

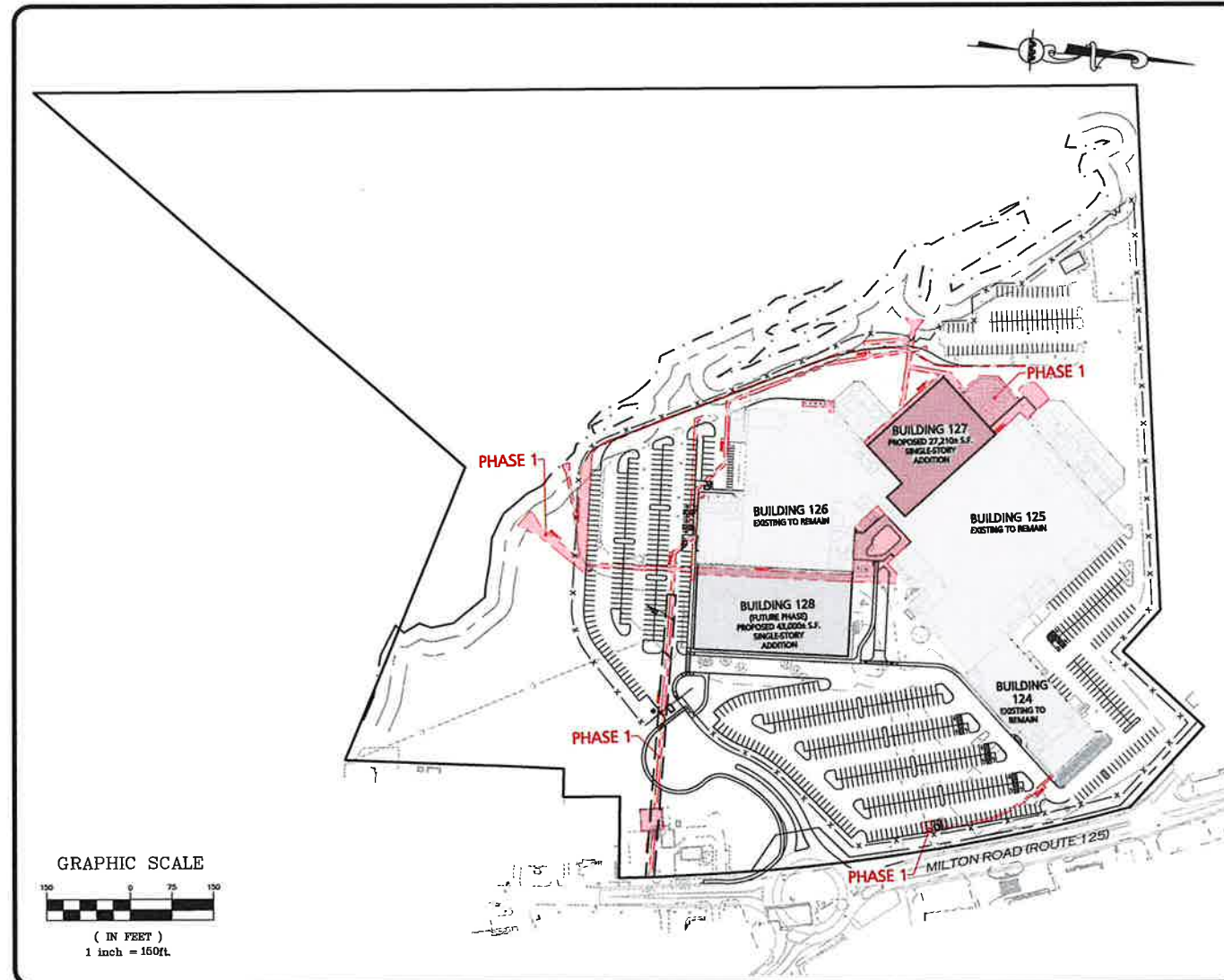


LOCUS MAP
NOT TO SCALE

APPLICANT:
SIG SAUER REAL ESTATE, INC.
72 PEASE BLVD.
NEWINGTON, NH 03801
(603) 610-3000

ARCHITECT:
PORT ONE ARCHITECTS
959 ISLINGTON STREET
PORTSMOUTH, NH 03801
(603) 436-8891

CIVIL ENGINEER / LANDSCAPE ARCHITECT
ALLEN & MAJOR ASSOCIATES, INC.
400 HARVEY ROAD
MANCHESTER, NH 03103
(603) 627-5500



GRAPHIC SCALE
150 0 75 150
(IN FEET)
1 inch = 150ft



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

FOR MORE INFORMATION ABOUT THIS PLAN SET, CONTACT:
BRIAN D. JONES AT ALLEN & MAJOR ASSC., INC. 603-627-5500

PREPARED BY:



ALLEN & MAJOR
ASSOCIATES, INC.
civil & structural engineering • land surveying
environmental consulting • landscape architecture
www.allenmajor.com

400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501
WOBBURN, MA • LAKEVILLE, MA • MANCHESTER, NH
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PHASED MASTER SITE PLAN FOR SIG SAUER

TAX MAP 205, LOTS 1, 2, & 6
TAX MAP 210, LOTS 32 & 33
ROCHESTER, NH 03868

LIST OF DRAWINGS

| DRAWING TITLE | SHEET NO. | ISSUED | REV 1 | REV 2 | REV 3 | REV 4 | REV 5 |
|--------------------------------------|-----------|----------|----------|----------|----------|----------|----------|
| OVERALL COMPILED EXISTING CONDITIONS | V-101 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| COMPILED EXISTING CONDITIONS | V-101A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| COMPILED EXISTING CONDITIONS | V-101B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| COMPILED EXISTING CONDITIONS | V-101C | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| COMPILED EXISTING CONDITIONS | V-101D | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| SITE SPECIFIC SOIL MAPPING | C-100 | - | - | 03-06-23 | 04-10-23 | - | - |
| OVERALL EROSION CONTROL PLAN | C-101 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| EROSION CONTROL PLAN | C-101A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | 06-06-23 |
| EROSION CONTROL PLAN | C-101B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| EROSION CONTROL PLAN | C-101C | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| EROSION CONTROL PLAN | C-101D | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| OVERALL LAYOUT & MATERIALS PLAN | C-102 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| LAYOUT & MATERIALS PLAN | C-102A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| LAYOUT & MATERIALS PLAN | C-102B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| LAYOUT & MATERIALS PLAN | C-102C | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| LAYOUT & MATERIALS PLAN | C-102D | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| OVERALL GRADING & DRAINAGE PLAN | C-103 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| GRADING & DRAINAGE PLAN | C-103A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| GRADING & DRAINAGE PLAN | C-103B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| GRADING & DRAINAGE PLAN | C-103C | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| GRADING & DRAINAGE PLAN | C-103D | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| OVERALL UTILITIES PLAN | C-104 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| UTILITIES PLAN | C-104A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| UTILITIES PLAN | C-104B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| UTILITIES PLAN | C-104C | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| UTILITIES PLAN | C-104D | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| OVERALL SITE LIGHTING PLAN | C-105 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| SITE LIGHTING PLAN | C-105A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| SITE LIGHTING PLAN | C-105B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| SITE LIGHTING PLAN | C-105C | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| SITE LIGHTING PLAN | C-105D | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| TRUCK TURNING PLAN | C-106A | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| TRUCK TURNING PLAN | C-106B | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | 06-06-23 |
| SEWER PLAN & PROFILE | C-201 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| SEWER PLAN & PROFILE | C-202 | - | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| DETAILS | C-501 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| DETAILS | C-502 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| DETAILS | C-503 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| DETAILS | C-504 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| DETAILS | C-505 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| DETAILS | C-506 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| DETAILS | C-507 | 01-20-23 | 02-13-23 | 03-06-23 | 04-10-23 | 04-27-23 | - |
| DETAILS | C-508 | - | - | - | 04-10-23 | - | - |
| DETAILS | C-509 | - | - | - | 04-10-23 | - | - |
| DETAILS | C-510 | - | - | - | 04-10-23 | - | - |
| OVERALL LANDSCAPE PLAN | L-101 | - | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| LANDSCAPE PLAN | L-101A | - | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| LANDSCAPE PLAN | L-101B | - | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| LANDSCAPE PLAN | L-101C | - | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| LANDSCAPE PLAN | L-101D | - | 02-13-23 | 03-06-23 | 04-10-23 | - | - |
| LANDSCAPE NOTES | L-102 | - | 02-13-23 | 03-06-23 | 04-10-23 | 06-06-23 | - |
| LANDSCAPE DETAILS | L-501 | - | 02-13-23 | 03-06-23 | 04-10-23 | - | - |

APPROVED - CITY PLANNING STAFF

SIGNATURE: *[Signature]* DATE: 6/30/23 Planning Board
DATE OF APPROVAL: 05-15-2023

ISSUED FOR SITE PLAN REVIEW: JANUARY 20, 2023
REVISION 1 PER TRG 1 COMMENTS: FEBRUARY 13, 2023
REVISION 2 PER TRG 2 COMMENTS: MARCH 6, 2023
REVISION 3 PER TRG 3 COMMENTS: APRIL 10, 2023
REVISION 4 PER PEER REVIEW COMMENTS: APRIL 27, 2023
ISSUED FOR PLANNING BOARD APPROVAL: JUNE 6, 2023

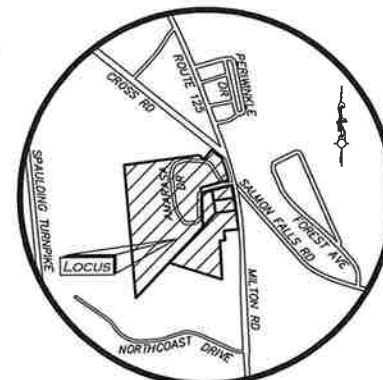
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1-888-DIG-SAFE
1-888-344-7233



NEW HAMPSHIRE GRID (NAD 83)



LOCUS MAP
(NOT TO SCALE)

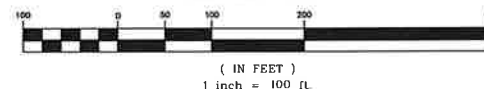
LEGEND

| | |
|--------------------------|------|
| STONE BOUND (SB) | □ |
| IRON PIPE (IP) | ○ |
| IRON ROD (IR) | ⊙ |
| SEWER MANHOLE (SMH) | ⊕ |
| UTILITY POLE | ⊗ |
| UTILITY POLE W/LIGHT | ⊗ |
| FIRE HYDRANT | ⊗ |
| GAS GATE | ⊗ |
| BOLLARD | ⊗ |
| GAS METER | ⊗ |
| ELECTRIC METER | ⊗ |
| MAILBOX | ⊗ |
| SIGN | ⊗ |
| TREE | ⊗ |
| BUSH / SHRUB | ⊗ |
| BUILDING | ⊗ |
| BUILDING OVERHANG | ⊗ |
| WETLAND | ⊗ |
| BUFFER ZONE | ⊗ |
| 1' CONTOUR | ⊗ |
| 5' CONTOUR | ⊗ |
| PROPERTY LINE | ⊗ |
| ABUTTERS LINE | ⊗ |
| TREE LINE | ⊗ |
| EDGE OF PAVEMENT | ⊗ |
| CHAIN LINK FENCE | ⊗ |
| STOCKADE FENCE | ⊗ |
| GAS LINE | ⊗ |
| OVERHEAD WIRES | ⊗ |
| FINISHED FLOOR ELEVATION | FFE |
| BITUMINOUS | BIT. |
| NOW OR FORMERLY | N/F |
| BOOK | BK. |
| PAGE | PG. |

NOTES

- THE PURPOSE OF THIS PLAN IS TO PROVIDE COMPILED EXISTING CONDITIONS INFORMATION. SEE SHEETS V-101A THROUGH V-101D FOR 1"=30' SCALE ENLARGEMENTS. THIS IS NOT A PROPERTY LINE SURVEY.
- ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC., DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC. "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- VERTICAL DATUM IS NAVD83. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.

GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: 1" = 100' DWG. NAME: C2912-01A

DESIGNED BY: AJR CHECKED BY: BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental
consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

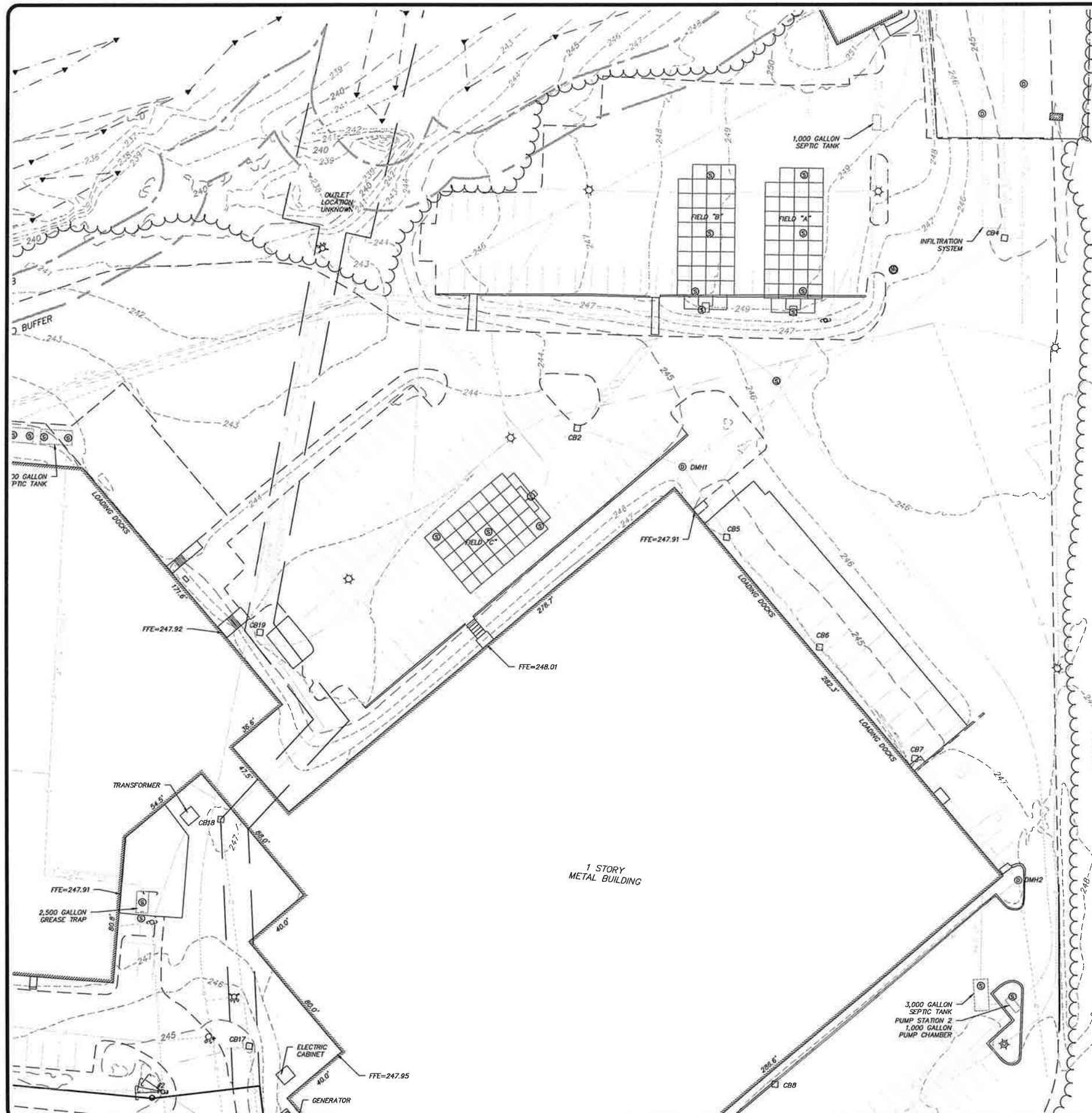
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DRAWING TITLE:
OVERALL
COMPILED EXISTING
CONDITIONS PLAN

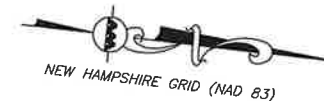
SHEET No.

V-101

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MAP 205, LOT 12
N/F
IZA M. SEEKINS
BK.994/Pg.934



LEGEND

| | |
|--------------------------|------|
| STONE BOUND (SB) | |
| IRON PIPE (IP) | |
| IRON ROD (IR) | |
| SEWER MANHOLE (SMH) | |
| UTILITY POLE | |
| UTILITY POLE W/LIGHT | |
| FIRE HYDRANT | |
| GAS GATE | |
| BOLLARD | |
| GAS METER | |
| ELECTRIC METER | |
| MAILBOX | |
| SIGN | |
| TREE | |
| BUSH / SHRUB | |
| BUILDING | |
| BUILDING OVERHANG | |
| WETLAND | |
| BUFFER ZONE | |
| 1' CONTOUR | |
| 5' CONTOUR | |
| PROPERTY LINE | |
| ABUTTERS LINE | |
| TREE LINE | |
| EDGE OF PAVEMENT | |
| CHAIN LINK FENCE | |
| STOCKADE FENCE | |
| GAS LINE | |
| OVERHEAD WIRES | |
| FINISHED FLOOR ELEVATION | FFE |
| BITUMINOUS | BIT. |
| NOW OR FORMERLY | N/F |
| BOOK | BK. |
| PAGE | PG. |

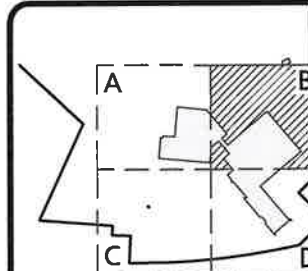
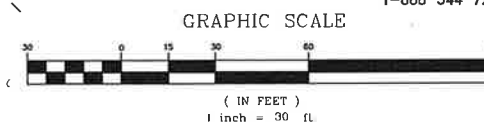
NOTES

1. THE PURPOSE OF THIS PLAN IS TO PROVIDE COMPILED EXISTING CONDITIONS INFORMATION. SEE SHEET V-101 FOR OVERALL SITE. THIS IS NOT A PROPERTY LINE SURVEY.
2. ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLAN & MAJOR ASSOCIATES, INC. FROM AERWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
3. OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MASON ASSOCIATES, INC. FROM DOUGET SURVEY, LLC. "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
4. VERTICAL DATUM IS NAVD88. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.

MAP 205, LOT 9
N/F
KATHERINE I. LLOYD
SCRIP 319-2017-ET-00230



MAP 205, LOT 8
N/F
MARY E. ALLYSON
BK 4456/PG 908



SHEET KEY PLAN



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| | | |
|-----|----------|----------------------------|
| | | |
| | | |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |
| REV | DATE | DESCRIPTION |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

**PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868**

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | AJR | CHECKED BY: | BDJ |

PREPARED BY



**ALLEN & MAJOR
ASSOCIATES, INC.**
civil engineering ♦ land surveying environmental
consulting ♦ landscape architecture

400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

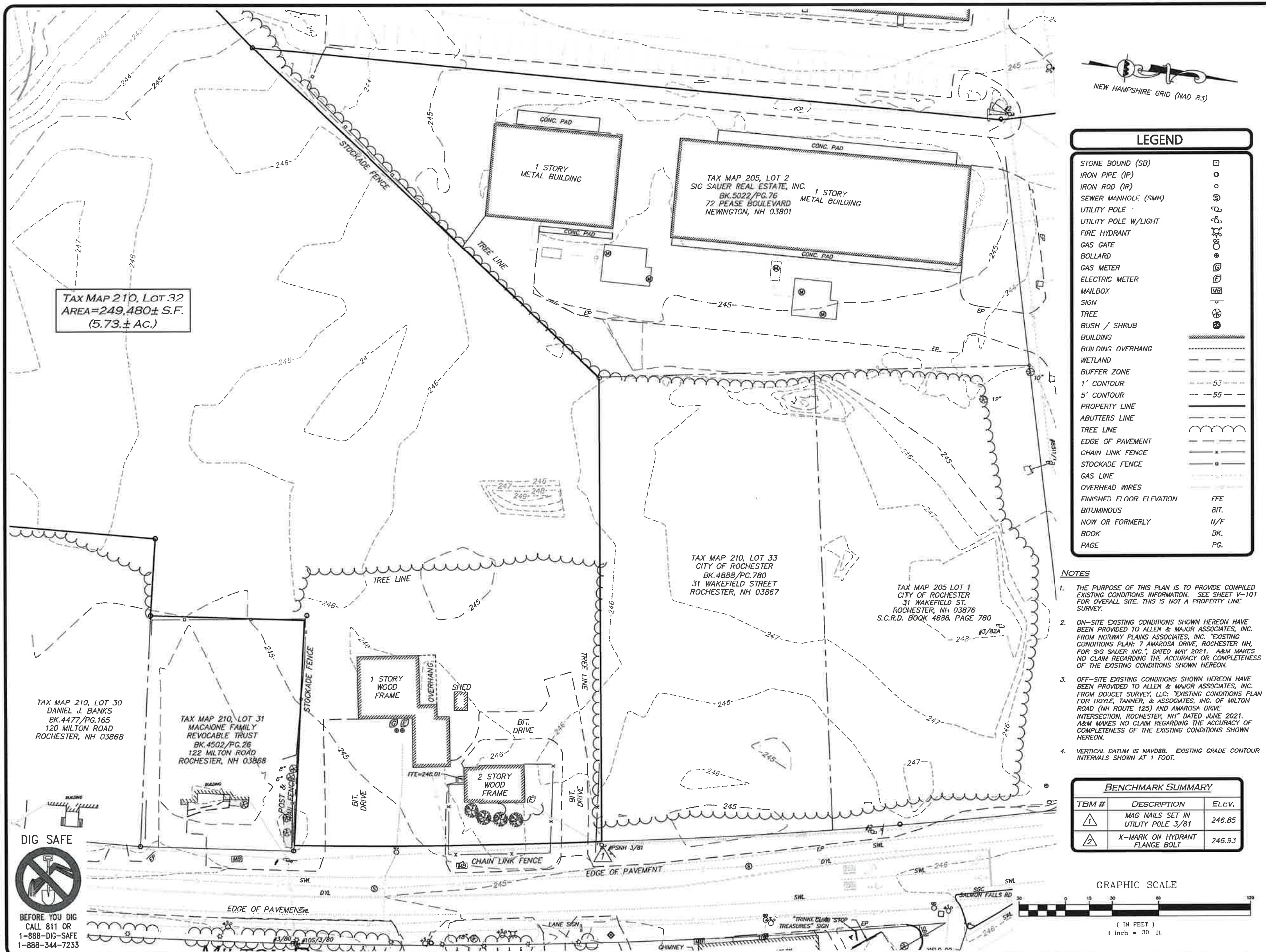
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DRAWING TITLE:
COMPILED EXISTING
CONDITIONS PLAN

SHEET No.
V-101B

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SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

PROJECT NO. 2912-01A **DATE:** 01-20-23

SCALE: 1" = 30' **DWG. NAME:** C2912-01A

DESIGNED BY: AIR **CHECKED BY:** BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

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DRAWING TITLE: COMPILED EXISTING CONDITIONS PLAN

SHEET No.: V-101C

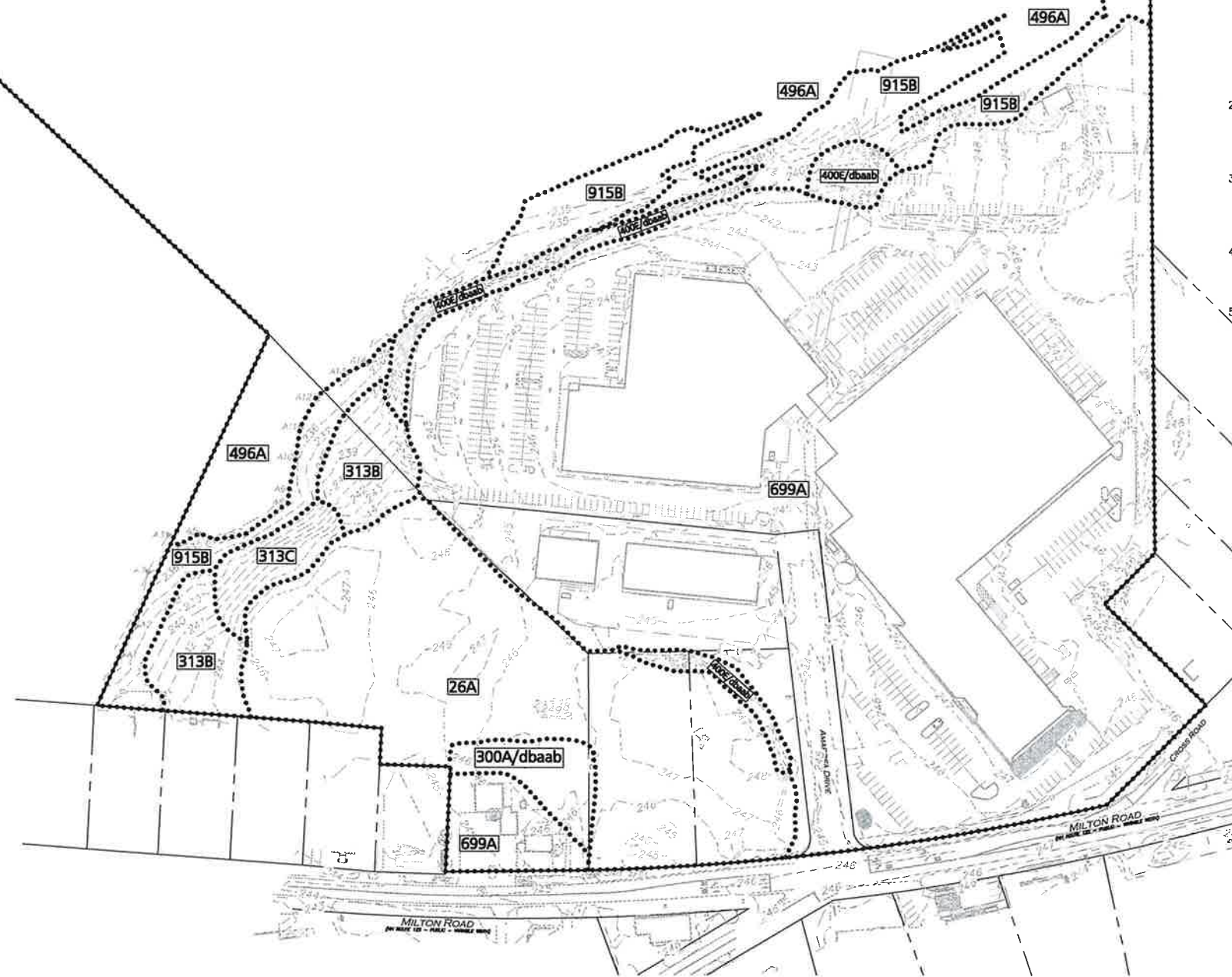
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R:\PROJECTS\2012-01 CIVIL\DRAWINGS\CURRENT\C-2912-01_SOIL_MAPPING.DWG

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1-888-344-7233



SOIL NOTES:

1. 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.
2. THE SITE SPECIFIC SOIL SURVEY (SSSS) WAS PRODUCED FEBRUARY 14, 2023, AND WAS PREPARED BY CORTNEY STEVENSON AND REVIEWED BY JP GOVE, CSS # 004, GOVE ENVIRONMENTAL SERVICES, INC.
3. 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.
4. HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2009.
5. HIGH INTENSITY SOIL MAP SYMBOLS, BASED UPON SSSNNE SPECIAL PUBLICATION 1, DECEMBER 2017, WERE ADDED TO THE SOIL LEGEND.

SITE SPECIFIC SOIL SURVEY PERFORMED BY:



GOVE ENVIRONMENTAL SERVICES
8 CONTINENTAL DRIVE, BLDG 2, UNIT H
EXETER, NH 03833

WETLAND NOTES:

1. "A" SERIES WETLAND FLAGS SHOWN HEREON, LOCATED ON 124 MILTON ROAD PROPERTY, WERE SET BY GOVE ENVIRONMENTAL IN DECEMBER, 2022.
2. WETLAND FLAGS LOCATED ON 7 AMAROSA PROPERTY WERE SET BY BH KEITH ASSOCIATES, INC. ON MARCH 31, 2021.
3. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS MANUAL: NORTH CENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
4. 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).
5. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE, 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
6. NATIONAL WETLAND PLANT LIST, VERSIONS 3.5 (2020).

SLOPE PHASE

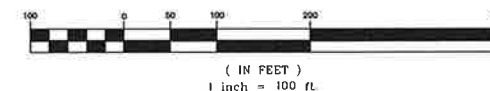
| SLOPE RANGE | |
|-------------|---|
| 0-3% | A |
| 3-8% | B |
| 8-15% | C |
| 15-25% | D |
| 25-50 | E |
| 50%+ | F |

SITE SPECIFIC SOIL MAP UNIT LEGEND

| SYMBOL* | MAP UNIT | HISS SYMBOL | HSG |
|------------|----------------------------|-------------|-----|
| 26 | WINDSOR, LOAMY SAND | 111 | A |
| 313 | DEERFIELD, LOAMY FINE SAND | 311 | B |
| 915 | DEERFIELD VARIANT (SWPD) | 411 | C |
| 496 | NATCHAUG, MUCK | 681 | D |
| 300A/dbaab | UDIPSAMMENTS, NEARLY LEVEL | 361 | B |
| 400e/dbaab | UDORTHENTS, SANDY | 361 | B |
| 699 | URBAN LAND | 761 | B |

* REFER TO ACCOMPANYING REPORT FOR SUPPLEMENTAL SYMBOL EXPLANATION.

GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|-----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 100' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental
consulting • landscape architecture
www.allenmajor.com
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MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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| | |
|------------------------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| SITE SPECIFIC SOIL MAPPING PLAN | C-100 |

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GENERAL SEQUENCE OF CONSTRUCTION:

1. CONTACT THE CITY ENGINEERING DEPARTMENT AT LEAST TWO (2) WEEKS PRIOR TO START OF CONSTRUCTION.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES. SITE ACCESS SHALL BE ACHIEVED ONLY FROM THE DESIGNATED CONSTRUCTION ENTRANCE.
3. PREPARE TEMPORARY PARKING AND STORAGE AREA. UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, WHEEL WASH, CONCRETE WASHOUT, MASON'S AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., DENOTE THEM ON THE SITE MAPS IMMEDIATELY AND NOTE ANY CHANGES IN THE LOCATIONS AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.
4. INSTALL THE TUBULAR BARRIERS AND SILT SACKS AS SHOWN HEREON. SEE ALSO SHEETS C-101A THROUGH C-101D.
5. CLEAR AND GRUB THE SITE.
6. CONSTRUCT TEMPORARY SEDIMENTATION AND SEDIMENT TRAP BASINS AS NECESSARY.

7. BEGIN GRADING THE SITE.
8. CONSTRUCT STORMWATER MEASURES. SITE SHALL BE STABILIZED PRIOR TO STORMWATER MEASURES RECEIVING RUNOFF.
9. START CONSTRUCTION OF BUILDING PAD AND STRUCTURES. TEMPORARILY SEED DENUDED AREAS. ALL CUT AND FILL SLOPES SHALL BE SEEDED / LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE, EXCEPT WHERE RIP RAP IS APPLIED.
10. INSTALL BUILDING, UTILITIES, STORM SEWERS, CURBS AND GUTTERS.
11. INSTALL INLET PROTECTION DEVICES AROUND ALL STORM DRAIN STRUCTURES.
12. INSTALL RIP RAP AROUND OUTLET STRUCTURES.
13. FINALIZE GRADING, AND PREPARE SITE FOR PAVING. NOTE, ALL PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
14. PAVE SITE, COMPLETE FINISH GRADING AND INSTALL PERMANENT SEEDING AND PLANTING.

15. ONCE SITE IS STABILIZED, REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES.
16. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER ALL RAINFALL EVENTS GREATER THAN 0.25", AND SHALL BE MAINTAINED, REPAIRED OR REPLACED AS REQUIRED OR AT THE DIRECTION OF THE OWNER'S ENGINEER, OR THE TOWN ENGINEER.
17. SEDIMENT ACCUMULATION UP-GRADIENT OF THE TUBULAR BARRIERS GREATER THAN 6" IN DEPTH SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
18. IF IT APPEARS THAT SEDIMENT IS EXITING THE SITE, SILT SACKS SHALL BE INSTALLED IN ALL CATCH BASINS ADJACENT TO THE SITE. SEDIMENT ACCUMULATION ON ALL ADJACENT CATCH BASIN INLETS SHALL BE REMOVED AND THE SILT SACK REPLACED IF TORN OR DAMAGED.
19. THE CONTRACTOR SHALL COMPLY WITH THE GENERAL AND EROSION NOTES AS SHOWN ON THE SITE DEVELOPMENT PLANS.
20. IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN FIVE CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN 100 FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.



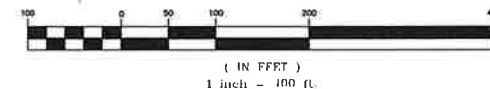
LEGEND

- TUBULAR BARRIER — X — X —
- CATCH BASIN FILTER
- STABILIZED ENTRANCE
- STOCKPILE/STAGING AREA
- LIMIT OF DISTURBANCE
- LIMIT OF 'CLEAR AND GRUB'
- BUILDING TO BE REMOVED
- PAVEMENT TO BE REMOVED

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO PROVIDE OVERALL EROSION CONTROL INFORMATION FOR THE PROPOSED BUILDING ADDITIONS AND ASSOCIATED SITE IMPROVEMENTS. SEE SHEETS C-101A THROUGH C-101D FOR 1"=30' SCALE ENLARGEMENTS.
2. EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC., DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
3. ALL WORK MUST CONFORM TO THE CITY OF ROCHESTER, DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND ANY WORK WITHIN THE CITY RIGHT-OF-WAY REQUIRES AN EXCAVATION PERMIT.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISA" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
5. ALL ELEVATIONS REFER TO NAVD '88.
6. NO MATERIAL CONTAINING ANY LIVING OR VIABLE PORTION OF PLANTS ON THE NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST (AGR3800 TABLE 3800.1) SHALL BE TRANSPORTED TO OR FROM CONSTRUCTION SITE WITHOUT NOTIFICATION AND APPROVAL FROM THE NEW HAMPSHIRE DEPARTMENT OF AGRICULTURE PER RSA 430:55.
7. A WATERING TRUCK SHALL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS AND AS REQUIRED IN ACCORDANCE WITH ENV-A1000.
8. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
9. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
10. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF THE END OF A STORM WITH RAINFALL AMOUNT GREATER THAN 0.25 INCHES. THE INSPECTIONS SHALL VERIFY THAT THE STRUCTURAL BMPs SHOWN AND DESCRIBED ON THE PLANS ARE IN GOOD CONDITION AND ARE MINIMIZING EROSION. A MAINTENANCE AND INSPECTION REPORT SHALL BE MADE WITH EACH INSPECTION. COMPLETE INSPECTION FORMS SHALL BE KEPT ON SITE FOR THE DURATION OF THE PROJECT AND BE MADE AVAILABLE FOR REVIEW BY THE CITY UPON REQUEST.
11. THE CONTRACTOR SHALL VERIFY EROSION CONTROL MEASURES, WHICH ARE PLACED IN OR NEAR CITY RIGHTS-OF-WAY, ARE PROPERLY MAINTAINED JUST PRIOR TO AND/OR DURING LARGE STORM EVENTS IN ORDER TO PREVENT POTENTIAL STREET FLOODING DURING THE CONSTRUCTION DURATION.
12. A NOTICE OF INTENT (NOI) SHALL BE PREPARED AND SUBMITTED TO THE EPA UNDER THE NPDES GGP. A SWPPP SHALL BE PREPARED AND MAINTAINED ON SITE. THE NOI AND SWPPP SHALL ALSO BE SUBMITTED TO DPW.

GRAPHIC SCALE



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C-101A

C-101B

C-101C

C-101D

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Brian D. Jones
04-27-23

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

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| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 100' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:



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consulting • landscape architecture
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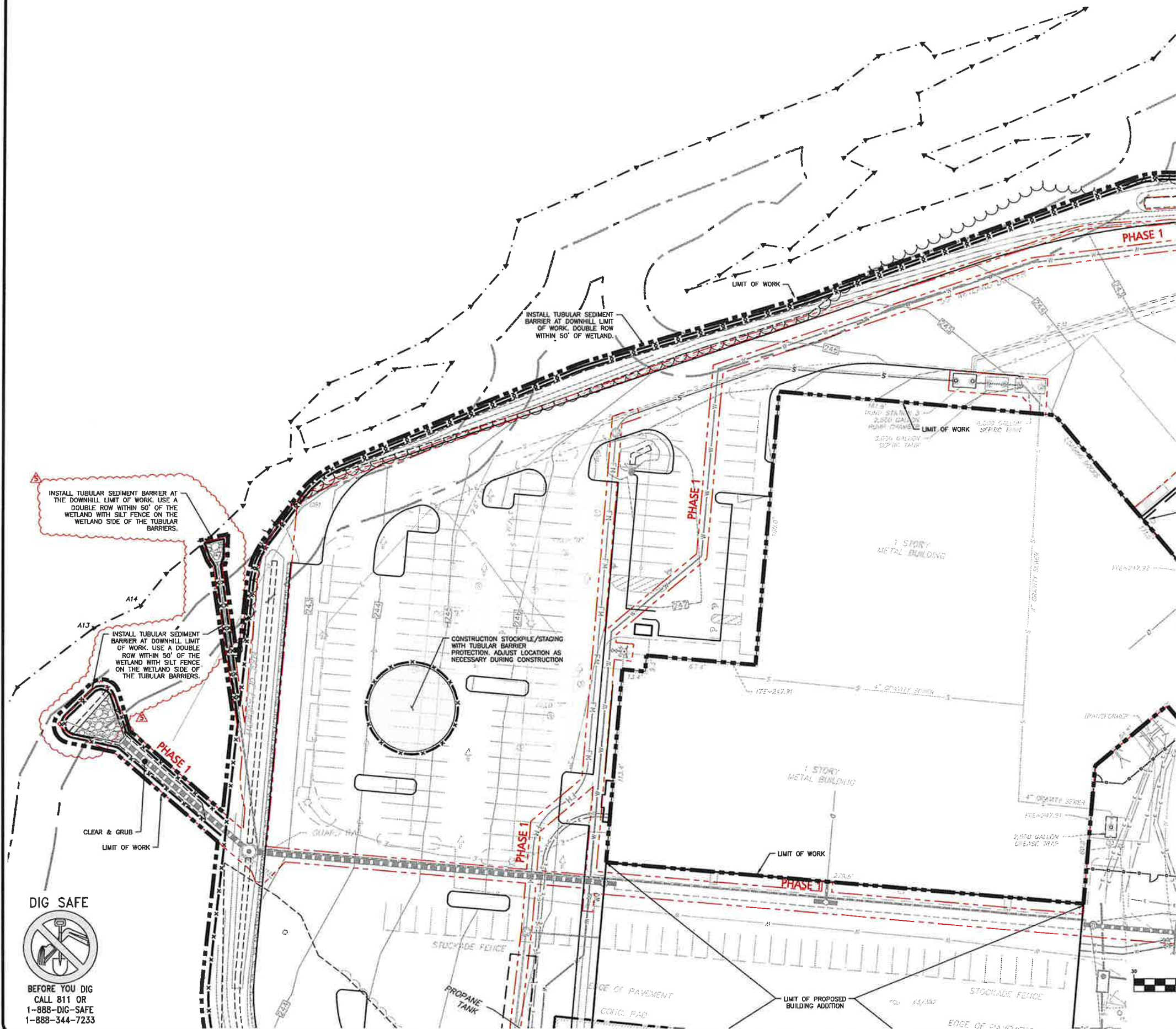
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|------------------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| OVERALL EROSION CONTROL PLAN | C-101 |

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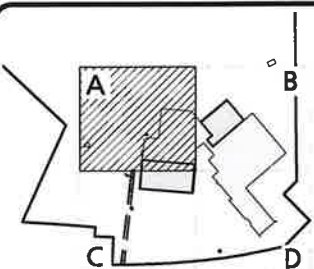
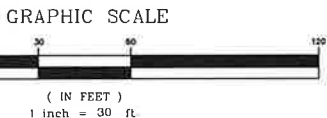
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| LEGEND | |
|---------------------------|-----------|
| TUBULAR BARRIER | — x — x — |
| CATCH BASIN FILTER | — x — x — |
| STABILIZED ENTRANCE | — x — x — |
| STOCKPILE/STAGING AREA | — x — x — |
| LIMIT OF DISTURBANCE | — x — x — |
| LIMIT OF 'CLEAR AND GRUB' | — x — x — |
| BUILDING TO BE REMOVED | — x — x — |
| PAVEMENT TO BE REMOVED | — x — x — |

- NOTES**
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
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SHEET KEY PLAN



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 1 | 06-06-23 | REVISED PER NOTICE OF DECISION |
| 2 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 4 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 5 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
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| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

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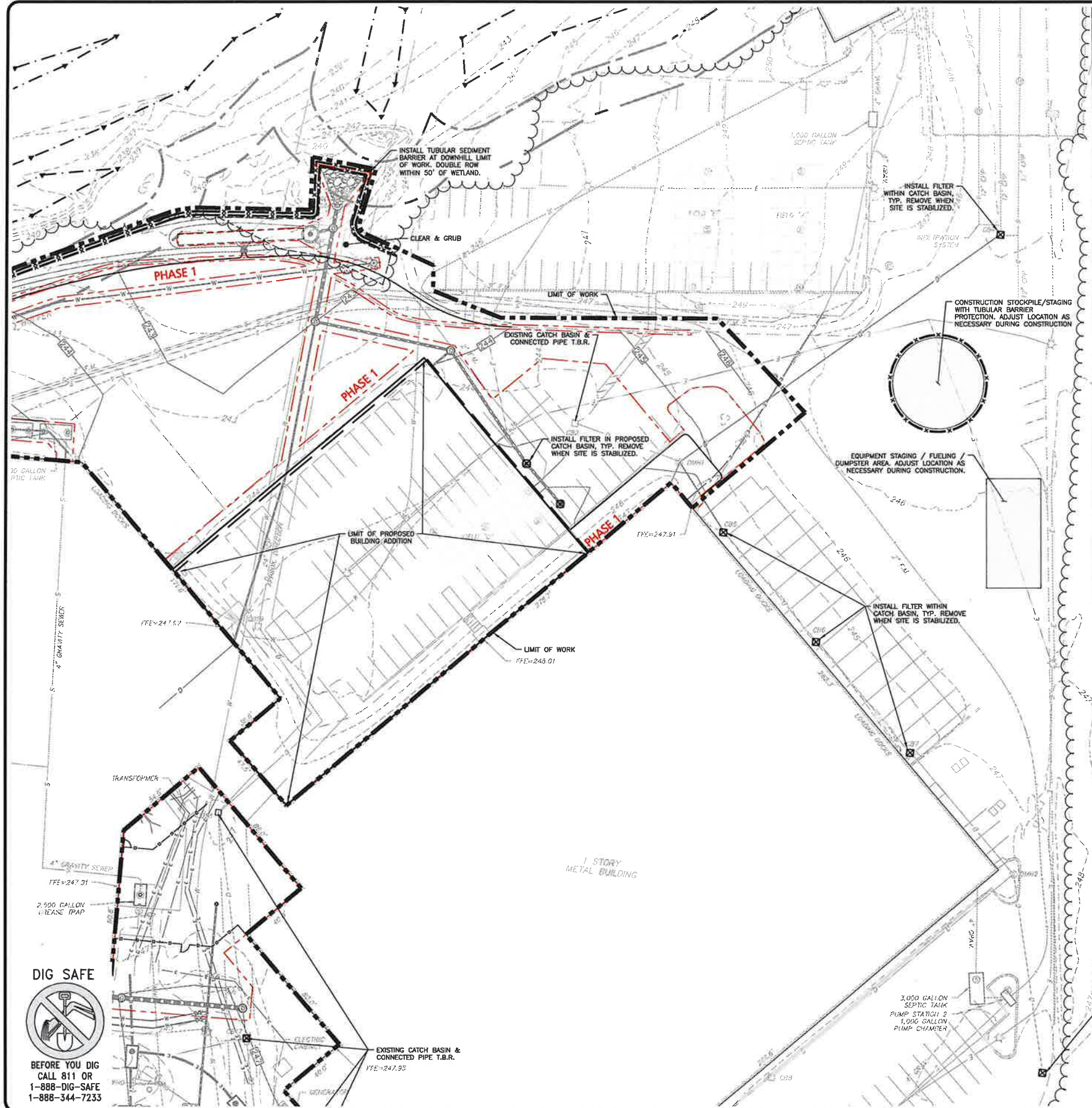
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| DRAWING TITLE: | SHEET No. |
| EROSION CONTROL PLAN | C-101A |

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LEGEND

TUBULAR BARRIER

CATCH BASIN FILTER

STABILIZED ENTRANCE

STOCKPILE/STAGING AREA

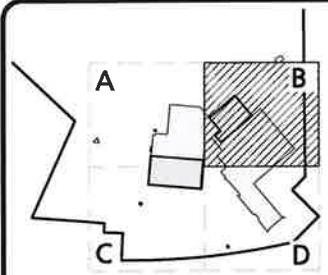
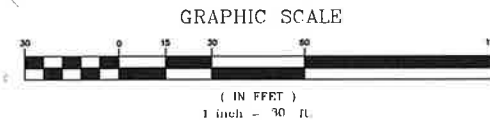
LIMIT OF DISTURBANCE

LIMIT OF 'CLEAR AND GRUB'

BUILDING TO BE REMOVED

PAVEMENT TO BE REMOVED

- NOTES**
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SHEET KEY PLAN



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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ROCHESTER, NH 03868

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PROJECT NO. 2912-01A DATE: 01-20-23
SCALE: 1" = 30' DWG. NAME: C2912-01A
DESIGNED BY: JRG CHECKED BY: BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.

civil engineering • landscape architecture
consulting • landscape architecture
www.allenmajor.com

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MANCHESTER, NH 03103
TEL: (603) 627-5500
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WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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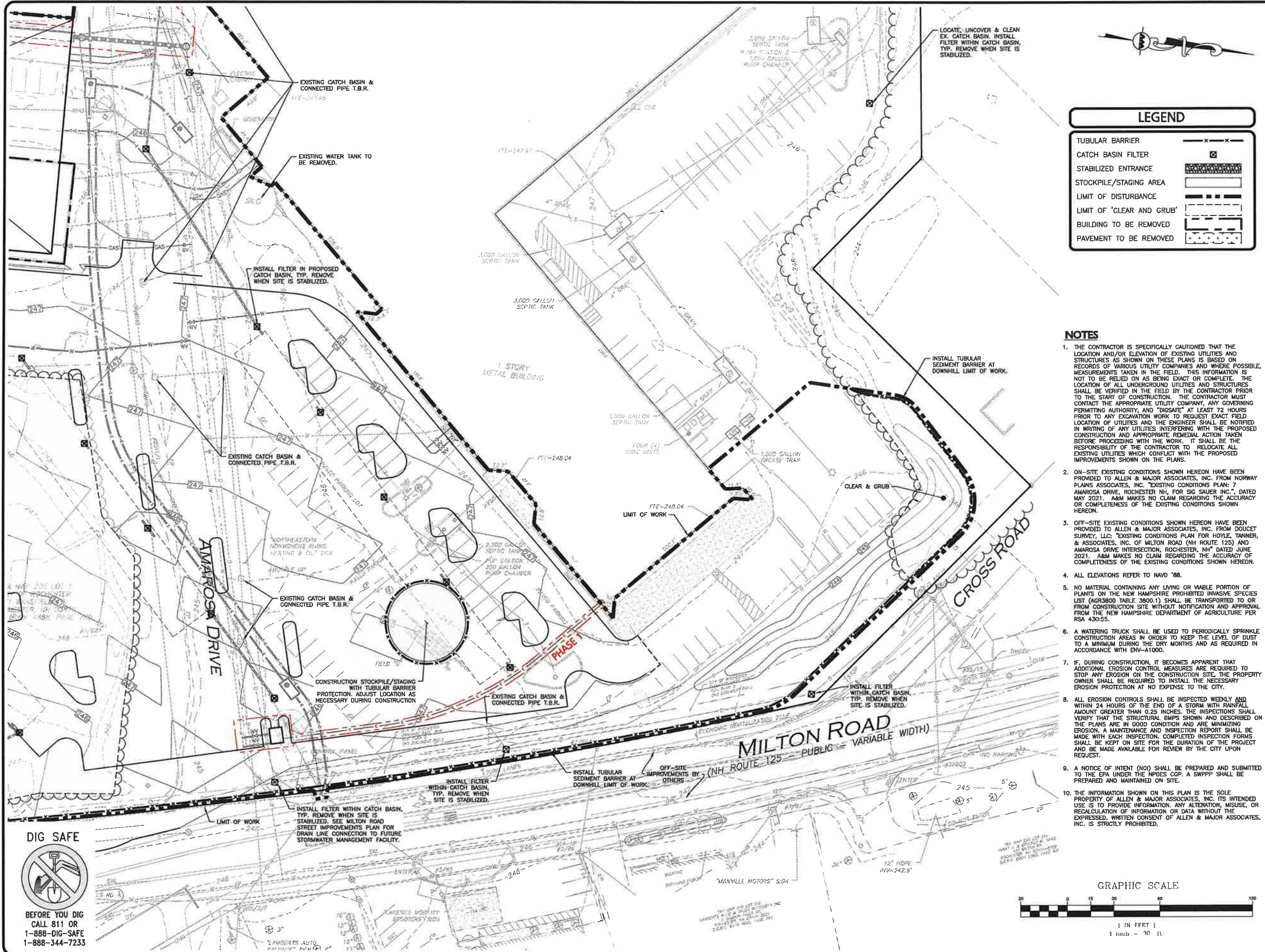
DRAWING TITLE: **EROSION CONTROL PLAN**
SHEET No. **C-101B**

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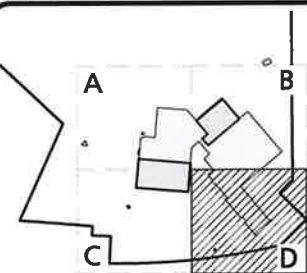
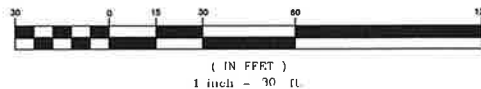
LEGEND

| | |
|---------------------------|-----------|
| TUBULAR BARRIER | — x — x — |
| CATCH BASIN FILTER | ⊠ |
| STABILIZED ENTRANCE | ▨ |
| STOCKPILE/STAGING AREA | ▨ |
| LIMIT OF DISTURBANCE | — · — · — |
| LIMIT OF 'CLEAR AND GRUB' | — · — · — |
| BUILDING TO BE REMOVED | ▨ |
| PAVEMENT TO BE REMOVED | ▨ |

NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND 'DIGSAFE' AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. 'EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC.', DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC. 'EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH' DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- ALL ELEVATIONS REFER TO NAVD '88.
- NO MATERIAL CONTAINING ANY LIVING OR VIABLE PORTION OF PLANTS ON THE NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST (AGR3800 TABLE 3800.1) SHALL BE TRANSPORTED TO OR FROM CONSTRUCTION SITE WITHOUT NOTIFICATION AND APPROVAL FROM THE NEW HAMPSHIRE DEPARTMENT OF AGRICULTURE PER RSA 430:55.
- A WATERING TRUCK SHALL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS AND AS REQUIRED IN ACCORDANCE WITH ENV-A1000.
- IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF THE END OF A STORM WITH RAINFALL AMOUNT GREATER THAN 0.25 INCHES. THE INSPECTIONS SHALL VERIFY THAT THE STRUCTURAL BMPs SHOWN AND DESCRIBED ON THE PLANS ARE IN GOOD CONDITION AND ARE MINIMIZING EROSION. A MAINTENANCE AND INSPECTION REPORT SHALL BE MADE WITH EACH INSPECTION. COMPLETED INSPECTION FORMS SHALL BE KEPT ON SITE FOR THE DURATION OF THE PROJECT AND BE MADE AVAILABLE FOR REVIEW BY THE CITY UPON REQUEST.
- A NOTICE OF INTENT (NOI) SHALL BE PREPARED AND SUBMITTED TO THE EPA UNDER THE NPDES CGP. A SWPPP SHALL BE PREPARED AND MAINTAINED ON SITE.
- THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION, ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

GRAPHIC SCALE



SHEET KEY PLAN



Brian D. Jones
04-27-23
PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

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| | |
|-----------------------------|---------------|
| DRAWING TITLE: | SHEET NO. |
| EROSION CONTROL PLAN | C-101D |

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| ZONING SUMMARY TABLE - GENERAL INDUSTRIAL ZONE 7,8,16 AMAROSA DRIVE & 0 MILTON ROAD | | |
|--|--------------------------|---|
| ITEM | REQUIRED/ALLOWED | PROPOSED |
| MINIMUM LOT AREA | 30,000 SF ⁽¹⁾ | 1,721,000± SF |
| MINIMUM LOT FRONTAGE | 100 FT | 729± FT (MILTON ROAD) 197± FT (CROSS ROAD) |
| MAXIMUM LOT COVERAGE | 75% | 39% |
| MINIMUM FRONT YARD SETBACK | 25 FT | 33.9± FT |
| MINIMUM REAR YARD SETBACK | 25 FT | 296.7± FT |
| MINIMUM SIDE YARD SETBACK | 20 FT | 56.4± FT |
| MAXIMUM BUILDING HEIGHT | 55 FT | <55 FT |

ZONING TABLE NOTES:
1. ALL USES WITH WATER OR SEWER.

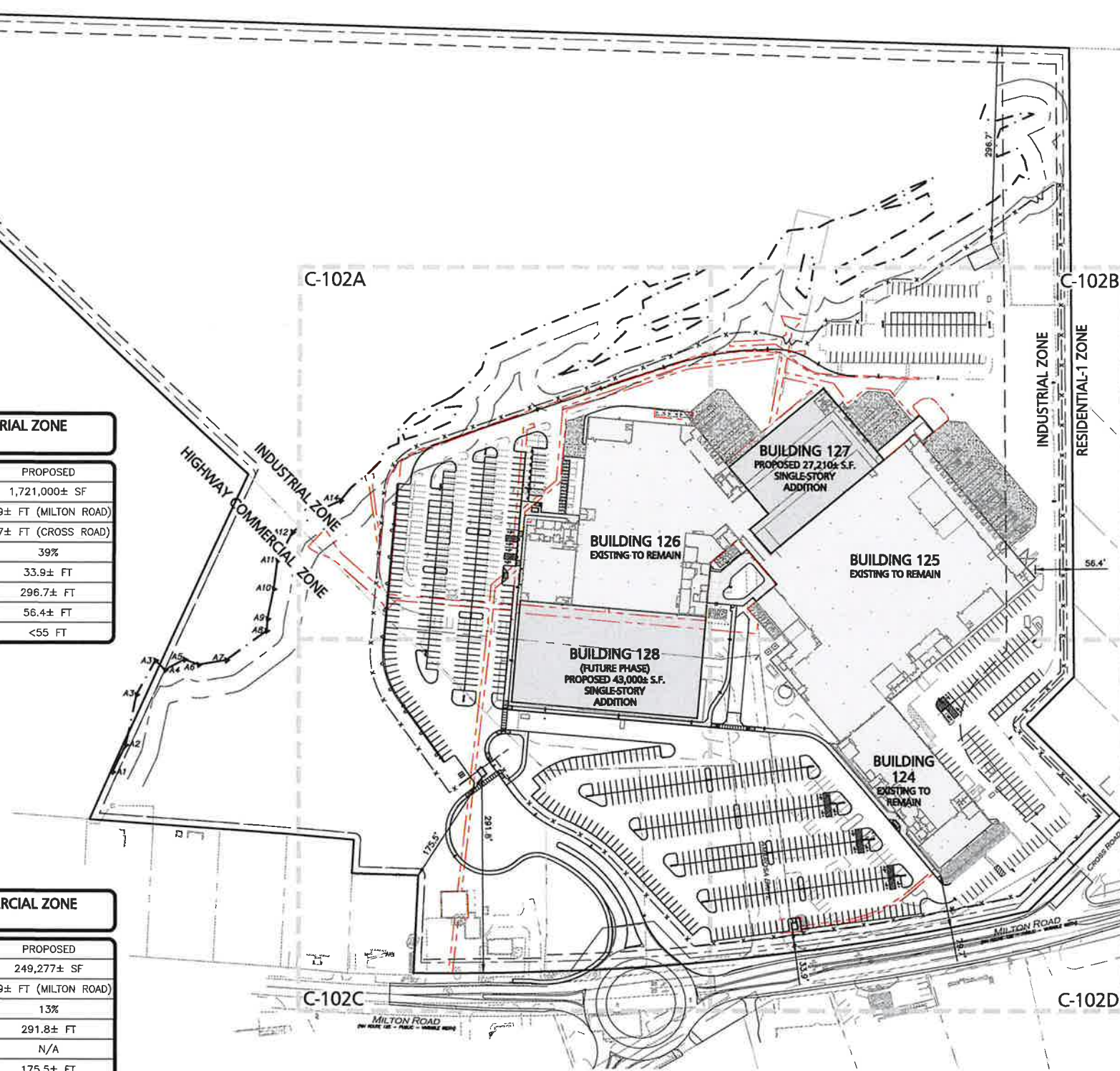
| ZONING SUMMARY TABLE - HIGHWAY COMMERCIAL ZONE 124 MILTON ROAD | | |
|---|------------------|-----------------------|
| ITEM | REQUIRED/ALLOWED | PROPOSED |
| MINIMUM LOT AREA | 20,000 SF | 249,277± SF |
| MINIMUM LOT FRONTAGE | 100 FT | 199± FT (MILTON ROAD) |
| MAXIMUM LOT COVERAGE | 85% | 13% |
| MINIMUM FRONT YARD SETBACK | 20 FT | 291.8± FT |
| MINIMUM REAR YARD SETBACK | 25 FT | N/A |
| MINIMUM SIDE YARD SETBACK | 10 FT | 175.5± FT |
| MAXIMUM NUMBER OF STORIES | 3 | 1 |

ZONING TABLE NOTES:
1. A SPECIAL EXCEPTION IS REQUIRED FOR THE "INDUSTRY, HEAVY" USE WITHIN THE HIGHWAY COMMERCIAL DISTRICT.

DIG SAFE



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CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233



| PARKING SUMMARY TABLE | | | |
|--|------------------|------------------|------------------|
| CITY OF ROCHESTER, NH - SITE PLAN REVIEW REGULATIONS: SECTION 10 - PARKING & CIRCULATION | | | |
| | MINIMUM REQUIRED | EXISTING PARKING | PROPOSED PARKING |
| INDUSTRIAL USE (INDUSTRY, HEAVY): 271,800± SF (TOTAL GFA), 25,000± SF (OFFICE GFA) | | | |
| 1 SPACE PER 1,000 SF GFA → 1 SPACE X (271,800 SF/1,000 SF) = 271.8 | | | |
| 3 SPACES PER 1,000 SF GFA DEDICATED TO OFFICE USE → 3 SPACES X (25,000 SF/1,000 SF) = 75.0 | | | |
| | 347 | 587 | 772 |

PARKING TABLE NOTES:
1. PARKING STALLS ARE TO BE 9' X 18'.

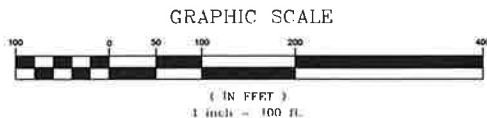
ADA SPACES REQUIRED:
(500-1,000) TOTAL PARKING SPACES PROVIDED - 2% OF THE TOTAL PARKING PROVIDED SHALL BE ADA ACCESSIBLE; 1/6 OF THE ADA ACCESSIBLE SPACES PROVIDED SHALL BE VAN ACCESSIBLE.

REQUIRED: 16 SPACES, 3 BEING VAN ACCESSIBLE.
PROVIDED: 16 VAN ACCESSIBLE SPACES.

| LEGEND | |
|-----------------------|-----|
| PROPERTY LINE | --- |
| SIGN | T |
| BOLLARD | • |
| BUILDING | ▬ |
| BUILDING SETBACK LINE | --- |
| LANDSCAPE BUFFER LINE | --- |
| BUILDING ARCHITECTURE | ▬ |
| PARKING COUNT | ⑩ |
| SIDEWALK | ▬ |
| CURB | ▬ |
| PARKING STRIPING | ▬ |
| ROADWAY STRIPING | ▬ |
| STEEL GUARDRAIL | ▬ |
| HEAVY DUTY CONCRETE | ▬ |
| VINYL SCREEN FENCE | ▬ |
| CHAIN LINK FENCE | ▬ |
| SAW-CUT LINE | ▬ |
| PHASE 1 LINE | ▬ |
| SNOW STORAGE | ▬ |

NOTES

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- ALL WORK MUST CONFORM TO THE CITY OF ROCHESTER, DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND ANY WORK WITHIN THE CITY RIGHT-OF-WAY REQUIRES AN EXCAVATION PERMIT.
- PER CITY OF ROCHESTER ZONING SECTION 275-7.2 B.(2) NO INDUSTRIAL BUILDING OR OPERATION SHALL BE SITUATED CLOSER THAN 100 FEET TO THE BOUNDARY LINE OF ANY ADJACENT RESIDENTIAL PROPERTY. THE PLANNING BOARD MAY REDUCE THIS SETBACK TO 50 FEET BY CONDITIONAL USE OR WHERE THE USE IS ACCESSORY TO A PRIMARY COMMERCIAL USE.
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PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23
SCALE: 1" = 100' DWG. NAME: C2912-01A
DESIGNED BY: JRG CHECKED BY: BDJ

PREPARED BY:
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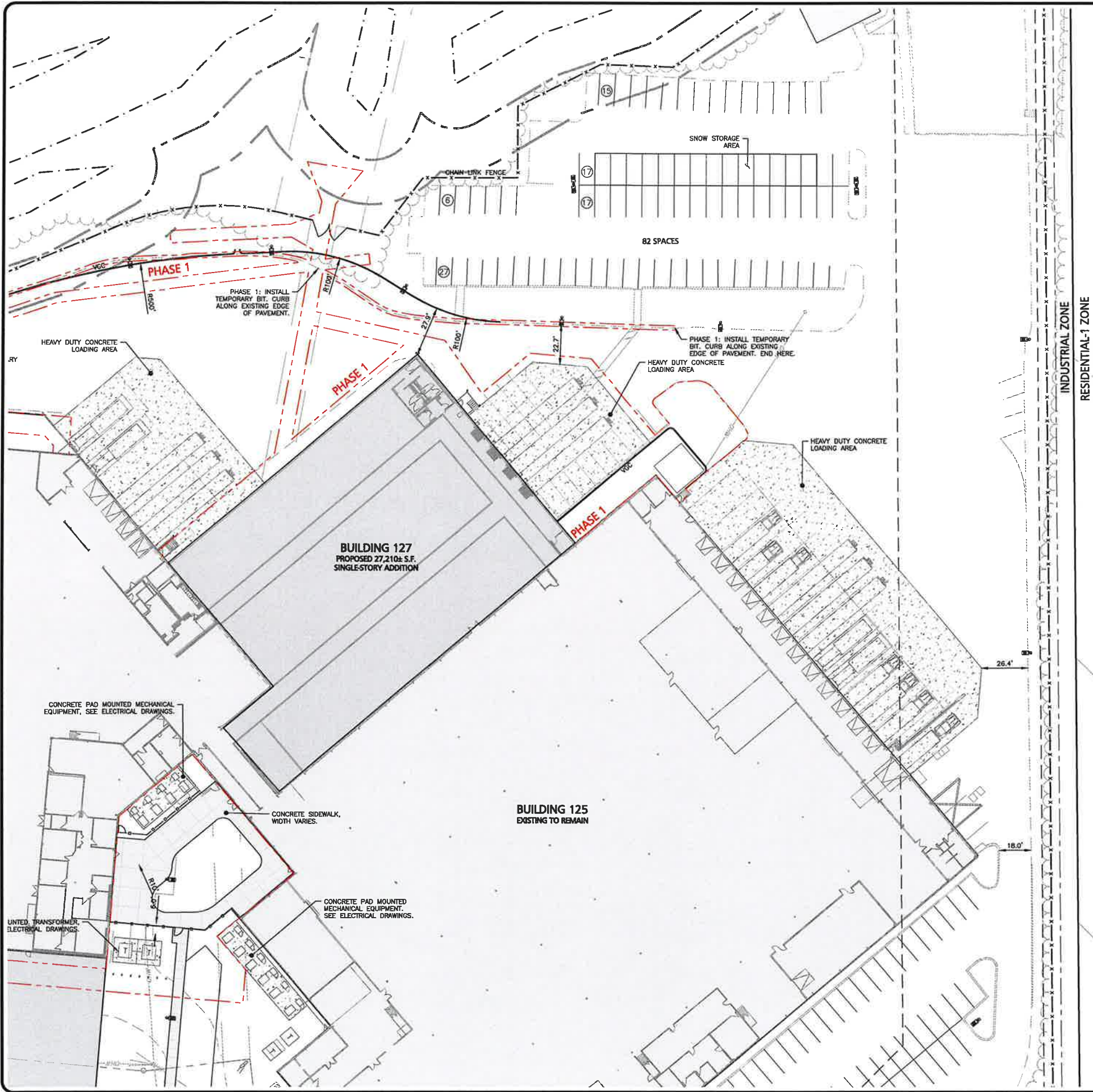
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DRAWING TITLE:
OVERALL LAYOUT
& MATERIALS PLAN

SHEET No.
C-102

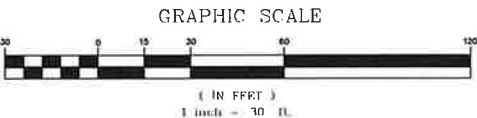
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| LEGEND | |
|-----------------------|------------------------|
| PROPERTY LINE | --- |
| SIGN | + |
| BOLLARD | • |
| BUILDING | [Solid Grey Box] |
| BUILDING SETBACK LINE | - - - |
| LANDSCAPE BUFFER LINE | - · - · - |
| BUILDING ARCHITECTURE | [Hatched Box] |
| PARKING COUNT | 10 |
| SIDEWALK | [Double Line] |
| CURB | [Single Line] |
| PARKING STRIPING | [Zebra Stripes] |
| ROADWAY STRIPING | [Double Zebra Stripes] |
| STEEL GUARDRAIL | [Wavy Line] |
| HEAVY DUTY CONCRETE | [Stippled Box] |
| VINYL SCREEN FENCE | [Dashed Line] |
| CHAIN LINK FENCE | [Cross-hatch Box] |
| SAW-CUT LINE | [Dashed Line] |
| PHASE 1 LINE | [Red Dashed Line] |
| SNOW STORAGE | [Hatched Box] |

- NOTES**
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A B C D

SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

04-27-23

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| REV | DATE | DESCRIPTION |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

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| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

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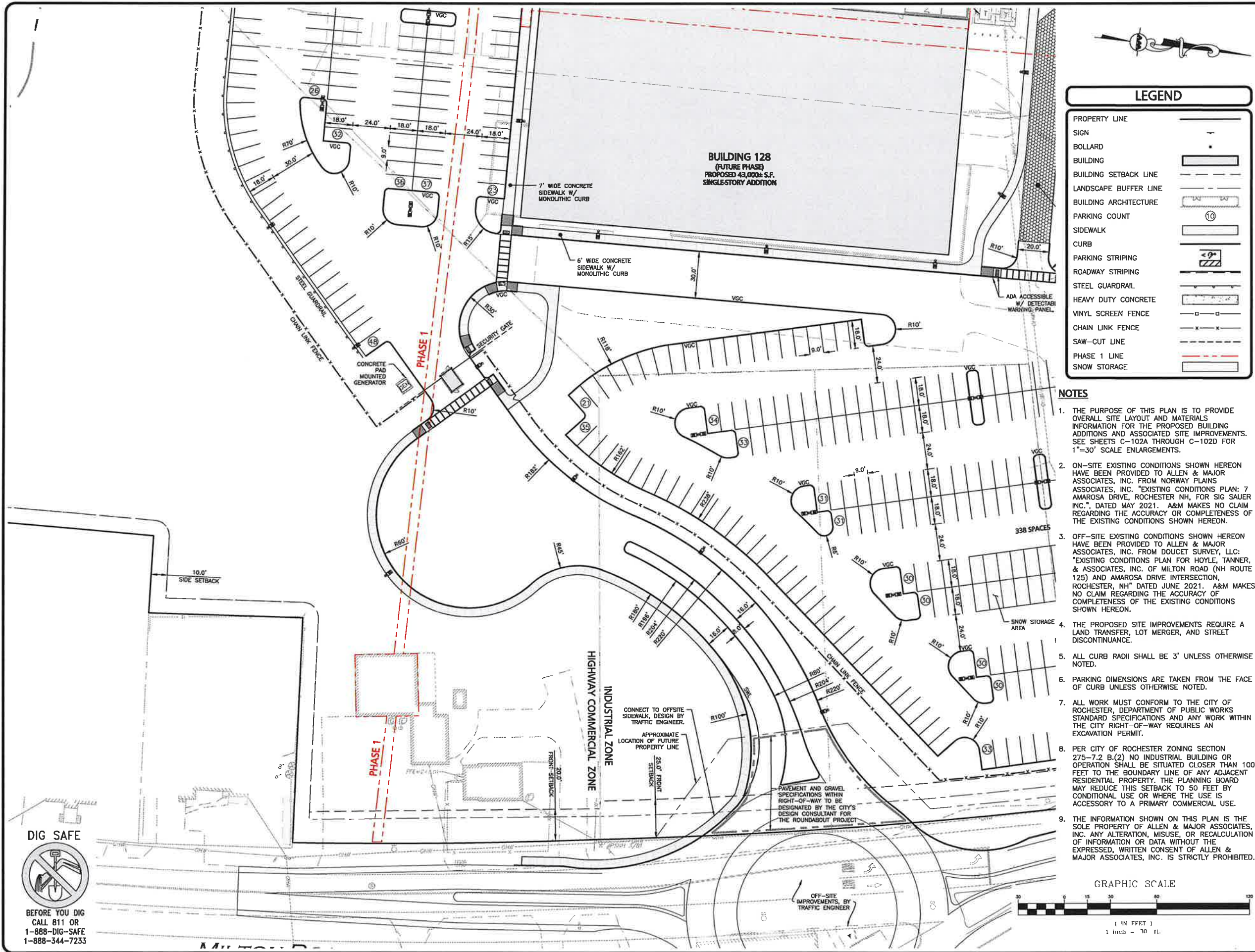
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| DRAWING TITLE: | SHEET No. |
| LAYOUT & MATERIALS PLAN | C-102B |

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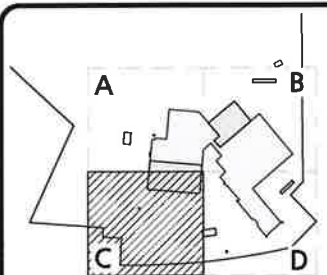
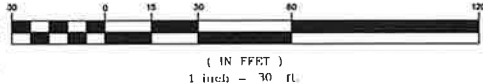
LEGEND

| | |
|-----------------------|------------------|
| PROPERTY LINE | --- |
| SIGN | + |
| BOLLARD | • |
| BUILDING | [Solid Grey Box] |
| BUILDING SETBACK LINE | - - - |
| LANDSCAPE BUFFER LINE | - - - |
| BUILDING ARCHITECTURE | [Hatched Box] |
| PARKING COUNT | 10 |
| SIDEWALK | [Solid Grey Box] |
| CURB | [Solid Grey Box] |
| PARKING STRIPING | [Hatched Box] |
| ROADWAY STRIPING | [Hatched Box] |
| STEEL GUARDRAIL | [Hatched Box] |
| HEAVY DUTY CONCRETE | [Hatched Box] |
| VINYL SCREEN FENCE | [Hatched Box] |
| CHAIN LINK FENCE | [Hatched Box] |
| SAW-CUT LINE | - - - |
| PHASE 1 LINE | - - - |
| SNOW STORAGE | [Hatched Box] |

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8. PER CITY OF ROCHESTER ZONING SECTION 275-7.2 B.(2) NO INDUSTRIAL BUILDING OR OPERATION SHALL BE SITUATED CLOSER THAN 100 FEET TO THE BOUNDARY LINE OF ANY ADJACENT RESIDENTIAL PROPERTY. THE PLANNING BOARD MAY REDUCE THIS SETBACK TO 50 FEET BY CONDITIONAL USE OR WHERE THE USE IS ACCESSORY TO A PRIMARY COMMERCIAL USE.
9. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

GRAPHIC SCALE



SHEET KEY PLAN



Brian D. Jones
04-27-23
PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

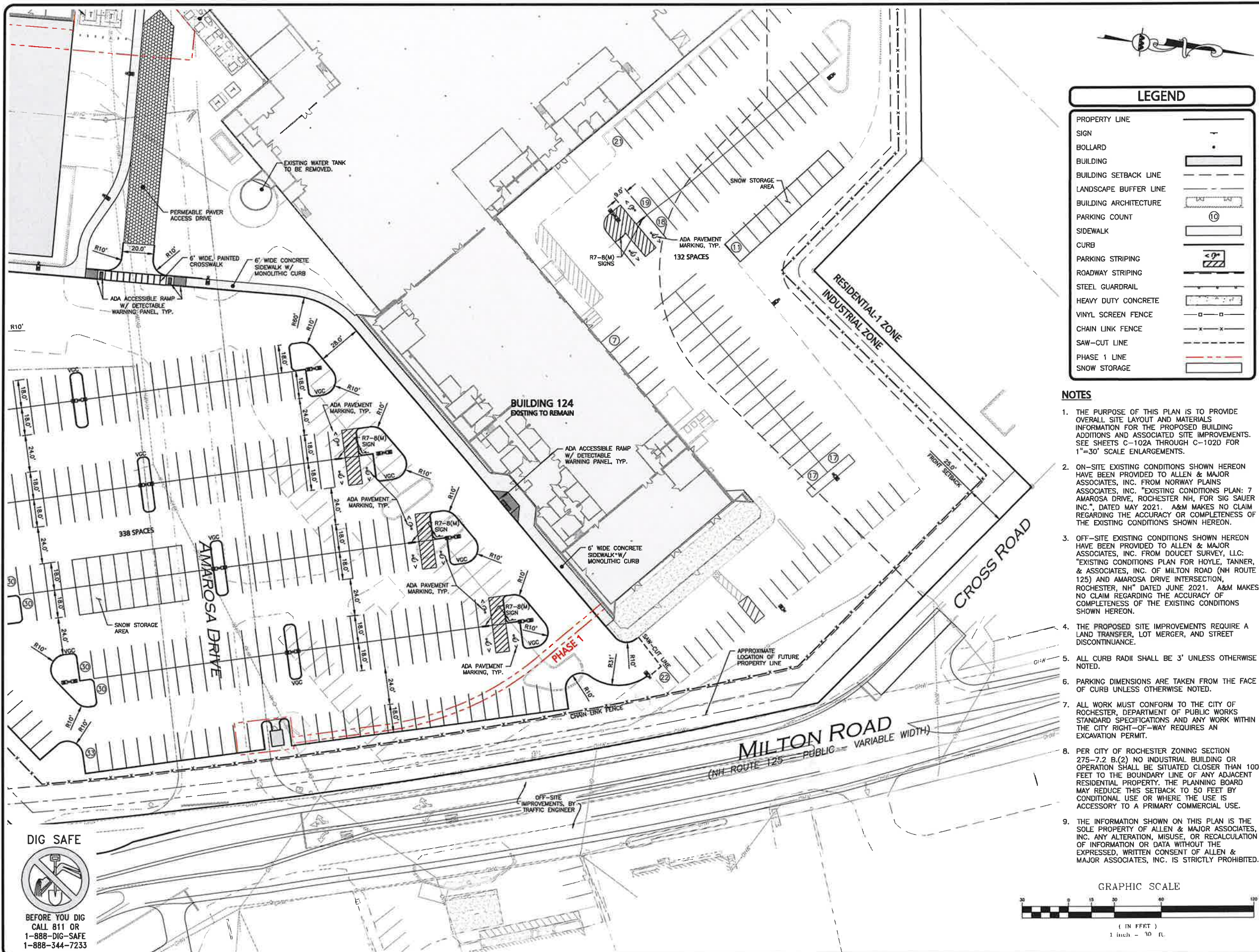
WOBBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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| | |
|-------------------------|-----------|
| DRAWING TITLE | SHEET No. |
| LAYOUT & MATERIALS PLAN | C-102C |

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R:\PROJECTS\2012-01\CIVIL DRAWINGS\CURRENT\2012-01_LAYOUT & MATERIALS.DWG



| LEGEND | |
|-----------------------|-----|
| PROPERTY LINE | --- |
| SIGN | — |
| BOLLARD | • |
| BUILDING | ▬ |
| BUILDING SETBACK LINE | --- |
| LANDSCAPE BUFFER LINE | --- |
| BUILDING ARCHITECTURE | ▬ |
| PARKING COUNT | ⑩ |
| SIDEWALK | ▬ |
| CURB | ▬ |
| PARKING STRIPING | ▬ |
| ROADWAY STRIPING | ▬ |
| STEEL GUARDRAIL | ▬ |
| HEAVY DUTY CONCRETE | ▬ |
| VINYL SCREEN FENCE | ▬ |
| CHAIN LINK FENCE | ▬ |
| SAW-CUT LINE | ▬ |
| PHASE 1 LINE | --- |
| SNOW STORAGE | ▬ |

- NOTES**
- THE PURPOSE OF THIS PLAN IS TO PROVIDE OVERALL SITE LAYOUT AND MATERIALS INFORMATION FOR THE PROPOSED BUILDING ADDITIONS AND ASSOCIATED SITE IMPROVEMENTS. SEE SHEETS C-102A THROUGH C-102D FOR 1"=30' SCALE ENLARGEMENTS.
 - ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 - OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC: "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 - THE PROPOSED SITE IMPROVEMENTS REQUIRE A LAND TRANSFER, LOT MERGER, AND STREET DISCONTINUANCE.
 - ALL CURB RADII SHALL BE 3' UNLESS OTHERWISE NOTED.
 - PARKING DIMENSIONS ARE TAKEN FROM THE FACE OF CURB UNLESS OTHERWISE NOTED.
 - ALL WORK MUST CONFORM TO THE CITY OF ROCHESTER, DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS AND ANY WORK WITHIN THE CITY RIGHT-OF-WAY REQUIRES AN EXCAVATION PERMIT.
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A B
C D

SHEET KEY PLAN

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 13800
LICENSED PROFESSIONAL ENGINEER
04-27-23
PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| | | |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
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| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |
| REV | DATE | DESCRIPTION |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
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| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

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civil engineering • land surveying environmental
consulting • landscape architecture
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MANCHESTER, NH 03103
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| | |
|--|----------------------------|
| DRAWING TITLE: LAYOUT & MATERIALS PLAN | SHEET No. C-102D |
|--|----------------------------|

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| TEST PIT #1 (TP1) EXISTING GROUND ELEVATION: 247.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (GRAVEL) | 0-18" | LOAMY SAND | - | - | DRY |
| C ₁ | 18-60" | MEDIUM SAND | 10YR 6/4 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 60-125" | FINE SAND | 10YR 6/8 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 114" (ELEVATION=237.5) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #2 (TP2) EXISTING GROUND ELEVATION: 248.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| A | 0-6" | LOAMY SAND | 10YR 3/3 | MASSIVE, FRIABLE | DRY |
| B _w | 6-15" | LOAMY SAND | 5/8 | MASSIVE, FRIABLE | DRY |
| C ₁ | 15-84" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 84-130" | FINE SAND | 10YR 7/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 118" (ELEVATION=238.2) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #3 (TP3) EXISTING GROUND ELEVATION: 244.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (GRAVEL) | 0-10" | LOAMY SAND | - | - | DRY |
| C ₁ | 10-60" | MEDIUM SAND | 10YR 6/8 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 60-124" | FINE SAND | 10YR 6/3 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 76" (ELEVATION=237.7) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #4 (TP4) EXISTING GROUND ELEVATION: 245.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| A | 0-6" | LOAMY SAND | 10YR 3/2 | MASSIVE, FRIABLE | DRY |
| B _w | 6-10" | LOAMY SAND | 4/4 | MASSIVE, FRIABLE | DRY |
| C ₁ | 10-60" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 60-120" | FINE SAND | 10YR 6/3 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 78" (ELEVATION=238.5) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #5 (TP5) EXISTING GROUND ELEVATION: 244.9 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (TOPSOIL) | 0-8" | LOAMY SAND | 10YR 3/2 | MASSIVE, FRIABLE | DRY |
| C ₁ | 8-84" | MEDIUM SAND | 10YR 5/8 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 84-108" | FINE SAND | 10YR 6/3 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 80" (ELEVATION=238.3) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #6 (TP6) EXISTING GROUND ELEVATION: 246.1 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (TOPSOIL) | 0-8" | LOAMY SAND | 10YR 3/2 | MASSIVE, FRIABLE | DRY |
| C ₁ | 8-60" | MEDIUM SAND | 10YR 5/8 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 60-120" | FINE SAND | 10YR 6/3 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 86" (ELEVATION=238.9) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #7 (TP7) EXISTING GROUND ELEVATION: 248.7 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| A | 0-8" | LOAMY SAND | 10YR 3/3 | MASSIVE, FRIABLE | DRY |
| B _w | 8-15" | LOAMY SAND | 10YR 5/8 | MASSIVE, FRIABLE | DRY |
| C ₁ | 15-50" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 50-132" | FINE SAND | 10YR 7/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 120" (ELEVATION=236.7) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

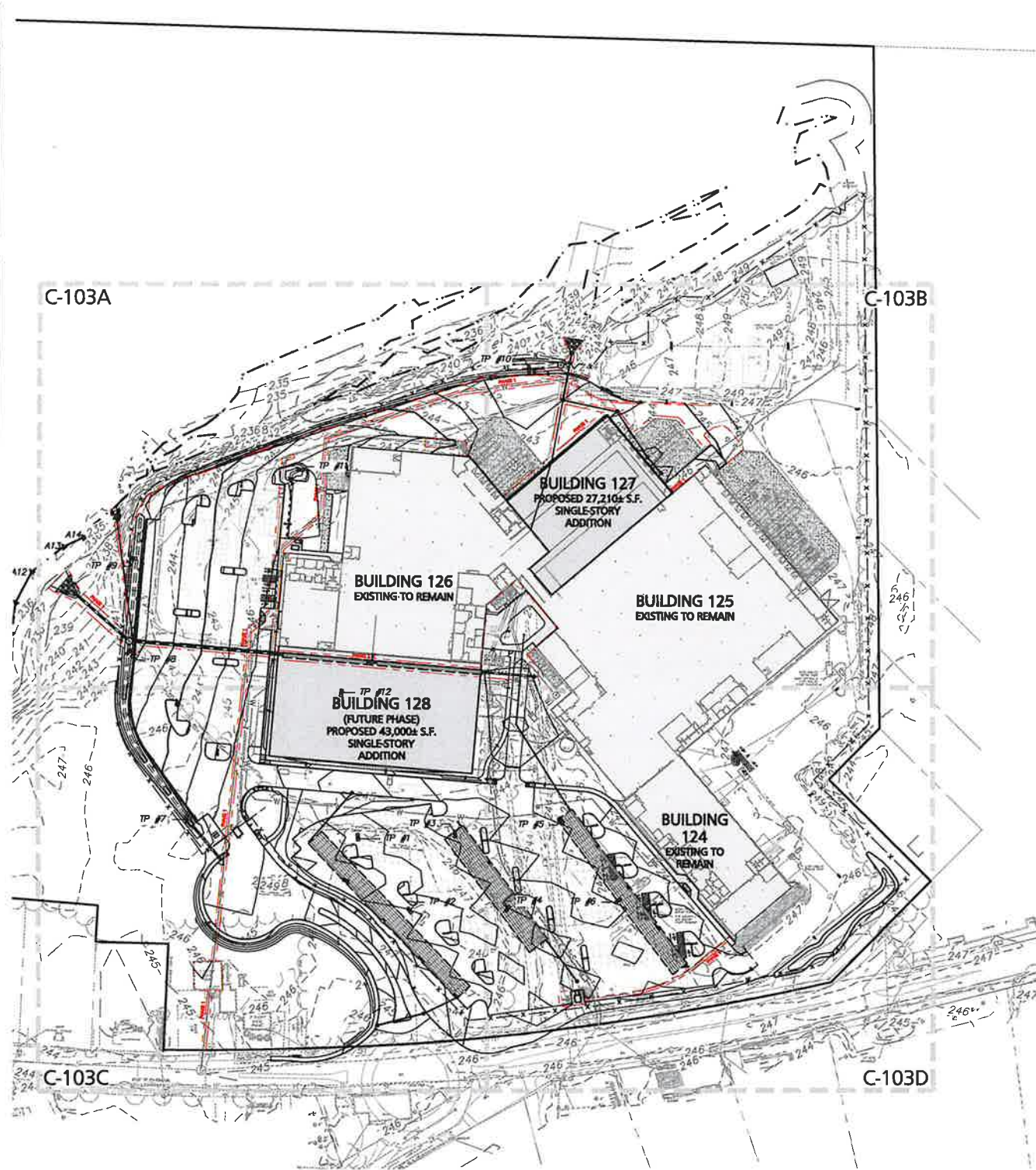
| TEST PIT #8 (TP8) EXISTING GROUND ELEVATION: 243.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| A | 0-6" | LOAMY SAND | 10YR 3/3 | MASSIVE, FRIABLE | DRY |
| B _w | 6-10" | LOAMY SAND | 10YR 4/4 | MASSIVE, FRIABLE | DRY |
| C ₁ | 10-50" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 50-120" | FINE SAND | 10YR 7/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 90" (ELEVATION=235.5) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #9 (TP9) EXISTING GROUND ELEVATION: 243.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (GRAVEL) | 0-15" | - | - | - | DRY |
| C ₁ | 15-60" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 60-120" | FINE SAND | 10YR 7/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 98" (ELEVATION=235.0) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #10 (TP10) EXISTING GROUND ELEVATION: 241.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|----------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (GRAVEL) | 0-18" | - | - | - | DRY |
| C ₁ | 18-100" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 100-110" | FINE SAND | 10YR 6/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 67" (ELEVATION=235.4) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #11 (TP11) EXISTING GROUND ELEVATION: 245.6 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (GRAVEL) | 0-24" | - | - | - | DRY |
| C ₁ | 24-80" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 80-130" | FINE SAND | 10YR 6/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 120" (ELEVATION=235.6) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

| TEST PIT #12 (TP12) EXISTING GROUND ELEVATION: 246.0 PERFORMED BY: BRIAN D. JONES, PE DATE: 02-14-2023 | | | | | |
|---|---------|-------------|----------|---------------------|--------------|
| HORIZON | DEPTH | TEXTURE | COLOR | STRUCTURE | NOTES |
| HTM (GRAVEL) | 0-18" | - | - | - | DRY |
| C ₁ | 18-84" | MEDIUM SAND | 10YR 6/6 | SINGLE GRAIN, LOOSE | DRY |
| C ₂ | 84-124" | FINE SAND | 10YR 6/2 | MASSIVE FRIABLE | DRY TO MOIST |
| ESHW: 112" (ELEVATION=236.7) WEEP: NONE BEDROCK/REFUSAL: NONE | | | | | |

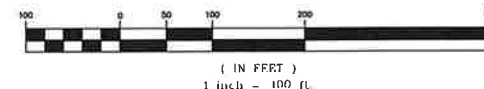


| LEGEND | |
|-----------------------------|---|
| DRAIN MANHOLE | ⊙ |
| OUTLET CONTROL (BEEHIVE) | ⊙ |
| CATCH BASIN | ⊙ |
| CATCH BASIN (30" NYLOPLAST) | ⊙ |
| AREA DRAIN | ⊙ |
| FLARED END SECTION | ⊙ |
| DRAIN LINE | — |
| RIPRAP OUTFALL | — |
| HEADWALL | — |
| 5' CONTOUR | — |
| 1' CONTOUR | — |
| SPOT GRADE | — |
| INFILTRATION SYSTEM | — |
| INFILTRATION CHAMBER | — |
| ISOLATION ROW | — |
| FLOW DIRECTION | → |
| PHASE 1 LINE | — |

NOTES

- EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC., DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- VERTICAL DATUM IS NAVD83. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
- ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
- PIPE DIMENSIONS ARE MEASURED FROM THE CENTER OF THE STRUCTURE.
- ROOF DRAIN LOCATIONS TO BE BASED ON FINAL BUILDING PLANS. CONNECTION POINTS SHALL BE AS SHOWN HEREON.
- SPOT GRADES ALONG CURBING, SHOWN ON THE FOLLOWING SHEETS (C-103A THROUGH C-103D), REPRESENT BOTTOM OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- ALL STORM DRAIN MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS, H-20 MINIMUM.
- THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ENSURE A SMOOTH FIT AND CONTINUOUS GRADE.
- CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- ALL DRAINAGE SHALL CONFORM TO LOCAL REQUIREMENTS.
- THE OWNER SHALL BE RESPONSIBLE TO MAINTAIN COMPLIANCE WITH Env-Wq 401, BEST MANAGEMENT PRACTICES FOR GROUNDWATER PROTECTION WITH RESPECT TO ALL REGULATED SUBSTANCES FOUND ON SITE.
- THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: 1" = 100' DWG. NAME: C2912-01A

DESIGNED BY: JRG CHECKED BY: BDJ

PREPARED BY:

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consulting • landscape architecture
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DRAWING TITLE:

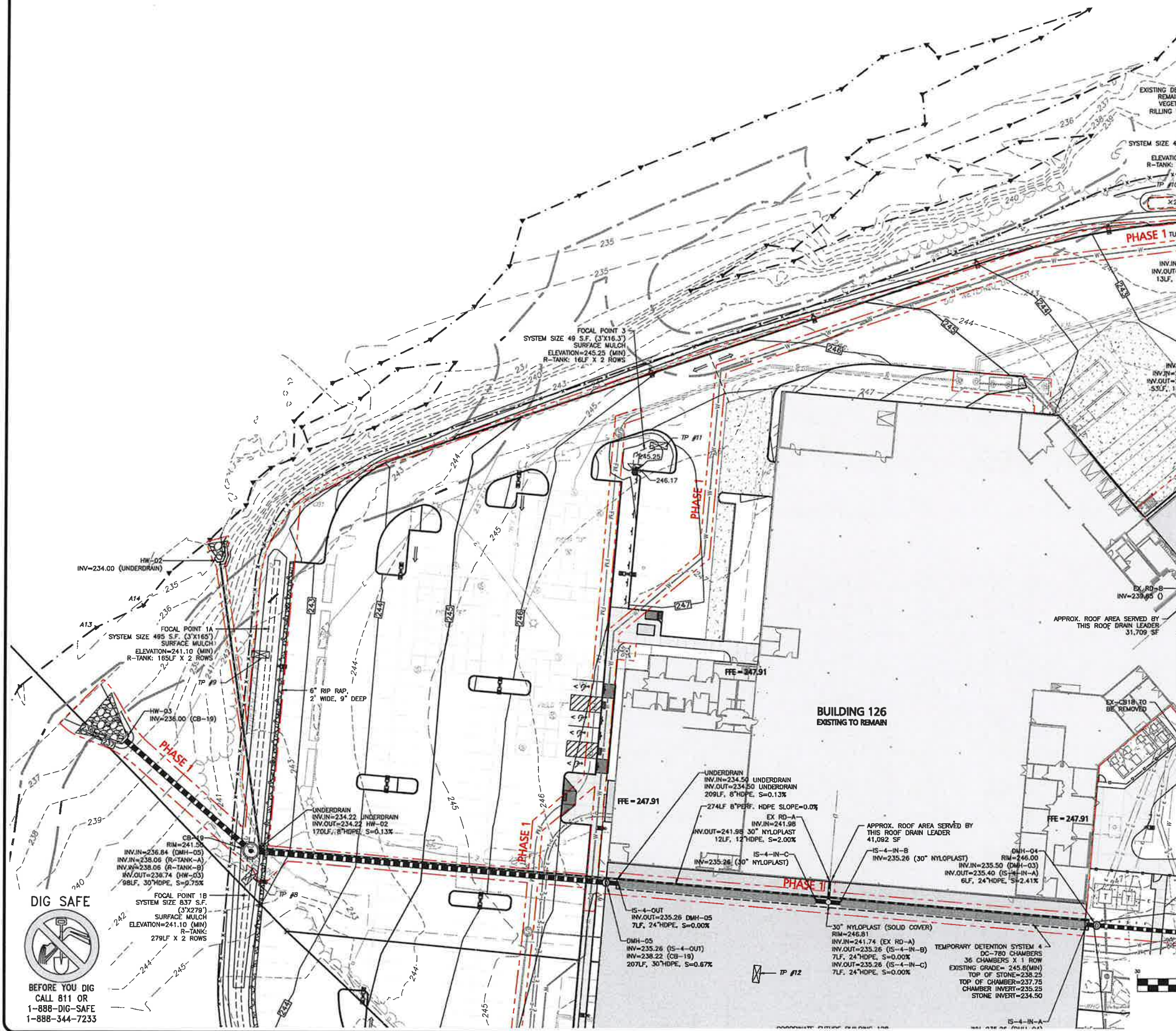
OVERALL GRADING
& DRAINAGE PLAN

SHEET No.

C-103

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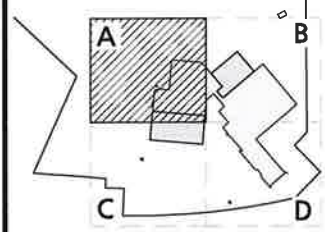
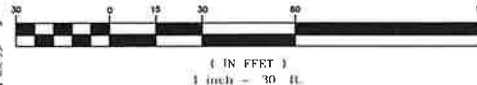
LEGEND

| | |
|-----------------------------|--|
| DRAIN MANHOLE | |
| OUTLET CONTROL (BEEHIVE) | |
| CATCH BASIN | |
| CATCH BASIN (30" NYLOPLAST) | |
| AREA DRAIN | |
| FLARED END SECTION | |
| DRAIN LINE | |
| RIPRAP OUTFALL | |
| HEADWALL | |
| 5' CONTOUR | |
| 1' CONTOUR | |
| SPOT GRADE | |
| INFILTRATION SYSTEM | |
| INFILTRATION CHAMBER | |
| ISOLATION ROW | |
| FLOW DIRECTION | |
| PHASE 1 LINE | |

NOTES

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GRAPHIC SCALE



SHEET KEY PLAN



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:



ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying • environmental consulting • landscape architecture
www.allenmajor.com

400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
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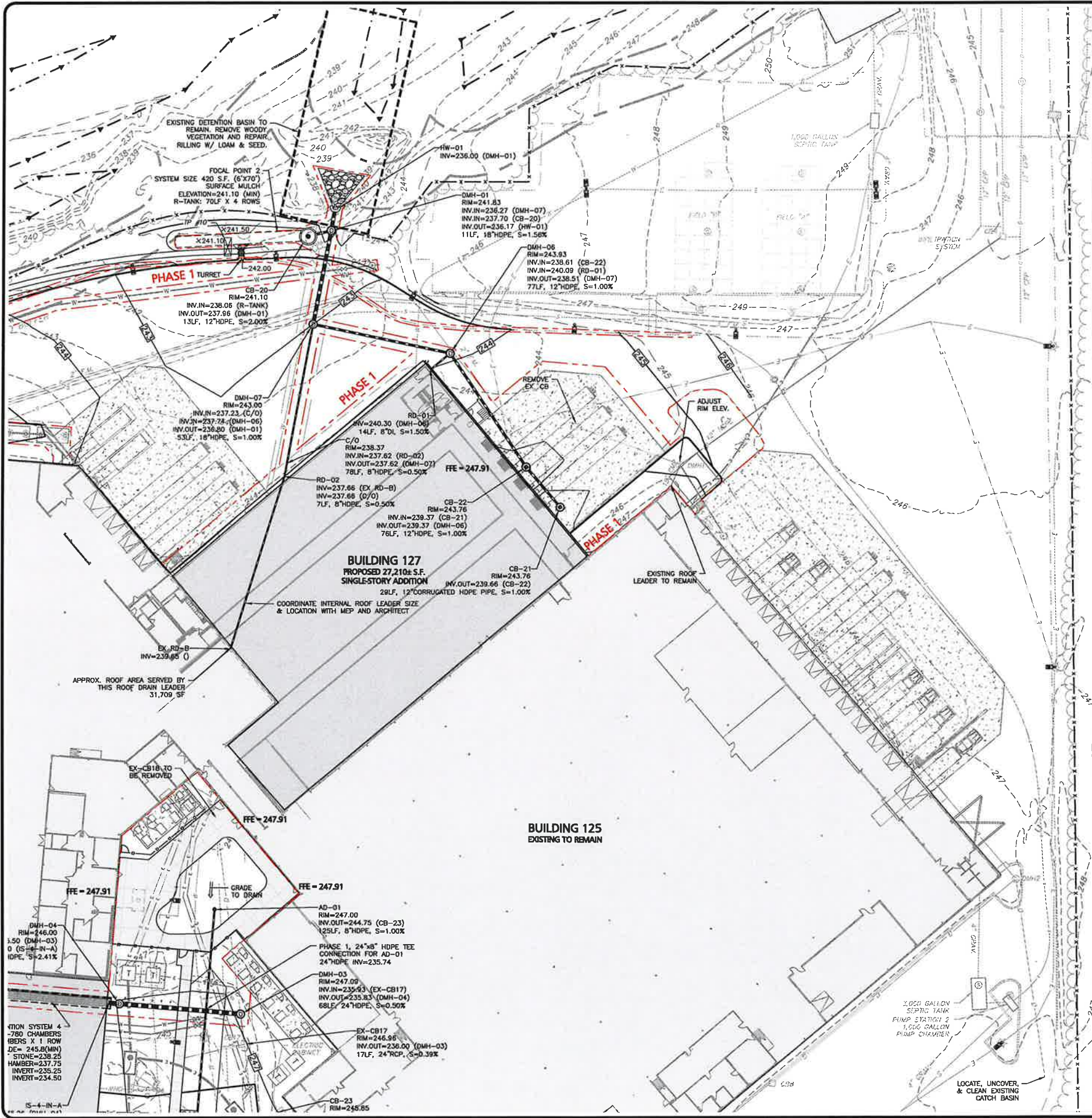
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| | |
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| DRAWING TITLE: | SHEET No. |
| GRADING & DRAINAGE PLAN | C-103A |

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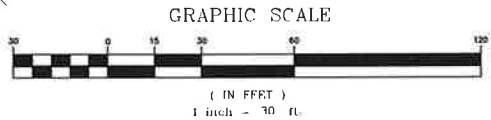
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LEGEND

| | |
|-----------------------------|---|
| DRAIN MANHOLE | ⊙ |
| OUTLET CONTROL (BEEHIVE) | ⊙ |
| CATCH BASIN | ⊙ |
| CATCH BASIN (30" NYLOPLAST) | ⊙ |
| AREA DRAIN | — |
| FLARED END SECTION | — |
| DRAIN LINE | — |
| RIPRAP OUTFALL | — |
| HEADWALL | — |
| 5' CONTOUR | — |
| 1' CONTOUR | — |
| SPOT GRADE | — |
| INFILTRATION SYSTEM | — |
| INFILTRATION CHAMBER | — |
| ISOLATION ROW | — |
| FLOW DIRECTION | → |
| PHASE 1 LINE | — |

- NOTES**
- EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC., DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
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SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-2023 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

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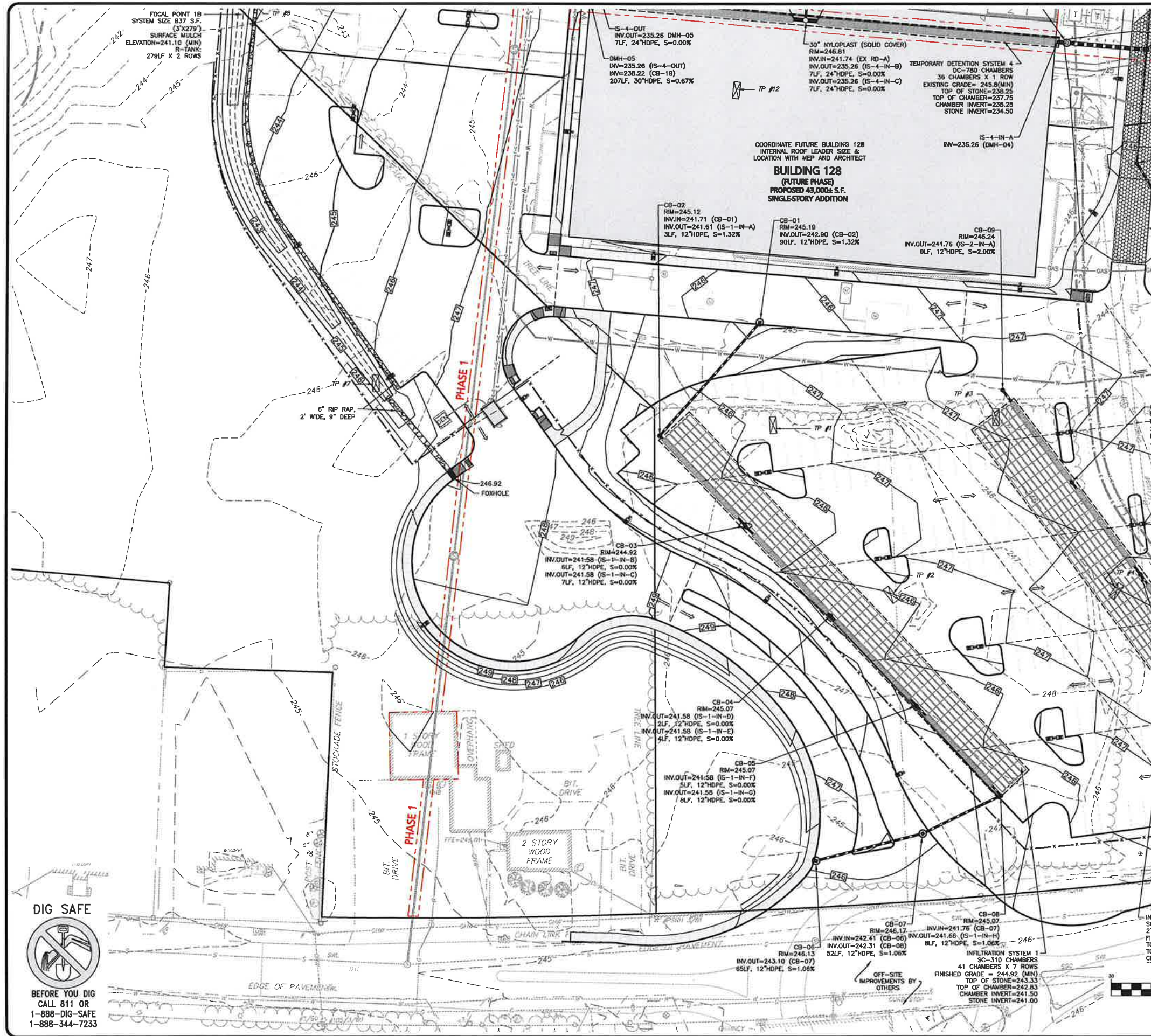
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| DRAWING TITLE: | SHEET No. |
| GRADING & DRAINAGE PLAN | C-103B |

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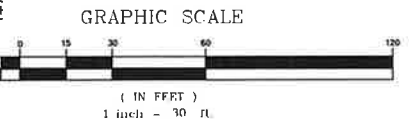
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LEGEND

- DRAIN MANHOLE
- OUTLET CONTROL (BEEHIVE)
- CATCH BASIN
- CATCH BASIN (30" NYLOPLAST)
- AREA DRAIN
- FLARED END SECTION
- DRAIN LINE
- RIPRAP OUTFALL
- HEADWALL
- 5' CONTOUR
- 1' CONTOUR
- SPOT GRADE
- INFILTRATION SYSTEM
- INFILTRATION CHAMBER
- ISOLATION ROW
- FLOW DIRECTION
- PHASE 1 LINE

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SHEET KEY PLAN

LEGEND

STATE OF NEW HAMPSHIRE
BRIAN D. JONES
No. 19809
LICENSED PROFESSIONAL ENGINEER
04-27-23

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: 1" = 30' DWG. NAME: C2912-01A

DESIGNED BY: JRG CHECKED BY: BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

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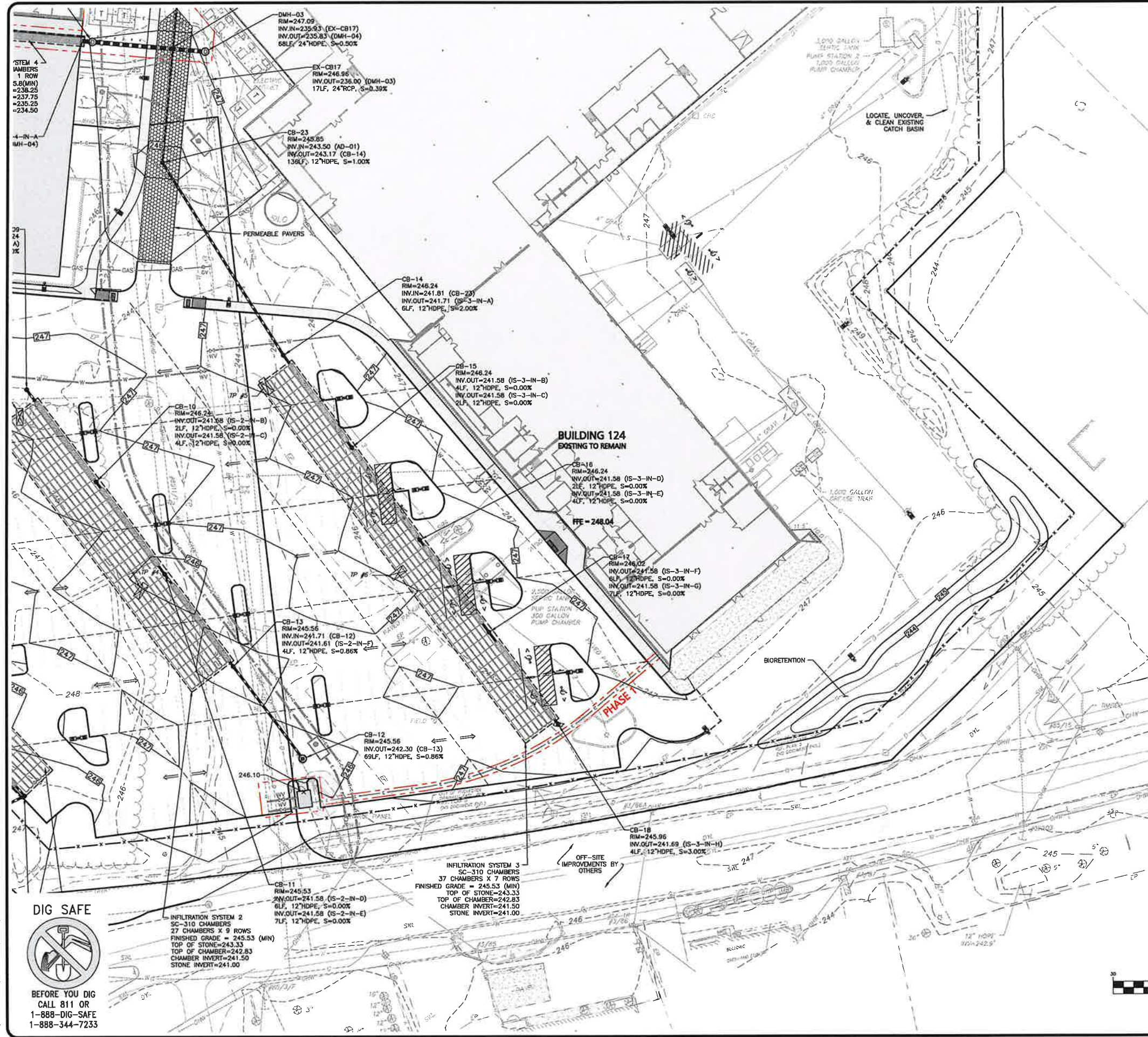
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DRAWING TITLE: **GRADING & DRAINAGE PLAN**

SHEET NO.: **C-103C**

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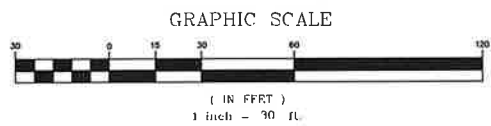
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LEGEND

DRAIN MANHOLE
OUTLET CONTROL (BEEHIVE)
CATCH BASIN
CATCH BASIN (30" NYLOPLAST)
AREA DRAIN
FLARED END SECTION
DRAIN LINE
RIPRAP OUTFALL
HEADWALL
5' CONTOUR
1' CONTOUR
SPOT GRADE
INFILTRATION SYSTEM
INFILTRATION CHAMBER
ISOLATION ROW
FLOW DIRECTION
PHASE 1 LINE

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SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
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PROJECT NO. 2912-01A **DATE:** 01-20-23
SCALE: 1" = 30' **DWG. NAME:** C2912-01A
DESIGNED BY: JRG **CHECKED BY:** BDJ

PREPARED BY:

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civil engineering • land surveying environmental consulting • landscape architecture
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DRAWING TITLE: GRADING & DRAINAGE PLAN **SHEET NO.:** C-103D

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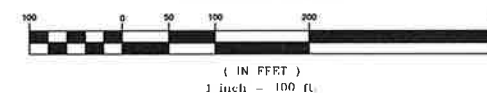
LEGEND

| | |
|--------------------------|--|
| SEWER MANHOLE | |
| SEWER CLEANOUT | |
| SEWER VENT | |
| SEWER LINE | |
| SEWER FORCEMAIN | |
| CONCRETE PIPE ENCASEMENT | |
| WATER LINE | |
| WATER VALVE | |
| HYDRANT | |
| WATER LINE REDUCER | |
| GAS LINE | |
| GAS VALVE | |
| SEPTIC/HOLDING TANK | |
| GREASE TRAP | |
| OVER HEAD WIRE | |
| UTILITY POLE | |
| ELECTRIC MANHOLE | |
| HAND HOLE | |
| ELECTRICAL CONDUIT | |
| LIGHTING CONDUIT | |
| IRRIGATION SLEEVE | |
| TELE/CABLE CONDUIT | |
| PHASE 1 LINE | |

NOTES

1. THE PURPOSE OF THIS PLAN IS TO PROVIDE OVERALL UTILITIES INFORMATION FOR THE PROPOSED BUILDING ADDITIONS AND ASSOCIATED SITE IMPROVEMENTS. SEE SHEETS C-104A THROUGH C-104D FOR 1"=30' SCALE ENLARGEMENTS.
2. ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
3. OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUGET SURVEY, LLC: "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
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GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

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7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|-----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 100' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:



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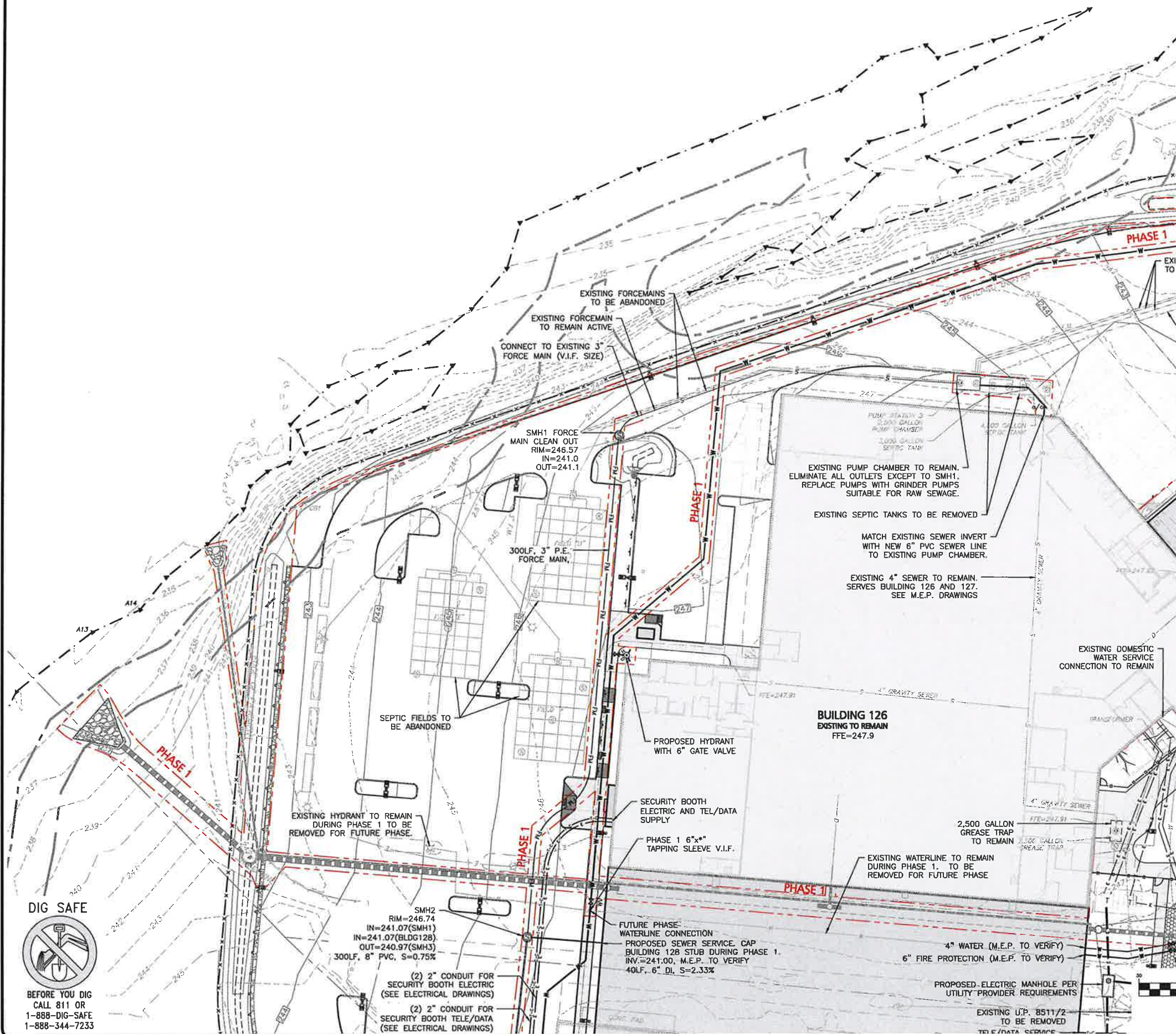
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| DRAWING TITLE: | SHEET No. |
| OVERALL UTILITIES PLAN | C-104 |

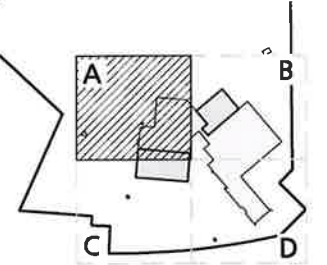
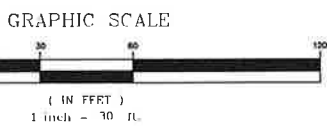
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| LEGEND | |
|--------------------------|---------|
| SEWER MANHOLE | ⊙ |
| SEWER CLEANOUT | ⊙ |
| SEWER VENT | ⊙ |
| SEWER LINE | — |
| SEWER FORCEMAIN | — FM — |
| CONCRETE PIPE ENCASEMENT | — |
| WATER LINE | — W — |
| WATER VALVE | ⊙ |
| HYDRANT | ⊙ |
| WATER LINE REDUCER | — |
| GAS LINE | — GAS — |
| GAS VALVE | ⊙ |
| SEPTIC/HOLDING TANK | ⊙ |
| GREASE TRAP | ⊙ |
| OVER HEAD WIRE | — OHW — |
| UTILITY POLE | ⊙ |
| ELECTRIC MANHOLE | ⊙ |
| HAND HOLE | ⊙ |
| ELECTRICAL CONDUIT | — E — |
| LIGHTING CONDUIT | — L — |
| IRRIGATION SLEEVE | — I — |
| TELE/CABLE CONDUIT | — T — |
| PHASE 1 LINE | — P1 — |

- NOTES**
- ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 - OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC. "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 - VERTICAL DATUM IS NAVD88. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
 - PIPE DIMENSIONS ARE MEASURED FROM THE CENTER OF THE STRUCTURE.
 - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
 - ALL SEWER IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS, H-20 MINIMUM.
 - ALL UTILITIES SHALL CONFORM TO LOCAL REQUIREMENTS.
 - THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

BRIAN D. JONES
No. 19809
LICENSED PROFESSIONAL ENGINEER

Brian D. Jones
4-27-23

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

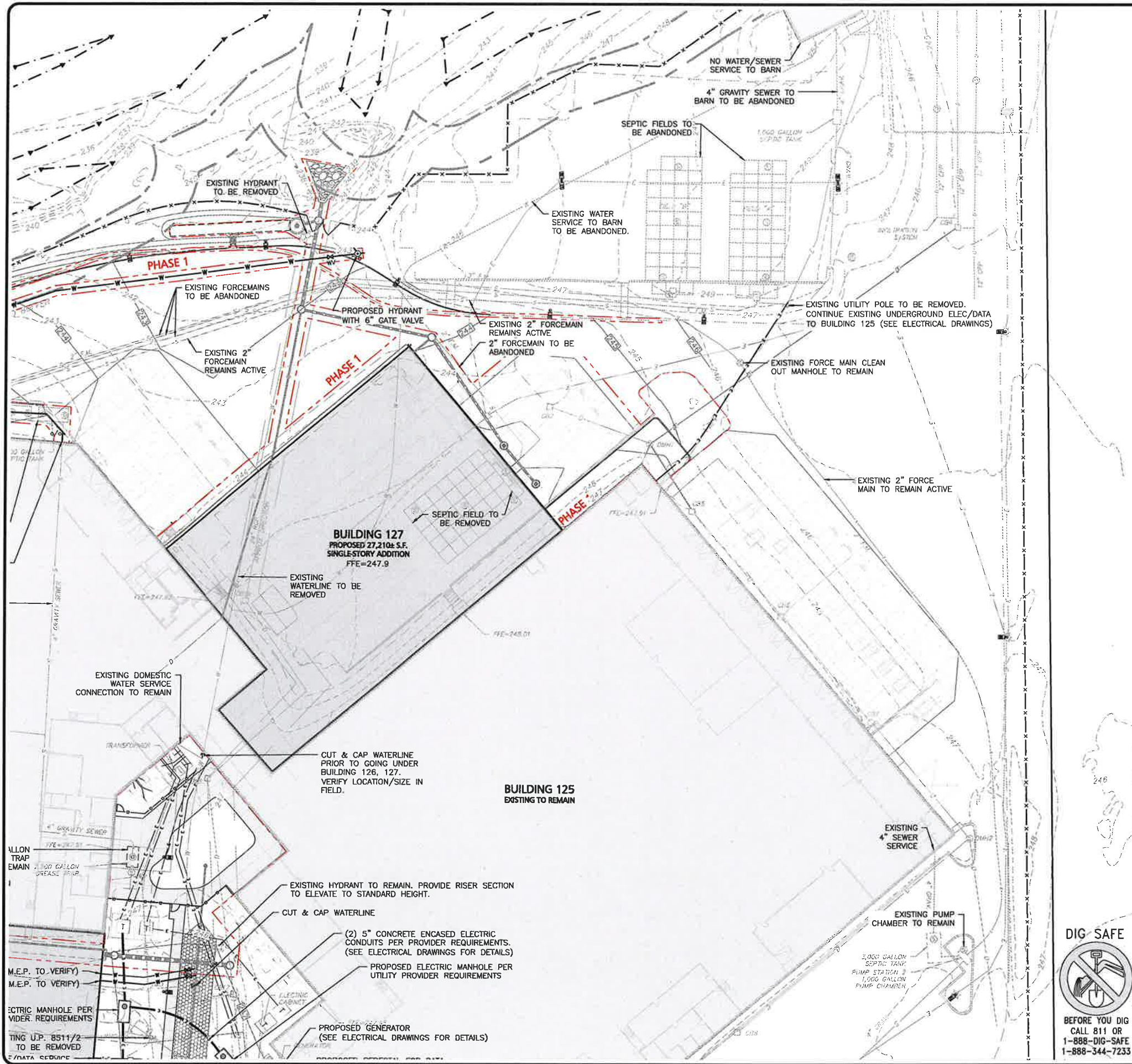
| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

| | |
|---|---------------|
| WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH | |
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| DRAWING TITLE: | SHEET No. |
| UTILITIES PLAN | C-104A |
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R:\PROJECTS\2912-01\CIVIL\DRAWINGS\CURRENT\G-2912-01_UTILITIES.DWG



LEGEND

SEWER MANHOLE

SEWER CLEANOUT

SEWER VENT

SEWER LINE

SEWER FORCEMAIN

CONCRETE PIPE ENCASMENT

WATER LINE

WATER VALVE

HYDRANT

WATER LINE REDUCER

GAS LINE

GAS VALVE

SEPTIC/HOLDING TANK

GREASE TRAP

OVER HEAD WIRE

UTILITY POLE

ELECTRIC MANHOLE

HAND HOLE

ELECTRICAL CONDUIT

LIGHTING CONDUIT

IRRIGATION SLEEVE

TELE/CABLE CONDUIT

PHASE 1 LINE

- NOTES
1. ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.

2. OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC: "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.

3. VERTICAL DATUM IS NAVD88. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.

4. PIPE DIMENSIONS ARE MEASURED FROM THE CENTER OF THE STRUCTURE.

5. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.

6. ALL SEWER IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS, H-20 MINIMUM.

7. ALL UTILITIES SHALL CONFORM TO LOCAL REQUIREMENTS.

8. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

GRAPHIC SCALE

0 10 20 30 40 50 60 70 80 90 100 110 120
(IN FEET)
1 inch = 30 ft.

A B C D

SHEET KEY PLAN

STATE OF NEW HAMPSHIRE
BRUN
D. JONES
No. 15809
LICENSED PROFESSIONAL ENGINEER
4-27-23

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
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| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
|--------------|----------|-------------|-----------|
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.

civil engineering • land surveying environmental consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

WOBBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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| | |
|----------------|-----------|
| DRAWING TITLE: | SHEET No. |
| UTILITIES PLAN | C-104B |

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1-888-344-7233

EXISTING GAS SERVICE TO BE ABANDONED. CUT
AND CAP AT MAIN PER PROVIDER REQUIREMENTS

EXISTING SMH1046
RIM=244.8
IN=236.8(CORE NEW OPENING FOR 8" PVC)
OUT=236.7(SMH1314, 12" PVC)
OUT=236.7(SMH1033, 12" PVC)
RESHAPE BRICK SHELF AS NEEDED

SMH3
RIM=247.69
IN=238.72(SMH2)
OUT=238.62(EXISTING SMH)
241LF, 8" PVC, S=0.75%

SMH2
RIM=246.74
IN=241.07(SMH1)
IN=241.07(BLDG128)
OUT=240.97(SMH3)
300LF, 8" PVC, S=0.75%

(2) 2" CONDUIT FOR
SECURITY BOOTH ELECTRIC
(SEE ELECTRICAL DRAWINGS)
(2) 2" CONDUIT FOR
SECURITY BOOTH TELE/DATA
(SEE ELECTRICAL DRAWINGS)

PROPOSED SECURITY BOOTH GENERATOR.
(SEE ELECTRICAL DRAWINGS FOR DETAILS)

FUTURE PHASE
WATERLINE CONNECTION
PROPOSED SEWER SERVICE. CAP
BUILDING 128 STUB DURING PHASE 1.
INV.=241.00, -M.E.P. TO VERIFY
40LF, 6" DI, S=2.33%

BUILDING 128
(FUTURE PHASE)
PROPOSED 43,000± S.F.
SINGLE-STORY ADDITION
FFE=247.9

SEPTIC TANK TO BE REMOVED
OR FILLED WITH FLOWABLE FILL

SEPTIC FIELD TO
BE ABANDONED

EXISTING GAS SERVICE TO
BE ABANDONED. CUT AND
CAP AT THE MAIN
EXISTING WATER SERVICE TO BE
ABANDONED. CUT AND CAP AT THE MAIN
PROPOSED BUILDING 128 GAS SERVICE
PER PROVIDER REQUIREMENTS

SEPTIC TANK TO BE REMOVED
OR FILLED WITH FLOWABLE FILL

SEPTIC FIELD TO
BE ABANDONED

SEPTIC FIELD TO
BE ABANDONED

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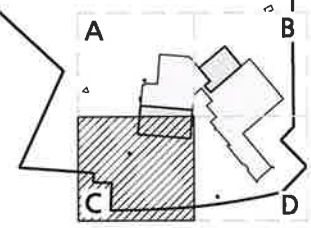
LEGEND

| | |
|-------------------------|-------|
| SEWER MANHOLE | ⊙ |
| SEWER CLEANOUT | ⊙ |
| SEWER VENT | ⊙ |
| SEWER LINE | — |
| SEWER FORCEMAIN | —FM— |
| CONCRETE PIPE ENCASMENT | — |
| WATER LINE | —W— |
| WATER VALVE | ⊙ |
| HYDRANT | ⊙ |
| WATER LINE REDUCER | — |
| GAS LINE | —GAS— |
| GAS VALVE | ⊙ |
| SEPTIC/HOLDING TANK | ⊙ |
| GREASE TRAP | ⊙ |
| OVER HEAD WIRE | —OHW— |
| UTILITY POLE | ⊙ |
| ELECTRIC MANHOLE | ⊙ |
| HAND HOLE | ⊙ |
| ELECTRICAL CONDUIT | —E— |
| LIGHTING CONDUIT | —L— |
| IRRIGATION SLEEVE | —I— |
| TELE/CABLE CONDUIT | —T— |
| PHASE 1 LINE | —P1— |

NOTES

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GRAPHIC SCALE



SHEET KEY PLAN



| REV | DATE | DESCRIPTION |
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| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
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| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

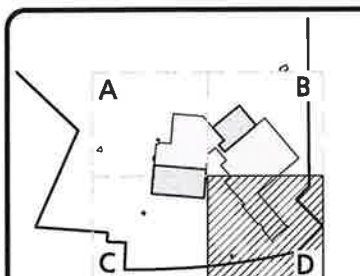
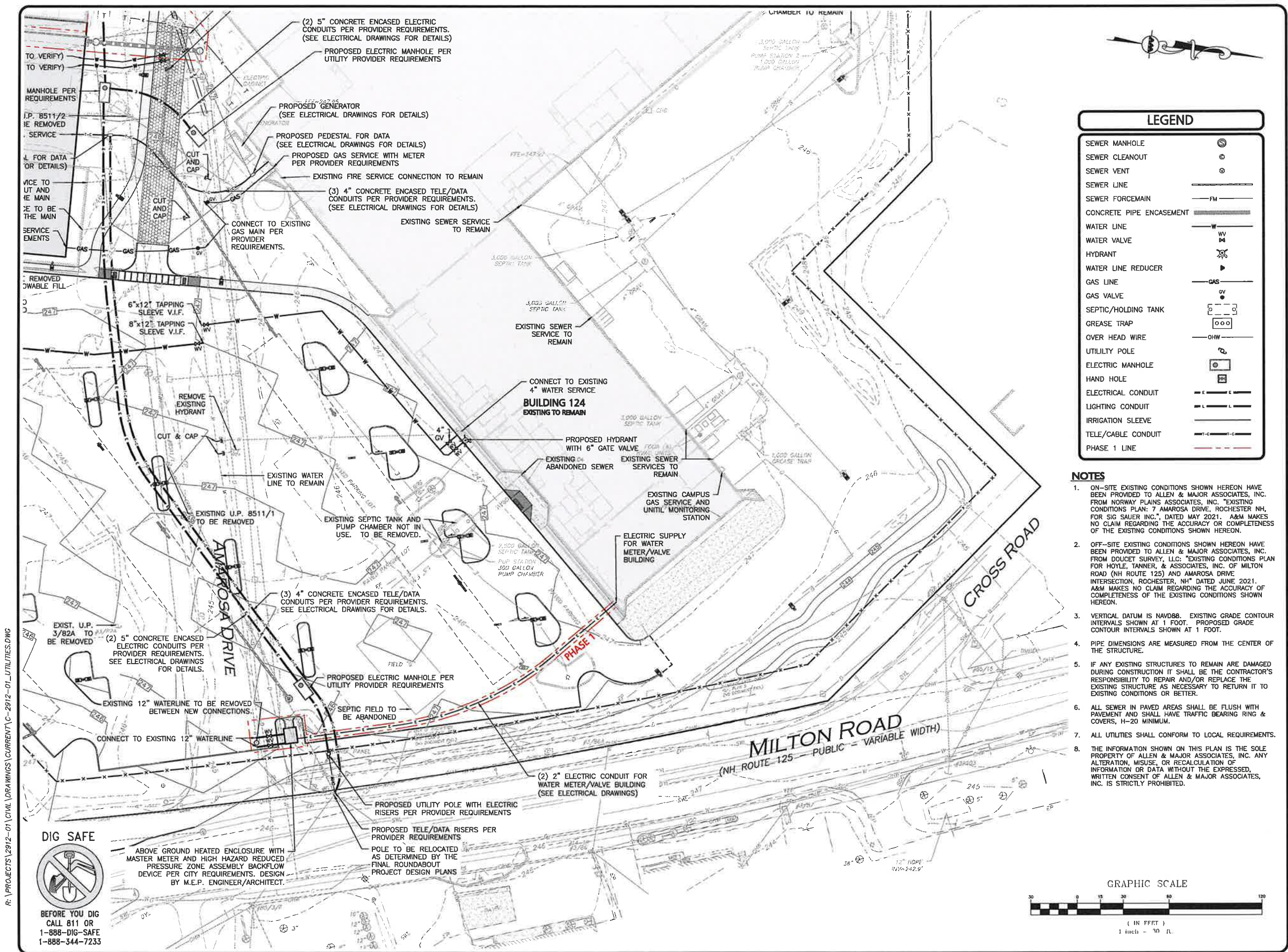
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| DRAWING TITLE: | SHEET No. |
| UTILITIES PLAN | C-104C |

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| | | |
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENT |
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| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |
| REV | DATE | DESCRIPTION |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|---------|
| PROJECT NO. | 2912-01A | DATE: | 01-20 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-0 |
| DESIGNED BY: | JRG | CHECKED BY: | |

PREPARED BY:



**ALLEN & MAJOR
ASSOCIATES, INC.**

civil engineering ♦ land surveying environment
consulting ♦ landscape architecture
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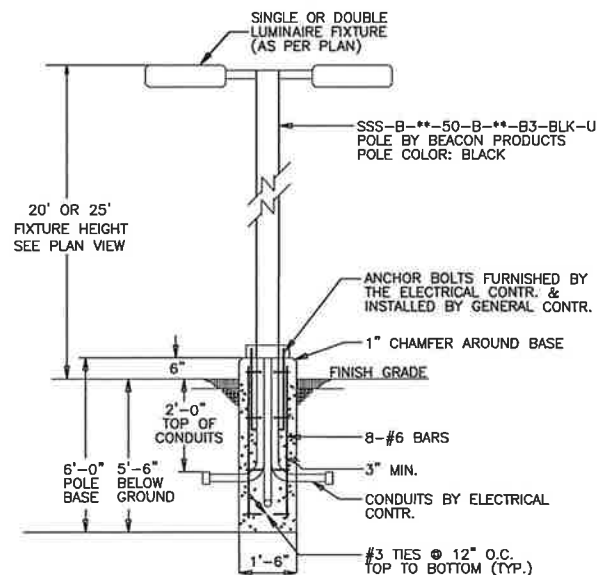
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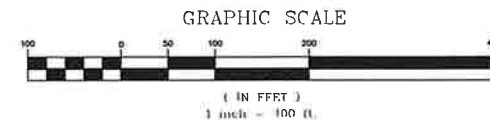
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| | |
|----------------|-----------|
| DRAWING TITLE: | SHEET No. |
| UTILITIES PLAN | C-104 |

R:\PROJECTS\2012-01\CIVIL\DRAWINGS\CURRENT\C-2912-01_LIGHTING.DWG



| LUMINAIRE SCHEDULE | | | | | | |
|---------------------|-------------|-------|-------|--------|------|---|
| SYMBOL | LABEL | QTY | WATTS | LUMENS | LLF | DESCRIPTION |
| | 2S4 | 9 | 242 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC |
| | 2S4F | 13 | 242 | 11983 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-WIRSC |
| | S3 | 8 | 120 | 12247 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-WIRSC |
| | S4 | 16 | 120 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC |
| | S4F | 6 | 120 | 11983 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-WIRSC |
| | S5 | 1 | 120 | 12235 | 0.90 | VP-ST-1-36L-120-3K7-5QM-UNV-A-BLT-WIRSC |
| | S6 | 2 | 120 | 10078 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-BC-WIRSC |
| | S7 | 1 | 120 | 10860 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-BC-WIRSC |
| CALCULATION SUMMARY | | | | | | |
| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN |
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. |



LEGEND

| | |
|----------------------|-----------------|
| SINGLE POLE LIGHT | |
| DOUBLE POLE LIGHT | |
| LIGHTING LEVELS (Fc) | 0.1 0.2 0.4 0.6 |
| PHASE 1 LINE | |

NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER, INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
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- VENDOR INFORMATION:
SWANEY LIGHTING ASSOCIATES
CONTACT: CHRIS PECHALK
PHONE: 207-883-7100
- LIGHTS WITHIN THE PARKING AREAS AND ACCESS DRIVES SHALL OPERATE ON A PHOTO-CELL & PROGRAMMABLE TIMER.
- CONTROLS FOR ALL EXTERIOR LIGHTING BY BUILDING CONTRACTOR.
- WIRING OF BUILDING MOUNTED FIXTURES BY BUILDING CONTRACTOR.
- ALL POLES AND FIXTURE HEADS SHALL BE BLACK COLOR.
- THE SITE LIGHTING FIXTURES SHOWN HEREON ARE FULL CUT-OFF AND COMPLIANT WITH THE INTERNATIONAL DARK SKY ASSOCIATION.
- THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|-----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 100' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:



ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying • environmental consulting • landscape architecture
www.allenmajor.com

400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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| | |
|-----------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| OVERALL LIGHTING PLAN | C-105 |

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| LUMINAIRE SCHEDULE | | | | | | |
|--------------------|-------|-----|-------|--------|------|---|
| SYMBOL | LABEL | QTY | WATTS | LUMENS | LLF | DESCRIPTION |
| | 2S4 | 9 | 242 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC |
| | 2S4F | 13 | 242 | 11983 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-WIRSC |
| | S3 | 8 | 120 | 12247 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-WIRSC |
| | S4 | 16 | 120 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC |
| | S4F | 6 | 120 | 11983 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-WIRSC |
| | S5 | 1 | 120 | 12235 | 0.90 | VP-ST-1-36L-120-3K7-5QM-UNV-A-BLT-WIRSC |
| | S6 | 2 | 120 | 10078 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-BC-WIRSC |
| | S7 | 1 | 120 | 10860 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-BC-WIRSC |

| CALCULATION SUMMARY | | | | | | |
|---------------------|-------------|-------|------|-----|-----|---------|
| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN |
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. |

| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

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| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

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|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

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| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

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| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
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| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

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| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
|-------|-------------|-------|------|-----|-----|---------|---------|
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |

R:\PROJECTS\2012-01\CIVIL\DRAWINGS\CURRENT\2012-01-LIGHTING.DWG



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CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

LEGEND

SINGLE POLE LIGHT

DOUBLE POLE LIGHT
LIGHTING LEVELS (Fc)

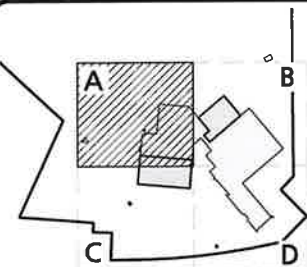
PHASE 1 LINE

NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISA" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC. "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OF COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
- VENDOR INFORMATION:
SWANEY LIGHTING ASSOCIATES
CONTACT: CHRIS PECHALK
PHONE:207-883-7100
- LIGHTS WITHIN THE PARKING AREAS AND ACCESS DRIVES SHALL OPERATE ON A PHOTO-CELL & PROGRAMMABLE TIMER.
- CONTROLS FOR ALL EXTERIOR LIGHTING BY BUILDING CONTRACTOR.
- WIRING OF BUILDING MOUNTED FIXTURES BY BUILDING CONTRACTOR.
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GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



SHEET KEY PLAN



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
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DRAWING TITLE:

SITE LIGHTING PLAN

SHEET No.

C-105A

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| LUMINAIRE SCHEDULE | | | | | | |
|---------------------|-------------|-------|-------|--------|------|---|
| SYMBOL | LABEL | QTY | WATTS | LUMENS | LLF | DESCRIPTION |
| | 2S4 | 9 | 242 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC |
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| | S6 | 2 | 120 | 10078 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-BC-WIRSC |
| | S7 | 1 | 120 | 10860 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-BC-WIRSC |
| CALCULATION SUMMARY | | | | | | |
| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN |
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. |



LEGEND

SINGLE POLE LIGHT

DOUBLE POLE LIGHT

LIGHTING LEVELS (Fc)

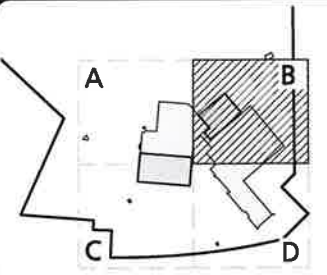
PHASE 1 LINE

- ### NOTES
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1-888-344-7233

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
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| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
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| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
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7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: 1" = 30' DWG. NAME: C2912-01A

DESIGNED BY: JRG CHECKED BY: BDJ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
www.allenmajor.com
400 HARVEY ROAD
MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

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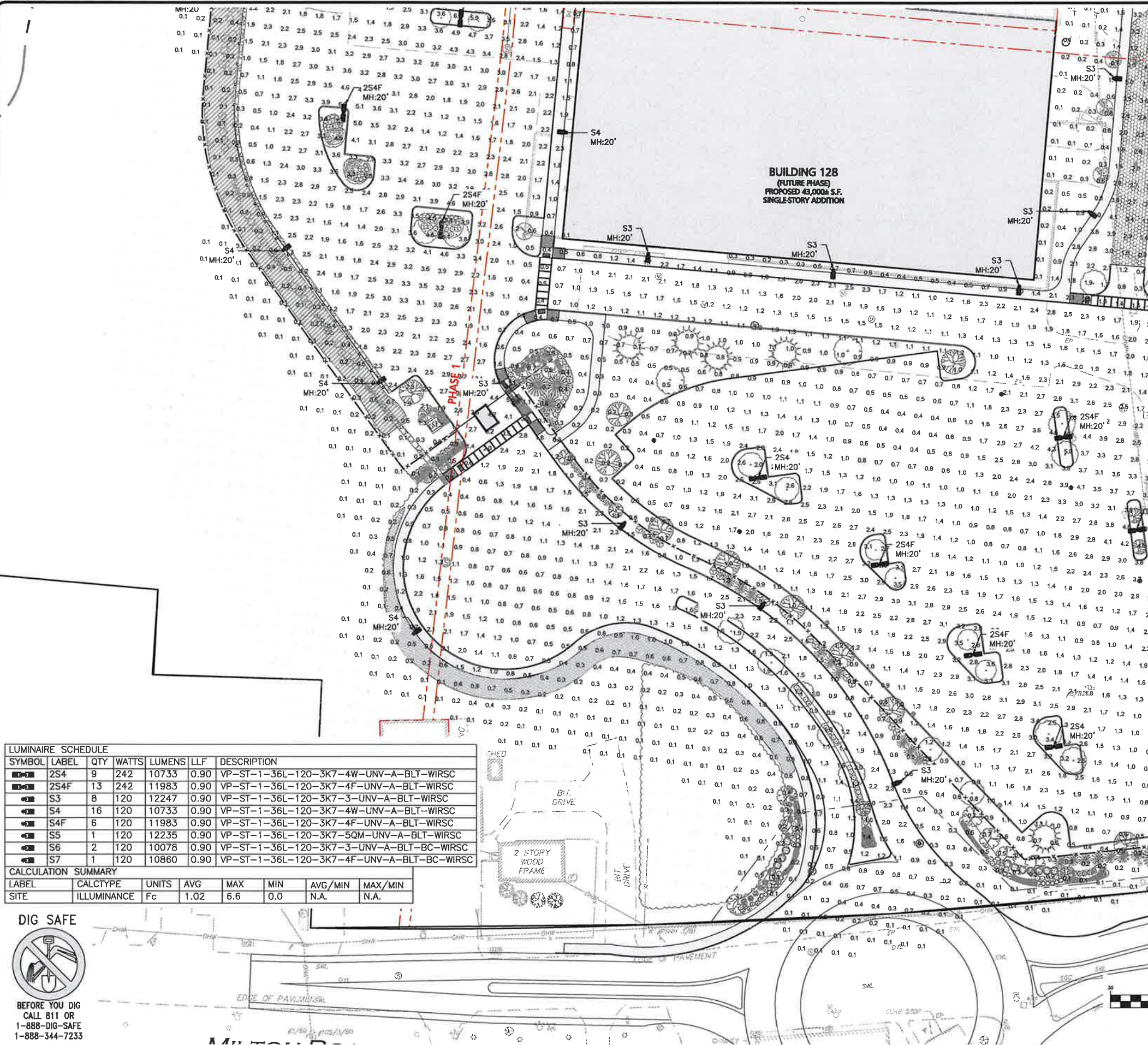
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DRAWING TITLE: **SITE LIGHTING PLAN** SHEET No. **C-105B**

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R:\PROJECTS\2912-01\CIVIL\DRAWINGS\CURRENT\C-2912-01_LIGHTING.DWG

R:\PROJECTS\2912-01\CIVIL DRAWINGS\CURRENT\C-2912-01_LIGHTING.DWG



LEGEND

SINGLE POLE LIGHT

DOUBLE POLE LIGHT

LIGHTING LEVELS (Fc)

PHASE 1 LINE

- NOTES**
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISA" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC.", DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 - OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC: "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 - VENDOR INFORMATION:
SWANEY LIGHTING ASSOCIATES
CONTACT: CHRIS PECHALK
PHONE: 207-883-7100
 - LIGHTS WITHIN THE PARKING AREAS AND ACCESS DRIVES SHALL OPERATE ON A PHOTO-CELL & PROGRAMMABLE TIMER.
 - CONTROLS FOR ALL EXTERIOR LIGHTING BY BUILDING CONTRACTOR.
 - WIRING OF BUILDING MOUNTED FIXTURES BY BUILDING CONTRACTOR.
 - ALL POLES AND FIXTURE HEADS SHALL BE BLACK COLOR.
 - THE SITE LIGHTING FIXTURES SHOWN HEREON ARE FULL CUT-OFF AND COMPLIANT WITH THE INTERNATIONAL DARK SKY ASSOCIATION.
 - THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION, ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

SHEET KEY PLAN

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

PROJECT NO. 2912-01A **DATE:** 01-20-23

SCALE: 1" = 30' **DWG. NAME:** C2912-01A

DESIGNED BY: JRG **CHECKED BY:** BDJ

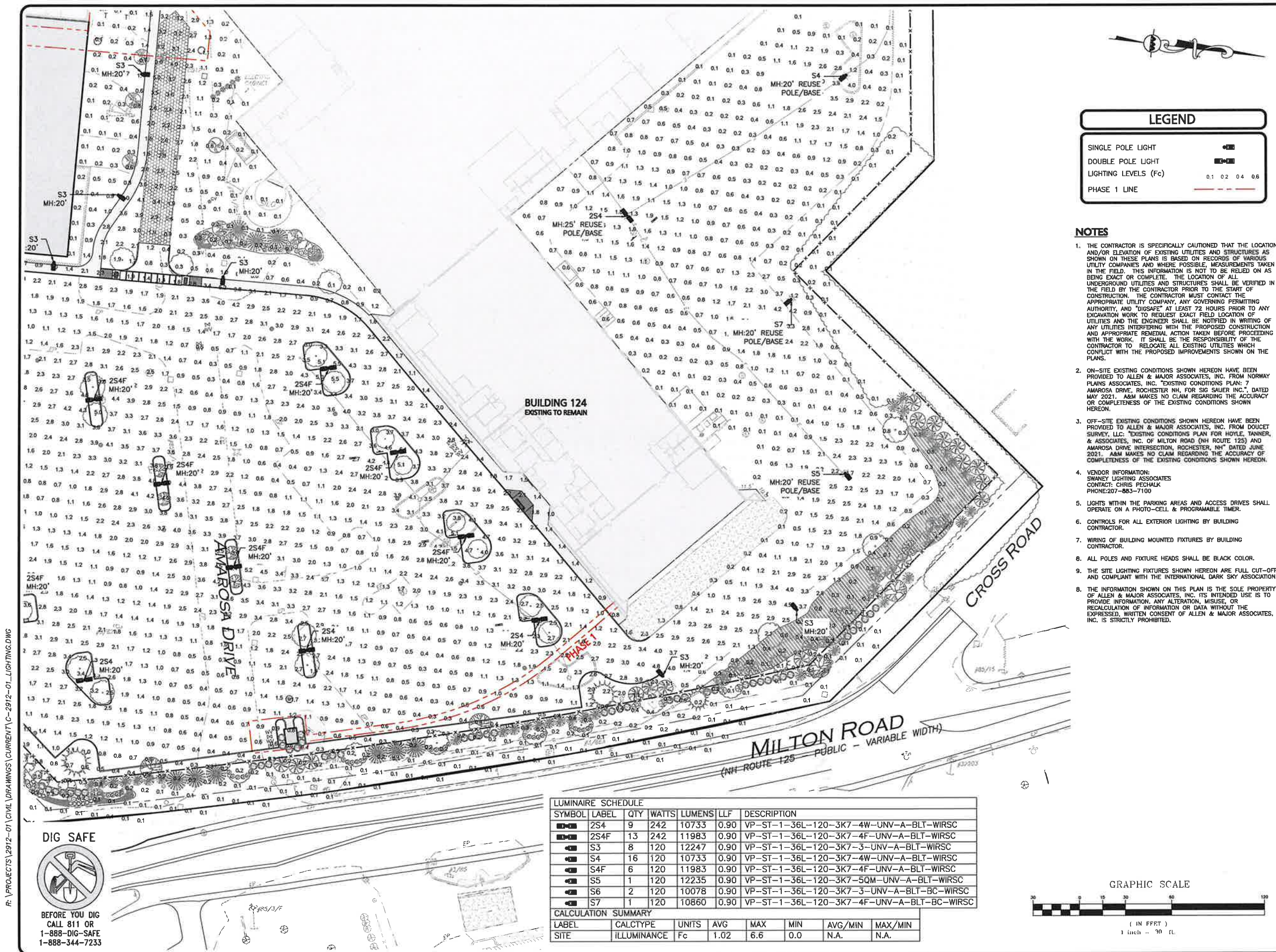
PREPARED BY:

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civil engineering • land surveying • environmental consulting • landscape architecture
www.allenmajor.com
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MANCHESTER, NH 03108
TEL: (603) 627-5500
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DRAWING TITLE: SITE LIGHTING PLAN **SHEET NO.:** C-105C



LEGEND

SINGLE POLE LIGHT

DOUBLE POLE LIGHT

LIGHTING LEVELS (Fc)

PHASE 1 LINE

- NOTES**
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISCOVER" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
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 4. VENDOR INFORMATION:
SWANEY LIGHTING ASSOCIATES
CONTACT: CHRIS PECHALK
PHONE: 207-883-7100
 5. LIGHTS WITHIN THE PARKING AREAS AND ACCESS DRIVES SHALL OPERATE ON A PHOTO-CELL & PROGRAMMABLE TIMER.
 6. CONTROLS FOR ALL EXTERIOR LIGHTING BY BUILDING CONTRACTOR.
 7. WIRING OF BUILDING MOUNTED FIXTURES BY BUILDING CONTRACTOR.
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SHEET KEY PLAN

BRIAN D. JONES
PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------------|
| 4 | 04-27-23 | REVISED PER PEER REVIEW COMMENTS |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
|--------------|----------|-------------|-----------|
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:









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consulting • landscape architecture
www.allenmajor.com
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| DRAWING TITLE | SHEET No. |
|---------------------------|---------------|
| SITE LIGHTING PLAN | C-105D |

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| LUMINAIRE SCHEDULE | | | | | | | |
|---|-------------|-------|-------|--------|------|---|---------|
| SYMBOL | LABEL | QTY | WATTS | LUMENS | LLF | DESCRIPTION | |
|  | 2S4 | 9 | 242 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC | |
|  | 2S4F | 13 | 242 | 11983 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-WIRSC | |
|  | S3 | 8 | 120 | 12247 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-WIRSC | |
|  | S4 | 16 | 120 | 10733 | 0.90 | VP-ST-1-36L-120-3K7-4W-UNV-A-BLT-WIRSC | |
|  | S4F | 6 | 120 | 11983 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-WIRSC | |
|  | S5 | 1 | 120 | 12235 | 0.90 | VP-ST-1-36L-120-3K7-5QM-UNV-A-BLT-WIRSC | |
|  | S6 | 2 | 120 | 10078 | 0.90 | VP-ST-1-36L-120-3K7-3-UNV-A-BLT-BC-WIRSC | |
|  | S7 | 1 | 120 | 10860 | 0.90 | VP-ST-1-36L-120-3K7-4F-UNV-A-BLT-BC-WIRSC | |
| CALCULATION SUMMARY | | | | | | | |
| LABEL | CALCTYPE | UNITS | AVG | MAX | MIN | AVG/MIN | MAX/MIN |
| SITE | ILLUMINANCE | Fc | 1.02 | 6.6 | 0.0 | N.A. | N.A. |



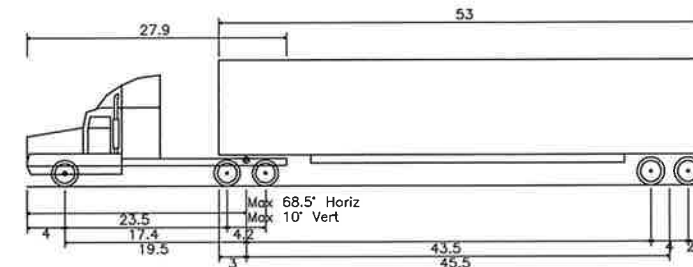
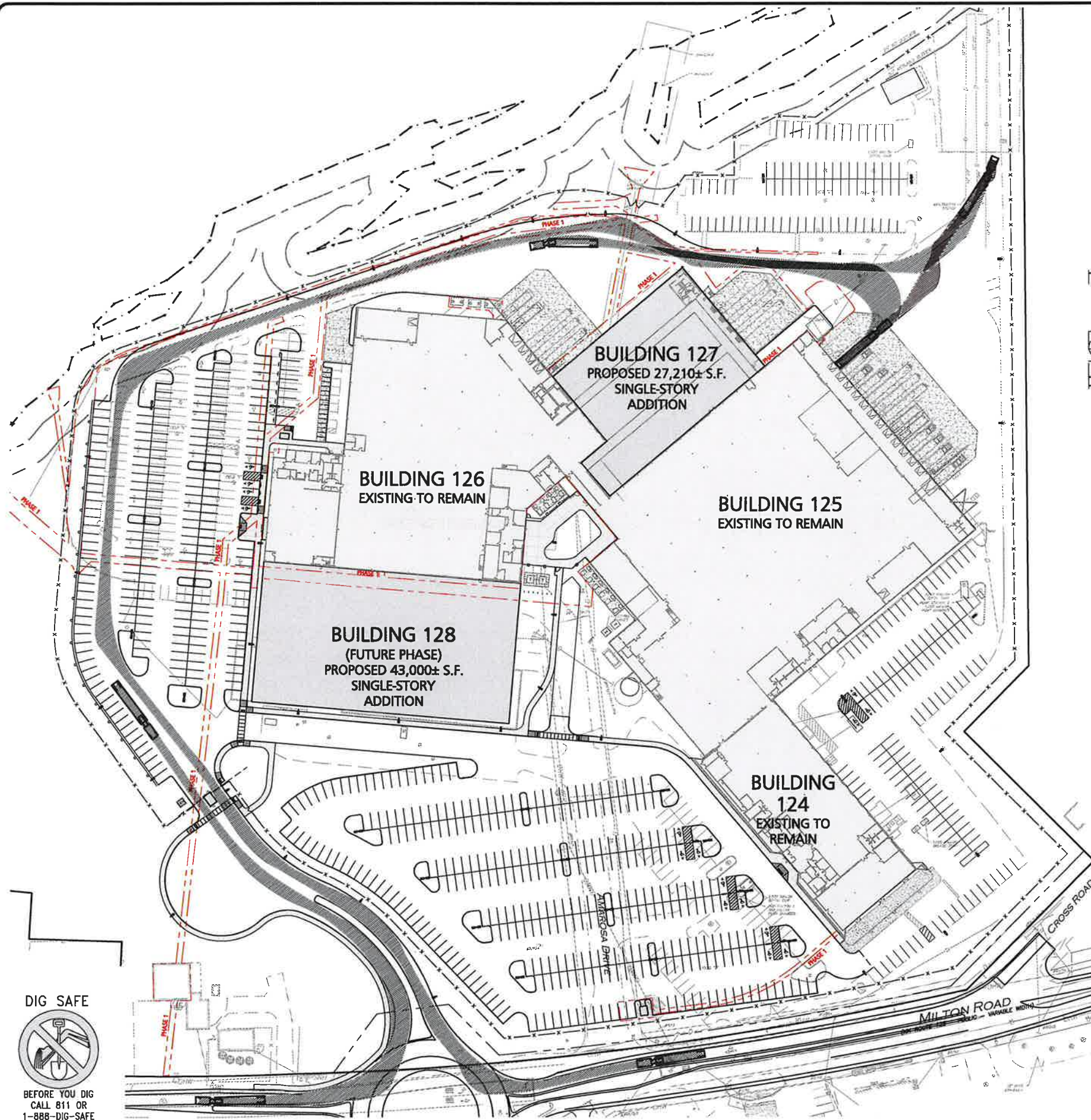
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1-888-344-7233

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1-888-344-7233



WB-67 - Interstate Semi-Trailer
Overall Length 73.501ft
Overall Width 8.500ft
Overall Body Height 13.500ft
Min Body Ground Clearance 1.334ft
Max Track Width 6.500ft
Lock-to-lock time 6.00s
Max Steering Angle (Virtual) 28.40°

NOTES

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GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: 1" = 60' DWG. NAME: C2912-01A

DESIGNED BY: JRG CHECKED BY: BDJ

PREPARED BY:



ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying • environmental consulting • landscape architecture
www.allenmajor.com

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MANCHESTER, NH 03103
TEL: (603) 627-5500
FAX: (603) 627-5501

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DRAWING TITLE: SHEET No.

TRUCK TURN PLAN
WB-67

C-106A

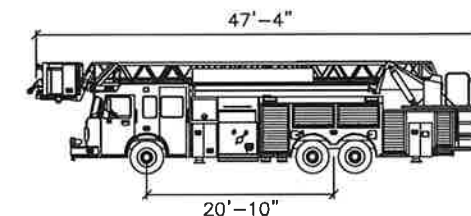
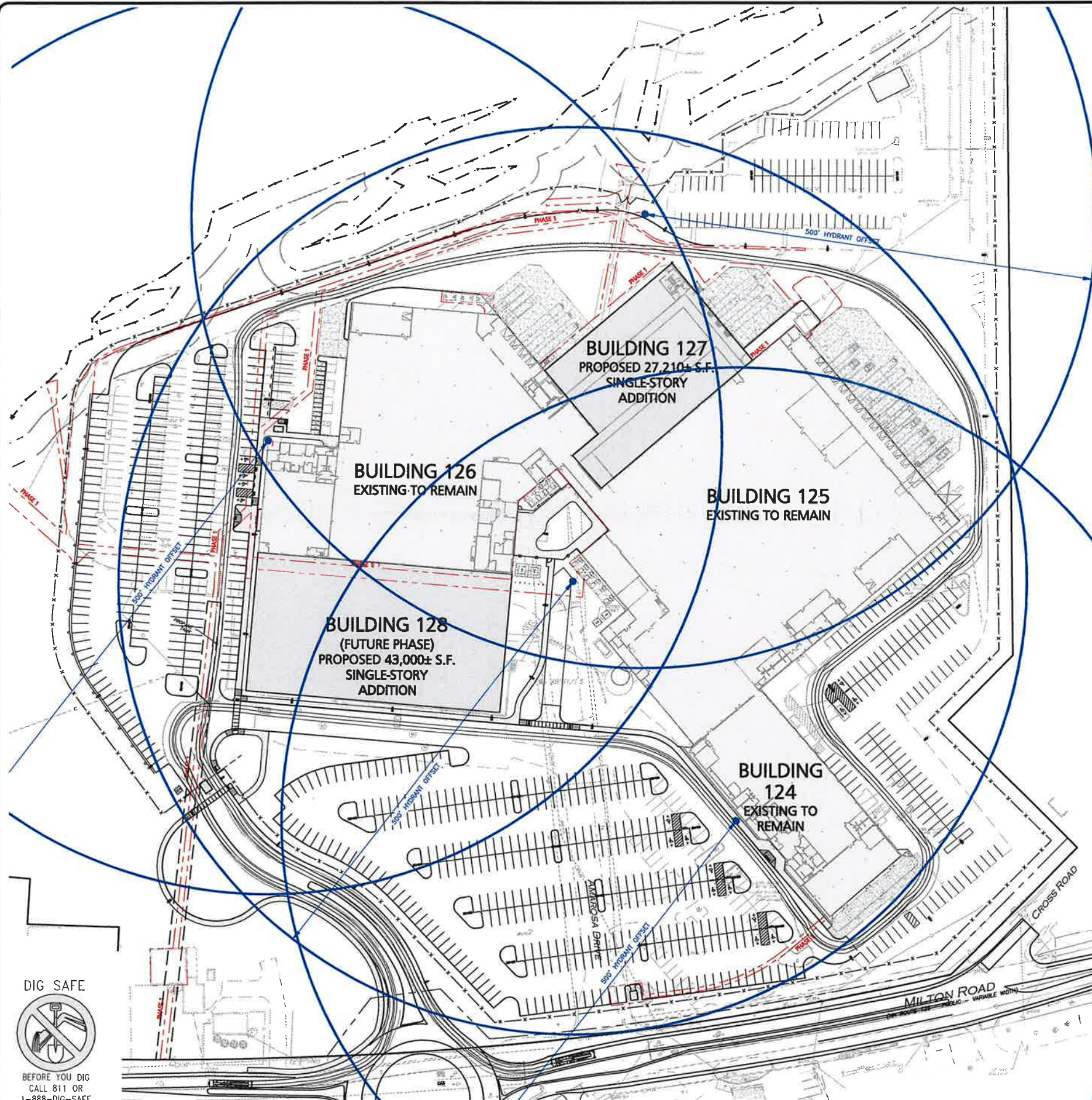
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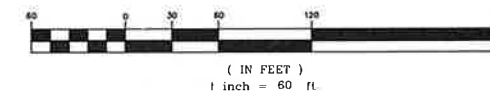


AERIAL BODY 100' PLATFORM

NOTES

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GRAPHIC SCALE



06-06-23

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,816 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 60' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:



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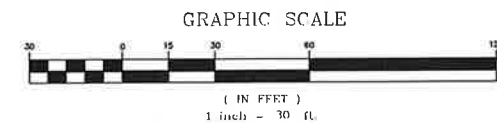
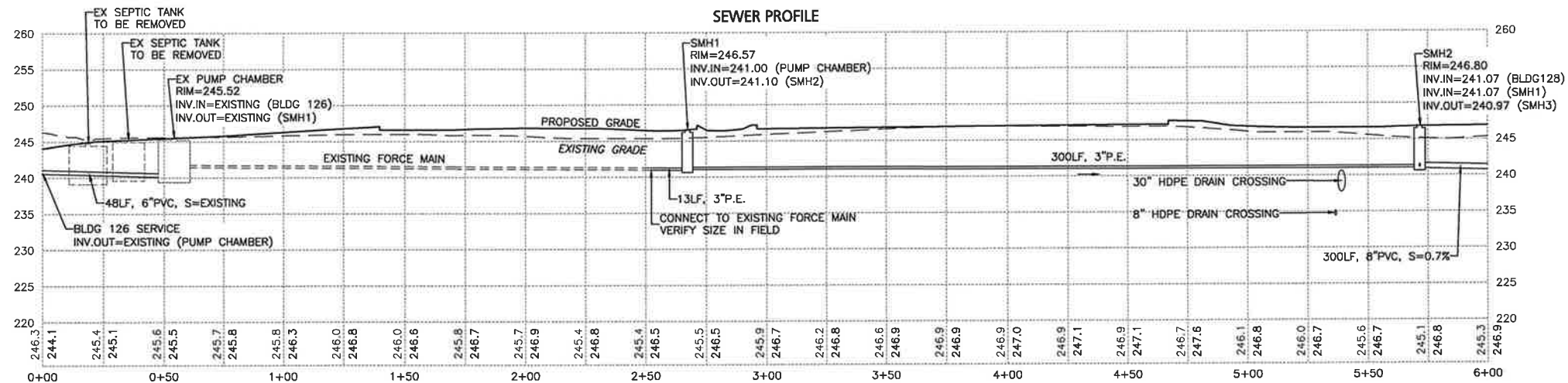
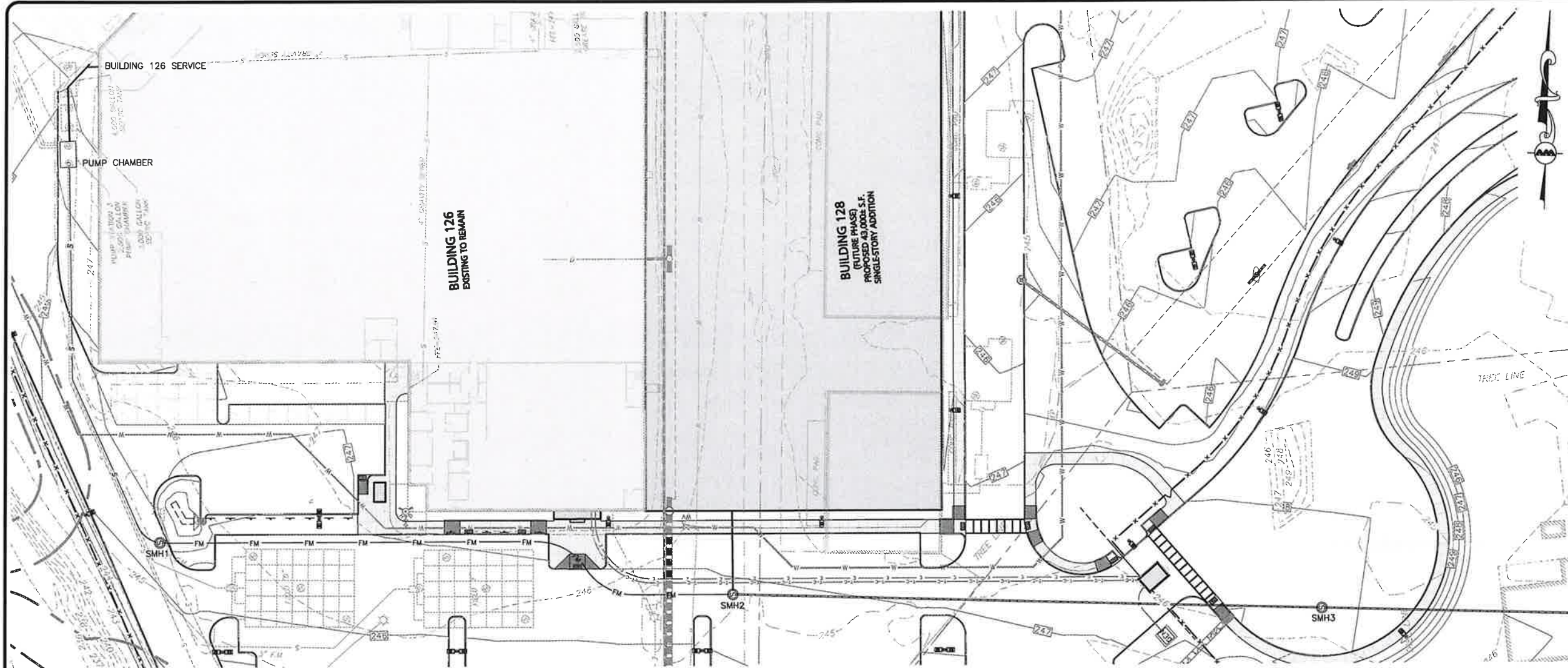
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| | |
|-------------------------------|-----------|
| DRAWING TITLE: | SHEET No. |
| TRUCK TURN PLAN FIRE TRUCK | C-106B |

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PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

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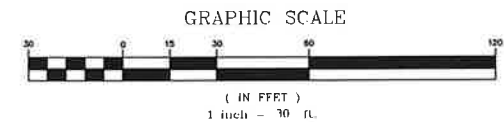
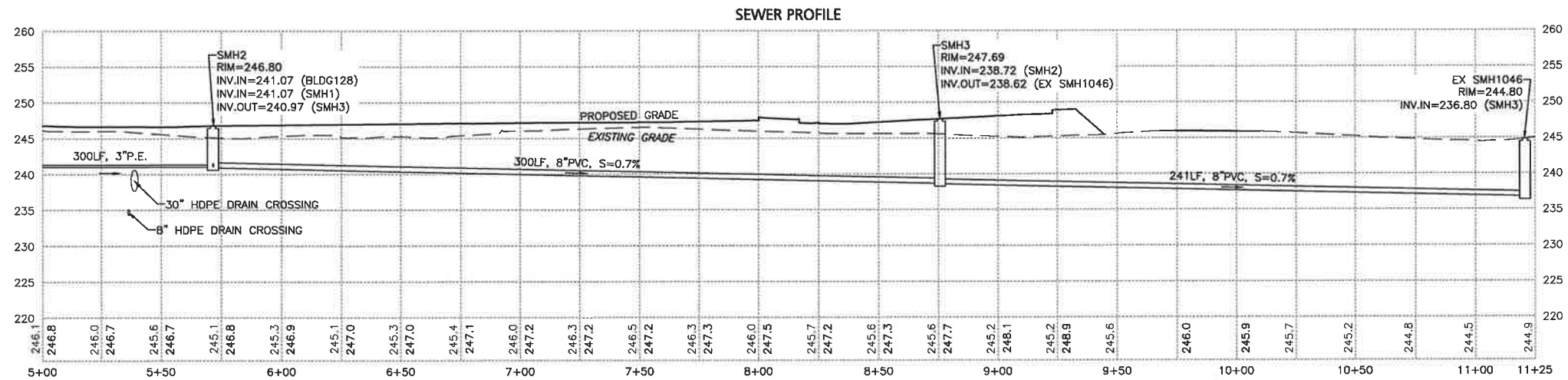
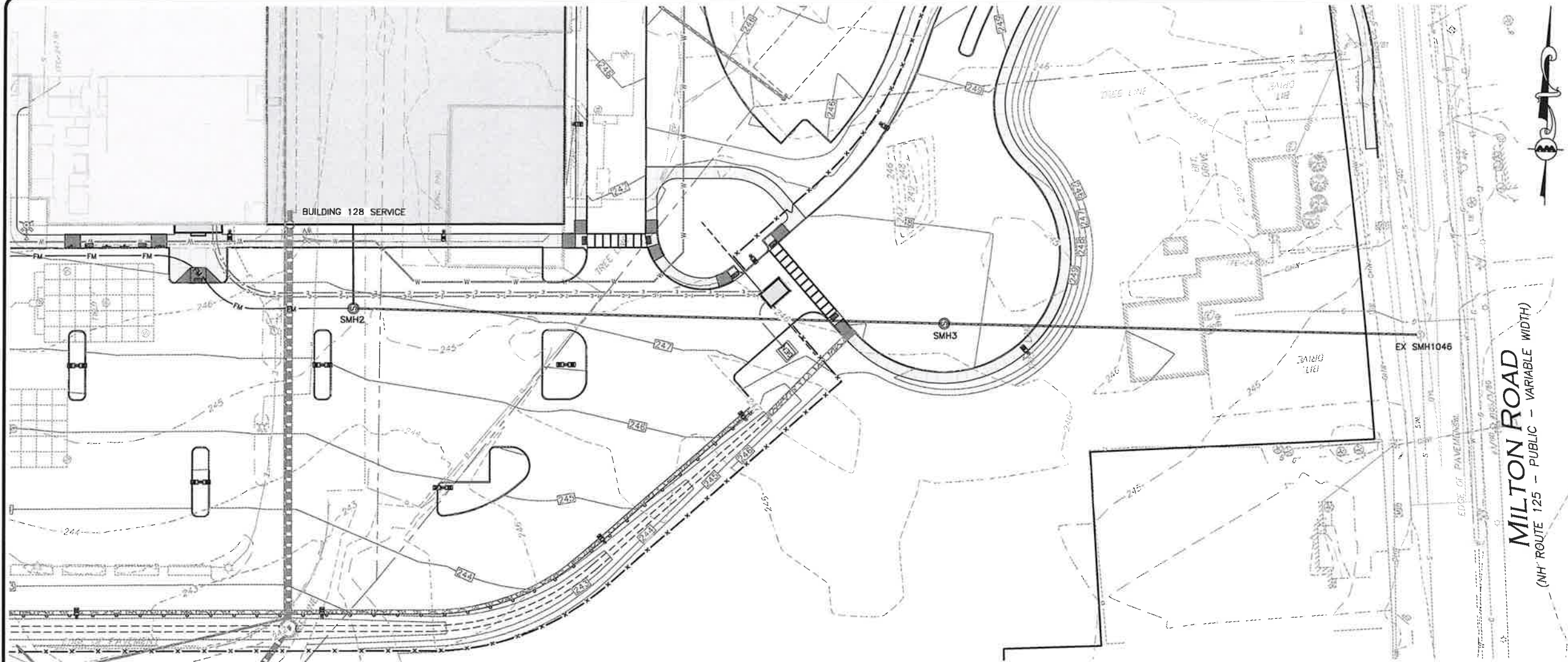
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| DRAWING TITLE: SEWER PLAN & PROFILE | SHEET No. C-201 |
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APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

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| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

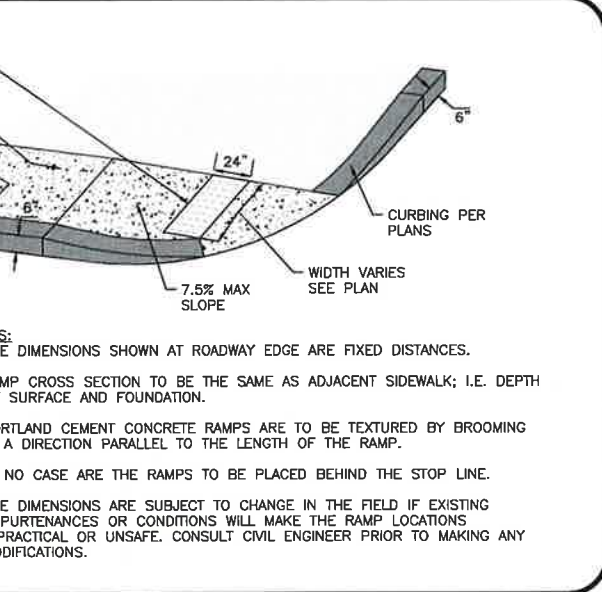
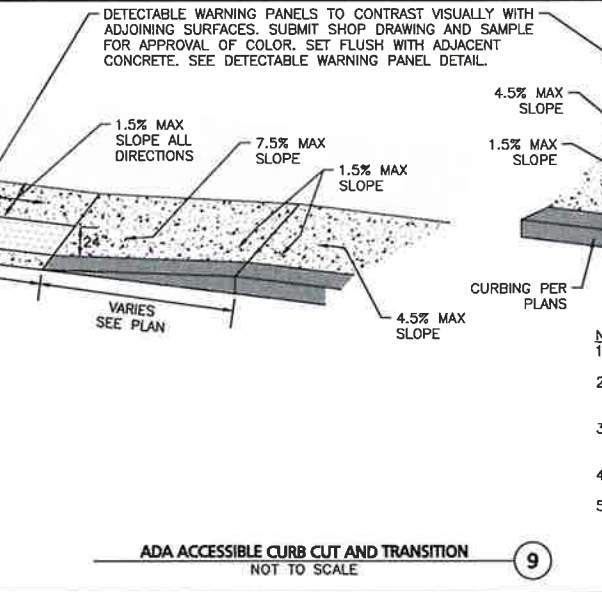
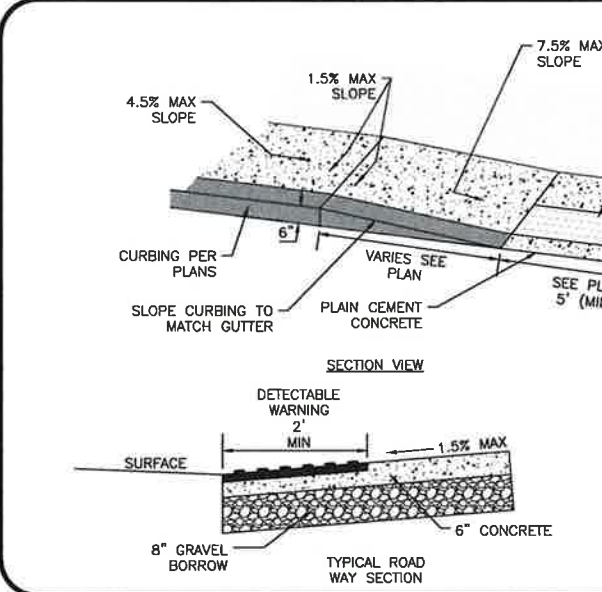
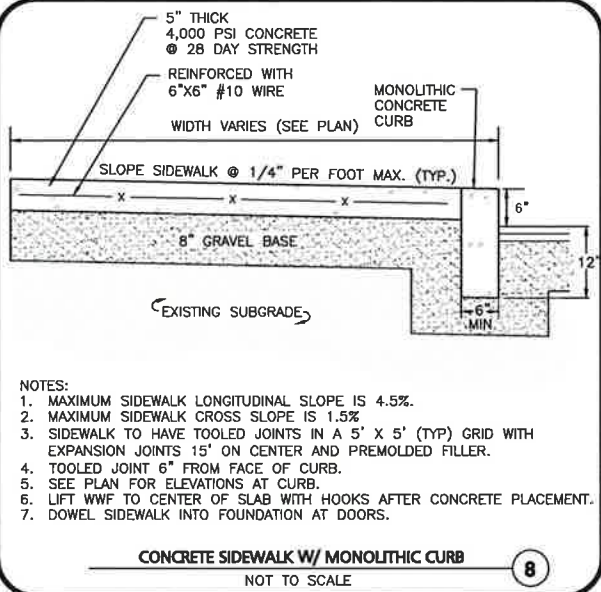
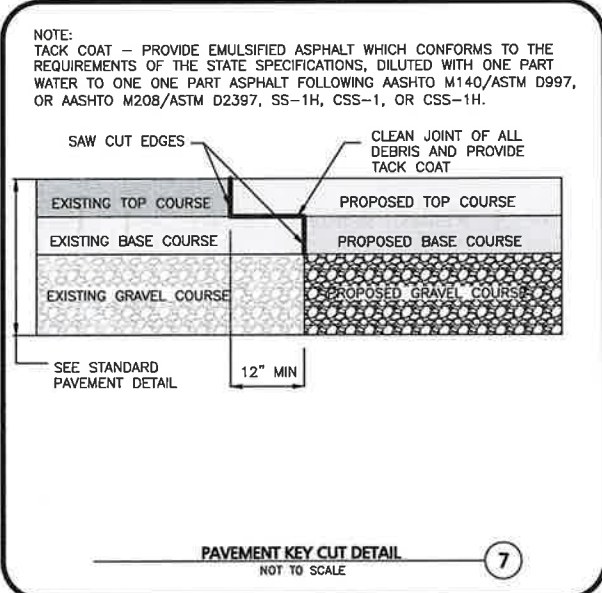
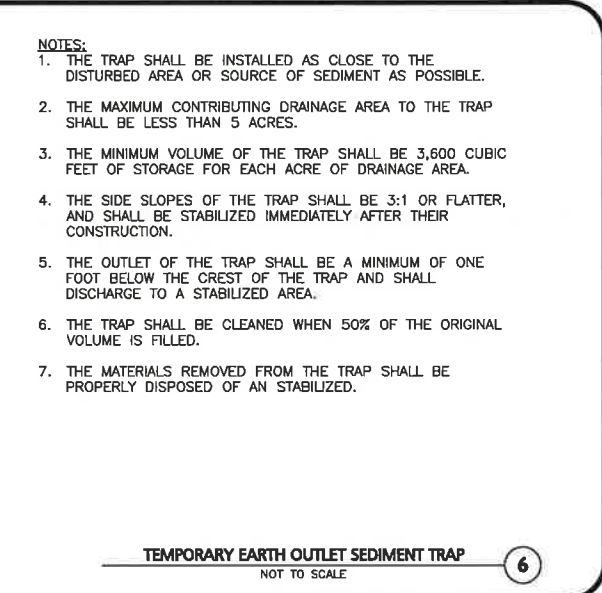
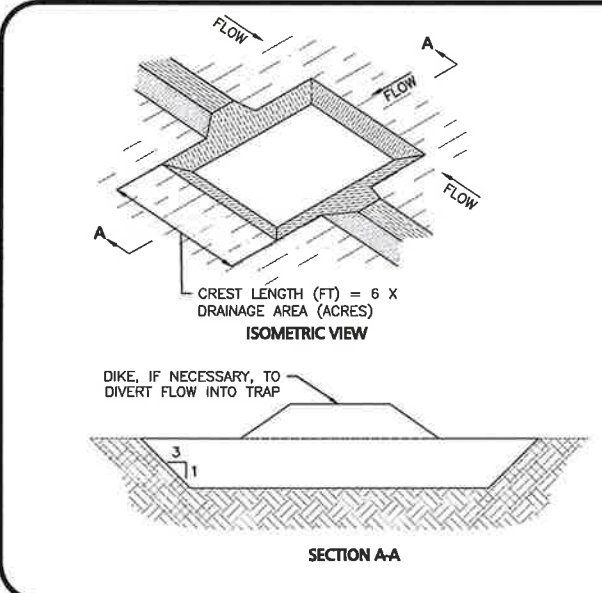
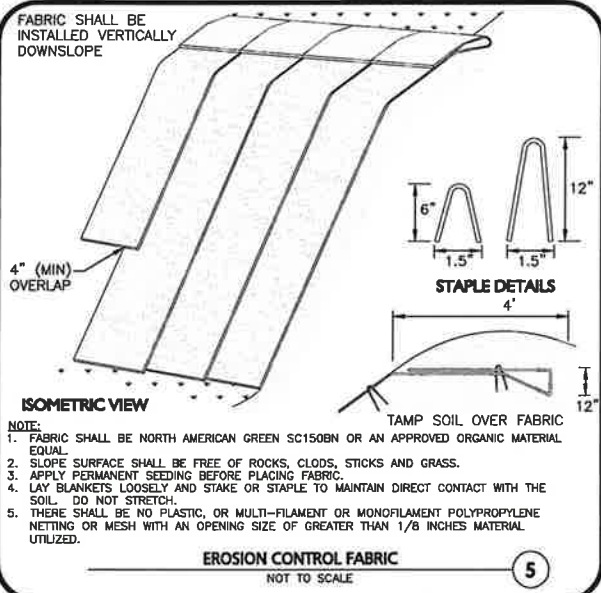
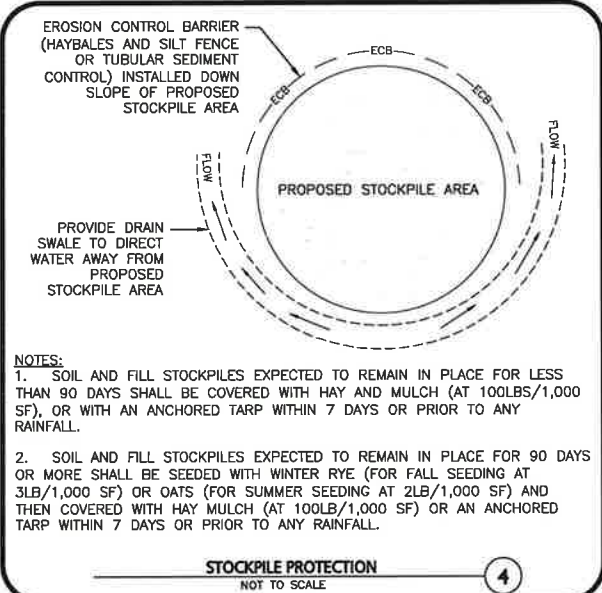
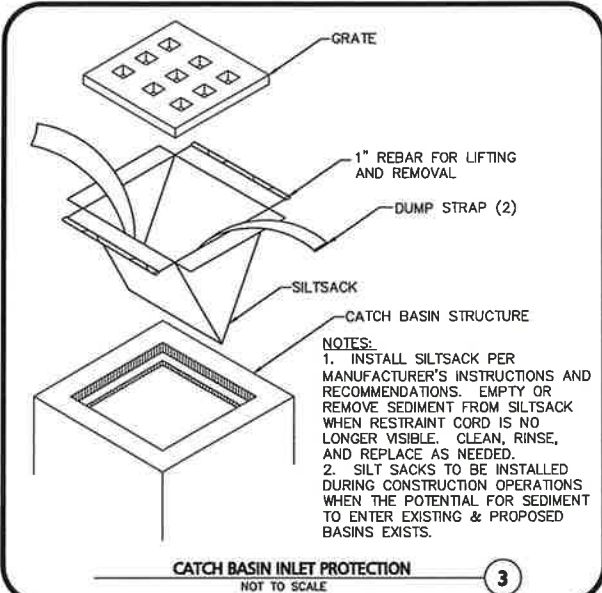
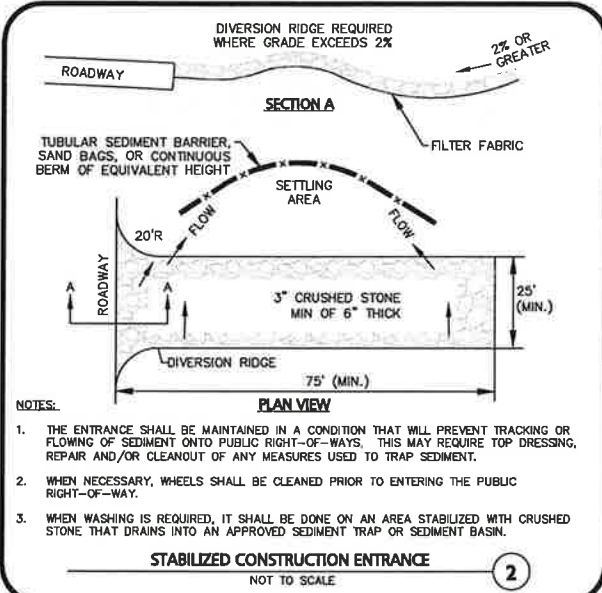
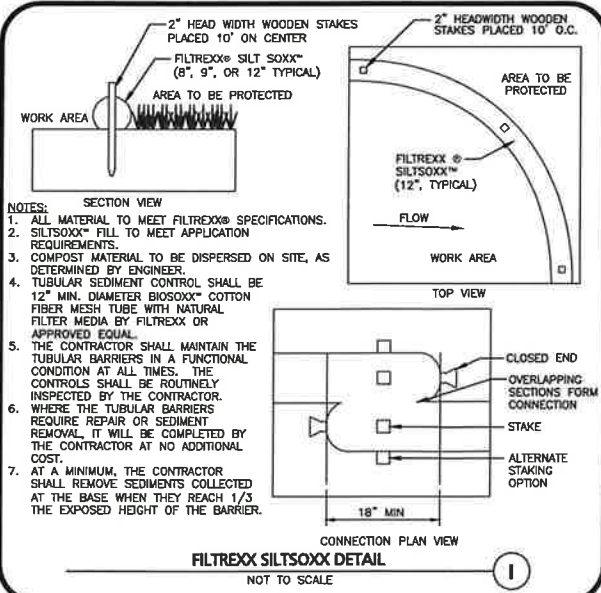


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DRAWING TITLE: SEWER PLAN & PROFILE
SHEET No. C-202

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|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | AS SHOWN | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

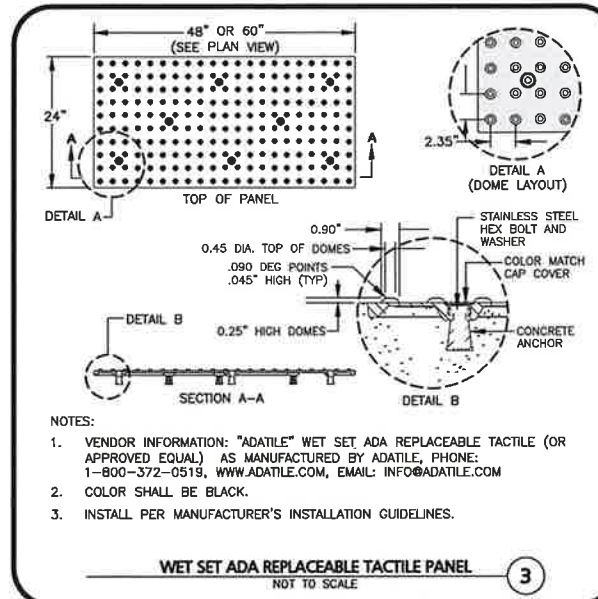
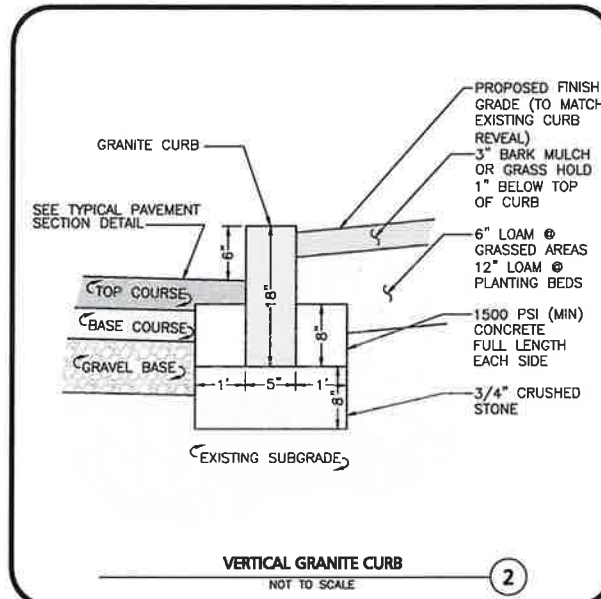
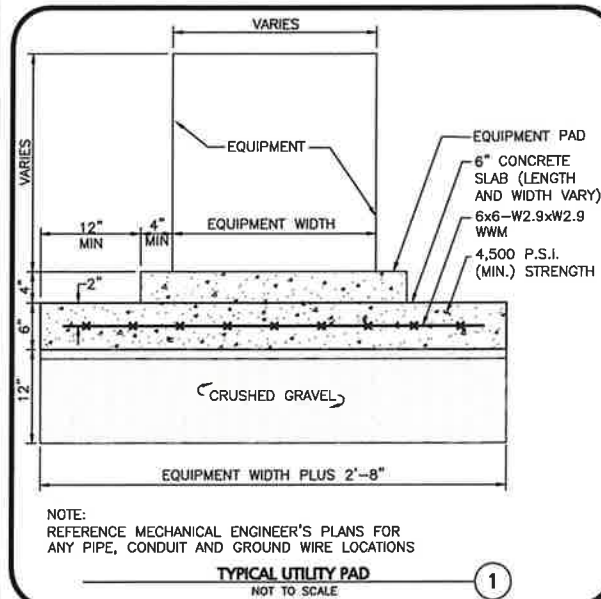
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MANCHESTER, NH 03103
TEL: (603) 627-5500
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DRAWING TITLE: DETAILS

SHEET No. C-501



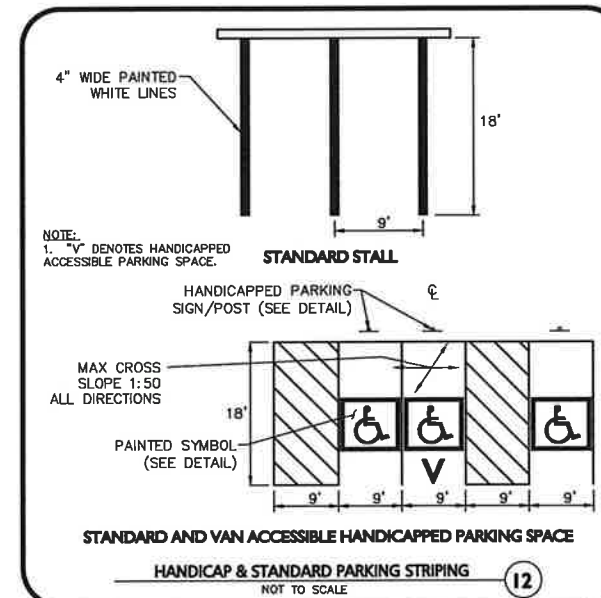
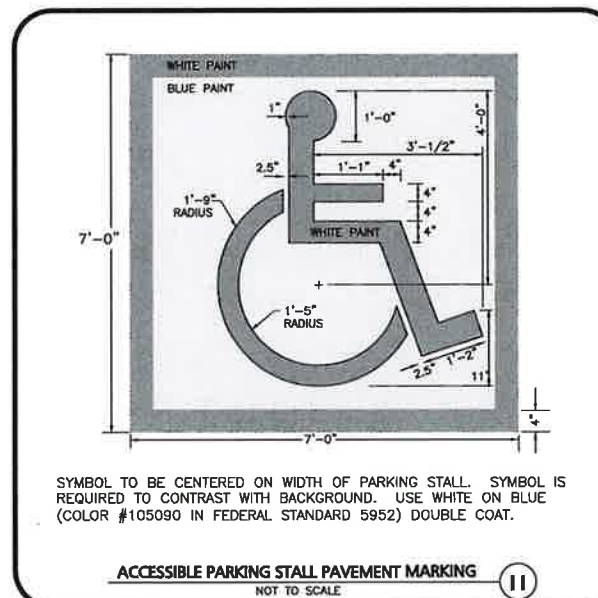
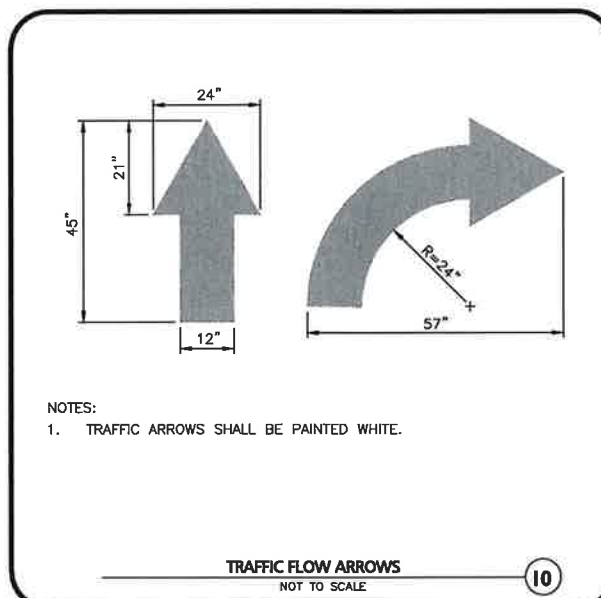
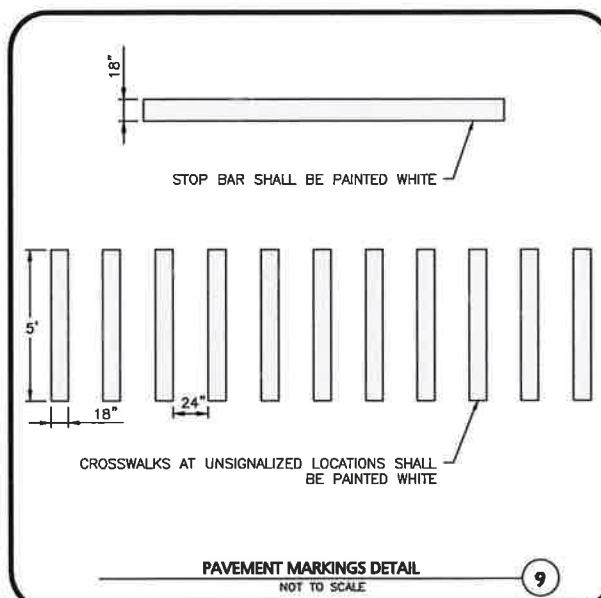
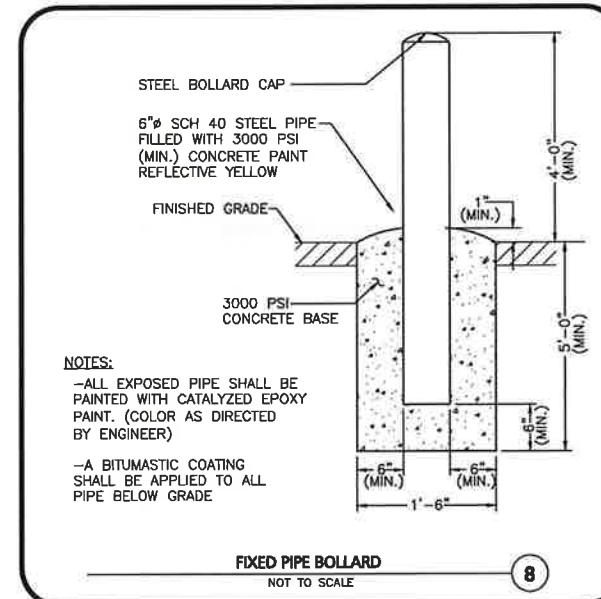
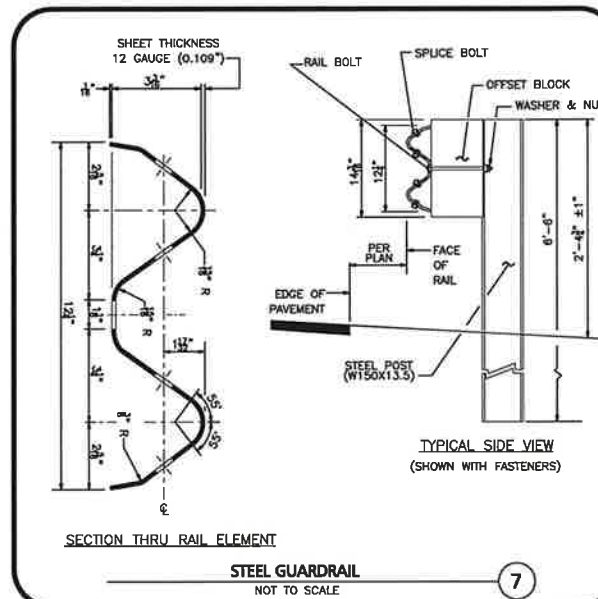
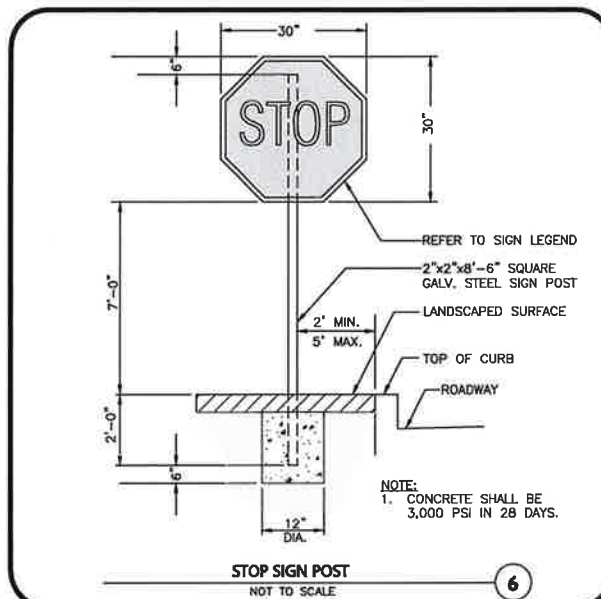
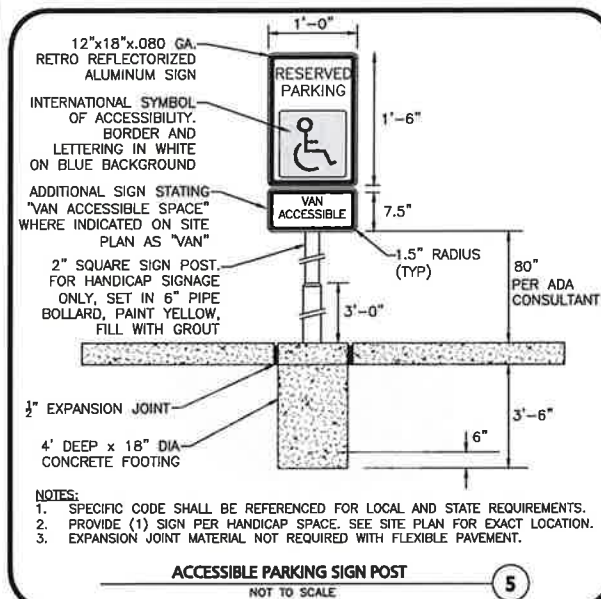
| MUTCD NUMBER | SIGN | SIZE (MIN) | MOUNTING HEIGHT | DESCRIPTION | RETRO-FLECTIVE |
|-----------------------|---|------------|-----------------|-----------------------|----------------|
| R1-1 |  | 30"x30" | 7' - 0" | WHITE ON RED | YES |
| R7-8(M) (MODIFIED) |  | 12"x24" | 7' - 0" | RED ON WHITE | YES |
| R7-8 |  | 12"x18" | 7' - 0" | GREEN & BLUE ON WHITE | YES |
| | | | | | |
| | | | | | |

NOTES:

1. TRAFFIC AND SAFETY SIGNAGE SHALL COMPLY WITH MUTCD STANDARDS.
2. WHERE APPLICABLE THE SIGN SUPPORT SHALL COMPLY WITH THE BREAKAWAY REQUIREMENTS OF THE LATEST EDITION OF AASHTO'S "SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS".

SIGN TABLE
NOT TO SCALE

4



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| | | |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
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APPLICANT:

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PROJECT:

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PREPARED BY



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DRAWING TITLE:

DETAILS

SHEET No.

C-502

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| STANDARD DUTY FLEXIBLE PAVEMENT DESIGN SECTION | | |
|--|---|--------------------------|
| LAYER NUMBER | LAYER DESCRIPTION | LAYER THICKNESS (INCHES) |
| 1 | BITUMINOUS WEARING COURSE (3" AGGREGATE - NHDOT PRE-APPROVED MIX DESIGN) | 1.5" |
| 2 | BITUMINOUS BINDER COURSE (3" AGGREGATE - NHDOT PRE-APPROVED MIX DESIGN) | 1.5" |
| 3 | CRUSHED GRAVEL (BASE COURSE) (NHDOT ITEM 304.3) | 6.0" |
| 4 | GRAVEL BORROW (SUBBASE COURSE) (NHDOT ITEM 304.2) | 12" |
| 5 | CLEAN GRANULAR FILL MATERIAL OR APPROVED ON-SITE MATERIALS (SUBGRADE) | AS NECESSARY |

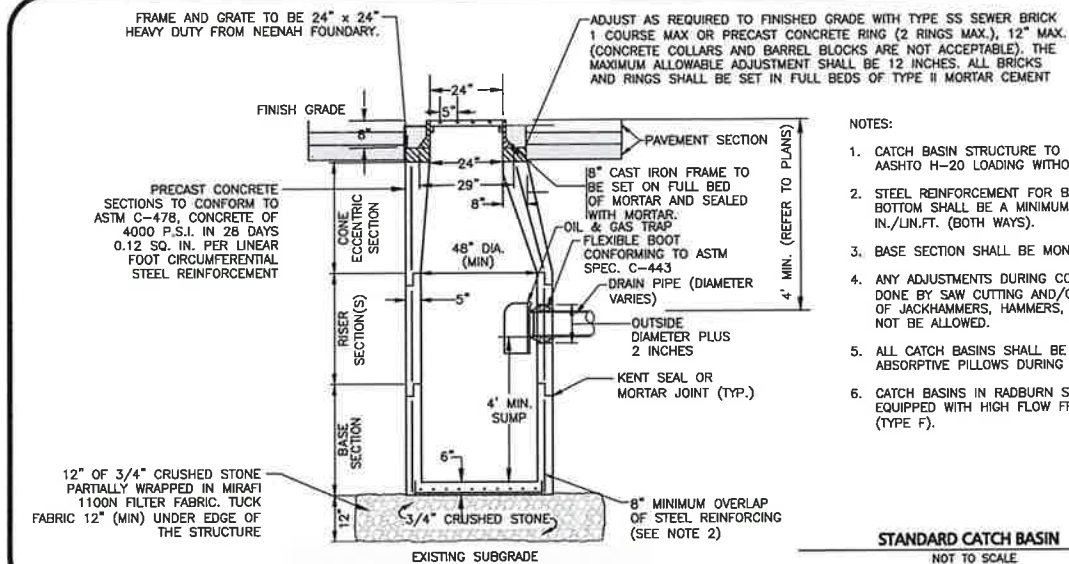
| NHDOT GRADATION SPECIFICATION | | | |
|-------------------------------|---------------------|-------------|----------------------|
| SIEVE SIZE | CLEAN GRANULAR FILL | BASE COURSE | SELECT GRANULAR FILL |
| 8" | 100 | 100 | 100 |
| 3" | 70-100 | 100 | 70-100 |
| 1 1/2" | 40-100 | 40-80 | 40-90 |
| No. 4 | 25-100 | 30-70 | 25-80 |
| No. 10 | 15-95 | 20-60 | 15-70 |
| No. 40 | 10-70 | 10-30 | 5-40 |
| No. 200 | 0-15 | 3-10 | 0-12 |

NOTES:
IF A GEOTECHNICAL REPORT IS PREPARED THE RECOMMENDATIONS WITHIN THAT REPORT SHALL SUPERCEDE RECOMMENDATIONS HEREIN. THE CONTRACTOR SHALL HAVE AND REVIEW A COPY OF THE GEOTECHNICAL REPORT AND COMPLY WITH THE RECOMMENDATIONS THEREIN.

1. TOPSOIL SHALL BE REMOVED BENEATH ALL PAVEMENT AREAS TO EXPOSE THE NATURALLY-OCCURRING SOILS OR ACCEPTABLE ON-SITE FILL MATERIALS.
2. THE SUBGRADE SHOULD BE PROOFROLLED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER USING AT LEAST 4 PASSES OF A 10-TON VIBRATORY ROLLER. AREAS OF THE SUBGRADE THAT "WEAVE" OR "ROLL" EXCESSIVELY SHOULD BE OVEREXCAVATED AND REPLACED WITH DRIER CLEAN GRANULAR FILL MATERIAL.
3. THE PAVEMENT SUBGRADE CONSISTING OF THE SPECIFIED CLEAN GRANULAR FILL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF THE MATERIALS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM DESIGNATION D-1557.
4. PAVEMENT AND GRAVEL SPECIFICATIONS WITHIN THE CITY RIGHT-OF-WAY ARE TO BE DESIGNATED BY THE CITY'S DESIGN CONSULTANT FOR THE ROUNDABOUT PROJECT.

PAVEMENT SECTIONS
NOT TO SCALE

1

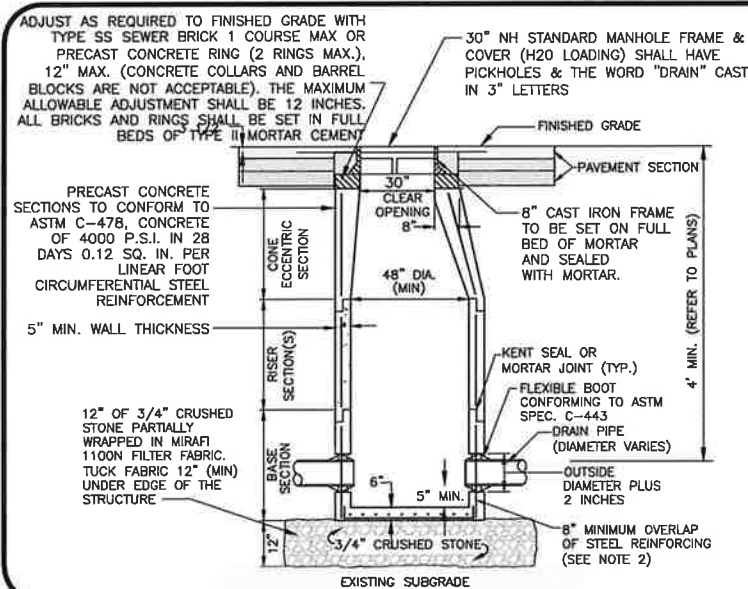


NOTES:

1. CATCH BASIN STRUCTURE TO BE CAPABLE OF AASHTO H-20 LOADING WITHOUT FAILURE.
2. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN.FT. (BOTH WAYS).
3. BASE SECTION SHALL BE MONOLITHIC.
4. ANY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW CUTTING AND/OR CORING. THE USE OF JACKHAMMERS, HAMMERS, AND CHISELS WILL NOT BE ALLOWED.
5. ALL CATCH BASINS SHALL BE EQUIPPED WITH OIL ABSORPTIVE PILLOWS DURING CONSTRUCTION.
6. CATCH BASINS IN RADBURN STREET SHALL BE EQUIPPED WITH HIGH FLOW FRAME AND GRATES (TYPE F).

STANDARD CATCH BASIN
NOT TO SCALE

2

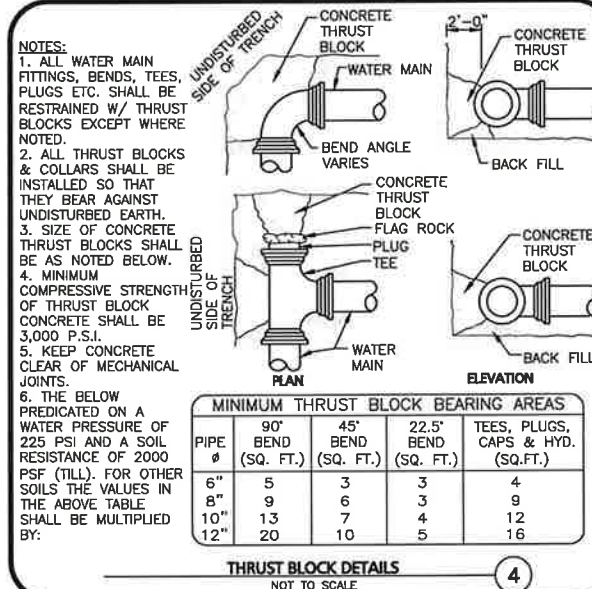


NOTES:

1. MANHOLE TO BE CAPABLE OF AASHTO H-20 LOADING WITHOUT FAILURE.
2. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
3. BASE SECTION SHALL BE MONOLITHIC.
4. ANY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW CUTTING AND/OR CORING. THE USE OF JACKHAMMERS, HAMMERS, AND CHISELS WILL NOT BE ALLOWED.

DRAIN MANHOLE
NOT TO SCALE

3



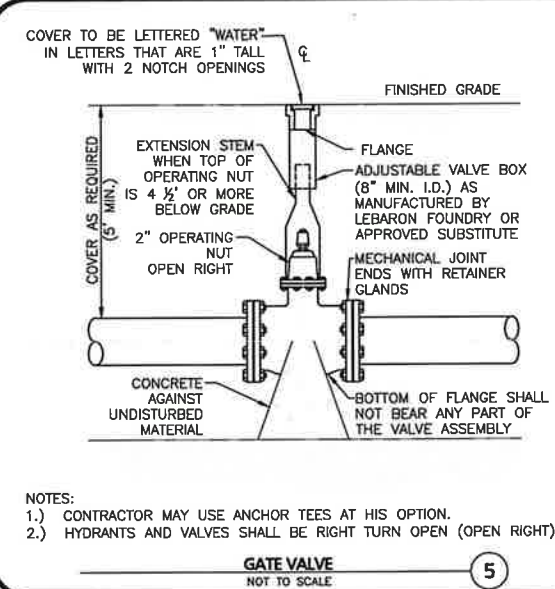
NOTES:

1. ALL WATER MAIN FITTINGS, BENDS, TEES, PLUGS, ETC., SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
2. ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
3. SIZE OF CONCRETE THRUST BLOCKS SHALL BE AS NOTED BELOW.
4. MINIMUM COMPRESSIVE STRENGTH OF THRUST BLOCK CONCRETE SHALL BE 3,000 P.S.I.
5. KEEP CONCRETE CLEAR OF MECHANICAL JOINTS.
6. THE BELOW PREPARED ON A WATER PRESSURE OF 225 PSI AND A SOIL RESISTANCE OF 2000 PSF (TILL). FOR OTHER SOILS THE VALUES IN THE ABOVE TABLE SHALL BE MULTIPLIED BY:

| MINIMUM THRUST BLOCK BEARING AREAS | | | | | |
|------------------------------------|--------------------|--------------------|----------------------|------------------------------------|--|
| PIPE Ø | 90° BEND (SQ. FT.) | 45° BEND (SQ. FT.) | 22.5° BEND (SQ. FT.) | TEES, PLUGS, CAPS & HYD. (SQ. FT.) | |
| 6" | 5 | 3 | 3 | 4 | |
| 8" | 9 | 6 | 3 | 9 | |
| 10" | 13 | 7 | 4 | 12 | |
| 12" | 20 | 10 | 5 | 16 | |

THRUST BLOCK DETAILS
NOT TO SCALE

4



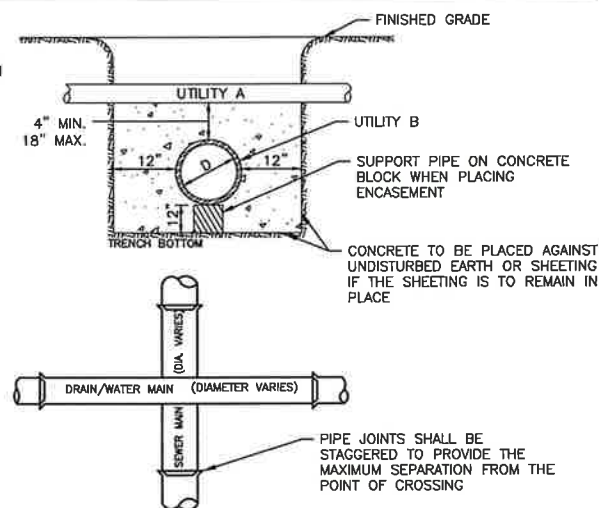
NOTES:

1. CONTRACTOR MAY USE ANCHOR TEES AT HIS OPTION.
2. HYDRANTS AND VALVES SHALL BE RIGHT TURN OPEN (OPEN RIGHT).

GATE VALVE
NOT TO SCALE

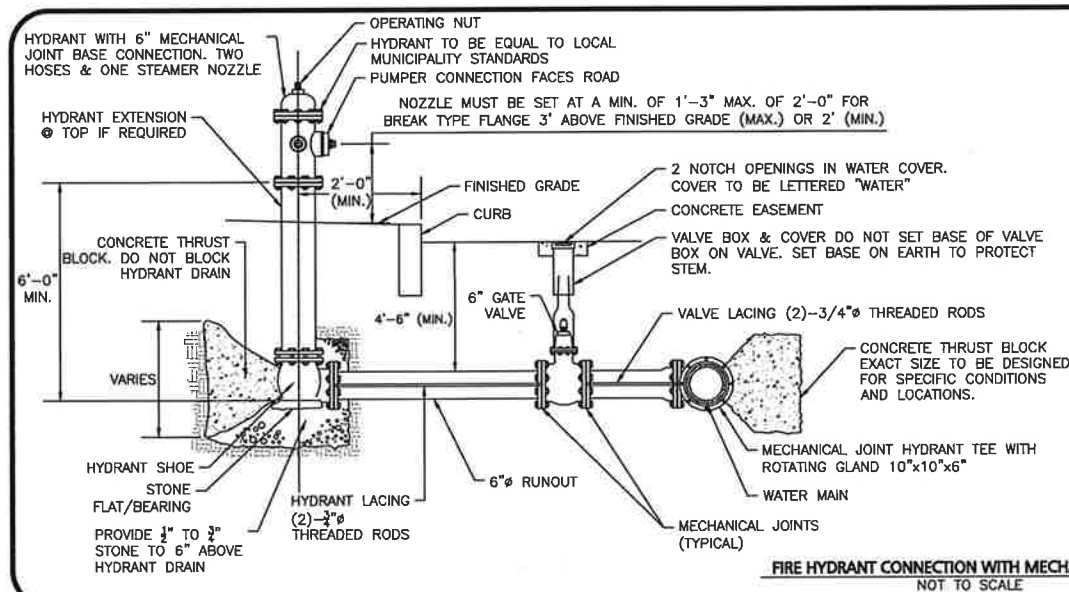
5

- NOTES:
WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET BETWEEN A SEWER MAIN AND A WATER/RAIN MAIN:
1. THE WATER/RAIN MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER/RAIN MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
 2. THE PIPE CROSSING SHALL OCCUR AS CLOSE TO 90° AS PRACTICABLE.
 3. THE PIPE JOINTS SHALL BE STAGGERED TO PROVIDE THE MAXIMUM SEPARATION FROM THE POINT OF CROSSING, 6' OF SEPARATION MINIMUM.
 4. THE CROSSING SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 10 LINEAR FEET CENTERED ON THE CROSSING.
 5. UTILITIES A AND B CAN BE EITHER NEW OR EXISTING.
 6. WHEN ONE UTILITY IS A SANITARY SEWER, IT IS PREFERABLE TO BE POSITIONED AS SHOWN FOR UTILITY B.
 7. ENCASEMENT EXTENDS 10'-0" ON EACH SIDE OF THE CENTERLINE OF UTILITY A.
 8. PIPE MUST BE BRACED VERTICALLY AND HORIZONTALLY TO PREVENT FLOATATION DURING PLACEMENT OF CONCRETE.



SEWER, WATER/RAIN CROSSING DETAIL
NOT TO SCALE

6



NOTES:

1. ALL HYDRANTS, VALVES AND LOCAL CONNECTIONS SHALL COMPLY WITH THE SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
2. PIPING TO BE RESTRAINED WITH RODDING OR RETAINING GLANDS.
3. GATE VALVE INSTALLATION IS TYPICAL FOR ALL GATES SHOWN ON THE DRAWINGS.

FIRE HYDRANT CONNECTION WITH MECHANICAL JOINT
NOT TO SCALE

7



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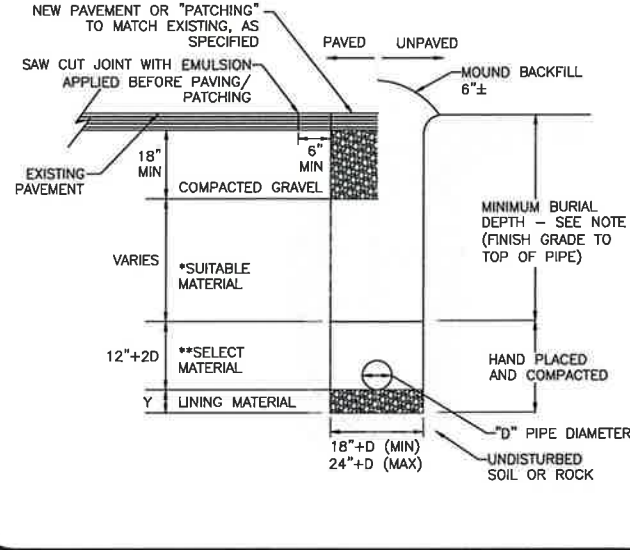
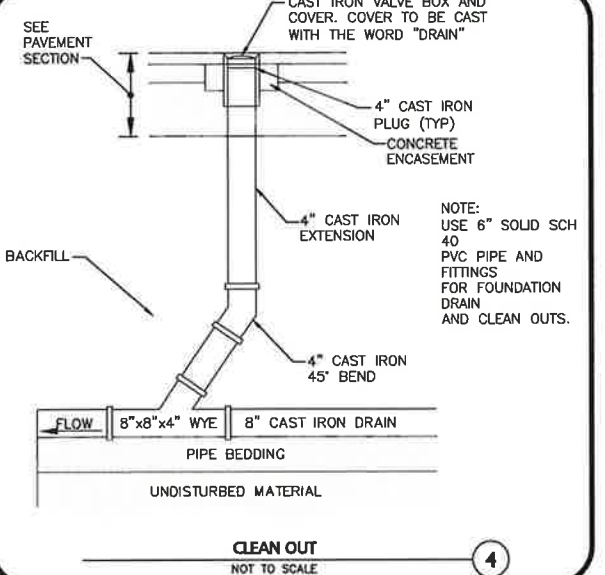
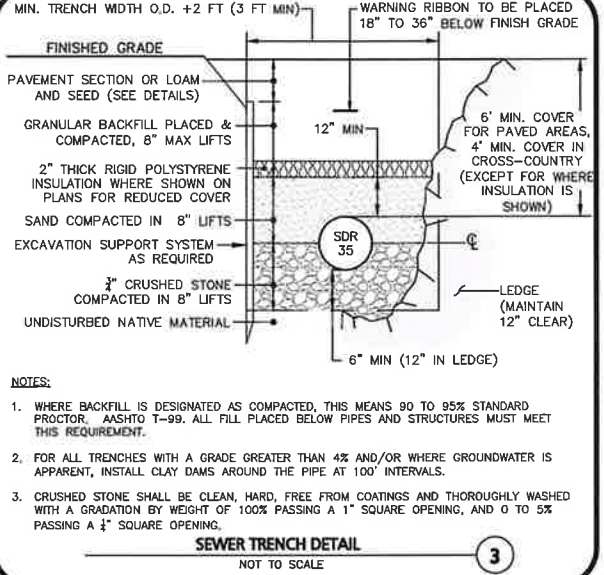
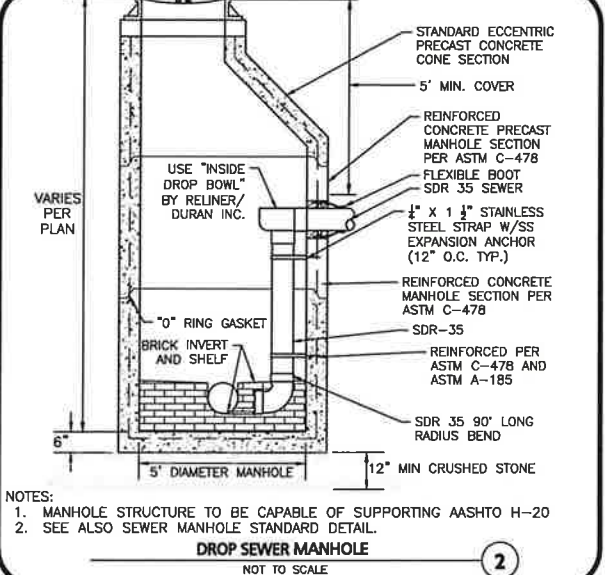
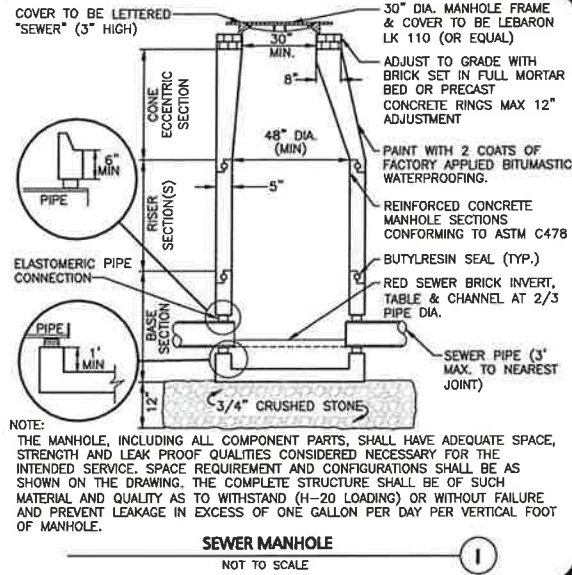
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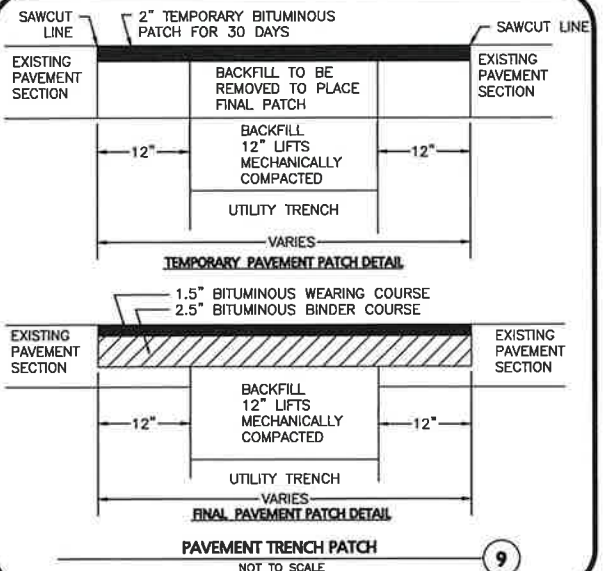
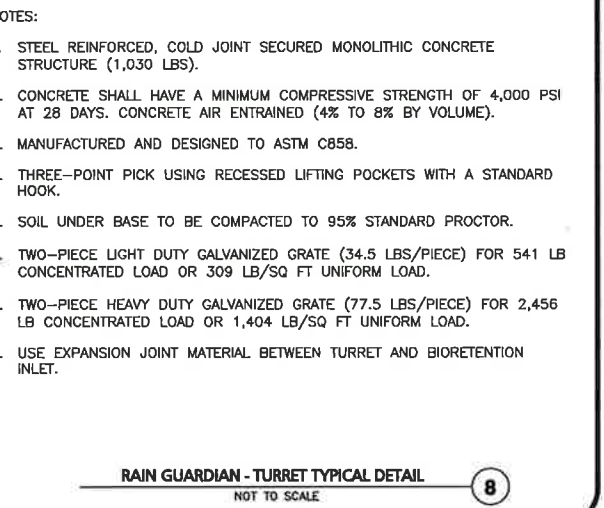
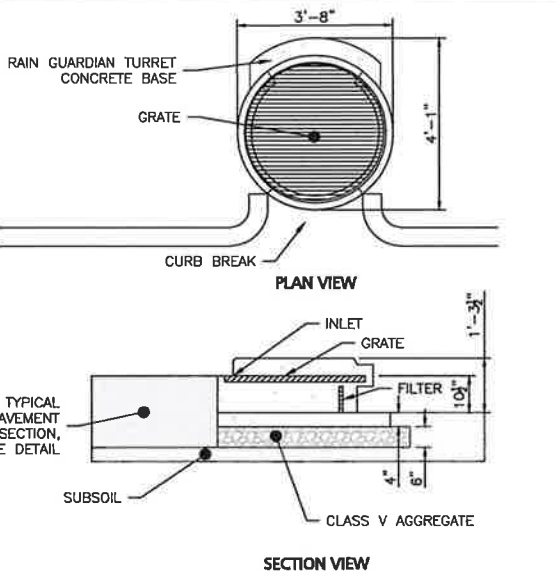
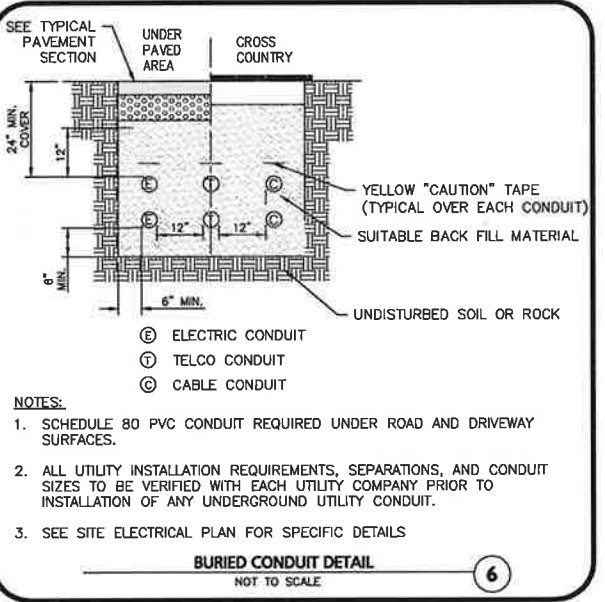
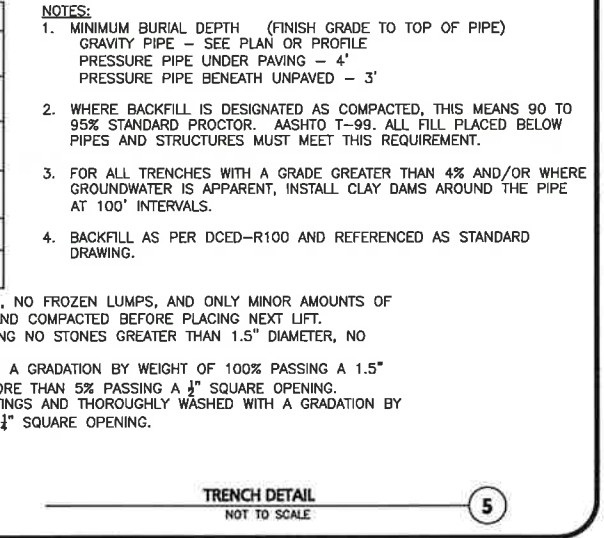
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| DRAWING TITLE: | SHEET No. |
| DETAILS | C-503 |

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| CONDITION & PIPE | **SELECT MATERIAL | LINING MATERIAL | Y-DIMENSION |
|--------------------------------|--------------------|------------------|-------------|
| DUCTILE IRON "ORDINARY SOIL" | TYPE I, II, OR III | SAND OR TYPE III | 3" |
| RCP "ORDINARY SOIL" | TYPE II OR III | SAND OR TYPE III | 3" |
| ALL PIPE OVER BEDROCK OR LEDGE | TYPE II OR III | SAND OR TYPE III | 8" |
| DUCTILE IRON IN CLAY OR MUCK | TYPE II OR III | SAND | 4" |
| RCP IN CLAY | TYPE II OR III | SAND | 8" |
| ALL PLASTICS | TYPE III | SAND OR TYPE III | 6" |

* SUITABLE MATERIAL SHALL CONTAIN NO STONE GREATER THAN 4" IN DIAMETER, NO FROZEN LUMPS, AND ONLY MINOR AMOUNTS OF CLAY OR ORGANIC MATERIAL. ALL MATERIAL TO BE PLACED IN MAX 6" LIFTS AND COMPACTED BEFORE PLACING NEXT LIFT.
**TYPE I MATERIAL SHALL BE EITHER GRAVEL OR EXCAVATED MATERIAL CONTAINING NO STONES GREATER THAN 1.5" DIAMETER, NO FROZEN LUMPS, CLAY OR ORGANIC MATERIAL.
**TYPE II MATERIAL SHALL BE CLEAN, HARD, CRUSHED OR NATURAL STONE WITH A GRADATION BY WEIGHT OF 100% PASSING A 1.5" SQUARE OPENING, NOT MORE THAN 25% PASSING A 3/4" OPENING, AND NOT MORE THAN 5% PASSING A 3/8" SQUARE OPENING.
**TYPE III MATERIAL SHALL BE CLEAN, HARD, CRUSHED STONE FREE FROM COATINGS AND THOROUGHLY WASHED WITH A GRADATION BY WEIGHT OF 100% PASSING A 1" SQUARE OPENING, AND 0 TO 5% PASSING A 1/2" SQUARE OPENING.



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ALLEN & MAJOR ASSOCIATES, INC.

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|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

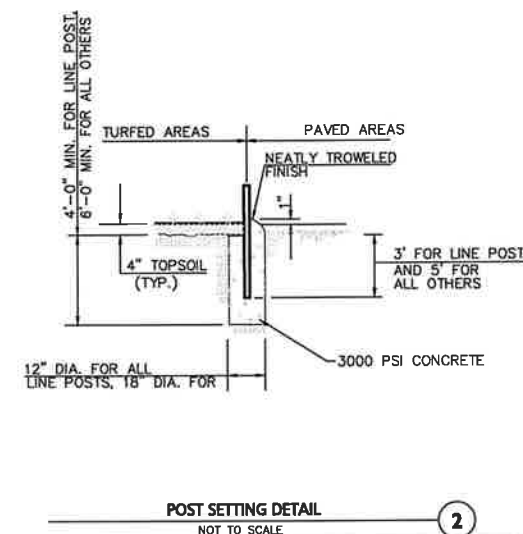
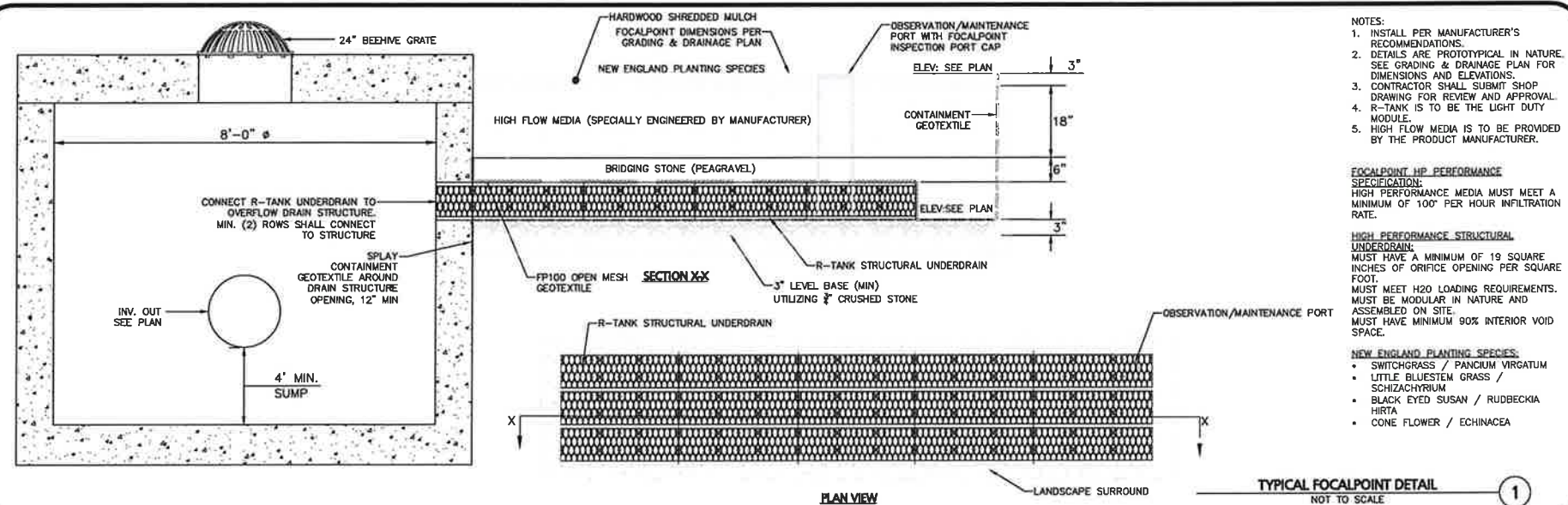
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| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | AS SHOWN | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

ALLEN & MAJOR ASSOCIATES, INC.
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400 HARVEY ROAD
MANCHESTER, NH 03103
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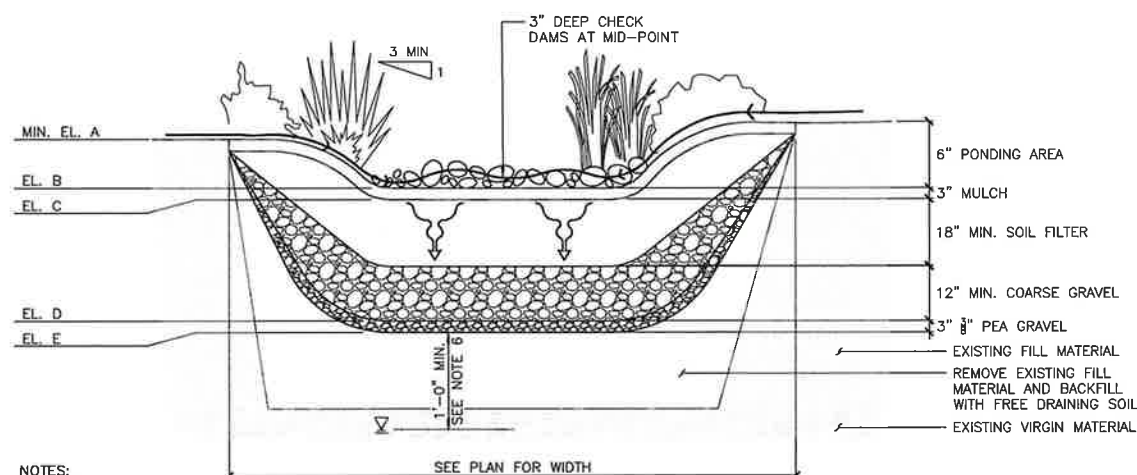
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| DETAILS | C-504 |

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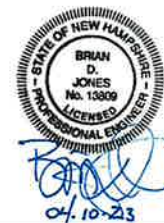
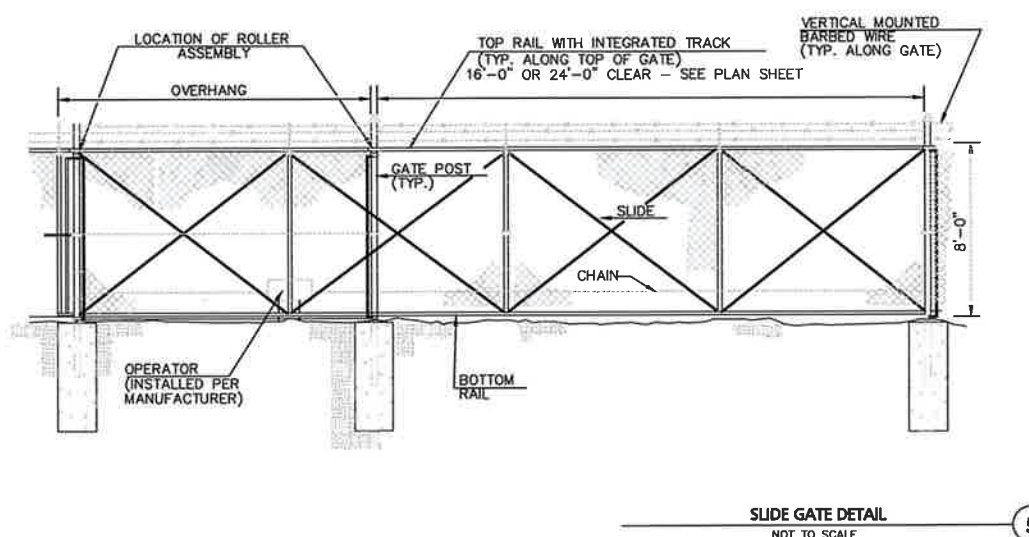
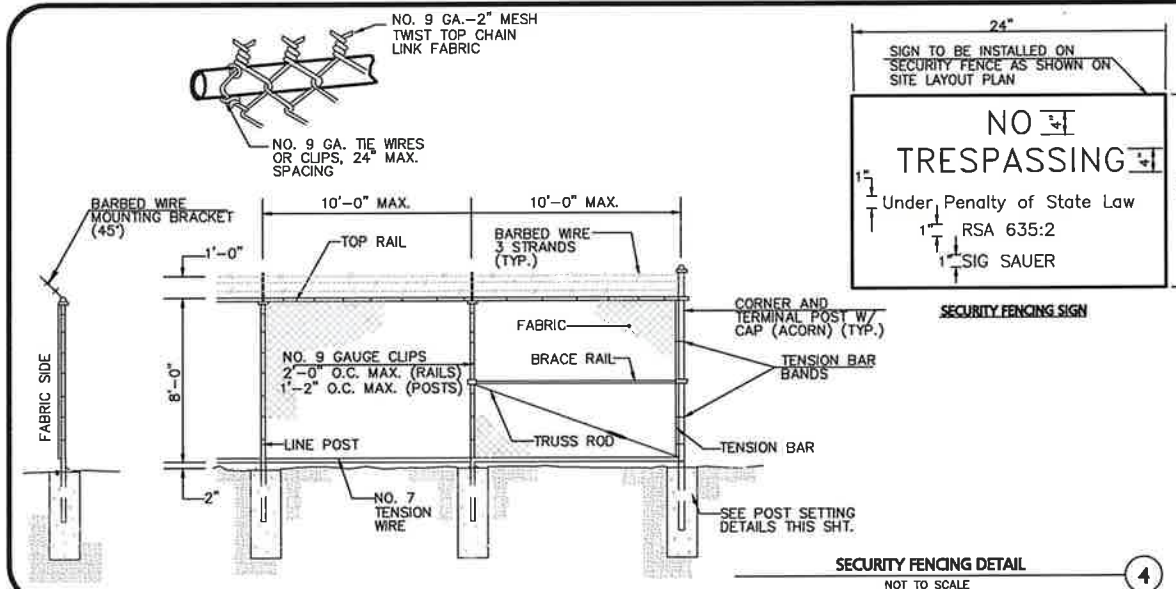


| ELEV. ID | BIORETENTION #1 |
|----------|-----------------|
| A | 244.00 |
| B | 243.50 |
| C | 243.25 |
| D | 241.75 |
| E | 241.50 |

| BIORETENTION FILTER MEDIA | | | |
|--|------------------------------|-----------------------|--|
| COMPONENT MATERIAL | PERCENT OF MIXTURE BY VOLUME | GRADATION OF MATERIAL | |
| | | SIEVE NO. | PERCENT BY WEIGHT PASSING STANDARD SIEVE |
| FILTER MEDIA OPTION A | | | |
| ASTM C-22 CONCRETE SAND | 50 TO 55 | | |
| LOAMY SAND TOPSOIL, WITH FINES AS INDICATED | 20 TO 30 | 200 | 15 TO 25 |
| MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED | 20 TO 30 | 200 | <5 |
| FILTER MEDIA OPTION B | | | |
| MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED | 20 TO 30 | 200 | <5 |
| LOAMY COARSE SAND | 70 TO 80 | 10 | 85 TO 100 |
| | | 20 | 70 TO 100 |
| | | 60 | 15 TO 40 |
| | | 200 | 8 TO 15 |



- NOTES:**
- SEE PLAN FOR WIDTH
1. SEE LANDSCAPE PLAN FOR PLANT TYPES.
 2. GRADING, AND PLANTING OF BIORETENTION SHALL BE COMPLETED IN EARLY PHASES OF CONSTRUCTION. PLANTS AND SEED ON SLOPES AND BOTTOM OF BASIN MUST BE ESTABLISHED PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA. PLANTS AND SEED MIX SHALL HAVE A MINIMUM OF 6 MONTHS GROWING, BE ESTABLISHED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO CONNECTING STORM DRAINAGE SYSTEM OUTLETS TO BIORETENTION AREA.
 3. EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN, SHALL BE IN PLACE PRIOR TO ANY REGRADING ACTIVITY.
 4. EXCAVATION, FILLING AND PLANTING SHALL OCCUR IN THE DRY. WATER LEVELS MUST BE LOWERED IN THE BIORETENTION AREA BY RELYING ON DRY SEASON AND OR DRY SPELLS; OR MAY BE ACCOMPLISHED THROUGH THE USE OF DEWATERING METHODS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ANY DEWATERING METHODS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 5. WATER FROM ANY DEWATERING OPERATION SHALL BE TREATED TO REDUCE TOTAL SUSPENDED SOLIDS AND BE IN COMPLIANCE WITH STATE AND FEDERAL STANDARDS.
 6. A MINIMUM OF 1 FOOT SEPARATION BETWEEN THE BOTTOM OF THE PRACTICE AND SEASONAL HIGH WATER TABLE SHALL BE PROVIDED, VERIFY IN FIELD. IF SEPARATION CAN NOT BE ACHIEVED, SET UNDERDRAIN AT BOTTOM OF COARSE GRAVEL LAYER, OMIT PEA GRAVEL LAYER, AND PROVIDE IMPERMEABLE LINER AT BOTTOM OF PRACTICE.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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APPLICANT

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

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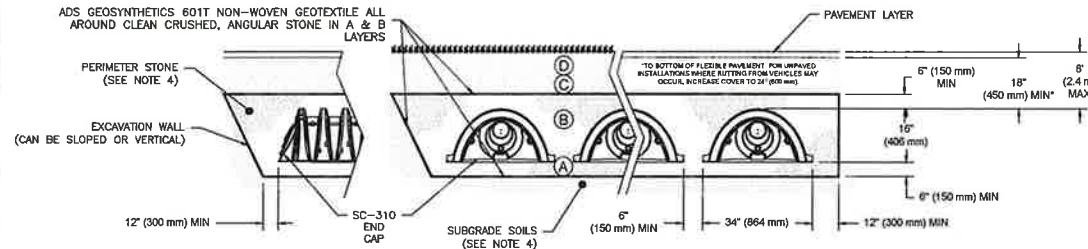
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| DRAWING TITLE: | SHEET No. |
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ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

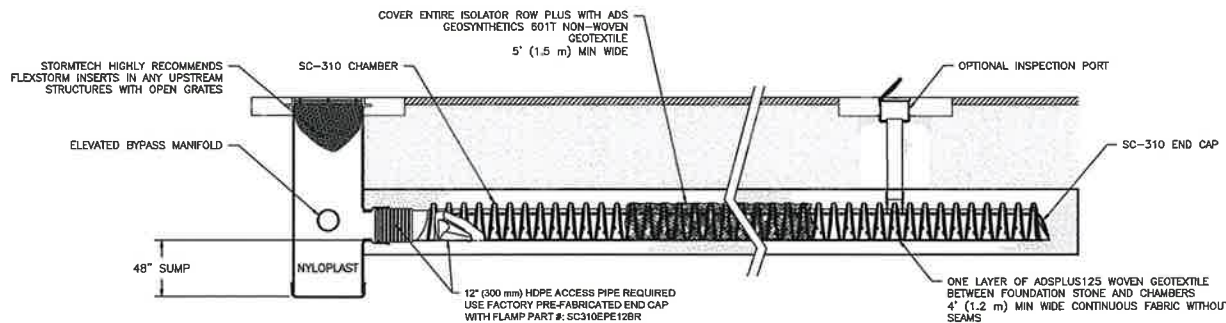
| MATERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
|-------------------|---|---|--|
| D | FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| C | INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER. | AASHTO M145* A-1, A-2-4, A-3 OR AASHTO M43* 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN). |
| B | EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE. | AASHTO M43* 3, 357, 4, 467, 5, 56, 57 | NO COMPACTION REQUIRED. |
| A | FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER. | AASHTO M43* 3, 357, 4, 467, 5, 56, 57 | PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE ^{2,3} |

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 - ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



- NOTES:
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - COORDINATE WITH THE PROJECT GEOTECHNICAL ENGINEER FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

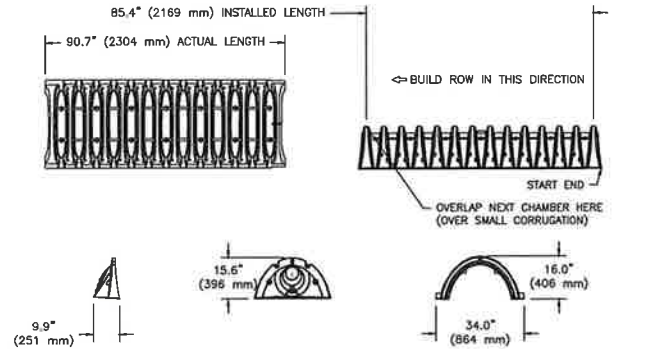
SC-310 - CROSS SECTION DETAIL
NOT TO SCALE



SC-310 - ISOLATOR ROW PLUS DETAIL
NOT TO SCALE



STORMTECH SC-310 CHAMBER SYSTEM
NOT TO SCALE



NOMINAL CHAMBER SPECIFICATIONS

| SIZE (W X H X INSTALLED LENGTH) | 34.0" X 16.0" X 85.4" (864 mm X 406 mm X 2169 mm) |
|---------------------------------|---|
| CHAMBER STORAGE | 14.7 CUBIC FEET (0.42 m³) |
| MINIMUM INSTALLED STORAGE* | 31.0 CUBIC FEET (0.88 m³) |
| WEIGHT | 35.0 lbs. (16.8 kg) |

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

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

| PART# | STUB | A | B | C |
|-----------------------------|--------------|----------------|---------------|--------------|
| SC310EPE06T / SC310EPE06TPC | 6" (150 mm) | 9.6" (244 mm) | 5.8" (147 mm) | --- |
| SC310EPE06B / SC310EPE06BPC | 6" (150 mm) | --- | --- | 0.5" (13 mm) |
| SC310EPE08T / SC310EPE08TPC | 8" (200 mm) | 11.9" (302 mm) | 3.5" (89 mm) | --- |
| SC310EPE08B / SC310EPE08BPC | 8" (200 mm) | --- | --- | 0.6" (15 mm) |
| SC310EPE10T / SC310EPE10TPC | 10" (250 mm) | 12.7" (323 mm) | 1.4" (36 mm) | --- |
| SC310EPE10B / SC310EPE10BPC | 10" (250 mm) | --- | --- | 0.7" (18 mm) |
| SC310EPE12B | 12" (300 mm) | 13.5" (343 mm) | --- | 0.9" (23 mm) |
| SC310EPE12BR | 12" (300 mm) | 13.5" (343 mm) | --- | 0.9" (23 mm) |

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

TECHNICAL SPECIFICATIONS
NOT TO SCALE

SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERVAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.



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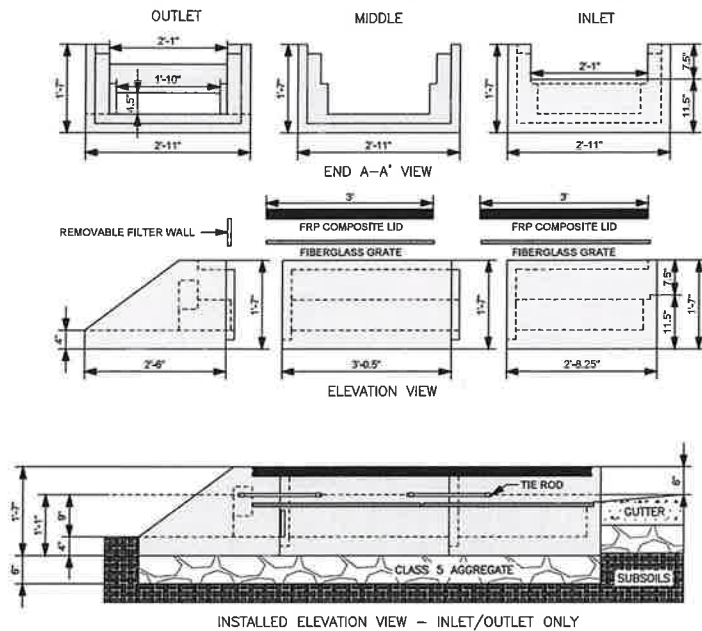
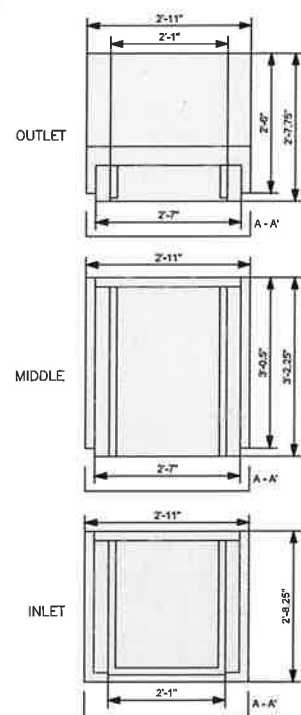


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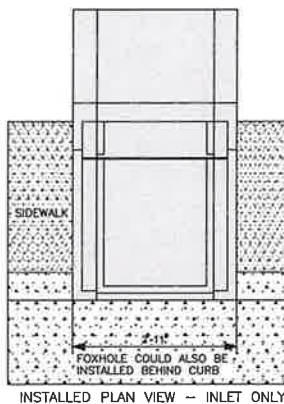


SPECIFICATIONS:

1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURES (INLET 875 LBS, MIDDLE 965 LBS, AND OUTLET 730 LBS). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS. CONCRETE AIR ENTRAINMENT (5% TO 8.5% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. 2-POINT PICK USING RECESSED LIFTING POCKETS WITH A STANDARD HOOK.
3. FIBERGLASS GRATE (11 LBS/PIECE).
4. FRP COMPOSITE LID (38 LBS/PIECE) WITH CONCENTRATED LOAD CAPACITY OF 11,200 LBS.

INSTALLATION NOTES:

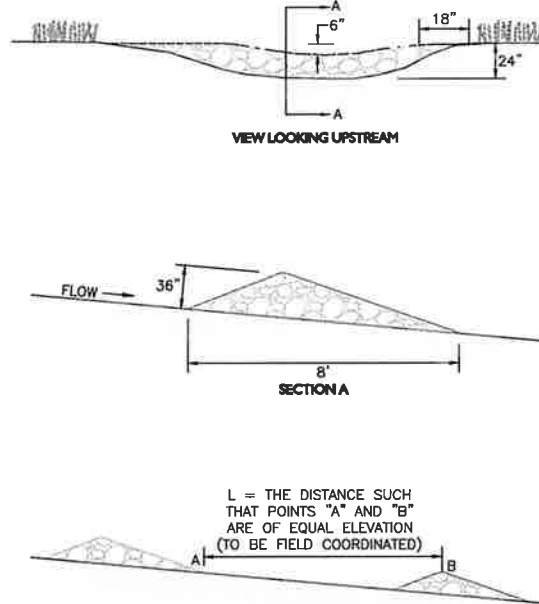
1. INSTALL A CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR). IT IS CRITICAL THAT THE CLASS 5 BASE IS EVEN TO ENSURE THE FOXHOLE PIECES ALIGN VERTICALLY SUCH THAT THE TOP LIDS LAY FLUSH WITH THE TOP OF THE FOXHOLE PIECES AND ADJACENT BOULEVARD, SIDEWALK, OR PATH. THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITIONS. EXCAVATE 1'-7" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIRETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 9" PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" RAIN GUARDIAN FOXHOLE BASE (INCLUDED). THEREFORE, THE TOP OF THE CLASS 5 COMPACTED BASE IS PRECISELY 1" BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE RAIN GUARDIAN FOXHOLE INLET POINT WILL BE 7'-1/2" ABOVE THE TOP OF THE CONCRETE BASE AND 1'-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN FOXHOLE.
2. SET RAIN GUARDIAN FOXHOLE INLET FIRST, FOLLOWED BY MIDDLE SECTION(S), AND FINALLY THE OUTLET ON THE PREPARED CLASS 5 BASE. POSITION RAIN GUARDIAN FOXHOLE OUTLET PIECE SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL.
3. SECURE MODULAR FOXHOLE PIECES AT EACH JOINT USING PROVIDED GALVANIZED TIE RODS.
4. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN RAIN GUARDIAN FOXHOLE AND CONCRETE INLET BEFORE POURING INLET.
5. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN FOXHOLE INLET.



RAIN GUARDIAN - FOXHOLE TYPICAL DETAIL

NOT TO SCALE

1



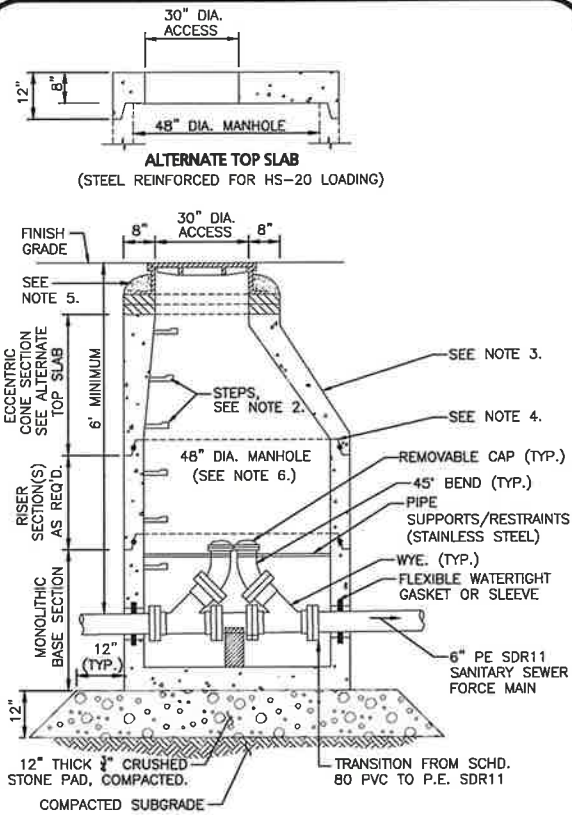
NOTES:

1. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHALL BE LESS THAN ONE ACRE.
2. THE MAXIMUM HEIGHT OF THE DAM SHALL BE 2 FEET.
3. THE CENTER OF THE DAM SHALL BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES.
4. THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM.
5. THE DAMS SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
6. CHECK DAMS SHALL BE CONSTRUCTED OF A WELL-GRADED ANGULAR 2-INCH TO 3-INCH STONE.

TEMPORARY CHECK DAM

NOT TO SCALE

2



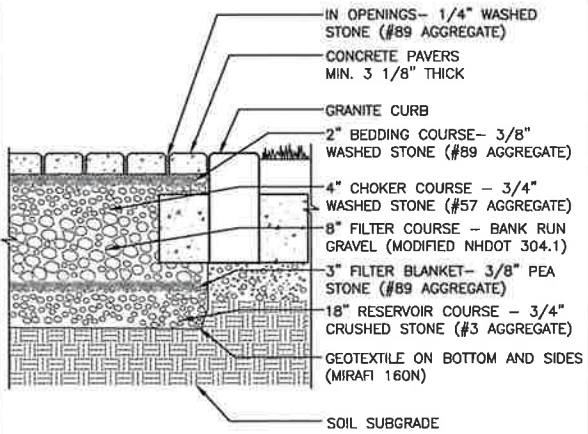
NOTES:

1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. THE EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR. (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).
6. MANHOLE DIAMETER SHALL BE VERIFIED BY CONTRACTOR AND MANUFACTURER BASED ON PIPE DIAMETER AND FITTING DIMENSIONS.
7. MANHOLE FRAME AND COVER SHALL BE WATERTIGHT AND BOLT-IN-PLACE AND HAVE THE WORD "SEWER".
8. FITTINGS AND PIPING WITHIN THE STRUCTURE SHALL BE SCHEDULE 80 PVC.

SEWER FORCE MAIN CLEAN OUT MANHOLE

NOT TO SCALE

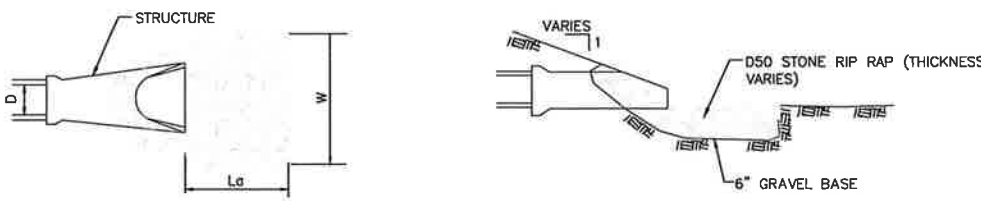
3



PERMEABLE PAVER DETAIL

NOT TO SCALE

4



RIP-RAP SIZING CHART

| STRUCTURE | D | La | W | D50 | THICKNESS |
|-----------|-----|-----|-----|-----|-----------|
| HW-01 | 18" | 21' | 26' | 8" | 18" |
| HW-02 | 8" | 10' | 12' | 3" | 7" |
| HW-03 | 30" | 23' | 31' | 6" | 14" |

RIP-RAP OUTFALL APRON

NOT TO SCALE

6

NOT USED

NOT TO SCALE

7



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: AS SHOWN DWG. NAME: C2912-01A

DESIGNED BY: JRG CHECKED BY: BDI

PREPARED BY:



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DRAWING TITLE: SHEET No.

DETAILS

C-507

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1. GENERAL:
PROVIDE EXPLOSION-PROOF SUBMERSIBLE SEWAGE PUMPS SUITABLE FOR CONTINUOUS DUTY OPERATION UNDERWATER WITHOUT LOSS OF WATERTIGHT INTEGRITY TO A DEPTH OF 65 FEET. PUMP SYSTEM DESIGN SHALL INCLUDE A GUIDE RAIL SYSTEM BE SUCH THAT THE PUMP WILL BE AUTOMATICALLY CONNECTED TO THE DISCHARGE PIPING WHEN LOWERED INTO PLACE ON THE DISCHARGE CONNECTION. THE PUMP SHALL BE EASILY REMOVABLE FOR INSPECTION OR SERVICE, REQUIRING NO BOLTS, NUTS, OR OTHER FASTENERS TO BE DISCONNECTED, OR THE NEED FOR PERSONNEL TO ENTER THE WET WELL. THE MOTOR AND PUMP SHALL BE DESIGNED, MANUFACTURED, AND ASSEMBLED BY THE SAME MANUFACTURER.
2. MANUFACTURER: EBARA INTERNATIONAL CORPORATION (OR APPROVED EQUAL).
3. PUMP CHARACTERISTICS: PUMPS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
- | | | | |
|-------------------|----|------------|----------|
| NUMBER OF UNITS | 2 | RPM | 1740 |
| DESIGN FLOW (GPM) | 80 | MAXIMUM HP | 2.0 |
| DESIGN TDH (FT) | 17 | VOLTAGE/HZ | 240/60HZ |
| | | PHASE | T.B.D. |
4. PUMP CONSTRUCTION:
ALL MAJOR PARTS OF THE PUMPING UNIT(S) INCLUDING CASING, IMPELLER, SUCTION COVER, WEAR RINGS, MOTOR FRAME AND DISCHARGE ELBOW SHALL BE MANUFACTURED FROM GRAY CAST IRON, ASTM A-48 CLASS 30. CASTINGS SHALL HAVE SMOOTH SURFACES DEVOID OF BLOW HOLES OR OTHER CASTING IRREGULARITIES. CASING DESIGN SHALL BE CENTERLINE DISCHARGE WITH A LARGE RADIUS ON THE CUT WATER TO PREVENT CLOGGING. UNITS SHALL BE FURNISHED WITH A DISCHARGE ELBOW AND A 125 LB. FLAT FACE ANSI FLANGE. ALL EXPOSED BOLTS AND NUTS SHALL BE 304 STAINLESS STEEL. ALL MATING SURFACES OF MAJOR COMPONENTS SHALL BE MACHINED AND FITTED WITH NBR O-RINGS WHERE WATERTIGHT SEALING IS REQUIRED. MACHINING AND FITTING SHALL BE SUCH THAT SEALING IS ACCOMPLISHED BY AUTOMATIC COMPRESSION OF O-RINGS IN TWO PLANES AND O-RING CONTACT IS MADE ON FOUR SURFACES WITHOUT THE REQUIREMENT OF SPECIFIC TORQUE LIMITS. INTERNAL AND EXTERNAL SURFACES ARE PREPARED TO SPFC-VISI-SP-3-63 THEN COATED WITH A ZINC-CHROMATE PRIMER. THE EXTERNAL SURFACES ARE THEN COATED WITH A TNEDEC SERIES 46-465 COAL TAR PAINT.
- A. IMPELLERS:
THE IMPELLER SHALL BE A MIXED FLOW MULTI-VANE OPEN DESIGN. IT SHALL BE DYNAMICALLY BALANCED AND SHALL BE DESIGNED FOR SOLIDS HANDLING WITH A LONG THRULET WITHOUT ACUTE TURNS. THE INLET EDGE OF THE IMPELLER VANES SHALL BE ANGLED TOWARD THE IMPELLER PERIPHERY SO AS TO FACILITATE THE RELEASE OF OBJECTS THAT MIGHT OTHERWISE CLOG THE PUMP. THE DESIGN SHALL ALSO INCLUDE BACK PUMP OUT VANES TO REDUCE THE PRESSURE AND ENTRY OF FOREIGN MATERIALS INTO THE MECHANICAL SEAL AREA. IN ADDITION, A LIP SEAL SHALL BE LOCATED BEHIND THE IMPELLER HUB TO FURTHER REDUCE THE ENTRY OF FOREIGN MATERIALS INTO THE SEAL AREA. IMPELLERS SHALL BE DIRECT CONNECTED TO THE MOTOR SHAFT WITH A SLIP FIT, KEY DRIVEN AND SECURED WITH AN IMPELLER BOLT. THE DESIGN SHALL INCLUDE A REPLACEABLE CAST IRON SUCTION COVER. THE SUCTION COVER SHALL BE DESIGNED SUCH THAT IT MAY BE ADJUSTED TO MAINTAIN WORKING CLEARANCES AND HYDRAULIC EFFICIENCIES.
- B. MECHANICAL SEALS:
UNITS SHALL BE DESIGNED TO INCLUDE A DOUBLE MECHANICAL SEAL IN A TANDEM ARRANGEMENT. EACH SEAL SHALL BE POSITIVELY DRIVEN AND ACT INDEPENDENTLY WITH IT'S OWN SPRING SYSTEM. THE UPPER SEAL OPERATES IN AN OIL BATH, WHILE THE LOWER SEAL IS LUBRICATED BY THE OIL FROM BETWEEN THE SHAFT AND THE SEAL FACES. THE LOWER SEAL IS ALSO IN CONTACT WITH THE PUMPAGE. THE OIL FILLED SEAL CHAMBER SHALL BE DESIGNED TO PREVENT OVER-FILLING AND INCLUDE AN ANTI-VORTEXING VANE TO INSURE PROPER LUBRICATION OF BOTH SEAL FACES. LOWER FACE MATERIALS SHALL BE SILICON CARBIDE, UPPER FACES CARBON VS. CERAMIC, NBR ELASTOMERS, AND 304SS HARDWARE. SEAL SYSTEM SHALL NOT RELY ON PUMPING MEDIUM FOR LUBRICATION.
5. MOTOR CONSTRUCTION:
THE PUMP MOTOR SHALL BE AN AIR FILLED EXPLOSION-PROOF INDUCTION TYPE WITH A SQUIRREL CAGE ROTOR, SHELL TYPE DESIGN, BUILT TO NEMA MG-1, DESIGN B SPECIFICATIONS. STATOR WINDINGS SHALL BE COPPER, INSULATED WITH MOISTURE RESISTANT CLASS H INSULATION, RATED FOR 356 F (180 C). THE STATOR SHALL BE DIPPED AND BAKED THREE TIMES IN CLASS H VARNISH AND HEAT SHRUNK FITTED INTO THE STATOR HOUSING. ROTOR BARS AND SHORT CIRCUIT RINGS SHALL BE MANUFACTURED OF CAST ALUMINUM. MOTOR SHAFT SHALL BE ONE PIECE AISI403 SS MATERIAL, ROTATING ON TWO PERMANENTLY LUBRICATED BALL BEARINGS DESIGNED FOR A MINIMUM 8-10 LIFE OF 60,000 HOURS. MOTOR SERVICE FACTOR SHALL BE 1.15 AND CAPABLE OF UP TO 20 STARTS PER HOUR. THE MOTOR SHALL BE DESIGNED FOR CONTINUOUS DUTY PUMPING AT A MAXIMUM SUMP TEMPERATURE OF 104 F. VOLTAGE AND FREQUENCY TOLERANCES SHALL BE A MAXIMUM 10 / 5% RESPECTIVELY. MOTOR OVER TEMPERATURE PROTECTION SHALL BE PROVIDED BY THREE MINIATURE THERMAL PROTECTORS (ONE PER PHASE) EMBEDDED IN THE WINDINGS. MECHANICAL SEAL FAILURE PROTECTION SHALL BE PROVIDED BY A MECHANICAL FLOAT SWITCH LOCATED IN A CHAMBER ABOVE THE SEAL. THIS SWITCH SHALL BE COMPRISED OF A MAGNETIC FLOAT THAT ACTUATES A DRY REED SWITCH ENCAPSULATED WITHIN THE STEM. SHOULD THE MECHANICAL SEAL FAIL, LIQUID SHALL BE DIRECTED INTO THE FLOAT CHAMBER, IN WHICH THE RISING LIQUID ACTIVATES THE SWITCH OPENING THE NORMALLY CLOSED CIRCUIT. FOR UNITS 2-10 HP THE FLOAT BODY AND FLOAT SHALL BE A POLYPROPYLENE MATERIAL WITH A 316SS STOPPER. UNITS 15 HP AND GREATER, THE FLOAT SWITCH COMPONENTS SHALL BE 304SS. THE MOTOR SHALL BE NON OVERLOADING OVER THE ENTIRE SPECIFIED RANGE OF OPERATION AND BE ABLE TO OPERATE AT FULL LOAD INTERMITTENTLY WHILE UNSUBMERGED WITHOUT DAMAGE TO THE UNIT.
- POWER CABLE JACKET SHALL BE MANUFACTURED OF AN OIL RESISTANT CHLOROPRENE RUBBER MATERIAL, DESIGNED FOR SUBMERGED APPLICATIONS. CABLE SHALL BE WATERTIGHT TO A DEPTH OF A LEAST 65'. THE CABLE ENTRY SYSTEM SHALL COMPRISE OF PRIMARY, SECONDARY AND TERTIARY SEALING METHODS. THE PRIMARY SEAL SHALL BE ACHIEVED BY A CYNDRICAL ELASTOMERIC GROMMET COMPRESSED BETWEEN THE MOTOR COVER AND A 304SS WASHER. SECONDARY SEALING IS ACCOMPLISHED WITH A COMPRESSED O-RING MADE OF NBR MATERIAL. COMPRESSION AND SUBSEQUENT SEALING SHALL PRECLUDE SPECIFIC TORQUE REQUIREMENTS. THE SYSTEM SHALL ALSO INCLUDE TERTIARY SEALING TO PREVENT LEAKAGE INTO THE MOTOR HOUSING DUE TO CAPILLARY ACTION THROUGH THE INSULATION IF THE CABLE IS DAMAGED OR CUT. THE CABLE WIRES SHALL BE CUT, STRIPPED, RE-CONNECTED WITH A COPPER BUTT END CONNECTOR AND EMBEDDED IN EPOXY WITHIN THE CABLE GLAND. THIS PROVIDES A DEAD END FOR LEAKAGE THROUGH THE CABLE INSULATION INTO THE MOTOR JUNCTION AREA. THE CABLE ENTRY SYSTEM SHALL BE THE SAME FOR BOTH THE POWER AND CONTROL CABLES.
6. GUIDE RAIL SYSTEM:
DESIGN SHALL INCLUDE TWO (2) 304SS SCHEDULE 40 GUIDE RAILS SIZED TO MOUNT DIRECTLY TO THE QUICK DISCHARGE CONNECTOR, QDC, AT THE FLOOR OF THE WETWELL AND TO A GUIDE RAIL BRACKET AT THE TOP OF THE WETWELL BELOW THE HATCH OPENING. INTERMEDIATE GUIDE BRACKETS ARE RECOMMENDED FOR RAIL LENGTHS OVER 15 FEET.
- THE QDC SHALL BE MANUFACTURED OF GRAY CAST IRON, ASTM A48 CLASS 30. IT SHALL BE DESIGNED TO ADEQUATELY SUPPORT THE GUIDE RAILS, DISCHARGE PIPING, AND PUMPING UNIT UNDER BOTH STATIC AND DYNAMIC LOADING CONDITIONS WITH SUPPORT LEGS THAT ARE SUITABLE FOR ANCHORING IT TO THE WETWELL FLOOR. THE FACE OF THE INLET QDC FLANGE SHALL BE PERPENDICULAR TO THE FLOOR OF THE WETWELL. THE DISCHARGE FLANGE OF THE QDC SHALL CONFORM TO ANSI B16.1 CLASS 125.
- THE PUMP DESIGN SHALL INCLUDE AN INTEGRAL SELF-ALIGNING SLIDING BRACKET. SEALING OF THE PUMPING UNIT TO THE QDC SHALL BE ACCOMPLISHED BY THE SINGLE LINEAR DOWNWARD MOTION OF THE PUMP. THE ENTIRE WEIGHT OF THE PUMP UNIT SHALL BE GUIDED TO AND WEDGED TIGHTLY AGAINST THE INLET FLANGE OF THE QDC, MAKING METAL TO METAL CONTACT WITH THE PUMP DISCHARGE FORMING A SEAL WITHOUT THE USE OF BOLTS, GASKETS OR O-RINGS.
- A STAINLESS STEEL LIFTING CHAIN OF ADEQUATE LENGTH FOR REMOVING AND INSTALLING THE PUMP UNIT IS RECOMMENDED. THE CHAIN SHALL HAVE A ROUND LINK WITH A 2-1/4" INSIDE DIAMETER EVERY TWO FEET. THIS LINK WILL ALLOW FOR SLIDING A PINCH BAR THROUGH THE LINK TO PICK THE CHAIN, MORE THAN ONCE IF NECESSARY, AT MULTIPLE INTERVALS DURING PUMP REMOVAL AND INSTALLATION.
7. PER ENV-WQ 705.07(a) SUBMERSIBLE PUMPS FOR SEWAGE PUMPING STATIONS SHALL CONFORM TO THE NEC REQUIREMENTS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:1, IV, FOR INSTALLATION IN AREAS CLASSIFIED BY THE NEC AS CLASS I, DIVISION 1.
8. PER ENV-WQ 705.07(b) 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. THE ENTIRE PUMPING STATION IS LOCATED OUTSIDE OF THE FEMA 100-YEAR FLOODPLAIN AS DEPICTED ON THE CURRENT FLOOD INSURANCE RATE MAP.
9. PER ENV-WQ 705.07(c)(1) ELECTRICAL SYSTEMS AND COMPONENTS INCLUDING MOTORS, LIGHTS, CABLE, CONDUITS, SWITCH BOXES AND CONTROL CIRCUITS IN ENCLOSED OR PARTIALLY ENCLOSED SPACES WHERE FLAMMABLE MIXTURES OCCASIONALLY MAY BE PRESENT, INCLUDING RAW SEWAGE WET WELLS, SHALL BE CERTIFIED BY THEIR MANUFACTURER AS COMPLYING WITH THE NEC REQUIREMENTS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:1, IV, FOR CLASS I, DIVISION 1 LOCATIONS.
10. PER ENV-WQ 705.07(d), ALL ELECTRICAL EQUIPMENT AND WORK SHALL COMPLY WITH THE REQUIREMENTS OF NEC AS ADOPTED BY REFERENCE IN THE STATE BUILDING CODE PURSUANT TO RSA 155-A:1, IV, AND NFPA AS ADOPTED BY REFERENCE IN THE STATE FIRE CODE IN SAF-C 6000 IN EFFECT AT THE TIME OF INSTALLATION.

SEWER PUMP SPECIFICATION

NOT TO SCALE

1

1. FLOWRATE CALCULATION: DAILY DESIGN FLOW IS 11,700 GPD (PROVIDED BY SIG SAUER)
- INFLOW AND INFILTRATION (I/I) CALCULATION: PER ENV-WQ 704.03(f)(2), THE I/I IS 300 GAL./INCH DIA. PER MILE PER DAY: $((510'/5280')(3")*300=29 \text{ GPD})$
- PEAK FLOW RATE IS CALCULATED USING A 5x PEAKING FACTOR
 $(11,700 \text{ GPD}/24 \text{ HOURS}/60 \text{ MINUTES}) * 5x \text{ PEAKING FACTOR} + (29 \text{ I/I GPD}/24/60)=41 \text{ GPM}$
- THE PUMP DESIGN FLOW RATE SHALL BE 80 GPM (2 SAFETY FACTOR)
2. THE PUMPING STATION IS AN EXISTING RECTANGULAR PRE-CAST PUMP CHAMBER APPROXIMATELY 5' x 10' INSIDE DIMENSIONS. TOTAL INSIDE HEIGHT IS APPROXIMATELY 5'.
3. THE PUMPING STATION SHALL BE SUPPLIED WITH A PUMP CONTROL PANEL WITH THE FOLLOWING MINIMUM COMPONENTS:
- a) VISIBLE AND AUDIBLE ALARM BEACON WITH CELLULAR AUTO DIALER FOR ALARM EVENTS. PER ENV-WQ 705.09(e), THE ALARM SYSTEM SHALL HAVE AN INDEPENDENT BATTERY WITH CONTINUOUS CHARGE, OR MAIN LINE POWER WITH A BATTERY BACK-UP SYSTEM, WHICH SHALL BE CONNECTED AUTOMATICALLY SHOULD THE MAIN POWER FAIL. THIS REQUIREMENT IS IN ADDITION TO THE EMERGENCY GENERATOR WHICH SERVICES THE PUMPING STATION.
- b) THE CONTROL PANEL SHALL BE MOUNTED ADJACENT TO THE PUMPING STATION AND SHALL BE WITHIN AN ENCLOSURE DESIGNED FOR USE AS A WIRING BOX AND JUNCTION BOX. THE ENCLOSURE SHALL PROVIDE PROTECTION AGAINST RAIN, SLEET, AND SNOW. THE ENCLOSURE SHALL MEET NEMA TYPE 4 MINIMUM REQUIREMENTS.
- c) THE CONTROL PANEL TO BE CONFIGURED TO ALTERNATE PUMPS.
- d) THE VISIBLE AND AUDIBLE ALARM SHALL BE ACTIVATED UPON ANY INITIATION OF THE LAG PUMP OR HIGH/LOW LEVEL SWITCHES.
- e) THE CONTROL PANEL SHALL BE EQUIPPED WITH RUN TIME METERS FOR EACH OF THE PUMPS.
- f) THE CONTROL PANEL SHALL BE EQUIPPED WITH WITH A CELLULAR ALARM DIALER WHICH HAS 24 HOUR ALARM COVERAGE. THE DIALER SHALL BE "SENSAPHONE SENTINEL" (OR APPROVED EQUAL) AND EQUIPPED TO LOG THE RUN TIME FOR EACH PUMP. THE CONTRACTOR SHALL FIELD VERIFY THE DISCHARGE RATE TO ALLOW A DETERMINATION OF THE TOTAL FLOW FROM THE PUMPING STATION OVER A 24-HOUR PERIOD.
4. PER ENV-WQ 705.09(c), THE HIGH WATER AND LOW WATER ALARM TRIGGERS SHALL BE SEPARATE DEVICES, INDEPENDENT OF THE PUMP CONTROLS AND SET AT ELEVATIONS ABOVE AND BELOW THE LAG PUMP ON AND OFF ELEVATIONS, RESPECTIVELY.
5. PUMP DESIGN:
- a) ELEVATION HEAD = 3.5 FEET
MINOR LOSSES = 1.0 FEET
FRICTION HEAD = 12.0 FEET
TOTAL HEAD = 16.5 FEET
6. PUMP MODEL: EBARA MODEL 100DLFU61.5 (2 HP)
- b) PUMP DESIGN FLOW RATE: 80 GPM
- c) PUMPS SHALL ALTERNATE EACH CYCLE.
- d) CYCLE FREQUENCY = 12 CYCLES PER DAY (EVERY 120 MINUTES)
- e) CYCLE VOLUME = 975 GALLONS
- f) CYCLE DEPTH = 2.6'
- g) CYCLE RUN TIME = 12 MINUTES AT 80 GPM
7. ALL PIPING WITHIN THE PUMPING STATION AND VALVE BOX SHALL BE SCHEDULE 80 PVC. THE FORCE MAIN PIPING SHALL BE 3" P.E. SDR11.
8. THE COMPLETED PUMPING STATION SHALL BE FIELD TESTED IN THE PRESENCE OF THE ENGINEER AND ACTUAL PUMP RATES VERIFIED. ANY MODIFICATION REQUIRED SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
9. GATE VALVES SHALL BE 3-INCH, DUCTILE IRON BODY, NON-RISING STEM WITH HANDWHEEL, DOUBLE DISC, PARALLEL SEAT RATED AT 200 PSI WORKING PRESSURE, WITH ANSI B 16.5 (CLASS 150) FLANGED ENDS.
10. CHECK VALVES SHALL BE 3-INCH, DUCTILE IRON BODY, SWING TYPE WITH LEVER AND WEIGHT, RUBBER FACED BRONZE DISC RING, RATED AT 200 PSI WORKING PRESSURE, WITH ANSI B 16.5 FLANGED ENDS.
11. PER ENV-WQ 705.10, UPON COMPLETION OF THE CONSTRUCTION OF THE SEWER PUMPING STATION, THE CONTRACTOR SHALL PROVIDE THE OWNER AN OPERATION AND MAINTENANCE MANUAL THAT PROVIDES INFORMATION AND GUIDANCE FOR DAY-TO-DAY OPERATION. THE OWNER (OR OWNER'S ENGINEER) WILL PROVIDE THE NH DES WITH A COPY OF THE O&M MANUAL WITHIN 60 DAYS FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION OF THE PUMP STATION.

SEWER PUMPING STATION AND CONTROL PANEL SPECIFICATION

NOT TO SCALE

2



PROFESSIONAL ENGINEER FOR
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APPLICANT:

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ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
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|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | AS SHOWN | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:



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| DETAILS | C-508 |

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SECTION 33 36 00 - SANITARY SEWER SYSTEMS

PART 1 GENERAL

1.01 PRODUCTS

- A. GENERAL: MATERIALS SHALL BE AS SPECIFIED HEREIN, EXCEPT THAT CONSIDERATION SHALL BE GIVEN TO OTHER PRODUCTS THAT MEET OR EXCEED THOSE SPECIFIED IF REQUESTED TEN (10) DAYS PRIOR TO DATE OF BID OPENING, IN ACCORDANCE WITH THE GENERAL CONDITIONS.

1.02 DESCRIPTION:

- A. THE WORK UNDER THIS SECTION SHALL INCLUDE THE FURNISHING OF ALL MATERIAL, LABOR, EQUIPMENT AND SUPPLIES AND THE PERFORMANCE OF ALL OPERATIONS TO PROVIDE A COMPLETE WORKING SYSTEM AS REQUIRED BY THE DRAWINGS AND DETAILS AND AS SPECIFIED HEREIN, IN GENERAL, TO INCLUDE THE FOLLOWING ITEMS:

1. SANITARY SEWER SYSTEM FROM 5 FEET OUTSIDE THE BUILDING TO POINT OF TERMINATION AS SHOWN ON THE DRAWINGS,
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE LOCAL DEPARTMENT OF PUBLIC WORKS AND NHDES.

1.03 RELATED WORK:

- A. SECTION 31 23 00 - EARTHWORK.
B. SECTION 15401 - PLUMBING.

1.04 RELATED DOCUMENTS:

- A. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE MUNICIPALITY.
B. ALL WORK FOR ITEMS NOT OTHERWISE COVERED BY 1.03.A ABOVE SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION (LATEST EDITION).
C. ALL WORK SHALL CONFORM TO THE PERMITS ISSUED BY THE STATE OF NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES.

1.05 PROJECT CONDITIONS:

- A. KNOWN UNDERGROUND AND SURFACE UTILITY LINES ARE INDICATED ON THE DRAWINGS. INFORMATION ON THE DRAWINGS RELATING TO EXISTING UTILITY LINES AND SERVICES IS FROM THE BEST SOURCE PRESENTLY AVAILABLE. ALL SUCH INFORMATION IS FURNISHED ONLY FOR INFORMATION AND IS NOT GUARANTEED. COORDINATE WITH UTILITY COMPANIES, DIG SAFE AND THEIR CONTRACTORS, AND EXCAVATE TEST PITS AS REQUIRED TO DETERMINE EXACT LOCATIONS OF EXISTING UTILITIES.
B. TEST BORINGS HAVE BEEN PERFORMED BY OWNER'S SEPARATE CONTRACTOR. LOCATIONS OF TEST BORINGS ARE SHOWN ON THE DRAWINGS. NEITHER THE OWNER NOR THE ENGINEER MAKE WARRANTY, EITHER EXPRESSED OR IMPLIED, OF ACCURACY OF BORING DATA AS A REPRESENTATION OF TYPICAL CONDITIONS. THE CONTRACTOR SHALL MAKE HIS/HER OWN INVESTIGATION OF SUBSURFACE CONDITIONS AND SATISFY HER/HIMSELF AS TO CONDITION THEREOF AND SHALL BASE HIS/HER BID IN SOLE RELIANCE THEREON. SUCH INVESTIGATION MAY INCLUDE, BUT IS NOT NECESSARILY LIMITED TO: ADDITIONAL TEST PITS, BORINGS. NO ALLOWANCE WILL BE MADE FOR THE CONTRACTOR'S FAILURE TO PERFORM INVESTIGATION NECESSARY TO FULLY IDENTIFY AND SATISFY HIM/HERSELF AS TO SUBSURFACE CONDITIONS WHICH COULD AFFECT THE WORK.

- C. PROTECT EXCAVATIONS BY SHORING, BRACING, SHEETING, UNDERPINNING, OR OTHER METHODS, AS REQUIRED TO PREVENT CAVE-INS OR LOOSE DIRT FROM ENTERING EXCAVATIONS. BARRICADE OPEN EXCAVATIONS AND POST WARNING LIGHTS AT WORK ADJACENT TO PUBLIC STREETS AND WALKS.

- D. UNDERPIN ADJACENT STRUCTURE(S), INCLUDING UTILITY SERVICE LINES, WHICH MAY BE DAMAGED BY EXCAVATION OPERATIONS.

- E. PROMPTLY REPAIR DAMAGE TO ADJACENT FACILITIES CAUSED BY SITE SEWER AND DRAINAGE OPERATIONS.

- F. PROMPTLY NOTIFY THE OWNER OF UNEXPECTED SUB-SURFACE CONDITION

1.06 QUALITY ASSURANCE:

- A. STANDARDS: COMPLY WITH STANDARDS SPECIFIED IN THIS SECTION. PROVIDE SHOP DRAWINGS TO THE OWNER OR OWNER'S REPRESENTATIVE.
B. QUALIFICATIONS OF INSTALLERS: USE ADEQUATE NUMBERS OF SKILLED WORKERS WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS FOR PROPER PERFORMANCE OF THE WORK OF THIS SECTION.
C. OBTAIN OWNER OR OWNER'S REPRESENTATIVE'S ACCEPTANCE OF INSTALLED AND TESTED SITE DRAINAGE SYSTEM PRIOR TO BACKFILLING.

1.07 SUBMITTALS:

- A. PRODUCT DATA:
1. COMPLETE MATERIALS LIST OF ALL ITEMS PROPOSED TO BE FURNISHED AND INSTALLED UNDER THIS SECTION.
2. MANUFACTURER'S SPECIFICATIONS AND OTHER DATA REQUIRED TO DEMONSTRATE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
3. MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.
B. TESTING AND INSPECTION REPORTS.
C. PROVIDE SITE SEWER AND DRAINAGE RECORD DRAWINGS:
1. LEGIBLY MARK DRAWINGS TO RECORD ACTUAL CONSTRUCTION.
2. INDICATE HORIZONTAL AND VERTICAL LOCATIONS REFERENCED TO PERMANENT SURFACE IMPROVEMENTS.
3. IDENTIFY FIELD CHANGES OF DIMENSIONS AND DETAILS AND CHANGES MADE BY CHANGE ORDER.

1.08 COOPERATION AND COORDINATION WITH OTHER TRADES:

- A. THE WORK SHALL BE SO PERFORMED THAT THE PROGRESS OF THE ENTIRE PROJECT CONSTRUCTION, INCLUDING ALL OTHER TRADES, SHALL NOT BE DELAYED AND NOT INTERFERED WITH. MATERIALS AND APPARATUS SHALL BE INSTALLED AS FAST AS CONDITIONS WILL PERMIT AND MUST BE INSTALLED PROMPTLY WHEN AND AS DIRECTED.
B. ALL WORK SHALL BE COORDINATED WITH OTHERS TRADES. THE WORK IN THIS SECTION SHALL AT NO TIME INTERRUPT THE NORMAL OPERATIONS OF EXISTING BUILDINGS.

PART 2 PRODUCTS

2.01 POLYVINYL CHLORIDE PIPE (PVC):

- A. PVC PIPE SHALL BE MADE FROM VIRGIN PLASTIC AND SHALL CONFORM TO ASTM D1784. SOLID PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D3034 SDR 35. PERFORATED PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D2729 SDR 35.
B. STANDARD NOMINAL LENGTHS OF PIPE SHALL BE A MINIMUM OF 10 FEET.
C. THE PIPE FITTINGS SHALL BE AS UNIFORM AS COMMERCIAL PRACTICAL IN COLOR, OPACITY, DENSITY AND OTHER PHYSICAL PROPERTIES.
D. PIPE SHALL BE TESTED IN ACCORDANCE WITH SECTION 10 OF ASTM D2412 STANDARD METHOD OF TEST FOR EXTERNAL LOADING PROPERTIES OF PLASTIC PIPE BY PARALLEL-PLATE LOADING. THE MINIMUM VALUE OF PIPE STIFFNESS AT 5% DEFLECTION COMPUTED FROM DATA OBTAINED FROM THE ABOVE TESTING PROCEDURE SHALL BE IN ACCORDANCE WITH ASTM D2412.

- E. EACH PIPE AND ALL COUPLINGS AND FITTINGS SHALL BE CLEARLY MARKED ON THE OUTSIDE SURFACE WITH THE NAME OF THE MANUFACTURER, ASTM DESIGNATION WITH TYPE AND GRADE, AND NOMINAL DIAMETER.

2.02 DUCTILE IRON (D.I.) SEWER PIPE:

- A. ANSI/AWWA C151/ A21.51 CLASS 52 WITH CEMENT LINING CONFORMING TO ANSI A21.4. PRESSURE CLASS SHALL BE ANSI PRESSURE CLASS 350. PROTECTIVE COATING ON EXTERIOR SHALL BE APPROVED BITUMASTIC OR COAL TAR ENAMEL CONFORMING TO ANSI A21.4 AND A21.10.
B. FITTINGS FOR DUCTILE IRON PIPE SHALL BE DUCTILE IRON SHORT BODY FITTINGS CONFORMING TO ANSI A21.1 WITH CEMENT LINING CONFORMING TO ANSI A21.4. THICKNESS CLASS SHALL BE ANSI PRESSURE CLASS 350.
C. LENGTH AND JOINTS - DUCTILE IRON PIPE LENGTHS SHALL GENERALLY BE AS LONG AS POSSIBLE BUT SHALL HAVE A BELL-AND-SPIGOT OR SHALL HAVE FURNISHED WITH IT A SEPARATE JOINTING SLEEVE OR COUPLING WITH RUBBER RINGS COMPRESSED INTO PLACE TO MAKE A WATERTIGHT CLOSURE. JOINTS SHALL BE SEALED WITH A RUBBER RING GASKET AND SHALL BE OF A COMPOSITION AND TEXTURE WHICH WILL ENDURE PERMANENTLY UNDER THE CONDITIONS LIKELY TO BE IMPOSED BY THIS USE, AND SHALL CONFORM TO ASTM SPECIFICATIONS C-361 AMENDED TO DATE. JOINTS SHALL BE "PUSH-ON" TYPE COMPLYING WITH ANSI A21.1.

2.03 HIGH DENSITY POLYETHYLENE (HDPE)

- A. FORCE MAINS AND LOW PRESSURE SEWERS SHALL BE TREATED AS GRAVITY SEWERS FOR PURPOSES OF FOUNDATION BEDDING AND BACKFILL REQUIREMENTS.
B. HDPE PIPE USED FOR FORCE MAINS AND LOW PRESSURE SEWERS SHALL CONFORM TO ASTM D3035-03A.

2.04 CAST IRON SOIL PIPE:

- A. CAST IRON SOIL PIPE SHALL BE ASTM A 74, EXTRA HEAVY TYPE, INSIDE NOMINAL DIAMETER AS SPECIFIED ON CONSTRUCTION DRAWINGS, BELL AND SPIGOT END. JOINTS SHALL BE IN CONFORMANCE WITH AWWA C111, RUBBER GASKET JOINT DEVICES.

2.05 PIPE JOINTS AND FITTINGS:

- A. DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINTS. ALL FITTINGS SHALL BE RESTRAINED OR ROODED.
B. DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI 21.10 AND 21.11 (AWWA C110 AND AWWA C111).
C. HDPE AND PVC FITTINGS SHALL BE WATER TIGHT. STRUCTURAL INTEGRITY AND JOINT CONFIGURATION SHALL

BE IDENTICAL TO THAT OF PIPE.

2.06 SEWER MANHOLES:

- A. PRECAST CONCRETE MANHOLE, CATCH BASIN, LEACHING CATCH BASIN BASE, AND LEACHING PIT SECTIONS, RISER SECTIONS, AND OTHER SECTIONS SHALL BE CONSTRUCTED OF A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, AIR ENTRAINMENT CONCRETE WITH HOOP REINFORCING AND LIFTING HOLES. SECTIONS SHALL BE FURNISHED WITH "O" RING RUBBER GASKETS. LIFTING HOLES IN ALL SECTIONS SHALL BE FILLED WITH NONSHRINK MORTAR AFTER SECTIONS ARE IN PLACE.

- B. CLASS "A" CONCRETE: ASTM C94. ALL CONCRETE SHALL BE CLASS A UNLESS STATED OTHERWISE.

1. STRENGTH : 3000 PSI @ 28 DAYS
2. CEMENT CONTENT : TYPE II, 6.5 SACKS/CY (MIN)
3. W/C RATIO : 0.464 (MAX)
4. FINE AGGREGATE : ASTM C33
5. COARSE AGGREGATE : ASTM C33 SIZE #67

- C. CLASS "B" CONCRETE:

1. STRENGTH : 3000 PSI @ 28 DAYS
2. CEMENT CONTENT : TYPE II, 6.0 SACKS/CY (MIN)
3. W/C RATIO : 0.488 (MAX)
4. FINE AGGREGATE : ASTM C33
5. COARSE AGGREGATE : ASTM C33 SIZE #67

- D. REINFORCING STEEL: ASTM A615, A616, OR A185.

- E. PRECAST CONCRETE: ASTM C478 EXCEPT AS SPECIFIED OTHERWISE.

- F. TABLES AND INVERTS SHALL BE CONSTRUCTED OF BRICK, SHALL HAVE THE SAME SHAPE OF THE PIPE THAT ARE CONNECTED AND ANY CHANGE IN SIZE OR DIRECTION SHALL BE GRADUAL AND EVEN.
G. PRECAST STRUCTURES SHALL BE ABLE TO WITHSTAND H-20 LOADING.

- H. 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.

- I. PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:

- a. ELASTOMERIC, RUBBER SLEEVE WITH WATER TIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES;
- b. CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS;\
- c. ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING.
4. PIPE TO MANHOLE JOINTS SHALL BE ONE OF THE FOLLOWING OR APPROVED EQUAL:
 - a. KOR - N - SEAL
 - b. LOCK JOINT
 - c. PRESS WEDGE II

2.07 BRICK MASONRY:

- A. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C 150-05, TYPE H.

- B. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-06 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES".

- C. SAND SHALL BE CLEAN, HARD, DURABLE PARTICLES AND WITH NOT MORE THAN 5% IN VOLUME OF MICA, CLAY AND OTHER DELICIOUS MATERIALS. THE SAND SHALL BE GRADED FROM FINE TO COARSE SO THAT WHEN TESTED DRY, IT WILL CONFORM TO THE LIMITS OF ASTM C33-03 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES".

- D. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;

1. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 - a. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
 - b. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME

- E. WATER SHALL BE FREE FROM OILS, ACIDS, ALKALIS OR ORGANIC MATTER, AND SHALL BE CLEAN AND FRESH.

- F. BRICK SHALL BE SOUND, HARD AND UNIFORMLY BURNED, REGULAR AND UNIFORM IN SHAPE AND SIZE, OF COMPACT TEXTURE AND SATISFACTORY TO THE OWNER OR OWNER'S REPRESENTATIVE. BRICKS SHALL COMPLY WITH ASTM C32, GRADE SS. ONLY WHOLE BRICK SHALL BE USED UNLESS OTHERWISE PERMITTED.

2.08 MANHOLE STEPS: (NOT USED)

2.09 MANHOLE FRAMES AND COVERS:

- A. CASTINGS SHALL BE OF GOOD QUALITY, STRONG, TOUGH EVENLY GRAINED, SMOOTH CAST IRON, FREE FROM SCALE, LUMPS, BUSTERS, SAND HOLES, AND DEFECTS OF ANY KIND. CASTINGS SHALL BE THOROUGHLY CLEANED AND ALL FINISHED SURFACES SHALL BE MACHINED TO A TRUE PLANED SURFACE AND SHALL SEAT AT ALL POINTS WITHOUT ROCKING.

- B. CASTINGS SHALL NOT BE ACCEPTABLE IF THE ACTUAL WEIGHT IS LESS THAN 95% OF THE THEORETICAL WEIGHT OF THE CASTINGS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL FURNISH INVOICES TO THE OWNER SHOWING TRUE WEIGHTS, CERTIFIED BY THE SUPPLIER.

- C. CAST IRON SHALL CONFORM TO ASTM A48, CLASS 30 AND FRAMES, COVERS AND GRATES SHALL BE ABLE TO WITHSTAND H-20 LOADING.

- D. PROVIDE A 30 INCH DIAMETER CLEAR OPENING. SEWER MANHOLE COVERS SHALL HAVE THE WORD "SEWER" IN 3" LETTERS CAST INTO THE TOP SURFACE.

2.10 FORCE MAINS

- A. FORCE MAINS FOR CONSTANT SPEED PUMPS SHALL BE SIZED TO YIELD A CLEANSING VELOCITY OF 3 FEET PER SECOND OR GREATER AT DESIGN PUMP CAPACITY.
B. FORCE MAINS SHALL ENTER THE GRAVITY SEWER SYSTEM AT THE FLOW LINE OF THE RECEIVING MANHOLE.
C. TO PREVENT AIR LOCKING, FORCE MAINS SHALL BE PROVIDED WITH AN AUTOMATIC AIR RELIEF VALVE AT EACH HIGH POINT, INSTALLED WITHIN A MANHOLE STRUCTURE THAT MEETS THE DESIGN REQUIREMENTS OF ENW-WQ 704.12 THROUGH ENW-WQ 704.17.
D. 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;
+ IS INSTALLED WITHIN A MANHOLE STRUCTURE THAT MEETS THE DESIGN REQUIREMENTS OF ENW-WQ 704.12 THROUGH ENW-WQ 704.17, WITH SUFFICIENT SPACE FOR HANDLING THE DISPLACED WASTE WITHOUT DANGER OF POLLUTION OR HEALTH HAZARD.
E. FORCE MAINS SHALL BE DESIGNED IN ACCORDANCE WITH ENW-WQ 704.07, CONSTRUCTED WITH MATERIALS AS SPECIFIED IN ENW-WQ 704.08, AND TESTED AS SPECIFIED IN ENW-WQ 704.09.
F. THRUST BLOCKS MADE FROM INORGANIC, CORROSION-RESISTANT MATERIAL SHALL BE PLACED AT ALL BENDS, ELBOWS, TEES, AND JUNCTIONS.
G. FORCE MAINS SHALL BE DESIGNED TO WITHSTAND HYDROSTATIC PRESSURES OF AT LEAST 2.5 TIMES THE DESIGN TOTAL DYNAMIC HEAD;

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS:

- A. OBTAIN DETAILED INFORMATION FROM THE MANUFACTURERS OF APPARATUS AS TO THE PROPER METHOD OF INSTALLING AND CONNECTING SAME.
B. CAREFULLY STORE MATERIALS AND EQUIPMENT WHICH ARE NOT IMMEDIATELY INSTALLED AFTER DELIVERY. CLOSE OPEN ENDS OF WORK WITH TEMPORARY COVERS OR PLUG DURING CONSTRUCTION TO PREVENT ENTRY OF OBSTRUCTING MATERIAL.
C. ANY DEFECTIVE PIPE, FITTING OR DRAIN APPARATUS THAT IS DISCOVERED AFTER IT HAS BEEN INSTALLED OR HAS BEEN INSTALLED IMPROPERLY, SHALL BE REMOVED AND REPLACED WITH NON-DEFECTIVE PARTS TO THE SATISFACTION OF THE OWNER OR OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
D. TRENCHES SHALL BE KEPT FREE OF WATER AND AS DRY AS POSSIBLE DURING THE INSTALLATION OF THE BEDDING MATERIAL, PIPE AND JOINTING FOR AS LONG A PERIOD AS REQUIRED. PIPE SHALL NOT BE LAID IN WATER OR WHEN TRENCH CONDITIONS ARE UNSUITABLE FOR THE WORK.
E. PROVIDE ALL INSPECTION AGENTS AT LEAST 24 HOURS NOTICE PRIOR TO WORK BEGINNING. INSPECTOR SHALL BE ON-SITE DURING ANY/ALL EXCAVATION, INSTALLATION, BACKFILL, AND TESTING OF ALL SEWERAGE PIPES, MANHOLES, AND APPURTENANCES.
F. NO BACKFILLING SHALL TAKE PLACE, UNLESS OTHERWISE ORDERED BY THE OWNER OR OWNER'S REPRESENTATIVE, UNTIL THE INSPECTION HAS BEEN COMPLETED.
G. EXCAVATION, BACKFILL AND PIPE BEDDING MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 31 23 00, EARTHWORK.

3.02 LAYING PIPE:

- A. THIS WORK SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF DRAIN LINES IN ACCORDANCE WITH THESE SPECIFICATIONS, THE MUNICIPALITY AND OTHER AUTHORITIES HAVING JURISDICTION.
B. ALL PIPE SHALL BE SOUND AND CLEAN BEFORE INSTALLING. WHEN LAYING OF PIPE IS NOT IN PROGRESS,

INCLUDING LUNCH TIME, THE OPEN ENDS OF THE PIPE SHALL BE CLOSED BY WATER TIGHT PLUGS OR OTHER APPROVED MEANS.

- C. THE FULL LENGTH OF PIPE SHALL REST SOLIDLY ON THE UNDISTURBED TRENCH BOTTOM, WITH RECESSES EXCAVATED TO ACCOMMODATE BELLS, COUPLINGS AND JOINTS. BLOCKING WILL NOT BE PERMITTED.

- D. PIPE SHALL BE LAID TRUE TO THE SPECIFIED LINES AND GRADES. THE BELL END SHALL BE TOWARD THE RISING GRADE AND EACH SECTION OF PIPE SHALL HAVE A FIRM BEARING THROUGHOUT ITS LENGTH. MATERIAL PLACED AROUND AND UNDER THE PIPE SHALL BE FREE OF STONES. ROCKS SHALL NOT BE ROLLED INTO TRENCHES AND ALLOWED TO DROP ONTO PIPES. PIPE SHALL BE BEDDED IN 3" STONE TO SPRING LINE OF PIPE AND THEN BURIED IN CLEAN SAND FREE OF STONES. STONE AND SAND SHALL BE IN ACCORDANCE WITH ENW-WQ 704.11(a) and (b).

- E. WHEN PIPE CUTTING IS REQUIRED AND APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE PIPE MATERIAL SHALL BE CUT BY USING A SAW OR MILLING PROCESS, APPROVED BY THE PIPE MANUFACTURER AND NOT BY ANY IMPACT DEVICE, SUCH AS A HAMMER AND CHISEL, TO BREAK THE PIPE. THE PIPE SHALL BE CUT, NOT BROKEN. THE CUT END OF THE PIPE SHALL BE SQUARE TO THE AXIS OF THE PIPE AND ANY ROUGH EDGES GROUND SMOOTH.

- F. INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPE SHALL BE IN ACCORDANCE WITH ASTM D2321 AND AS RECOMMENDED BY THE PIPE MANUFACTURER. BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 31 23 00, EARTHWORK. BACKFILL SHALL BE PLACED IN SIX INCH LIFTS AND COMPACTED TO 95% MINIMUM DENSITY AS PER AASHTO T99. CARE SHOULD BE TAKEN TO AVOID ANY USE OF FRACTURED STONE IN BACKFILL EXCEEDING TWO INCHES (2").

- G. THE CONTRACTOR MAY USE A LASER BEAM TO ASSIST IN SETTING THE PIPE, PROVIDED HE CAN DEMONSTRATE SATISFACTORY SKILL IN ITS USE. THE USE OF STRING LEVELS, HAND LEVELS, CARPENTERS LEVELS OR OTHER RELATIVELY CRUDE DEVICES FOR TRANSFERRING GRADE OR SETTING PIPE WILL NOT BE PERMITTED.

- H. WHEN LAYING REINFORCED CONCRETE PIPE, BEDDING SHALL CONSIST OF CAREFULLY PREPARING AND SHAPING A BED OF FINE GRANULAR MATERIAL TO FIT THE LOWER 15 PERCENT OF THE EXTERNAL HEIGHT OF THE PIPE WITH A MINIMUM OF 4 IN. UNDER THE BOTTOM OF THE PIPE. RECESS SHALL BE EXCAVATED FOR THE BELLS OF THE PIPE. AS SOON AS THE EXCAVATION IS COMPLETED AND THE SPECIFIED PIPE BEDDING PROVIDED, THE CONTRACTOR SHALL FIRMLY BED THE PIPE TO CONFORM ACCURATELY TO THE LINE AND GRADE INDICATED ON THE PLANS. NO BLOCKING WILL BE PERMITTED UNDER THE PIPE. AS SOON AS THE PIPE IS IN PLACE, FINE GRANULAR MATERIAL SHALL BE PLACED AND COMPACTED TO THE MID-DIAMETER OF THE PIPE. THE REMAINING BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 31 23 00, EARTHWORK. BACKFILL SHALL BE PLACED IN SIX INCH LIFTS AND COMPACTED TO 95% MINIMUM DENSITY AS PER AASHTO T99.

3.03 SEWER MANHOLES:

- A. SEWER MANHOLES, DRAIN MANHOLES, CATCH BASINS AND INSPECTION MANHOLES SHALL BE BUILT TO THE LINES, GRADES, DIMENSIONS AND DESIGN SHOWN ON THE PLANS WITH THE NECESSARY FRAMES, COVERS AND GRATES.

- B. MANHOLE AND CATCH BASIN BASES SHALL BE PLACED ON 6 INCHES OF COMPACTED BEDDING MATERIAL.

- C. PRECAST SECTIONS SHALL BE SET SO AS TO BE VERTICAL AND IN TRUE ALIGNMENT WITH A 1/4 INCH MAXIMUM TOLERANCE TO BE ALLOWED. THE PRECAST SECTIONS SHALL BE INSTALLED IN A MANNER THAT WILL RESULT IN A WATER TIGHT JOINT.

- D. WHERE HOLES MUST BE CUT IN THE PRECAST SECTIONS TO ACCOMMODATE PIPES, CUTTING SHALL BE DONE PRIOR TO SETTING THEM IN PLACE TO PREVENT ANY SUBSEQUENT JARRING WHICH MAY LOOSEN THE JOINTS.

3.04 BRICKWORK:

- A. MORTAR SHALL BE MIXED ONLY IN SUCH QUANTITY AS MAY BE REQUIRED FOR IMMEDIATE USE AND USED BEFORE THE INITIAL SET HAS TAKEN PLACE. MORTAR SHALL NOT BE RETAINED FOR MORE THAN ONE HOUR AND SHALL BE CONSISTENTLY WORKED OVER WITH A SHOVEL OR HOE UNTIL USED.

- B. BRICK MASONRY SHALL BE PROTECTED FROM TOO RAPID DRYING BY APPROVED MEANS AND SHALL BE PROTECTED FROM WEATHER AND FROST AS REQUIRED.

- C. BRICKS SHALL BE CLEANED AND THOROUGHLY WETTED SHORTLY BEFORE THEY ARE PUT INTO THE WORK, AND EACH BRICK SHALL BE LAID IN A FULL BED OF MORTAR WITHOUT REQUIRING SUBSEQUENT GROUTING OR FILLING. JOINTS BETWEEN BRICKS SHALL NOT EXCEED 1/2 INCH AND SHALL BE POINTED.

3.05 FRAMES AND COVERS:

- A. MANHOLE FRAMES - SHALL BE SET WITH THE TOPS CONFORMING ACCURATELY TO THE GRADE OF THE PAVEMENT OR FINISHED GROUND SURFACE OR AS INDICATED ON THE DRAWINGS. FRAMES SHALL BE SET CONCENTRIC WITH THE TOP OF THE MASONRY AND IN A FULL BED OF MORTAR SO THAT THE SPACE BETWEEN THE TOP OF THE MANHOLE MASONRY AND THE BOTTOM FLANGE OF THE FRAME SHALL BE COMPLETELY FILLED AND MADE WATER TIGHT. A THICK RING OF MORTAR EXTENDING TO THE OUTER EDGE OF THE MASONRY SHALL BE PLACED ALL AROUND AND ON THE TOP OF THE BOTTOM FLANGE. THE MORTAR SHALL BE SMOOTHLY FINISHED AND HAVE A SLIGHT SLOPE TO SHED WATER AWAY FROM THE FRAME.

- B. MANHOLE COVERS SHALL BE LEFT IN PLACE IN THE FRAMES ON COMPLETION OF OTHER WORK AT THE MANHOLES.

- C. A MAXIMUM OF 12" OF BRICK AND MORTAR SHALL BE ALLOWED FOR GRADE ADJUSTMENT.

- D. COVERS AND GRATES SHALL BE SET IN THE FRAMES, SEATING BEING CLEANED BEFORE COVERS AND GRATES ARE SET.

3.06 SEWER SERVICE CONNECTIONS:

- A. THE MINIMUM SIZE FOR THE BUILDING SEWER SERVICE CONNECTION SHALL BE 6".

- B. THE MINIMUM SLOPE FOR THE BUILDING SEWER SERVICE SHALL BE 1/4" PER FOOT, UNLESS OTHERWISE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE.

- C. BEFORE BACKFILLING, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR SO THAT HE CAN MAKE THE NECESSARY MEASUREMENTS TO LOCATE THE OPENING LATER. IN ADDITION, AN APPROVED FERROUS ROD OR PIPE SHALL BE PLACED OVER THE PLUGGED OPENING AT THE PROPERTY LINE, EXTENDING TO WITHIN 2 INCHES OF THE FINAL GROUND SURFACE.

1. PROXIMITY TO WATER LINES:

- a. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND A SEWER OR SEWER APPURTENANCE WHICH WOULD PERMIT THE PASSAGE OF SEWAGE OR POLLUTED WATER INTO THE POTABLE WATER SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.

- 1) NO SEWER SHALL BE LOCATED WITHIN THE WELL PROTECTIVE RADI ESTABLISHED IN ENW-WQ 300 FOR ANY PUBLIC WATER SUPPLY WELLS OR WITHIN 100 FEET OF ANY PRIVATE WATER SUPPLY WELL.

- 2) SEWERS SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.

- 3) A DEVIATION FROM THE SEPARATION REQUIREMENTS OF (1) OR (2) ABOVE SHALL BE ALLOWED WHERE NECESSARY TO AVOID CONFLICT WITH SUBSURFACE STRUCTURES, UTILITY CHAMBERS, AND BUILDING FOUNDATIONS, PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENTS SPECIFIED IN ENW-WQ 704.08.

- b. WHENEVER SEWERS MUST CROSS WATER MAINS, THE SEWER SHALL BE CONSTRUCTED AS FOLLOWS:

- c. VERTICAL SEPARATION OF THE SEWER AND WATER MAIN SHALL BE NOT LESS THAN 18 INCHES, WITH WATER ABOVE SEWER; AND

- d. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.

- e. HOWEVER, SHOULD CONSTRUCTION OPERATIONS REVEAL OR EXPOSE A WATERLINE MAIN OR SERVICE RUNNING APPROXIMATELY PARALLEL AND LESS THAN 10 FEET HORIZONTALLY FROM THE PROPOSED SEWER INSTALLATION AND WHERE IT IS NOT PRACTICABLE TO RELOCATE THE SEWER, THE FOLLOWING METHODS OF PROTECTION MUST BE EMPLOYED:

- 1) IF THE ABOVE SEPARATION CANNOT BE ACHIEVED, THE SEWER SHALL BE DUCTILE IRON PIPE OF THE SAME SIZE SHALL BE UTILIZED. APPROPRIATE MANUFACTURED FITTINGS SHALL BE EMPLOYED TO ADAPT THE IRON PIPE TO THE CONTRACT SEWER PIPE.

- 2) WHENEVER THE WATERLINE CROSSES OVER THE NEW SEWER WITH LESS THAN 18 INCHES OF SEPARATION, THE SEWER PIPE FOR A DISTANCE OF 6 FEET ON EACH SIDE OF THE WATERLINE SHALL BE CLASS 52 DUCTILE IRON PIPE. APPROPRIATE MANUFACTURED FITTINGS SHALL BE EMPLOYED TO ADAPT THE IRON PIPE TO THE CONTRACT SEWER PIPE. AS AN ALTERNATIVE, THE WATERLINE MAY BE RAISED, IF FEASIBLE, TO ACHIEVE THE REQUIRED SEPARATION.

- 3) SHOULD THE WATERLINE IN EITHER SITUATION BE AT OR BELOW THE SEWER ELEVATION, THE WATERLINE OR THE SEWER MUST BE RELOCATED TO ACHIEVE 10 FT. SEPARATION OR THE WATERLINE RAISED.

3.07 GRAVITY SEWER PIPE TESTING:

- A. ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.

- B. LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:

1. ASTM F1417-92(2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR"; OR
2. UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE" (1998).

- C. ALL NEW GRAVITY SEWERS SHALL BE:

1. CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; AND
2. TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.

- D. ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.

- E. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDEL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.

- F. INSPECTION AND TESTING: - UPON COMPLETION OF THE INSTALLATION AND BACKFILLING PORTIONS OF THE SANITARY SEWER, THE PIPE SHALL BE INSPECTED BY THE VISUAL AND AIR TEST METHODS SUBSEQUENTLY DESCRIBED, OR AS REQUIRED BY THE TOWN DPW AND THE NHDES. THIS INSPECTION AND TESTING SHALL BE UNDERTAKEN AS THE WORK PROGRESSES. THE ENGINEER SHALL BE NOTIFIED IN ADVANCE OF SUCH INSPECTION AND TESTING AND THE CONTRACTOR SHALL PROVIDE ALL FACILITIES, MATERIALS, EQUIPMENT AND LABOR REQUIRED FOR SUCH TESTING. SUCH INSPECTION AND TESTING SHALL BE A PREREQUISITE FOR ACCEPTANCE OF ALL WORK.

1. VISUAL INSPECTION: - AN INSPECTION OF THE INTERIOR OF THE COMPLETED SANITARY SEWER PIPE BY DIRECT VISUAL INSPECTION SHALL BE MADE FOR ALL PIPE INSTALLED FROM MANHOLE TO MANHOLE AND FOR SERVICE LATERALS. ANY LIGHTS, EQUIPMENT OR LABOR NECESSARY FOR SUCH INSPECTION SHALL BE PROVIDED BY THE CONTRACTOR. CAMERA WORK TO BE PERFORMED BY NASCO CERTIFIED CONTRACTOR.

- ANY FOREIGN MATERIAL FOUND IN THE INTERIOR OF THE SEWER, ANY DIRT, DEBRIS OR OTHER OBJECTS SHALL BE REMOVED BY THE CONTRACTOR. VISIBLE DEFECTS SUCH AS BROKEN PIPE SECTIONS, IMPROPERLY INSTALLED GASKETS, PROJECTING CONNECTIONS, CRACKS, VISIBLE LEAKS OR OTHER DEFECTS SHALL BE NOTED, CORRECTED AND THE PIPE RE-INSPECTED.

2. AIR TESTING OF MAIN LINE GRAVITY SEWERS:

PROCEDURE:

- a. PLUG PIPE OUTLETS WITH SUITABLE TEST PLUGS. BRACE EACH PLUG SECURELY.

- b. PIPE AIR SUPPLY TO PIPELINE TO BE TESTED IN SUCH MANNER THAT AIR SUPPLY MAY BE SHUT OFF, PRESSURE OBSERVED, AND AIR PRESSURE RELEASED FROM PIPE WITHOUT WORKMEN ENTERING MANHOLE.

- c. ADD AIR SLOWLY TO PORTION OF PIPE UNDER TEST UNTIL INTERNAL PRESSURE OF LINE IS RAISED TO APPROXIMATELY 4 PSIG, BUT LESS THAN 5 PSIG.

- d. SHUT AIR SUPPLY OFF AND ALLOW AT LEAST 2 MINUTES FOR AIR PRESSURE TO STABILIZE.

- e. WHEN PRESSURE HAS STABILIZED AND IS AT OR ABOVE STARTING TEST PRESSURE OF 3.5 PSI, START TEST.

- f. DETERMINE TIME IN SECONDS WITH STOPWATCH FOR PRESSURE TO FALL 0.5 PSIG SO THAT PRESSURE AT END OF TIME IS AT OR ABOVE 3.0 PSIG.

- g. COMPARE OBSERVED TIME WITH MINIMUM ALLOWABLE TIMES IN CHART BELOW FOR PASS/FAIL DETERMINATION.

AIR TESTING PASS/FAIL TESTING CRITERIA

SPECIFICATION TIME FOR LENGTH (L) SHOWN (MIN-SEC)

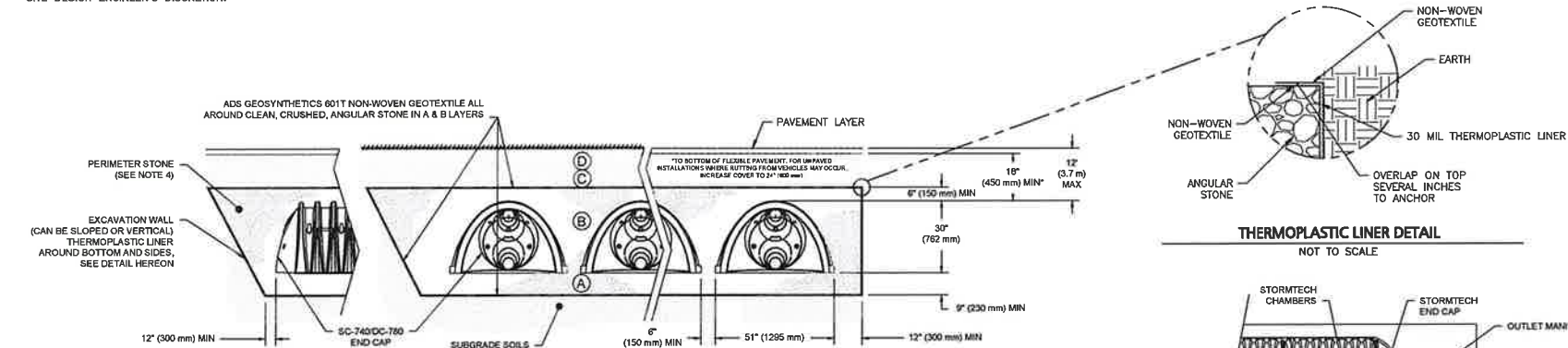
| 1 Pipe Diameter (in.) | 2 Minimum Time (min:sec) | 3 Length for Minimum Time (ft.) | 4 Time for Longer Length (sec.) | 100 ft. | 150 ft. | 200 ft. | 250 ft. | 300 ft. | 350 ft. | 400 ft. |
|--------------------------------|-----------------------------------|--|--|---------|---------|---------|---------|---------|---------|---------|
| 4 | 1:53 | 597 | 190L | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 | 1:53 |
| 6 | 2:50 | 998 | 427L | 2:50 | 2:50 | 2:50 | 2:50 | 2:50 | 2:50 | 2:51 |
| 8 | 3:47 | 298 | 760L | 3:47 | 3:47 | 3:47 | 3:47 | 3:48 | 4:26 | 5:51 |
| 10 | 4:43 | 239 | 1187L | 4:43 | 4:43 | 4:43 | 4:53 | 5:56 | 6:55 | 7:54 |
| 12 | 5:48 | 199 | 1709L | 5:48 | 5:48 | 5:42 | 7:08 | 8:33 | 9:54 | 11:24 |
| 14 | 6:50 | 159 | 2421L | 7:05 | 7:05 | 8:34 | 11:08 | 13:21 | 15:53 | 17:48 |
| 18 | 8:30 | 133 | 3243L | 8:30 | 9:37 | 12:49 | 16:01 | 19:14 | 22:26 | 25:38 |
| 24 | 11:20 | 99 | 2.6761L | 11:24 | 17:57 | 22:48 | 28:30 | 34:11 | 39:53 | 45:35 |

ACCEPTABLE FILL MATERIALS: STORMTECH DC-780 CHAMBER SYSTEMS

| MATERIAL LOCATION | DESCRIPTION | AASHTO MATERIAL CLASSIFICATIONS | COMPACTION / DENSITY REQUIREMENT |
|-------------------|---|---|--|
| D | FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER. | N/A | PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS. |
| C | INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER. | AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 | BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN). |
| B | EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE. | AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57 | NO COMPACTION REQUIRED. |
| A | FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER. | AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57 | PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3} |

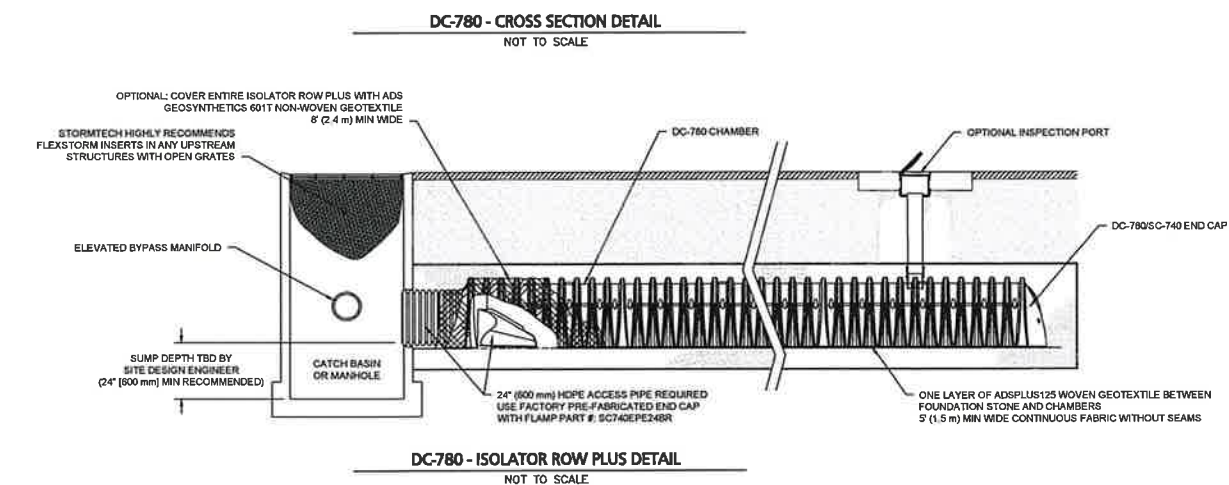
PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

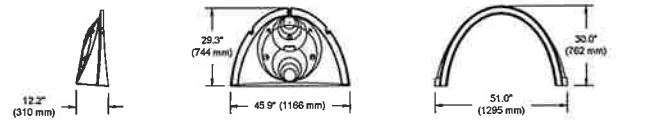
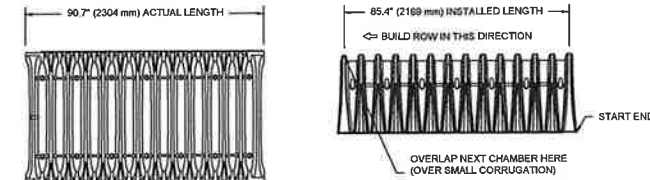
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- DC-780 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- COORDINATE WITH THE PROJECT GEOTECHNICAL ENGINEER FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT², AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



TEMPORARY STORMTECH DC-780 CHAMBER SYSTEM

NOT TO SCALE

1



NOMINAL CHAMBER SPECIFICATIONS

| | |
|---------------------------------|--|
| SIZE (W X H X INSTALLED LENGTH) | 51.0" X 30.0" X 85.4" (1295 mm X 762 mm X 2169 mm) |
| CHAMBER STORAGE | 46.2 CUBIC FEET (1.30 m ³) |
| MINIMUM INSTALLED STORAGE* | 78.4 CUBIC FEET (2.20 m ³) |
| WEIGHT | 75.0 lbs (33.6 kg) |

*ASSUMES 6" (152 mm) STONE ABOVE, 9" (229 mm) BELOW, AND 6" (152 mm) BETWEEN CHAMBERS

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

| PART # | STUB | A | B | C |
|------------------------------|--------------|----------------|----------------|--------------|
| SC740EPE06T / SC740EPE06TPC | 6" (150 mm) | 10.9" (277 mm) | 18.5" (470 mm) | 0.5" (13 mm) |
| SC740EPE08B / SC740EPE08BPC | 8" (200 mm) | 12.2" (310 mm) | 16.5" (419 mm) | 0.6" (15 mm) |
| SC740EPE10T / SC740EPE10TPC | 10" (250 mm) | 13.4" (340 mm) | 14.5" (368 mm) | 0.7" (18 mm) |
| SC740EPE12T / SC740EPE12TPC | 12" (300 mm) | 14.7" (373 mm) | 12.5" (318 mm) | 1.2" (30 mm) |
| SC740EPE12B / SC740EPE12BPC | 12" (300 mm) | 14.7" (373 mm) | 9.0" (229 mm) | 1.3" (33 mm) |
| SC740EPE15T / SC740EPE15TPC | 15" (375 mm) | 18.4" (467 mm) | 5.0" (127 mm) | 1.6" (41 mm) |
| SC740EPE15B / SC740EPE15BPC | 15" (375 mm) | 18.4" (467 mm) | 5.0" (127 mm) | 0.1" (3 mm) |
| SC740EPE18T / SC740EPE18TPC | 18" (450 mm) | 19.7" (500 mm) | 5.0" (127 mm) | 0.1" (3 mm) |
| SC740EPE24B* / SC740EPE24BPC | 24" (600 mm) | 18.5" (470 mm) | 5.0" (127 mm) | 0.1" (3 mm) |
| SC740EPE24BR* | 24" (600 mm) | 18.5" (470 mm) | 5.0" (127 mm) | 0.1" (3 mm) |

ALL STUBS, EXCEPT FOR THE SC740EPE24B/SC740EPE24BR ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B/SC740EPE24BR THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

TECHNICAL SPECIFICATIONS

NOT TO SCALE

DC-780 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH DC-780.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER SHALL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | AS SHOWN | DWG. NAME: | C2912-01A |
| DESIGNED BY: | JRG | CHECKED BY: | BDJ |

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
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MANCHESTER, NH 03103
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FAX: (603) 627-5501

WOBBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

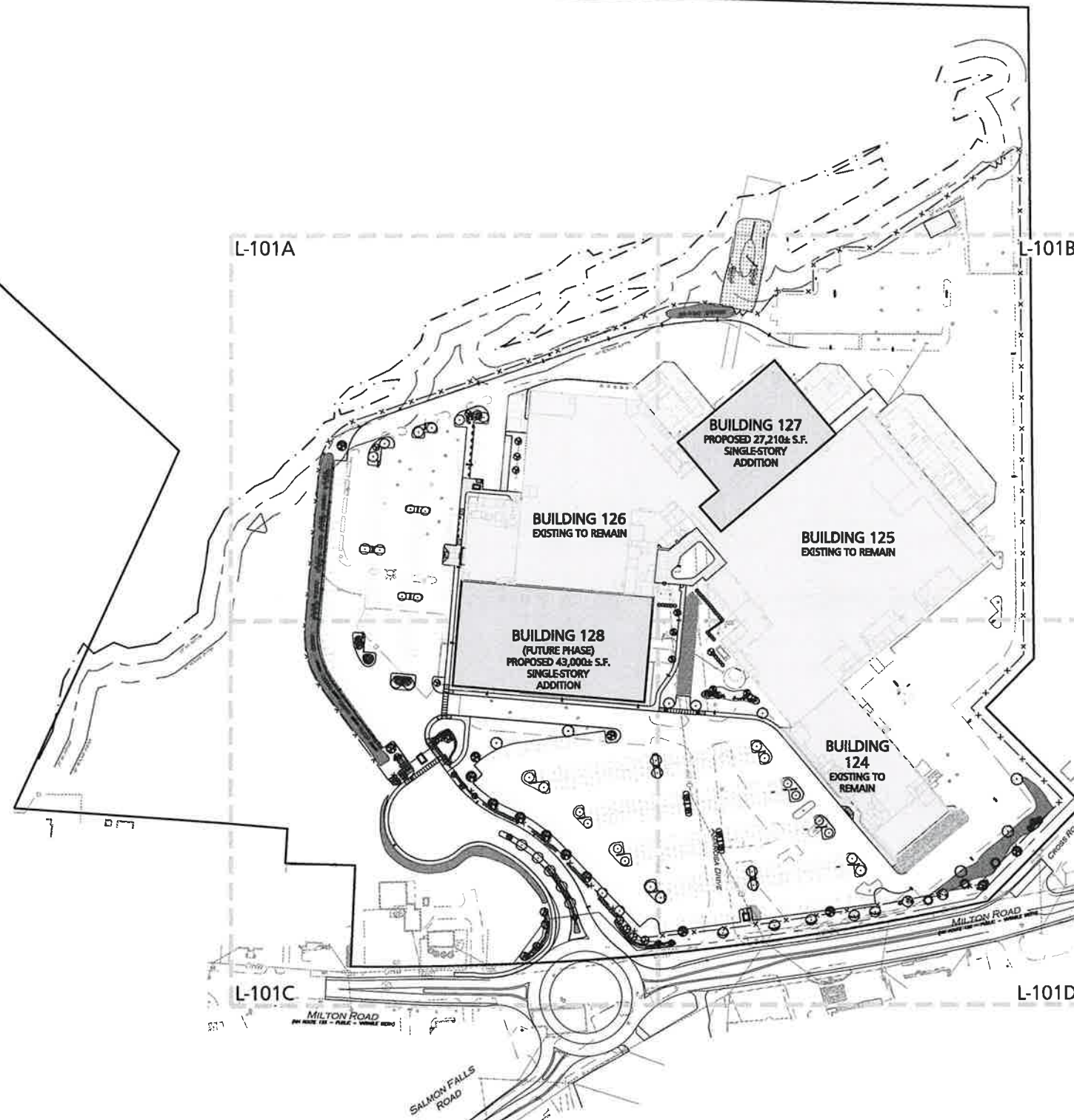
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DRAWING TITLE: DETAILS

SHEET No. C-510

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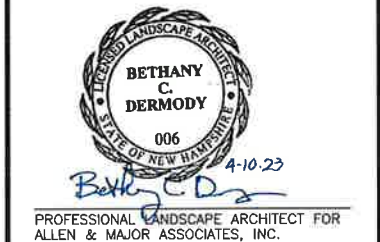
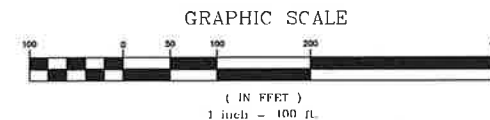
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| LEGEND | |
|--------------------------|--|
| DECIDUOUS TREE | |
| EVERGREEN TREE | |
| FLOWERING TREE | |
| SHRUBS | |
| MULCH BED | |
| PERENNIALS/GROUND COVER | |
| EROSION CONTROL SEED MIX | |
| CONSERVATION SEED MIX | |
| DETENTION BASIN SEED MIX | |

NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ON-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. "EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER, INC." DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
3. OFF-SITE EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM DOUCET SURVEY, LLC. "EXISTING CONDITIONS PLAN FOR HOYLE, TANNER, & ASSOCIATES, INC. OF MILTON ROAD (NH ROUTE 125) AND AMAROSA DRIVE INTERSECTION, ROCHESTER, NH" DATED JUNE 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
4. NO MATERIAL CONTAINING ANY LIVING OR Viable PORTION OF PLANTS ON THE NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST (AGRS3800 TABLE 3800.1) SHALL BE TRANSPORTED TO OR FROM CONSTRUCTION SITE WITHOUT NOTIFICATION AND APPROVAL FROM THE NEW HAMPSHIRE DEPARTMENT OF AGRICULTURE PER RSA 430:55. PHONE: 207-883-7100
5. ALL LANDSCAPED AREAS WITH SHRUBS, TREES, AND PERENNIALS TO HAVE 12" MINIMUM DEPTH OF TOPSOIL. THE 12" OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE / SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED TO HAVE 6" MINIMUM DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR, AND APPROVED BY A&M PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR, AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS SITE SO THAT 12 INIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO OWNER. SEE TOPSOIL DETAIL.
6. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION, ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:
SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:
PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|-----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE | 01-20-23 |
| SCALE: | 1" = 100' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | BCD | CHECKED BY: | BDJ |

PREPARED BY:

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| | |
|---|---------------------------|
| DRAWING TITLE: OVERALL LANDSCAPE PLAN | SHEET No. L-101 |
|---|---------------------------|

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NOTES:

- 25' WETLAND BUFFER TO BE MARKED WITH SIGNAGE AS SHOWN OR EQUAL. SEE PLAN FOR LOCATIONS.
- SIGNAGE TO BE FROM CITY OF ROCHESTER PLANNING DEPT.
- THE CITY HAS METAL WETLAND MARKERS AVAILABLE FOR PURCHASE AT THE PLANNING AND DEVELOPMENT DEPARTMENT. (SIGNS COST \$1 EACH.) SIGNS CAN BE MOUNTED TO EXISTING TREES. NAILS USED TO ATTACH SIGNS TO TREES SHOULD NOT BE FLUSH TO THE BARK OF THE TREE. THERE SHOULD BE A GAP TO ALLOW FOR TREE GROWTH. NAILS TO BE STAINLESS STEEL.

25' WETLAND BUFFER SIGNAGE

NOT TO SCALE

1

LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- FLOWERING TREE
- SHRUBS
- MULCH BED
- PERENNIALS/GROUND COVER
- EROSION CONTROL SEED MIX
- CONSERVATION SEED MIX
- DETENTION BASIN SEED MIX

NOTES

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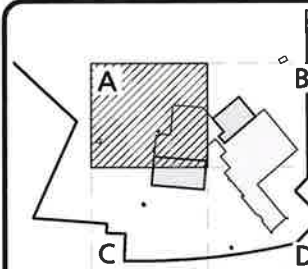
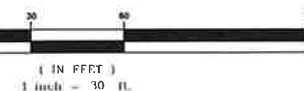
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1-888-344-7233

GRAPHIC SCALE



SHEET KEY PLAN



PROFESSIONAL LANDSCAPE ARCHITECT FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-2023 |
| SCALE: | 1" = 30' | DWG. NAME: | C2912-01A |
| DESIGNED BY: | BCD | CHECKED BY: | BDJ |

PREPARED BY:



ALLEN & MAJOR
ASSOCIATES, INC.

civil engineering • land surveying environmental
consulting • landscape architecture

www.allenmajor.com

400 HARVEY ROAD
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TEL: (603) 627-5500
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DRAWING TITLE:

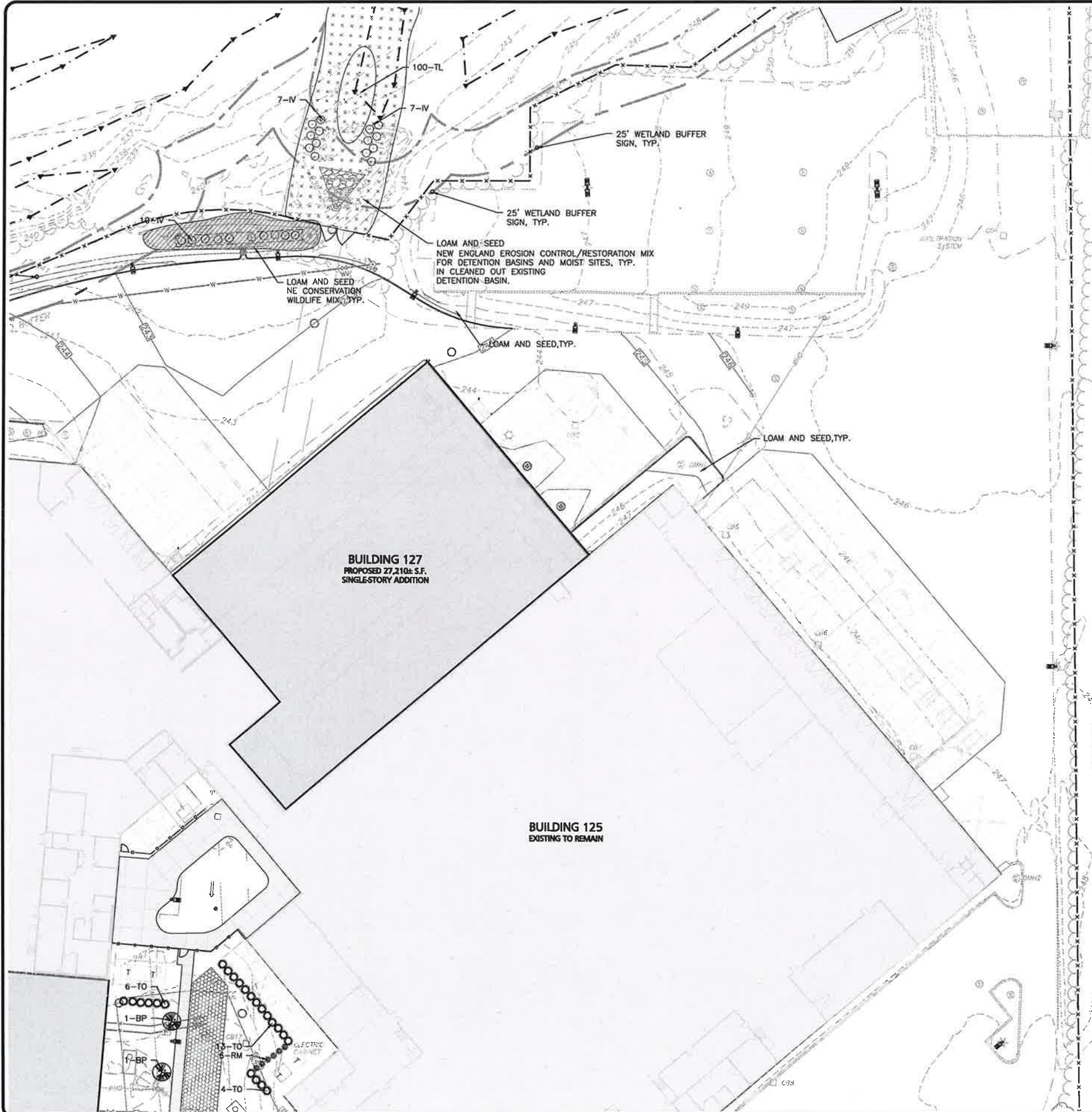
LANDSCAPE PLAN

SHEET No.

L-101A

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LEGEND

DECIDUOUS TREE

EVERGREEN TREE

FLOWERING TREE

SHRUBS

MULCH BED

PERENNIALS/GROUNDCOVER

EROSION CONTROL SEED MIX

CONSERVATION SEED MIX

DETENTION BASIN SEED MIX

- NOTES**
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 2. EXISTING CONDITIONS SHOWN HEREON HAVE BEEN PROVIDED TO ALLEN & MAJOR ASSOCIATES, INC. FROM NORWAY PLAINS ASSOCIATES, INC. EXISTING CONDITIONS PLAN: 7 AMAROSA DRIVE, ROCHESTER, NH, FOR SIG SAUER INC., DATED MAY 2021. A&M MAKES NO CLAIM REGARDING THE ACCURACY OR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN HEREON.
 3. NO MATERIAL CONTAINING ANY LIVING OR VIABLE PORTION OF PLANTS ON THE NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST (AGR3800 TABLE 3800.1) SHALL BE TRANSPORTED TO OR FROM CONSTRUCTION SITE WITHOUT NOTIFICATION AND APPROVAL FROM THE NEW HAMPSHIRE DEPARTMENT OF AGRICULTURE PER PHONE:207-883-7100
 4. ALL LANDSCAPED AREAS WITH SHRUBS, TREES, AND PERENNIALS TO HAVE 12" MINIMUM DEPTH OF TOPSOIL. THE 12" OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE / SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED TO HAVE 6" MINIMUM DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR, AND APPROVED BY A&M PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR, AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS SITE SO THAT 12 INIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO OWNER. SEE TOPSOIL DETAIL.
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1-888-344-7233

GRAPHIC SCALE

1" = 30'

1 inch = 30 ft

SHEET KEY PLAN

BETHANY C. DERMODY
006
4-10-23
PROFESSIONAL LANDSCAPE ARCHITECT FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

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ROCHESTER, NH 03868

PROJECT:
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0,124 MILTON ROAD
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PROJECT NO. 2912-01A DATE: 01-20-23

SCALE: 1" = 30' DWG. NAME: C2912-01A

DESIGNED BY: BCD CHECKED BY: BDJ

PREPARED BY:

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DRAWING TITLE: **LANDSCAPE PLAN** SHEET No. **L-101B**

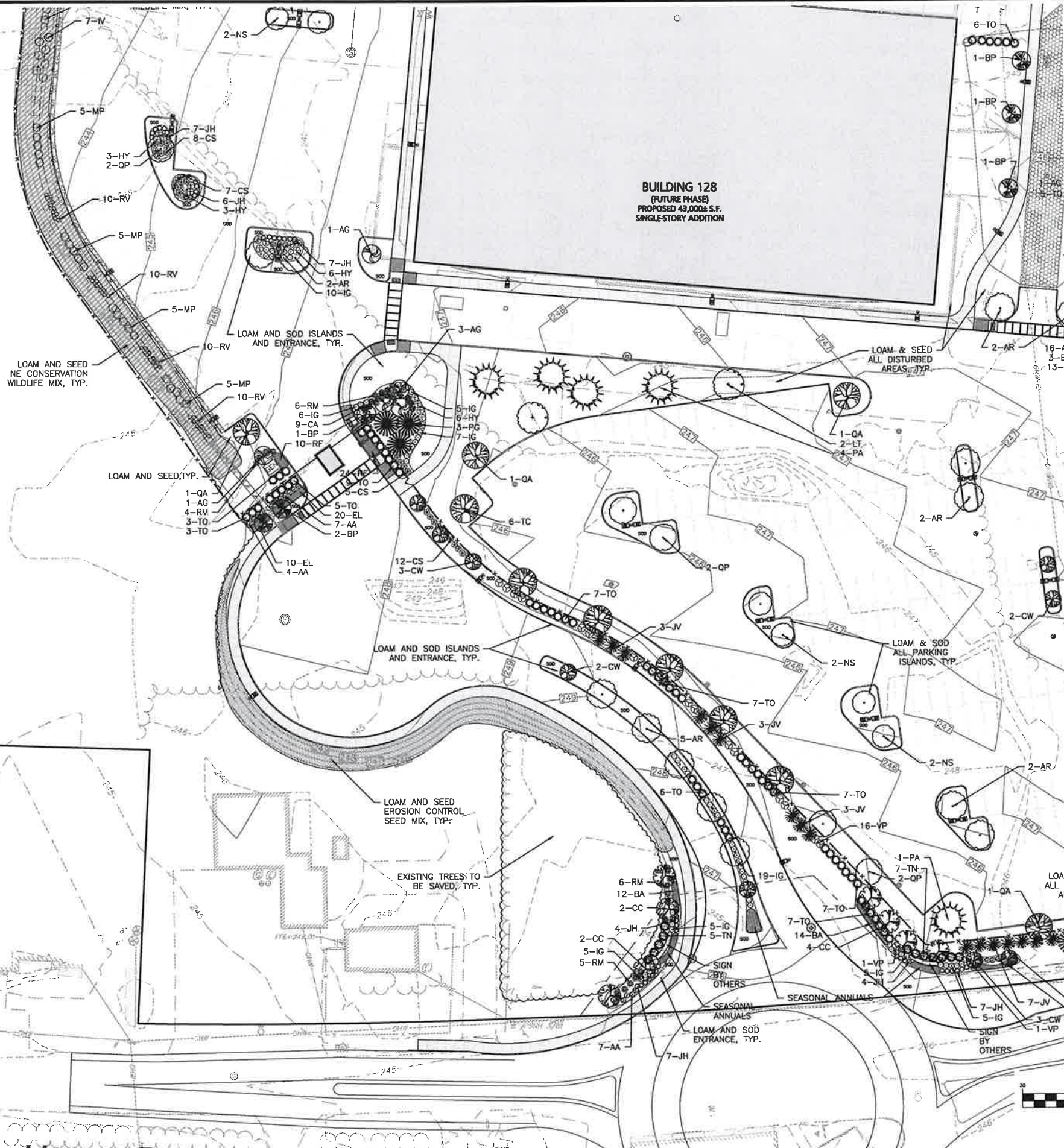
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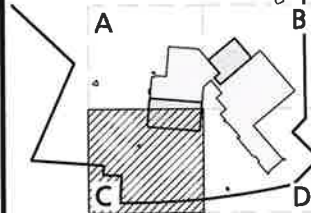
LEGEND

| | |
|--------------------------|--|
| DECIDUOUS TREE | |
| EVERGREEN TREE | |
| FLOWERING TREE | |
| SHRUBS | |
| MULCH BED | |
| PERENNIALS/GROUNDCOVER | |
| EROSION CONTROL SEED MIX | |
| CONSERVATION SEED MIX | |
| DETENTION BASIN SEED MIX | |

NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY COVERING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
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GRAPHIC SCALE



SHEET KEY PLAN



Bethany C. Dermody
PROFESSIONAL LANDSCAPE ARCHITECT FOR
ALLEN & MAJOR ASSOCIATES, INC.

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PROJECT:

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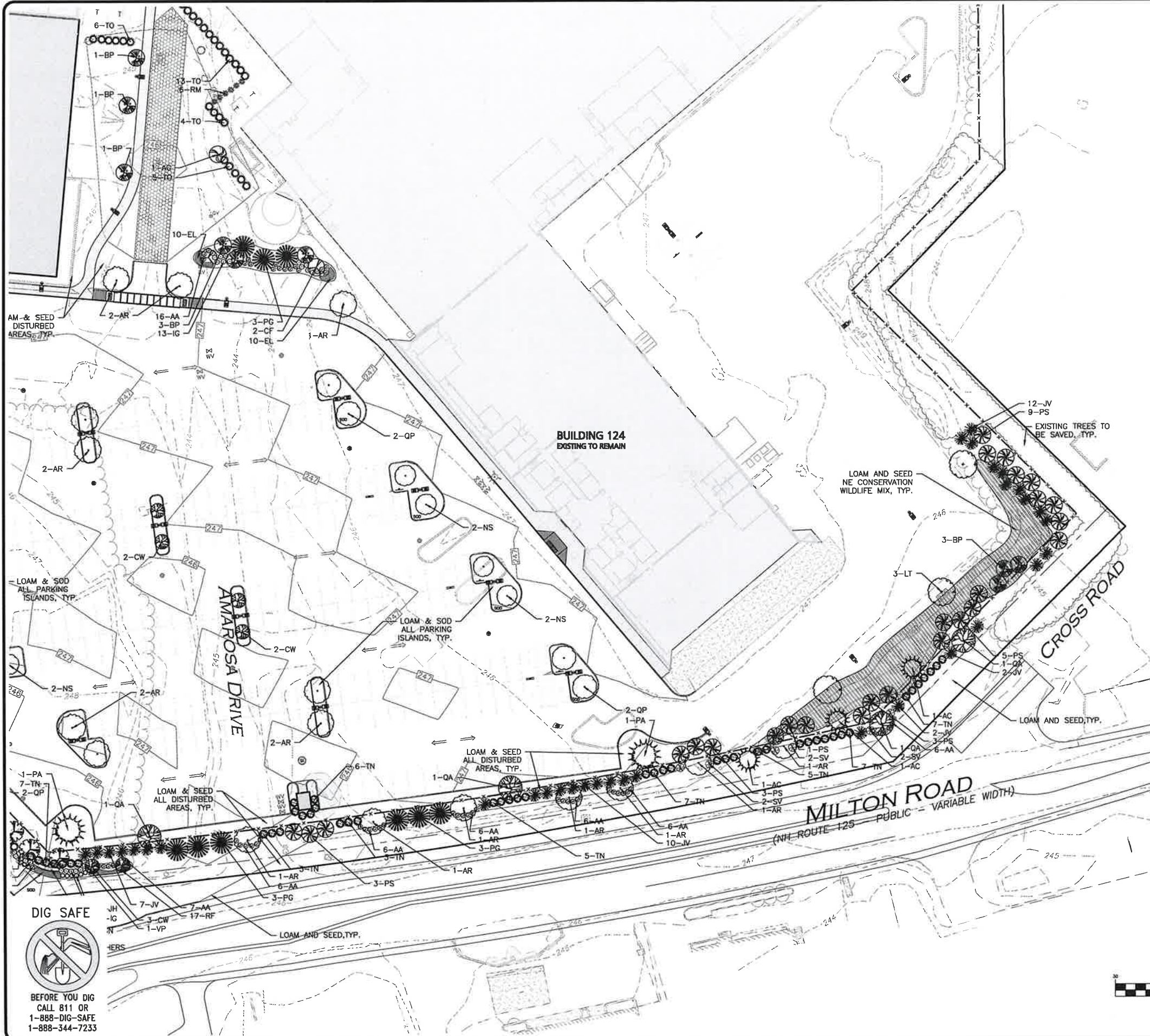
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| DRAWING TITLE: | SHEET No. |
| LANDSCAPE PLAN | L-101C |

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LEGEND

DECIDUOUS TREE

EVERGREEN TREE

FLOWERING TREE

SHRUBS

MULCH BED

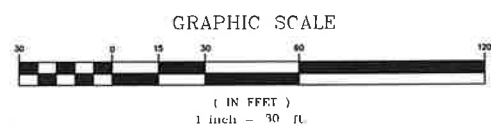
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SHEET KEY PLAN

BETHANY C. DERMODY

006

4-10-23

PROFESSIONAL LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

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PROJECT:

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PROJECT NO. 2912-01A DATE: 01-20-23

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DRAWING TITLE: **LANDSCAPE PLAN**

SHEET No. **L-101D**

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LOAM AND SODDING NOTES:

CONTRACTOR SHALL SOD AREAS NOTED ON THE PLANS.

SOD IS TO BE A BLEND OF FOUR TO FIVE CURRENT AND IMPROVED HYBRID BLUEGRASS AND FESCUE MIXES APPROPRIATE FOR BOTH SEMI-SHADED AND AREAS OF SUN.

HYBRIDS MAY INCLUDE: BLACKSTONE KENTUCKY BLUEGRASS, AWARD KENTUCKY BLUEGRASS, CHALLENGER KENTUCKY BLUEGRASS, BLACKBURG II KENTUCKY BLUEGRASS OR COMPARABLE AND EQUAL BLUEGRASS HYBRIDS.

1. SOD SHALL BE HIGH QUALITY, NURSERY GROWN ON CULTIVATED MINERAL AGRICULTURAL SOILS. SOD SHALL BE MOIST, AND MACHINE CUT AT A UNIFORM SOIL THICKNESS OF AT LEAST ¾" AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. SOD SHALL BE FREE OF DISEASES, WEEDS, BARE SPOTS, OR INSECTS.

2. SODDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RE-SODDING OF BARE SPOTS. IF UNABLE TO SOD WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SODDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10% PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

4. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RE-SODDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

6. NO COMMERCIAL FERTILIZERS ARE TO BE ALLOWED IN WETLAND BUFFER AREAS.

LOAM AND SEEDING NOTES:

CONTRACTOR SHALL SEED ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER MATERIALS, AND AT AREAS SHOWN ON THE PLAN PER SPECIFICATIONS BELOW

| SCIENTIFIC NAME | COMMON NAME | PROPORTION | PERCENT | PERCENT |
|-------------------------|--------------------------|------------|---------|-------------|
| | | BY WEIGHT | PURITY | GERMINATION |
| FESTUCA RUBRA "RUBRA" | CREEPING RED FESCUE | 37% | 95% | 90% |
| PAO PRAENTENSIS "BARON" | BARON KENTUCKY BLUEGRASS | 30% | 85% | 90% |
| FESTUCA ARUNDINACEA | FINE FESCUE | 15% | 95% | 90% |
| FESTUCA ARUNDINACEA | TALL FESCUE | 18% | 95% | 80% |

1. SEED TO BE SPREAD AT MINIMUM RATE OF 5 LBS. PER 1000 SQ. FT.

2. SEEDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RESEEDING OF BARE SPOTS. IF UNABLE TO SEED WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SEEDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED (EXCEPT IN WETLAND BUFFER AREAS) AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE SLOW RELEASE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

4. LAWN AREAS TO BE SEEDDED BY SOWING EVENLY WITH AN APPROVED MECHANICAL SEEDER AT THE RATE OF TEN POUNDS PER 1000 SQUARE FEET.

5. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RESEEDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

6. NO COMMERCIAL FERTILIZERS ARE TO BE ALLOWED IN WETLAND BUFFER AREAS.

LANDSCAPE NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF ROCHESTER, NH.

2. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF MAY CONFLICTS IN WRITING.

4. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.

5. ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

6. CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.

7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT

8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.

10. ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED. LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.

11. ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.

12. TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.

13. ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH

14. ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.

15. ALL TREE STAKES SHALL BE STAINED DARK BROWN.

16. CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.

17. ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 18" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.

18. SOIL SAMPLES, TESTS, AND SHOP DRAWINGS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.

19. ALL PROPOSED LANDSCAPE AREAS (FROM THE FACE OF THE BUILDING TO THE ROAD, INCLUDING THE ENTRANCE AND PARKING LOT) INCLUDING MOWED LAWNS, TREES, SHRUB BEDS, AND PERENNIALS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: USE OF DRIP IRRIGATION FOR SHRUBS AND PERENNIALS, IRRIGATION SYSTEM WITH HEAD-TO-HEAD COVERAGE, A CENTRAL SHUT-OFF VALVE, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.

SITE PLAN REGULATIONS: ZONE GENERAL INDUSTRIAL - LANDSCAPING

| SECTION 5 - LANDSCAPING (GENERAL INDUSTRIAL ZONE IS EXEMPT BUT ENCOURAGED TO CONFORM) | NOTED | PROVIDE | NOTES |
|--|--|----------|-------|
| C.-4 TREES PREFERRED TO BE BROAD LEAFED SHADE TREES TO REACH 30' AT MATURITY | 30' AT MATURITY | AS NOTED | |
| D-2,3. 15' FRONT LS BUFFER, 10' SIDE LS BUFFER | 15' FRONT, 10' SIDE LANDSCAPE BUFFER | AS NOTED | |
| D-8b. ONE SHADE TREE EVERY 40' IN FRONT LS BUFFER. | 1 TREE EVERY 40' IN FRONT LANDSCAPE BUFFER | AS NOTED | |
| D-8c. TWO SHADE TREES 40' APART WITHIN THE FRONT 50' OF EACH SIDE BUFFER | 2 SHADE TREE SIDE BUFFER | AS NOTED | |
| D-5. LANDSCAPING PENINSULA IN PARKING LOT THE SAME WIDTH AS THE PARKING SPACES, PLANTED WITH 1 SHADE TREE MIN. | LS PENINSULA THE SAME WIDTH AS PARKING | AS NOTED | |
| F. SHADE TREES TO BE 3-3.5" CAL MIN. ORNAMENTAL TREES TO BE 2-2.5" CAL MIN. EVERGREEN TREES TO BE 6' HT. MIN. SHRUBS TO BE 2' TALL MIN OR 3 GAL CONTAINER. | SIZES TO BE FOLLOWED | AS NOTED | |

SITE PLANTING SCHEDULE -TREES, SHRUBS & PERENNIALS

DECIDUOUS AND FLOWERING TREES

| KEY | QUANTITY | BOTANICAL NAME | COMMON NAME | MIN. SIZE | SPACING | COMMENTS |
|-----|----------|-----------------------------------|-----------------------------|-------------|----------|----------------|
| AR | 25 | ACER RUBRUM 'RED SUNSET' | RED SUNSET RED MAPLE | 3" CAL | AS SHOWN | B&B |
| AG | 11 | AMELANCHIER CANADENSIS | SERVICEBERRY | 6-7' HT. | AS SHOWN | B&B, MULTISTEM |
| BP | 12 | BETULA PAPHYRIFERA | PAPER BIRCH | 10-12' HT. | AS SHOWN | B&B, MULTISTEM |
| CF | 2 | CORNUS FLORIDA 'CHEROKEE BRAVE' | CHEROKEE BRAVE DOGWOOD | 2-2.5" CAL. | AS SHOWN | B&B |
| CW | 11 | CRATEAGUS CRUSGALU V. INERMIS | THORNLESS COCKSPUR HAWTHORN | 2-2.5" CAL. | AS SHOWN | B&B |
| LT | 5 | LIRIODENDRON TULIPIFERA | TULIP TREE | 3" CAL. | AS SHOWN | B&B |
| CC | 8 | CERCIS CANADENSIS | REDBUD | 2-2.5" CAL. | AS SHOWN | B&B |
| QA | 8 | QUERCUS ALBA | WHITE OAK | 3" CAL. | AS SHOWN | B&B |
| QP | 16 | QUERCUS PALUSTRIS | PIN OAK | 3" CAL. | AS SHOWN | B&B |
| TC | 6 | TILIA AMERICANA 'AMERICAN SENTRY' | AMERICAN SENTRY BASSWOOD | 3" CAL. | AS SHOWN | B&B |
| NS | 12 | NYSSA SYLVATICA 'GREEN GABLE' | GREEN GABLE TUPELO | 2-2.5" CAL. | AS SHOWN | B&B |

EVERGREEN TREES

| | | | | | | |
|----|----|------------------------------|--------------------------|-----------|----------|-----|
| AC | 3 | ABIES CONCOLOR | WHITE FIR | 8-10' HT. | AS SHOWN | B&B |
| PG | 15 | PICEA GLAUCA | WHITE SPRUCE | 6-7' HT. | AS SHOWN | B&B |
| PA | 6 | PICEA RUBENS | RED SPRUCE | 6-7' HT. | AS SHOWN | B&B |
| JV | 42 | JUNIPERUS VIRGINIANA | EASTERN RED CEDER | 6-7' HT. | AS SHOWN | B&B |
| TO | 89 | THUJA OCCIDENTALIS 'SMARAGD' | EMERALD GREEN ARBORVITAE | 6-7' HT. | AS SHOWN | B&B |
| TN | 52 | THUJA OCCIDENTALIS 'NIGRA' | DARK AMERICAN ARBORVITAE | 6' HT. | AS SHOWN | B&B |
| PS | 26 | PINUS STROBUS | WHITE PINE | 6-7' HT. | AS SHOWN | B&B |

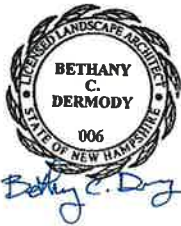
SHRUBS

| | | | | | | |
|-----|----|--|-------------------------------|-----|----------|-----|
| AA | 79 | ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA' | RED CHOKECHERRY | #5 | AS SHOWN | POT |
| CA | 19 | CLETHRA ALNIFOLIA 'VANILLA SPICE' | VANILLA SPICE SUMMERSWEET | #5 | AS SHOWN | POT |
| CS | 34 | CORNUS SERICEA 'ARCTIC FIRE' | ARCTIC FIRE RED OSIER DOGWOOD | #5 | AS SHOWN | POT |
| HY | 17 | HYDRANGEA ARBORESCENS 'ANNABELLE' | ANNABELLE SMOOTH HYDRANGEA | #5 | AS SHOWN | POT |
| IG | 87 | ILEX GLABRA 'SHAMROCK' | SHAMROCK INKBERRY | #5 | AS SHOWN | POT |
| IV | 49 | ILEX VERTICILLATA | WINTERBERRY | #3 | AS SHOWN | POT |
| IVM | 3 | ILEX VERTICILLATA 'SOUTHERN GENTLEMAN' | WINTERBERRY MALE POLLINATOR | #5 | AS SHOWN | POT |
| JH | 42 | JUNIPERUS HORIZONTALIS 'PLUMOSA' | ANDORRA CREEPING JUNIPER | #3 | AS SHOWN | POT |
| MP | 42 | MORELLA PENSYLVANICA | BAYBERRY | #5 | AS SHOWN | B&B |
| RM | 27 | RHODODENDRON MAXIMUM | GREAT LAUREL RHODODENDRON | #5 | AS SHOWN | B&B |
| RV | 40 | ROSA VIRGINIANA | VIRGINIA ROSE | #3 | AS SHOWN | B&B |
| SV | 6 | SYRINGA VULGARIS 'LUDWIG SPAETH' | LUDWIG SPAETH LILAC | #5 | AS SHOWN | B&B |
| VP | 18 | VIBURNUM NUDUM 'WINTERTHUR' | WINTERTHUR VIBURNUM | #10 | AS SHOWN | B&B |

PERENNIALS/GRASSES

| | | | | | | |
|----|-----|--------------------------------|---------------------|---------|----------|-----------|
| BA | 28 | BAPTISIA AUSTRALIS | BLUE FALSE INDIGO | #1 | 30" O.C. | STAGGERED |
| RF | 51 | RUDBECKIA FULGIDA v. FULGIDA | BLACK EYED SUSAN | #1 | 24" O.C. | STAGGERED |
| EL | 50 | EUPATORIUM DUBIUM 'LITTLE JOE' | LITTLE JOE PYE WEED | #1 | 24" O.C. | STAGGERED |
| TL | 100 | * TYPHA LATIFOLIA | COMMON CATTAIL | 2" PLUG | 24" O.C. | STAGGERED |

* NATIVE HERBACEOUS PLUGS AND NATIVE SEED MIXES TO BE FROM NE WETLAND PLANTS. SEE L-501 FOR SEED MIXES. ANNUALS TO BE PROVEN WINNERS NORTH SHORE MIX OR EQUAL FOR SPRING/SUMMER



PROFESSIONAL LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

| | | |
|-----|----------|--------------------------------|
| | | |
| ▲ | 06-06-23 | REVISED PER NOTICE OF DECISION |
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |
| REV | DATE | DESCRIPTION |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | AS NOTED | DWG. NAME: | C2912-01A |
| DESIGNED BY: | BGD | CHECKED BY: | BDJ |

PREPARED BY:



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ASSOCIATES, INC.

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MANCHESTER, NH 03103

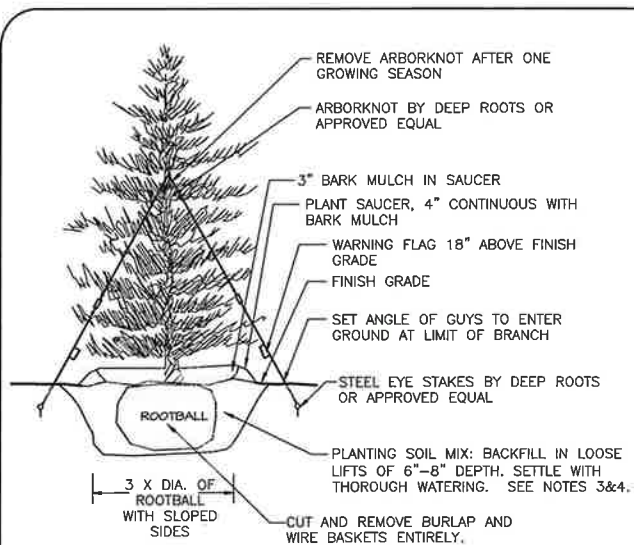
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| LANDSCAPE NOTES | L-102 |
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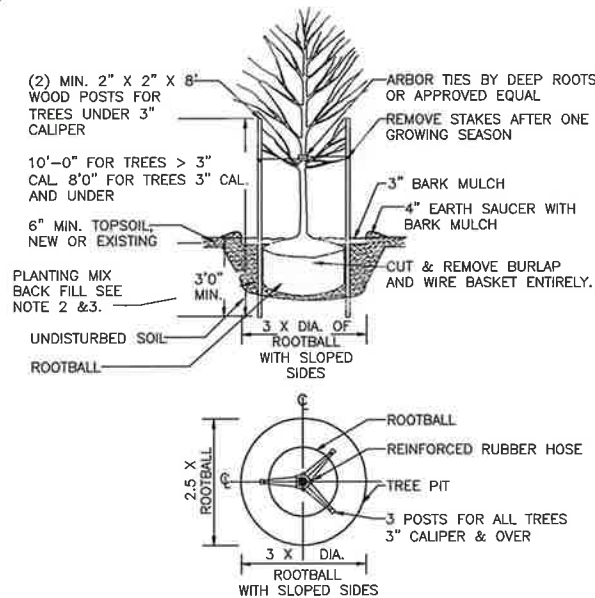


NOTES:

1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

EVERGREEN TREE DETAIL
NOT TO SCALE

1



NOTES:

1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SEE MATERIALS PLAN AND DETAILS PLANS FOR STREET TREE PLANTING IN WITH TREE GRATES DETAIL.

DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

3

SEED MIXES:

NEW ENGLAND WETLAND PLANTS
820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES

| BOTANICAL NAME | COMMON NAME | INDICATOR |
|-------------------------|--------------------------|-----------|
| ELYMUS RIPARIUS | RIVERBANK WILD RYE | FACW |
| FESTUCA RUBRA | RED FESCUE | FACU |
| SCHIZACHYRIUM SCOPARIUM | LITTLE BLUESTEM | FACU |
| PANICUM VIRGATUM | SWITCH GRASS | FAC |
| ANDROPOGON GERARDII | BIG BLUESTEM | FAC |
| VERBENA HASTATA | BLUE VERVAIN | FACW |
| AGROSTIS PERENNANS | UPLAND BENTGRASS | FACU |
| BIDENS CERNUA | NODDING BUR MARIGOLD | OBL |
| EUPATORIUM FISTULOSUM | HOLLOW-STEM JOE PYE WEED | FACW |
| EUPATORIUM PERFORIATUM | BONASET | FACW |
| ASTER NOVAE-ANGLIAE | NEW ENGLAND ASTER | FACW |
| SORBUS CYPERINUS | WOOL GRASS | FACW |
| JUNCUS EFFUSUS | SOFT RUSH | FACW+ |

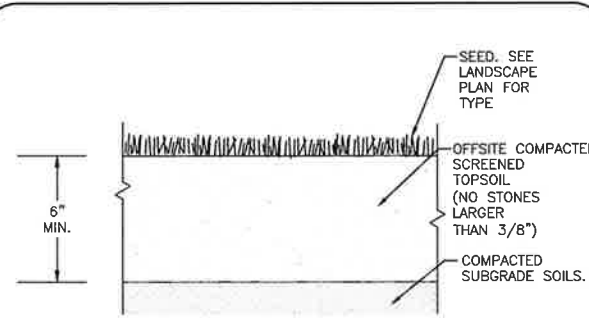
THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES CONTAINS A SELECTION OF NATIVE GRASSES AND WILDFLOWERS DESIGNED TO COLONIZE GENERALLY MOIST, RECENTLY DISTURBED SITES WHERE QUICK GROWTH OF VEGETATION IS DESIRED TO STABILIZE THE SOIL SURFACE. IT IS AN APPROPRIATE SEED MIX FOR ECOLOGICALLY SENSITIVE RESTORATIONS THAT REQUIRE STABILIZATION AS WELL AS LONG-TERM ESTABLISHMENT OF NATIVE VEGETATION. THIS MIX IS PARTICULARLY APPROPRIATE FOR DETENTION BASINS THAT DO NOT HOLD STANDING WATER. MANY OF THE PLANTS IN THIS MIX CAN TOLERATE INFREQUENT INUNDATION, BUT NOT CONSTANT FLOODING. THE MIX MAY BE APPLIED BY HAND, BY MECHANICAL SPREADER, OR BY HYDROSEEDER. AFTER SOWING, LIGHTLY RAKE, ROLL OR CULTIPACK TO INSURE GOOD SEED-TO-SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE SUMMER SEEDING. LATE FALL AND WINTER DORMANT SEEDING REQUIRES AN INCREASE IN THE APPLICATION RATE. A LIGHT MULCHING OF CLEAN, WEED-FREE STRAW IS RECOMMENDED. APPLY: 35 LBS/ACRE :1250 SQ FT/LB

SEED MIXES:

NEW ENGLAND WETLAND PLANTS
820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM
NEW ENGLAND CONSERVATION/WILDLIFE MIX

| BOTANICAL NAME | COMMON NAME | WETLAND INDICATOR |
|--|----------------------------|-------------------|
| ELYMUS VIRGINICUS | VIRGINIA WILD RYE | FACW |
| SCHIZACHYRIUM SCOPARIUM | LITTLE BLUESTEM | FACU |
| ANDROPOGON GERARDII | BIG BLUESTEM | FAC |
| FESTUCA RUBRA | RED FESCUE | FACU |
| SORGHASTRUM NUTANS | INDIAN GRASS | UPL |
| PANICUM VIRGATUM | SWITCH GRASS | FAC |
| CHAMAECRISTA FASCICULATA | PARTIDGE PEA | FACU |
| DESMODIUM PANICULATUM | PANICLED LEAF TICK TREFOIL | FACU |
| VERBENA HASTATA | BLUE VERVAIN | FACW |
| ASCLEPIAS TUBEROSA | BUTTERFLY MILKWEED | NI |
| RUDBECKIA HIRTA | BLACK EYED SUSAN | FACU |
| HELENIUM AUTUMNALE | COMMON SNEEZEWEED | FACW+ |
| ASTER PILOSUS (SYMPHYOTRICHUM PILOSUM) | HEATH ASTER | UPL |
| SOLIDAGO JUNCEA | EARLY GOLDENROD | UPL |
| AGROSTIS PERENNANS | UPLAND BENTGRASS | FACU |

THE NEW ENGLAND CONSERVATION/WILDLIFE MIX PROVIDES A PERMANENT COVER OF GRASSES, WILDFLOWERS, AND LEGUMES FOR BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE. THE MIX IS DESIGNED TO BE A NO MAINTENANCE SEEDING, AND IS APPROPRIATE FOR CUT AND FILL SLOPES, DETENTION BASIN SIDE SLOPES, AND DISTURBED AREAS ADJACENT TO COMMERCIAL AND RESIDENTIAL PROJECTS. APPLY: 25 LBS/ACRE :1750 SQ FT/LB
EROSION CONTROL BLANKET FOR SLOPES SEE LANDSCAPE NOTES



| TEXTURE CLASS | % OF TOTAL WEIGHT |
|---------------|-------------------|
| SAND | 45% - 65% |
| SILT | 15% - 35% |
| CLAY | 5% - 20% |

| SIEVE | % PASSING |
|---------|--------------|
| 3/8" | 100 |
| NO. 4 | 85-100 |
| NO. 40 | 60-85 |
| NO. 100 | 38-60 |
| NO. 200 | 10-35 |
| 20 um | LESS THAN 5% |

NOTES:

1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.
5. NO TOPSOIL SHALL BE REMOVED FROM THE SITE. 6" DEPTH OF TOPSOIL TO BE SCREENED ON SITE AND SUPPLEMENTED WITH OFF SITE LOAM.

TOPSOIL FOR LAWN, TREES, SHRUBS, & PERENNIALS
NOT TO SCALE

2

SEED MIX:

NEW ENGLAND WETLAND PLANTS
820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES

| BOTANICAL NAME | COMMON NAME | WETLAND INDICATOR |
|-------------------------|--------------------|-------------------|
| ELYMUS CANADENSIS | CANADA WILD RYE | FACU+ |
| FESTUCA RUBRA | RED FESCUE | FACU |
| LOLIUM MULTIFLORUM | ANNUAL RYEGRASS | FAC |
| LOLIUM PERENNE | PERENNIAL RYEGRASS | FAC |
| PANICUM VIRGATUM | SWITCH GRASS | FAC |
| SORGHASTRUM NUTANS | INDIAN GRASS | UPL |
| SCHIZACHYRIUM SCOPARIUM | LITTLE BLUESTEM | FACU |
| AGROSTIS PERENNANS | UPLAND BENTGRASS | FACU |

THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES PROVIDES AN APPROPRIATE SELECTION OF NATIVE AND NATURALIZED GRASSES TO ENSURE THAT DRY AND RECENTLY DISTURBED SITES WILL BE QUICKLY REVEGETATED AND THE SOIL SURFACE STABILIZED. IT IS AN APPROPRIATE SEED MIX FOR ROAD CUTS, PIPELINES, STEEPER SLOPES, AND AREAS REQUIRING QUICK COVER DURING THE ECOLOGICAL RESTORATION PROCESS. THE MIX MAY BE APPLIED BY HYDRO-SEEDING, BY MECHANICAL SPREADER, OR ON SMALL SITES IT CAN BE SPREAD BY HAND. LIGHTLY RAKE, OR ROLL TO ENSURE PROPER SOIL-SEED CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE SUMMER SEEDING. LATE SPRING THROUGH MID-SUMMER SEEDING WILL BENEFIT FROM A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. IF CONDITIONS ARE DRIER THAN USUAL, WATERING WILL BE REQUIRED. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE. PREPARATION OF A CLEAN WEED FREE SEED BED IS NECESSARY FOR OPTIMAL RESULTS. EROSION CONTROL BLANKET FOR SLOPES SEE LANDSCAPE NOTES

LANDSCAPE MANAGEMENT NOTES:

LANDSCAPE MANAGEMENT PLAN
IT SHOULD BE RECOGNIZED THAT THIS IS A GENERAL GUIDELINE TOWARDS ACHIEVING HIGH QUALITY AND WELL-GROOMED LANDSCAPED AREAS. THE GROUNDS STAFF / LANDSCAPE CONTRACTOR MUST RECOGNIZE THE SHORTCOMINGS OF A GENERAL MAINTENANCE PROGRAM SUCH AS THIS, AND MODIFY AND/OR AUGMENT IT BASED ON WEEKLY, MONTHLY, AND YEARLY OBSERVATIONS. IN ORDER TO ASSURE THE HIGHEST QUALITY CONDITIONS, THE STAFF MUST ALSO RECOGNIZE AND APPRECIATE THE NEED TO BE AWARE OF THE CONSTANTLY CHANGING CONDITIONS OF THE LANDSCAPING AND BE ABLE TO RESPOND TO THEM ON A PROACTIVE BASIS.

FERTILIZER
MAINTENANCE PRACTICES SHOULD BE AIMED AT REDUCING ENVIRONMENTAL, MECHANICAL AND PEST STRESSES TO PROMOTE HEALTHY AND VIGOROUS GROWTH. WHEN NECESSARY, PEST OUTBREAKS SHOULD BE TREATED WITH THE MOST SENSITIVE CONTROL MEASURE AVAILABLE. SYNTHETIC CHEMICAL CONTROLS SHOULD BE USED ONLY AS A LAST RESORT TO ORGANIC AND BIOLOGICAL CONTROL METHODS. FERTILIZER, SYNTHETIC CHEMICAL CONTROLS AND PEST MANAGEMENT APPLICATIONS (WHEN NECESSARY) SHOULD BE PERFORMED ONLY BY LICENSED APPLICATORS IN ACCORDANCE WITH THE MANUFACTURER'S LABEL INSTRUCTIONS WHEN ENVIRONMENTAL CONDITIONS ARE CONDUCTIVE TO CONTROLLED PRODUCT APPLICATION.

ONLY SLOW-RELEASE ORGANIC FERTILIZERS SHOULD BE USED IN THE LANDSCAPED AREAS TO LIMIT THE AMOUNT OF NUTRIENTS THAT COULD ENTER DOWNSTREAM RESOURCE AREAS. FERTILIZATION OF DEVELOPED AREAS ON SITE WILL BE PERFORMED WITHIN MANUFACTURERS LABELING INSTRUCTIONS AND SHALL NOT EXCEED AN NPK RATION OF 1:1:1 (I.E. TRIPLE 10 FERTILIZER MIX), CONSIDERED A LOW NITROGEN MIXTURE. ADDITIONALLY, THE FERTILIZER WILL INCLUDE A SLOW RELEASE ELEMENT.

SUGGESTED AERATION PROGRAM
IN-SEASON AERATION OF LAWN AREAS IS GOOD CULTURAL PRACTICE, AND IS RECOMMENDED WHENEVER FEASIBLE. IT SHOULD BE ACCOMPLISHED WITH A SOIL THIN AERATION METHOD TO REDUCE DISRUPTION TO THE USE OF THE AREA. THE DEPTH OF SOLID TINE AERATION IS SIMILAR TO CORE TYPE, BUT SHOULD BE PERFORMED WHEN THE SOIL IS SOMEWHAT DRIER FOR A GREATER OVERALL EFFECT.

DEPENDING ON THE INTENSITY OF USE, IT CAN BE EXPECTED THAT ALL LANDSCAPED LAWN AREAS WILL NEED AERATION TO REDUCE COMPACTION AT LEAST ONCE PER YEAR. THE FIRST OPERATION SHOULD OCCUR IN LATE MAY FOLLOWING THE SPRING SEASON. METHODS OF REDUCING COMPACTION WILL VARY BASED ON THE NATURE OF THE COMPACTION. COMPACTION ON NEWLY ESTABLISHED LANDSCAPED AREAS IS GENERALLY LIMITED TO THE TOP 2-3" AND CAN BE ALLEVIATED USING HOLLOW CORE OR THIN TINE AERATION METHODS.

THE SPRING AERATION SHOULD CONSIST OF TWO PASSES AT OPPOSITE DIRECTIONS WITH 1/4" HOLLOW CORE TINES PENETRATING 3-5" INTO THE SOIL PROFILE. AERATION SHOULD OCCUR WHEN THE SOIL IS MOIST BUT NOT SATURATED. THE CORES SHOULD BE SHATTERED IN PLACE AND DRAGGED OR SWEEPED BACK INTO THE TURF TO CONTROL THATCH. IF DESIRED THE CORES MAY ALSO BE REMOVED AND THE AREA TOP-DRESSED WITH SAND OR SANDY LOAM. IF THE AREA DRAINS ON AVERAGE TOO SLOWLY, THE TOPDRESSING SHOULD CONTAIN A HIGHER PERCENTAGE OF SAND. IF IT IS DRAINING ON AVERAGE TOO QUICKLY, THE TOP DRESSING SHOULD CONTAIN A HIGHER PERCENTAGE OF SOIL AND ORGANIC MATTER.

LANDSCAPE MAINTENANCE PROGRAM PRACTICES:

- LAWN
- MOW A MINIMUM OF ONCE A WEEK IN SPRING, TO A HEIGHT OF MIN. 3" HIGH. MOWING SHOULD BE FREQUENT ENOUGH SO THAT NO MORE THAN 1/3 OF GRASS BLADE IS REMOVED AT EACH MOWING. THE TOP GROWTH SUPPORTS THE ROOTS. THE SHORTER THE GRASS IS CUT, THE LESS THE ROOTS WILL GROW. SHORT CUTTING ALSO DRIES OUT THE SOIL AND ENCOURAGES WEEDS TO GERMINATE.
 - MOW APPROXIMATELY ONCE EVERY TWO WEEKS FROM JULY 1ST TO AUGUST 15TH DEPENDING ON LAWN GROWTH.
 - MOW ON A TEN-DAY CYCLE IN FALL, WHEN GROWTH IS STIMULATED BY COOLER NIGHTS AND INCREASED MOISTURE.
 - DO NOT REMOVE GRASS CLIPPINGS AFTER MOWING.
 - KEEP MOWER BLADES SHARP TO PREVENT RAGGED CUTS ON GRASS LEAVES, WHICH CAUSE A BROWNISH APPEARANCE AND INCREASE THE CHANCE FOR DISEASE TO ENTER A LEAF.

SHRUBS

- MULCH NOT MORE THAN 3" DEPTH WITH SHREDDED PINE OR FIR BARK.
- HAND PRUNE ANNUALLY, IMMEDIATELY AFTER BLOOMING, TO REMOVE 1/3 OF THE ABOVE-GROUND BIOMASS (OLDER STEMS). STEM REMOVALS TO OCCUR WITHIN 60 OF THE GROUND TO OPEN UP SHRUB AND MAINTAIN TWO-YEAR WOOD (THE BLOOMING WOOD).
- FERTILIZE WITH 1/4 LB. SLOW-RELEASE FERTILIZER (SEE ABOVE SECTION ON FERTILIZER) EVERY SECOND YEAR.
- HAND PRUNE EVERGREEN SHRUBS ONLY AS NEEDED TO REMOVE DEAD AND DAMAGED WOOD AND TO MAINTAIN THE NATURALISTIC FORM OF THE SHRUB. NEVER MECHANICALLY SHEAR EVERGREEN SHRUBS.

TREES

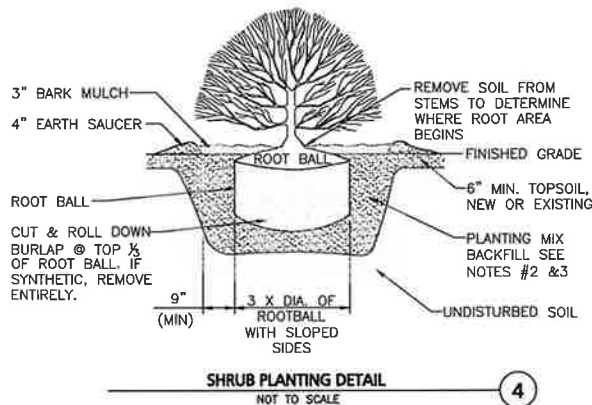
- PROVIDE AFTERCARE FOR NEW TREE PLANTINGS FOR THE FIRST THREE YEARS.
- DO NOT FERTILIZE TREES. IT ARTIFICIALLY STIMULATES THEM (UNLESS TREE HEALTH WARRANTS).
- WATER ONCE A WEEK FOR THE FIRST YEAR; TWICE A MONTH THE SECOND, ONCE A MONTH THE THIRD YEAR.
- PRUNE TREES ON A FOUR-YEAR CYCLE.

ORNAMENTAL GRASSES

- APPLY LOW-NITROGEN 10-10-10 FERTILIZER AS GROWTH RESUMES IN THE SPRING. WATER IN THOROUGHLY.
- GRASSES DO NOT NEED TO BE CUT DOWN BEFORE WINTER. IN FACT, THEY ARE ATTRACTIVE WHEN LEFT STANDING AND THE FOLIAGE HELPS TO INSULATE THE CROWN OF THE PLANT. CUT BACK THE FOLIAGE TO ABOUT 4-6 INCHES IN THE SPRING BEFORE GROWTH RESUMES. WHEN FOLIAGE IS REMOVED, SPRING GROWTH WILL BEGIN EARLIER. OLD FOLIAGE LEFT ON THE PLANT CAN DELAY THE CROWN'S WARMING AND SUBSEQUENT GROWTH BY AS MUCH AS 3 WEEKS.

NOTES:

1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.



SHRUB PLANTING DETAIL
NOT TO SCALE

4



PROFESSIONAL LANDSCAPE ARCHITECT FOR
ALLEN & MAJOR ASSOCIATES, INC.

| REV | DATE | DESCRIPTION |
|-----|----------|----------------------------|
| 3 | 04-10-23 | REVISED PER TRG 3 COMMENTS |
| 2 | 03-06-23 | REVISED PER TRG 2 COMMENTS |
| 1 | 02-13-23 | REVISED PER TRG 1 COMMENTS |

APPLICANT:

SIG SAUER
7-8 AMAROSA DRIVE
ROCHESTER, NH 03868

PROJECT:

PHASED MASTER PLAN
7,8,16 AMAROSA DRIVE
0,124 MILTON ROAD
ROCHESTER, NH 03868

| | | | |
|--------------|----------|-------------|-----------|
| PROJECT NO. | 2912-01A | DATE: | 01-20-23 |
| SCALE: | AS NOTED | DWG. NAME: | C2912-01A |
| DESIGNED BY: | BCD | CHECKED BY: | BDJ |

PREPARED BY:



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