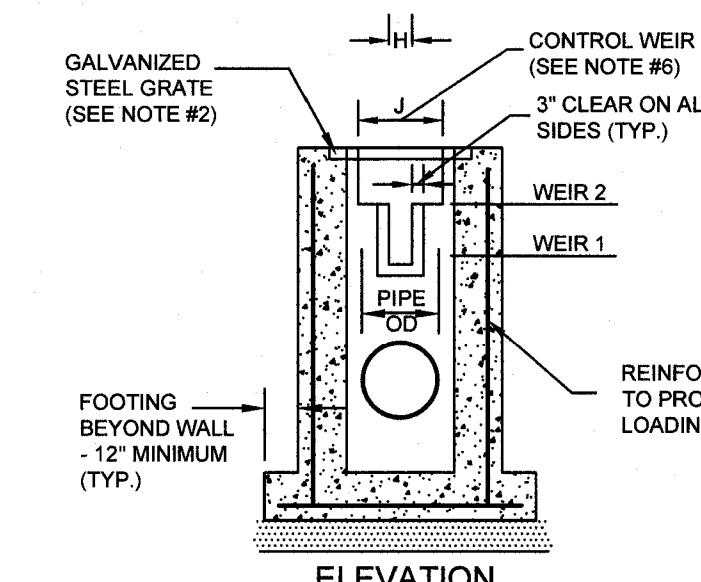
POND #1 WEIR WALL DETAIL NOT TO SCALE



WEIR PLAN VIEW



EMBANKMENT SECTION VIEW



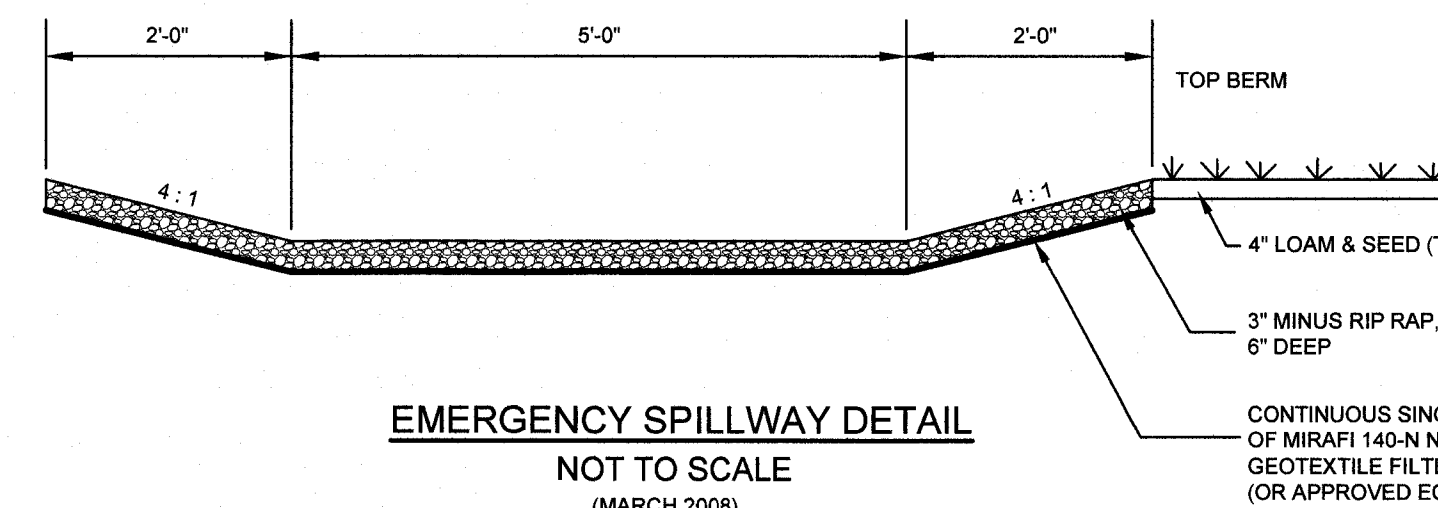
ELEVATION

NOTES:

- ALL CEMENT CONCRETE TO BE 4,000 PSI MINIMUM.
- GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE WITH 1/2" STAINLESS STEEL BOLTS AND THREADED INSERTS.
- OUTLET PIPE SHALL NOT BE LESS THAN 15" DIAMETER AND SHALL BE SIZED FOR A 50-YEAR STORM.
- ALL OPENINGS SHALL BE CAST IN AS REQUIRED. MINIMUM CONCRETE WEIR WIDTH SHALL BE 2 INCHES.
- PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
- CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY THE REGULATIONS AND IN ACCORDANCE WITH THE APPROVED DRAINAGE CALCULATIONS. STAINLESS STEEL PLATE SHALL BE USED FOR CONTROL WEIRS LESS THAN 2 INCHES WIDE.
- ALL STAINLESS STEEL SHALL BE GRADE 316.
- MINIMUM EMBANKMENT ELEVATION TO BE 12" ABOVE 50-YEAR STORM ELEVATION.
- PROVIDE TRASH RACK ON ALL WEIRS SMALLER THAN 6" IN WIDTH.

POND	OUTLET STRUCTURE	ELEVATION/DIMENSIONS												
		A	B	C	D	E	F	G	H	J	K	L	M	GRATE SIZE
DETENTION POND #2	OSW2	313.00	311.50	310.00	309.75	308.75	308.00	15"	1"	6"	313.50	310.00	311.00	4'x4'

DOUBLE WEIR OUTLET STRUCTURE DETAIL NOT TO SCALE

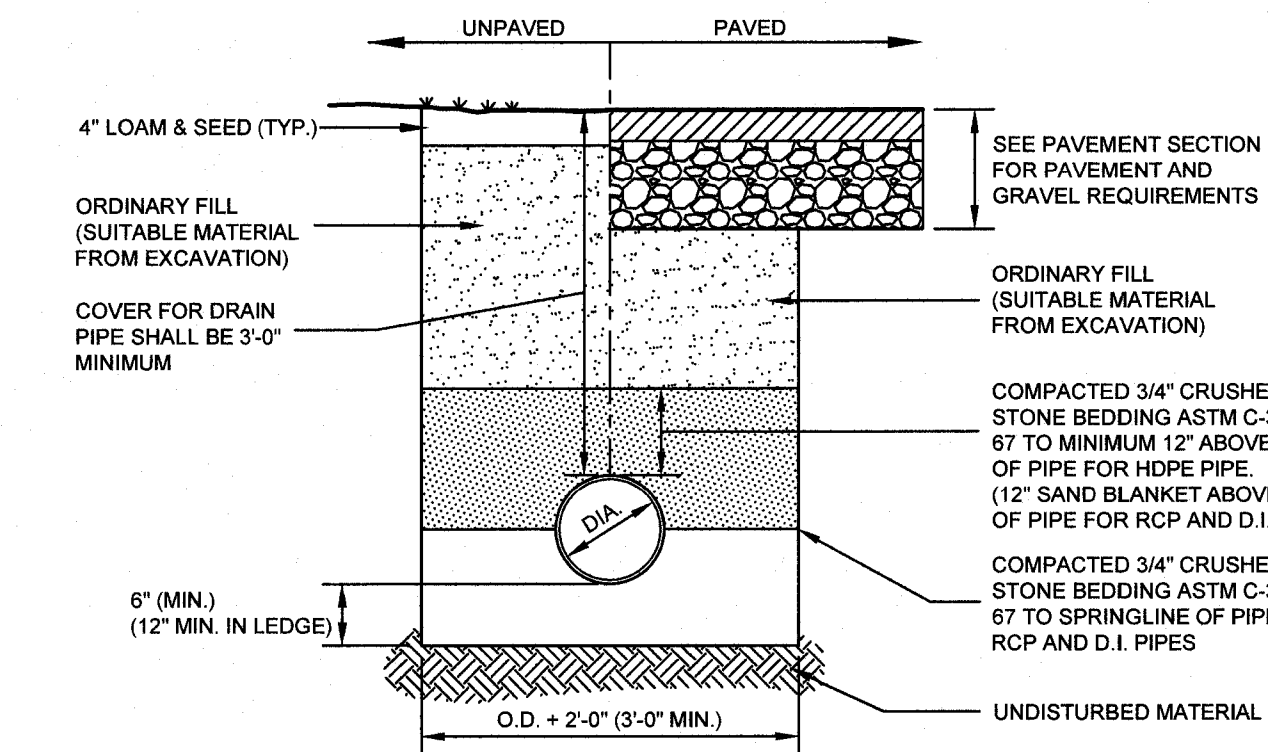


EMERGENCY SPILLWAY DETAIL NOT TO SCALE

(MARCH 2008)

REVISIONS

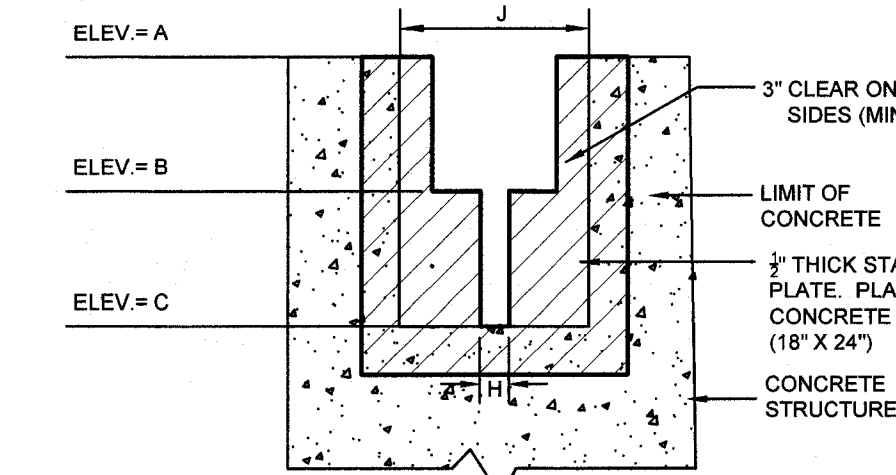
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM



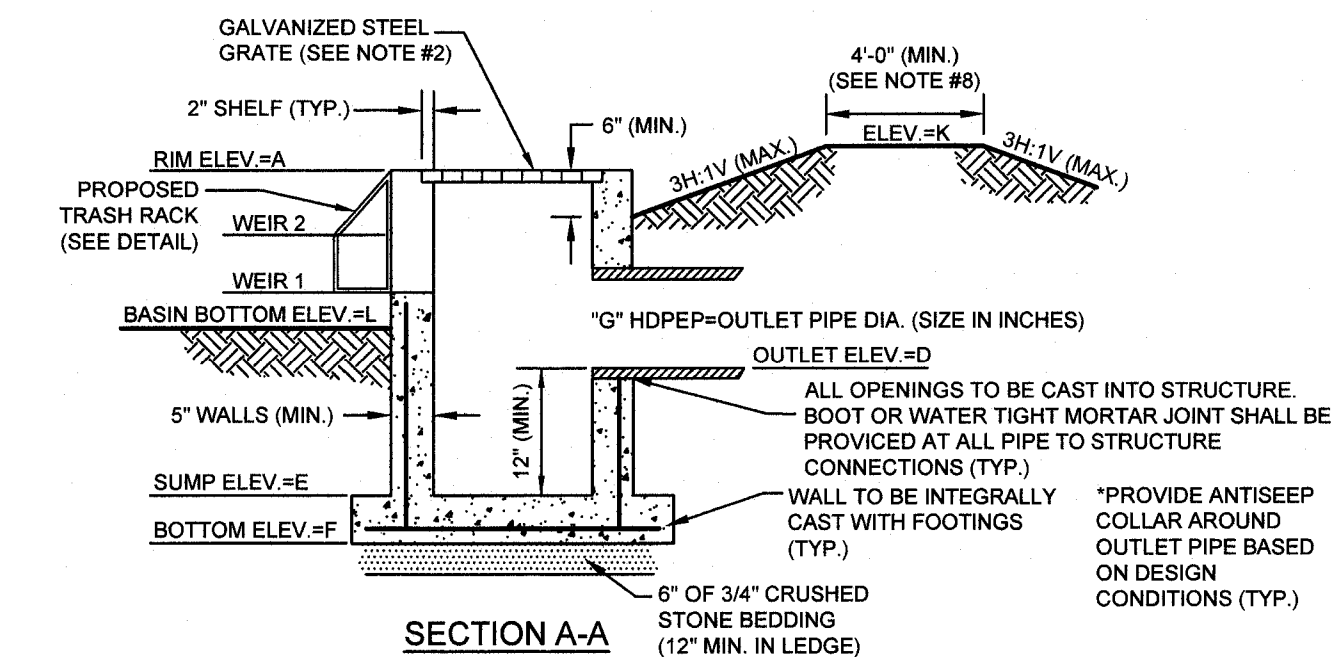
NOTES:

- DRAIN PIPE SHALL BE 15" DIAMETER MINIMUM.
- PLASTIC DRAIN PIPE (HDPE) SHALL BE ADS N-12 (CORRUGATED EXTERIOR, SMOOTH INTERIOR) OR EQUAL, MEETING AASHTO M-252 AND H20 LOADING.

TYPICAL DRAIN PIPE TRENCH NOT TO SCALE



CLOSE UP OF POND #2 WEIR



SECTION A-A

OWNER/APPLICANT:

PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

**CONSTRUCTION DETAILS
ROCK ROAD TOWNHOMES**

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

KMA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1

DATE: MAY 6, 2025

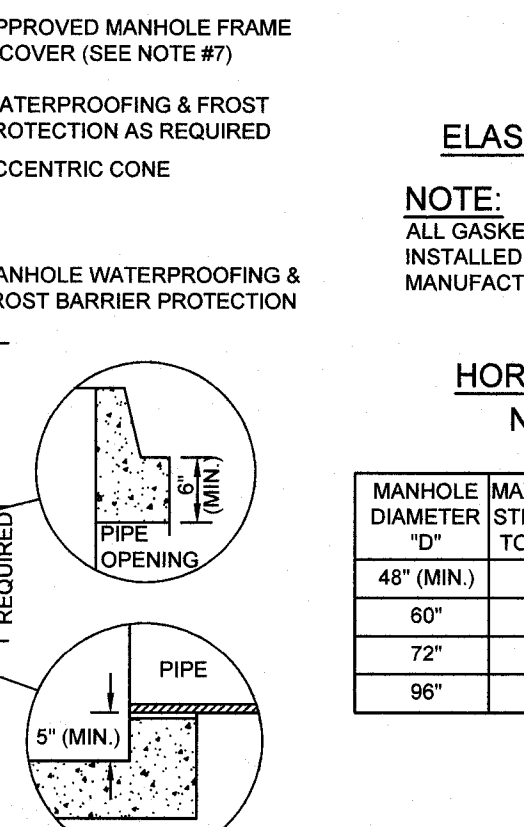
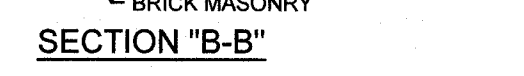
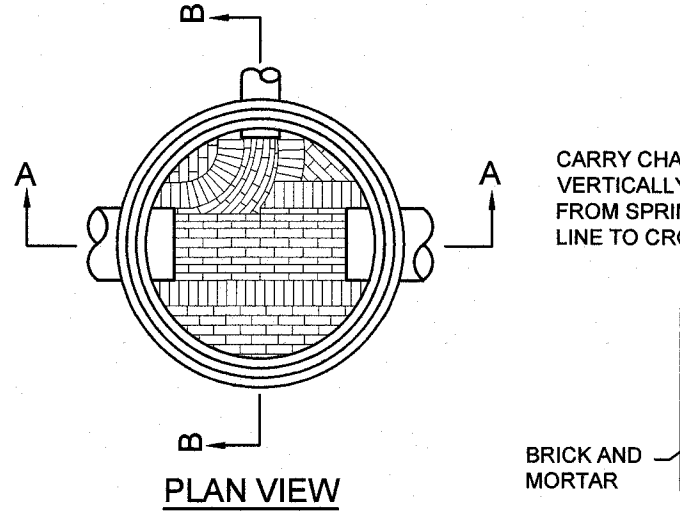
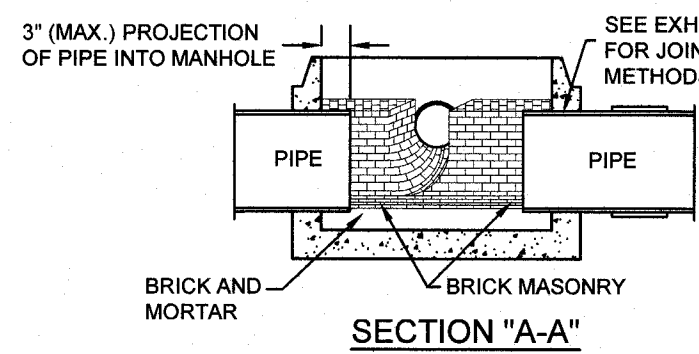
SCALE: AS SHOWN

FILE NO.:

SHEET NO. 14 OF 20

SEWER FORCE MAIN CONSTRUCTION:

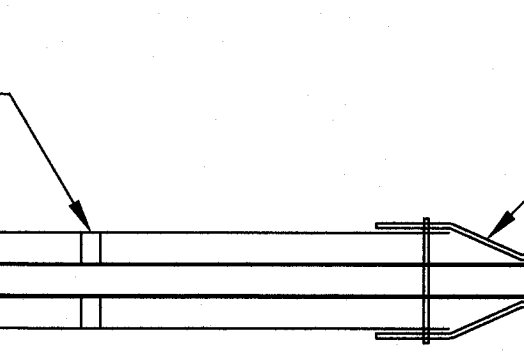
- PER ENV-WQ 704.04(i) ALL FORCE MAINS SHALL BE RATED TO WITHSTAND 2.5 TIMES DESIGN DYNAMIC HEAD. PER ENV-WQ 704.07(a) FORCE MAINS SHALL FLOW AT 3FPS OR GREATER FOR CONSTANT SPEED PUMPS AND PER ENV-WQ 704.07(b) FLOW AT 2FPS OR GREATER AT AVERAGE DAILY DESIGN FLOW FOR VARIABLE SPEED PUMPS.
 - FORCE MAINS SHALL BE 4 INCHES OR LARGER IN NOMINAL DIAMETER. PRESSURE SEWERS SHALL BE 1.5 INCHES OR LARGER IN NOMINAL DIAMETER.
 - MINIMUM ALLOWABLE PRESSURE SEWER PIPE SIZES AND CORRESPONDING FLOW RATE SHALL BE AS SET FORTH BELOW:
- | # OF CONNECTIONS SERVED | ESTIMATED PEAK FLOW (GPM) | MINIMUM PIPE SIZE (INCHES) |
|-------------------------|---------------------------|----------------------------|
| 1 TO 3 | 15 | 1.5 |
| 4 TO 10 | 20 | 2 |
| 11 TO 30 | 30 | 3 |
| 31 TO 150 | 80 | 4 |
- FORCE MAINS SHALL ENTER THE GRAVITY SEWER SYSTEM AT THE FLOW LINE OF THE RECEIVING MANHOLE. FORCE MAINS SHALL BE PROVIDED WITH A DRAINAGE BLOW-OFF AT EACH LOW POINT THAT:
 - HAS A PROPERLY VALVED CONNECTION FOR A VACUUM TRUCK OR OTHER SUITABLE CONTAINMENT DEVICE; AND
 - IS INSTALLED WITHIN A MANHOLE STRUCTURE THAT MEETS THE DESIGN REQUIREMENTS OF ENV-WQ 704.12 THROUGH ENV-WQ 704.17, WITH SUFFICIENT SPACE FOR HANDLING THE DISPLACED WASTE WITHOUT DANGER OF POLLUTION OR HEALTH HAZARD.
 - FORCE MAINS SHALL BE DESIGNED IN ACCORDANCE WITH ENV-WQ 704.07, CONSTRUCTED WITH MATERIALS AS SPECIFIED IN ENV-WQ 704.08, AND TESTED AS SPECIFIED IN ENV-WQ 704.09.
 - PRESSURE SEWERS SHALL BE DESIGNED IN ACCORDANCE WITH ENV-WQ 704.07 AND ENV-WQ 704.20, CONSTRUCTED WITH MATERIALS AS SPECIFIED IN ENV-WQ 704.08, AND TESTED AS SPECIFIED IN ENV-WQ 704.09.
 - THRUST BLOCKS MADE FROM INORGANIC, CORROSION-RESISTANT MATERIAL SHALL BE PLACED AT ALL BENDS, ELBOWS, TEES AND JUNCTIONS.
 - FORCE MAINS SHALL MEET THE DESIGN AND BEDDING REQUIREMENTS OF GRAVITY SEWERS.
 - FORCE MAINS SHALL BE CONSTRUCTED FROM DUCTILE IRON, HIGH DENSITY POLYETHYLENE, OR PVC PER ENV-WQ 704.08(a).
 - PVC SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO ASTM D2241 OR ASTM D1785. HDPE SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO ASTM D3035.
 - D.I. SHALL BE CORROSION PROTECTED IN CORROSIVE ENVIRONMENTS.



TYPICAL SEWER MANHOLE EXHIBIT SW2

NOT TO SCALE

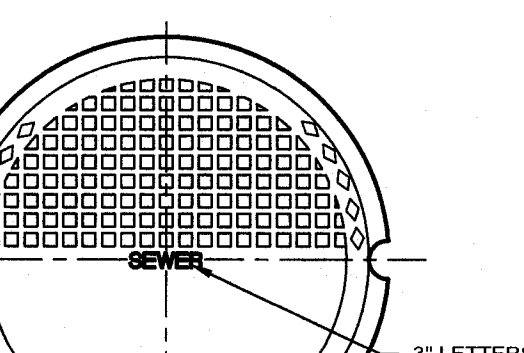
EXHIBIT SW2



PIPE SLEEVE NOT TO SCALE

NOT TO SCALE

3\"/>



SEWER MANHOLE FRAME AND COVER DETAIL

NOT TO SCALE

(MARCH 2008)

31 3/4"

33 3/4"

32"

30"

39 1/4"

30"

30"

30"

30"

30"

30"

30"

30"

NOTES:

- IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING, INCLUDING THE FRAME AND COVER.
- SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
- LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF LONDONDERRY AND NHDES REQUIREMENTS. INVERT AND SHELVE TO BE PLACED AFTER PASSING THE LEAKAGE TEST.
- CARE SHALL BE TAKEN TO ENSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. BASE SECTION TO BE FULL.
- MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT ON A SMOOTH RADIUS.
- IN CROSS COUNTRY AREAS BEYOND ROADWAY RIGHT-OF-WAYS, THE MANHOLE FRAME ELEVATION SHALL BE A MINIMUM OF 6\"/>

TOP OF SHELVE SHALL BE 1\"/>

SEE EXHIBIT SW4 FOR JOINTING METHODS

SEE EXHIBIT SW4 FOR JOINTING METHODS

SEE EXHIBIT SW4 FOR JOINTING METHODS

SEE EXHIBIT SW4 FOR JOINTING METHODS

SEE EXHIBIT SW4 FOR JOINTING METHODS

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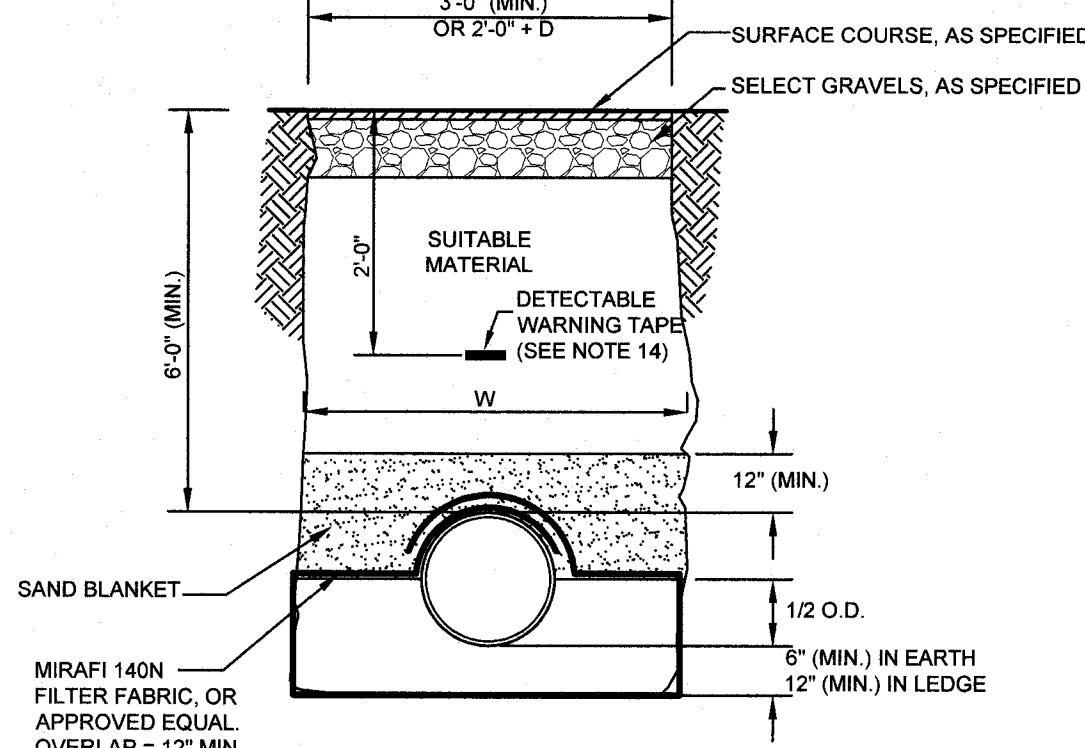
SEE EXHIBIT SW4 FOR JOINTING METHODS

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SEE EXHIBIT SW4 FOR JOINTING METHODS



FOR CONSTRUCTION IN ROADS, ROAD SHOULDER AND WALKWAYS

NOT TO SCALE

NOT TO SCALE

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SANITARY SEWER MANHOLE NOTES: (NHDES ENV WQ700)

- ALL COMPONENT PARTS OF MANHOLE STRUCTURES SHALL HAVE THE STRENGTH, LEAK RESISTANCE AND SPACE NECESSARY FOR THE INTENDED SERVICE.
- MANHOLE STRUCTURES SHALL HAVE A LIFE EXPECTANCY IN EXCESS OF 25 YEARS.
- MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING AND SHALL NOT LEAK IN EXCESS OF ONE GPD PER VERTICAL FOOT OF MANHOLE FOR THE LIFE OF THE STRUCTURE.
- BARRELS, CONCRETE GRADE RINGS AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE AND SHALL CONFORM TO ASTM C478.
- BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33:
 - 100% PASSING 1 INCH SCREEN
 - 90% PASSING 3/4 INCH SCREEN
 - 20-55% PASSING 3/8 INCH SCREEN
 - 0-10% PASSING #4 SIEVE
 - 0-5% PASSING #8 SIEVE
 WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
- BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
- PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
 - ELASTOMERIC RUBBER SLEEVE WITH WATER-TIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
 - CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;
 - ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND
 - NON-SHRINK GROUTED JOINTS WHERE WATER-TIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
- MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
- ALL PRECAST SECTIONS SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.
- ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
- MANHOLES SHALL HAVE A BRICK PAVED SHELVE AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELVE SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
- MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS:
 - CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
 - REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER AS CONFORMING TO ASTM C478;
 - THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING;
 - THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE;
 - THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS;
 - CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;
 - CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM A484/48M;
 - BRICK MASONRY FOR SHELVE, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK;
 - MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
 - PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 - 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
 - 4.5 PARTS SAND, 1.5 PARTS CEMENT AND 0.5 PARTS HYDRATED LIME;
 - CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150/C150M;
 - HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES";
 - SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES";
 - CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";
 - SUBJECT TO (G) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:
 - WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE; AND
 - WITHIN 60-INCHES FOR PVC PIPE LARGER THAN 15-INCH DIAMETER;
 - NO FLEXIBLE JOINT SHALL BE REQUIRED FOR D.I. PIPE OR FOR PVC PIPE UP THROUGH 15-INCH DIAMETER; AND
 - WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED IN LIEU OF A CONE SECTION, PROVIDED THE SLAB HAS AN ECCENTRIC ENTRANCE OPENING AND IS CAPABLE OF SUPPORTING H-20 LOADS.
- MANHOLE TESTING:
 - MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST BY A THIRD PARTY TESTING COMPANY;
 - THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
 - THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg; AND
 - THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
 - NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
 - NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
 - NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
 - THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIME FAIL TO ACHIEVE THE ACCEPTANCE LIMITS SPECIFIED IN (B) ABOVE;
 - INVERTS AND SHELVES SHALL NOT BE INSTALLED UNTIL AFTER SUCCESSFUL TESTING IS COMPLETED;
 - FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.

100% PASSING 1 INCH SCREEN

90% PASSING 3/4 INCH SCREEN

20-55% PASSING 3/8 INCH SCREEN

0-10% PASSING #4 SIEVE

0-5% PASSING #8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.

BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.

HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.

PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:

ELASTOMERIC RUBBER SLEEVE WITH WATER-TIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;

CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;

ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING; AND

NON-SHRINK GROUTED JOINTS WHERE WATER-TIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.

MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.

ALL PRECAST SECTIONS SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.

ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.

MANHOLES SHALL HAVE A BRICK PAVED SHELVE AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELVE SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.

MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS:

CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";

REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";

PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER AS CONFORMING TO ASTM C478;

THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING;

THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE;

THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BLISTERS, SAND HOLES AND DEFECTS;

CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION;

CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM A484/48M;

BRICK MASONRY FOR SHELVE, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK;

MORTAR SHALL BE COMPOSED OF TYPE II PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;

PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:

4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR

4.5 PARTS SAND, 1.5 PARTS CEMENT AND 0.5 PARTS HYDRATED LIME;

CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150/C150M;

HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES";

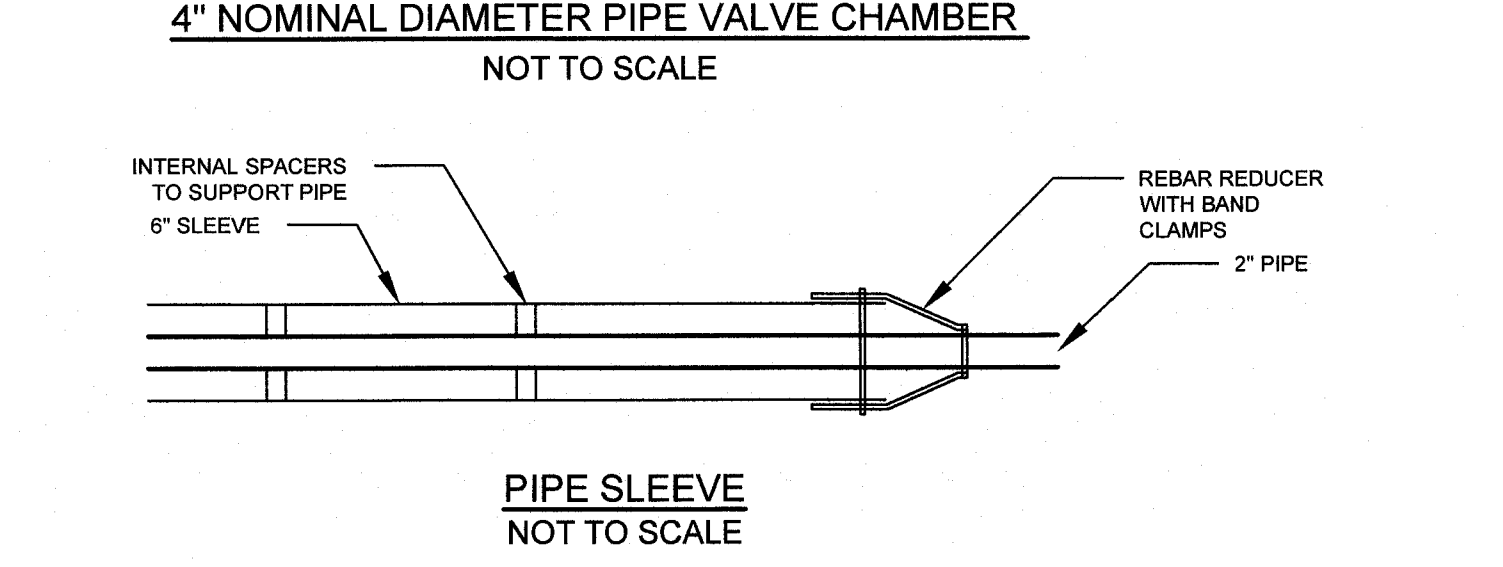
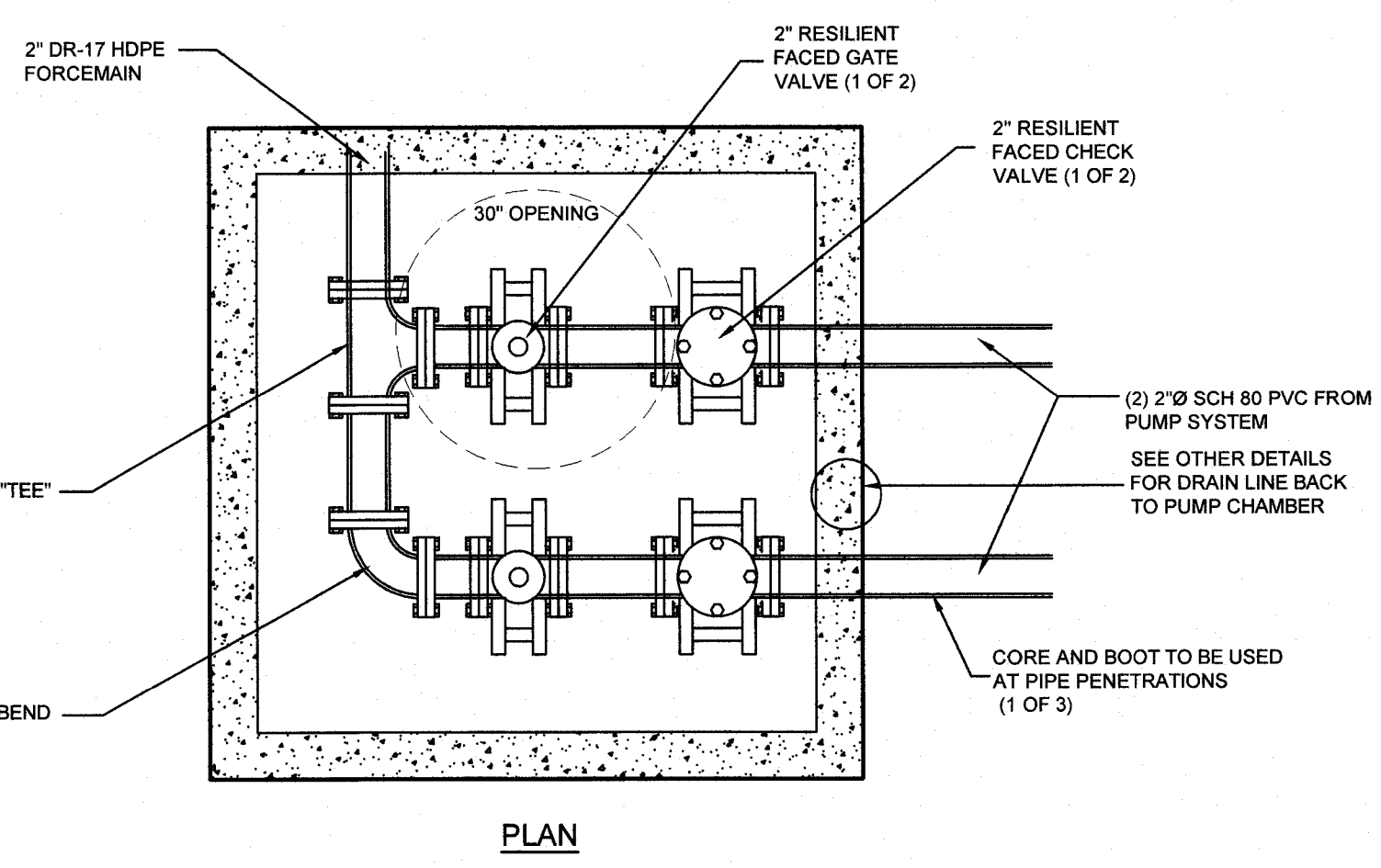
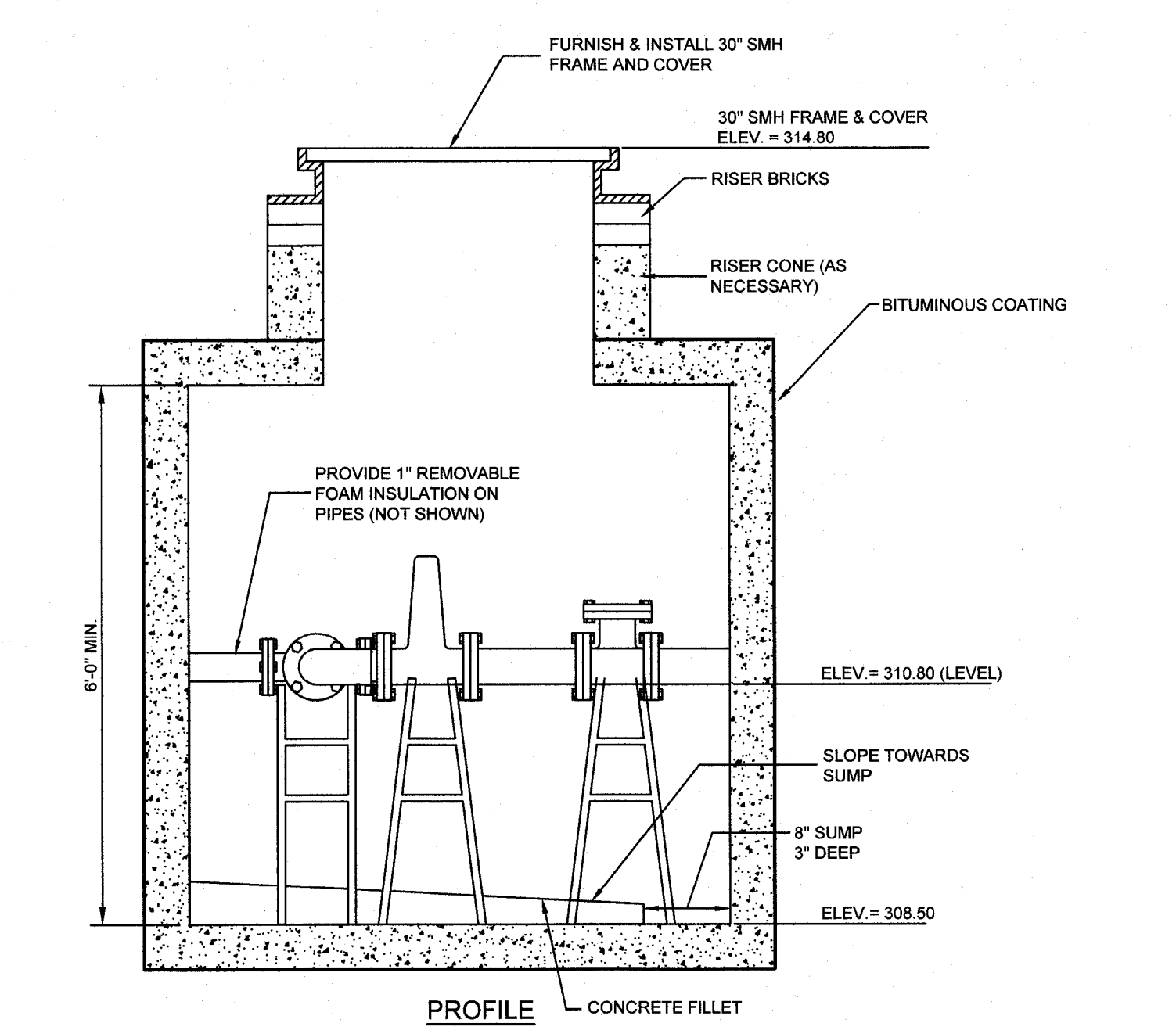
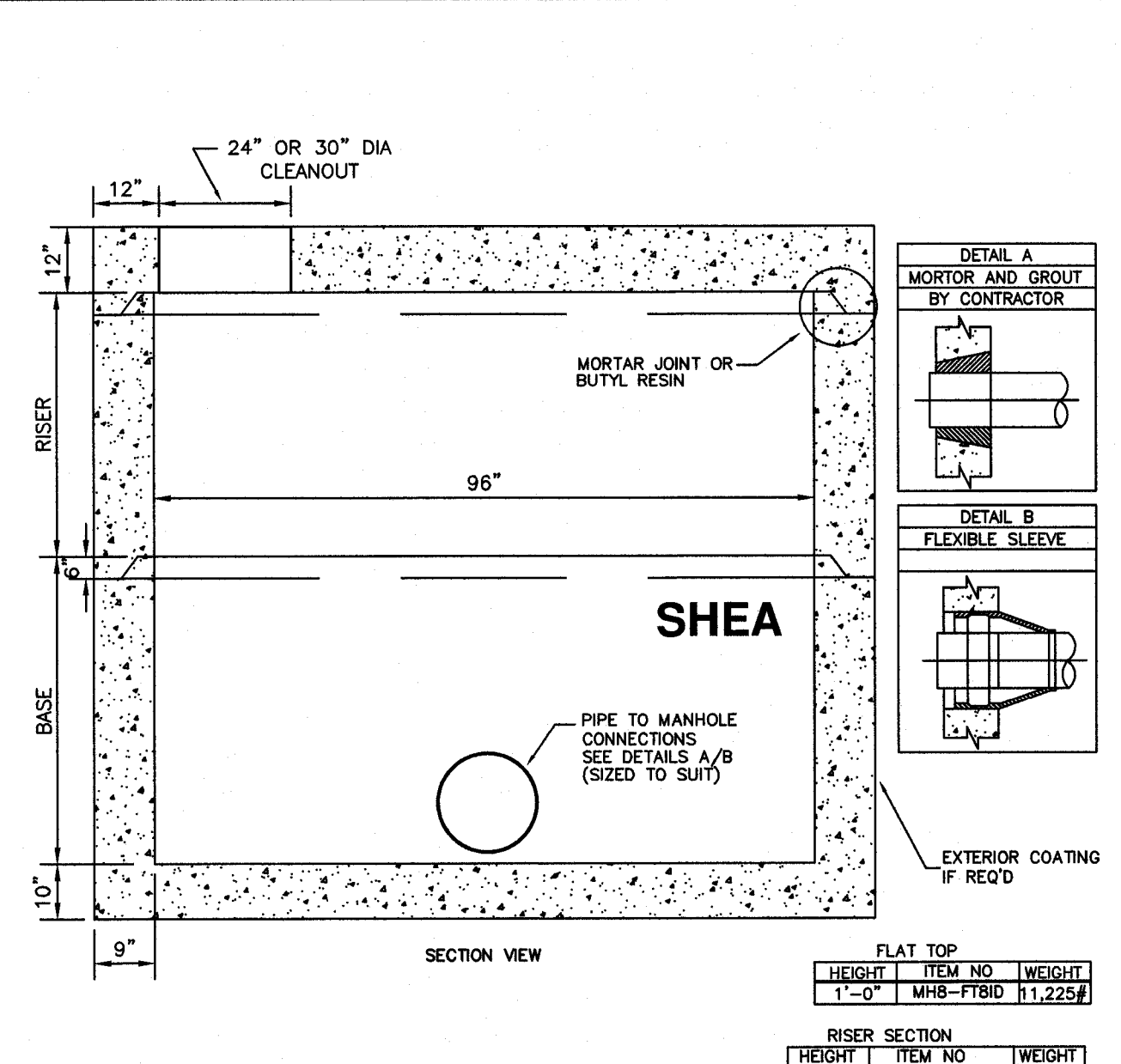
SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES";

CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION";

SUBJECT TO (G) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:

WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE; AND

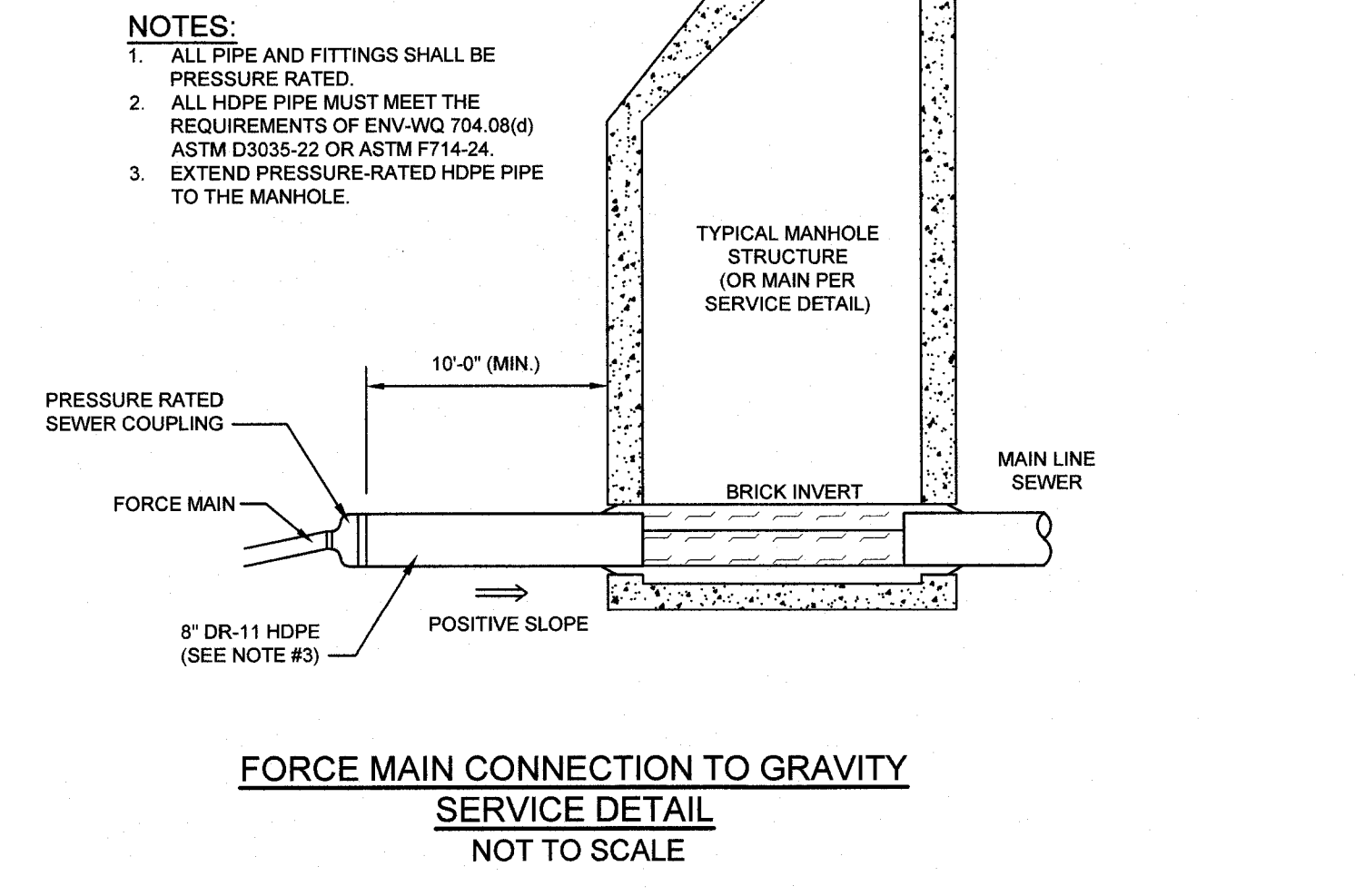
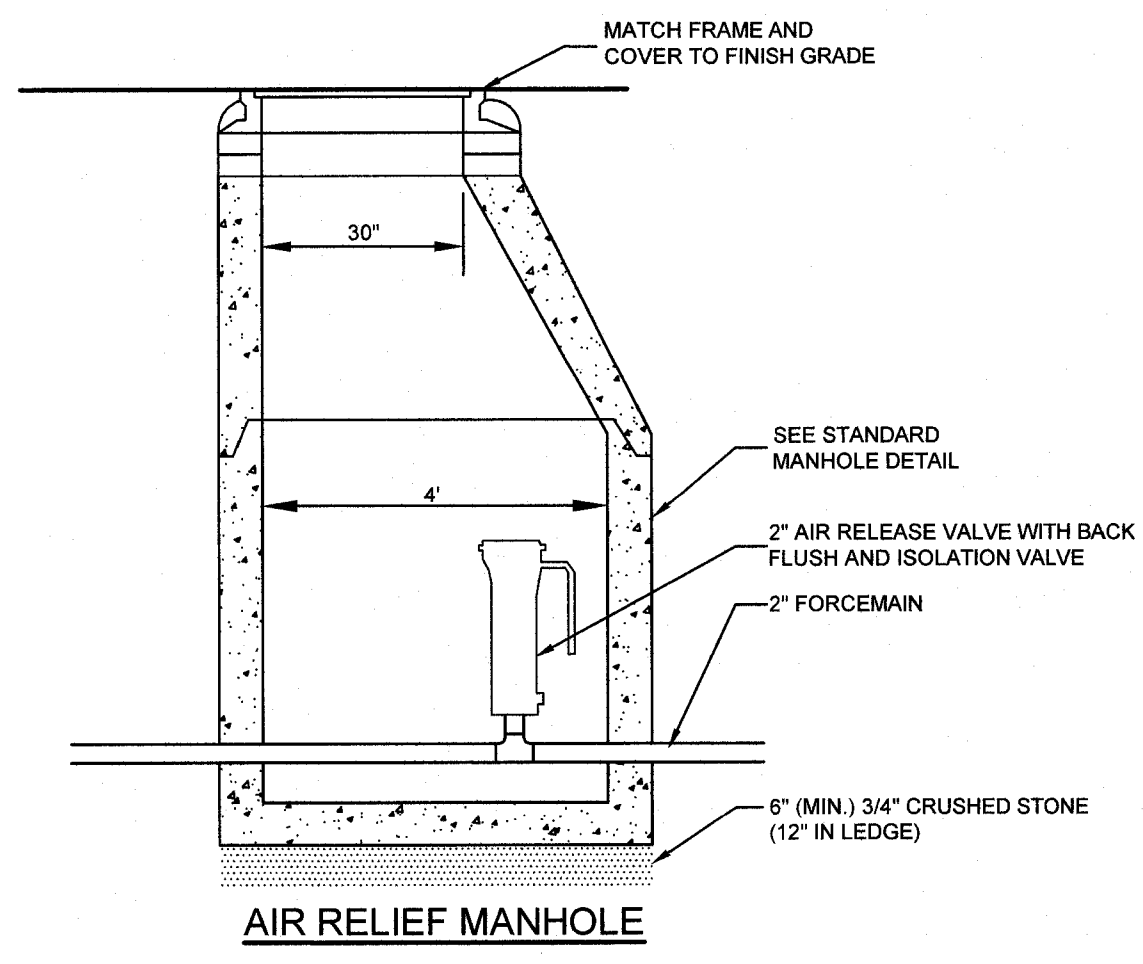
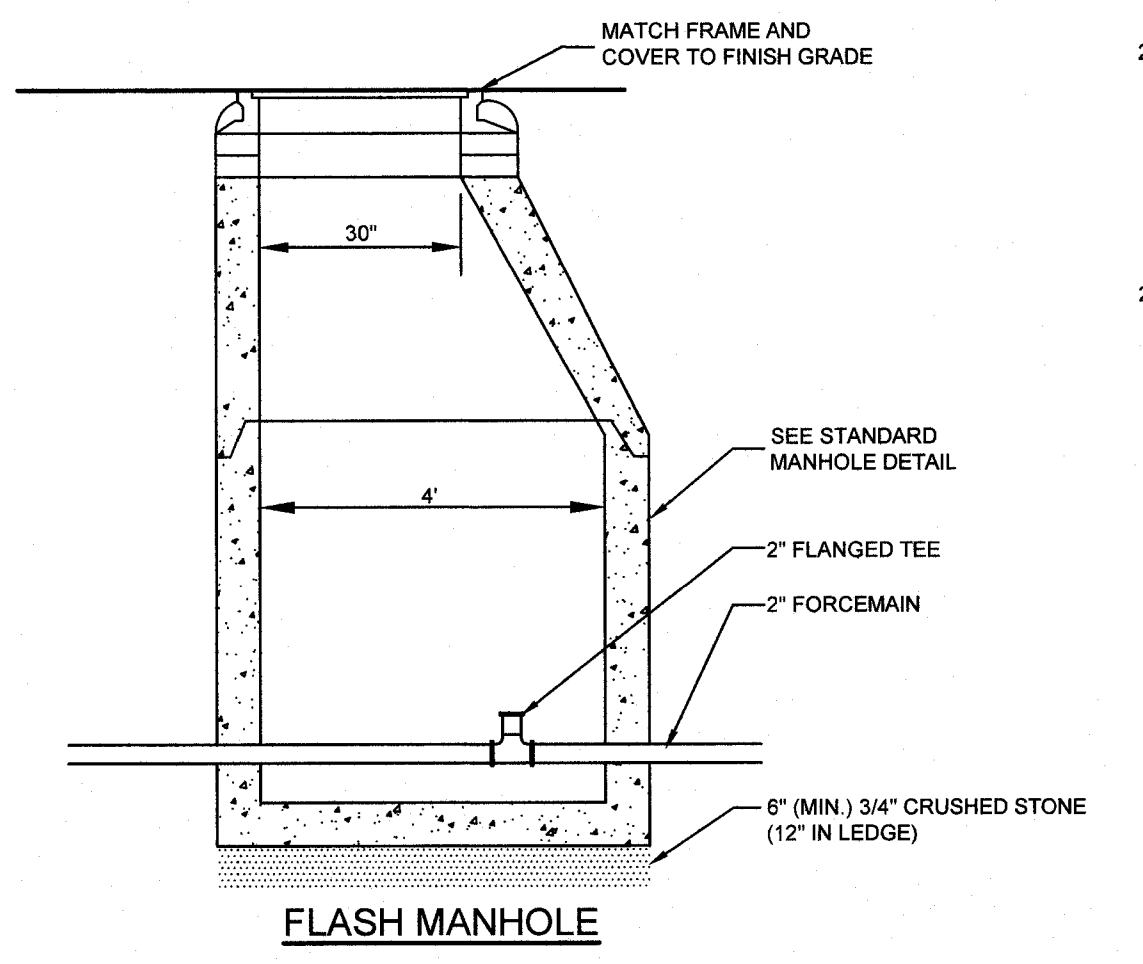
WITHIN 60-INCHES FOR PVC PIPE LARGER THAN 15-INCH DI



- NOTES:**
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
 - REINFORCED STEEL CONFORMS TO ASTM A185 SPEC. 0.18 SQ. IN./LINEAL FT. AND 0.18 SQ. IN. (BOTH WAYS) BASE BOTTOM.
 - DESIGN LOADING PER AASHTO HS-20, 1 TO 5 FEET COVER.
 - MANHOLE DESIGN SPECS CONFORM TO ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
 - BUTYL RESIN JOINT CONFORMS TO ASTM C990 SPECIFICATION.

96" INSIDE DIAMETER MANHOLE PUMP CHAMBER

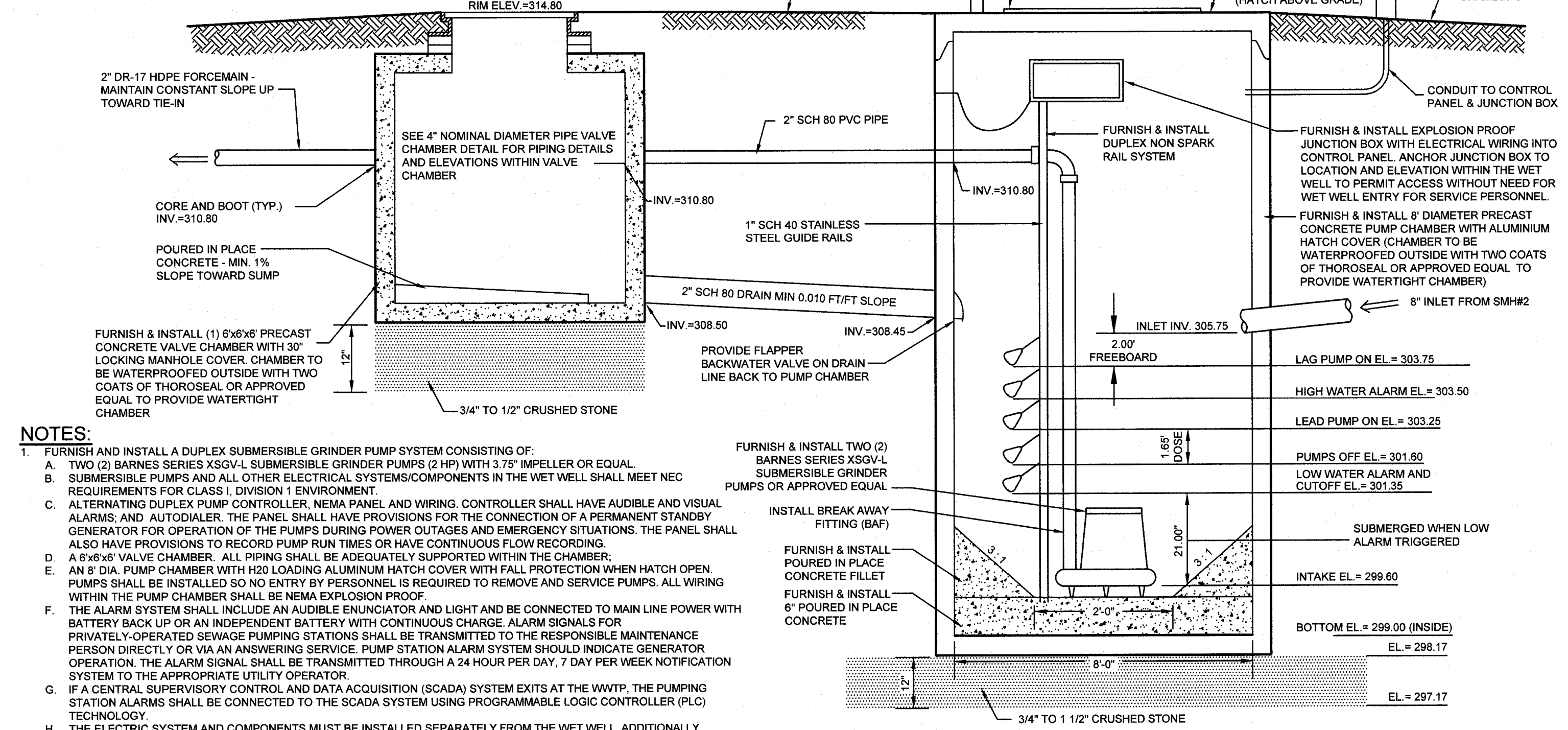
NOT TO SCALE



- NOTES:**
- ALL PIPE AND FITTINGS SHALL BE PRESSURE RATED.
 - ALL HDPE PIPE MUST MEET THE REQUIREMENTS OF ENV-WQ 704.08(d) ASTM D3035-22 OR ASTM F714-24.
 - EXTEND PRESSURE-RATED HDPE PIPE TO THE MANHOLE.

O&M MANUAL:

THE OWNER SHALL SUBMIT PUMP STATION O&M MANUAL, WITH THE OWNER CONTACT INFO AND E-MAIL ADDRESS, TO DES WITHIN 60 DAYS FOLLOWING COMPLETION OF PUMP STATION CONSTRUCTION. THE O&M MANUAL SHALL PROVIDE INFORMATION AND GUIDANCE FOR PUMP STATION OPERATION AND MAINTENANCE.



- NOTES:**
- FURNISH AND INSTALL A DUPLEX SUBMERSIBLE GRINDER PUMP SYSTEM CONSISTING OF:
 - TWO (2) BARNES SERIES XSGV-L SUBMERSIBLE GRINDER PUMPS (2 HP) WITH 3.75" IMPELLER OR EQUAL.
 - SUBMERSIBLE PUMPS AND ALL OTHER ELECTRICAL SYSTEMS/COMPONENTS IN THE WET WELL SHALL MEET NEC REQUIREMENTS FOR CLASS 1, DIVISION 1 ENVIRONMENT.
 - ALTERNATING DUPLEX PUMP CONTROLLER, NEMA PANEL AND WIRING. CONTROLLER SHALL HAVE AUDIBLE AND VISUAL ALARMS, AND AUTODIALER. THE PANEL SHALL HAVE PROVISIONS FOR THE CONNECTION OF A PERMANENT STANDBY GENERATOR FOR OPERATION OF THE PUMPS DURING POWER OUTAGES AND EMERGENCY SITUATIONS. THE PANEL SHALL ALSO HAVE PROVISIONS TO RECORD PUMP RUN TIMES OR HAVE CONTINUOUS FLOW RECORDING.
 - A 5/8"x6" VALVE CHAMBER. ALL PIPING SHALL BE ADEQUATELY SUPPORTED WITHIN THE CHAMBER.
 - A 6" DIA. PUMP CHAMBER WITH H2O LOADING ALUMINUM HATCH COVER WITH FALL PROTECTION WHEN HATCH OPEN. PUMPS SHALL BE INSTALLED SO NO ENTRY BY PERSONNEL IS REQUIRED TO REMOVE AND SERVICE PUMPS. ALL WIRING WITHIN THE PUMP CHAMBER SHALL BE NEMA EXPLOSION PROOF.
 - THE ALARM SYSTEM SHALL INCLUDE AN AUDIBLE ENUNCIATOR AND LIGHT AND BE CONNECTED TO MAIN LINE POWER WITH BATTERY BACK UP OR AN INDEPENDENT BATTERY WITH CONTINUOUS CHARGE. ALARM SIGNALS FOR PRIVATELY-OPERATED SEWAGE PUMPING STATIONS SHALL BE TRANSMITTED TO THE RESPONSIBLE MAINTENANCE PERSON DIRECTLY OR VIA AN ANSWERING SERVICE. PUMP STATION ALARM SYSTEM SHOULD INDICATE GENERATOR OPERATION. THE ALARM SIGNAL SHALL BE TRANSMITTED THROUGH A 24 HOUR PER DAY, 7 DAY PER WEEK NOTIFICATION SYSTEM TO THE APPROPRIATE UTILITY OPERATOR.
 - IF A CENTRAL SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM EXISTS AT THE WWTP, THE PUMPING STATION ALARMS SHALL BE CONNECTED TO THE SCADA SYSTEM USING PROGRAMMABLE LOGIC CONTROLLER (PLC) TECHNOLOGY.
 - THE ELECTRIC SYSTEM AND COMPONENTS MUST BE INSTALLED SEPARATELY FROM THE WET WELL. ADDITIONALLY, ELECTRICAL SYSTEMS AND COMPONENTS, INCLUDING MOTORS, LIGHTS, CABLE, CONDUITS, SWITCH BOXES, AND CONTROL CIRCUITS SHALL BE PROTECTED FROM FLOODING IN ACCORDANCE WITH ENV-WQ 705.01.
 - ALL CHAMBERS SHALL BE H-20 LOAD RATED.
 - THE WET WELL SHALL BE LEAK TESTED USING METHOD ACI 350.1 METHOD HST-NML.
 - ALL PIPING SHALL BE ADEQUATELY SUPPORTED SO VALVES CAN BE REMOVED WITHOUT REMOVING ALL PIPING.
 - ALL CORED OR CAST OPENINGS SHALL HAVE APPROVED KOR-N-SEAL OR EQUAL BOOTS.
 - ALL PIPING WITHIN PUMP AND VALVE CHAMBERS SHALL BE SCH 80 PVC PIPE.
 - PUMP, CONTROLLER, AND CHAMBER PIPING SHALL BE INSTALLED BY A COMPANY WITH EXPERIENCE IN INSTALLING BOTH WIRING AND PLUMBING FOR SUBMERSIBLE PUMPS.
 - PUMP CHAMBER TO COMPLY WITH THE REQUIREMENTS LISTED IN ENV-WQ 704.10(C-9) AND 705.11.
 - A SUITABLE RECEPTACLE SHALL BE INCLUDED IN THE ELECTRICAL SUPPLY PANEL FOR CONNECTION TO A PORTABLE GENERATOR WITH MANUAL TRANSFER.

FLOW CALCULATIONS:

PROPOSED TOWNHOUSES (1) 3 BDRM 2 BEDROOM TOWNHOUSE AND (1) 7 UNIT, 2 BEDROOM TOWNHOUSE):

150 GPD/BEDROOM x 24 BEDROOMS = 3,600 GPD

INFILTRATION:

300 GAL/D/DAY/MILE X 222 FT X 8 IN/5.280 FT/MILE = 100 GPD

TOTAL FLOW = 3,700 GPD (2.57 GPM)

PUMP CHAMBER VOLUME CALCULATIONS:

PROPOSED TOTAL DAILY FLOW = 3,700 GPD (2.57 GPM)

TOTAL STATIC HEAD IS 12.5 FEET

VOLUME OF 8" DIA. CHAMBER

4' x 3.14 x 1 FT = 50.27 CF/VF

50.27 CF/VF x 7.48 GAL/CF = 376 GAL/VF

PUMP CALCULATIONS:

PUMP DESIGN FLOW IS 35 GPM

TOTAL STATIC HEAD IS 12.5 FEET

TOTAL DYNAMIC HEAD IS 20.1 FEET

TOTAL EQUIVALENT LENGTH IS:

TOTAL FORCEMAIN LENGTH = 700 FT

TOTAL FRICTION LOSS = 43.80

TOTAL PIPE EQUIVALENT = 423.80

PUMP CHAMBER ANTI-FLOATATION CALCULATIONS:

WEIGHT OF PUMP CHAMBER	FLAT TOP	WEIGHT
(1) - 4" RISER		11,225#
(1) - 6" RISER		18,306#
(1) - 5'-6" BASE		24,790#
(1) - FILLET		3,534#
(1) - 6" SLAB		3,770#
TOTAL		73,829#

WEIGHT OF DISPLACED WATER 70.9 SF x 16.50 VF x 62.4 #/CF = 72,999#

73,829# > 72,999# THEREFORE OK

- SEWER FORCE MAIN CONSTRUCTION:**
- PER ENV-WQ 704.04(a) ALL FORCE MAINS SHALL BE RATED TO WITHSTAND 2.5 TIMES DESIGN DYNAMIC HEAD.
 - PER ENV-WQ 704.07(a) FORCE MAINS SHALL FLOW AT 3FPS OR GREATER FOR CONSTANT SPEED PUMPS AND PER ENV-WQ 704.07(b) FLOW AT 2FPS OR GREATER AT AVERAGE DAILY DESIGN FLOW FOR VARIABLE SPEED PUMPS.
 - FORCE MAINS SHALL BE 4 INCHES OR LARGER IN NOMINAL DIAMETER. PRESSURE SEWERS SHALL BE 1.5 INCHES OR LARGER IN NOMINAL DIAMETER.
 - MINIMUM ALLOWABLE PRESSURE SEWER PIPE SIZES AND CORRESPONDING FLOW RATES SHALL BE AS SET FORTH BELOW.

# OF CONNECTIONS SERVED	ESTIMATED PEAK FLOW (GPM)	MINIMUM PIPE SIZE (INCHES)
1 TO 3	15	1.5
4 TO 10	20	2
11 TO 30	30	3
31 TO 150	80	4

- FORCE MAINS SHALL ENTER THE GRAVITY SEWER SYSTEM AT THE FLOW LINE OF THE RECEIVING MANHOLE.
- FORCE MAINS SHALL BE PROVIDED WITH A DRAINAGE BLOW-OFF AT EACH LOW POINT THAT:
 - HAS A PROPERLY VALVED CONNECTION FOR A VACUUM TRUCK OR OTHER SUITABLE CONTAINMENT DEVICE; AND
 - IS INSTALLED WITHIN A MANHOLE STRUCTURE THAT MEETS THE DESIGN REQUIREMENTS OF ENV-WQ 704.12 THROUGH ENV-WQ 704.17, WITH SUFFICIENT SPACE FOR HANDLING THE DISPLACED WASTE WITHOUT DANGER OF POLLUTION OR HEALTH HAZARD.
- FORCE MAINS SHALL BE DESIGNED IN ACCORDANCE WITH ENV-WQ 704.07. CONSTRUCTED WITH MATERIALS AS SPECIFIED IN ENV-WQ 704.08, AND TESTED AS SPECIFIED IN ENV-WQ 704.09.
- PRESSURE SEWERS SHALL BE DESIGNED IN ACCORDANCE WITH ENV-WQ 704.07 AND ENV-WQ 704.20, CONSTRUCTED WITH MATERIALS AS SPECIFIED IN ENV-WQ 704.08, AND TESTED AS SPECIFIED IN ENV-WQ 704.09.
- THRUST BLOCKS MADE FROM INORGANIC, CORROSION-RESISTANT MATERIAL SHALL BE PLACED AT ALL BENDS, ELBOW, TEES AND JUNCTIONS.
- FORCE MAINS SHALL MEET TRENCH AND BEDDING REQUIREMENTS OF GRAVITY SEWERS.
- FORCE MAINS SHALL BE CONSTRUCTED FROM DUCTILE IRON, HIGH DENSITY POLYETHYLENE, OR PVC PER ENV-WQ 704.08(a). PVC SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO ASTM D2241 OR ASTM D1785. HDPE SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO ASTM D3035. D.I. SHALL BE CORROSION PROTECTED IN CORROSIVE ENVIRONMENTS.
- FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH SECTION 5 OF AWWA C600 AT 1.5 DESIGN DYNAMIC PRESSURE OR 100 PSI, WHICHEVER IS GREATER, PER ENV-WQ 704.09.

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

OWNER/APPLICANT:

PAGE ROCK, LLC

5 HUTCHINGS DRIVE, SUITE 50

HOLLIS, N.H. 03049

BK. 6276 PG. 396

CONSTRUCTION DETAILS

ROCK ROAD TOWNHOMES

MAP 17 LOT 25

295 ROCKINGHAM ROAD

LONDONDERRY, NEW HAMPSHIRE

ROCKINGHAM COUNTY

PROJ. NO: 21-0113-1

DATE: MAY 6, 2025

SCALE: AS SHOWN

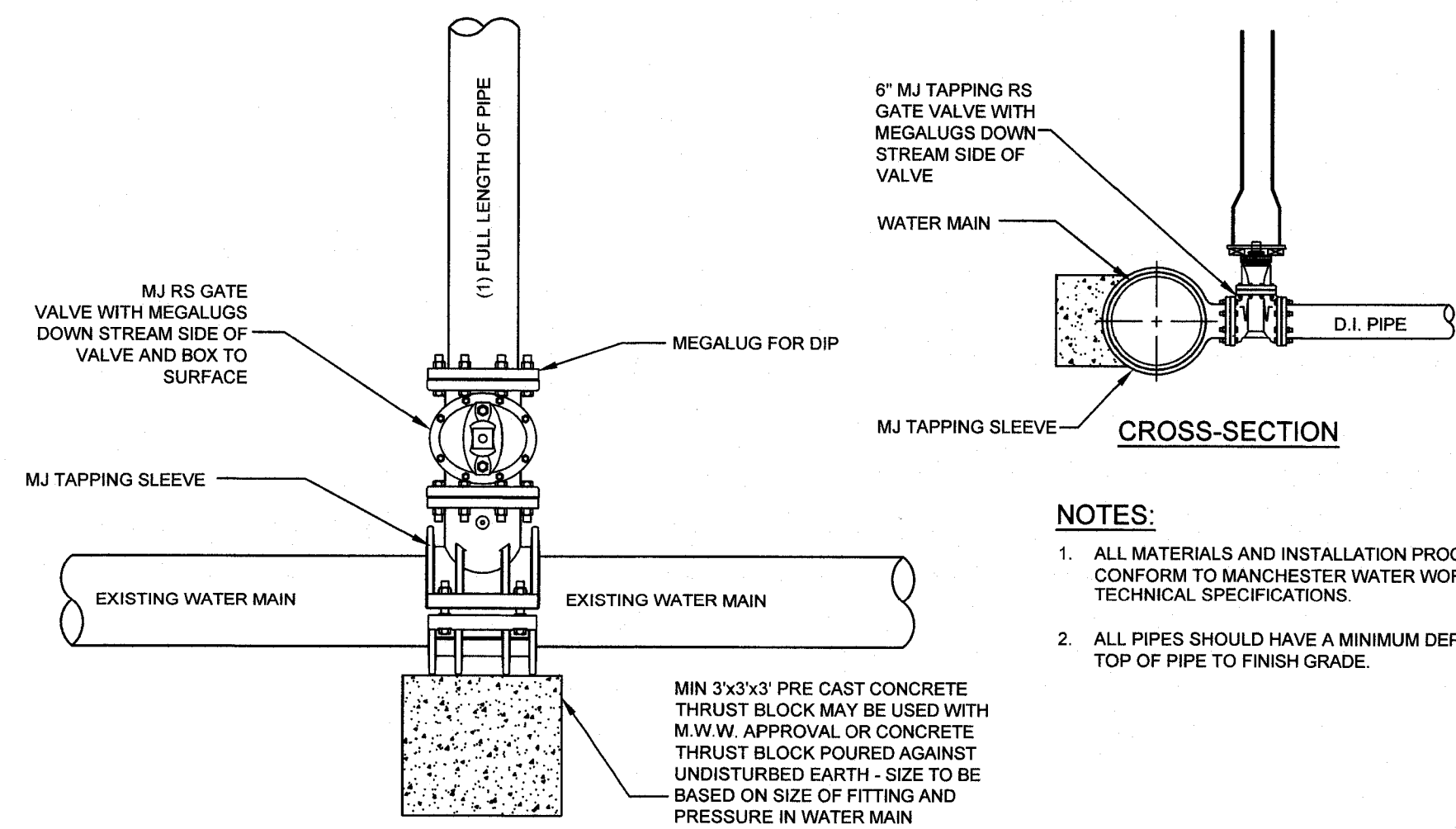
FILE NO.:

SHEET NO. 16 OF 20

KMA KEACH-NORDSTROM ASSOCIATES, INC.

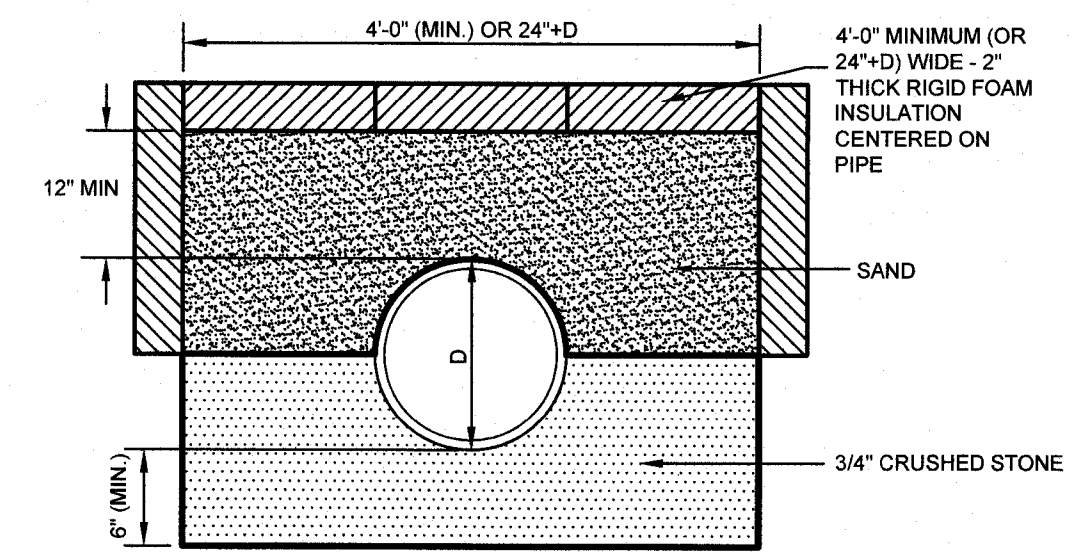
Civil Engineering Land Surveying Landscape Architecture

10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881

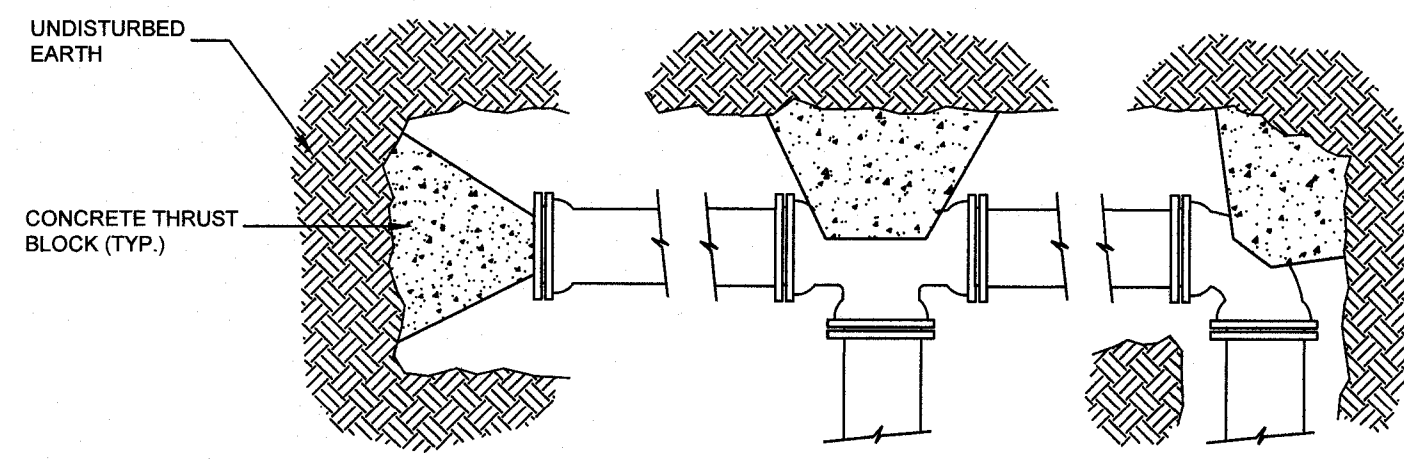


LARGE SERVICE AND/OR TAPPING SLEEVE DETAIL
NOT TO SCALE
(MARCH 2008)

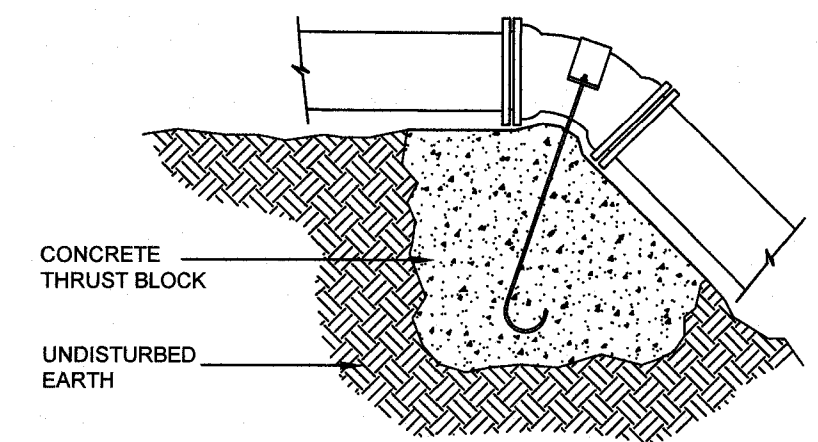
- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
 2. ALL PIPES SHOULD HAVE A MINIMUM DEPTH OF 5'-6" FROM TOP OF PIPE TO FINISH GRADE.



PIPE INSULATION DETAIL
(REDUCTION IN COVER)
NOT TO SCALE



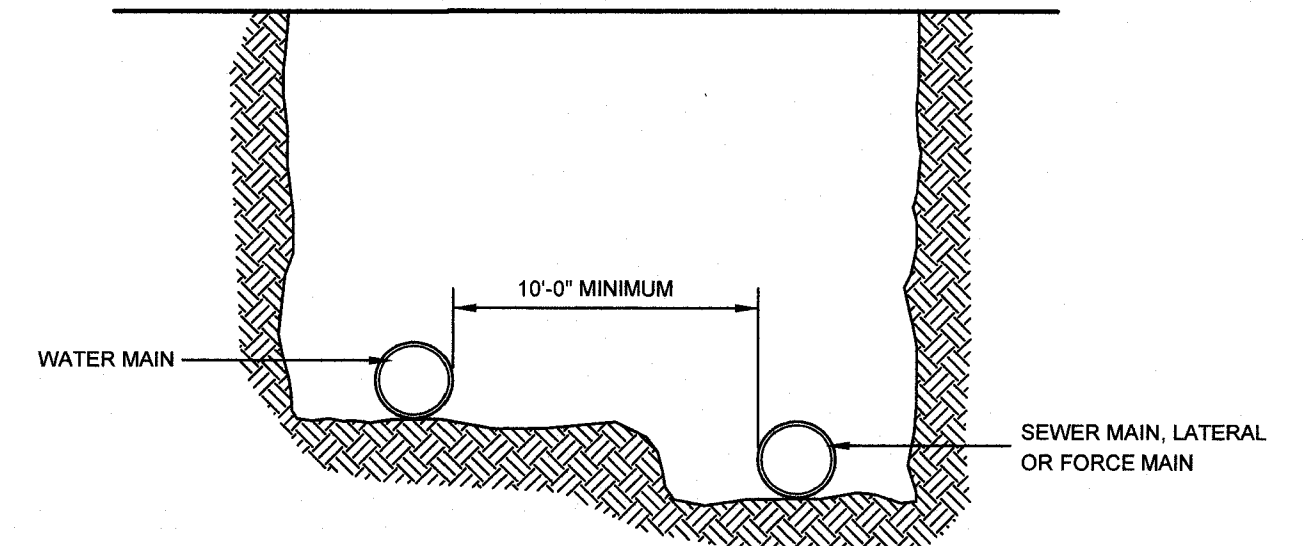
PLAN - HORIZONTAL BENDS, TEES AND PLUGS



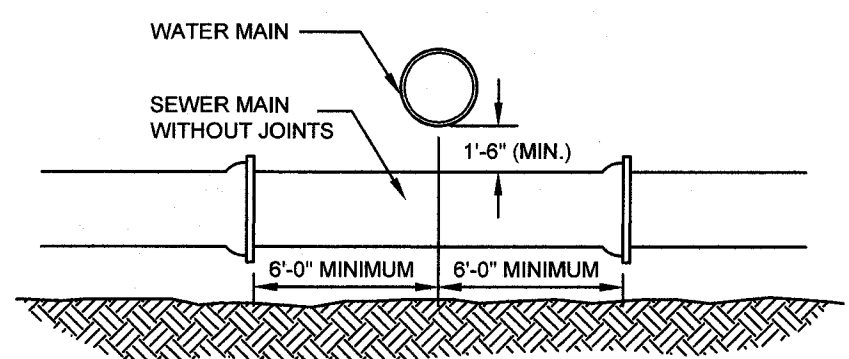
ELEVATION - VERTICAL BENDS

- NOTES:**
1. THRUST BLOCK DIMENSIONS TO BE DETERMINED IN FIELD BY ENGINEER BASED ON PIPE SIZE, WATER PRESSURE AND SOIL TYPE.
 2. STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED EARTH.
 3. USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE).

THRUST BLOCKS
NOT TO SCALE
(MARCH 2008)

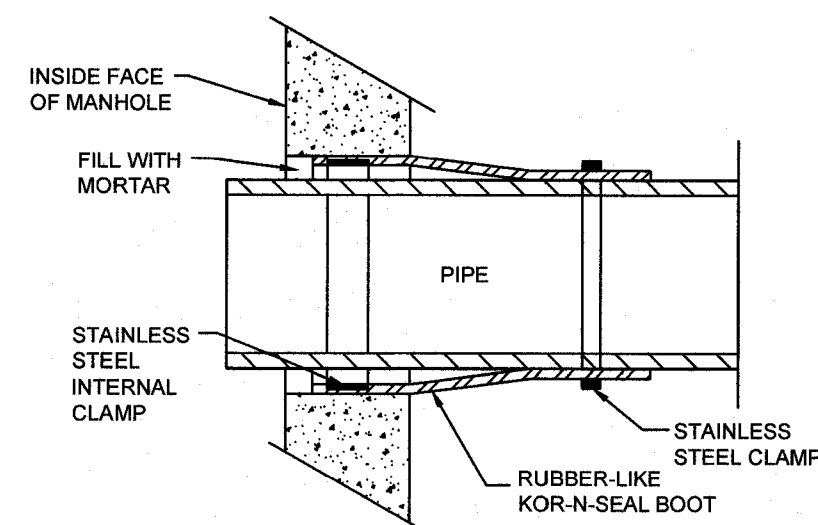


PARALLEL INSTALLATION

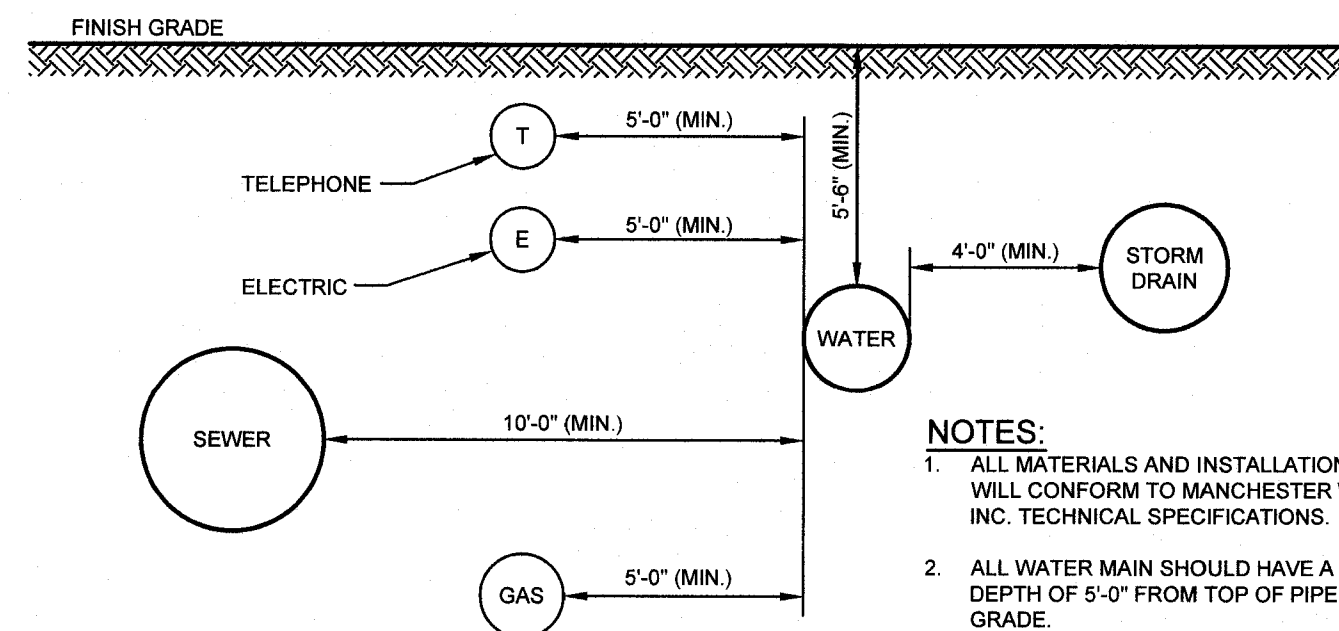


MAIN CROSSINGS

WATER PIPE/SEWER PIPE SEPARATION
NOT TO SCALE
(MARCH 2008)

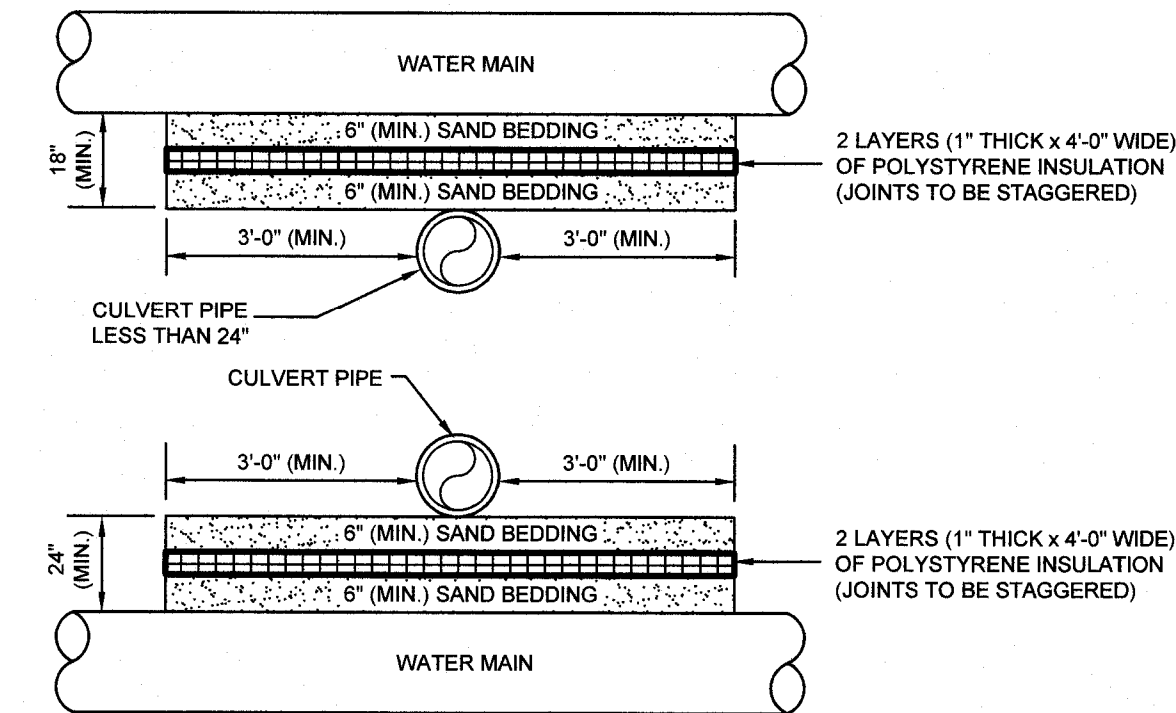


KOR-N-SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)



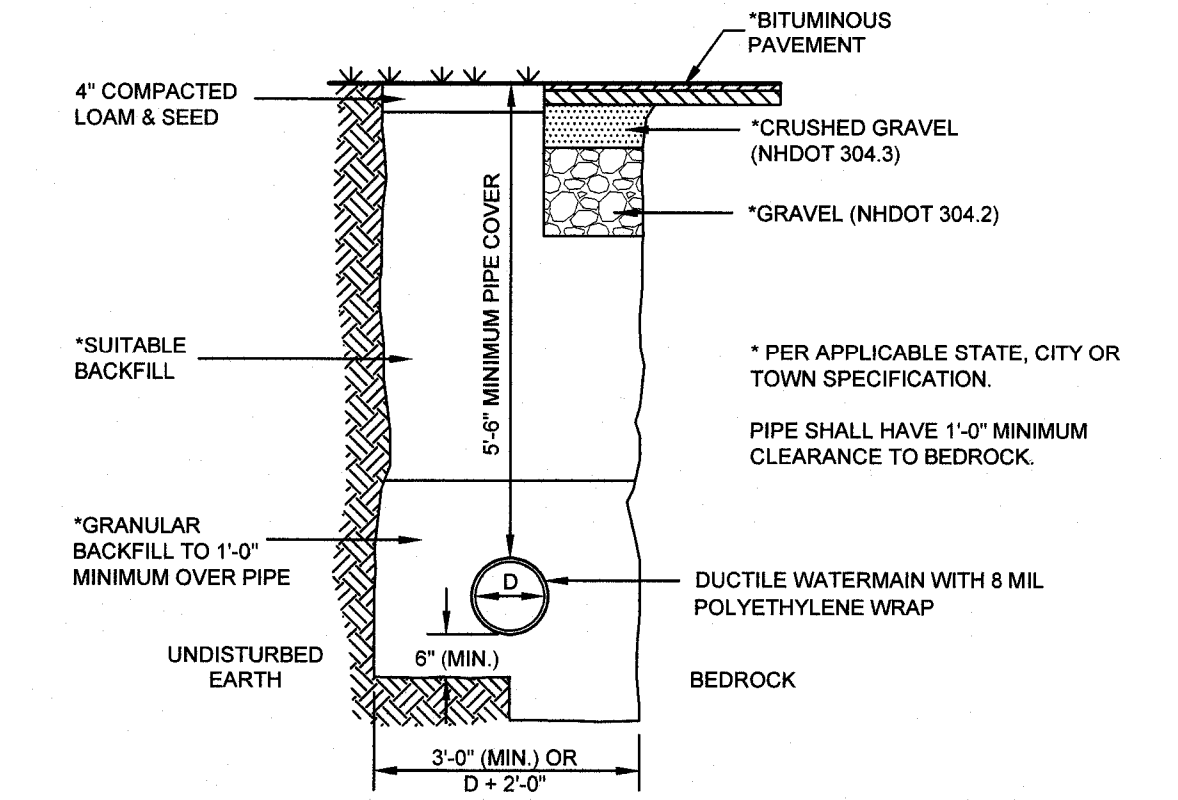
- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO MANCHESTER WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
 2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
 3. SEE DETAIL FOR TRENCH SPECIFICATIONS.
 4. SEE DETAIL FOR OUTSIDE SERVICE ENTRANCE SPECIFICATIONS.

UTILITY SEPARATION (MAIN) DETAIL
NOT TO SCALE

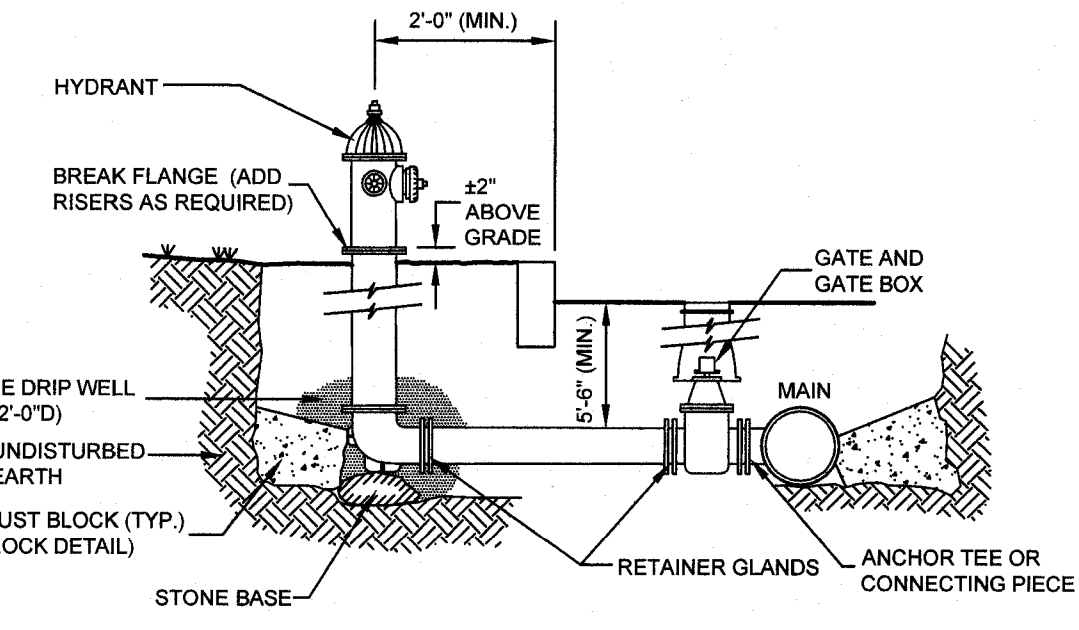


- NOTES:**
1. INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS.

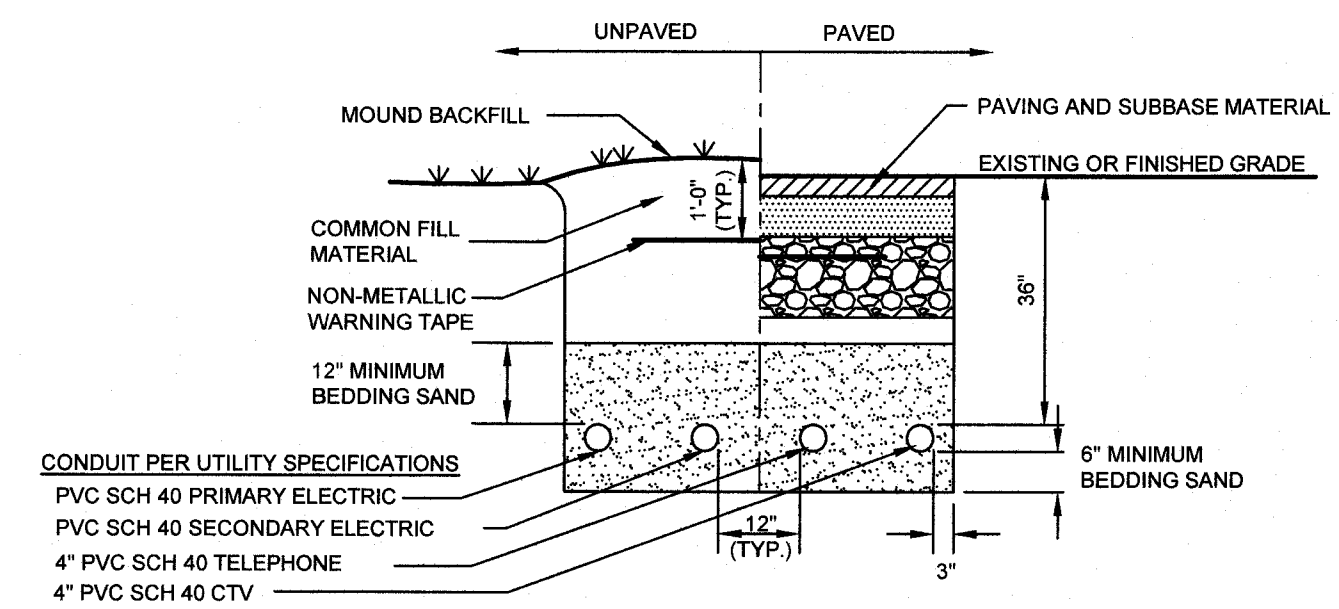
WATER PIPE CROSSING INSULATION DETAIL
NOT TO SCALE
(JUNE 2012)



WATER LINE TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)

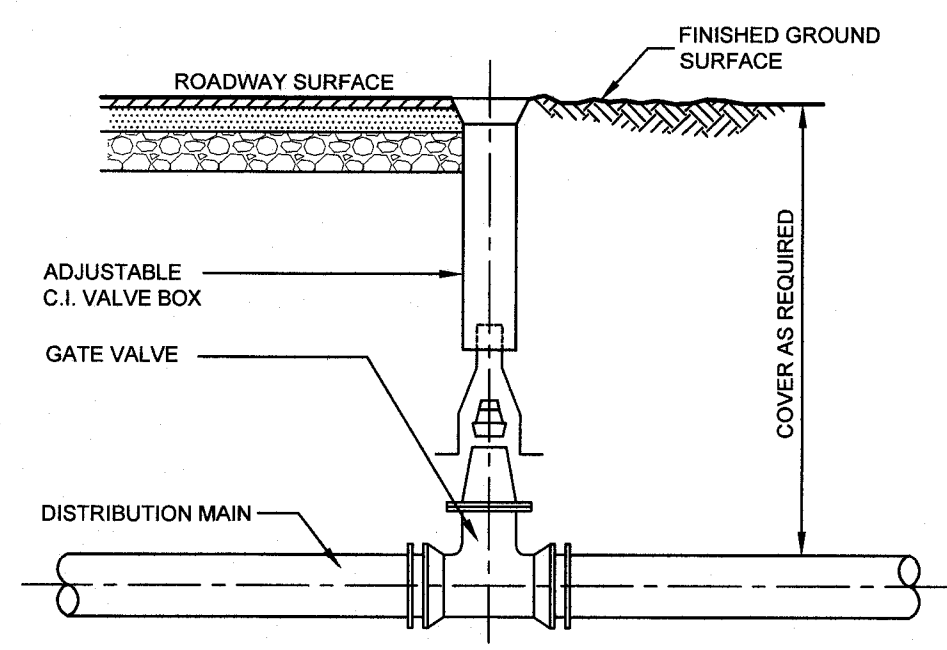


HYDRANT INSTALLATION
NOT TO SCALE
(MARCH 2008)



- NOTE:**
1. INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.
 2. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY THE COMPANY. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS OR STONES 2" MAXIMUM IN DIMENSION. DEBRIS AND RUBBISH ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE THOROUGHLY COMPACTED IN SIX-INCH LAYERS. BACKFILL SHALL BE COMPACTED AND SHALL BE COMPLETED BEFORE THE COMPANY SCHEDULES CABLE INSTALLATION.
 3. THE TRENCH SHALL BE IN AS DIRECT A LINE AS POSSIBLE WITHOUT REVERSE BENDS FROM THE DISTRIBUTION FACILITY TO THE CUSTOMER SERVICE ENTRANCE. TO MINIMIZE CABLE PULLING FORCES, NO MORE THAN TWO BENDS (NOT INCLUDING RISER AT HOUSE OR POLE) EXCEEDING A TOTAL COMBINED CHANGE OF 45 DEGREES SHALL BE PERMITTED.
 - 3.1. TRENCH SHALL BE OF SUCH DEPTH TO ACCOMMODATE 30" MINIMUM COVER FOR SERVICE CABLES IN CONDUIT.
 - 3.2. TO PREVENT THE CONDUIT FROM BEING PULLED OUT OF THE METER BOX, CONDUIT SHALL BE INSTALLED ON VIRGIN OR WELL TAMPED SOIL. TRENCH BOTTOM SHALL BE UNDISTURBED OR RELATIVELY SMOOTH EARTH, WELL TAMPED, AND FREE OF ANY DEBRIS THAT MAY BE DETRIMENTAL TO THE CONDUIT.

UTILITY TRENCH DETAIL
NOT TO SCALE



WATER AND GAS GATE VALVE
NOT TO SCALE
(MARCH 2008)

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

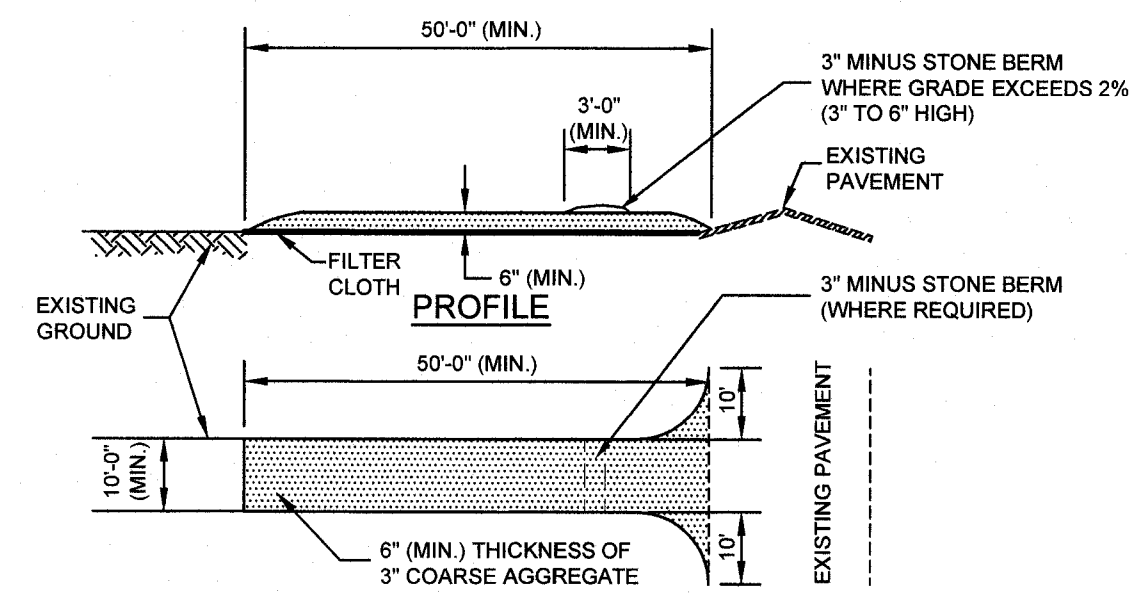
OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

CONSTRUCTION DETAILS
ROCK ROAD TOWNHOMES

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. 17 OF 20

KMA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



MAINTENANCE:

MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.

IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS:

1. STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 3 INCH STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION EXIT DETAIL
NOT TO SCALE

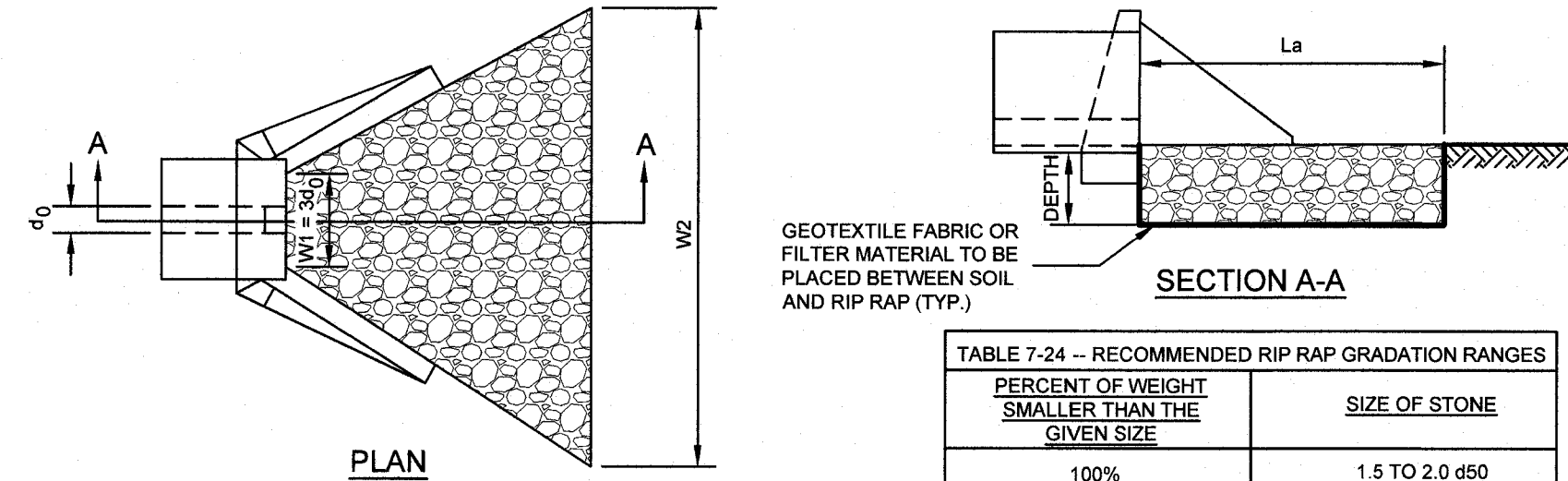


TABLE 7-24 - RECOMMENDED RIP RAP GRADATION RANGES

PERCENT OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100%	1.5 TO 2.0 d50
85%	1.3 TO 1.8 d50
50%	1.0 TO 1.5 d50
15%	0.3 TO 0.5 d50

LOCATION	La	W1	W2	d50	DEPTH
HW#2	9'	4'	13'	3"	8"

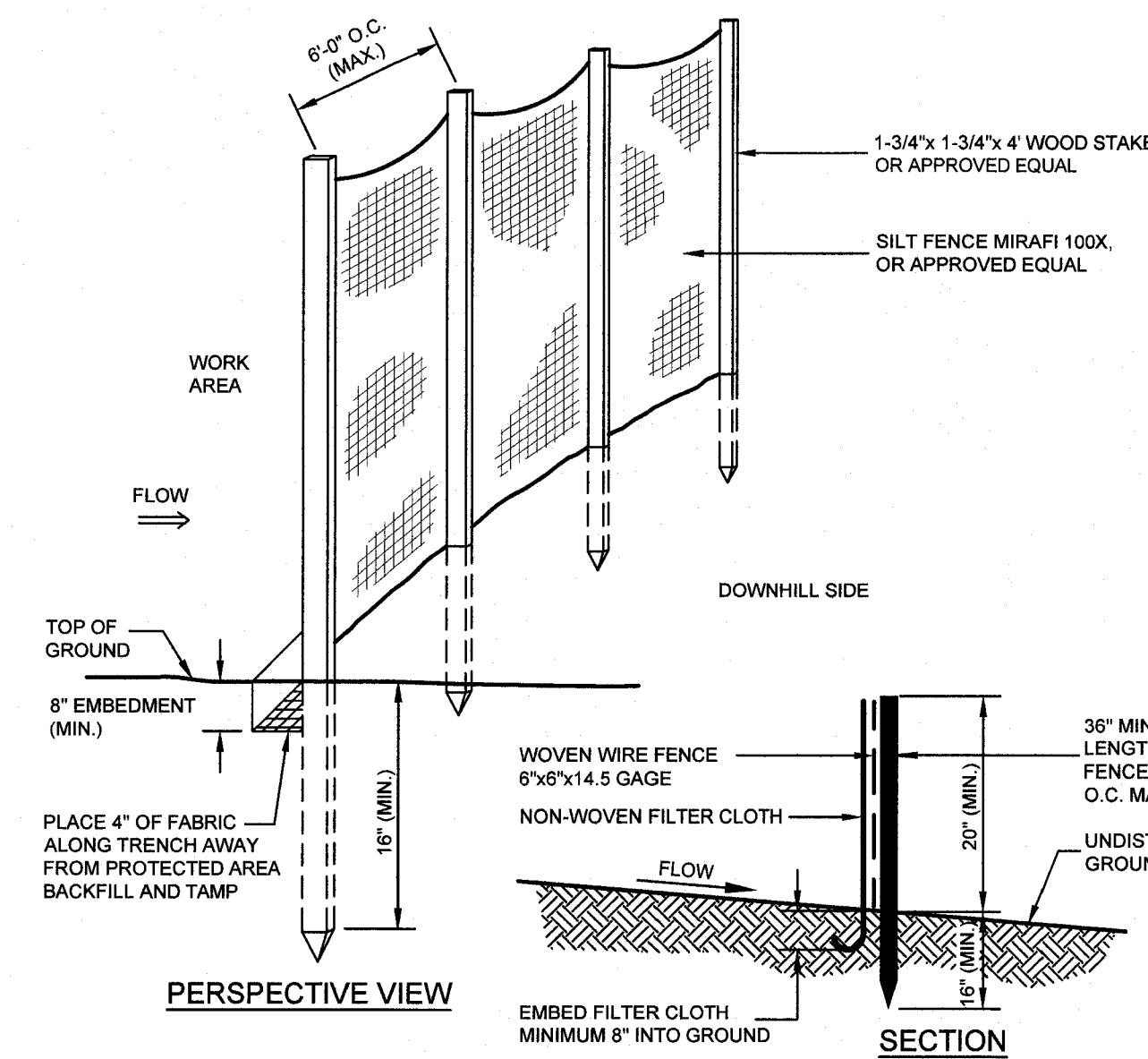
PIPE OUTLET PROTECTION
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS:

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

MAINTENANCE:

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR RAIN EVENT. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED, OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.



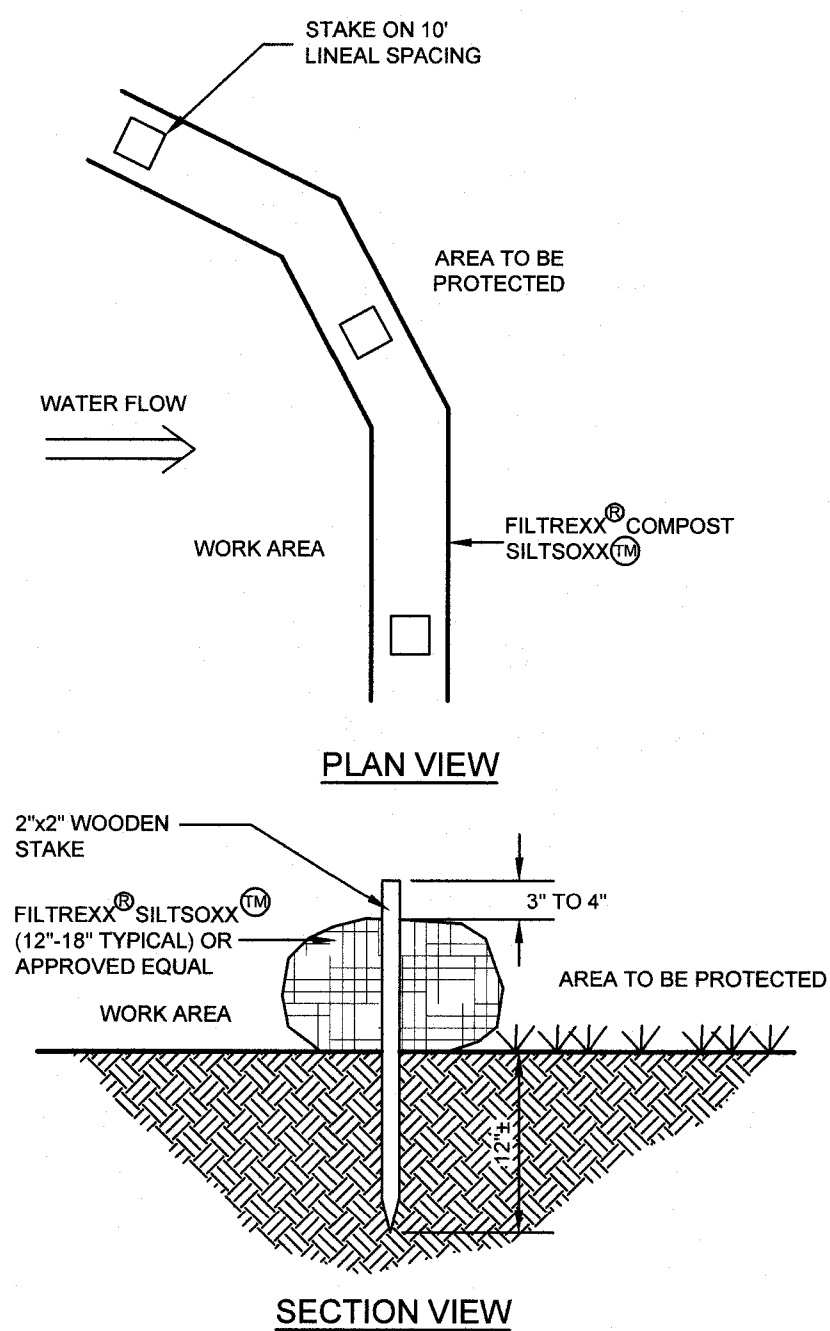
CONSTRUCTION SPECIFICATIONS:

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIE OR STAPLES WHERE NOTED OR AS DIRECTED BY DESIGN ENGINEER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MIDDLE AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL
NOT TO SCALE



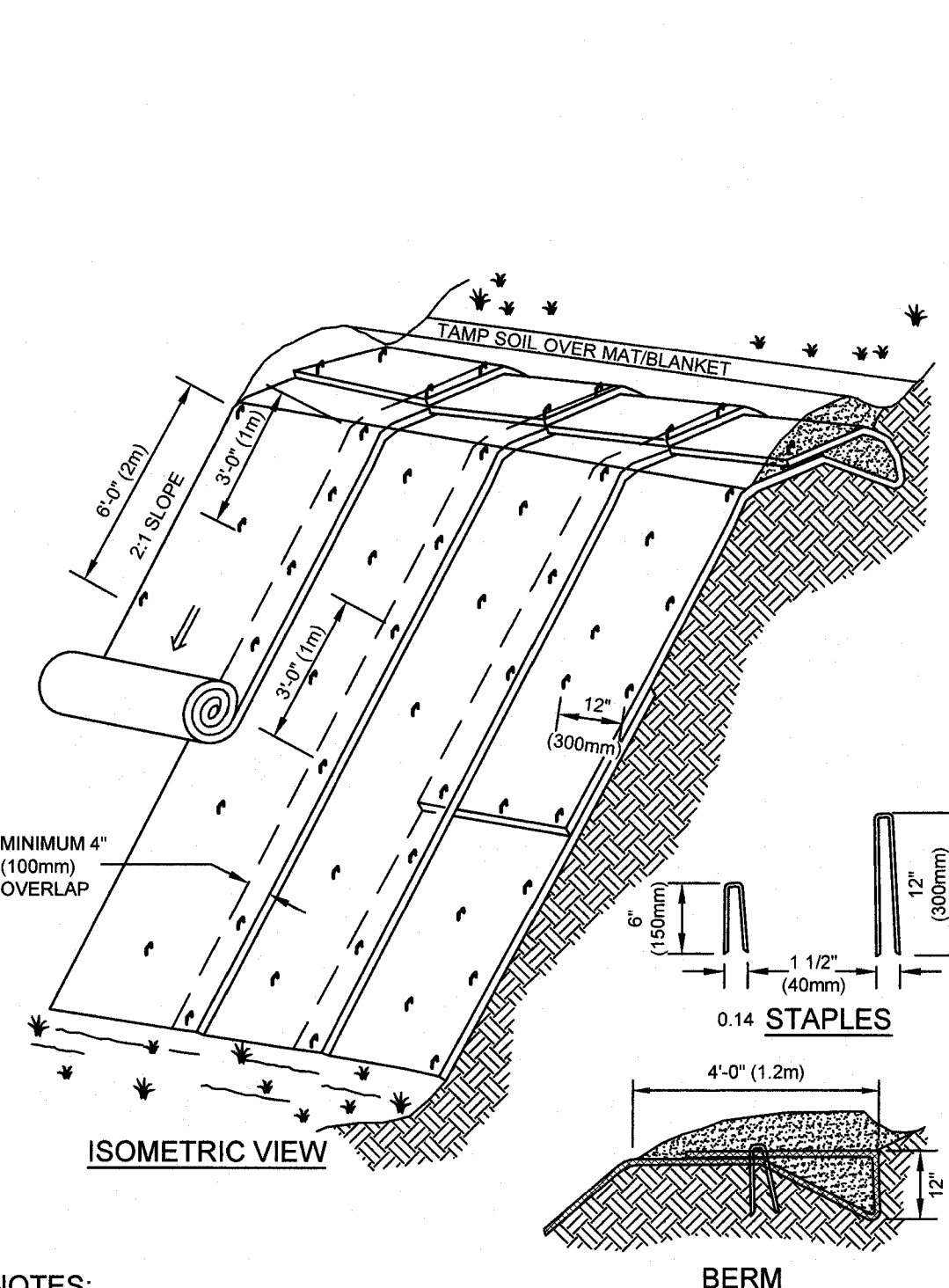
NOTES:

- 1. FILTER BAGS SHALL MEET THE FOLLOWING SPECIFICATIONS AND ADHERE TO THE FOLLOWING GUIDELINES:
- 2. THEY ARE CONSTRUCTED OF A NON-WOVEN GEOTEXTILE FABRIC.
- 3. ONLY ONE SIX-INCH DISCHARGE HOSE WILL BE ALLOWED PER FILTER BAG.
- 4. BAG CAPACITY WILL BE EXCEEDED BEYOND 2,000 GALLONS PER MINUTE.
- 5. TYPICAL, RECOMMENDED BAG DIMENSIONS ARE 15 FEET BY 13.25 FEET.
- 6. TO HELP PREVENT PUNCTURES, GEOTEXTILE FABRICS SHALL BE PLACED BENEATH THE FILTER BAG WHEN USED IN WOODED LOCATIONS.
- 7. HOSE CLAMPS SHALL BE USED TO SECURE THE DISCHARGE HOSE TO THE FILTER BAG.

WHEN MAINTAINING FILTER BAGS TO ENSURE PROPER FUNCTION, THE FOLLOWING CONDITIONS SHALL APPLY:

- 1. PRIOR TO REMOVING THE BAG FROM THE HOSE, THE BAG WILL BE TIED OFF BELOW THE END OF THE HOSE, ALLOWING THE BAG TO DRAIN.
- 2. TO AVOID RUPTURE, THE BAGS WILL BE ATTENDED AND PUMPING RATES MONITORED.
- 3. ONCE THE BAG IS INFLATED TO A HEIGHT OF FOUR (4) FEET, PUMPING SHALL STOP TO AVOID RUPTURE.
- 4. FILTER BAGS USED DURING CONSTRUCTION SHALL BE BUNDLED AND REMOVED FOR PROPER DISPOSAL.

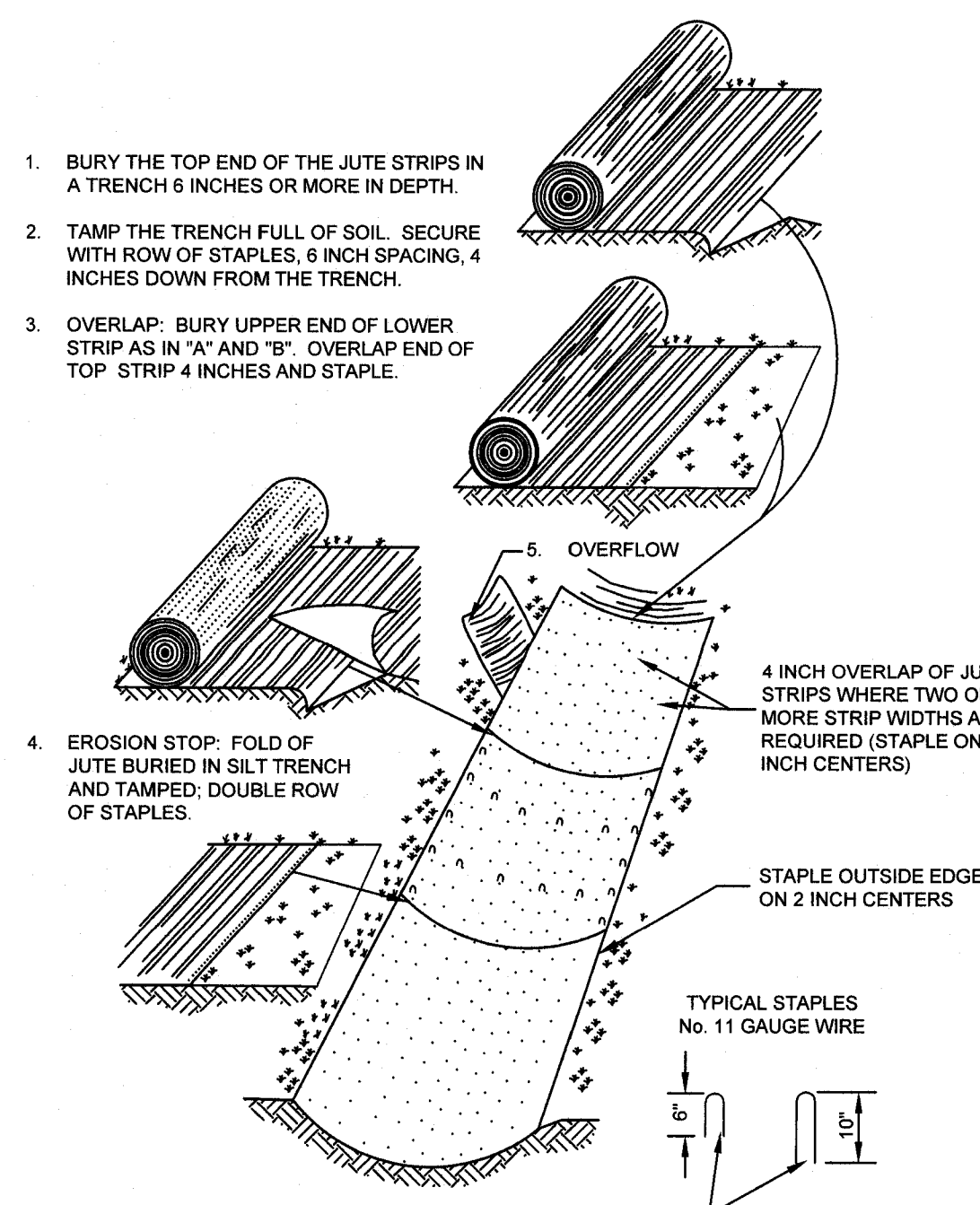
FILTER BAGS FOR DEWATERING DISCHARGE
NOT TO SCALE
(AUGUST 2013)



NOTES:

1. MATS/BLANKETS SHALL BE DOUBLE NET BIODEGRADABLE EROSION CONTROL BLANKETS BY NORTH AMERICAN GREEN OR EQUAL.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
5. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
6. THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/2 INCHES MATERIAL UTILIZED (NOT APPLICABLE TO TURF REINFORCEMENT MATS).
7. TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION
NOT TO SCALE

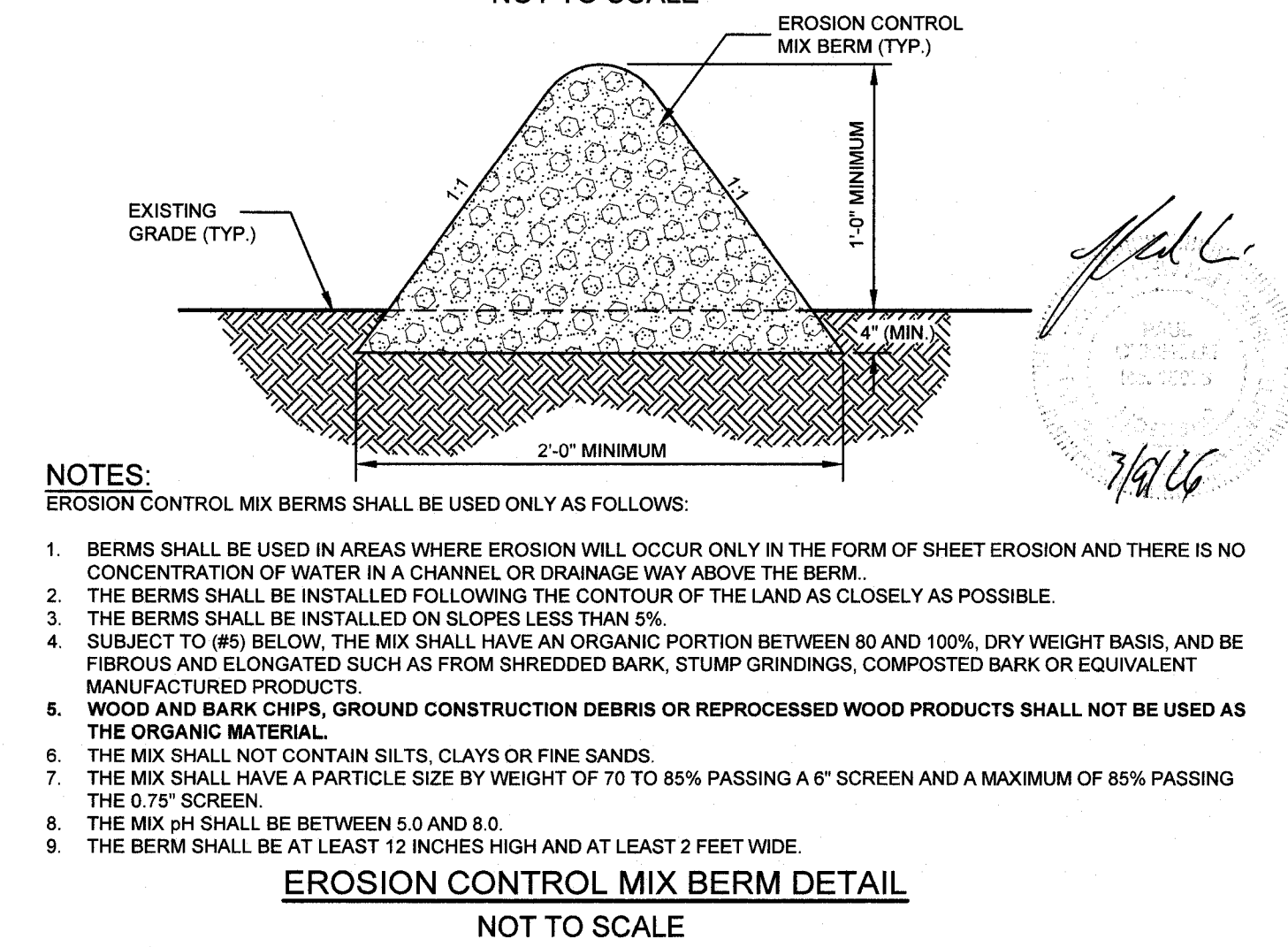


NOTES:

1. THERE SHALL BE NO PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/2 INCHES MATERIAL UTILIZED (NOT APPLICABLE TO TURF REINFORCEMENT MATS).
2. TURF REINFORCEMENT MATS SHALL BE COVERED WITH SOIL TO PREVENT EXPOSURE OF THE MATS TO THE SURFACE.

EROSION CONTROL BLANKETS - SWALE INSTALLATION
NOT TO SCALE

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM



NOTES:

- 1. BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
- 2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
- 3. THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%.
- 4. SUBJECT TO (#5) BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100%, DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR EQUIVALENT MANUFACTURED PRODUCTS.
- 5. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS THE ORGANIC MATERIAL.
- 6. THE MIX SHALL NOT CONTAIN SILTS, CLAYS OR FINE SANDS.
- 7. THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6" SCREEN AND A MAXIMUM OF 85% PASSING THE 0.75" SCREEN.
- 8. THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
- 9. THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.

EROSION CONTROL MIX BERM DETAIL
NOT TO SCALE

OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

CONSTRUCTION DETAILS
ROCK ROAD TOWNHOMES

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

KMA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. 18 OF 20

Pre-wetting

NH Best Management Practices

PRE-WETTING?
Pre-wetting is the process of wetting a salted driveway with liquid before it is spread on a roadway.

WHY PRE-WET?
Deicing chemicals must form a brine before they can begin melting ice. Pre-wetting your driveway accelerates the brine making process, which improves the melting action of the material. Pre-wetting also reduces brine run-off and material during spreading, and reduces the total amount of deicer needed to obtain the desired results.

REDUCED COSTS
If you pre-wet, don't liquid to reduce your application rate accuracy. Reductions in the range of 15-20% are typical.

HOW MUCH LIQUID?
A good rule of thumb is to use 1/2 gallon of pre-wetting liquid for every ton of deicer. For other chemicals, such as ammonium chloride, consult your supplier for application rates.

Getting Started
Wet the plan. There are two ways to pre-wet your de-icing chemicals. The easiest way to get started with pre-wetting is to spread your salt pile, spray it with pre-wetting liquid, mix it around, and re-apply it. More advanced truck-mounted pre-wet systems can be installed on your trucks if you decide to make the investment.

Pre-wetting Liquids
You have a few options for pre-wetting liquids. The most commonly used is a 25% sodium chloride brine solution. Calcium chloride at 32% solution is also used, as well as Magna Mixers Zoro™ and other patented products.

Spraying the Pile
This is the easiest and most cost effective way to get started in pre-wetting. The first step is to spread your salt pile on a flat, impermeable surface. Next, spray the salt until it is spread out, and mix it around to ensure adequate and consistent liquid coverage. After the salt is sufficiently covered, re-spread the salt to your age shed for later use.

Truck Mounted Systems
These systems are mounted to the truck bed and coat the de-icer with liquid as it comes off the conveyor/laguer onto the aginner. These systems have the benefit of applying liquid only to the material you use as you use it. However, these systems must be installed on every truck that will be used to spread pre-wetted material.

COST OF BRINE
Calcium chloride costs about \$70 per cubic yard, or \$100 for salt after you have your equipment setup.

MULTIPLE USES
Brine can be used directly for anti-icing, for pre-wetting salt, or it is dispersed from your truck or spreader before it is loaded on your truck. Brine can be safely stored by using a 5-gallon, 1-gallon, or 1/2-gallon container. Labels of these containers for calibration instructions should be tested before use.

Produced in partnership with:
New Hampshire Environmental Services
Technology Transfer Center
New Hampshire DOT at UNH

Brine Making

NH Best Management Practices

GET THE LOWEST FREEZE POINT
When salt brine is 25% salt (measured with a hydrometer 1.176) or with a salometer, 25% is the lowest freeze point possible (about 0°F).

BRINE STORAGE
25% brine solution may be stored outdoors, however if temperatures get below 0°F the brine may freeze. A circulation pump will reduce the risk of freezing if possible. Store brine indoors or in a well-insulated tank to minimize the risk of freezing.

COST OF BRINE
Calcium chloride costs about \$70 per cubic yard, or \$100 for salt after you have your equipment setup.

MULTIPLE USES
Brine can be used directly for anti-icing, for pre-wetting salt, or it is dispersed from your truck or spreader before it is loaded on your truck. Brine can be safely stored by using a 5-gallon, 1-gallon, or 1/2-gallon container. Labels of these containers for calibration instructions should be tested before use.

What Do You Need?
Brine making is a fairly simple process—the only ingredients are salt and water, and the only equipment you'll need is an open top mixing tank, a holding tank, a small pump, and a salometer.

Step 1: Fill Mixing Tank
Add salt. Add about 2.5 lb of salt per gallon of water you plan to add. Make sure your mixing tank has a large opening to make adding salt easy.

Step 2: Set Your Controls
Add Water. Slowly add water from the bottom of your brine mixing tank. This will allow it to precipitate up through the salt and overflow into the holding tank.

Step 3: Check Concentration
Flood a hydrometer or salometer directly in your holding tank and read the value at the surface of the water. The number should be either 85% or 1.176 depending on the units of your device.

Quality Control & Documentation
Make sure that you record the date when you create each batch of brine and document who made it and checked the concentration. It is also a good idea to note the first concentration. These records should be kept for at least two years to protect your group in the event of litigation.

Produced in partnership with:
New Hampshire Environmental Services
Technology Transfer Center
New Hampshire DOT at UNH

Hydraulic-Run Spreader Calibration

NH Best Management Practices

WHY CALIBRATE?
You can't reduce your salt use if you don't know how much you are actually using. The goal of calibrating is to know how much material you are putting down in a given area for spreading, but for every setting on your truck that you use. This is why calibrating your equipment is the first step to reducing salt use and saving money.

REMEMBER:
Each truck must be individually calibrated for each material it will be used to spread. General calibration charts can be used to determine the correct calibration factor.

CALCULATIONS:
There are a few simple calculations you must perform in order to complete the calibration. Once all of the necessary data is recorded, head back inside and work out the math to determine the correct calibration factor.

Step 1: Load the Truck
Fill the tank with a level of material. Half of a full tank would be more than adequate for calibration purposes.

Step 2: Set Your Controls
Gate Height. Set the gate height to its lowest practical setting (not less than 2"). This should be best consistent throughout the calibration process. If you find that not enough material is dispersed with this setting, try 2.5 to 3".

Step 3: Measure Spread Width
Measure the width that the material covers during spreading. Do this for each conveyorage setting you are calibrating. Record your numbers to the nearest half foot and record them in column "W" of the calibration chart (see reverse side).

Step 4: Collect & Weigh Material
You will need either a sheet of canvas, tarp, or a bucket to catch the material that is dispersed from the spreader, as well as a scale. Weigh the spreader you are using to collect the material. It is important that you use the same scale for all calibration runs. Collect material in the center of the spreader's discharge rate column. Collect material from the left and right sides of the spreader's discharge rate column. Record this value in the first portion of the calibration chart. Do this 3 times for each conveyorage setting that is typically used. Average these three values together and record in the spread column in the calibration chart.

Step 5: Perform Calculations
Use the data and calculate your discharge rate using the calibration chart for each truck speed and conveyorage setting you normally use. Refer to the reverse side of this sheet for calculation instructions. The formula you will be using is: $D = \frac{B \times C}{A}$

Step 6: Distribute Completed Calibration Cards
Put a copy of the calibration card in the truck you just calibrated. Also, have a copy of the calibration card in the office so you have a copy in case the original is damaged.

Produced in partnership with:
New Hampshire Environmental Services
Technology Transfer Center
New Hampshire DOT at UNH

Calibration Chart (Hydraulic Type)

Material: _____ Truck/Spreader ID: _____ Performed by: _____

Conveyor Setting	W	A	B	C	D	E	F	G
1								
2								
3								
4								
5								
DK								

Calibration Instructions: Multiply the spread width from column "W" by 5.28 and record the answer in column "A". For each conveyor setting, add "B", "C", and "D" together. Divide the result by "A" and record in column "E". To get the average discharge rate, to find the pounds of material discharged per 1000 square feet, divide the result by the number of conveyor settings used. Record this value in column "F". To find the pounds of material discharged per 1000 square feet for the given speed, record these numbers in column "G". The full equation is shown here: $D = \frac{B \times C}{A}$

Pony Motor-Run Spreader Calibration

NH Best Management Practices

WHY CALIBRATE?
You can't reduce your salt use if you don't know how much you are actually using. The goal of calibrating is to know how much material you are putting down in a given area for spreading, but for every setting on your truck that you use. This is why calibrating your equipment is the first step to reducing salt use and saving money.

REMEMBER:
Each truck must be individually calibrated for each material it will be used to spread. General calibration charts can be used to determine the correct calibration factor.

CALCULATIONS:
There are a few simple calculations you must perform in order to complete the calibration. Once all of the necessary data is recorded, head back inside and work out the math to determine the correct calibration factor.

Step 1: Load the Truck
Fill the tank with a level of material. Half of a full tank would be more than adequate for calibration purposes.

Step 2: Set Your Controls
Gate Height. Set the gate height to its lowest practical setting to start (approximately 1" to 1.5"). After the truck is calibrated for the lowest gate setting, calibrate for each 1/2" increment greater than the lowest setting. Continue with gate settings you use are collected.

Step 3: Measure Spread Width
Measure the width that the material covers during spreading. Do this for each gate setting you are calibrating. Record your numbers to the nearest half foot and record them in column "W" of the calibration chart (see reverse side).

Step 4: Collect & Weigh Material
You will need either a sheet of canvas, tarp, or a bucket to catch the material that is dispersed from the spreader, as well as a scale. Weigh the spreader you are using to collect the material. It is important that you use the same scale for all calibration runs. Collect material in the center of the spreader's discharge rate column. Collect material from the left and right sides of the spreader's discharge rate column. Record this value in the first portion of the calibration chart. Do this 3 times for each gate setting that is typically used. Average these three values together and record in the spread column in the calibration chart.

Step 5: Perform Calculations
Use the data and calculate your discharge rate using the calibration chart for each truck speed and gate setting you normally use. Refer to the reverse side of this fact sheet for calculation instructions. The formula you will be using is: $D = \frac{B \times C}{A}$

Step 6: Distribute Completed Calibration Cards
Put a copy of the calibration card in the truck you just calibrated. Also, have a copy of the calibration card in the office so you have a copy in case the original is damaged.

Produced in partnership with:
New Hampshire Environmental Services
Technology Transfer Center
New Hampshire DOT at UNH

Calibration Chart (Pony Motor Type)

Material: _____ Truck/Spreader ID: _____ Performed by: _____

Gate Setting	W	A	B	C	D	E	F	G
1"								
1.5"								
2"								
2.5"								
3"								
DK								

Calibration Instructions: Multiply the spread width from column "W" by 5.28 and record the answer in column "A". For each gate setting, add "B", "C", and "D" together. Divide the result by "A" and record in column "E". To get the average discharge rate, to find the pounds of material discharged per 1000 square feet, divide the result by the number of gate settings used. Record this value in column "F". To find the pounds of material discharged per 1000 square feet for the given speed, record these numbers in column "G". The full equation is shown here: $D = \frac{B \times C}{A}$

Example: Step #1, blank calibration form
See the References and Resources section for a full size form to copy for calibration. This is how the empty form looks (Keep a stack of these on a clipboard when ready to begin the calibration).

CALIBRATION CHART FOR AUGER OR CONVEYOR SYSTEMS

DATE: _____ SPREADER #: _____ MATERIAL: _____

SETTING	POUNDS PER MINUTE	5 MPH (x12)	10 MPH (x6)	15 MPH (x4)	20 MPH (x3)
1					
2					
3					

Figure 10: Blank calibration form

Example: Step #2, calibration form filled out during calibration
Fill in the header information and column 2, the discharge weight per setting.

CALIBRATION CHART FOR AUGER OR CONVEYOR SYSTEMS

DATE: 8-Aug-15 SPREADER #: A4219 MATERIAL: Rock Salt

SETTING	POUNDS PER MINUTE	5 MPH (x12)	10 MPH (x6)	15 MPH (x4)	20 MPH (x3)
1	10	120	60	40	30
2	22	264	132	88	66
3	34	408	204	136	102

Figure 11: Example calibration form with discharge and header information filled out.

Example: Step #3, calibration form ready to put in truck for road application
Back in the shop, do the calculations to fill in the rest of the blanks. Multiply the weight in column 2 with the multiplier in the row top. This provides the pounds per mile that needed to fill the table.

CALIBRATION CHART FOR AUGER OR CONVEYOR SYSTEMS

DATE: 8-Aug-15 SPREADER #: A4219 MATERIAL: Rock Salt

SETTING	POUNDS PER MINUTE	5 MPH (x12)	10 MPH (x6)	15 MPH (x4)	20 MPH (x3)
1	10	120	60	40	30
2	22	264	132	88	66
3	34	408	204	136	102

Figure 12: Example calibration form with pounds per mile filled out.

Some fish species are affected by concentrations of less than 1000 ppm NaCl, about 1 to 1.5 tablespoons of salt in 5 gallons of water.

Example: Step #4, calibration form ready to tie to hand spreader or put in truck for parking lot application
Divide by 63 to convert pounds per lane mile to pounds per 1,000 square feet. This is very useful for parking lot and sidewalk applications.

CALIBRATION CHART FOR AUGER OR CONVEYOR SYSTEMS

DATE: 8-Aug-15 SPREADER #: A4219 MATERIAL: Rock Salt

SETTING	POUNDS PER MINUTE	5 MPH (x12)	10 MPH (x6)	15 MPH (x4)	20 MPH (x3)
1	10	120	60	40	30
2	22	264	132	88	66
3	34	408	204	136	102

Figure 13: Example calibration form with pounds per 1000 sq. ft. filled out.

CALIBRATION CHART FOR AUGER OR CONVEYOR SYSTEMS

DATE: 8-Aug-15 SPREADER #: A4219 MATERIAL: Rock Salt

SETTING	POUNDS PER MINUTE	5 MPH (x12)	10 MPH (x6)	15 MPH (x4)	20 MPH (x3)
1	10	120	60	40	30
2	22	264	132	88	66
3	34	408	204	136	102

Grassy Flow Equipment
This is applicable for equipment that does not have a motorized delivery system such as an auger. This type of equipment might be a pickup mounted spreader, galley mounted spreader or a hand push spreader. Grassy flow equipment is typically controlled by gate opening and speed of application.

Step 1: Calculate discharge rate
Mark out a 10-foot stretch of pavement. (By increasing the size of the test area i.e., the longer the test area, the more accurate the results will be).
Sweep it clean of sand or any other material.
Using a constant speed, apply one pass of material to the test area.
Measure the width the material is spread or bounces, in feet.
Sweep up and weigh the material that is within the marked 10-foot stretch.
Record the lever position/setting for the gate/chute. If there are no numbers for the positions, make permanent marks on the equipment to identify the positions.
To improve accuracy, repeat this two more times and calculate the average weight of material applied.
Record results in columns A, B, C, and D (Figure 14).

Step 2: Repeat step #1 for various settings.

Step 3: Fill out chart.
Fill out columns E, F, and G (Figure 14).
If using more than one type of material, repeat the test for each material.
Place the completed calibration chart with the equipment.

Shortcuts:
Put down a tarp over the application area; this makes it quicker to recover and weigh material.
After the first pass, put a bag around spreader to catch discharge material. The first pass is needed to determine the spread width.

Calculate application rate:
Equipment: _____ Material: _____ Date: _____

A	B	C	D	E	F	G
Speed	Lever position or gate setting	Pounds spread in 10 feet	Spread width in feet	Coverage area in sq. ft. (D x 10)²	Application rate in lbs./1000 ft² (1000/C x F)	Application rate in lbs./lane mile (12' width) (12' x 63.4) x F

EXAMPLE
20 Half-closed 0.4 lbs. 13 feet 130 sq. ft. 2.1 lbs. per 1000 sq. ft. 296 lbs./mile

What if calibration is not a practice?
Even without calibrating the equipment, the amount of material to use can be determined but will take more time to calculate. Know the material, the size of the area to be treated, and the pavement temperature, then consult the application rate chart (application rate section) and do the math. Without calibration, the way to evenly distribute the recommended amount across the maintenance area must be determined by the professional. This approach may work well for treating sidewalks using the "chicken feed" method. For example:
20° degrees pavement temperature and rising
Using dry salt
Sidewalk is 2,000 square feet
Table recommends 2.25 lbs. per 1,000 square feet (for this situation)
Measure about 4.5 lbs. of salt
Figure out a way to spread it evenly over the 2,000 sq. ft. surface

Sand fills in lake bottoms, accelerating the aging process of lakes. Lakes get shallower as they age, some eventually becoming wetlands.

Calibration Charts

Calibration Chart for Gravity Flow Equipment

Vehicle or spreader number: _____ Date: _____

Material type: _____ Calibrated by: _____

Speed	Lever position or gate setting	A	B	C	D	E	F	G
		Lbs. recovered in 10 feet	Spread width in feet	Square feet covered with material (B x 10)	Application rate in lbs./1000 ft² (1000/C x A)	Application rate in lbs./lane mile (12' width) (12' x 63.4) x F		

Figure 15: Blank calibration chart for gravity flow equipment

CALIBRATION CHART FOR AUGER OR CONVEYOR SYSTEMS

DATE: _____ SPREADER #: _____ MATERIAL: _____

SETTING	POUNDS PER MINUTE	Quantity in lbs./lane mile	5 MPH (x12)	10 MPH (x6)	15 MPH (x4)	20 MPH (x3)
1		lbs./1000 sq. ft.				
2		lbs./1000 sq. ft.				
3		lbs./1000 sq. ft.				
4		lbs./1000 sq. ft.				
5		lbs./1000 sq. ft.				
6		lbs./1000 sq. ft.				

Figure 16: Blank calibration chart for auger or conveyor manual controlled spreaders

Hiring a NH Certified Green SnowPro as your snow removal contractor will help protect you and your company from slip and fall claims arising from snow and ice conditions.

What can you do?
Look for a certified salt applicator at <http://des.nh.gov/transportation/divisions/water/ewmb/was/salt-reduction/initiative/salt-applicator-certification.htm> or ask your current contractor to take the Green SnowPro course and become certified.

How can your organization benefit from the certification?
Reduce Your Liability
Under RSA 508:32, certified applicators and those who hire them are granted liability protection from claims arising from snow and ice conditions (slip and fall claims).
Certified Green SnowPros
NH Certified Green SnowPros are leaders in the snow removal industry who are trained in the most up to date technologies and snow management practices to ensure a high level of service and safety to their customers.
Reduce Impacts to Local Waterbodies
Once in our water supplies, there is no practical way to remove salt. Certified Green SnowPros are trained in salt reduction practices to help ensure clean water for future generations.

Why is salt reduction important?
As of 2014, 46 water bodies in New Hampshire are polluted with chloride due to road salt application. In several watersheds analyzed in the southern I-93 corridor, more than 50% of the salt load comes from private roads and parking lots. The other major sources are state and local roads and highways.

Training
For upcoming Green SnowPro Training dates go to <http://12.unh.edu/greensnowpro-training-and-certification>

For more information:
Visit <http://www.des.nh.gov> and see "Road Salt Reduction" under the A-2 list.

Contact: Patrick Woodbury
Patrick.Woodbury@des.nh.gov
(603) 271-5329

ATTACHMENT B – SMART SALTING PRACTICES

A checklist for snow and ice maintenance contractors.

Recommended practice	Check which response applies to current practices and anticipated site maintenance activities for job site.			
	Already do	Will do	Might do	Will not do...why not?
Use an application rate chart.				
Calibrate equipment each year.				
Learn about the deicer ingredients and use the appropriate one for the condition.				
Look for reasons if and why materials are leaking or spilling from vehicles and fix them (e.g. gaps, overfilling, etc).				
Develop a comprehensive winter maintenance policy. Follow your policy.				
Measure and use pavement temperatures.				
Use anti-icing appropriately prior to the storm.				
Flow before applying deicers.				
Use wet materials (pre-wet or pre-treated).				
Don't apply sodium chloride (road salt) for pavement temperatures below 15°F.				
Don't apply deicers for pavement temps under -10°F. It's too cold.				
Separate salt and sand. Use salt for melting. Use sand for traction.				
Apply deicers in the center of the road or on the high side of the curve.				
Store the salt in a building or under secure cover.				
Store salt away from water flow and direct the water away from storage area.				
Store snow away from lakes, ponds and wetlands.				
Sweep up sand, dispose of properly.				
For each event, document what you did and how well it worked. Use this information to make improvements.				
Obtain a salt application permit when required by the local authority.				

- 8 -

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

CONSTRUCTION DETAILS

ROCK ROAD TOWNHOMES

MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

PAUL CHISHOLM
LICENSED PROFESSIONAL ENGINEER
NO. 15078
3/19/26

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS SHOWN
FILE NO.:
SHEET NO. 20 OF 20

NOTES:

- THE PURPOSE OF THIS PLAN IS TO CONVERT THE EXISTING MULTI-FAMILY RESIDENTIAL SITE PLAN FOR TAX MAP 17 LOT 25, 295 ROCKINGHAM ROAD INTO A CONDOMINIUM CONSISTING OF 12 UNITS WITH 3 BEDROOMS EACH.
- EXISTING AREA OF PARCEL = 334,813 S.F. OR 7.901 ACRES.
- THE SUBJECT PARCEL IS LOCATED ENTIRELY WITHIN COMMERCIAL III (C-III) ZONING DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS:
 - FRONT 60 FT
 - SIDE 30 FT
 - REAR 30 FT
 - LANDSCAPE BUFFER 50 FT
 - CONSERVATION OVERLAY DISTRICT 50 FT FROM DELINEATED WETLANDS 100 FT FROM NAMED STREAMS
- BOUNDARY INFORMATION SHOWN HEREON IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE IN JANUARY OF 2022.
- HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS. NORTH ORIENTATION IS NAD83.
- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF LONDONDERRY N.H., ROCKINGHAM COUNTY, MAP NUMBER 33015C0317E, PANEL 317 OF 681, EFFECTIVE DATE: MAY 17, 2005 INDICATES THAT NO PORTION OF THE SUBJECT PARCEL IS LOCATED WITHIN A DESIGNATED FLOOD HAZARD ZONE.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR OR OWNER SHALL CONTACT DIG-SAFE AT 811.
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
- THIS SITE WILL BE SERVICED BY MUNICIPAL SEWER AND WATER.
- THERE ARE NO STATE PERMITS REQUIRED FOR THE CONDOMINIUM CONVERSION.
- THIS PLAN SET CONTAINS A TOTAL OF 2 SHEETS. ALL SHEETS ARE RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AND ARE ON FILE AT THE TOWN OF LONDONDERRY PLANNING DEPARTMENT.

REFERENCE PLANS:

- "SUBDIVISION PLAN OF LAND OF A.J. & G.Y. HUARD; SUBDIVISION PLAN OF LAND OF MR. & MRS. LEO DUBOIS." SCALE: 1"=50'. DATED: JUNE, 1969. PREPARED BY: P. BRUSQUINI P.E. R.C.R.D. PLAN #1438
- "TOWN OF LONDONDERRY, N.H. MAP 17 PARCEL 25." SCALE: 1"=50'. DATED: JANUARY, 1982. PREPARED BY: EDWARD N. HERBERT ASSOC. INC. R.C.R.D. PLAN #12463.
- "RESOLUTION PLAN, OLD PAGE ROAD." SCALE: 1"=40'. DATED: JANUARY 29, 2008. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #36063.
- "LOT LINE ADJUSTMENT-MAP 15 LOTS 235 & 239." SCALE: 1"=100'. DATED: JANUARY 15, 2014. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #38211.
- "LOT 17-7 SUBDIVISION PLAN." SCALE: 1"=60'. DATED: DECEMBER 19, 2014. PREPARED BY: MERIDIAN LAND SERVICES, INC. R.C.R.D. PLAN #40123.
- "PLAN OF PROPOSED FEDERAL AID PROJECT" ROCKINGHAM ROAD. SCALE: 1"=50'. LAST REVISED: DECEMBER 22, 1954 N.H. PROJECT NO. P-2979.
- "RESIDENTIAL SITE PLAN ROCK ROAD TOWNHOMES, TAX MAP 17 LOT 25, 295 ROCKINGHAM ROAD, LONDONDERRY, NEW HAMPSHIRE" DATED: MAY 6, 2025 PREPARED BY: THIS OFFICE AND CURRENTLY UNDER REVIEW BY THE LONDONDERRY PLANNING DEPARTMENT.

OWNER OF MAP 17 LOT 25

SIGNATURE: *Deane N. [Signature]*
 DATE: 2/16/2026

OWNER/APPLICANT:

PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

CONDOMINIUM SITE PLAN
ROCK ROAD TOWNHOMES,
A CONDOMINIUM
 MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY

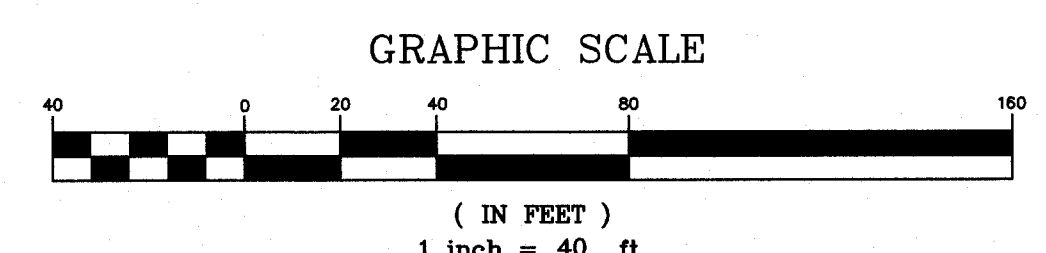
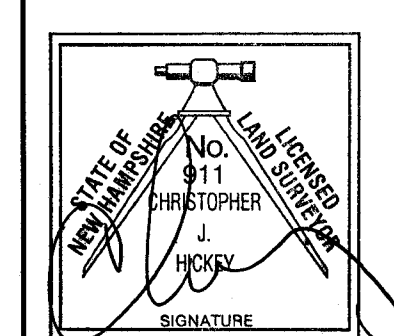
KMA
 KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1
 DATE: MAY 6, 2025
 SCALE: 1" = 40'
 FILE NO.:
 SHEET NO. CS1

CERTIFICATIONS
 I HEREBY CERTIFY THAT THIS PLAN IS ACCURATE; THAT IT COMPLIES WITH THE PROVISIONS OF NEW HAMPSHIRE RSA 356-B:20, I & V, AND ALL UNITS SHOWN ARE "NOT YET BEGUN."

THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THE BOUNDARY INFORMATION IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE IN JANUARY OF 2022. WETLAND DELINEATION, TOPOGRAPHIC INFORMATION AND PROPOSED IMPROVEMENTS ARE PER REFERENCE PLAN #7.

[Signature]
 LICENSED LAND SURVEYOR
 DATE: 3/19/26

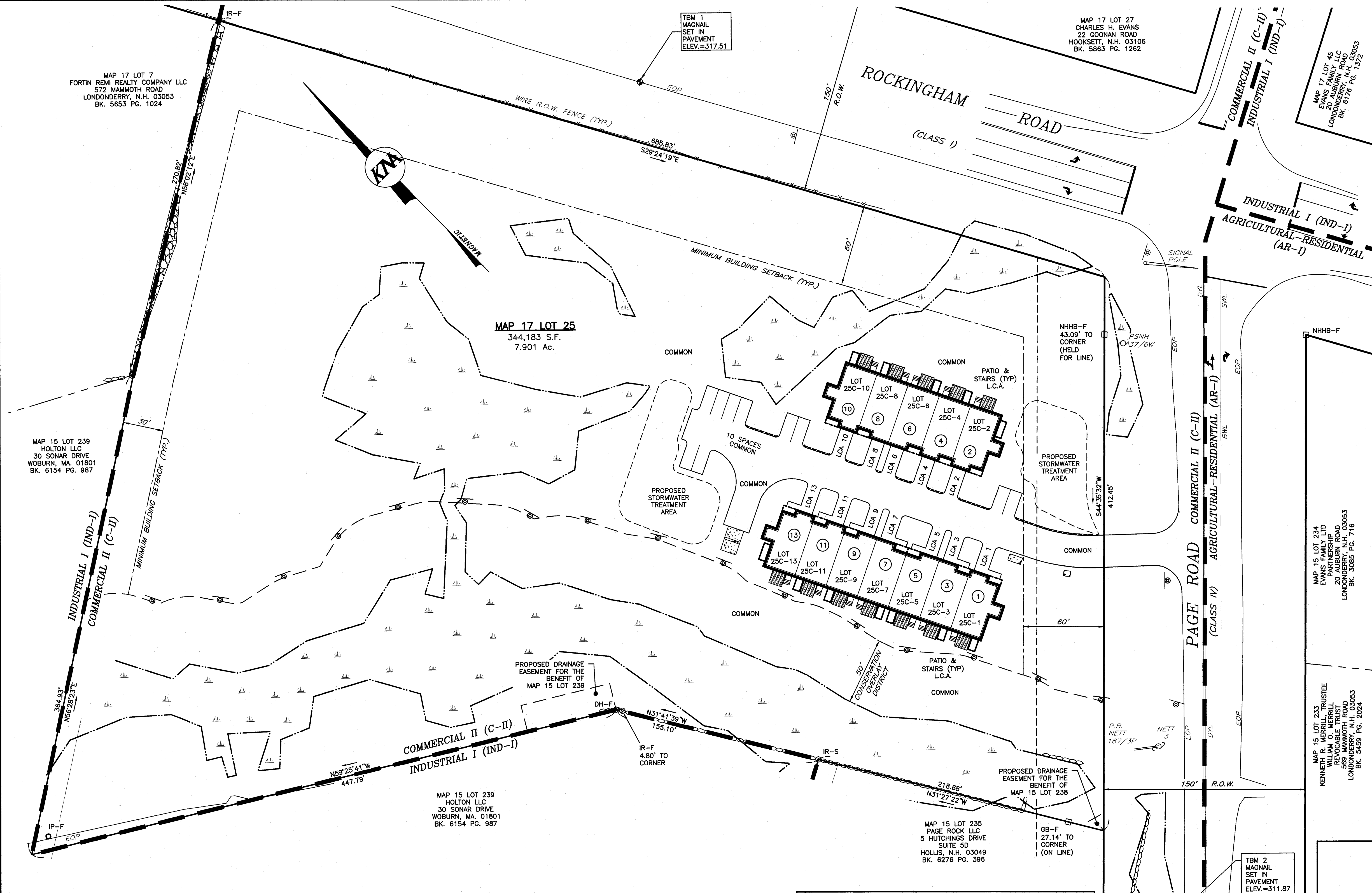


LEGEND

- | | | | |
|----------|--------------------------|-------|------------------|
| □ NHHB-F | NH HIGHWAY BOUND FOUND | — | PROPERTY LINE |
| ⊙ IR-S | IRON ROD SET | - - - | ABUTTER LINE |
| ⊙ DH-F | DRILL HOLE FOUND | — | EDGE OF PAVEMENT |
| ⊙ GB-F | GRANITE BOUND FOUND | - - - | BUILDING SETBACK |
| ⊙ IR-F | IRON ROD FOUND | - - - | BUFFER LINE |
| ⊙ IP-F | IRON PIPE FOUND | — | STONEWALL |
| ⊙ B | BENCHMARK | — | ZONE LINE |
| ⊙ U | UTILITY POLE | — | |
| ⊙ S | SIGN | — | |
| ⊙ W | WETLAND | — | |
| — | BITUMINOUS CONCRETE CURB | — | |

BENCHMARK DATA			REVISIONS			
LOCATION	DATUM	DESCRIPTION	NO.	DATE	DESCRIPTION	BY
N:155165.31, E:1054227.35	ELEV.=317.51 (NAVD88)	BENCHMARK #1 - MAGNAIL SET	1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
N:154442.42, E:1054087.65	ELEV.=311.87 (NAVD88)	BENCHMARK #2 - MAGNAIL SET	2	2/20/25	ENGINEERING REVISIONS	PCM

APPROVED BY THE LONDONDERRY, NH PLANNING BOARD FOR PHASE _____
 ON DATE: _____
 CERTIFIED BY: _____



MAP 17 LOT 7
 FORTIN REMI REALTY COMPANY LLC
 572 MAMMOTH ROAD
 LONDONDERRY, N.H. 03053
 BK. 5653 PG. 1024

MAP 17 LOT 27
 CHARLES H. EVANS
 22 GOONAN ROAD
 HOOKSETT, N.H. 03106
 BK. 5863 PG. 1262

MAP 17 LOT 45
 EVANS FAMILY LLC
 20 SONAR DRIVE
 LONDONDERRY, N.H. 03053
 BK. 6176 PG. 1322

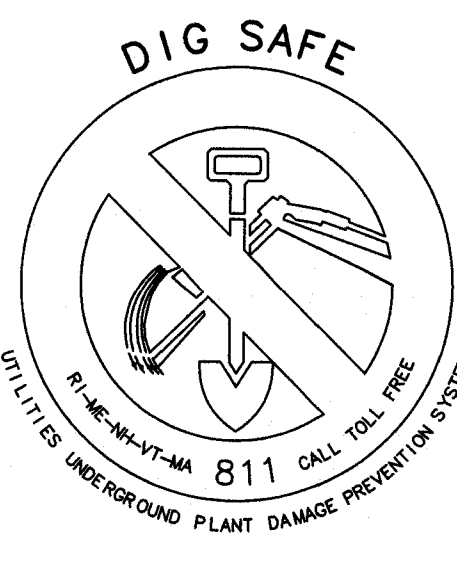
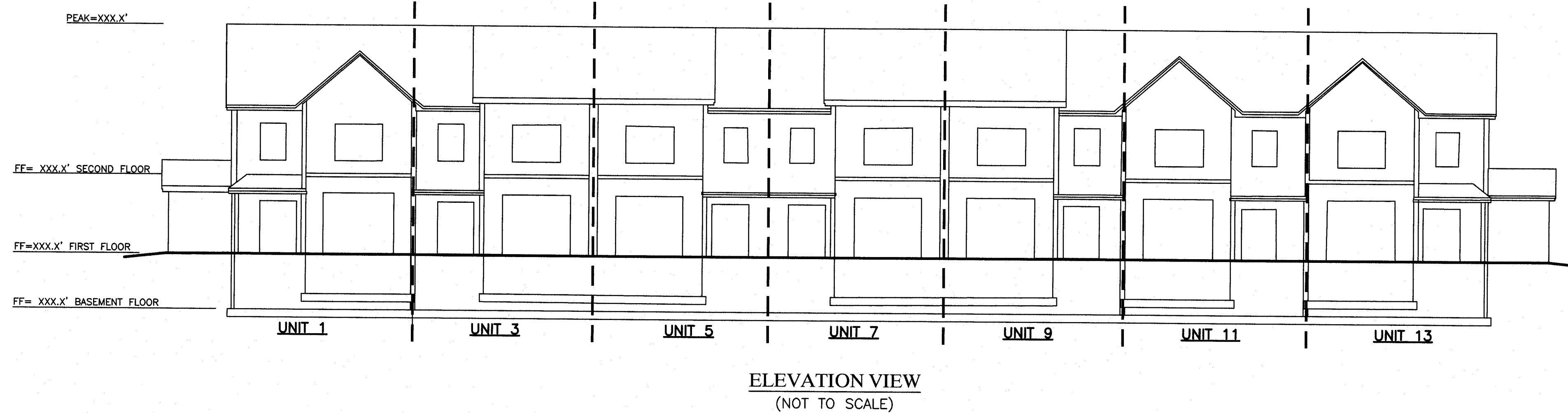
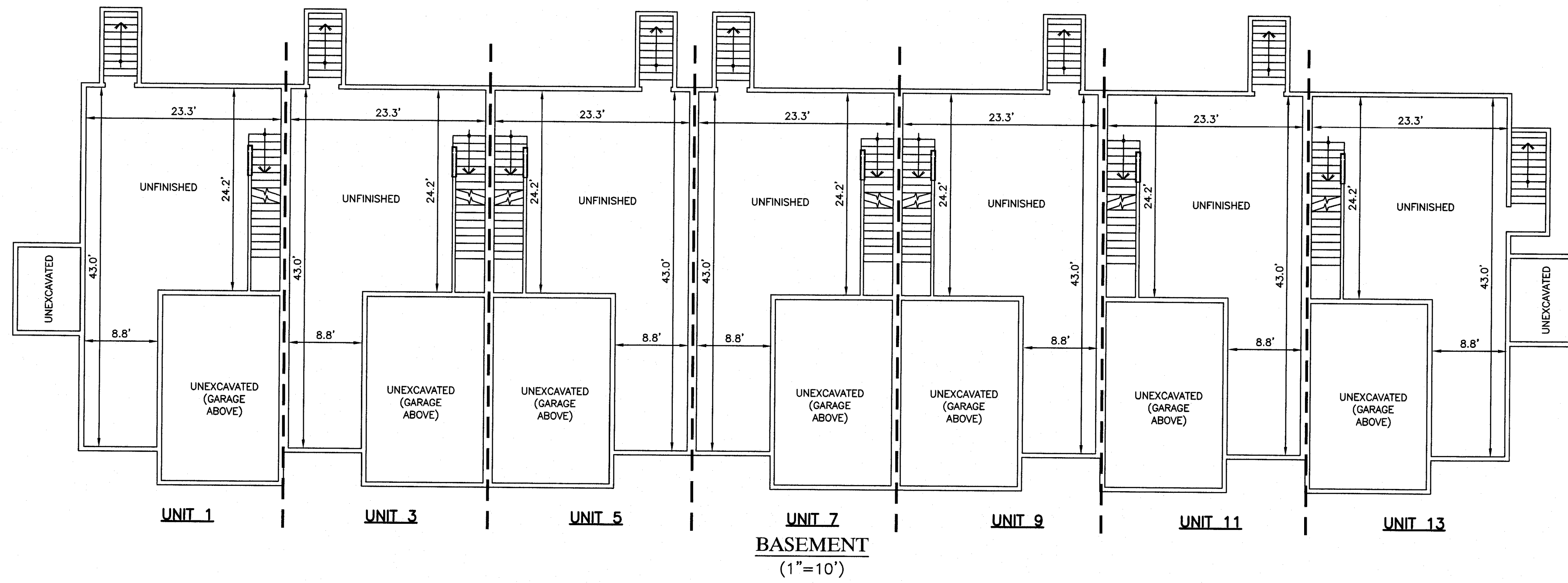
MAP 15 LOT 239
 HOLTEN LLC
 30 SONAR DRIVE
 WOBURN, MA. 01801
 BK. 6154 PG. 987

MAP 17 LOT 25
 344,183 S.F.
 7.901 Ac.

MAP 15 LOT 239
 HOLTEN LLC
 30 SONAR DRIVE
 WOBURN, MA. 01801
 BK. 6154 PG. 987

MAP 15 LOT 235
 PAGE ROCK LLC
 5 HUTCHINGS DRIVE
 SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

TBM 2
 MAGNAIL
 SET IN
 PAVEMENT
 ELEV.=311.87



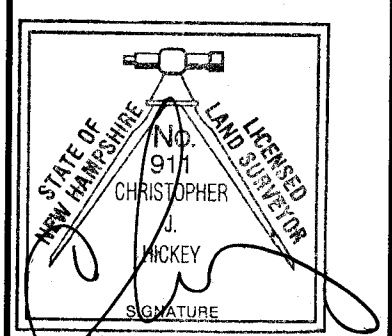
REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

APPROVED BY THE LONDONDERRY, NH PLANNING BOARD FOR PHASE _____
 ON DATE: _____
 CERTIFIED BY: _____

CERTIFICATIONS
 I HEREBY CERTIFY THAT THIS PLAN IS ACCURATE; THAT IT COMPLIES WITH THE PROVISIONS OF NEW HAMPSHIRE RSA 356-B:20, II AND ALL UNITS SHOWN ARE "NOT YET BEGUN."

Christopher Mackey
 LICENSED LAND SURVEYOR

3/9/26
 DATE

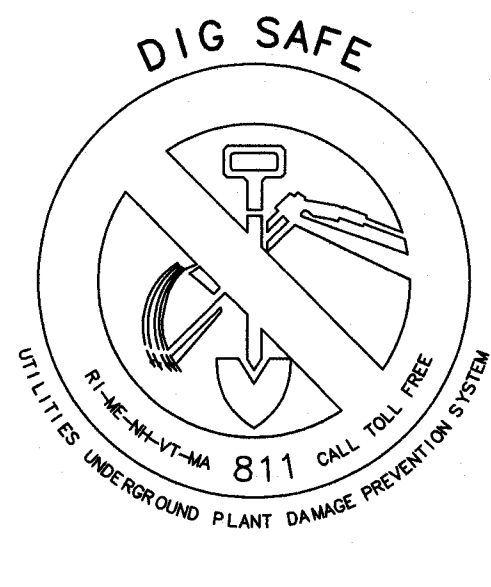
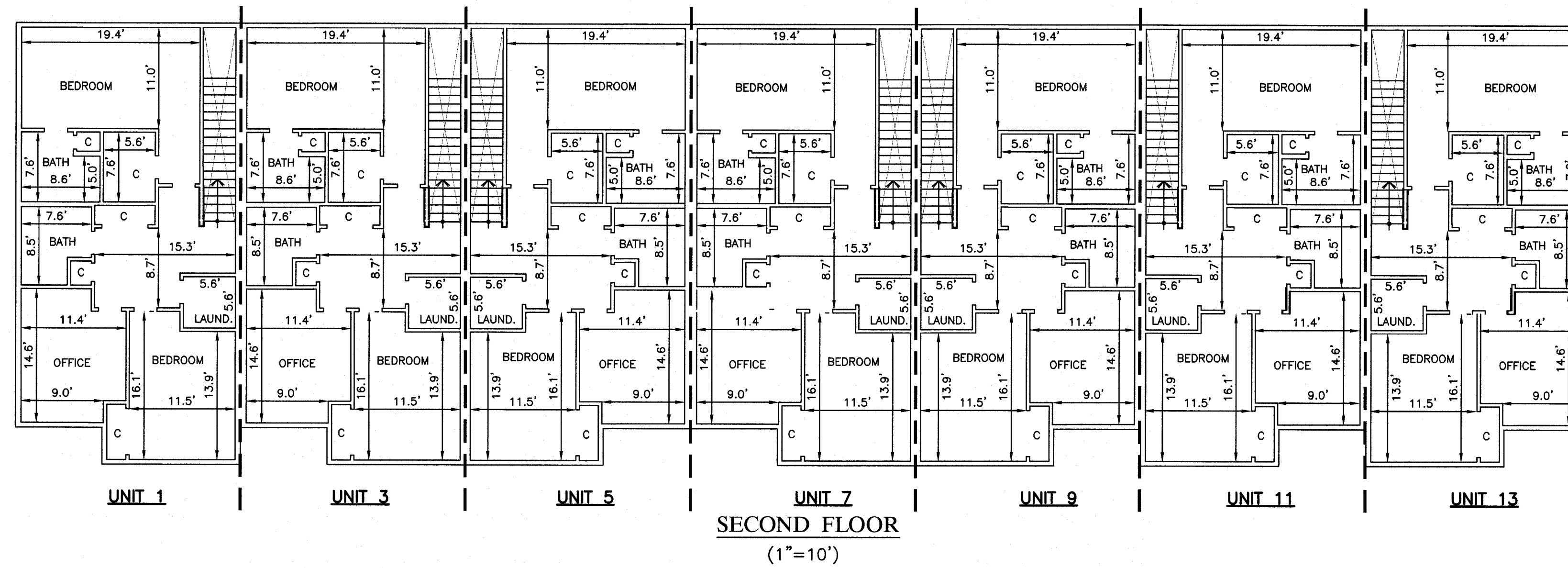
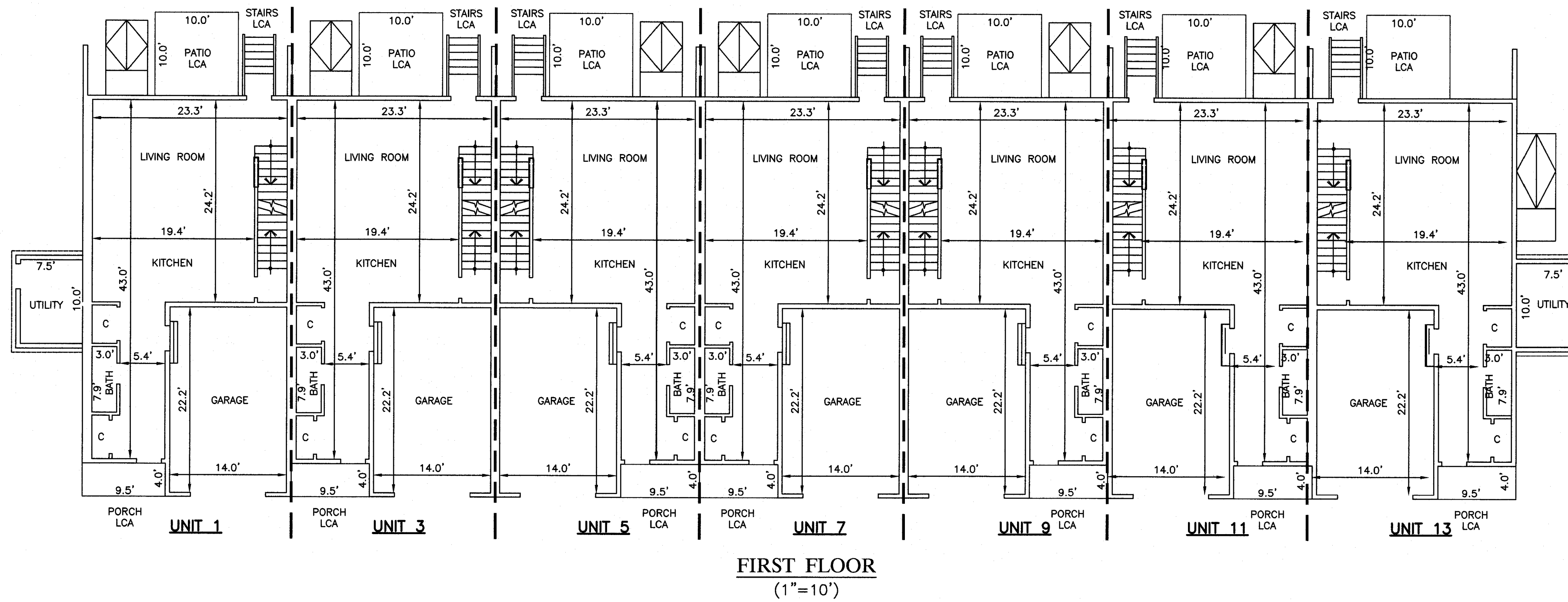


OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

CONDOMINIUM FLOOR PLAN
ROCK ROAD TOWNHOMES,
A CONDOMINIUM
 MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY

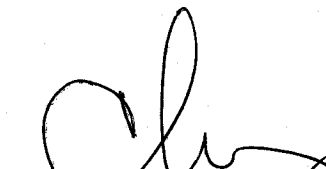
KMA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 5 Commerce Park North, Suite 201, Bedford, NH 03110 Phone (603) 627-2881

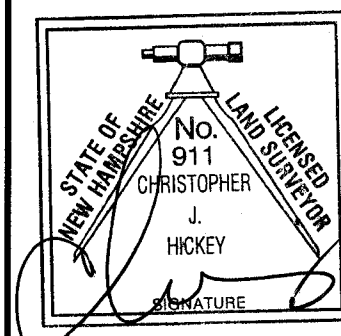
PROJ. NO: 21-0113-1
 DATE: MAY 6, 2025
 SCALE: AS-SHOWN
 FILE NO.:
 SHEET NO. CF1



REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

APPROVED BY THE LONDONDERRY, NH PLANNING BOARD FOR PHASE _____
 ON DATE: _____
 CERTIFIED BY: _____

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 LICENSED LAND SURVEYOR
 DATE: 3/9/26

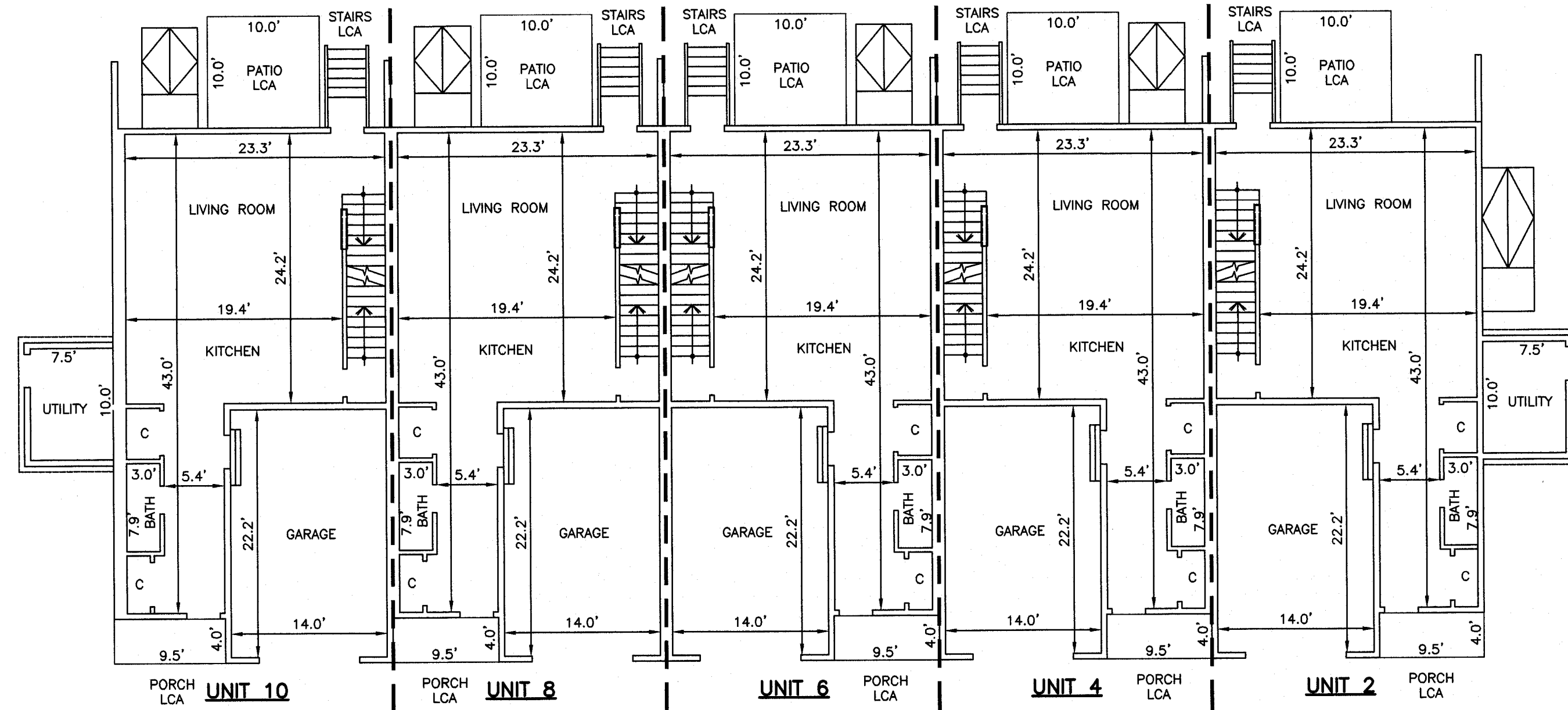


OWNER/APPLICANT:
 PAGE ROCK, LLC
 5 HUTCHINGS DRIVE, SUITE 5D
 HOLLIS, N.H. 03049
 BK. 6276 PG. 396

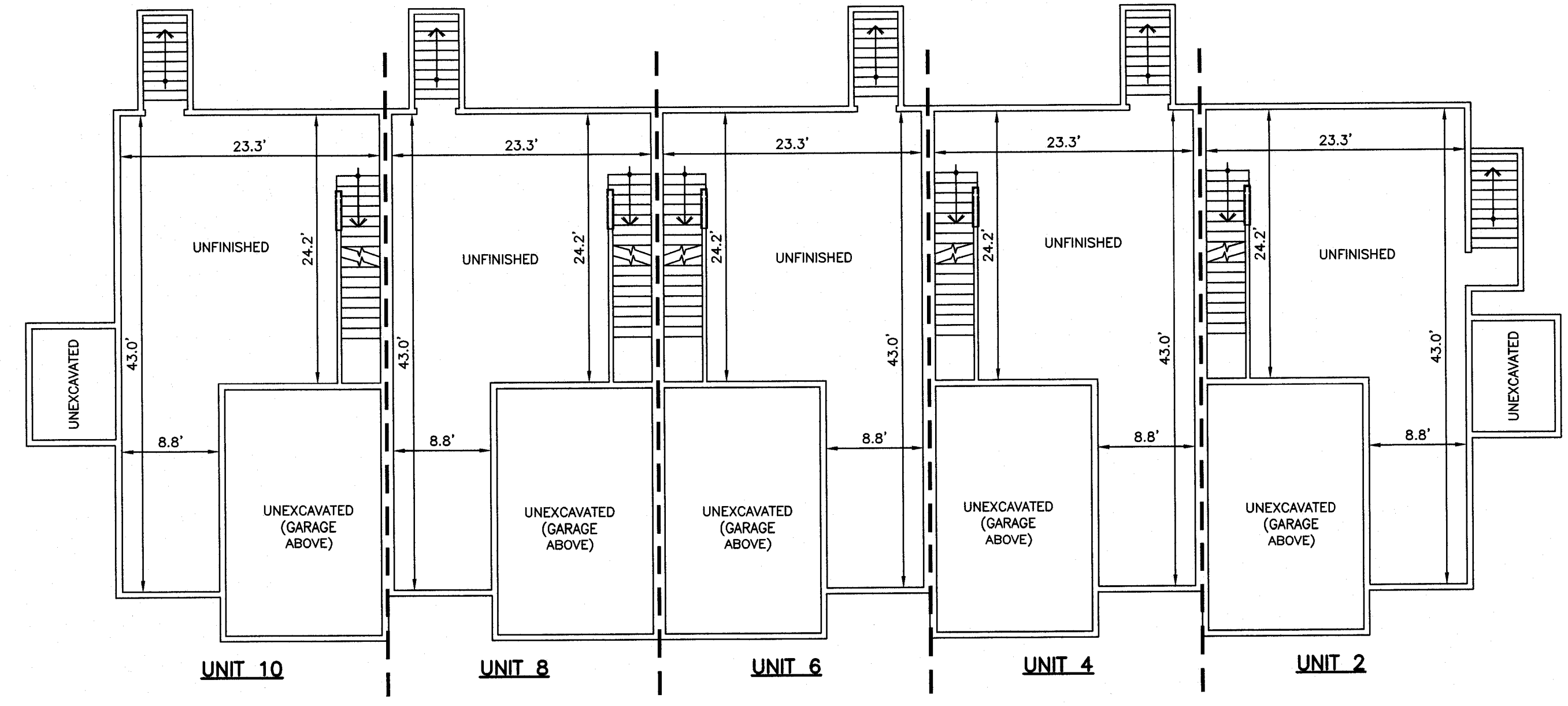
CONDOMINIUM FLOOR PLAN
ROCK ROAD TOWNHOMES,
A CONDOMINIUM
 MAP 17 LOT 25
 295 ROCKINGHAM ROAD
 LONDONDERRY, NEW HAMPSHIRE
 ROCKINGHAM COUNTY

K&A KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 5 Commerce Park North, Suite 201, Bedford, NH 03110 Phone (603) 627-2881

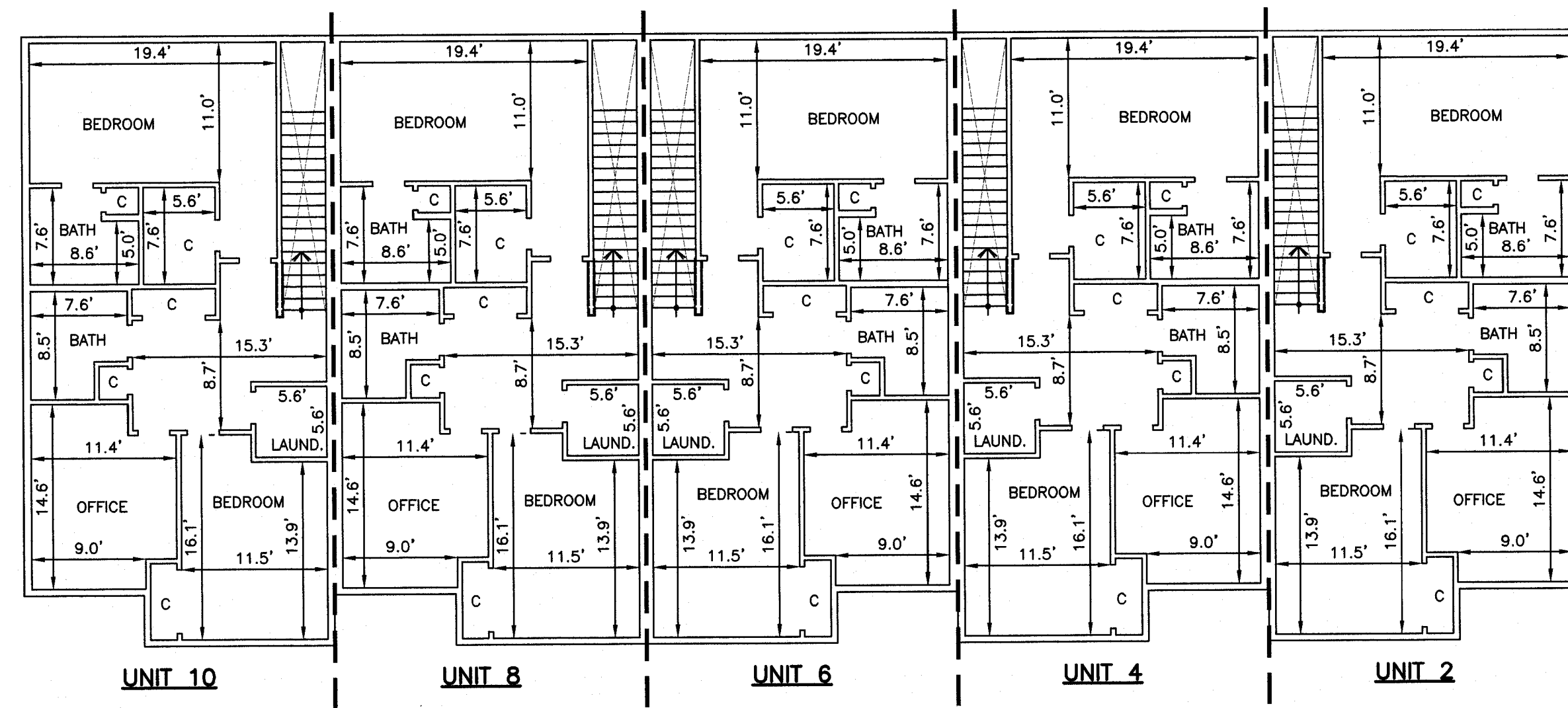
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 DATE: MAY 6, 2025
 SCALE: AS-SHOWN
 FILE NO.:
 SHEET NO. CF2



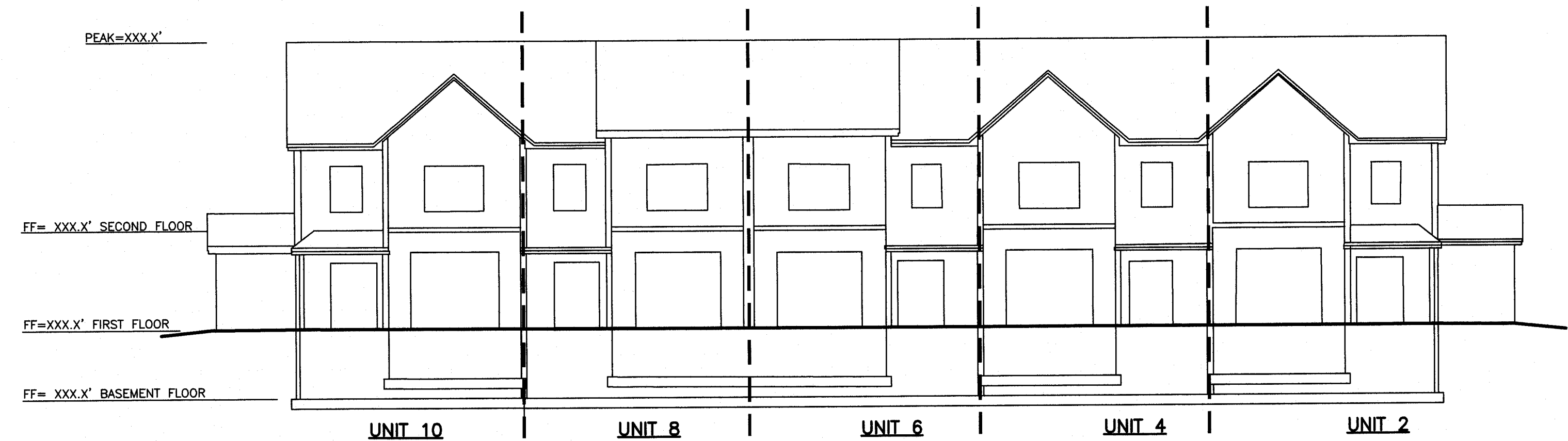
FIRST FLOOR
(1"=10')



BASEMENT
(1"=10')



SECOND FLOOR
(1"=10')



ELEVATION VIEW
(NOT TO SCALE)



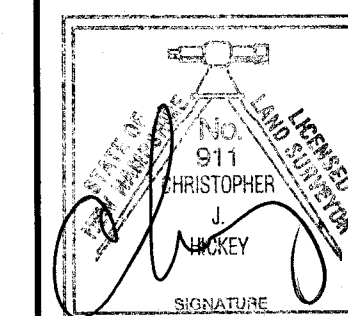
REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	11/25/25	ENGINEERING & DRC REVISIONS	PCM
2	2/20/25	ENGINEERING REVISIONS	PCM

APPROVED BY THE LONDONDERRY, NH PLANNING BOARD FOR PHASE _____
ON DATE: _____
CERTIFIED BY: _____

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[Signature]
LICENSED LAND SURVEYOR

3/9/26
DATE



OWNER/APPLICANT:
PAGE ROCK, LLC
5 HUTCHINGS DRIVE, SUITE 5D
HOLLIS, N.H. 03049
BK. 6276 PG. 396

CONDOMINIUM FLOOR PLAN
ROCK ROAD TOWNHOMES,
A CONDOMINIUM
MAP 17 LOT 25
295 ROCKINGHAM ROAD
LONDONDERRY, NEW HAMPSHIRE
ROCKINGHAM COUNTY

KMA KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
5 Commerce Park North, Suite 201, Bedford, NH 03110 Phone (603) 627-2881

PROJ. NO: 21-0113-1
DATE: MAY 6, 2025
SCALE: AS-SHOWN
FILE NO.:
SHEET NO. CF3