

GREENMONT SENIOR HOUSING

40B - Site Plan of Land at 144 Greenmont Avenue Dracut, Massachusetts

Prepared for
Common Ground Development Corporation

Locus Map Scale: 1" = 2000'

DRACUT ASSESSORS DATA:
MAP: 47 PARCEL: 249 AND 115

REFERENCES:
NORTH MIDDLESEX COUNTY
REGISTRY OF DEEDS
BOOK: 32840 PAGE: 275

OWNER:
TOWN OF DRACUT
62 ARLINGTON STREET
DRACUT, MA 01826

APPLICANT:
COMMON GROUND DEVELOPMENT CORP.
155 MERRIMACK STREET, 2ND FLOOR
LOWELL, MA 01852

ARCHITECT:
BWA ARCHITECTURE
132 LINCOLN STREET
BOSTON, MA 02111

PLANNERS, LAND SURVEYORS
& CIVIL ENGINEERS:
PLACES ASSOCIATES, INC.
256 GREAT ROAD, SUITE 4
LITTLETON, MA 01460

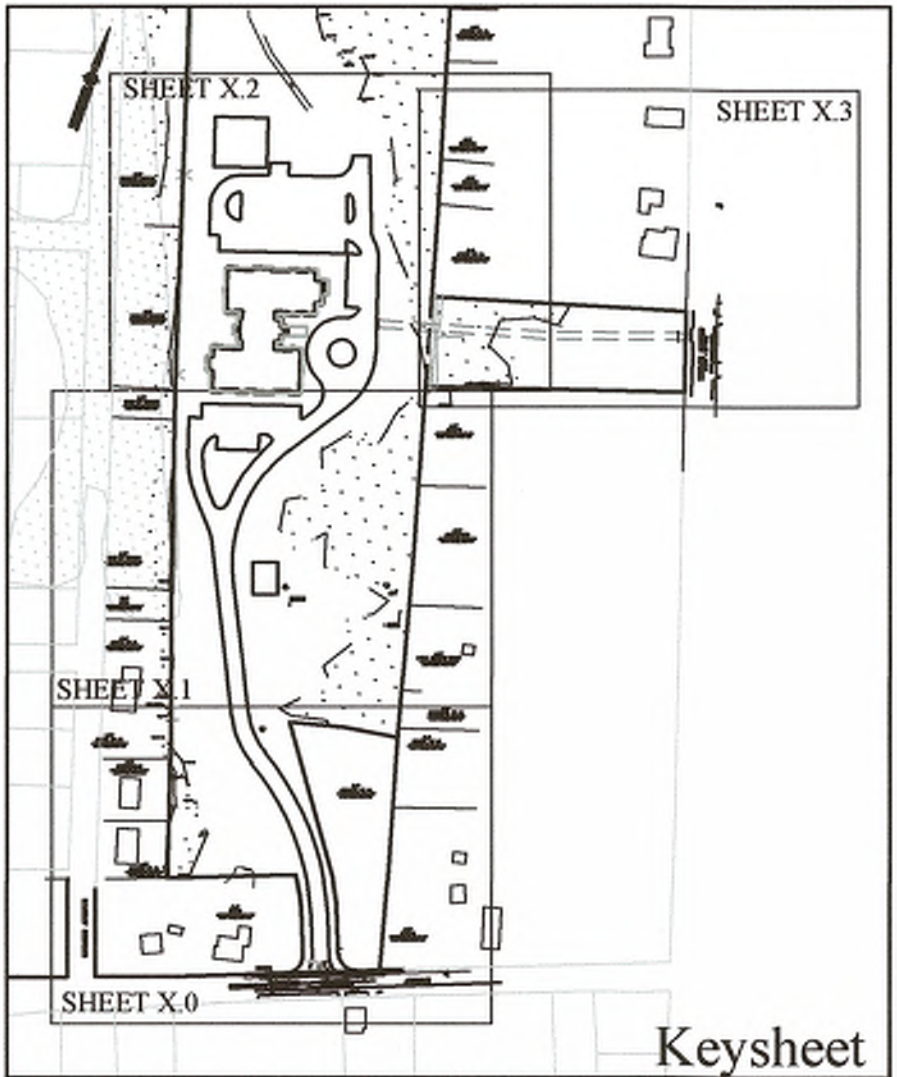


Excerpt From MassGIS

ZONING TABLE		
DISTRICT: RESIDENTIAL 1		
PROPOSED USE: MULTI-FAMILY*		
	REQUIRED	PROPOSED
MINIMUM LOT AREA	40,000 SQ. FT.	17.3 ACRES + 1 ACRES = 18.3+ ACRES
MINIMUM LOT FRONTAGE	175 FEET	100 FEET (GREENMONT AVE)*
MINIMUM LOT WIDTH	30 FEET	113 FEET (BRIDGE ST.)
MINIMUM FRONT YARD	30 FEET	50 FEET (GREENMONT AVE)
MINIMUM SIDE YARD	15 FEET	113 FEET (BRIDGE ST.)
MINIMUM REAR YARD	35 FEET	819+ FEET (GREENMONT AVE)
MAXIMUM BUILDING HEIGHT	36 FEET	545+ FEET (BRIDGE ST.)
MAXIMUM NUMBER OF STORIES	2.5 STORIES	N/A
		44+ FEET
		52.5+ FEET (SEE ARCHITECTURAL PLANS)
		3 STORIES (SEE ARCHITECTURAL PLANS)

THE SITE IS LOCATED IN A ZONE X, AREA OF MINIMAL FLOOD HAZARD, FIRM MAP 25017C014E, EFFECTIVE DATE 6/4/2010 AND THEREFORE IS NOT LOCATED WITHIN THE TOWN OF DRACUT FLOODPLAIN AND FLOODWAY DISTRICT.

PARKING
MULTI-FAMILY:
REQUIRED: TWO (2) SPACES PER DWELLING UNIT
56 UNITS X 2 = 112 REQUIRED*
PROVIDED: 76 SPACES, 8 OF WHICH ARE HANDICAP ACCESSIBLE (1.28 PER UNIT)
* SEE LIST OF 40B WAIVERS SUBMITTED UNDER SEPARATE COVER



SHEET INDEX:

- C-0 NOTES AND LEGEND
- C-1.0 - 1.3 EXISTING CONDITIONS & DEMO PLAN
- C-2.0 - 2.2 LAYOUT AND MATERIALS PLAN
- C-3.0 - 3.3 GRADING AND DRAINAGE PLAN
- C-4.0 - 4.3 UTILITY PLAN
- C-5.0 EROSION & SEDIMENTATION CONTROL PLAN
- C-6 to C-8 CONSTRUCTION DETAILS
- L-1 LANDSCAPE PLAN
- T-1 TURNING MOVEMENT PLAN



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying
256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE
COVER

SHEET NO.
COVER
PROJECT NO. 5278
©Copyright BWA Architecture, INC.

GENERAL NOTES:

1. PRIOR TO THE PREPARATION OF BIDS AND/OR THE INITIATION OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AND CAREFULLY EXAMINE THIS PLAN SET, RELATED CONSTRUCTION PLAN SETS FROM OTHER PROFESSIONAL DISCIPLINES, CONSTRUCTION SPECIFICATIONS, MANUFACTURERS INFORMATION AND ANY APPLICABLE PERMIT REQUIREMENTS/CONDITIONS OF APPROVAL FOR THE PROJECT.
2. THE EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. DIG SAFE AND THE APPROPRIATE UTILITY COMPANIES SHALL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION.
3. NOT ALL UTILITIES WERE ABLE TO BE LOCATED BY RECORD INFORMATION, SITE SURVEYS OR UTILITY LOCATOR SERVICES. THE DESIGN ENGINEER AND BASE PLAN SURVEYOR DO NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OR SUBSURFACE STRUCTURES WHICH ARE OMITTED OR INACCURATELY SHOWN. PRIOR TO THE INITIATION OF WORK, THE CONTRACTOR SHALL VERIFY THE LOCATION/ELEVATION OF EXISTING UTILITIES SHOWN ON THE PLAN.
4. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY UPON THE DISCOVERY OF ANY DISCREPANCY BETWEEN THE LOCATION/ELEVATION OF ANY EXISTING UTILITIES SHOWN ON THE PLANS AND THAT WHICH IS FOUND IN THE FIELD.
5. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR TO PROVIDE LAYOUT & CONTROL FOR THE DEVELOPMENT OF THE SITE.
6. ALL CONSTRUCTION UNDER AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE CONSTRUCTED TO WITHSTAND A DIRECT H20 DESIGN LOAD. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL UTILITY/SITE IMPROVEMENT AREAS UNDER LANDSCAPED/NON-TRAFFIC BEARING AREAS FROM TEMPORARY CONSTRUCTION LOADS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ADJACENT PROPERTY FROM DAMAGE. ALL DAMAGES BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REPAIRED AT NO COST TO THE OWNER.
8. THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING SURVEY MONUMENTS (BOUNDS, PINS, PIPES, DRILL HOLES, ETC.) THROUGHOUT ALL PHASES OF CONSTRUCTION. ANY DISTURBED MONUMENTS SHALL BE REPLACED BY A REGISTERED PROFESSIONAL LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
9. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY UPON THE DISCOVERY OF ANY CONTRADICTORY, INCOMPLETE OR MISLABELED INFORMATION SHOWN ON THE PLANS OR PLANS PREPARED BY OTHERS. THE CONTRACTOR SHALL ALLOW FOR ADEQUATE TIME FOR THE ENGINEER TO RESPOND/PROVIDE DIRECTION FOR THE PLAN DISCREPANCY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SHOP DRAWINGS OF PRODUCTS/MATERIALS TO THE ENGINEER AND/OR THE LOCAL APPROVING AUTHORITY AS REQUIRED IN THE CONSTRUCTION DOCUMENTS OR IF REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION OVER THE PRODUCT. ADEQUATE TIME SHALL BE ALLOWED FOR THE SHOP DRAWINGS TO BE REVIEWED AND RETURNED TO THE CONTRACTOR PRIOR TO ORDERING THE SPECIFIED PRODUCTS/MATERIALS.
11. ALL PERMANENT BOUNDARY AND SURVEY MONUMENTS SHALL BE INSTALLED AFTER THE COMPLETION OF ALL HEAVY SITE WORK.
12. NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED, BURNED OR OTHERWISE DISPOSED OF WITHIN THE LIMITS OF THE PROJECT. ALL WASTE, TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS.

SITE WORK NOTES:

1. THE LIMITS OF WORK SHALL BE FIELD ESTABLISHED PRIOR TO INITIATION OF ANY CONSTRUCTION, SITE EXPLORATIONS OR EARTHEN DISTURBANCE.
2. EROSION CONTROLS SHALL BE IMPLEMENTED PRIOR TO SITE CLEARING OR DISTURBANCE. SEE EROSION AND SEDIMENTATION CONTROL PLAN.
3. NO CONSTRUCTION OR CONTRACTOR'S VEHICLES SHALL BE PARKED ON GREENMONT AVENUE OR BRIDGE STREET. ALL CONSTRUCTION STAGING, STOCKPILE AND PARKING AREAS SHALL BE ONSITE.
4. LOAM SHALL BE STOCKPILED FOR RE-USE ON THE SITE TO THE EXTENT PRACTICAL, SEE EROSION AND SEDIMENTATION CONTROL PLAN.
5. NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED, BURNED OR OTHERWISE DISPOSED OF WITHIN THE LIMITS OF THE PROJECT. ALL WASTE, TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS. THE SITE SHALL BE KEPT IN A NEAT AND ORDERLY FASHION.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TRENCH OPERATIONS PERMIT PURSUANT TO THE REQUIREMENTS OF THE TOWN OF DRACUT AND 520 CMR 14.00 (AKA "JACKIE'S LAW").

MATERIAL DEFINITIONS:

BITUMINOUS CONCRETE PAVEMENT	A. ASPHALTIC CONCRETE SHALL BE A STANDARD PLANT-MIXED, HOT-LAID PAVING MIXTURE FOR ROAD WORK, CONSISTING OF CLEAN, CRUSHED ROCK AGGREGATE, MINERAL FILLER, AND ASPHALT CONFORMING TO MDPW SPECIFICATIONS, SECTION M3.11.03, TABLE A.
	1. BINDER OR BOTTOM COURSE PAVING MEET THE SPECIFICATIONS FOR MHA BASE COURSE, SHALL HAVE MAXIMUM AGGREGATE SIZE PASSING 2" IN. SIEVE, AND BITUMEN CONTENT = 4.4 TO 4.6%± 1/2% BY WEIGHT.
STRUCTURAL FILL	2. TOP OR WEARING COURSE PAVING FOR SHALL BE "HMA SURFACE STANDARD TOP COURSE" HAVING MAXIMUM AGGREGATE SIZE PASSING 5/8 IN. SIEVE, AND BITUMEN CONTENT = 5.9%± 1/2% BY WEIGHT.
	3. TOP OR WEARING COURSE FOR CAPE COD BERM PAVING FOR SHALL BE "HMA DENSE MIX" HAVING MAXIMUM AGGREGATE SIZE PASSING 1/2 IN. SIEVE, AND BITUMEN CONTENT = 7.4-7.6%± 1/2% BY WEIGHT.
CAST IN PLACE CONCRETE	IF RECLAIMED ASPHALT PAVEMENT (RAP) IS USED IN THE MIXTURE, THE PROPORTION OF RAP TO VIRGIN AGGREGATE SHALL BE LIMITED TO A MAXIMUM OF 40% FOR DRUM MIX PLANTS AND 20% FOR MODIFIED BATCH PLANTS.
	ALL SITE CAST IN PLACE CONCRETE AND RELATED REINFORCING SHALL MEET THE REQUIREMENTS OF THE MASSACHUSETTS STATE BUILDING CODE, THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM) FOR PRODUCT MATERIALS, FORM WORK, PLACEMENT AND CURING. ALL SITE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI UNLESS OTHERWISE REQUIRED IN THE CONSTRUCTION DOCUMENTS.
CONTROLLED DENSITY FILL (CDF)	CONTROLLED DENSITY FILL SHALL BE A FLOWABLE, SELF-CONSOLIDATING, RIGID SETTING, LOW DENSITY MATERIAL THAT CAN SUBSTITUTE FOR COMPACTED GRAVELS FOR BACKFILLS, FILLS AND STRUCTURAL FILLS. CDF SHALL BE EXCAVATABLE BY HAND TOOLS AND/OR SMALL EQUIPMENT WHEN PLACED AND CURED. CDF SHALL MEET THE REQUIREMENTS OF SSHB M4.0.08, TYPE 2E, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
CRUSHED STONE	A. CDF IS TO BE BATCHED AT A READY MIX PLANT AND IS TO BE USED AT A HIGH OF "VERY HIGH SLUMP FROM 10" TO 12". IT SHALL BE FLOWABLE AND REQUIRE NO VIBRATION AFTER IT HAS BEEN PLACED.
	B. CDF SHALL BE A MIXTURE OF PORTLAND CEMENT, FLYASH, SAND AND WATER DESIGNED TO MEET THE CDF REQUIREMENTS, HIGH AIR ENTRAINMENT MAY BE SUBSTITUTED FOR FLYASH WITH AN ADJUSTMENT (25%) ADJUSTMENT IN SAND CONTENT.
DENSE GRADED CRUSHED STONE	C. CDF MUST MEET THE FOLLOWING STRENGTH REQUIREMENTS: -28 DAY COMPRESSIVE STRENGTH: 30-80 PSI -90 DAY COMPRESSIVE STRENGTH: 100 PSI MAX
	CRUSHED STONE SHALL BE THE SIZE AS INDICATED ON THE PLANS. THE STONE SHALL BE FROM A STONE QUARRY THAT PRODUCES HARD, ANGULAR DURABLE WASHED STONE FREE FROM DEBRIS AND ORGANIC MATERIALS. THE STONE SHALL MEET THE REQUIREMENTS OF SSHB M2.01.0
GLACIAL TILL	DENSE GRADED CRUSHED STONE SHALL CONSIST OF THE COMBINATION OF CRUSHER-RUN COARSE AGGREGATES (MEETING SSHB M2.01.0) AND FINE AGGREGATES OF NATURAL SAND OR STONE SCREENING UNIFORMLY PREMISED WITH A PREDETERMINED QUANTITY OF WATER. COARSE AGGREGATE SHALL CONSIST OF HARD, DURABLE PARTICLES OF FRAGMENTS OF STONE. MATERIALS THAT BREAK UP WHEN ALTERNATELY FROZEN AND THAWED OR WETTED AND DRIED SHALL NOT BE USED. FINE AGGREGATE SHALL CONSIST OF NATURAL OR CRUSHED SAND. THE GRADATION/MATERIAL SHALL COMPLY WITH THE SPECIFICATIONS OF SSHB M2.01.7
	A. GLACIAL TILL: NATURAL INORGANIC SOILD APPROVED BY THE ENGINEER AND MEETING THE FOLLOWING REQUIREMENTS:
GRAVEL BORROW	A. IT SHALL BE FREE OF ORGANIC OR OTHER WEAK OR COMPRESSIBLE MATERIALS, FROZEN MATERIALS AND STONES GREATER THAN TWO INCHES IN MAXIMUM DIMENSION.
	B. IT SHALL BE A SILT LOAM AS DEFINED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL TEXTURAL CLASSIFICATION.
LOAM (BORROW)	C. THE SOIL SHALL CONSIST OF GREATER THAN 50% SILT, 12% TO 27% CLAY, OR 50% TO 80% SILT AND LESS THAN 12% CLAY.
	GRAVEL BORROW SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COURSE SAND, FREE FROM CLAY, SURFACE COATINGS, ORGANIC AND DELETERIOUS MATERIAL. ALL GRAVEL BORROW SHALL MEET THE REQUIREMENTS OF SSHB M1.03.0. MAXIMUM STONE SIZE SHALL BE AS FOLLOWS:
ORDINARY BORROW	TYPE A: 6" LARGEST DIMENSION TYPE B: 3" LARGEST DIMENSION TYPE C: 2" LARGEST DIMENSION
	LOAM SHALL CONSIST OF NATURAL TOPSOIL, FREE FROM SUB-SOIL, OBTAINED FROM AN AREA WHICH HAS NEVER BEEN STRIPPED. LOAM SHALL BE OF UNIFORM QUALITY, FREE FROM HARD GLOBS, STIFF CLAY, HARAPAN, SOIL, PARTIALLY DISINTEGRATED STONE, LIME, CEMENT, ASHES, SLAG, CONCRETE, TAR RESIDUE, TARRERD PAPER, BOARDS, CHIPS OR ANY OTHER UNDESIRABLE MATERIAL.
SAND BORROW	LOAM SHALL CONTAIN BETWEEN 5.5 AND 7.5 PERCENT ORGANIC MATTER AS DETERMINED BY LOSS ON IGNITION OF A MOISTURE-FREE SAMPLE DRIED IN ACCORDANCE WITH THE CURRENT METHOD OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS.
	THE ACIDITY RANGE OF THE LOAM SHALL BE PH 6.5 TO PH 7.5 INCLUSIVE.
RIP RAP	THE MECHANICAL ANALYSIS OF THE SOIL SHALL BE AS FOLLOWS:
	U.S. SIEVE SIZE & PERCENT PASSING NUMBER MINIMUM MAXIMUM 1 INCH 100% 1/2 INCH 97% NO. 100 (SAND) 49% 60% NO. 100 (SILT & CLAY) 40% 60%
SAND BORROW	ORDINARY BORROW SHALL CONSIST OF MATERIAL NOT SPECIFIED AS ANY OTHER EARTHEN MATERIAL. ORDINARY BORROW SHALL BE WELL GRADED, NATURAL, INORGANIC MATERIAL ACCEPTABLE TO THE ENGINEER FOR THE GENERAL FILLING TO THE SPECIFIED SUB-GRADE. THE MATERIAL SHALL MEET THE FOLLOWING REQUIREMENTS:
	A. IT SHALL BE FREE OF ORGANIC OR OTHER WEAK OR COMPRESSIBLE MATERIAL, OF FROZEN MATERIALS AND OF STONES LARGER THAN 6 INCHES IN MAXIMUM DIMENSION.
SAND BORROW	B. IT SHALL BE OF SUCH NATURE & CHARACTER THAT IT CAN BE COMPACTED TO THE SPECIFIED DENSITIES IN A REASONABLE AMOUNT OF TIME.
	C. IT SHALL BE FREE OF HIGHLY PLASTIC CLAYS, OF ALL MATERIALS SUBJECT TO DECAY, DECOMPOSITION, AND OF CINDERS OR OTHER MATERIALS WHICH WILL CORRODE PIPING OR OTHER BURIED MATERIALS.
SAND BORROW	D. IT SHALL HAVE A MAXIMUM DRY DENSITY OF NOT LESS THAN 100 POUNDS PER CUBIC FOOT AND LESS THAN 40 % OF THE MATERIAL SHALL PASS THE NUMBER 200 SIEVE.
	E. EXCAVATED ROCK & BOULDERS SMALLER THAN ONE CUBIC YARD IN SIZE MAY BE USED IN FILL AREAS UNDER LAWNS ONLY. PROVIDED THEY ARE A MINIMUM OF 24 INCHES BELOW THE SUBGRADE, PLACED AND COMPACTED IN LAYERS WITH NO VOIDS AND ALL INTERSTICES FILLED.

MATERIAL DEFINITIONS (CONT.):

COMPACTION TESTING ALL EARTHEN MATERIALS SHALL BE COMPACTED TO THE DRY DENSITY INDICATED IN THE CONSTRUCTION DOCUMENTS AND/OR AS IS REQUIRED BY CODE OR REGULATION. MAXIMUM DRY DENSITY SHALL BE DETERMINED FROM A SAMPLE OF THE MATERIAL TO BE USED AND TESTED IN ACCORDANCE WITH THE MODIFIED PROCTOR DRY DENSITY TEST AS DEFINED IN ASTM D1557, METHOD C. AREAS THAT WERE TESTED AND FOUND TO BE INSUFFICIENTLY COMPACTED SHALL BE RE-TESTED AFTER THE ADDITIONAL COMPACTION HAS BEEN COMPLETED.	
STRUCTURAL FILL	STRUCTURAL FILL IS FILL OR REPLACEMENT SOIL MATERIALS LOCATED BELOW AND ADJACENT TO ALL STRUCTURAL FOOTINGS, SLABS AND BUILDINGS, (AS DEFINED BY THE MASSACHUSETTS BUILDING CODE) EXTENDING OUT TEN FEET (10'-0") FROM THE EXTERIOR LIMITS OF SUCH STRUCTURES.
STRUCTURAL FILL SHALL MEET THE FOLLOWING REQUIREMENTS - IN THE ORDER OF PRIORITY:	
1. A SITE SPECIFIC GEOTECHNICAL REPORT, SPECIFICATION OR REQUIREMENT PREPARED BY A MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER.	
2. A STRUCTURAL ENGINEERS REPORT, SPECIFICATIONS OR REQUIREMENTS.	
3. AN ARCHITECT'S REPORT, SPECIFICATION OR REQUIREMENTS.	
4. CRUSHED STONE BEING 3/4" TO 1 1/2" DIAMETER, MEETING SSHB M2.01.0	

ABBREVIATIONS

ABBREVIATION	DEFINITION
ASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABR	ABBREVIATION
AR-1	ACCESSIBLE RAMP - TYPE 1
AR-2	ACCESSIBLE RAMP - TYPE 2
AR-3	ACCESSIBLE RAMP - TYPE 3
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
B&B	BALL & BURLAP
BC	BOTTOM CURB ELEVATION
BIT. CONC.	BITUMINOUS CONCRETE
BLOG	BUILDING
BM	BENCHMARK
BR	BOTTOM RAMP ELEVATION
CAL	CALLER
CB	CONCRETE BOUND
CF	CUBIC FOOT
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CTB	CATCH BASIN
CY	CUBIC YARD
DH	DRILL HOLE
DI	DUCTILE IRON PIPE
DICL	DUCTILE IRON CEMENT LINED PIPE
DM	DRAIN MANHOLE
DMH	ELEVATION
ELEV	ELECTRIC MANHOLE
EXH	EXISTING
EXT.	EXTERIOR
FDN	FOUNDATION
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
FND	FOUND
FSB	FIELD STONE BOUND
FT	FEET - LINEAR MEASURE
GAL	GALLON
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HT	HEIGHT
I. PIN	IRON PIN
I. PIPE	IRON PIPE
ID	INSIDE DIAMETER
INV.	PIPE INVERT ELEVATION
LP	LOW POINT
MAX	MAXIMUM
MHB	MASS HIGHWAY BOUND
MIN	MINIMUM
MUCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P&P	PLOU & PIN
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
RCP	ROUND CONCRETE PIPE
R & S	REMOVE & STOCKPILE ITEM
REQ'D	REQUIRED
SB	STONE BOUND
SMH	SEWER MANHOLE
SPR	SPREAD
S&S	STONE & STONE
SSHB	STANDARD SPECIFICATIONS OF HIGHWAYS & BRIDGES, THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS
STV	SLOPED TO VERTICAL CURB TRANSITION SEGMENT
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB ELEVATION
TMH	TELEPHONE MANHOLE
TOC	TOP OF CONCRETE FOUNDATION ELEVATION
TR	TOP OF RAMP ELEVATION
TYP	TYPICAL FOR ALL ITEMS SHOWN
UP	UTILITY POLE
VGCTS	VERTICAL GRANITE CURB TRANSITION SEGMENT

LEGEND

EXISTING	PROPOSED
INDEX CONTOUR	INDEX CONTOUR
INTERMEDIATE CONTOUR	INTERMEDIATE CONTOUR
SPOT GRADE	SPOT GRADE
STONE WALL	STONE WALL
EDGE OF WOODS	EDGE OF WOODS
EDGE OF WATER BODY	EDGE OF WATER BODY
100 YEAR FLOOD LINE	100 YEAR FLOOD LINE
EDGE OF WETLAND	EDGE OF WETLAND
25' BUFFER	25' BUFFER
50' BUFFER	50' BUFFER
75' BUFFER	75' BUFFER
100' BUFFER	100' BUFFER
WETLAND	WETLAND
WETLAND FLAG	WETLAND FLAG
RIVERFRONT	RIVERFRONT
100' RIVER BUFFER	100' RIVER BUFFER
200' RIVER BUFFER	200' RIVER BUFFER
SILTATION BARRIER	SILTATION BARRIER
BUILDING SETBACK LINE	BUILDING SETBACK LINE
WELL	WELL
TREE	TREE
FLAGPOLE	FLAGPOLE
BOUND	BOUND
DRILL HOLE	DRILL HOLE
IRON PIN	IRON PIN
BENCHMARK	BENCHMARK
PERC TEST	PERC TEST
TEST PIT	TEST PIT
SOIL BORING	SOIL BORING
EDGE OF GRAVEL	EDGE OF GRAVEL
EDGE OF WALK	EDGE OF WALK
EXPANSION JOINT	EXPANSION JOINT
CONSTRUCTION JOINT	CONSTRUCTION JOINT
EDGE OF PAVEMENT	EDGE OF PAVEMENT
CAPE COD BERM	CAPE COD BERM
BIT CONC. (TYPE 3)	BIT CONC. (TYPE 3)
CONCRETE CURB	CONCRETE CURB
VERT. GRANITE CURB	VERT. GRANITE CURB
SLOPED GRANITE CURB	SLOPED GRANITE CURB
STOCKADE FENCE	STOCKADE FENCE
CHAIN LINK FENCE	CHAIN LINK FENCE
FENCE - OTHER	FENCE - OTHER
FENCE GATE	FENCE GATE
GUARD RAIL	GUARD RAIL
WOOD GUIDE RAIL	WOOD GUIDE RAIL
ROOT BARRIER	ROOT BARRIER
SIGN POST	SIGN POST
FOUNDATION DRAIN	FOUNDATION DRAIN
ROOF DRAIN	ROOF DRAIN
DRAIN LINE	DRAIN LINE
DRAIN MANHOLE	DRAIN MANHOLE
CATCHBASIN	CATCHBASIN
FLARED END IN/OUT	FLARED END IN/OUT
CLEANOUT	CLEANOUT
IRRIGATION LINE	IRRIGATION LINE
FIRE PROTECTION LINE	FIRE PROTECTION LINE
WATER LINE	WATER LINE
WATER VALVE	WATER VALVE
FIRE HYDRANT	FIRE HYDRANT
WATER SHUTOFF	WATER SHUTOFF
OVERHEAD WIRES	OVERHEAD WIRES
UNDERGROUND WIRES	UNDERGROUND WIRES
GUY POLE	GUY POLE
UTILITY POLE	UTILITY POLE
GUY ANCHOR	GUY ANCHOR
UTILITY BOX	UTILITY BOX
STREETLIGHT	STREETLIGHT
LAMP POST	LAMP POST
ELECTRIC MANHOLE	ELECTRIC MANHOLE
TELEPHONE MANHOLE	TELEPHONE MANHOLE
SEWER LINE	SEWER LINE
SEWER FORCE MAIN	SEWER FORCE MAIN
LOW PRESSURE SEWER	LOW PRESSURE SEWER
SEWER MANHOLE	SEWER MANHOLE
GAS LINE	GAS LINE
GAS VALVE	GAS VALVE
SURFACE FLOW DIRECTION	SURFACE FLOW DIRECTION



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.



Planning Landscape Architecture Civil Engineering Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

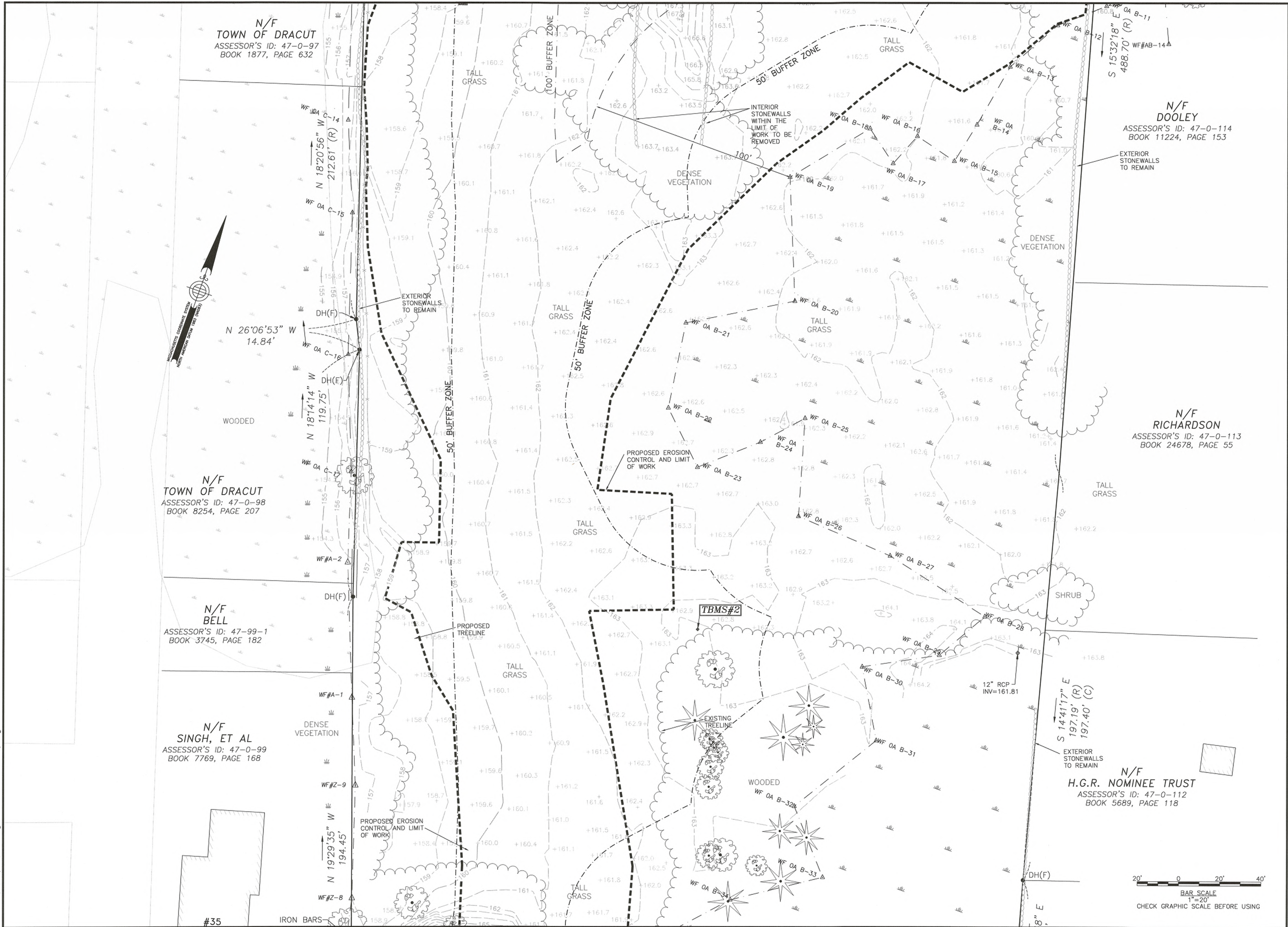
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	08/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	08/13/23

DRAWING TITLE
NOTES AND
LEGEND

SHEET NO.

C-0
PROJECT NO. 5278
©Copyright BWA Architecture, INC.

Dec 12, 2023 - 5:40pm - 5278 Design - Greenmont-revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



BWA ARCHITECTURE

132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

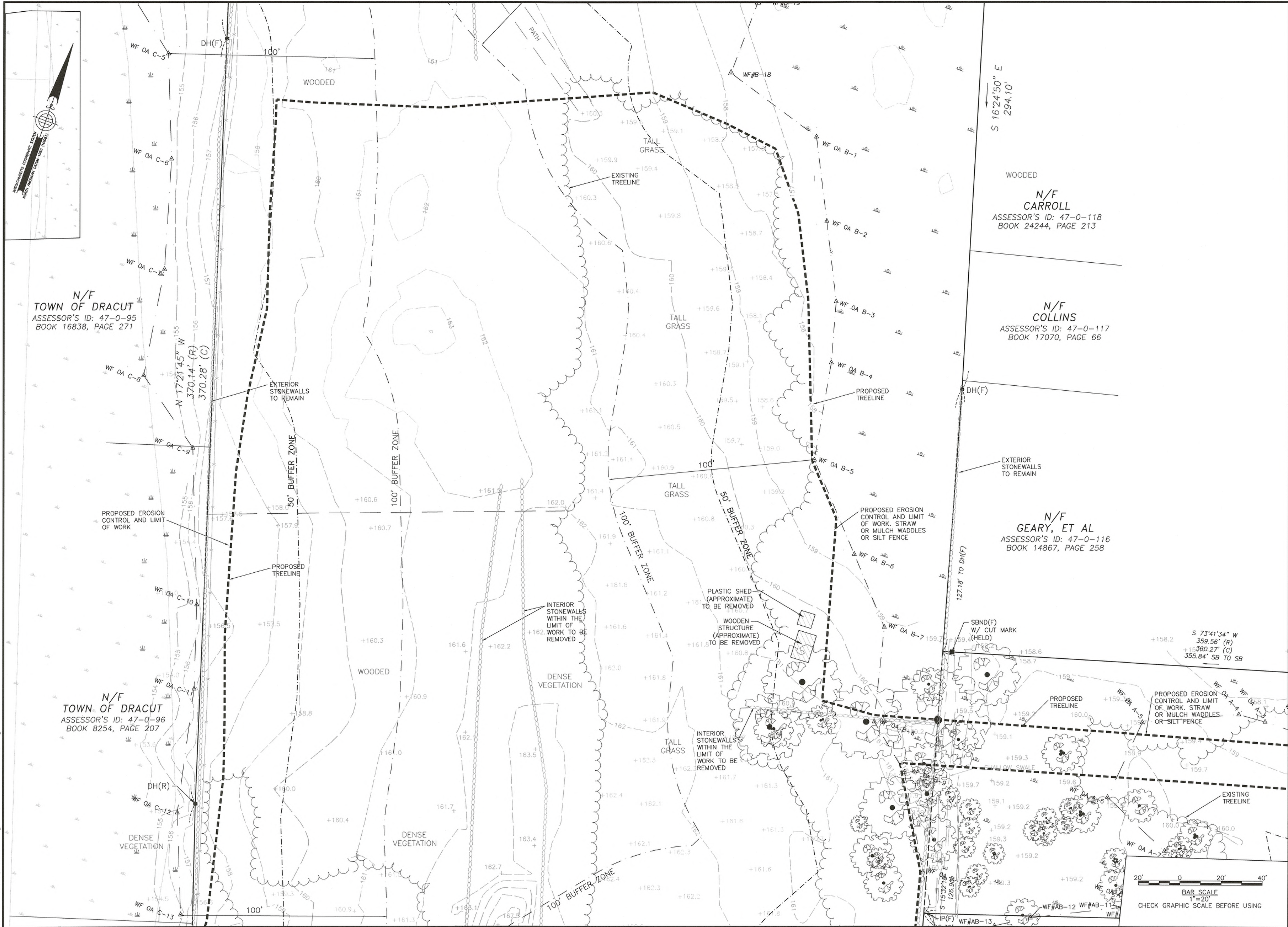
DRAWING TITLE

EXISTING
CONDITIONS &
DEMO PLAN

SHEET NO.

C-1.1

PROJECT NO. 5278
Copyright BWA Architecture, INC.



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

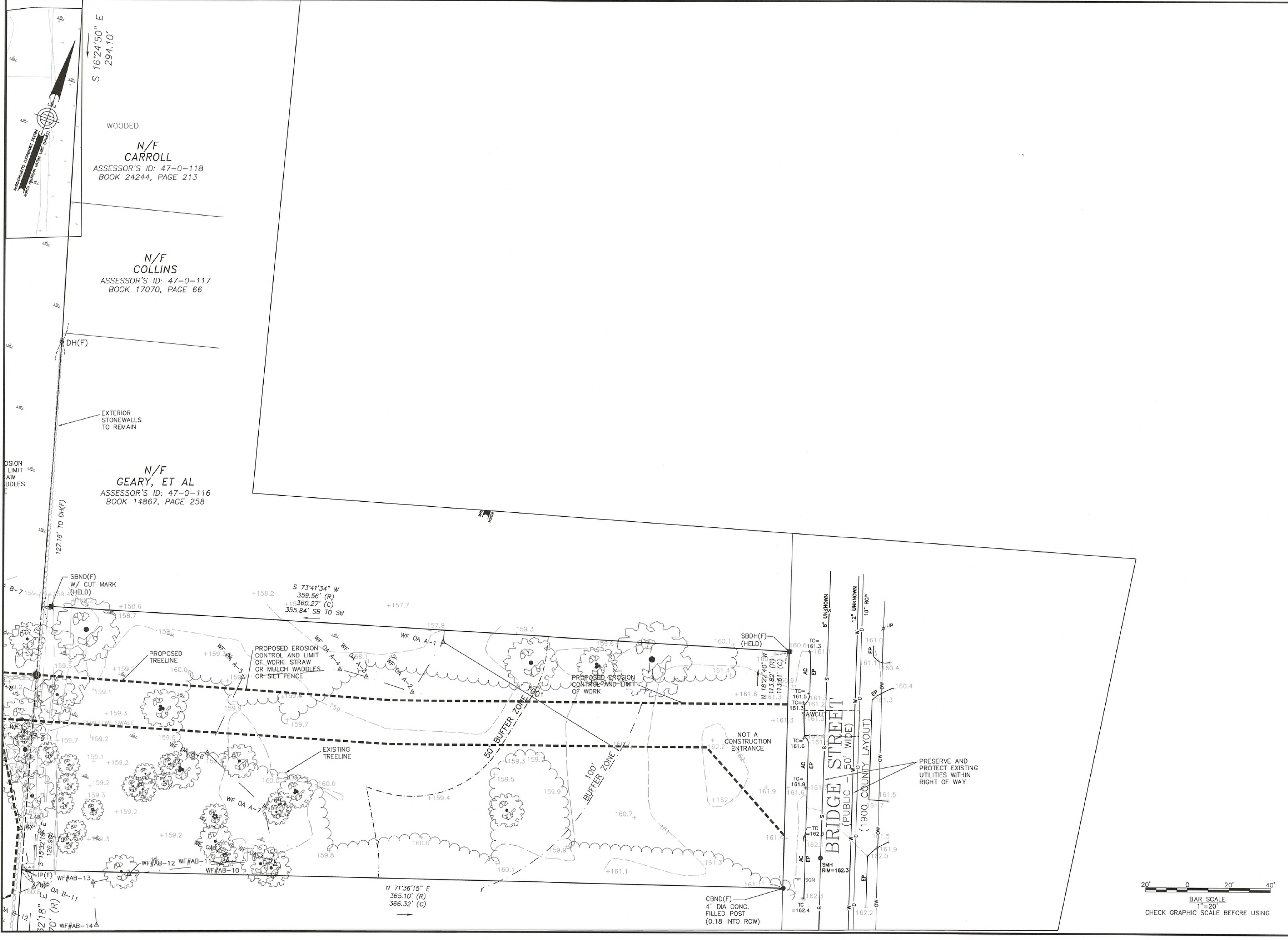
Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE
**EXISTING
CONDITIONS &
DEMO PLAN**

SHEET NO.

C-1.2

PROJECT NO. 5278
©Copyright BWA Architecture, INC



Dec 11, 2023 5:43pm - 5278 Design - Greenmont-revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape Architecture
Civil Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

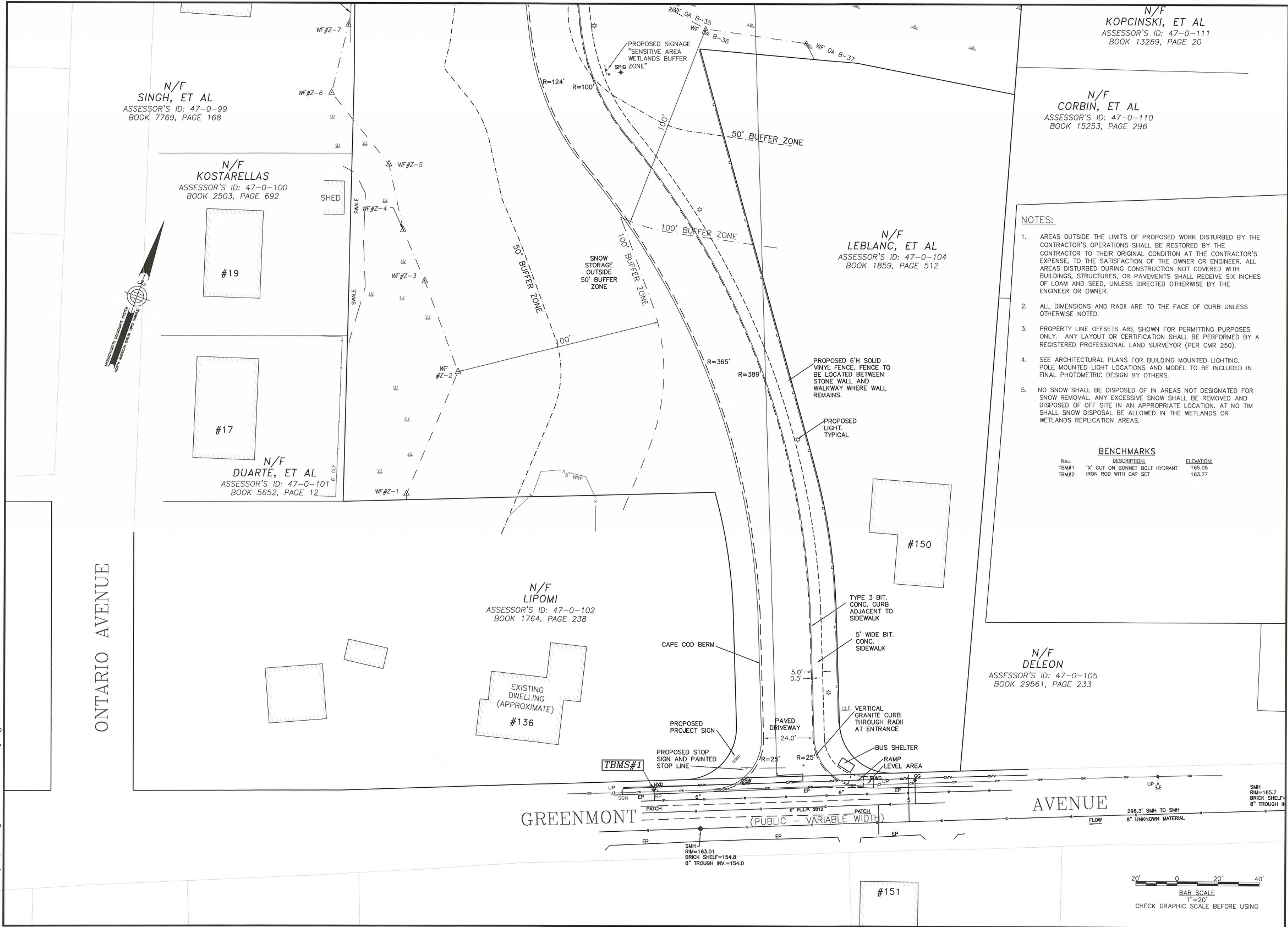
EXISTING
CONDITIONS &
DEMO PLAN

SHEET NO.

C-1.3

PROJECT NO. 5278
©Copyright BWA Architecture, INC.

Dec 11, 2023 5:44pm - 5278 Design - Greenmont-revised 2023.dwg



NOTES:

- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE OWNER OR ENGINEER. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENTS SHALL RECEIVE SIX INCHES OF LOAM AND SEED, UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR OWNER.
- ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- PROPERTY LINE OFFSETS ARE SHOWN FOR PERMITTING PURPOSES ONLY. ANY LAYOUT OR CERTIFICATION SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL LAND SURVEYOR (PER CMR 250).
- SEE ARCHITECTURAL PLANS FOR BUILDING MOUNTED LIGHTING. POLE MOUNTED LIGHT LOCATIONS AND MODEL TO BE INCLUDED IN FINAL PHOTOMETRIC DESIGN BY OTHERS.
- NO SNOW SHALL BE DISPOSED OF IN AREAS NOT DESIGNATED FOR SNOW REMOVAL. ANY EXCESSIVE SNOW SHALL BE REMOVED AND DISPOSED OF OFF SITE IN AN APPROPRIATE LOCATION. AT NO TIME SHALL SNOW DISPOSAL BE ALLOWED IN THE WETLANDS OR WETLANDS REPLICATION AREAS.

BENCHMARKS

No.	DESCRIPTION	ELEVATION
TBM#1	"X" CUT ON BONNET BOLT HYDRANT	165.05
TBM#2	IRON ROD WITH CAP SET	163.77



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying
256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



BWA ARCHITECTURE
132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

LAYOUT AND MATERIALS PLAN

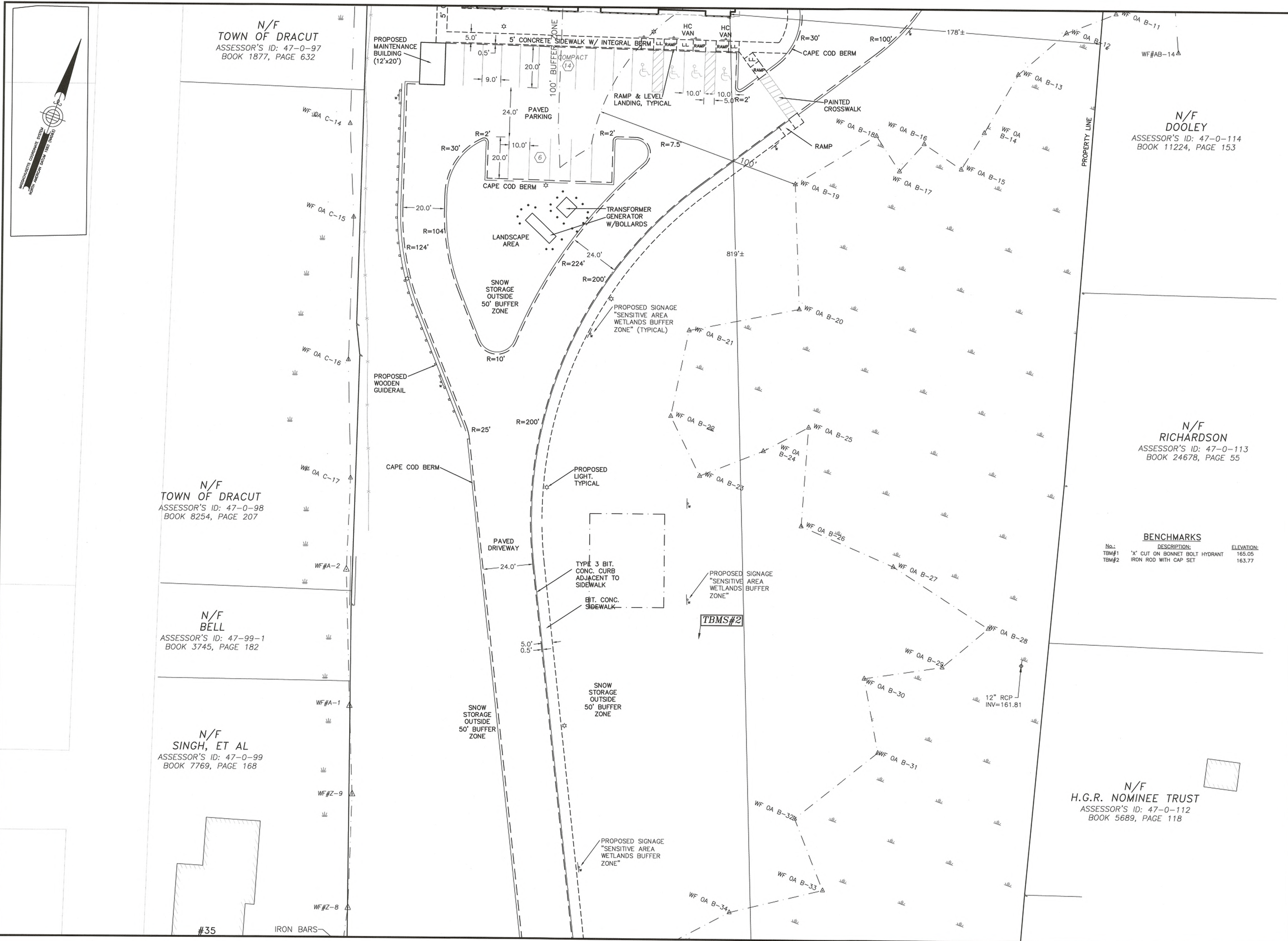
SHEET NO.

C-2.0

PROJECT NO. 5278

Copyright: BWA Architecture, INC.

Dec 12, 2023 - 5:45pm - 5278 Design- Greenmont-revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

PLACES Associates, Inc.
12-12-23

Planning
Landscape
Architecture
Civil
Engineering
Surveying



132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

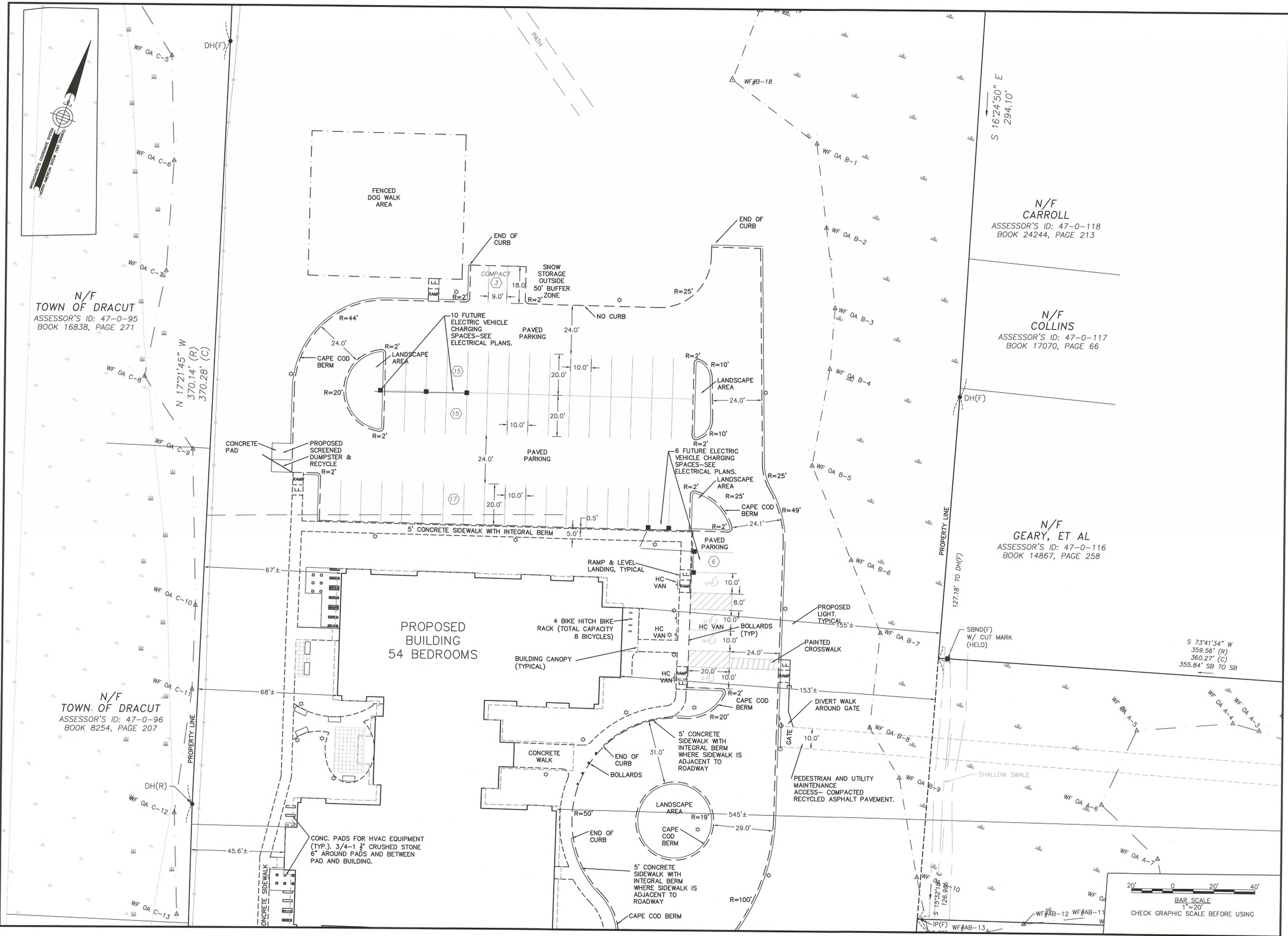
LAYOUT AND MATERIALS PLAN

SHEET NO.

C-2.1

PROJECT NO. 5278
Copyright BWA Architecture, INC.

Dec 12, 2023 - 5:46pm - 5278 Design-Greenmont-revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



Places Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 484-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

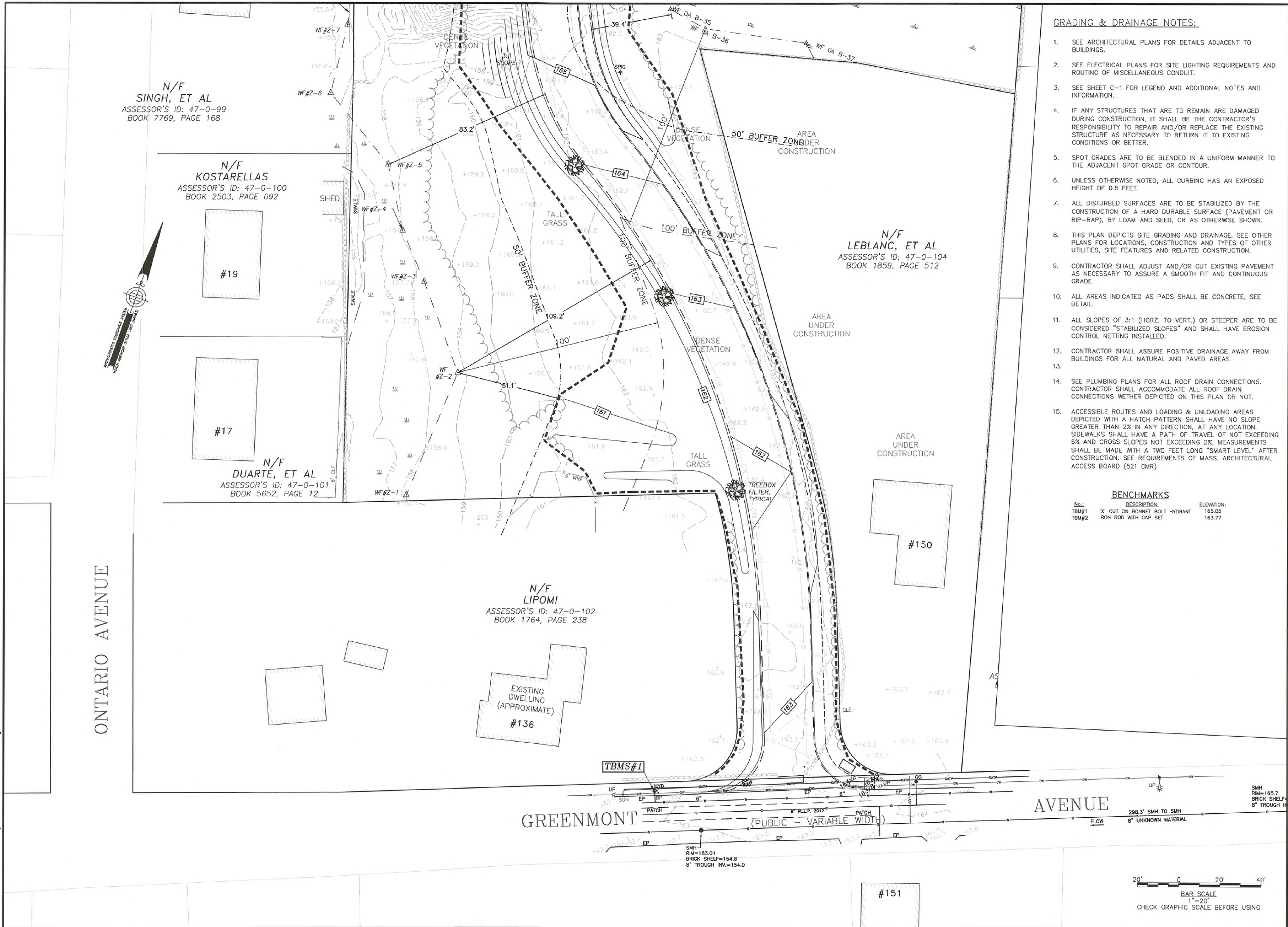
DRAWING TITLE

SHEET NO.

C-2.2

PROJECT NO. 5278
Copyright © BWA Architecture, INC.

Dec 12, 2023 - 5:47pm - 5278 Design-Greenmont-revised 2023.dwg



GRADING & DRAINAGE NOTES:

1. SEE ARCHITECTURAL PLANS FOR DETAILS ADJACENT TO BUILDINGS.
2. SEE ELECTRICAL PLANS FOR SITE LIGHTING REQUIREMENTS AND ROUTING OF MISCELLANEOUS CONDUIT.
3. SEE SHEET C-1 FOR LEGEND AND ADDITIONAL NOTES AND INFORMATION.
4. IF ANY STRUCTURES THAT ARE 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.
5. SPOT GRADES ARE TO BE BLENDED IN A UNIFORM MANNER TO THE ADJACENT SPOT GRADE OR CONTOUR.
6. UNLESS OTHERWISE NOTED, ALL CURBING HAS AN EXPOSED HEIGHT OF 0.5 FEET.
7. ALL DISTURBED SURFACES ARE TO BE STABILIZED BY THE CONSTRUCTION OF A HARD DURABLE SURFACE (PAVEMENT OR RIP-RAP), BY LOAM AND SEED, OR AS OTHERWISE SHOWN.
8. THIS PLAN DEPICTS SITE GRADING AND DRAINAGE. SEE OTHER PLANS FOR LOCATIONS, CONSTRUCTION AND TYPES OF OTHER UTILITIES, SITE FEATURES AND RELATED CONSTRUCTION.
9. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
10. ALL AREAS INDICATED AS PADS SHALL BE CONCRETE, SEE DETAIL.
11. ALL SLOPES OF 3:1 (HORZ. TO VERT.) OR STEEPER ARE TO BE CONSIDERED "STABILIZED SLOPES" AND SHALL HAVE EROSION CONTROL NETTING INSTALLED.
12. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- 13.
14. SEE PLUMBING PLANS FOR ALL ROOF DRAIN CONNECTIONS. CONTRACTOR SHALL ACCOMMODATE ALL ROOF DRAIN CONNECTIONS WHETHER DEPICTED ON THIS PLAN OR NOT.
15. ACCESSIBLE ROUTES AND LOADING & UNLOADING AREAS DEPICTED WITH A HATCH PATTERN SHALL HAVE NO SLOPE GREATER THAN 2% IN ANY DIRECTION, AT ANY LOCATION. SIDEWALKS SHALL HAVE A PATH OF TRAVEL OF NOT EXCEEDING 5% AND CROSS SLOPES NOT EXCEEDING 2%. MEASUREMENTS SHALL BE MADE WITH A TWO FEET LONG "SMART LEVEL" AFTER CONSTRUCTION. SEE REQUIREMENTS OF MASS. ARCHITECTURAL ACCESS BOARD (521 CMR)

BENCHMARKS

No.	DESCRIPTION	ELEVATION
TBM#1	"X" CUT ON BONNET BOLT HYDRANT	165.05
TBM#2	IRON ROD WITH CAP SET	163.77



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



Placed Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying
256 Great Road, Suite 4
Littleton, MA 01460
(978) 464-0334
www.placedassociates.com



BWA ARCHITECTURE

132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

GRADING AND
DRAINAGE PLAN

SHEET NO.

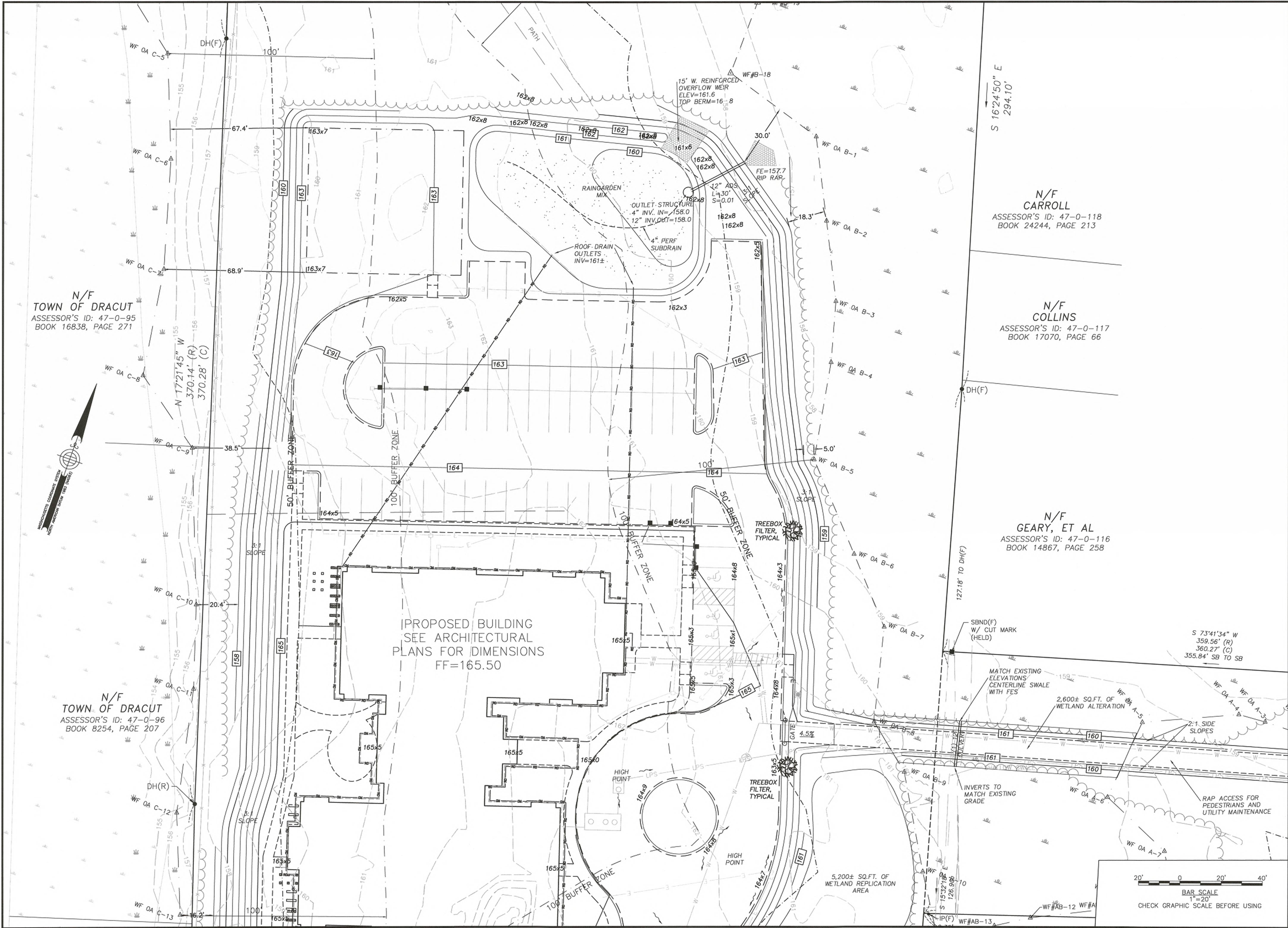
C-3.0

PROJECT NO. 5278

©Copyright BWA Architecture, INC

N/F
H.G.R. NOMINEE TRUST
ASSESSOR'S ID: 47-0-112
BOOK 5689, PAGE 118

Dec 12, 2023 - 5:49pm - 578 Design- Greenmont-revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Uttleton, MA 01460
(978) 488-0334
www.placesassociates.com



BWA ARCHITECTURE

132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

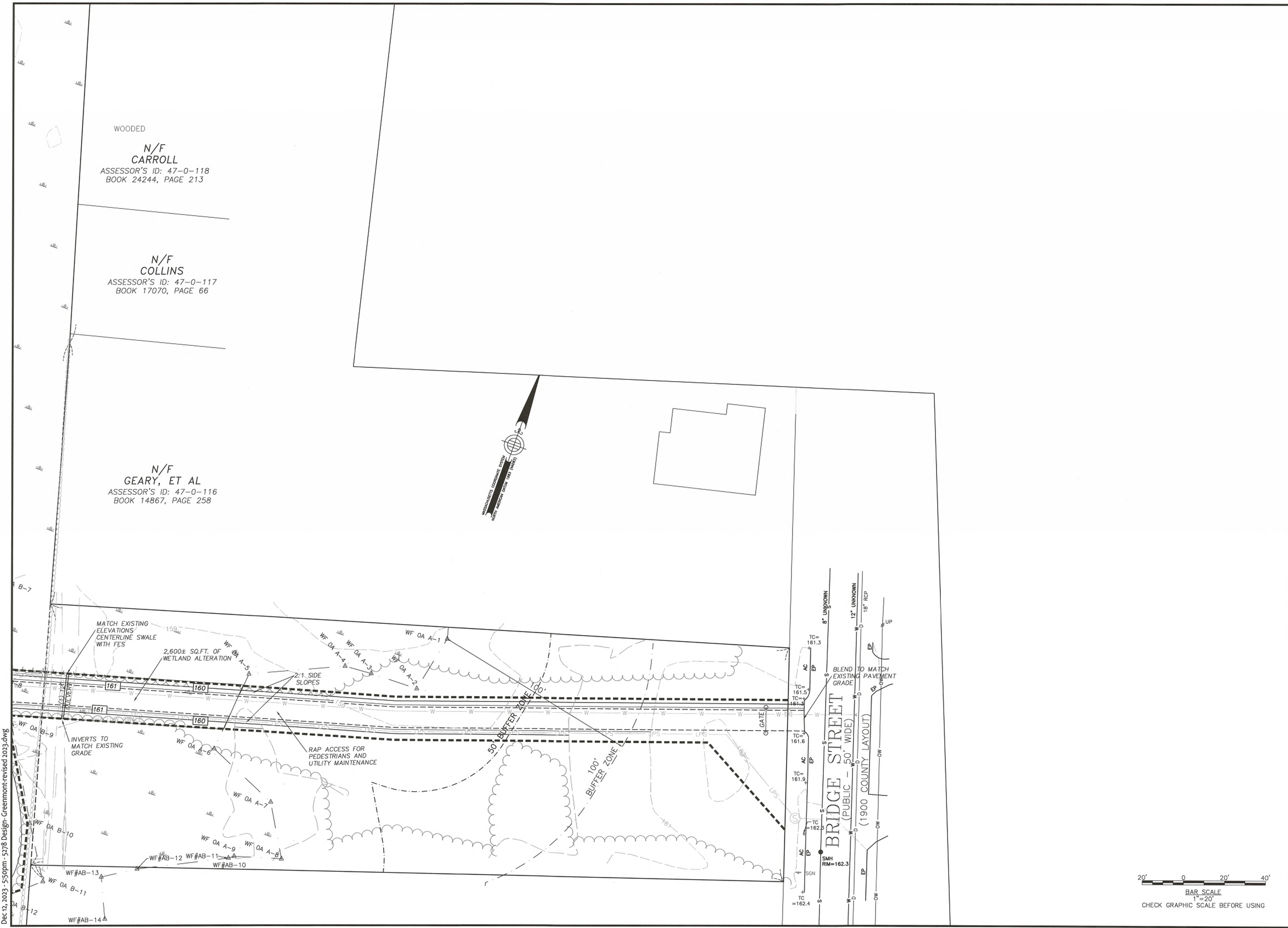
Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE
**GRADING AND
DRAINAGE PLAN**

SHEET NO.

C-3.2

PROJECT NO. 5278
©Copyright BWA Architecture, INC.



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.
Planning
Landscape
Architecture
Civil
Engineering
Surveying
256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

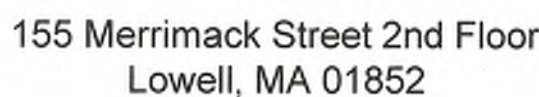
Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	08/13/23

DRAWING TITLE

GRADING AND DRAINAGE PLAN

SHEET NO.

C-3.3
PROJECT NO. 5278
©Copyright BWA Architecture, INC.



GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.



- Planning
- Landscape Architecture
- Civil Engineering
- Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



BWA ARCHITECTURE

132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

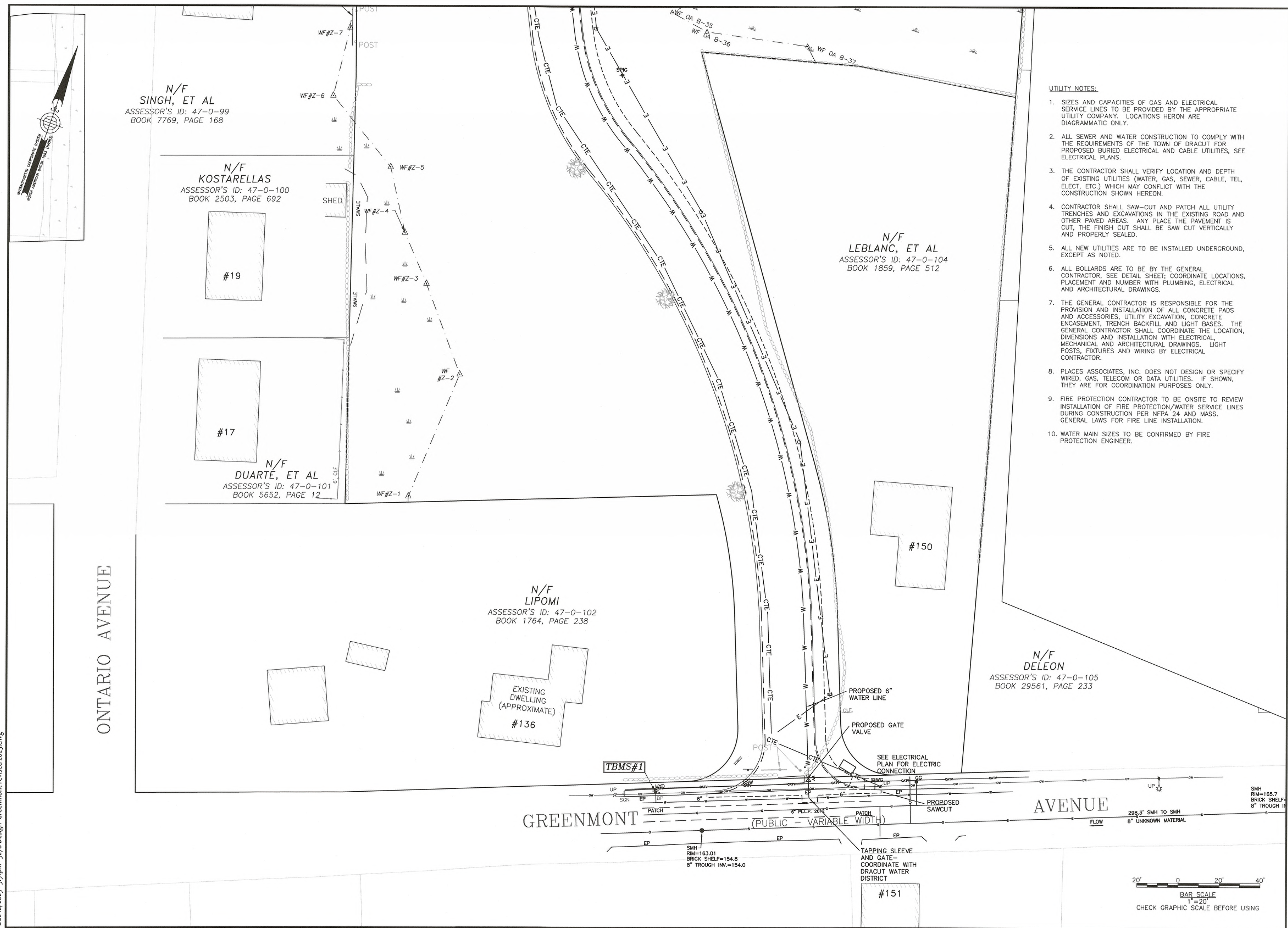
UTILITY PLAN

SHEET NO.

C-4.0

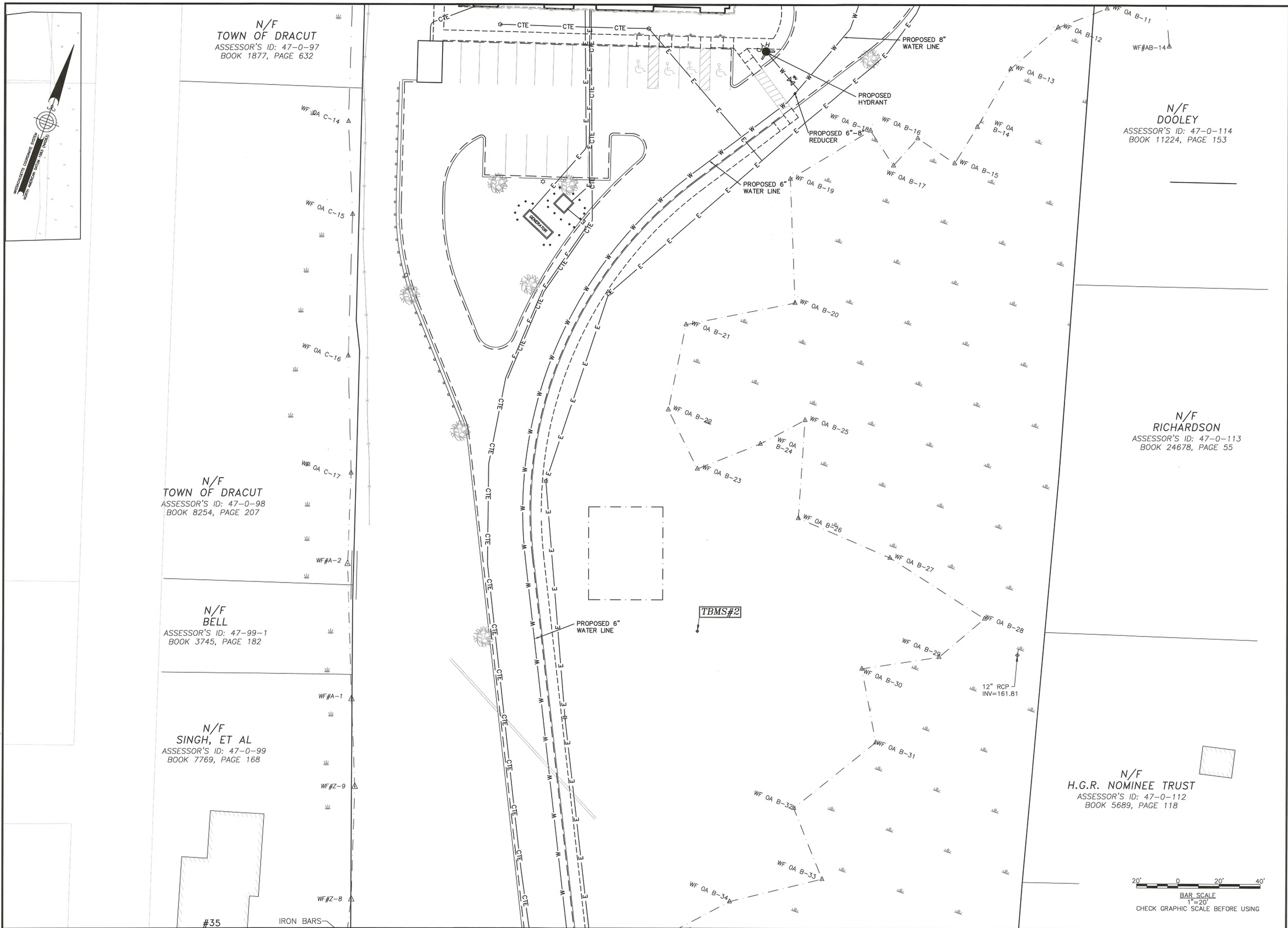
PROJECT NO. 5278

©Copyright 2004 SWA Architecture, INC.



Dec 12, 2023 - 5:51pm - 5278 Design-Greenmont-revised 2023.dwg

Dec 12, 2023 - 5:52pm - 5278 Design- Greenmont-revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying
256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



BWA ARCHITECTURE

132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

UTILITY PLAN

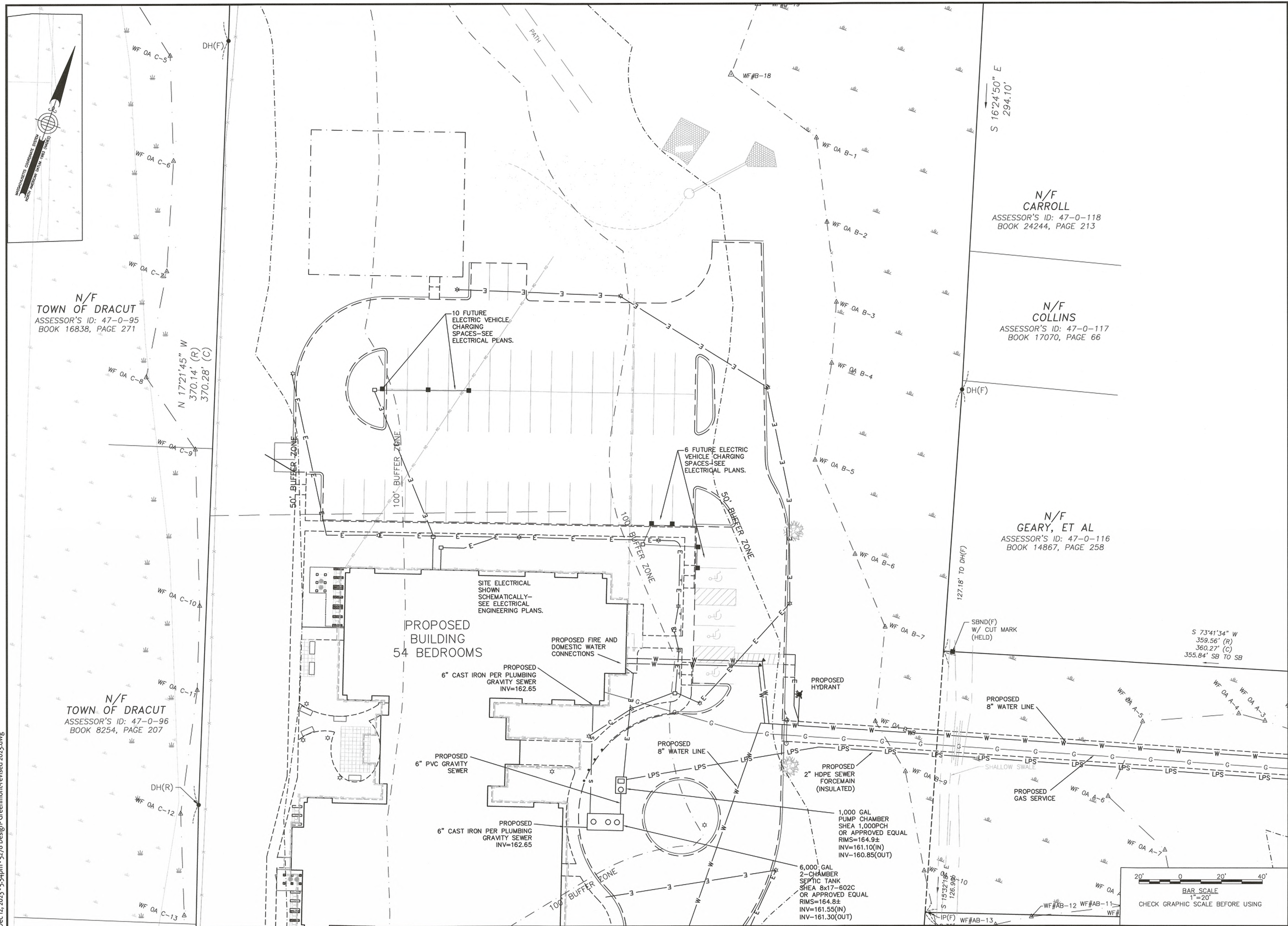
SHEET NO.

C-4.1

PROJECT NO. 5278

Copyright BWA Architecture, INC

Dec 12, 2023 - 5:54pm - 5278 Design-Greenmont revised 2023.dwg



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.



Planning
Landscape
Architecture
Civil
Engineering
Surveying

254 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

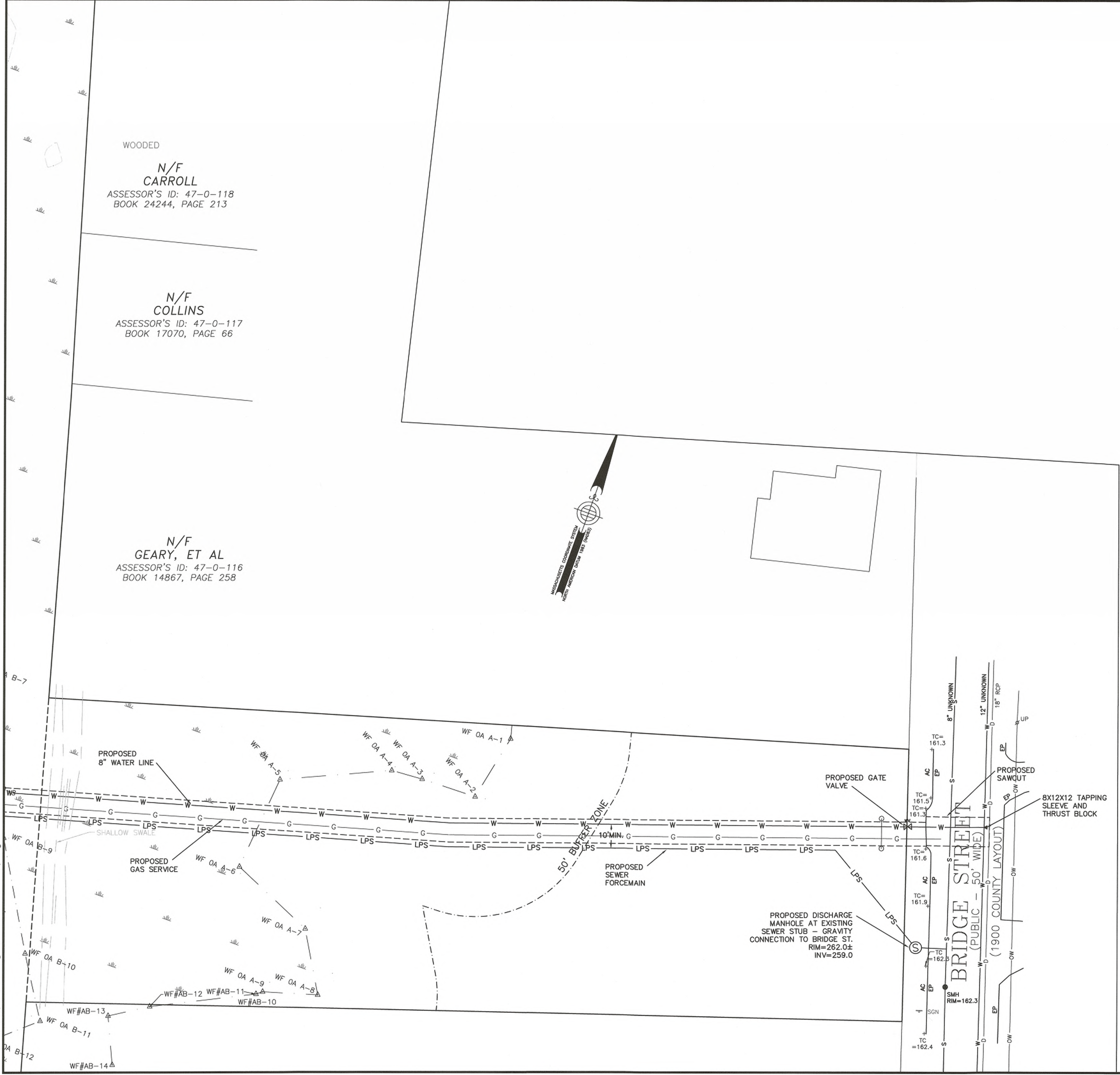
Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE
UTILITY PLAN

SHEET NO.

C-4.2

PROJECT NO. 5278
Copyright BWA Architecture, Inc.



WOODED
N/F
CARROLL
ASSESSOR'S ID: 47-0-118
BOOK 24244, PAGE 213

N/F
COLLINS
ASSESSOR'S ID: 47-0-117
BOOK 17070, PAGE 66

N/F
GEARY, ET AL
ASSESSOR'S ID: 47-0-116
BOOK 14867, PAGE 258



PROPOSED DISCHARGE
MANHOLE AT EXISTING
SEWER STUB - GRAVITY
CONNECTION TO BRIDGE ST.
RIM=262.0±
INV=259.0

PROPOSED GATE
VALVE

PROPOSED
SAWCUT

8X12X12 TAPPING
SLEEVE AND
THRUST BLOCK

20' 0 20' 40'
BAR SCALE
1"=20'
CHECK GRAPHIC SCALE BEFORE USING



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying
256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



BWA ARCHITECTURE
132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

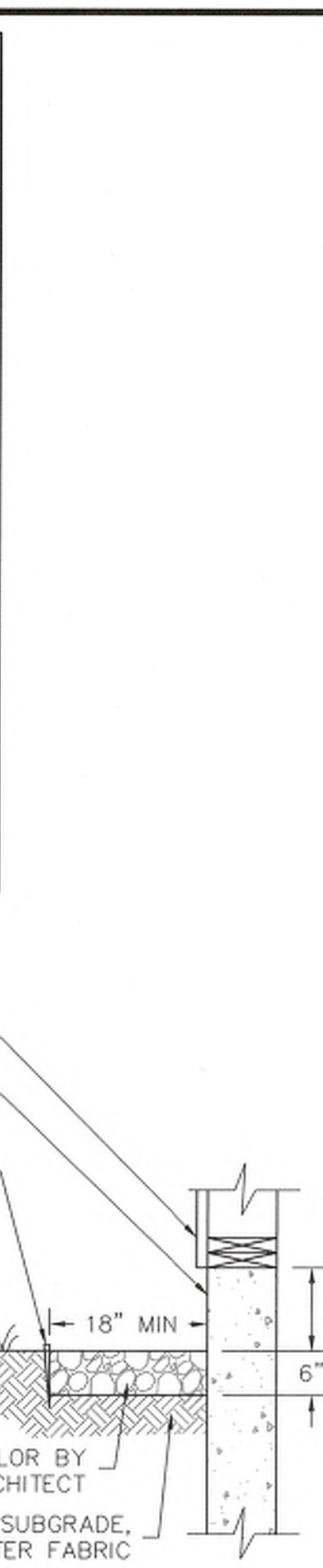
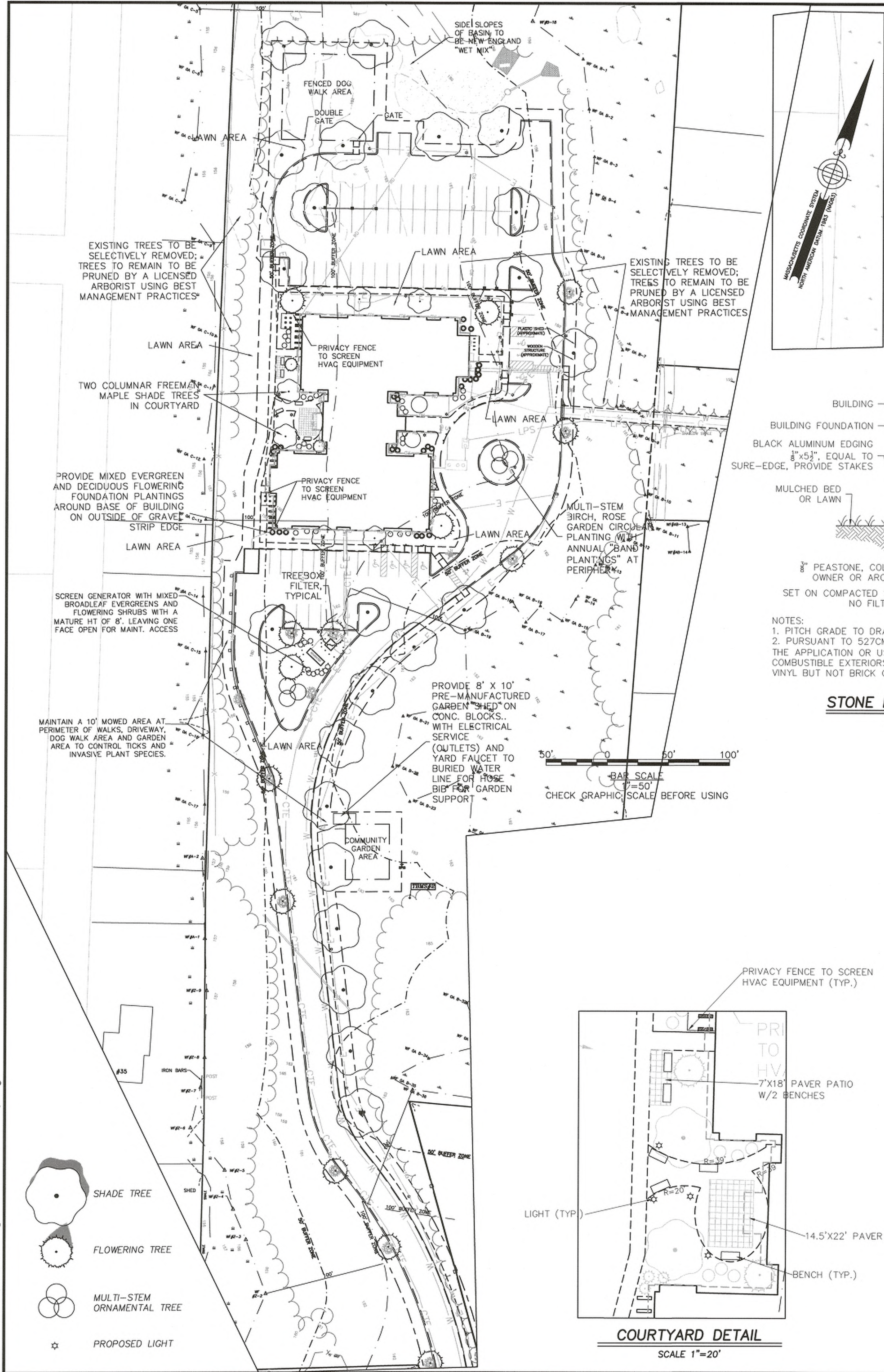
DRAWING TITLE
UTILITY PLAN

SHEET NO.

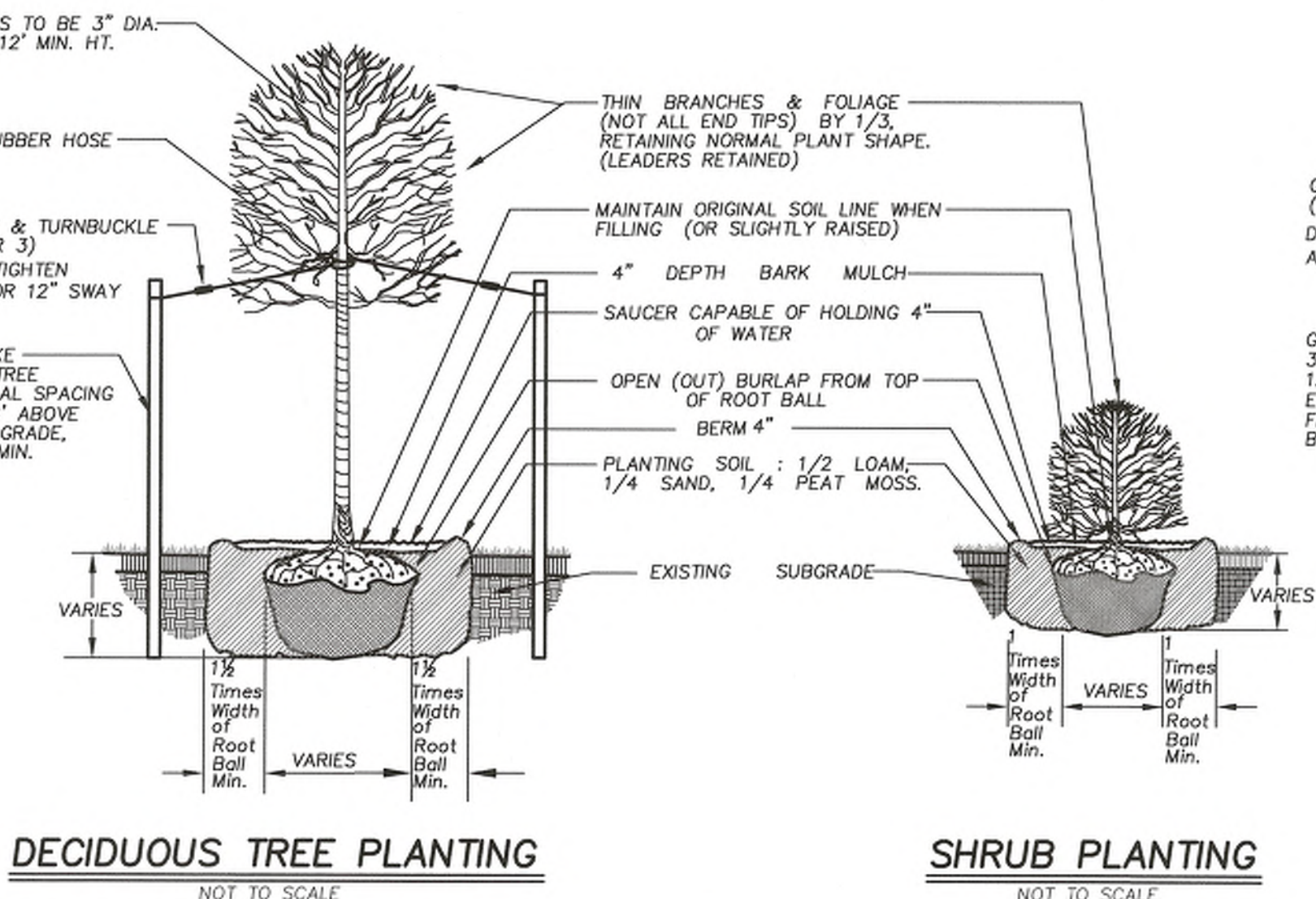
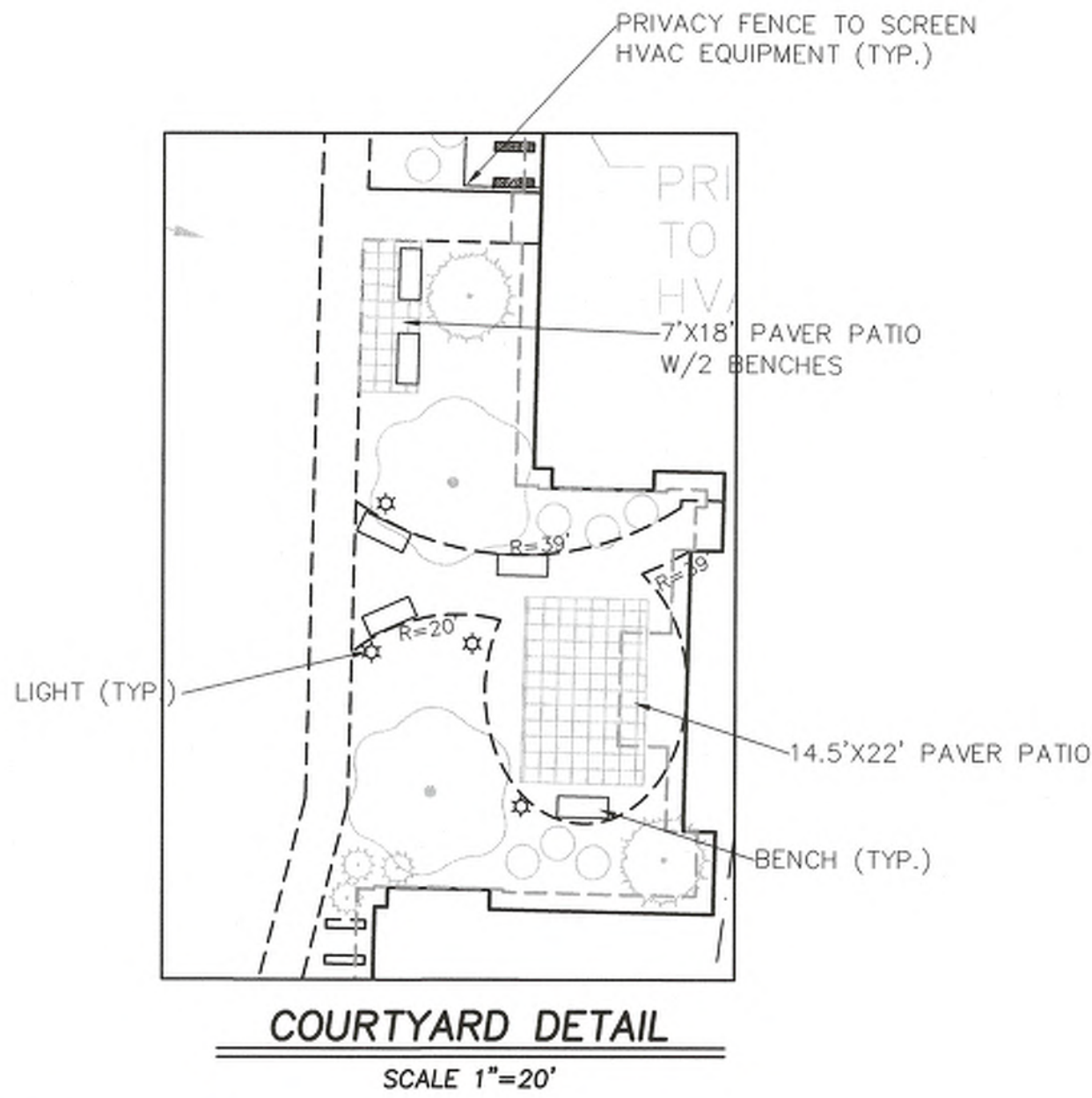
C-4.3

PROJECT NO. 5278
©Copyright BWA Architecture, INC

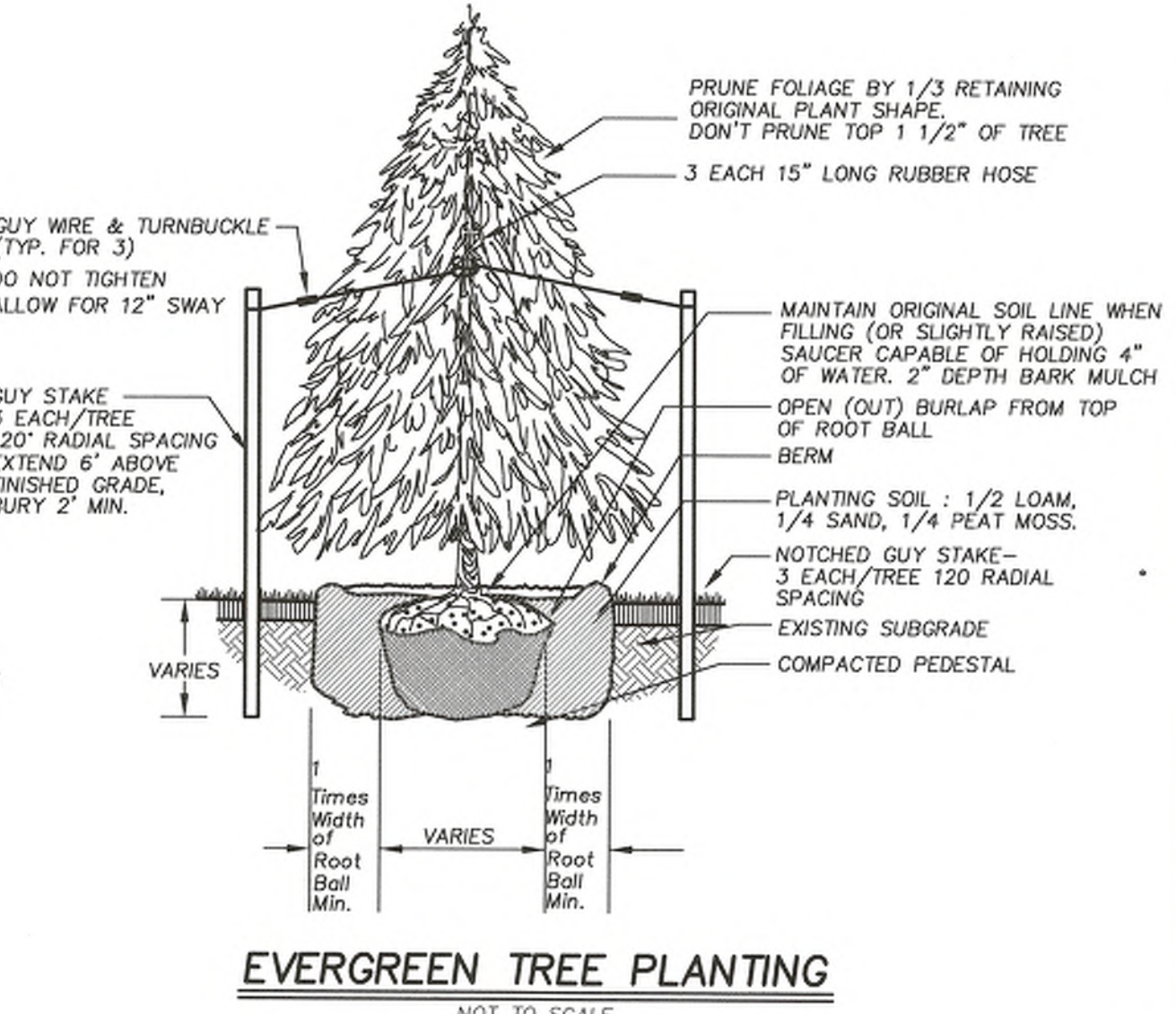
Dec 12, 2023 - 5:55pm - 5278 Design - Greenmont-revised 2023.dwg



STONE BUILDING EDGING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE



LANDSCAPE NOTES:

- SEE SITE PLANS AND PLANS WHICH DEPICT WORK OF OTHER TRADES FOR THE LOCATIONS OF BURIED UTILITIES, UNDERGROUND STRUCTURES AND OTHER OBSTACLES THAT MAY IMPACT THE PLANTING SHOWN HEREON.
- PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD, CONTRACTOR SHALL ACCOMMODATE THIS IN BASE BID.
- IN CASE OF CONFLICT BETWEEN LANDSCAPE PLAN AND PLANTING SCHEDULE, THE GREATER NUMBER OR LARGER QUANTITY SHALL BE PROVIDED.
- 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.
- ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- ALL PLANTS AND PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF "RECOMMENDED STANDARD SPECIFICATION FOR PLANTINGS" AS COMPILED AND ISSUED BY THE ASSOCIATED LANDSCAPE CONTRACTORS OF MASSACHUSETTS. ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 4" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH.
- ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING, UNLESS OTHERWISE APPROVED BY LANDSCAPE ARCHITECT.
- TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.
- ALL PLANTS SHALL BE WARRANTED FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT. SHOULD ANY PLANTS DIE, EXHIBIT UNDERSIRABLE DIE-BACK OR DISEASE DAMAGE, THEY SHALL BE REPLACED, AT NO ADDITIONAL COST TO THE OWNER WITH PLANTS MEETING THE ORIGINAL SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ADEQUATE WATER SUPPLIES TO THE PLANT MATERIALS UNTIL ACCEPTANCE OF THE LANDSCAPE BY THE LANDSCAPE ARCHITECT HAS OCCURRED.
- THE CALIPER OF ALL TREES SHALL BE MEASURED FOUR (4') FEET ABOVE THE ROOT BALL OR GROUND LINE, WHICHEVER IS HIGHER.
- 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.
- ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 18" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.
- PLANTING SEASONS:
SPRING SEASON:
FOR ALL PLANTING IS FROM APRIL 1ST TO JULY 15TH
FALL SEASON:
FOR ALL EVERGREEN MATERIALS IS FROM AUGUST 15TH TO NOVEMBER 15TH
FOR ALL DECIDUOUS TREES, SHRUBS AND GROUND COVERS IS FROM AUGUST 15TH TO NOVEMBER 1ST.
- FERTILIZER USE & APPLICATION SHALL CONFORM TO 330 CMR 31.00 FOR NON-AGRICULTURAL APPLICATION OF NITROGEN FERTILIZERS. SOIL SAMPLES, TESTS, AND SHOP DRAWINGS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
- CONTRACTOR RESPONSIBLE FOR ALL LAWN AND PLANTED GROUND COVER AREAS AND WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
- ALL SLOPES IN EXCESS OF 3:1 (HORIZONTAL TO VERTICAL) SHALL BE STABILIZED SLOPES, SEE THE PROVISIONS OF SPECIFICATION SECTION-EROSION AND SEDIMENTATION CONTROL AND RELATED SECTIONS.
- A MINIMUM 18" WIDE BARRIER OF 1" GRAY OR TAN PEASTONE SHALL BE INSTALLED IN ALL PLANT BED WHICH ADJUT THE BUILDINGS. NO MULCH IS ALLOWED WITHIN 18" OF ALL BUILDINGS PER THE LATEST EXECUTIVE OFFICE OF PUBLIC SAFETY AND SECURITY DEPARTMENT OF FIRE SERVICES REGULATION (527 CMR 17.00). INSTALL 6" DEEP OF PEASTONE WITH MIRAFI WEED FABRIC BENEATH AND STEEL EDGING BETWEEN THE PEASTONE AND ADJACENT MULCH BED.
EXCEPTION: ANY BUILDING, REGARDLESS OF THE EXISTENCE OF FIRE SEPARATIONS, CONTAINING SIX DWELLING UNITS OR LESS.

SEEDING NOTES:

- ALL DISTURBED AREAS, INCLUDING SLOPES AND THE DETENTION BASIN, SHALL BE GRADED AND STABILIZED BY PLANTING OR OTHER METHOD AS SHOWN OR SPECIFIED ON THE PLANS.
- A MINIMUM OF 6" OF LOAM SHALL BE APPLIED TO ALL SURFACES TO BE SEED. LOAM SHALL BE UNIFORMLY APPLIED, SHAPED AND SMOOTHED.
- LOAM ACIDITY SHALL BE CHECKED AND ADJUSTED TO A PH OF 6.5, APPLY LIME AT A MINIMUM RATE OF 50 LBS PER 1,000 SQUARE FEET, IF NECESSARY. (IF PERMITTED BY THE ORDERS OF CONDITIONS ONLY).
- ORGANIC-SLOW RELEASE FERTILIZER OF A TYPE 5-2-2 APPLIED AT A RATE OF 50 LBS PER 500 SQUARE FEET. (IF PERMITTED BY THE ORDERS OF CONDITIONS ONLY).
- RAKE A SEED BED WITH A YORK RAKE OR HAND RAKING TO A MINIMUM DEPTH OF 3" THOROUGHLY INCORPORATING LIME AND FERTILIZER.
- SEEDING MAY BE PERFORMED BY HAND, MECHANICAL OR TRACTOR MOUNTED SPREADER. HYDROSEEDING IS RECOMMENDED.
- SEEDING BEFORE APRIL 15 OR AFTER OCTOBER 15, SHALL BE REAPPLIED BETWEEN THESE DATES IF A MINIMUM GERMINATION OF 90% DETERMINED BY SURFACE AREA COVERAGE, HAS NOT OCCURRED OR IF THE SURFACE AREA HAS ERODED OR BECOME UN-STABILIZED.
- SEEDING:
8.1.1. SEED SHALL BE APPLIED BY HAND OR BROADCAST SPREADER TO PROVIDE A UNIFORM DISTRIBUTION OF SEED.
8.1.2. SEED SHALL BE LIGHTLY RAKED INTO A DEPTH OF 1/2"-1", WITH ALL RAKING TO BE PERPENDICULAR TO THE SLOPE.
8.1.3. SEED IS TO BE ROLLED WITH A WATER BALLAST ROLLER TO INSURE CONTACT OF SEED WITH SOIL, DO NOT COMPACT SOIL.
8.1.4. AREA SHALL BE MULCHED USING SEED-FREE STRAW TO ADEQUATELY COVER THE AREA TO A DEPTH OF 1/2"-1", INSURING A UNIFORM COVER OF 75% OF THE SURFACE AREA.
8.1.5. MULCH SHALL BE SECURED BY MEANS OF SECURED LANDSCAPE FABRIC, EROSION CONTROL NETTING (3/4" - 1" MESH), OR OTHER BIODEGRADABLE MATERIAL WHICH WILL INSURE ADEQUATE COVER UNTIL THE SURFACE HAS GROWN TO 90% GERMINATION, OR ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
- HYDROSEEDING:
8.2.1. HYDROSEEDING IS ENCOURAGED FOR ALL AREAS, ESPECIALLY FOR LARGE AREAS AND STEEP SLOPES.
8.2.2. HYDROSEEDING SHALL BE PERFORMED IN A SINGLE UNIFORM LAYER.
8.2.3. A TRACK EQUIPPED MACHINE SHALL TRAVEL PERPENDICULAR TO ANY SLOPE TO PROVIDE SHALL COMPACTED SURFACE DEPRESSIONS FOR HYDROSEEDING TO CATCH. SUCH TRACKS SHALL BE A MINIMUM OF THREE (3') FEET ON CENTER FOR THE TOTAL LENGTH OF THE SLOPE.
8.2.4. APPLICATION RATES ON SLOPES GREATER THAN 3:1 (HORIZONTAL TO VERTICAL) OR GREATER SHALL HAVE A MINIMUM SEEDING RATE OF 4LBS/1000SF.
8.2.5. A LATEX OR FIBER TACKIFIER SHALL BE USED ON ALL AREAS AT THE RATE RECOMMENDED BY THE MANUFACTURER AND ON ALL SLOPES IDENTIFIED ABOVE (NO. 4), A MINIMUM RATE OF 50LBS OF TACKIFIER PER 500GALS OF WATER SHALL BE USED.
8.2.6. FERTILIZER AND LIME MAY BE INCORPORATED INTO THE HYDROSEED MIXTURE IN THE QUANTITIES AND TYPE IDENTIFIED PREVIOUSLY. (IF PERMITTED BY THE ORDERS OF CONDITIONS ONLY).
- SEED MIXTURE:
9.1. ALL SEED SHALL BE OF THE PREVIOUS YEAR'S CROP AND SHALL HAVE A QUANTIFIED MIXTURE ANALYSIS ATTACHED. NO MORE THAN 10% OF TOTAL MIXTURE SHALL CONSIST OF WEED SEED SPECIES.
9.2. SEED MIXTURE TYPE "A": SEED MIXTURES FOR LAWN AREAS SHALL CONSIST OF A STANDARD LAWN MIX CONTAINING A MINIMUM OF 80% PERENNIAL SPECIES, AND SHALL CONFORM TO THE FOLLOWING STANDARDS:
MINIMUMS (BY TOTAL WEIGHT OF MIX):
40% KENTUCKY BLUEGRASS
20% CHEWINGS FESCUE
20% PERENNIAL RYEGRASS
20% ANNUAL RYE OR OTHER ANNUAL SPECIES*
*NO MORE THAN 20% OF THE TOTAL MIX, BY WEIGHT, SHALL CONSIST OF ANNUAL RYE OR OTHER ANNUAL SPECIES. APPLY AT A RATE OF 4 LBS PER 1,000 SQUARE FEET, OR 170 LBS. PER ACRE.
9.3. SOD: SEE SPECIFICATIONS
9.4. SEED MIXTURE TYPE "C": SEED MIXTURES FOR SLOPED AREAS SHALL CONSIST OF A STANDARD CONSERVATION MIX CONFORMING TO THE RECOMMENDATIONS OF THE U.S. NATURAL RESOURCES SERVICES GUIDELINES (FORMERLY THE SOIL CONSERVATION SERVICE, SCS) AND SHALL CONFORM TO THE FOLLOWING STANDARDS:
MINIMUMS (BY TOTAL WEIGHT OF MIX):
20% ANNUAL RYE
15% RED TOP FESCUE
10% WHITE CLOVER
5% LADINO CLOVER
*NO MORE THAN 40% OF THE TOTAL MIX, BY WEIGHT, SHALL CONSIST OF ANNUAL RYE OR OTHER ANNUAL SPECIES. APPLY AT A RATE OF 4 LBS PER 1,000 SQUARE FEET.
- SEED MIXTURE TYPE "D": BASIN MIX SHALL BE AS MANUFACTURED BY NEW ENGLAND WETLANDS PLANTS, INC. AMHERST, MA, "WET MIX".
9.6. WILDFLOWER MEADOW MIX SHALL BE "NEW ENGLAND WILDFLOWER MIX" BY NEW ENGLAND WETLANDS PLANTS, INC. AMHERST, MA, OR "NATIVE NORTHEAST WILDFLOWER SEED MIX" BY AMERICAN MEADOWS, WILLISTON, VT



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING
144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.



Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

Issue		
No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE
LANDSCAPE
PLAN

SHEET NO.

L-1

PROJECT NO. 5278
Copyright BWA Architecture, INC

DRAINAGE SYSTEM OPERATIONS

STORM WATER COLLECTION SYSTEM:

THE STORMWATER COLLECTION SYSTEM SERVING THIS SITE IS INTENDED TO BOTH COLLECT STORM WATER RUNOFF AND TO PROVIDE TREATMENT OF THE STORMWATER PRIOR TO ITS DISCHARGE. THIS SYSTEM COLLECTS RUNOFF GENERATED FROM THE SITE THROUGH THE USE OF STORMWATER BEST MANAGEMENT PRACTICES (BMP'S). WHEN THESE BASIC CONTROL MECHANISMS ARE FUNCTIONING PROPERLY THEY PROVIDE FOR A REDUCTION OF CONTAMINANTS AND DEBRIS ENTERING THE STORMWATER COLLECTION SYSTEMS, AND THEREFORE DOWNSTREAM RECEIVING WATERS/WETLANDS.

STORMWATER SYSTEMS RELY UPON PROPER MONITORING, OPERATIONS AND MAINTENANCE TO FUNCTION AS DESIGNED AND INTENDED. A PROGRAM OF MONITORING, OPERATIONS AND MAINTENANCE MUST BE ONGOING THROUGHOUT THE LIFE AND USE OF THE SITE, AND IS THE OWNER'S RESPONSIBILITY SOLELY. THESE ACTIVITIES, AS DESCRIBED BELOW, ARE TO BE INITIATED AFTER COMPLETION OF THE PROJECT AND ARE NOT RELATED TO THE CONSTRUCTION OF THE SITE, EXCEPT AS SPECIFICALLY PROVIDED. THIS PLAN IS SPECIFICALLY FOR SITE-RELATED ACTIVITIES, NOT ACTIVITIES WHICH ARE INTERIOR TO BUILDINGS, THOUGH THERE ARE NECESSARY IMPLICATIONS AND CORRELATION'S BETWEEN THE TWO.

MONITORING:

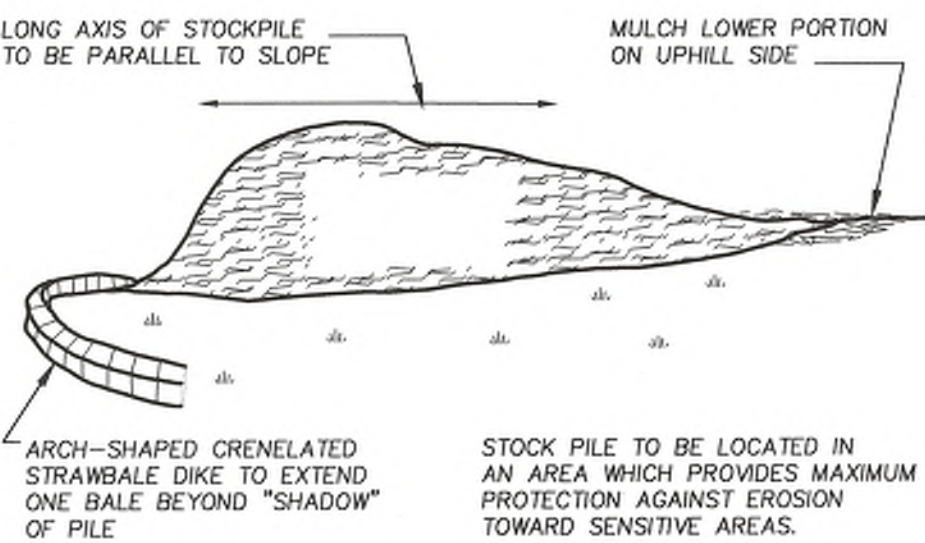
THE DRAINAGE SYSTEMS ARE REQUIRED TO BE MONITORED BY THE DESIGNATED SYSTEM MANAGER. THE NAME, ADDRESS AND DAY AND NIGHT (OR EMERGENCY) TELEPHONE NUMBER OF THIS PERSON OR ENTITY SHALL BE PROVIDED TO THE CITY/TOWN PRIOR TO THE ISSUANCE OF A CERTIFICATE OF COMPLIANCE OF CONSTRUCTION. THIS INDIVIDUAL SHALL BE REQUIRED TO KEEP A LOG OF ALL REQUIRED INSPECTIONS, OBSERVATIONS AND MAINTENANCE ACTIVITIES DRAINAGE SYSTEM COMPONENTS SHALL BE REFERRED TO BY SPECIFIC LOCATION OR THE DESIGN PLAN DESIGNATION, (E.G. CTB # 10) TO AVOID CONFUSION OR MISIDENTIFICATION THE LOG SHALL BE MADE AVAILABLE TO ANY MUNICIPAL OR STATE AGENCY HAVING JURISDICTION WITHIN TEN (10) DAYS OF A WRITTEN REQUEST BY THAT AGENCY.

MONITORING FOR THIS SITE SHALL CONSIST OF THE FOLLOWING:

1. ALL CATCHBASINS SHALL BE INSPECTED TO ENSURE THEY ARE WATER-TIGHT (HOLDING WATER), HAVE ADEQUATE SUMP CAPACITY, ALL OIL/GAS TRAPS ARE IN-PLACE, ALL GRATES AND FRAMES ARE FREE FROM STRUCTURAL DAMAGE, AND ARE DRAINING FREELY. THIS MONITORING SHALL OCCUR AT A MINIMUM OF FOUR (4) MONTH INTERVALS (QUARTERLY).
2. ALL DRAINAGE MANHOLES SHALL BE INSPECTED TO ENSURE THAT THEY ARE WATER-TIGHT, ALL LIDS AND FRAMES ARE FREE FROM STRUCTURAL DAMAGE, ARE DRAINING FREELY AND ARE NOT PONDING WATER. THIS MONITORING SHALL OCCUR A MINIMUM OF ONCE PER YEAR.
3. OTHER DRAINAGE SYSTEMS SHALL BE INSPECTED TO ENSURE THAT NO EROSION IS OCCURRING AT OUTLETS. ALL OUTLETS ARE FREE-FLOWING AND NO DAMAGE HAS OCCURRED AS PART OF SITE MAINTENANCE OR ACTIVITIES.
4. PROVIDE MAINTENANCE AND MONITORING OF THESE AND OTHER COMPONENTS AS SPECIFIED IN THE OPERATION AND MAINTENANCE MANUAL (O&M).

OPERATIONS:

1. GOOD HOUSE KEEPING AND MATERIAL MANAGEMENT REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORMWATER RUNOFF. A POLLUTION PREVENTION PLAN SHALL BE DEVELOPED WHICH SHALL INCLUDE THE FOLLOWING AT A MINIMUM:
 - 1.1. ALL MATERIALS STORED ON-SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
 - 1.2. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
 - 1.3. SUBSTANCES SHOULD NOT BE MIXED WITH ONE ANOTHER, UNLESS RECOMMENDED BY THE MANUFACTURER.
 - 1.4. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF A CONTAINER.
 - 1.5. THE SYSTEM'S MANAGER SHALL INSPECT THE SITE DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE, DURING ALL CONSTRUCTION PHASES.
 - 1.6. ORIGINAL MATERIALS LABELS AND MATERIAL SAFETY DATA SHEETS SHALL BE KEPT; THEY RETAIN IMPORTANT INFORMATION.
 - 1.7. ALL ONSITE VEHICLES AND PARKING AREAS SHALL BE REGULARLY MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO PREVENT LEAKAGE.
 - 1.8. PETROLEUM PRODUCTS SHALL BE STORED UNDER COVER AND SHALL BE IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.
 - 1.9. FERTILIZERS SHALL ONLY BE USED IN THE MINIMUM AMOUNTS AS RECOMMENDED BY THE MANUFACTURER.
 - 1.10. THE CONTENTS OF ANY UNUSED FERTILIZER SHALL BE TRANSFERRED TO A CLEARLY LABELED, SEALABLE PLASTIC BIN, TO AVOID SPILLAGE.
 - 1.11. ALL PAINTS AND SOLVENTS SHALL BE STORED IN ORIGINAL MANUFACTURER'S CONTAINERS IN A COVERED LOCATION.
 - 1.12. THE USE OF PAINTS AND SOLVENTS SHALL, WHENEVER POSSIBLE, BE LIMITED TO SERVICE OR STORAGE BAYS AND NOT IN PARKING OR ACCESS WAYS THAT ARE TRIBUTARY TO THE DRAINAGE SYSTEM.
2. SPILL CONTROL PRACTICES:
 - 2.1. MANUFACTURER'S RECOMMENDED METHODS SHALL BE CLEARLY POSTED FOR SPILL CLEANUP AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF CLEANUP INFORMATION AND SUPPLIES.
 - 2.2. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT ON-SITE IN A DESIGNATED MATERIAL STORAGE AREA. EQUIPMENT WILL INCLUDE, BUT NOT BE LIMITED TO, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, ABSORBENT AND PLASTIC, SAND, SAWDUST & METAL TRASH CONTAINERS SPECIFICALLY KEPT AND LABELED FOR THIS PURPOSE.
 - 2.3. ALL SPILLS WILL BE CLEANED-UP IMMEDIATELY AFTER DISCOVERY.
 - 2.4. SPILLS OF TOXIC OR HAZARDOUS MATERIAL OR NATURE WILL BE REPORTED TO THE APPROPRIATE STATE, LOCAL OR FEDERAL AGENCY, AS REQUIRED BY-LAW.
 - 2.5. THE SPILL PREVENTION PLAN WILL INCLUDE PROVISIONS TO ADAPT THE PLAN TO ENSURE THAT SPILLS WILL NOT REOCCUR, AND HOW TO CLEANUP THE SPILL IF THERE IS ANOTHER ONE.
3. SITE OPERATIONS AND DAILY USE SHALL CONSIDER THE ULTIMATE DISPOSITION OF STORMWATER AND OTHER SITE-GENERATED FORMS OF RUNOFF. THE WASHING OF VEHICLES SHALL BE LIMITED AREAS WITHIN THE BUILDING, AS THEY ARE SERVED BY THE FLOOR DRAIN SYSTEM. WASH WATER WITH ITS COMBINATION OF SOLVENTS, DETERGENTS AND OIL/GREASES SHOULD NOT BE ALLOWED TO ENTER ANY PART OF THE ON-SITE DRAINAGE SYSTEM.
4. SNOW PLOWING - SNOW PLOWING OPERATIONS SHALL STOCKPILE SNOW, ICE AND ACCUMULATED MATERIALS IN AREAS WHERE SNOW MELT WILL FLOW INTO THE ON-SITE DRAINAGE SYSTEMS. NO PLOWING OR STORAGE OF SNOW INTO WETLANDS.
5. SALT USE SITE-WIDE SHALL BE APPLIED TO THE MINIMUM EXTENT POSSIBLE TO MAINTAIN SAFE CONDITIONS, AND ONLY IF NOT SPECIFICALLY EXCLUDED BY ANY SPECIAL CONDITIONS.



TEMPORARY STOCKPILE

NOT TO SCALE

MAINTENANCE:

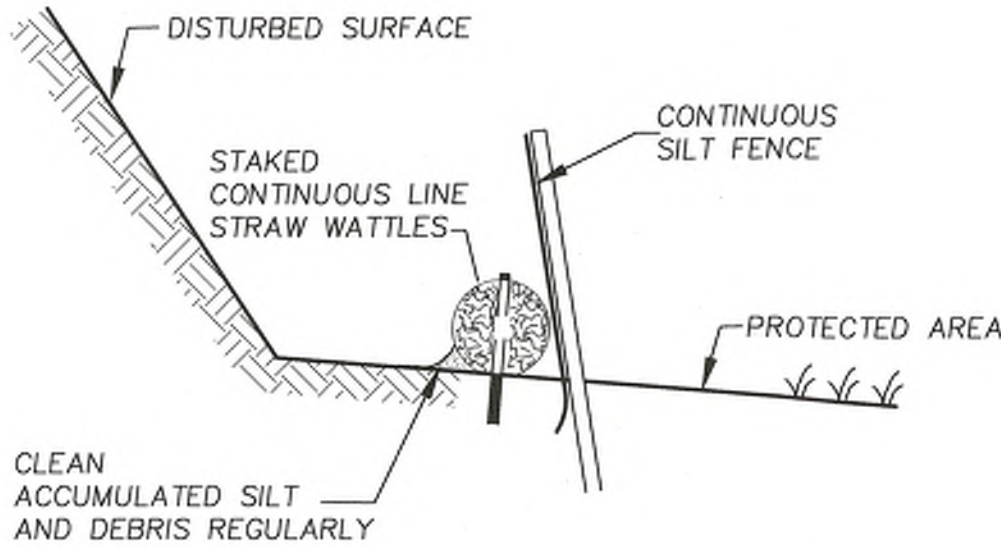
1. PARKING AREAS, ROAD AND ACCESS WAYS AND GUTTERS SHALL BE SWEEPED CLEAN OF DEBRIS AND ACCUMULATION ON A REGULAR BASIS. AT A MINIMUM, A SPRING AND FALL CLEANING SCHEDULE IS RECOMMENDED.
2. ALL CATCHBASINS SHALL HAVE THE SUMPS CLEANED AT ANY TIME OF THE YEAR WHEN 2' OR LESS SPACE EXISTS BELOW THE OUTLET INVERT, OR A MINIMUM OF ONCE PER YEAR, REGARDLESS OF SUMP ACCUMULATION. ALL DEBRIS FROM THE CLEANING SHALL BE DISPOSED OF OFF-SITE AND IN A MANNER AS PROSCRIBED BY LAW.
3. ALL HYDROCARBON TRAPS SHALL BE CHECKED FOR PHYSICAL INTEGRITY AND SEALED IMMEDIATELY AFTER EACH CATCHBASIN CLEANING.
4. OIL ABSORBING "PILLOWS" OR OTHER MEANS SHALL BE USED TO REMOVE ACCUMULATIONS OF HYDROCARBONS (OIL/GREASE) IN CATCHBASINS THAT ARE REGULARLY OBSERVED TO CONTAIN HYDROCARBONS, WHICH DO NOT EVAPORATE BETWEEN INSPECTIONS.
5. ALL BROKEN, LEAKING OR OTHERWISE DAMAGED STRUCTURES SHALL BE REPAIRED PROMPTLY UPON DISCOVERY. CATCHBASIN GRATES OR MANHOLE LIDS SHALL BE REPLACED WITH SIMILAR WEIGHT AND LOADING CHARACTERISTIC REPLACEMENT PARTS.
6. ALL EROSION SHALL BE REPAIRED.
7. THE REPLACEMENT OF ANY PIPE OR DRAINAGE STRUCTURE SHALL MATCH THE ORIGINAL DESIGN SPECIFICATIONS.
8. PROVIDE MAINTENANCE AND MONITORING AS SPECIFIED IN THE OPERATION AND MAINTENANCE MANUAL (O&M).

NPDES GENERAL NOTES:

1. THIS PLAN IS INTENDED TO BE UTILIZED AS PART OF THE INFORMATION REQUIRED TOWARD MEETING THE NATIONAL STORM WATER POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) OF SECTION 402 OF THE FEDERAL CLEAN WATER ACT. THE CONSTRUCTION OF DRIVEWAYS, PARKING AREAS, BUILDINGS AND APPURTENANT STRUCTURES WILL RESULT IN MORE THAN 1 ACRE OF TOTAL DISTURBED AREA, REQUIRING THE SUBMITTAL OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THIS SITE.
2. IT IS ANTICIPATED THAT THE SITE AS DESIGNED WILL MEET THE CRITERIA FOR A NPDES GENERAL PERMIT. THE SUBMISSION OF THE NPDES NOTICE OF INTENT (NPDES NOI), THIS PLAN AND SUPPORTING DOCUMENTATION MUST BE POSTMARKED A MINIMUM OF TWO (2) WEEKS PRIOR TO THE INITIATION OF ANY SITE DISTURBANCE OR CONSTRUCTION, WHICH SHALL NOT COMMENCE UNTIL AN ORDER OF CONDITIONS HAS BEEN ISSUED.
3. A COPY OF THE NPDES SUBMITTAL AND THIS PLAN MUST BE KEPT ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE MADE AVAILABLE TO ALL INTERESTED PARTIES.
4. RECORDS MUST BE MAINTAINED BY THE PERMITEE FOR A PERIOD OF THREE (3) YEARS FROM THE DATE OF STABILIZATION OF THE SITE. STABILIZATION OCCURS WHEN THE SITE HAS OVER 70% VEGETATIVE GROWTH AND/OR MECHANICAL STABILIZATION THROUGHOUT FOR ONE COMPLETE GROWING SEASON.
5. ALL INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL, WHO SHALL PRODUCE WRITTEN QUANTITATIVE AND QUALITATIVE REPORTS ON THE METHODS, SUITABILITY OF STRUCTURES AND THE GENERAL CONSTRUCTION.
6. INSPECTIONS ARE REQUIRED DURING SITE ALTERATIONS A MINIMUM OF ONCE EVERY SEVEN (7) DAYS WHILE SURFACES ARE UNSTABILIZED.
7. INSPECTIONS ARE REQUIRED WITHIN 24 HOURS OF STORMS WHICH PRODUCE 0.25" OF PRECIPITATION OR GREATER.
8. WHEN THE SITE IS FULLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT MONTHLY INTERVALS FOR A PERIOD OF 3 YEARS OR AS SPECIFIED IN THE O&M AND OR SWPPP.

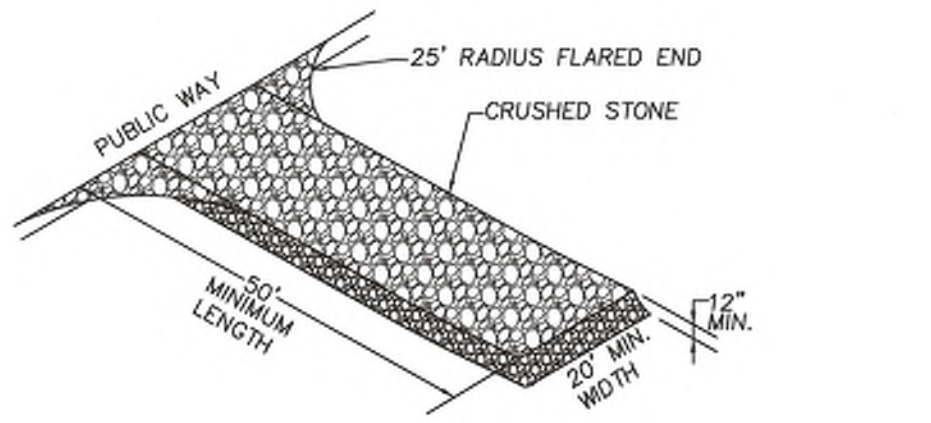
LOCAL PERMITTING:

1. THIS PLAN IS PART OF A SET OF DOCUMENTS WHICH INCLUDE LOCAL PERMITS, LOCAL REVIEW AND MODIFICATIONS TO PROPOSED SWPPP'S CREATED BY THE ABOVE LISTED CRITERIA.
2. CONTRACTORS SHALL ACCOMMODATE LOCAL REVIEW TIMELINES AS PART OF ALL SUBMISSIONS FOR SWPPP'S.



EROSION CONTROL BARRIER

NOT TO SCALE



- NOTES:
1. REPLACE STONE & ACCUMULATED DEBRIS, MUD & ENTRAPPED MATERIALS AS IS NECESSARY TO PREVENT TRACKING ON PUBLIC ROADWAYS.
 2. REPLACE MONTHLY AS A MINIMUM REQUIREMENT.
 3. DISPOSE OF STONE & ENTRAPPED MATERIALS IN A NON SENSITIVE AREA ON-SITE.
 4. DO NOT REUSE STONE FOR SAME PURPOSE.
 5. ALL TRAFFIC ENTERING / EXISTING SITE TO CROSS TEMPORARY CONSTRUCTION ENTRANCE TO REMOVE MUD FROM TIRES

TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE

GENERAL:

1. THIS PLAN IS PART OF A SET OF DOCUMENTS THAT ARE TO BE VIEWED AND REVIEWED IN THEIR ENTIRETY, SUCH DOCUMENTS INCLUDE THE CONSTRUCTION SPECIFICATIONS, CONSTRUCTION PLANS AND ANY PERMITS ISSUED BY THE CITY/TOWN OR OTHER REGULATORY AGENCIES.
2. THIS IS A PERFORMANCE SPECIFICATION WHICH THE CONTRACTOR SHALL APPLY APPROPRIATE MEANS AND METHODS TO ACHIEVE.

EROSION CONTROL MEASURES:

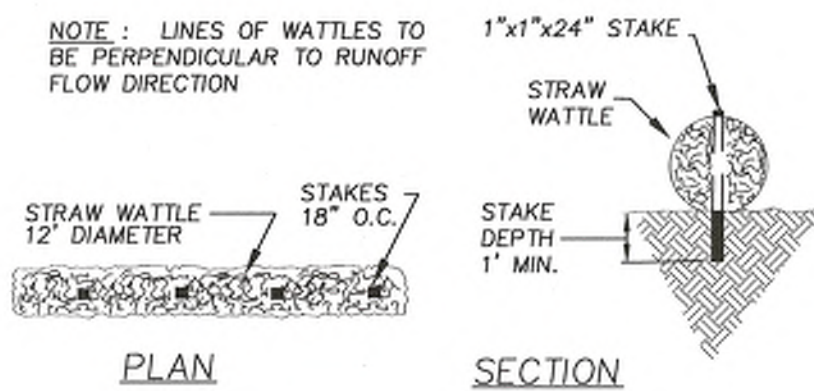
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EROSION AND SEDIMENTATION ARE CONTROLLED. THIS PLAN SHALL BE ADAPTED TO FIT THE CONTRACTOR'S EQUIPMENT, WEATHER CONDITIONS, AND ANY ORDERS OF CONDITIONS ISSUED BY THE CITY/TOWN OR ANY OTHER REGULATORY AGENCY.
2. THE MOST IMPORTANT ASPECTS OF CONTROLLING EROSION AND SEDIMENTATION ARE LIMITING THE EXTENT OF DISTURBANCE AND STABILIZING SURFACES AS SOON AS POSSIBLE. OF SECONDARY IMPORTANCE IN EROSION CONTROL IS THE LIMITING THE SIZE AND LENGTH OF THE TRIBUTARY DRAINAGE AREA WITHIN THE WORK SITE AND DRAINAGE STRUCTURES. THESE FUNDAMENTAL PRINCIPLES SHALL BE THE KEY FACTOR IN THE CONTRACTOR'S CONTROL OF EROSION ON THE SITE.
3. THE EXISTING SOIL CONDITIONS PROVIDE THE POTENTIAL OF RUNOFF TO OFF-SITE AREAS WITH EROSION POTENTIAL.
4. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY DIVERSION SWALES AND SETTLING BASINS IN AREAS OF FUTURE CONSTRUCTION. CONSTRUCTION IS PERMITTED BEYOND THE LIMIT OF DISTURBANCE ONLY WHEN ADDITIONAL DRAINAGE MEASURES OR STABILIZATION MEASURES ARE NEEDED, AND SHALL BE SUBJECT TO APPROVAL BY THE CITY/TOWN. PRIOR TO WORK OUTSIDE OF DESIGNATED LIMIT OF DISTURBANCE LINE. THE LIMIT OF DISTURBANCE LINE SHALL BE THE EROSION CONTROL BARRIER.
5. ALL DISTURBED SURFACES SHALL BE STABILIZED A MINIMUM OF 14 DAYS AFTER CONSTRUCTION IN ANY PORTION OF THE SITE HAS CEASED OR IS TEMPORARILY HALTED UNLESS ADDITIONAL CONSTRUCTION IS INTENDED TO BE INITIATED WITHIN 21 DAYS. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION CONTROL DEVICES ON-SITE. ALL EROSION CONTROL DEVICES SHALL BE REGULARLY INSPECTED. ANY SEDIMENTS REMOVED FROM THE CONTROL DEVICES SHALL BE DISPOSED OF OUTSIDE OF THE 100' WETLANDS BUFFER ZONE.
7. AT NO TIME SHALL SILT-LADEN WATER BE ALLOWED TO ENTER SENSITIVE AREAS (WETLANDS, OFF-SITE AREAS AND DRAINAGE SYSTEMS). ANY RUNOFF FROM DISTURBED SURFACES SHALL BE DIRECTED THROUGH SETTLING BASINS AND EROSION CONTROL BARRIERS PRIOR TO ENTERING ANY SENSITIVE AREAS.

PRELIMINARY SITE WORK:

1. MATERIAL REMOVED SHOULD BE STOCKPILED, SEPARATING THE TOPSOIL FOR FUTURE USE ON THE SITE. EROSION CONTROLS SHALL BE UTILIZED ALONG THE DOWNSLOPE SIDE OF THE PILES IF THE PILES ARE TO REMAIN MORE THAN THREE WEEKS OR SUBJECT TO EROSION CONDITIONS SUCH AS INTENSE RAIN, WIND OR OTHER EXPOSURE.
2. STOCKPILES SHALL BE LOCATED AS SPECIFIED HEREIN AND AS REQUIRED. SHOULD ADDITIONAL AREAS BE NEEDED THEY SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE, IN AREAS OF MINIMAL IMPACT. IF A STOCKPILE IS LOCATED ON A SLOPE, THE RUNOFF SHALL BE DIRECTED AWAY FROM THE PILE.
3. IF INTENSE RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL STRAWBALE DIKES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED.
4. IF THE SITE CONSTRUCTION OCCURS AT ANY TIME OTHER THAN THE MAY - NOVEMBER CONSTRUCTION SEASON, THE SITE DRAINAGE SYSTEM SHALL BE INSTALLED, MAINTAINING HYDRAULIC CAPACITY, PRIOR TO ANY ROUGH GRADING IN THE BUFFER ZONE.
5. INLET SEDIMENT CONTROL DEVICES SHALL BE INSTALLED ON ALL CATCHBASINS ADJACENT TO THE LIMIT OF WORK, EVEN IF OUTSIDE THE DELINEATED LIMIT OF WORK. THE GENERAL CONTRACTOR SHALL MONITOR AND EMPTY AND/OR REPLACE ON AN AS NEEDED BASIS.

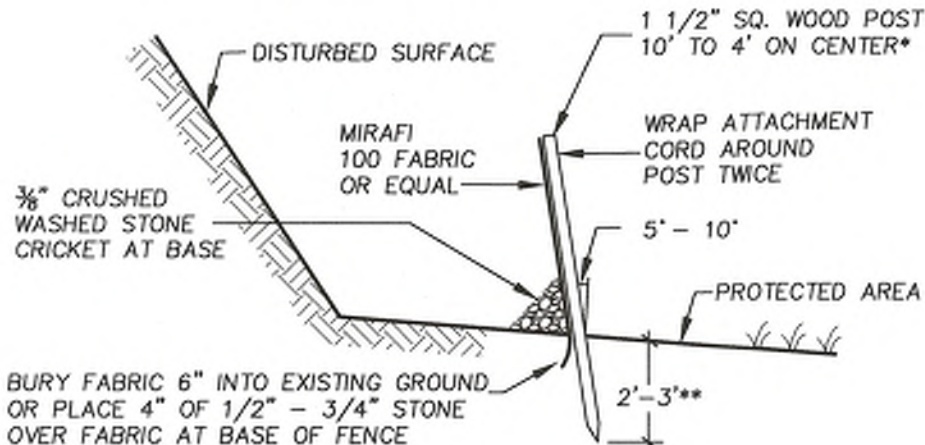
DRAINAGE SYSTEM:

1. THE DRAINAGE SYSTEM SHALL BE INSTALLED FROM THE DOWNSTREAM END UP.
2. A SILT FENCE SHALL BE INSTALLED AT THE OUTFALL OF ALL TEMPORARY BASINS AND SWALES. IT SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY AREAS ARE STABILIZED.
3. WATER SHALL NOT BE ALLOWED TO ENTER PIPES FROM UN-STABILIZED SURFACES. SILT FENCE SHALL BE MONITORED, CLEANED & REPLACED AS NEEDED ON A REGULAR BASIS. SEE NPDES SWPPP REQUIREMENTS, IF APPLICABLE.
4. TRENCH EXCAVATIONS SHALL BE LIMITED TO THE MINIMUM LENGTH REQUIRED FOR DAILY PIPE INSTALLATION. ALL TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE. THE ENDS OF PIPES SHALL BE CLOSED NIGHTLY WITH PLYWOOD AND BACKER BOARD.
5. IF UNSTABLE AREAS ARE ENCOUNTERED DUE TO NATURAL SPRINGS OR GROUNDWATER BREAKOUT, INTERCEPTOR DRAINS SHALL BE INSTALLED TO DIRECT THE RUNOFF INTO THE DRAINAGE SYSTEM, SEE DETAILS.
6. IT IS IMPORTANT THAT THE BINDER COURSE, WITH BERMS, BE INSTALLED ON THE LIMITS OF THE PARKING LOT AND ACCESS ROADS AS SOON AS FEASIBLE AS THESE AREAS WILL FUNCTION AS A CONDUIT FOR RUNOFF.



STRAW WATTLES

NOT TO SCALE



- * STEEL POST MAY BE SUBSTITUTED. DISTANCE BETWEEN POSTS TO VARY AS REQUIRED BY TRIBUTARY AREA: 10' FOR 100 SF/LF FENCE, 6' FOR 500 SF/LF FENCE
- ** DEPTH TO VARY WITH TRIBUTARY AREA: 2' FOR 100 SF ETC. IF POST IS TO BE SET IN PEAT OR UNSTABLE SOILS, THEN 3' OR DEPTH NECESSARY TO PROVIDE A STABLE POST FOR LOADED FENCE CONDITIONS

SILT FENCE DETAIL

NOT TO SCALE

INSTALLATION OF UTILITIES:

1. CARE SHALL BE TAKEN TO ASSURE THAT THE UTILITY TRENCHES DO NOT CHANNELIZE RUNOFF TOWARDS EXISTING STREETS OR OTHER OFF-SITE AREAS.
2. THE INSTALLATION OF SUBSURFACE UTILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.
3. TRENCH EXCAVATIONS SHALL BE LIMITED TO THE MINIMUM LENGTH REQUIRED FOR DAILY UTILITY INSTALLATION. ALL TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE.

LANDSCAPING:

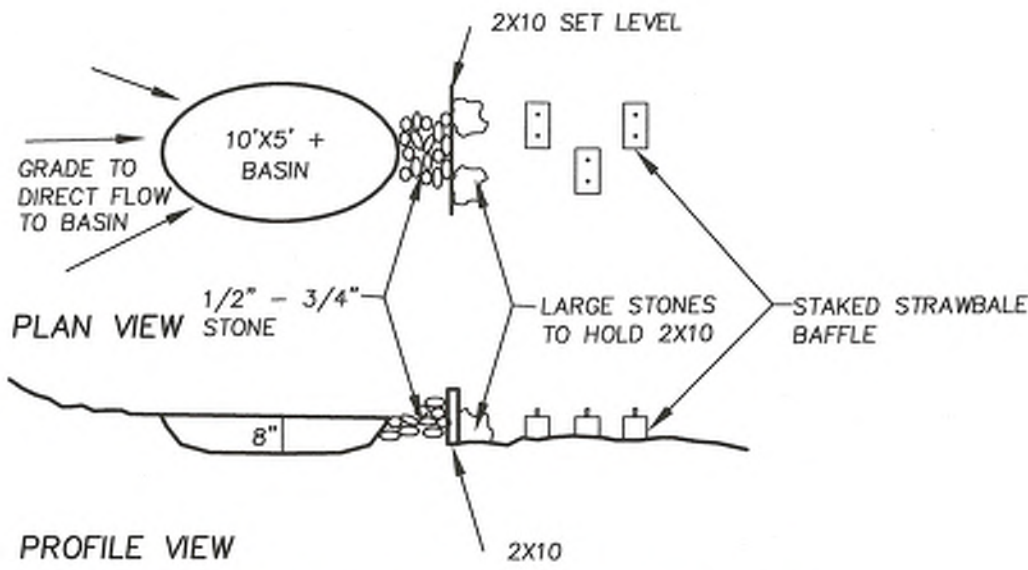
4. LANDSCAPING SHALL OCCUR AS SOON AS POSSIBLE TO PROVIDE PERMANENT STABILIZATION OF DISTURBED SURFACES.
5. CONTRACTOR SHALL UTILIZE A VARIETY OF SLOPE STABILIZATION METHODS AND MATERIALS WHICH SHALL BE ADJUSTED TO THE SITE CONDITIONS. EROSION CONTROL BLANKETS OR MIRAFI MIRAMAT (OR SIMILAR PRODUCTS) SHALL BE AVAILABLE ON SITE.
6. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT ALLOW THE ESTABLISHMENT OF VEGETATION, TEMPORARY MULCHING WITH STRAW, TACKIFIED WOOD CHIPS OR OTHER METHODS SHALL BE PROVIDED.
7. A MINIMUM OF 6" TOPSOIL SHALL BE PLACED AND ITS SURFACE SMOOTHED TO THE SPECIFIED GRADES.
8. SEED APPLICATIONS SHALL BE IN ACCORDANCE WITH THE GRASS AND SLOPE COVER SPECIFICATIONS.

PRE-CONSTRUCTION:

1. AN EROSION CONTROL BARRIER SHALL BE INSTALLED AS DEPICTED ON THE SITE PLAN, BETWEEN THE AREAS TO BE DISTURBED AND WETLAND AREAS. THIS BARRIER SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY SURFACES HAVE BEEN FULLY STABILIZED. THE EROSION CONTROL BARRIERS AS SHOWN ON THE SITE PLAN ARE THE MINIMUM REQUIRED TO PROTECT THE ON & OFF SITE DRAINAGE SYSTEMS.
2. PHOTOGRAPHS AND/OR VIDEO IMAGES OF THE PRE-CONSTRUCTION CONDITION OF THE SITE AND SURROUNDING AREAS, ESPECIALLY THE ADJACENT STREETS SHALL BE TAKEN, DEVELOPED AND DATED. A COPY OF THESE MATERIALS SHALL BE SUBMITTED TO THE PERMIT GRANTING AUTHORITY AND OWNER FOR THEIR FILES. THESE PICTURES AND IMAGES SHALL REFERENCE EXISTING SITE CONDITIONS AND PERMANENT REFERENCE MARKS TO ENABLE RECOGNITION OF THE AREA BEING PHOTOGRAPHED, AND SHALL REPRESENT A COMPREHENSIVE VIEW OF THE SITE PRIOR TO DEVELOPMENT.
3. THE CONTRACTOR SHALL ESTABLISH A STAGING AREA ON A PORTION OF THE AREA TO BE DISTURBED FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS. THE STAGING AREA SHALL BE OUTSIDE OF THE 100' WETLANDS BUFFER ZONE.
4. IN THE STAGING AREA, THE CONTRACTOR SHALL HAVE A STOCKPILE OF MATERIALS REQUIRED TO CONTROL EROSION ON-SITE TO BE USED TO SUPPLEMENT OR REPAIR EROSION CONTROL DEVICES. THESE MATERIALS SHALL INCLUDE, BUT ARE NOT LIMITED TO: STRAWBALES, SILT FENCE AND CRUSHED STONE.
5. A TEMPORARY STONE CONSTRUCTION ENTRANCE IS REQUIRED TO PREVENT TRACKING OF SILT, MUD, ETC. ONTO EXISTING ROADS. THE STONE SHALL BE REPLACED REGULARLY AS WELL AS WHEN THE STONE IS SILT LADEN OR EQUIPMENT IS OBSERVED TO BE TRACKING SOIL ONTO THE ROADWAYS.
6. THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL ON SITE AND SHALL UTILIZE EROSION CONTROL MEASURES WHERE NEEDED, REGARDLESS OF WHETHER THE MEASURES ARE SPECIFIED HEREIN, ON THE PLAN OR IN ANY ORDER OF CONDITIONS.

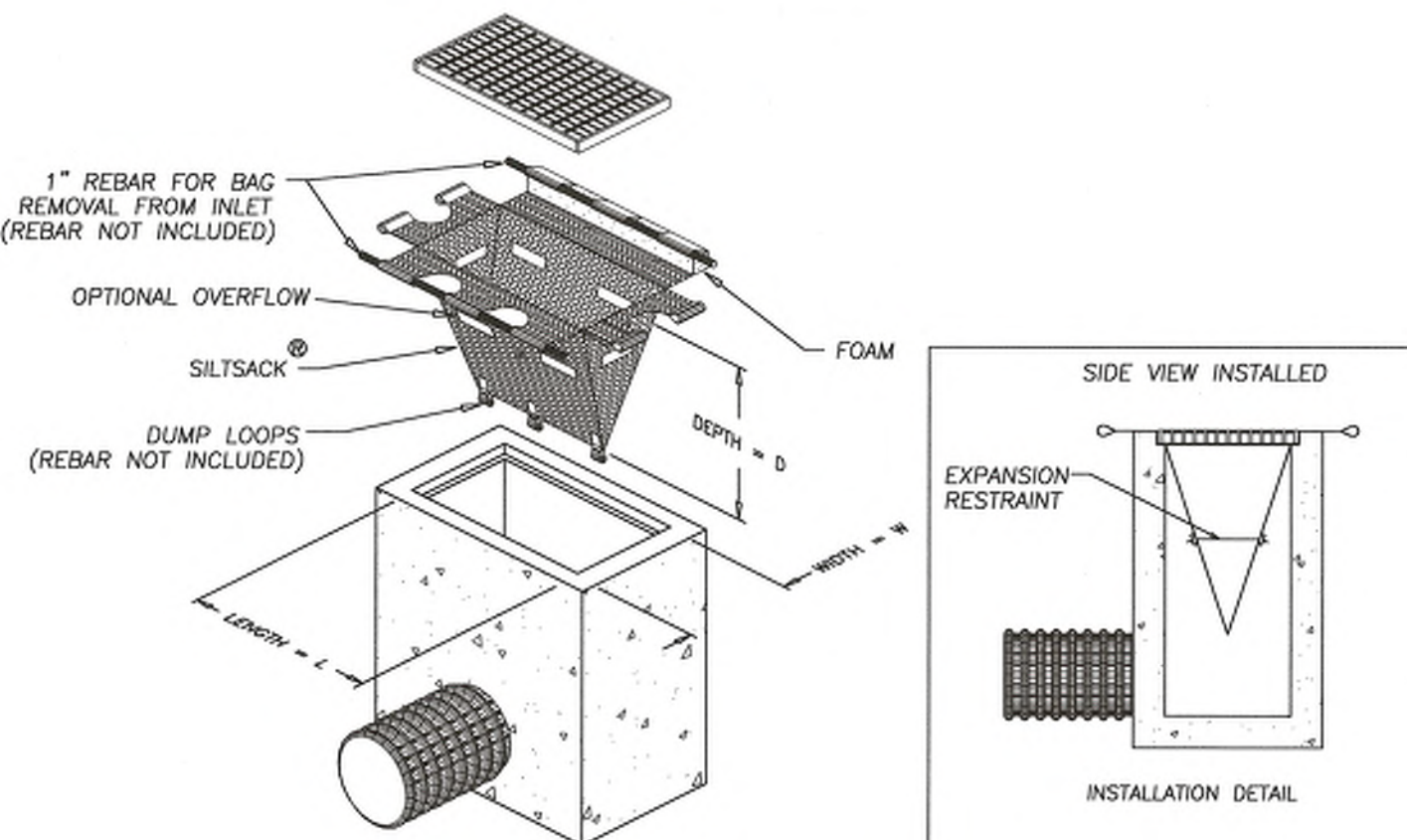
GENERAL CONSTRUCTION REQUIREMENTS:

1. ANY REFUELING OF CONSTRUCTION VEHICLES AND EQUIPMENT SHALL TAKE PLACE OUTSIDE OF THE 100 FOOT BUFFER ZONE TO THE ENTRANCE TO THE DRAINAGE SYSTEM AND SHALL NOT BE CONDUCTED IN PROXIMITY TO SEDIMENTATION BASINS OR DIVERSION SWALES, AND BE PERFORMED OFF-SITE IF POSSIBLE.
2. NO ON-SITE DISPOSAL OF SOLID WASTE, INCLUDING BUILDING MATERIALS IS ALLOWED IN THE 100 FOOT BUFFER ZONE. THE BURIAL OF STUMPS, CONSTRUCTION DEBRIS OR OTHER MATERIALS SHALL NOT BE ALLOWED ANYWHERE ON-SITE.
3. NO MATERIALS SHALL BE DISPOSED OF INTO THE WETLANDS OR EXISTING OR PROPOSED DRAINAGE SYSTEMS. ALL CONTRACTORS INCLUDING: CONCRETE SUPPLIERS, PAINTERS AND PLASTERERS, SHALL BE INFORMED THAT THE CLEANING OF EQUIPMENT IS PROHIBITED IN AREAS WHERE THE WASH-WATER WILL DRAIN DIRECTLY TO THE SITE DRAINAGE SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL WHICH SHALL INCLUDE STREET SWEEPING OF ALL PAVED SURFACES WITHIN THE SITE AND OFF-SITE AREAS THAT ARE IMPACTED BY SITE CONSTRUCTION ON A REGULAR BASIS, AS NEEDED.
5. ALL SUBCONTRACTORS SHALL BE NOTIFIED THAT CLEANING OF EQUIPMENT WITHIN THE 100' WETLAND BUFFER IS NOT PERMITTED, INCLUDING, BUT NOT LIMITED TO, CONCRETE TRUCKS, PAINTERS, PLASTERERS, ETC.



TEMPORARY DEWATERING AREA

NOT TO SCALE



INLET SEDIMENT CONTROL DEVICE

NOT TO SCALE



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING

144 GREENMONT AVE
DRA CUT, MA 01826



PLACES Associates, Inc.



Planning Landscape Architecture Civil Engineering Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

SEDIMENTATION
AND EROSION
CONTROL PLAN

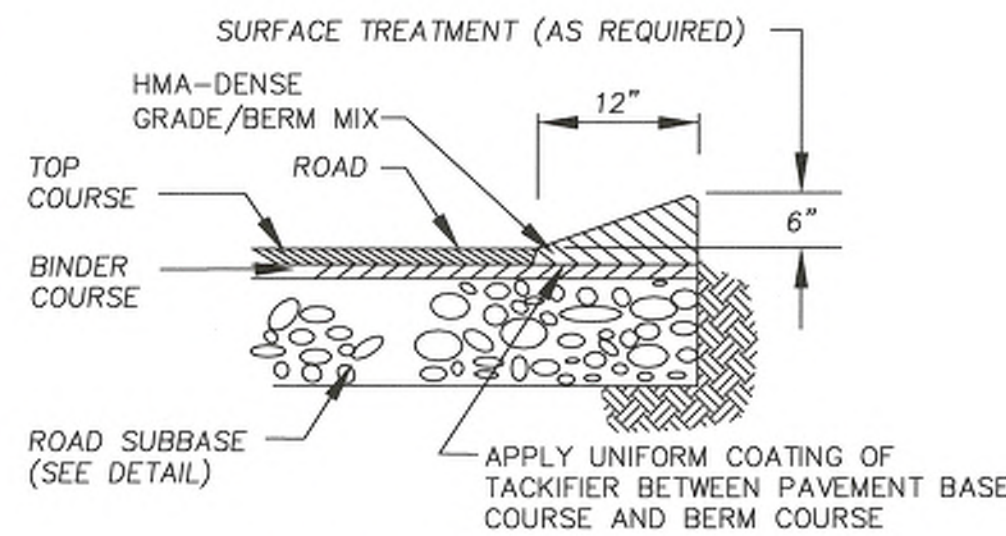
SHEET NO.

C-5

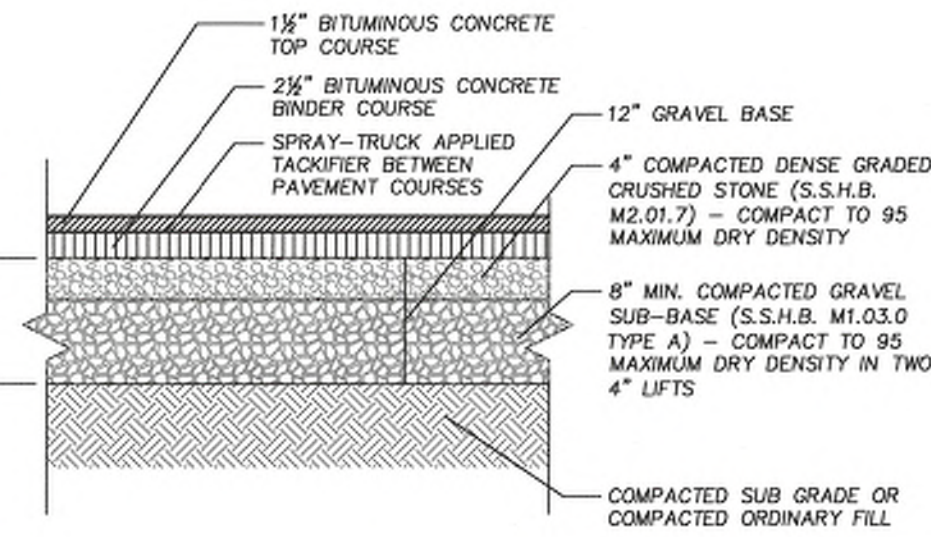
PROJECT NO. 5278

©Copyright BWA Architecture, INC.

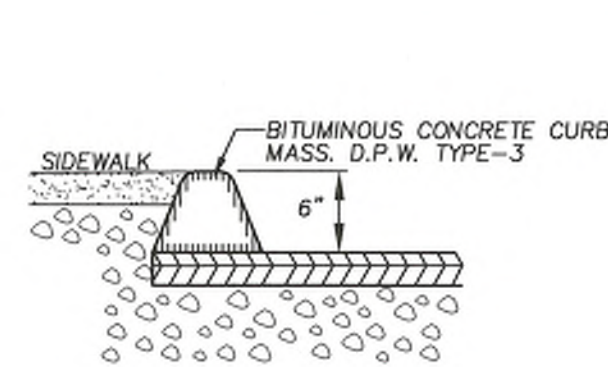
Dec 13, 2023 - 9:04am - 5578 Details Greenmont- 2023.dwg



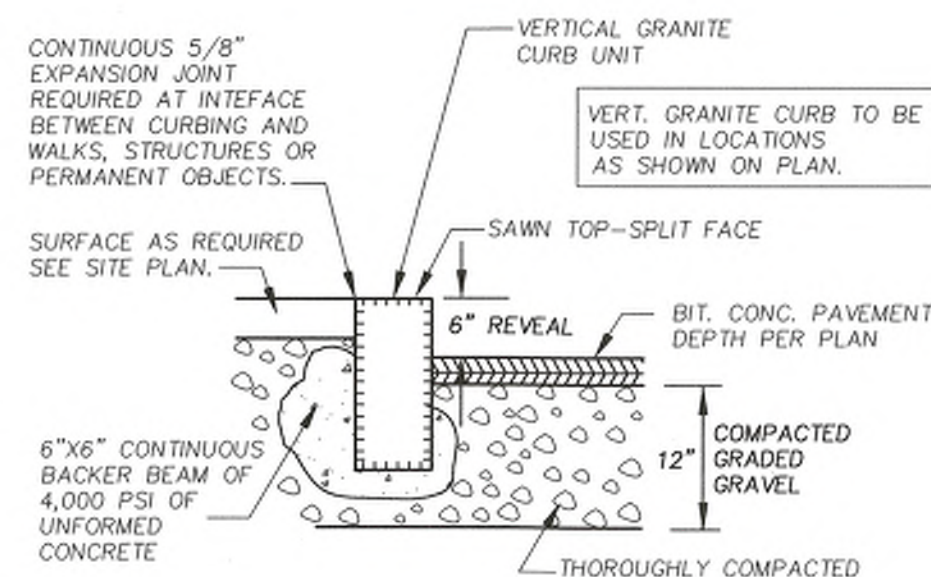
CAPE COD BERM
NOT TO SCALE



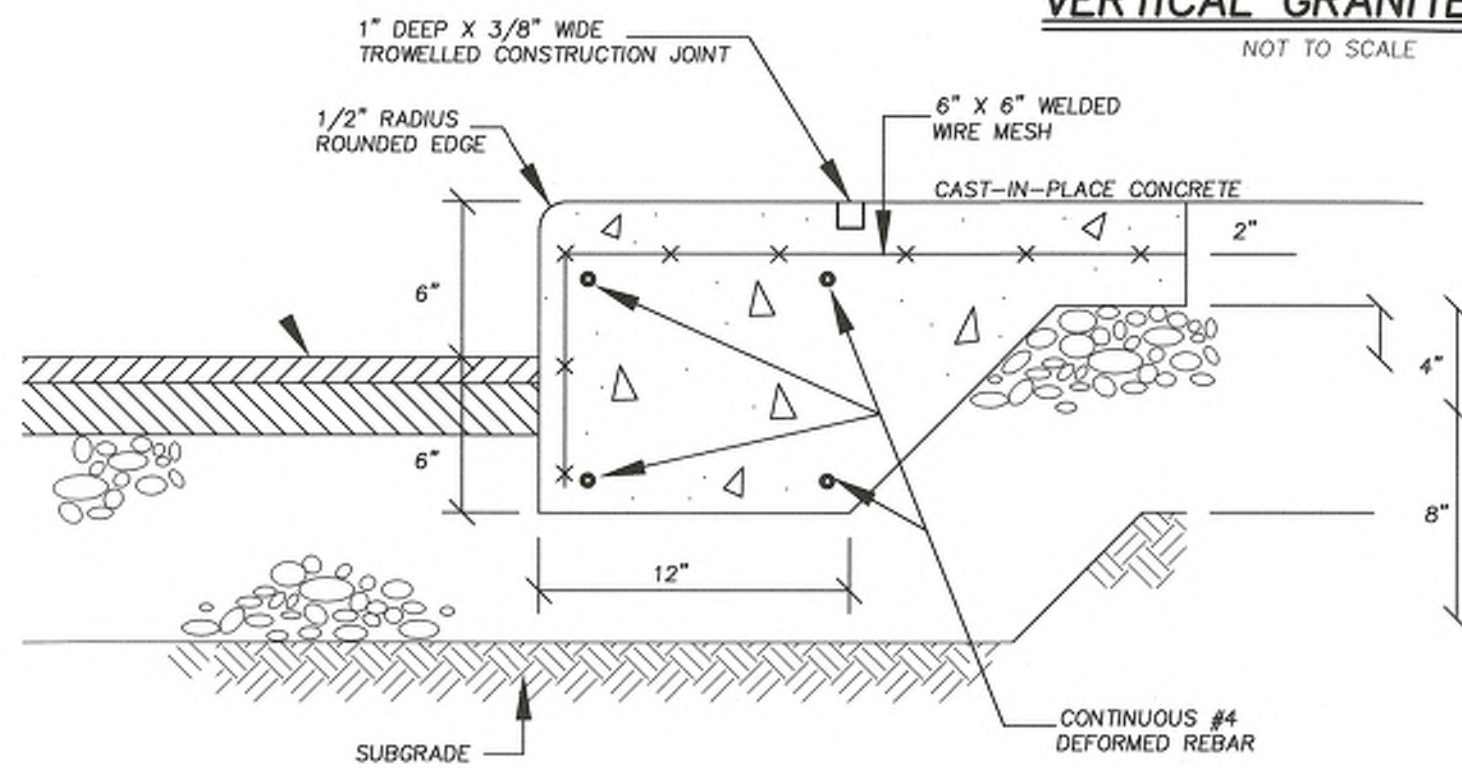
TYPICAL PAVING DETAIL
NOT TO SCALE



BITUMINOUS CONCRETE CURB
NOT TO SCALE

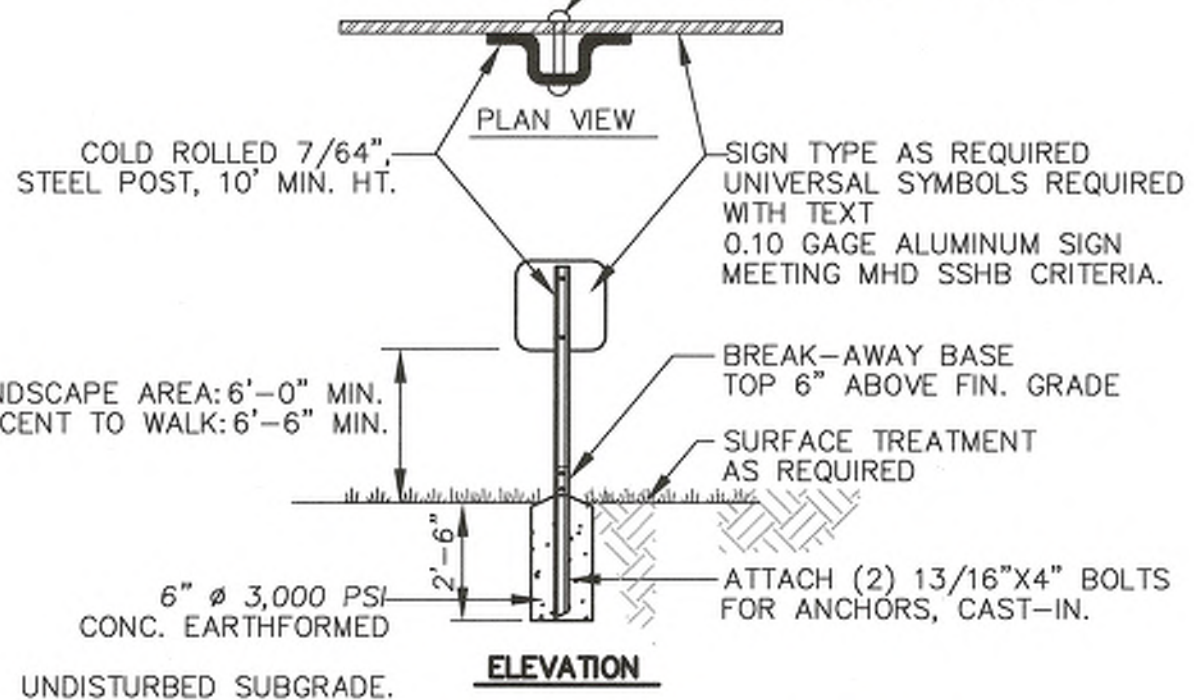


VERTICAL GRANITE CURB
NOT TO SCALE

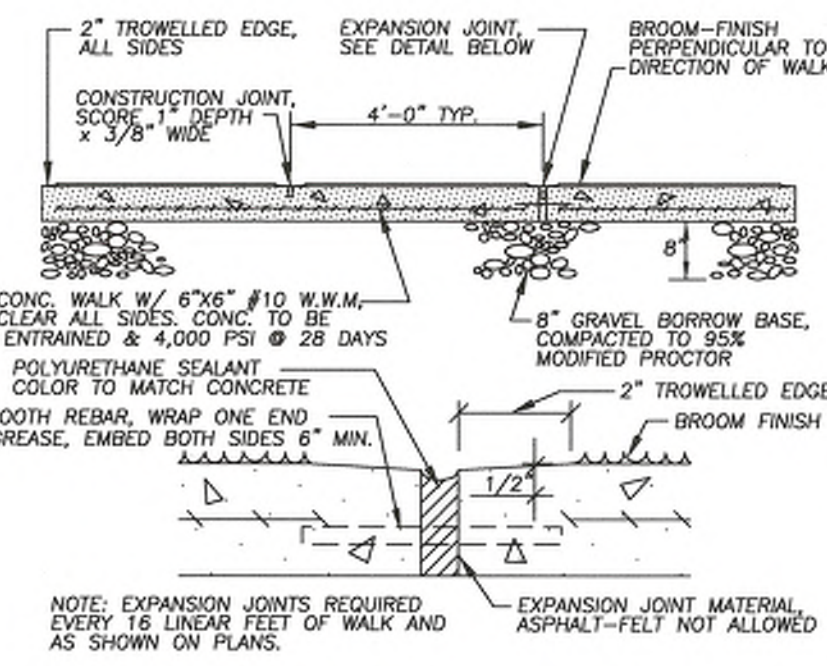
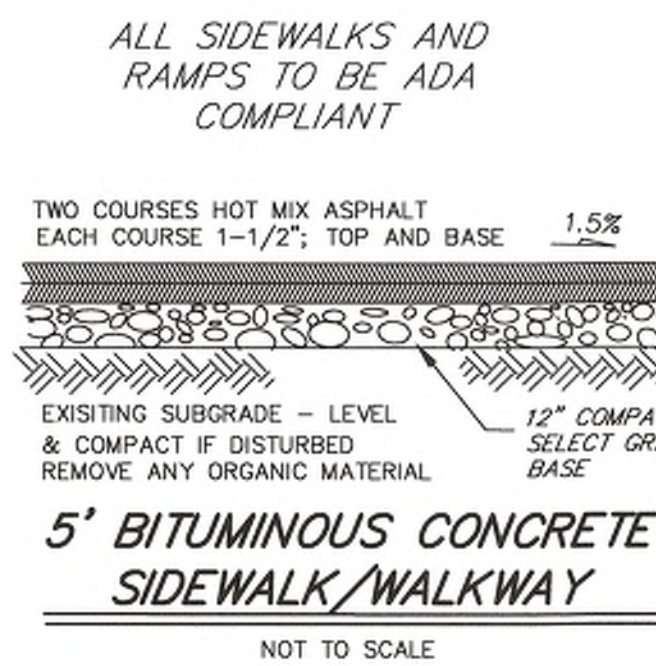


BIT. CONC.-CONC. WALK INTERFACE
NOT TO SCALE

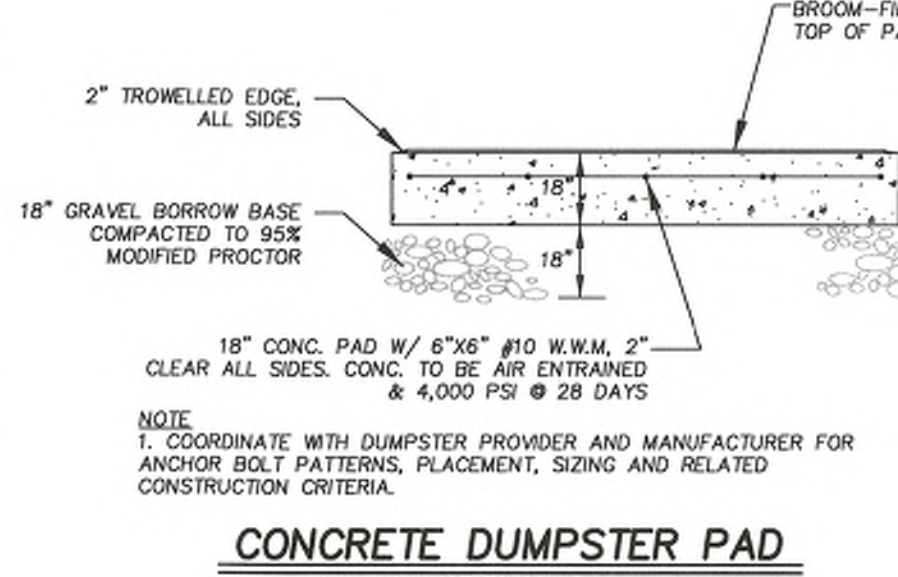
1. ALL SURFACES TO BE PRIMED & PAINTED MEETING MASS. HIGHWAY DEPT. STANDARDS.
2. SIGN CONSTRUCTION & MATERIALS TO CONFORM TO MHD SSHB, SECTION 840, AND M8.18.5.
3. SIGN TYPES REQUIRED: SEE SIGN LEGEND DETAIL.



TYPICAL SITE SIGN
NOT TO SCALE



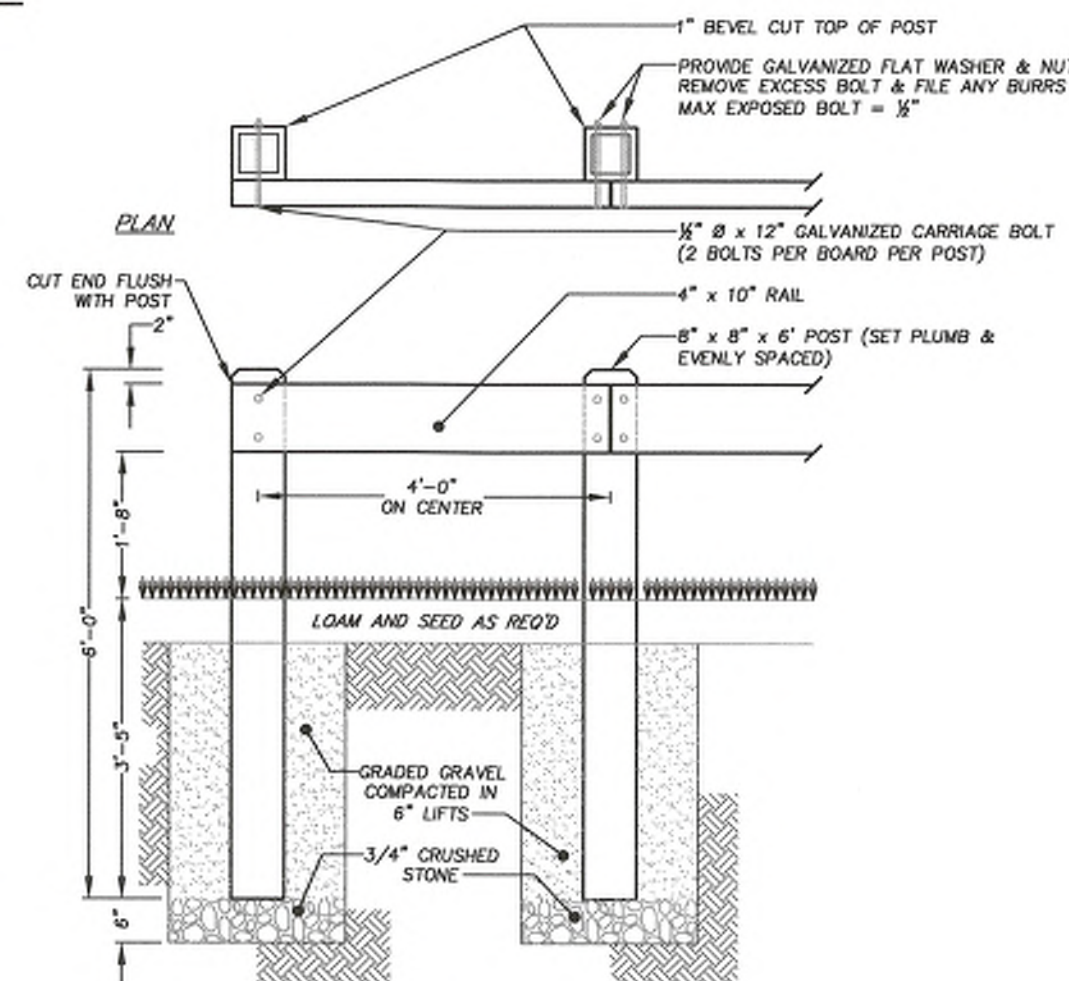
CONCRETE WALK & PADS
NOT TO SCALE



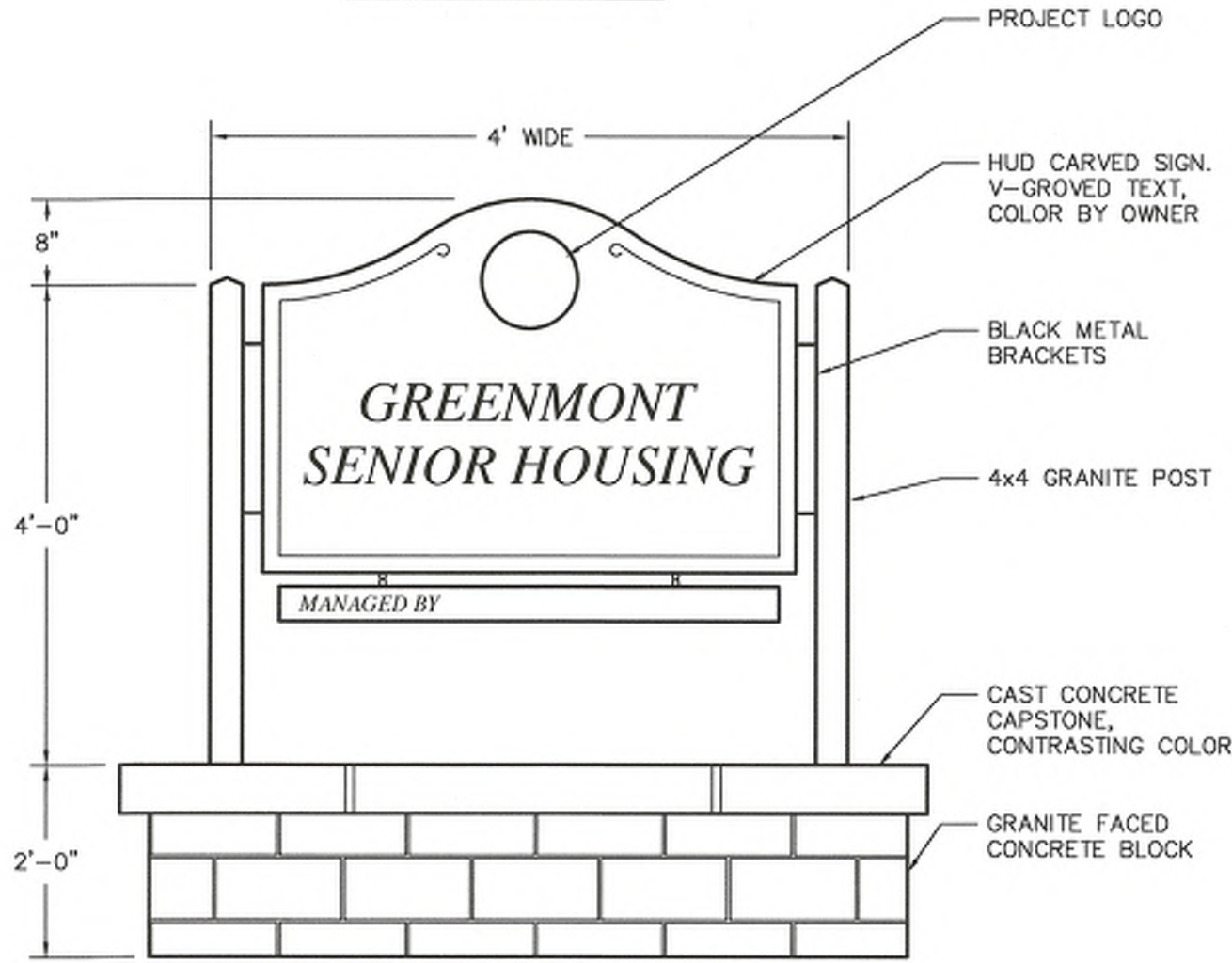
CONCRETE DUMPSTER PAD
NOT TO SCALE

SIGN	LEGEND	DIMENSIONS	SPECIFICATIONS
	R1-1	24" OCTAGONAL	MUTCD
	R7-8	12" X 18"	MUTCD
	R7-8B	12" X 6"	MUTCD
	R7-1	12" X 18"	MUTCD

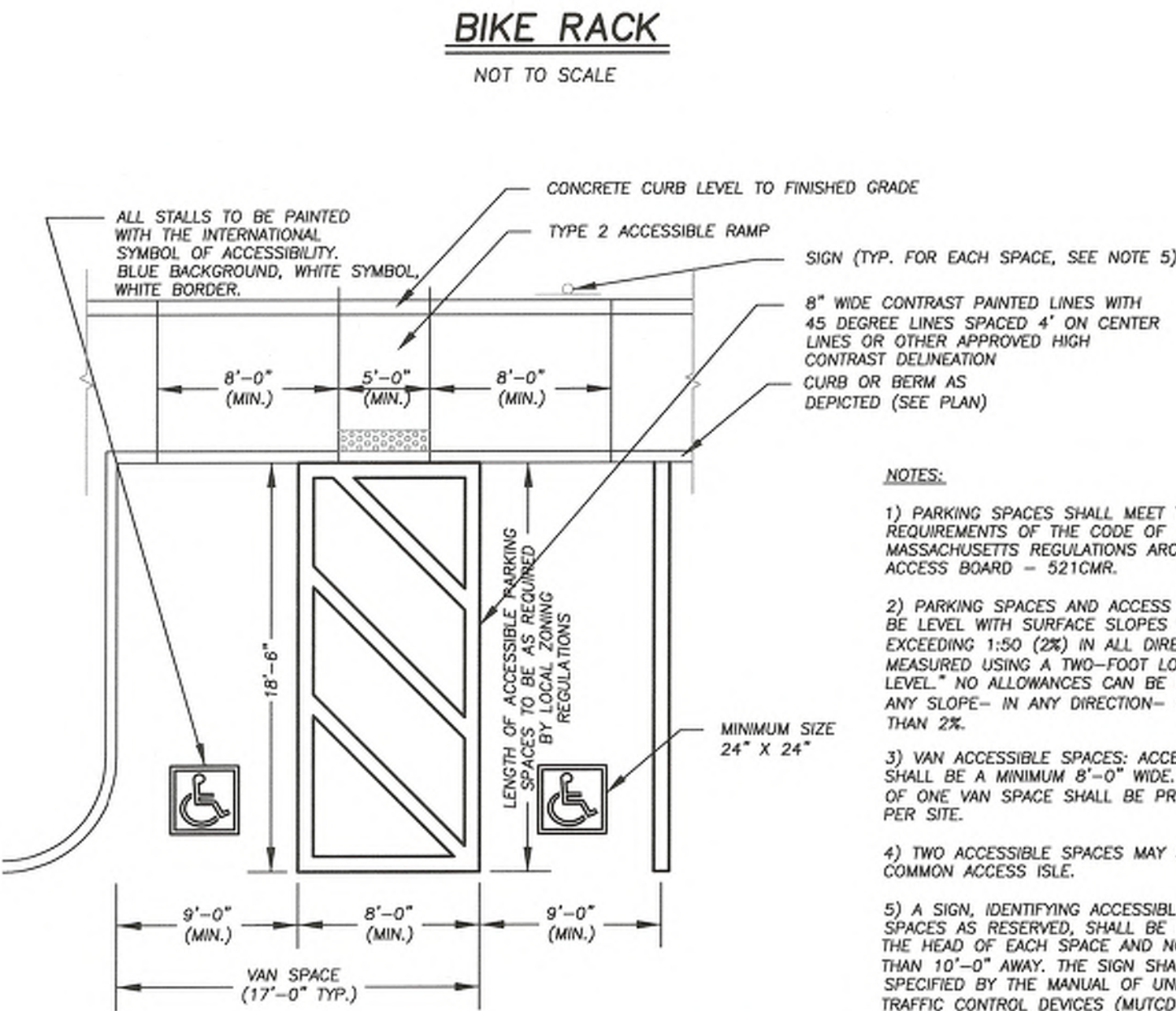
SIGN LEGEND



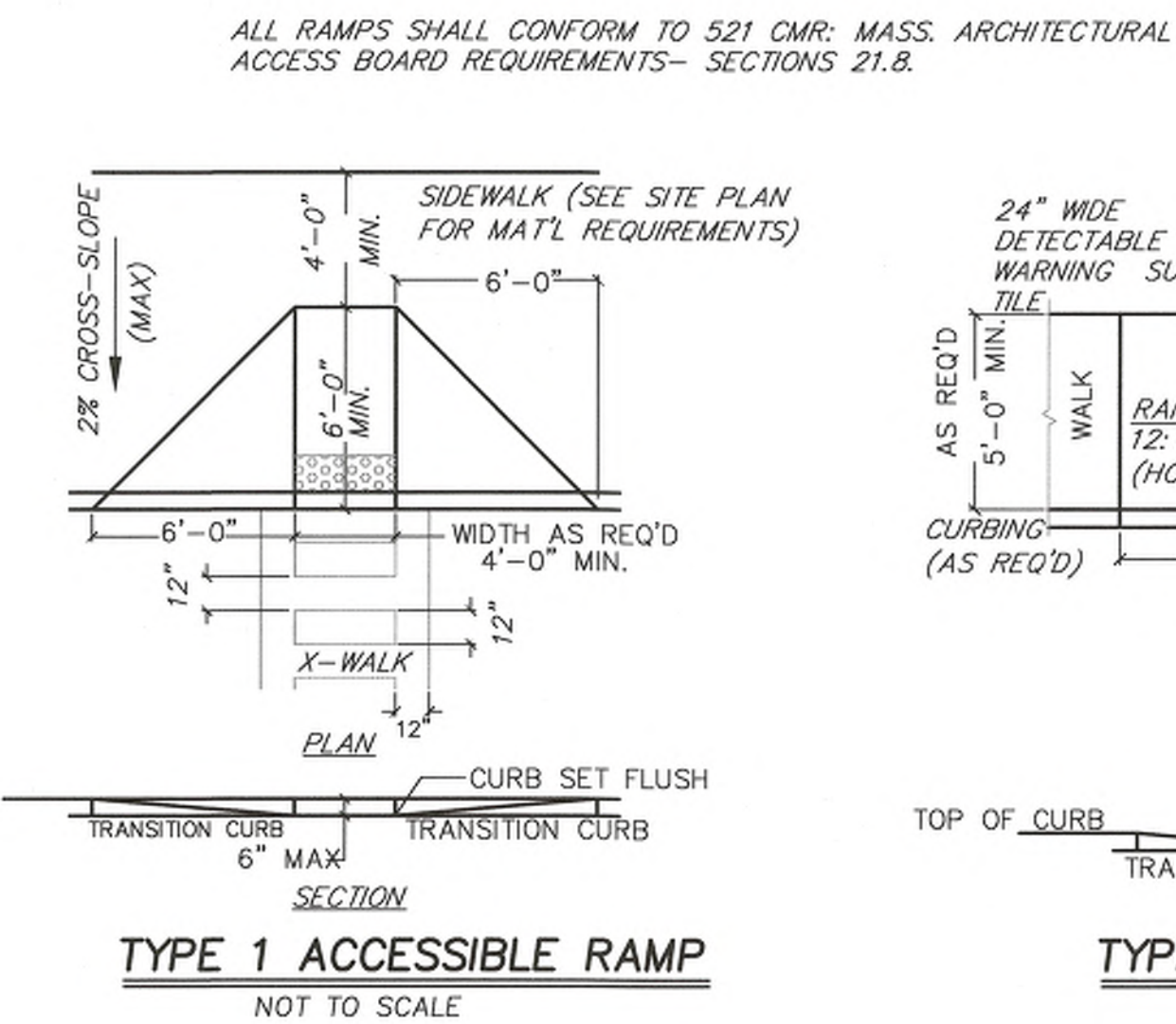
WOOD GUIDE RAIL



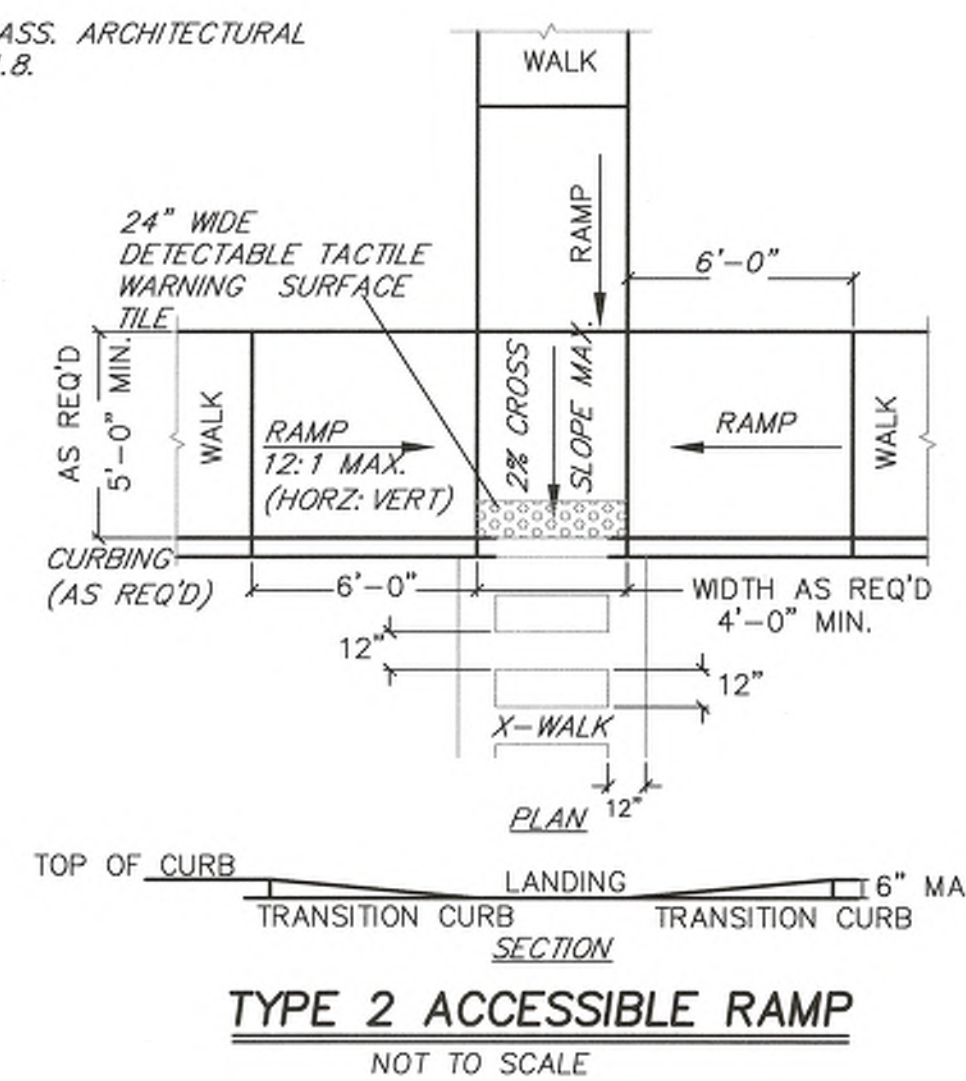
PERMANENT SITE SIGN
NOT TO SCALE



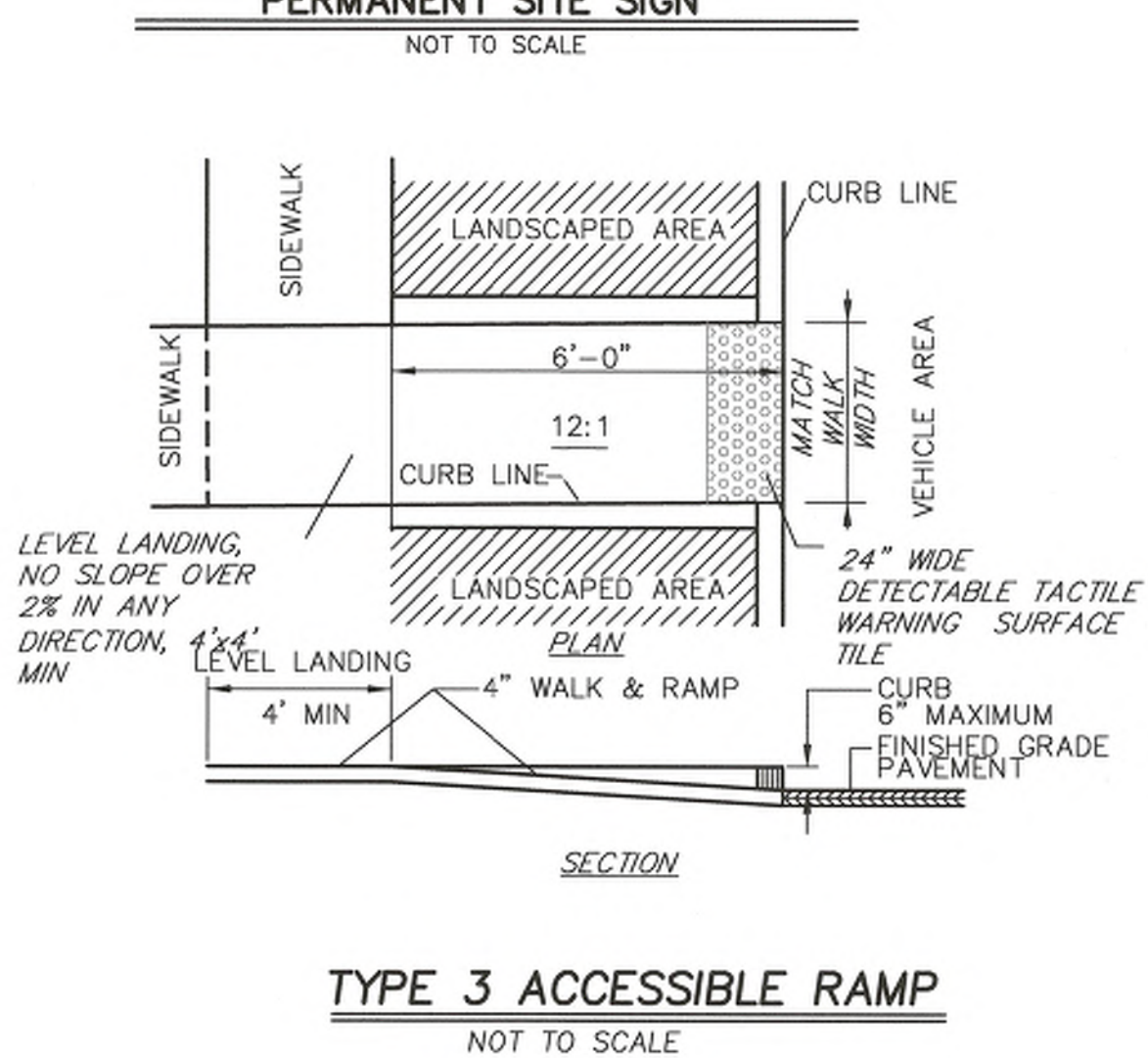
BIKE RACK
NOT TO SCALE



TYPE 1 ACCESSIBLE RAMP
NOT TO SCALE



TYPE 2 ACCESSIBLE RAMP
NOT TO SCALE



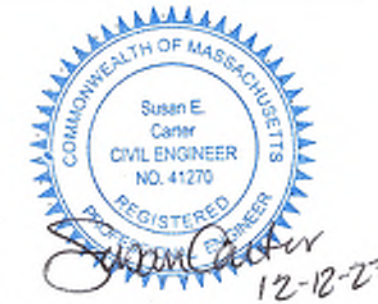
TYPE 3 ACCESSIBLE RAMP
NOT TO SCALE



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.



Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 466-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617-350-7420
www.bwaboston.com

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE
**CONSTRUCTION
DETAILS**

SHEET NO.

C-6

PROJECT NO. 5278
©Copyright BWA Architecture, INC.

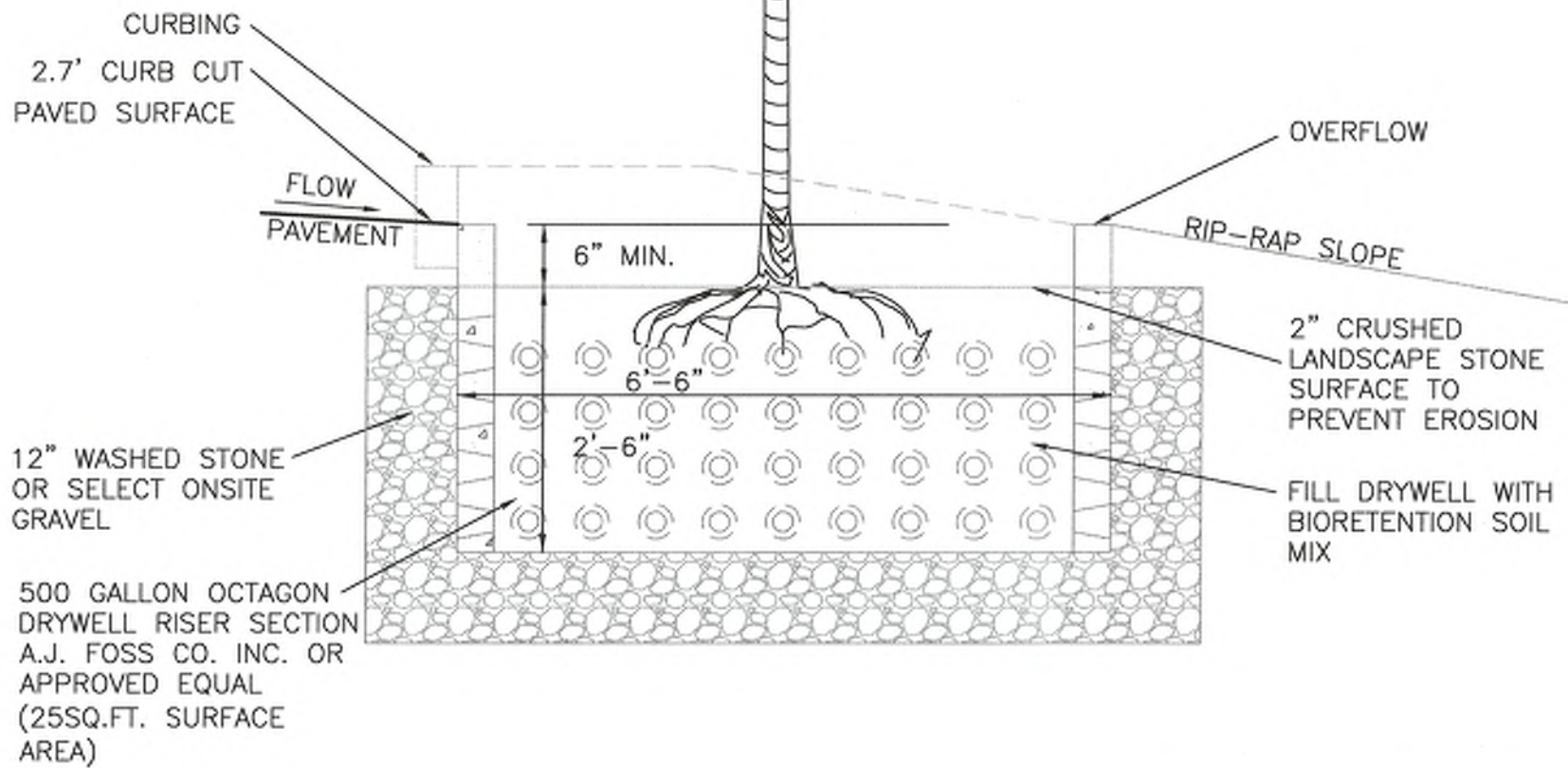
A FLAT GRATE MAY BE SUBSTITUTED IN GRASSED AREAS



NOT TO SCALE



NOT TO SCALE



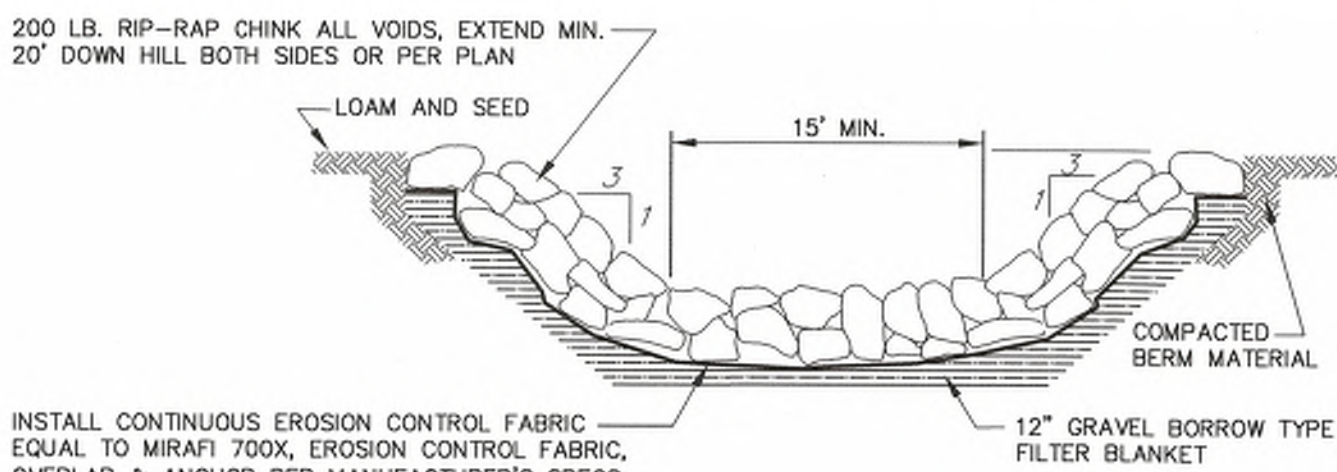
- THE SOIL MIX FOR BIORETENTION AREA SHOULD BE A MIXTURE OF SAND, COMPOST, AND COARSE SAND, 25% TOPSOIL, AND 20% COMPOST (MINIMUM INFILTRATION RATE OF 2 INCHES/HOUR)
- THE MIXTURE SHOULD BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN 2 CLAY CONTENT SHOULD NOT EXCEED 5% PH SHD. SHOULD GENERALLY BE BETWEEN 5.5-6.5, A RANGE THAT IS FAVORABLE FOR MICROBIAL ACTIVITY AND ADSORPTION OF NITROGEN, PHOSPHORUS, AND OTHER POLLUTANTS.
- USE SOILS WITH 1.5% TO 3% ORGANIC CONTENT AND MAXIMUM 500-PPM CHLORIDE
- THE SAND COMPONENT SHOULD BE GRAVELLY SAND THAT MEETS ASTM D 422.

SIEVE SIZE	PERCENT PASSING
2-INCH	100
¾-INCH	70-100
NO. 10	50-80
US NO. 40	15-40
US NO. 200	0-3

- THE TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND OR LOAM TEXTURE.
- THE COMPOST COMPONENT MUST BE PROCESSED FROM YARD WASTE IN ACCORDANCE WITH MASSDEP USE. [SEE WASTEWATER PRINCIPLES/REDUCE/REUSE/RECYCLE](#) IN 4.0
- THE COMPOST SHALL NOT CONTAIN BIOSOLIDS

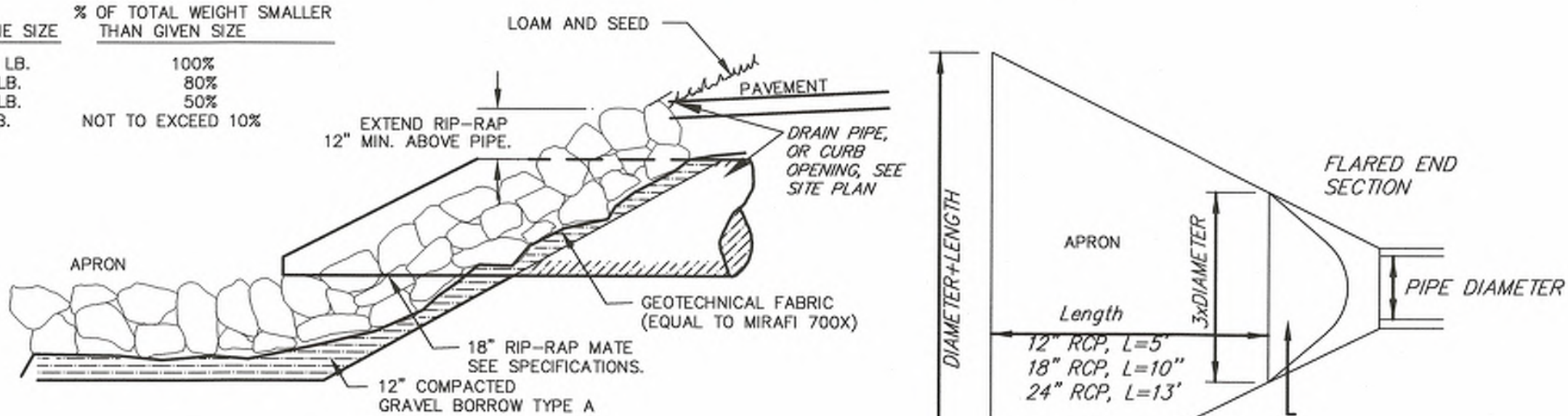
1. ALL STONE SHALL BE CLEAN DURABLE ANGULAR STONE MEETING THE FOLLOWING SPECIFICATIONS:
- | STONE SIZE | % OF WEIGHT SMALLER THAN GIVEN SIZE |
|------------|-------------------------------------|
| 200 LB. | 100% |
| 100 LB. | 75% |
| 75 LB. | 50% |
| 50 LB. | 25% |
| 10 LB. | 10% |
- ROUNDED STONES, BOULDERS, SANDSTONE OR SIMILAR STONE OR RELATIVELY THIN SLAB SHALL NOT BE ACCEPTABLE.

2. THE RIP-RAP SHALL BE UNDERLAYED WITH A FILTER BLANKET CONSISTING OF CLEAN, COARSE GRAVEL WITH NO STONES OVER 4" IN LONGEST DIMENSION AND NO FEWER THAN 10% OF TOTAL VOLUME PASSING A 200# SIEVE.
3. THE FILTER BLANKET NEED NOT BE COMPACTED, BUT SHALL BE GRADED TO A UNIFORM THICKNESS OF 12".
4. THE FILTER BLANKET SHALL BE OVERLAYED WITH A STRUCTURAL/EROSION CONTROL FABRIC OF THE TYPE SPECIFIED. SUCH FABRIC SHALL BE CONTINUOUS IN LENGTHS, EITHER PARALLEL OR PERPENDICULAR TO THE SLOPE AND MUST BE UNDER ALL RIP-RAPPED SURFACES.

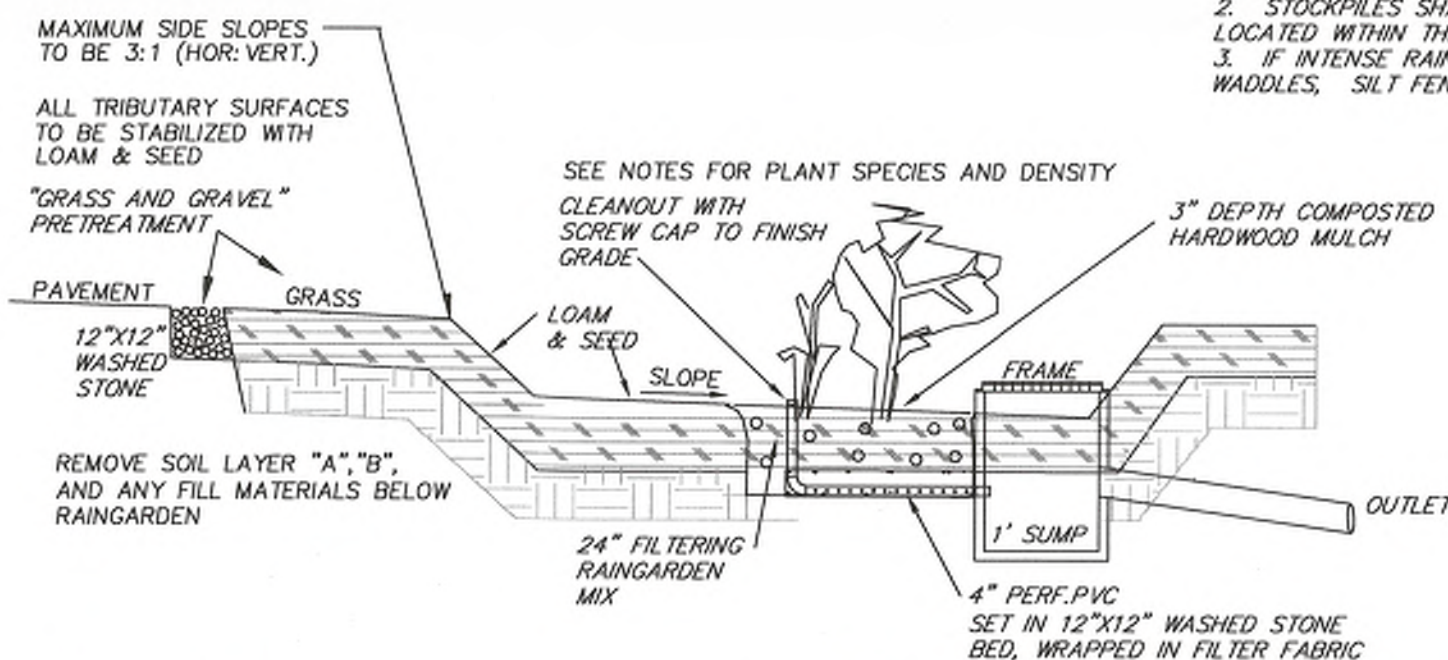


INSTALL CONTINUOUS EROSION CONTROL FABRIC —
EQUAL TO MIRAFT 700X, EROSION CONTROL FABRIC,
OVERLAP & ANCHOR PER MANUFACTURER'S SPECS.

NOT TO SCALE



NOT TO SCALE



NOTES: RAIN GARDEN PLANTING PROPOSE IS BASED ON A VARIETY OF SPECIES BEING AVAILABLE ON THE PLANTING DATE. THE SPECIES LIST PROVIDED PRESENTS A VARIETY OF PLANTS THAT MAY BE SUBSTITUTED FOR ONE ANOTHER BASED ON AVAILABILITY AND SEASON.

PERENNIAL PLANTS SHALL BE 1 PER 10 SQ.FT.
A MINIMUM OF FOUR SPECIES MIXTURE AS LISTED BELOW SHALL BE USED:

- BEE BALM (MONARDA DIDYMA)
SMOOTH ASTER (ASTER LAEVIS)
NEW ENGLAND ASTER (ASTER NOVAE-ANGIAE)
SWAMP SUNFLOWER (HELIUM AUTUMNALE)
MEADOW BLAZING STAR (LAISTRIGULISTYLIS)
BLUE LOBELIA (LOBELIA SIPHILICA)
YELLOW CONEFLOWER (RATIBIDA DINNATA)
BROWN-EYED SUSAN (RUBEDIA SUBTOMETOSA)
PURPLE CONEFLOWER (ECHINACEA PURPUREA)
- SHRUBS SHALL BE 1 PER 40 SQ.FT.
PLANT IN GROUPS OF THREE.

- RED-TWIGGED DOGWOOD (CORNUS SERICEA)
WINTERBERRY (ILEX VERTICILLATA)
BLACK CHOKEBERRY (ARONIA MELANOCARPA)
EASTERN NINEBARK (PHYSCOPARUS OPUFOLIOLUS)
RED ELDERBERRY (SAMBUCUS PUBENS)
NANNYBERRY (VIBURNUM LENTAGO)
HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)
CRANBERRY BUSH (VIBURNUM TRILOBUM)
PUSSY WILLOW (SALIX CAEPREA)
ARROW-WOOD VIBURNUM (VIBURNUM DENTATUM)
DWARF FOTHERGILLA (FOTHERGILLA GARENII)

- INSPECT FOR SEDIMENT BUILD-UP, STRUCTURAL DAMAGE, AND STANDING WATER IN THE SPRING AND FALL. SEDIMENT SHALL BE REMOVED AND AREAS SHALL BE REPAIRED.
- INSPECT SOIL AND REPAIR ERODED AREAS MONTHLY. RE-MULCH VOID AREAS WITH TRIPLE SHREDDED HARDWOOD MULCH(NO DYE) AS NEEDED.
- REMOVE LITTER AND DEBRIS MONTHLY.
- TREAT DISEASED VEGETATION AS NEEDED.
- REMOVE AND REPLACE DEAD VEGETATION TWICE PER YEAR (SPRING AND FALL)
- VEGETATION SHALL BE TRIMMED BIENNIALY AS APPROPRIATE.
- WHEN REPLACING MULCH, REMOVE EXISTING MULCH AND 1-2" OF BIORETENTION MIX (SEE DESIGN PLANS FOR DETAILS) AND REPLACE.

THE SOIL MIX FOR BIORETENTION AREAS SHOULD BE A MIXTURE OF SAND, COMPOST, AND TOPSOIL. THE 2:1:1 RATIO (2:1:1 TOPSOIL, AND 30-40% COMPOST (MINIMUM INFILTRATION RATE OF 2 INCHES/HOUR) THE SOIL MIX MUST BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OF TREES AND OTHERS LARGER THAN 2 INCHES. COMPOST SHOULD NOT EXCEED 10% OF THE MIX. PH SHOULD GENERALLY BE BETWEEN 5.5-6.5, A RANGE THAT IS SUITABLE FOR MICROBIAL ACTIVITY AND ADSORPTION OF NITROGEN, PHOSPHORUS, AND OTHER POLLUTANTS.

USE SOILS WITH 1.5% TO 3% ORGANIC CONTENT AND MAXIMUM 500-PPM SALINITY. SOILS SHOULD BE BROVELLY SIFTED TO REMOVE LUMPS.

THE SAND COMPONENT SHOULD BE A SANDY LOAM, LOAMY SAND OR LOAM.

SIZE	PERCENT PASSING
2-INCH	100
3/4-INCH	70-100
3/8-INCH	50-80
1/4-INCH	30-60
NO. 10	15-40
NO. 20	10-20
NO. 40	5-10

THE TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND OR LOAM.

THE COMPOST COMPONENT MUST BE PROCESSED FROM YARD WASTE IN ACCORDANCE WITH MASSDEP, SEE: [WWW.MASS.GOV/DEP/WATER/RETREAT/LANDUSE/DOCS/COMPOST.HTML](http://www.mass.gov/dep/water/retreat/landuse/docs/compost.html). THE COMPOST SHALL NOT BE GROVELLY SIFTED.

THIS PLAN IS INTENDED TO PROVIDE GUIDANCE AND INSTRUCTION TO THE OWNER AND CONTRACTOR(S) OF THE PREVENTION OF EROSION AND SEDIMENTATION ON AND OFF-SITE. THIS PLAN IS INTENDED TO ALLOW FOR THE PREVENTION OF EROSION AND SEDIMENTATION FROM AFFECTING SURROUNDING WETLANDS AND NEARBY RESIDENTIAL AREAS. THESE MEASURES ARE REQUIRED TO AVOID ANY TYPE OF CONCERN IF, UPON ISSUANCE OF THE ORDER OF CONDITIONS FROM THE DRACUT CONSERVATION COMMISSION, SAID CONDITIONS SHALL SUPERSEDE THE REQUIREMENTS SPECIFIED ON THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THESE MEASURES TO AVOID THEIR ENTRY, SUCH DOCUMENTS INCLUDE THE CONSTRUCTION SPECIFICATIONS, CONSTRUCTION PLANS AND ANY PERMITS ISSUED BY THE DRACUT ZONING BOARD OF APPEALS, DRACUT CONSERVATION COMMISSION, AND THE STATE OF CONNECTICUT.

3. SEE EROSION AND SEDIMENTATION CONTROL PLAN FOR MEASURES TO BE UTILIZED BEFORE, DURING AND AFTER CONSTRUCTION TO PREVENT DUST, SEDIMENT AND RUNOFF FROM AFFECTING SURROUNDING WETLANDS. THESE MEASURES SHALL BE CONSIDERED CONSTRUCTION MEASURES TO AVOID EROSION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL AT ALL TIMES.

4. PRIOR TO CONSTRUCTION OR SITE DISTURBANCE, THE EROSION CONTROL MEASURES (SILT FENCES, SLOTTED CURBS, EROSION CONTROL MATS, EROSION CONTROL LOGS, EROSION CONTROL BARRIERS, EROSION CONTROL TUBES, EROSION CONTROL TUBES) SHALL BE IN PLACE AND FUNCTIONING.

5. PRIOR TO ANY DISTURBANCES, THE CONTRACTOR SHALL CONTACT THE DRACUT ZONING BOARD OF APPEALS TO AVOID ANY TYPE OF CONCERN.

6. LOCATION OF ADJACENT UTILITIES, AS REQUIRED BY LAW.

7. PRIOR TO CONSTRUCTION, ALL SITES SHALL BE DIRECTED TO TEMPORARY SETTLING BASINS UNTIL SURFACES ARE PROTECTED, NO RUNOFF SHALL BE ALLOWED TO GO DIRECTLY TO THE EXISTING OR REPLICATED WETLANDS.

8. ANY LOAM REMOVED FROM AREAS WETLAND AREAS SHALL BE RE-USED AS PART OF THE REPLICATION BACKFILL MATERIAL. LOAM FROM EXCAVATION OF THE UPLANDS AREA SHALL BE RE-USED TO STABILIZE THE EXCAVATION.

9. THE LIMITS OF WORK SHALL BE MARKED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION OR SITE CLEARING.

10. REFUELING OF CONSTRUCTION VEHICLES AND EQUIPMENT SHALL TAKE PLACE OUTSIDE OF THE 100 FOOT BUFFER ZONE TO EXISTING AND PROPOSED WETLANDS AREAS AND SHALL NOT BE CONDUCTED IN PROXIMITY TO SEDIMENTATION BASINS OR OVERFLOW SWALES.

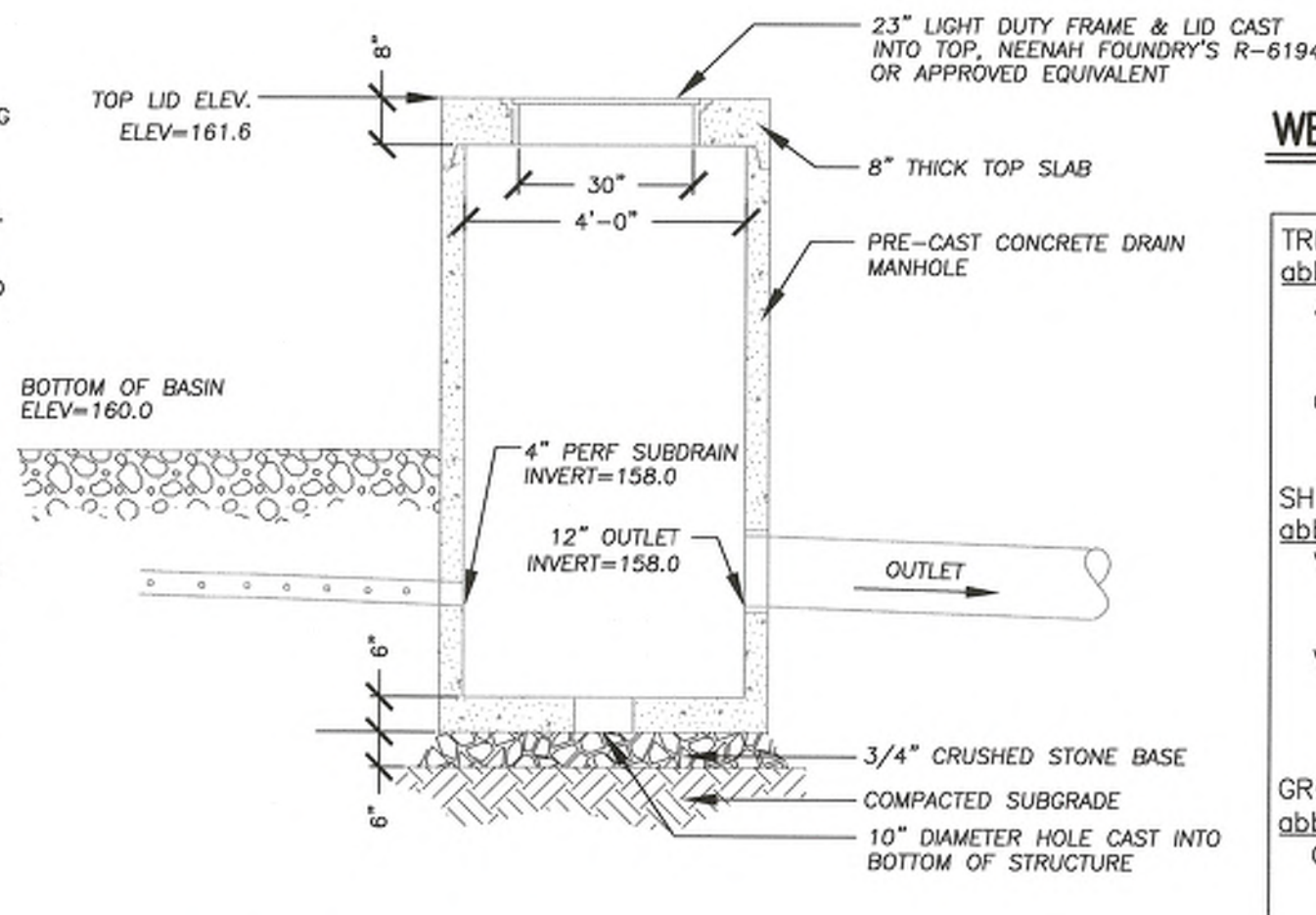
11. ALL BURNED STUMPS, CONSTRUCTION DEBRIS OR OTHER MATERIALS SHALL NOT BE ALLOWED ANYWHERE ON-SITE.

12. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL WHICH SHALL INCLUDE STREET SWEEPING OF ALL ADJACENT STREETS AND ON-SITE AND OFF-SITE AREAS THAT ARE IMPACTED BY SITE CONSTRUCTION ON A REGULAR BASIS, AS NEEDED.

[illegible]

3. A SILTATION BARRIER/WATTLE SHALL BE INSTALLED AS DEPICTED ON THE SITE PLAN, BETWEEN THE AREAS TO BE DISTURBED, WETLAND REPLICATION AREAS, AND WETLAND AREAS. THIS BARRIER SHALL BE CONSTRUCTED OF PLASTIC OR WATTLE. THE BARRIER SHALL BE INSTALLED TO PREVENT EROSION BARRIERS AS SHOWN ON THE SITE PLAN ARE THE MINIMUM REQUIRED TO PROTECT THE ON & OFF SITE DRAINAGE SYSTEMS.
4. PHOTOGRAPHS AND/OR VIDEO IMAGES OF THE PRE-CONSTRUCTION CONDITION OF THE SITE AND THE ADJACENT AREAS, ESPECIALLY THE ADJACENT STREETS SHALL BE TAKEN, DEVELOPED AND DATED. THESE PICTURES AND IMAGES SHALL REFERENCE EXISTING SITE CONDITIONS AND PERMANENT REFERENCE MARKS TO ENABLE RECOGNITION OF THE AREA BEING PHOTOGRAPHED, AND SHALL REPRESENT A COMPREHENSIVE VIEW OF THE SITE PRIOR TO DEVELOPMENT.
5. THE CONTRACTOR SHALL NOT USE A STAGING AREA ON A PORTION OF THE AREA TO BE DISTURBED FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS.
6. IN THE STAGING AREA, THE CONTRACTOR SHALL HAVE A STOCKPILE OF MATERIALS REQUIRED TO CONTROL EROSION ON-SITE TO BE USED TO SUPPLEMENT OR REPAIR EROSION CONTROL DEVICES. THESE MATERIALS SHALL INCLUDE, BUT ARE NOT LIMITED TO: STRAW BALES, STRAW WADDLES, SILT FENCE AND CRUSHED STONE.
7. A TEMPORARY STONE CONSTRUCTION ENTRANCE IS REQUIRED TO PREVENT TRACKING OF SILT, MUD, ETC. ONTO EXISTING ROADS, DRIVEWAYS AND SIDEWALKS. THE STONE SHALL BE REPLACED REGULARLY AS WELL AS THE TEMPORARY STONE CONSTRUCTION ENTRANCE EQUIPMENT IS OBSERVED TO TRACKED ONTO THE DRIVEWAYS. IF SEDIMENT OR MUD IS TRACKED ONTO THE PUBLIC WAYS, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE SEDIMENT.
8. THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL ON SITE AND SHALL UTILIZE EROSION CONTROL MEASURES THROUGHOUT THE PROJECT. REGARDLESS OF WHETHER THE MEASURES ARE SPECIFIED HEREIN, ON THE PLAN OR IN ANY ORDER OF CONDITIONS.

1. ALL ORGANIC MATERIAL REMOVED FROM UPLANDS AREAS TO BECOME REPLICATED WETLANDS SHOULD BE STOCKPILED PRIOR TO FILLING, SEPARATING THE TOPSOIL FOR FUTURE USE ON THE SITE. EROSION CONTROLS SHALL BE UTILIZED ALONG THE DOWNSLOPE SIDE OF THE PILES IF THE PILES ARE TO REMAIN MORE THAN THREE WEEKS OR SUBJECT TO EROSION CONDITIONS SUCH AS INTENSE RAIN, WIND OR OTHER EXPOSURE.
2. STOCKPILES SHALL BE LOCATED AS REQUIRED. SHOULD ADDITIONAL AREAS BE NEEDED THEY SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE, IN AREAS OF MINIMAL IMPACT.
3. IF INTENSE RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL STRAW BALE DIKES, STRAW WADDLES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED.



NOT TO SCALE

1. ALL ORGANIC MATERIAL REMOVED FROM UPLAND AREAS TO BECOME REPLICATED WETLANDS SHOULD BE STOCKPILED PRIOR TO FILLING, SEPARATING THE TOPSOIL FOR FUTURE USE ON THE SITE.
2. THE STOCKPILE SHALL CONSIST OF THREE LAYERS, AS FOLLOWS:
 - 2.1. EXISTING TOP SOIL RECLAIMED FROM ADJACENT UPLAND AREAS
 - 2.2. NATURAL, ORGANIC PEAT MOSS OR WELL- DECOMPOSED LEAF MULCH
 - 2.3. COARSE TO MEDIUM SAND
3. THE EXISTING WETLANDS SOILS SHALL BE SENT TO THE MASSACHUSETTS AGRICULTURAL TESTING STATION, UMASS SOIL AND PLANT NUTRITION TESTING LAB, 203 PAIGE BLVD, 161 HOLDSWORTH WAY, AMHERST, MA 01003-9286; TEL (413) 545-2311; WEB: SOILTEST.UMASS.EDU WHERE A ROUTINE SOIL ANALYSIS SHALL BE PERFORMED. AN ADDITIONAL TEST SHALL BE REQUIRED FOR SOIL ORGANIC MATTER. PRIOR TO PLACING THE STOCKPILE, THE SOIL SHALL BE FIELD TESTED TO MATCH THE EXISTING SOIL'S pH AND ORGANIC CONTENT, BY % OF TOTAL VOLUME. pH SHALL BE FIELD TESTED TO ENSURE THAT THE REPLICATION SOILS MATCH THE ADJACENT EXISTING WETLANDS.

1. PRIOR TO THE INITIATION OF CONSTRUCTION, EROSION CONTROL BARRIERS SHALL BE IN PLACE, SEE STORMWATER POLLUTION PREVENTION PLAN & CONSTRUCTION SEQUENCING. THE LATERAL EXTENT OF BOTH THE AREA OF DISTURBANCE OF UPLANDS AND THE REPLICATION AREAS SHALL BE FIELD STAKED.

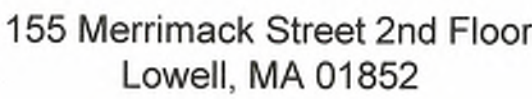
2. EXISTING VEGETATION SHALL BE INSPECTED BY THE WETLAND SCIENTIST TO DETERMINE IF ANY VEGETATION CAN BE SAVED BASED ON THE PROPOSED ELEVATIONS IN THE REPLICATION AREA. PLANT CONDITION AND THE AMOUNT OF SILT IN THE ROUGH STRUCTURE. PLANTS TO BE SAVED SHALL BE PROTECTED WITH ORANGE CONSTRUCTION FENCING.
3. THE RESTORATION AREA SHALL BE CLEARED, GRUBBED AND STRIPPED. WOODY DEBRIS SHALL BE SET ASIDE TO BE SCATTERED ON THE COMPLETED RESTORATION AREA. THE ROUGH GRADES SHALL BE 12" BELOW FINISHED GRADES SHOWN ON THE SITE PLAN.
4. INSTALLATION OF NEW ORGANIC MUCK SOILS SHALL BE INSTALLED IN THE REPLICATION AREA, SPREAD TO A MINIMUM DEPTH OF 12". WETLANDS SOILS SHALL BE MANUFACTURED PER THE DETAIL. CARE SHALL BE TAKEN TO PROTECT THE EXISTING VEGETATION AND SURVEYED WORK AREA FOR THE REPLICATION AREA PLANTINGS. STOCKPILES OF MUCK SOILS SHALL NOT EXCEED 4' IN HEIGHT FOR NO MORE THAN 1 WEEK.
5. UPON COMPLETION OF THE REPLICATION AREA PLANTINGS, ADDITIONAL TEMPORARY EROSION CONTROL BARRIERS SHALL BE INSTALLED AT THE TOE OF THE SLOPE, AT THE INLET/OUTLET TO THE EXISTING ADJACENT LIBRARY PARKWAY CULVERT. THE EXISTING WETLANDS AND REPLICATION AREA AREAS. THESE EROSION CONTROL BARRIERS SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY AREAS ARE STABILIZED.

1. PROVIDE THE SERVICES OF A WETLAND SCIENTIST, LANDSCAPE ARCHITECT, OR OTHER PROFESSIONAL (REFERRED TO AS WETLAND SPECIALIST, HEREAFTER) TO MONITOR AND REPORT ON THE STATUS AND CONFORMANCE OF THE RESTORATION AREAS TO THE WETLANDS RESTORATION PLAN.

2. THE WETLAND SPECIALIST SHALL PROVIDE OVERSIGHT OF ALL EXCAVATION AND GRADING OF WETLAND AREAS, BROADCAST OF SEED, INSTALLATION OF EROSION CONTROL MAT AND INSTALLATION OF PLANT MATERIALS.
3. ALL WORK DEPICTED BY THE REPLICATION PLAN WILL BE COMPLETED IN A SINGLE, UNINTERRUPTED PROCESS, UNLESS OTHERWISE APPROVED OR DIRECTED BY WETLANDS SPECIALIST.
4. PRIOR TO INITIATION OF THE WORK OF THIS SECTION, ALL REQUIRED MATERIALS WILL BE APPROVED, ON-SITE, AND AVAILABLE FOR INSTALLATION.
5. THE WORK DEPICTED BY THE REPLICATION PLAN SHALL NOT INITIATED PRIOR TO, OR DURING RAIN, SNOW OR OTHER CONDITIONS THAT MAY NEGATIVELY AFFECT THE WORK.
6. THE WORK DEPICTED BY THE WETLANDS CROSSING AND REPLICATION PLAN WILL OCCUR BETWEEN THE FOLLOWING DATES, UNLESS WAIVED BY THE BOXBOROUGH CONSERVATION COMMISSION AND WETLAND SPECIALIST; STARTING NO SOONER THAN APRIL 15TH, ENDING NO LATER THAN OCTOBER 31ST OF ANY YEAR.
7. THE WETLAND SCIENTIST SHALL EVALUATE THE QUALITY OF MUCK SOILS FROM THE CROSSING AND THE DENSITY OF ROOTS/SEEDS FROM INVASIVE SPECIES. IF A HIGH PROPORTION OF INVASIVE SPECIES IS PRESENT, EXISTING MUCK SOILS SHALL BE DISCARDED AND MANUFACTURED WETLANDS SOILS SHALL BE UTILIZED IN THE REPLICATION AREA.

- WETLAND SOIL MIXTURE SHALL BE APPLIED AT A UNIFORM DEPTH OF 12" MINIMUM TO ALL EXCAVATED WETLAND RESTORATION AREAS. SHAPED AND SMOOTHED TO FINISH GRADE.
9. NEW ENGLAND WET MIX #43) SEED AS MANUFACTURED BY NEW ENGLAND ENVIRONMENTAL, INC. 800 MAIN STREET, AMHERST, MA 01002 (413)256-0202, OR APPROVED EQUAL. SHALL BE BROADCAST EVENLY (A MANUFACTURERS SPECIFIED SEED RATE) OVER ENTIRE WETLAND RESTORATION AREA PRIOR TO INSTALLATION OF EROSION CONTROL MATTING. IF A DIFFERENT SEED MIX IS PROPOSED, THE CONTRACTOR SHALL PROVIDE MANUFACTURERS SEED SPECIFICATIONS FOR APPROVAL BY THE WETLAND SPECIALIST PRIOR TO BROADCAST OF THE SEED.
10. EROSION CONTROL MATTING SUCH AS "BONTERRA S2", OR APPROVED EQUAL, SHALL BE INSTALLED ALONG THE BANKS AND SLOPES OF THE WETLANDS. WETLAND REFLUPATION AREAS IMMEDIATELY FOLLOWING APPLICATION OF WETLAND SOIL MIXTURE, FINAL GRADING, AND BROADCAST SEEDING.
11. IF NECESSATED BY AVAILABILITY, ALTERNATE WETLAND SPECIES MAY BE SELECTED WITH APPROVAL FROM THE BODENQUAD CONSERVATION COMMISSION, OR AGENT.
12. THE CONTRACTOR SHALL PROVIDE FOR INSPECTION AND APPROVAL BY THE WETLAND SPECIALIST OF ALL PLANT MATERIALS PRIOR TO PLANTING.
13. A MINIMUM OF FOUR CLUSTERS OF FERN PLANTINGS, EACH WITH A MINIMUM OF SIX - ONE (1) GALLON POTS SHALL BE LOCATED WITHIN THE WETLAND RESTORATION AREA BY THE WETLAND SPECIALIST AT THE TIME OF PLANTING.
14. ALL PLANTINGS SHALL BE WATERED AS NEEDED DURING THE FIRST GROWING SEASON TO ENSURE PLANT SURVIVAL.
15. THE CONTRACTOR SHALL RESTRICT THE ESTABLISHMENT OF INVASIVE PLANT SPECIES WITHIN WETLAND RESTORATION AREAS BY IMPLEMENTING REGULAR EVALUATIONS AND HAND WEEDING THROUGHOUT THE FIRST GROWING SEASON FOLLOWING COMPLETED CONSTRUCTION OF WETLAND RESTORATION. ANY INVASIVE SPECIES SHALL BE THOSE IDENTIFIED ON THE "INVASIVE NON-INDIGENOUS PLANTS IN MASSACHUSETTS" BY THE STATE BOTANIST, MA-INWSP OR OTHER APPROVED LIST.
16. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING AND MAINTAINING ALL WETLAND RESTORATION AREAS AND RELATED EROSION CONTROLS THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTROLS SHALL BE ADJUSTED AS REQUIRED BY VARYING SITE CONDITIONS, CONSTRUCTION METHODS, WEATHER AND MATERIALS TO PREVENT ALL EROSION AND DISTURBANCE OF WETLAND RESTORATION AREAS AND OFF-SITE FEATURES.

TREES				
abbrev.	qty	sci. name	common name	specifications
AR	8	<i>Acer rubrum</i>	Red Maple	1 1/2" -2" cal, b&b, single stem
QA	4	<i>Quercus alba</i>	White Oak	1 1/2" -2" cal, b&b, single stem
SHRUBS				
abbrev.	qty	sci. name	common name	specifications
VC	18	<i>Vaccinium corumbosum</i>	Highbush Blueberry	4'ht; 3'spr, b&b or >5 gal pot
VO	12	<i>Viburnum opulus trilobum</i>	Highbush Cranberry	4'ht; 3'spr, b&b or >5 gal pot
GROUND COVER/FERN				
abbrev.	qty	sci. name	common name	specifications
Oc	48	<i>Osmunda claytonia</i>	Interrupted Fern	1 gal pots/plant
Cg	24	<i>Chelone glabra</i>	Turtle Head	1/2 gal pot/plant



GREENMONT SENIOR HOUSING

144 GREENMONT AVE



PLACES Associates, Inc.



256 Great Road, Suite 4
Littleton, MA 01460
(978) 486-0334
www.placesassociates.com



BWA ARCHITECTURE

132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

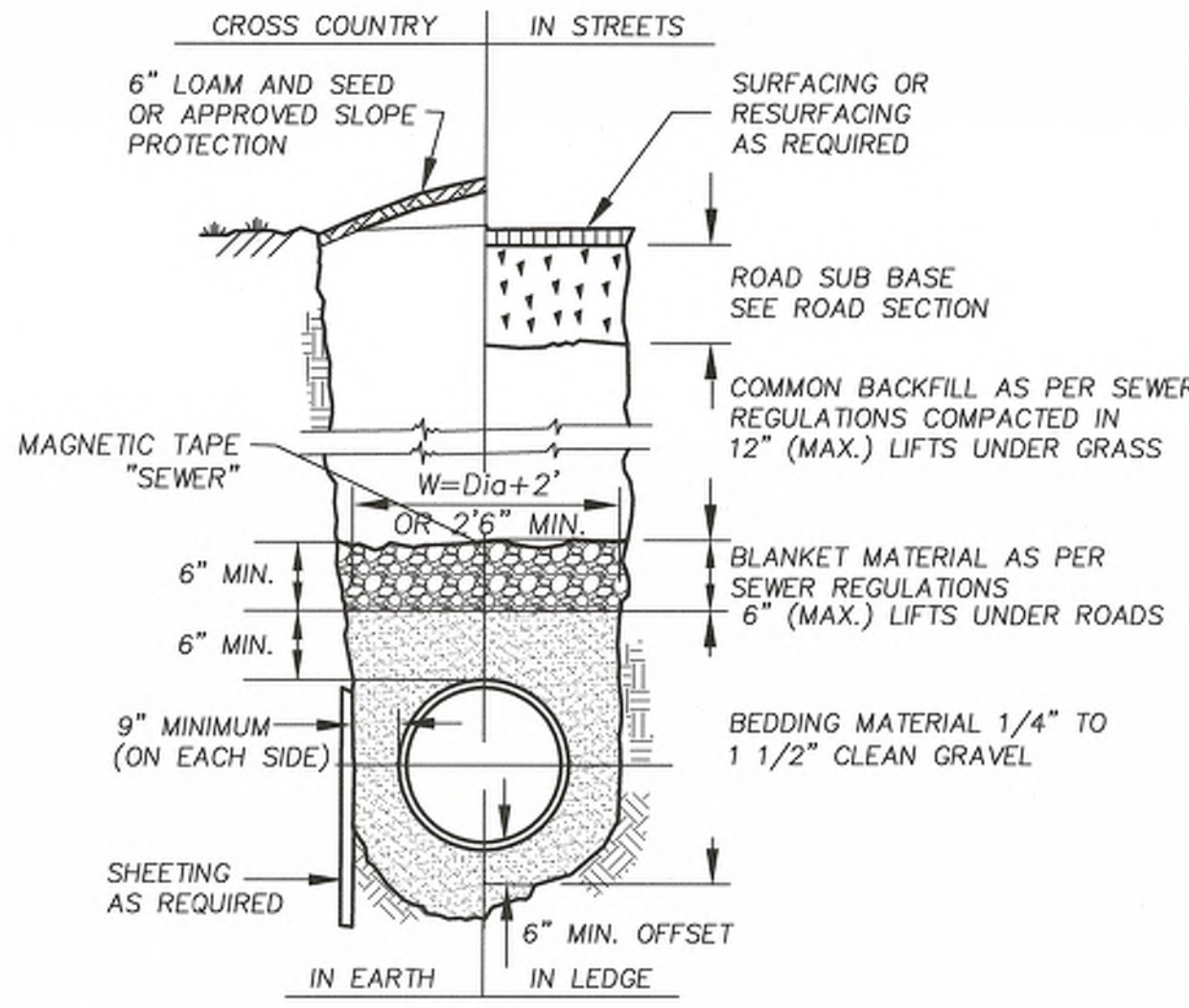
CONSTRUCTION DETAILS

SHEET NO.

C-7

PROJECT NO. 5278

©Copyright BWA Architecture, INC.

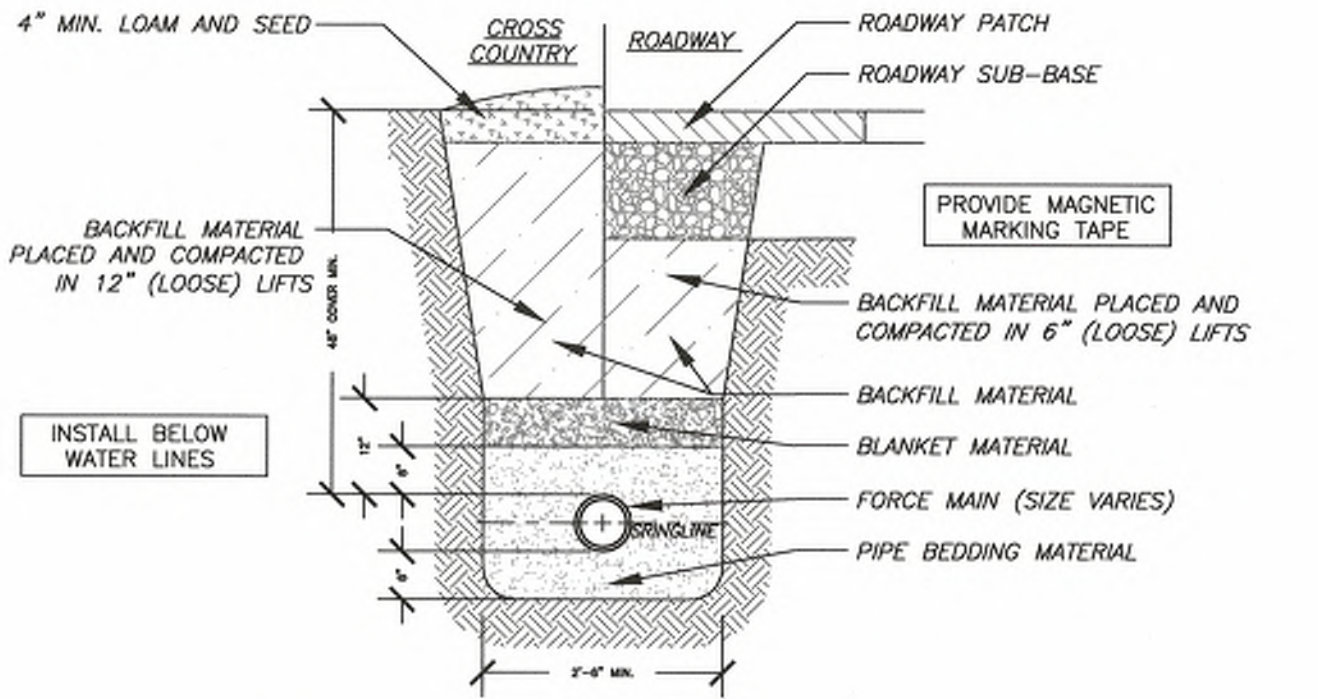


NOTE:
1. BOTH THE BEDDING AND BLANKET MATERIAL SHALL BE COMPACTED IN 6" LOOSE LIFTS TO 90% MAXIMUM DRY DENSITY PER THE MODIFIED PROCTOR TEST.
2. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH GRAVEL OR OTHER SUITABLE MATERIAL COMPACTED TO 90% MAXIMUM DENSITY (MODIFIED PROCTOR).

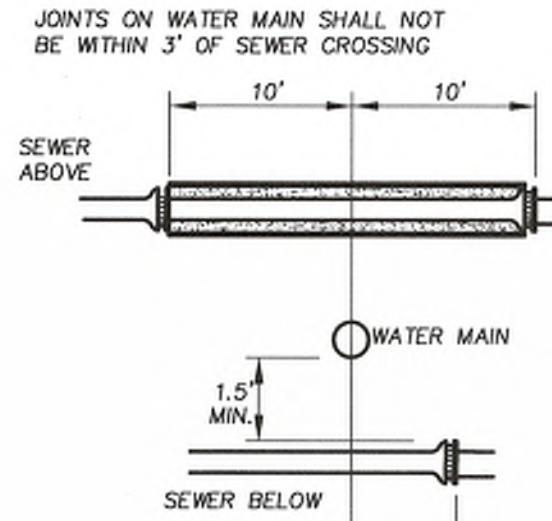
TYPICAL SEWER TRENCH
NOT TO SCALE

NOTES:

- ROADWAY PATCH AND BASE/SUB-BASE SHALL BE INSTALLED AS DIRECTED BY THE HIGHWAY SUPERINTENDENT.
- BEDDING, BLANKET, & BACKFILL MATERIALS SHALL BE COMPACTED TO 90% MAXIMUM DENSITY (MODIFIED PROCTOR) AT OPTIMUM MOISTURE CONTENT FOR BOTH CROSS COUNTRY AND ROADWAY INSTALLATION.
- EARTH MATERIALS FOR FORCE MAIN INSTALLATION SHALL BE AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR THE APPROVING AUTHORITIES:
A. PIPE BEDDING: 1/4" TO 1/2" CRUSHED STONE CONFORMING TO SSMB M2.01.3 - CRUSHED STONE
B. BLANKET MATERIAL: CLEAN SHARP SAND CONFORMING TO SSMB M1.04.0 - SAND BORROW OR CRUSHED GRAVEL CONFORMING TO SSMB M1.03.1 - PROCESSED GRAVEL FOR SUB-BASE
C. BACKFILL MATERIAL: EXCAVATED OR IMPORTED MATERIAL WHICH IS FRIABLE, NATURAL SOIL COMPOSED OF GRAVEL, SAND, OR SILTY/CLAYEY GRAVEL AND SAND, FREE FROM DEBRIS, CONCRETE, OR OTHER RUBBLE, AND STONES GREATER THAN 6" IN MAXIMUM DIMENSION.

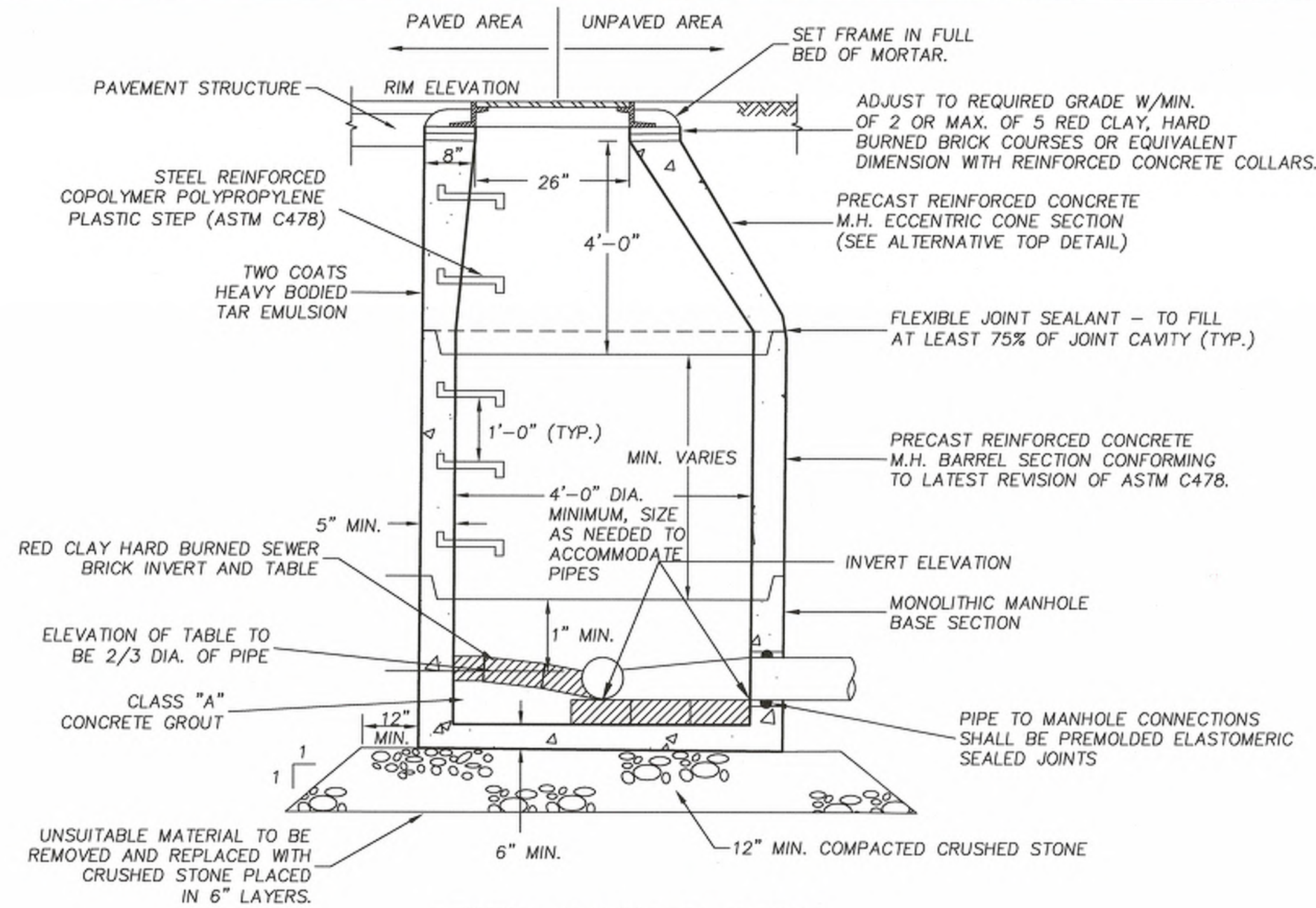


LOW PRESSURE SEWER (LPS) LINE TRENCH
NOT TO SCALE



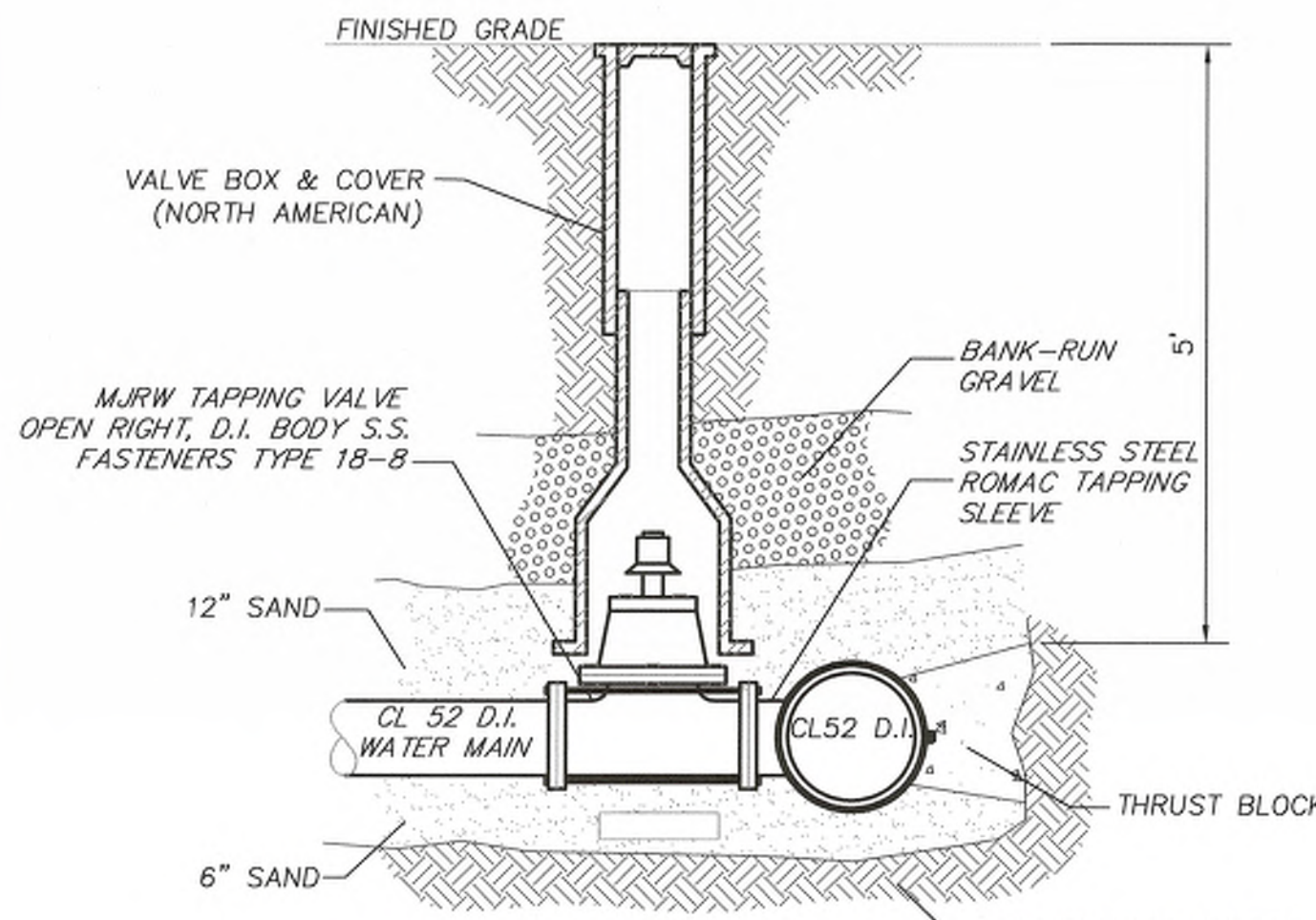
SEWER LINE CROSSING-WATER LINE
NOT TO SCALE

- NOTES
- WHEREVER POSSIBLE, WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM OF 10 FEET HORIZONTAL SEPARATION FROM SEWER SERVICES AND DRAINS. ENCASMENT OF EITHER THE WATER OR SEWER SERVICE IS REQUIRED IN THE FORM OF A 10-FOOT SLEEVE ON EITHER SIDE OF THE ADJACENT STRUCTURE IN THE FOLLOWING CASES:
- THE MINIMUM 10-FOOT HORIZONTAL SEPARATION FROM SEWER SERVICES AND DRAINS CANNOT BE MET;
 - THE TOP OF THE SEWER BELL IS LESS THAN 1.5 FEET FROM THE BOTTOM OF THE WATER LINE;
 - A STORM DRAIN IS WITHIN 1.5 FEET OF THE WATER LINE; OR,
 - A SEWER MAIN OR CONNECTION IS ABOVE WATER MAIN OR CONNECTION.
- THE SLEEVE SHALL CONSIST OF A LARGER PIPE SURROUNDING THE UTILITY PIPE, WITH FILL BETWEEN THE TWO PIPES AND CEMENT AT THE ENDS.

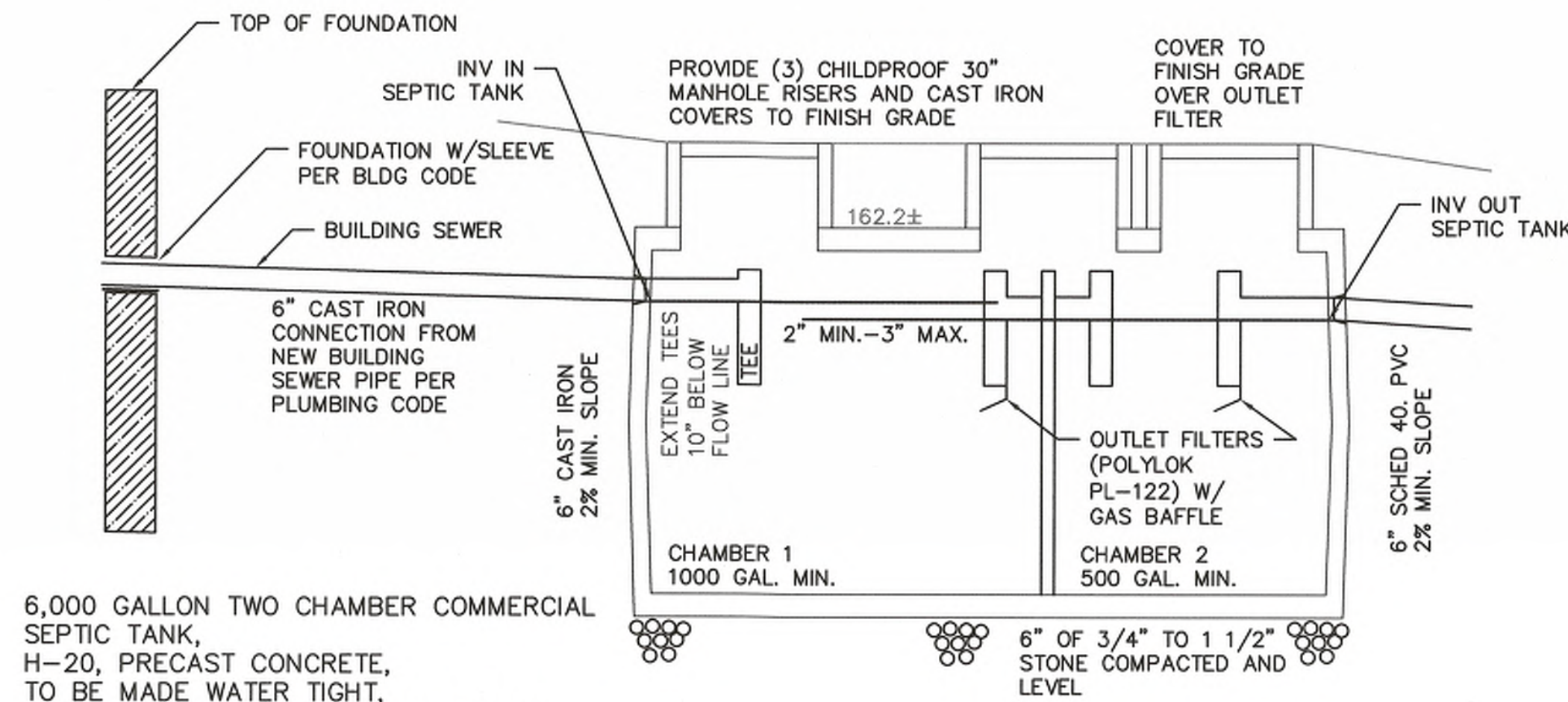


SEWER MANHOLE DETAIL
NOT TO SCALE

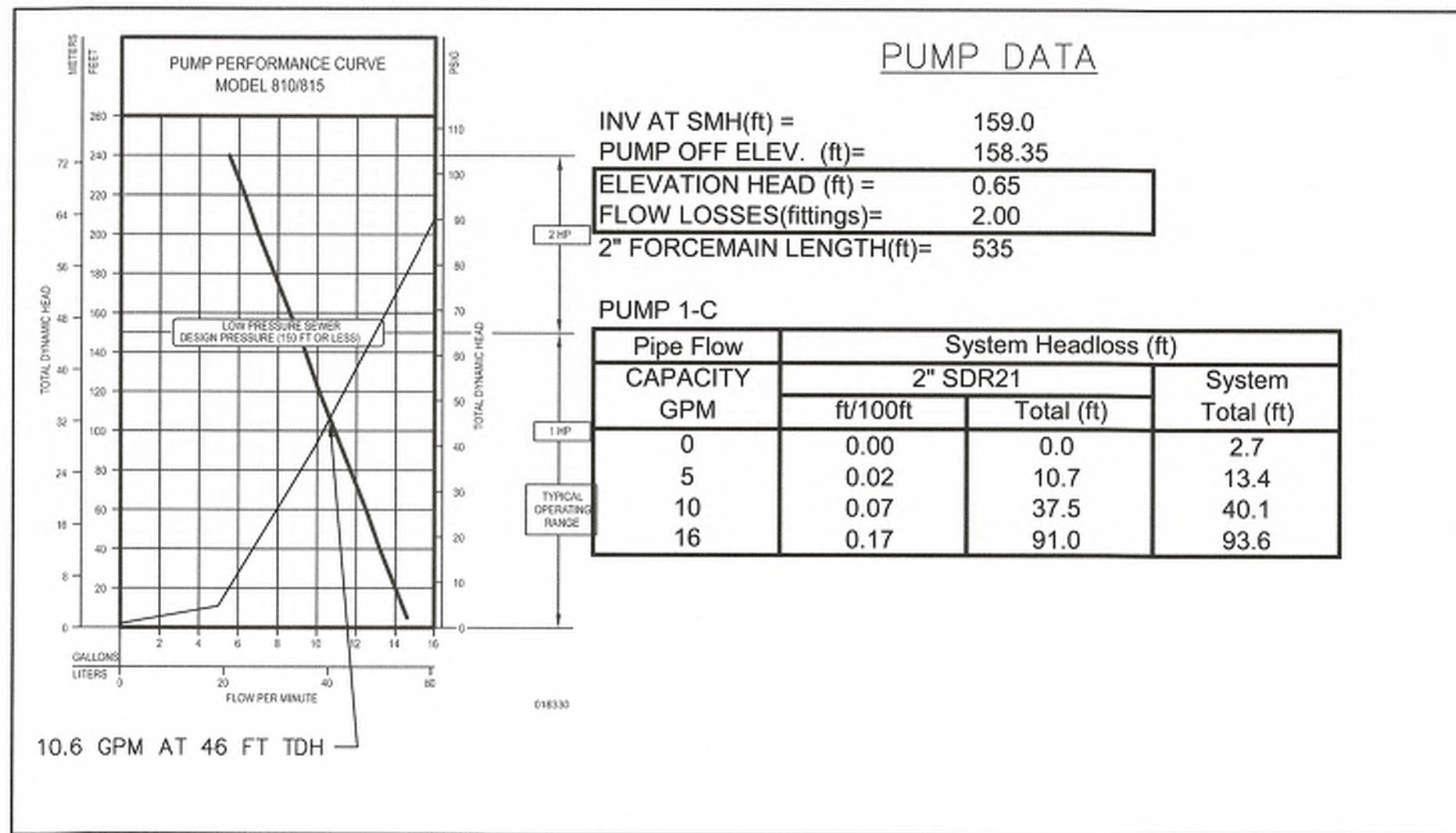
ALL WATERLINE CONSTRUCTION SHALL CONFORM WITH THE DRACUT WATER DISTRICT REQUIREMENTS



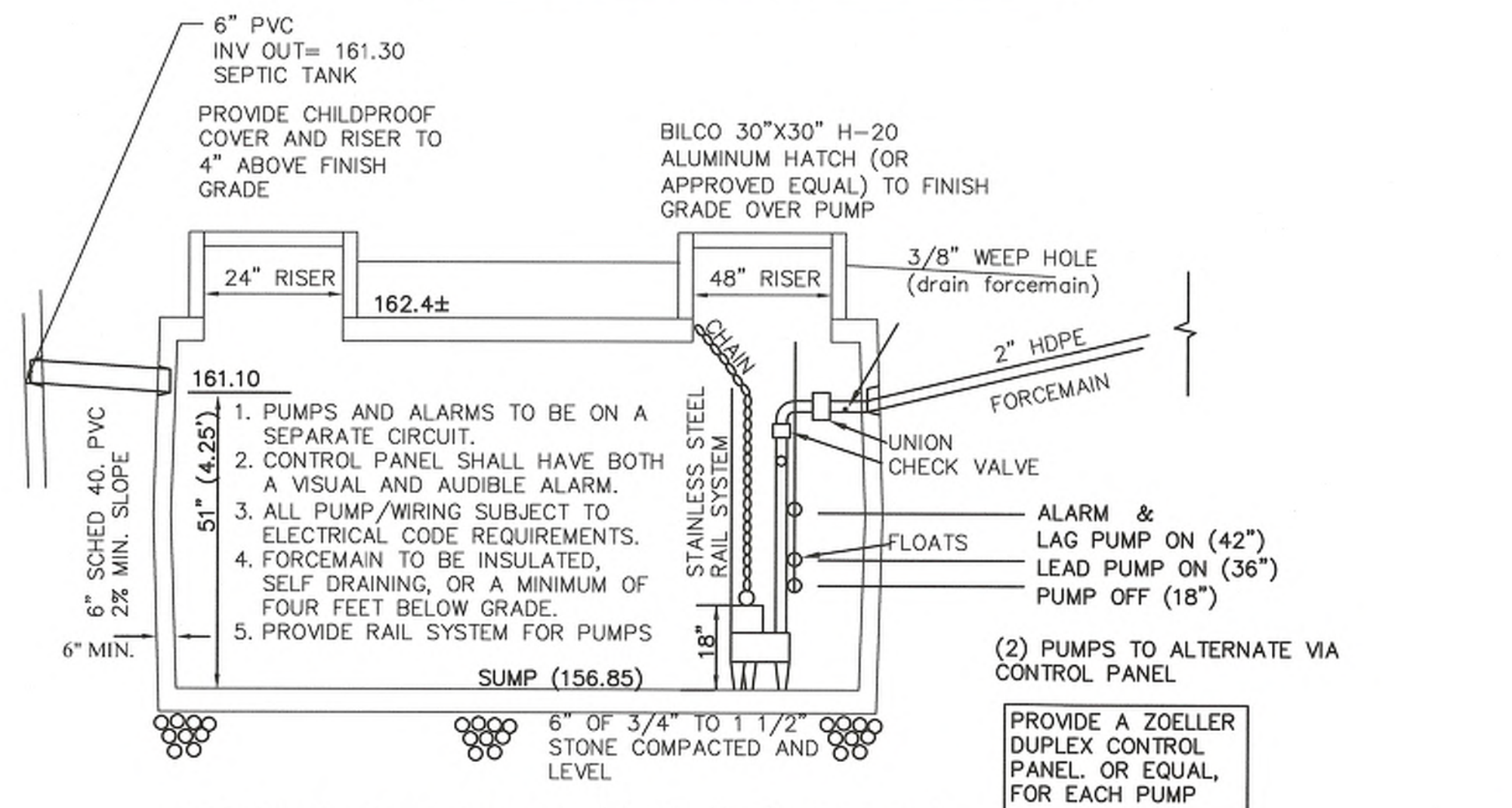
TAPPING SLEEVE & VALVE ASSEMBLY
NOT TO SCALE



SEPTIC SYSTEM DETAIL
NOT TO SCALE



ZOELLER MODEL 810 PUMP DESIGN



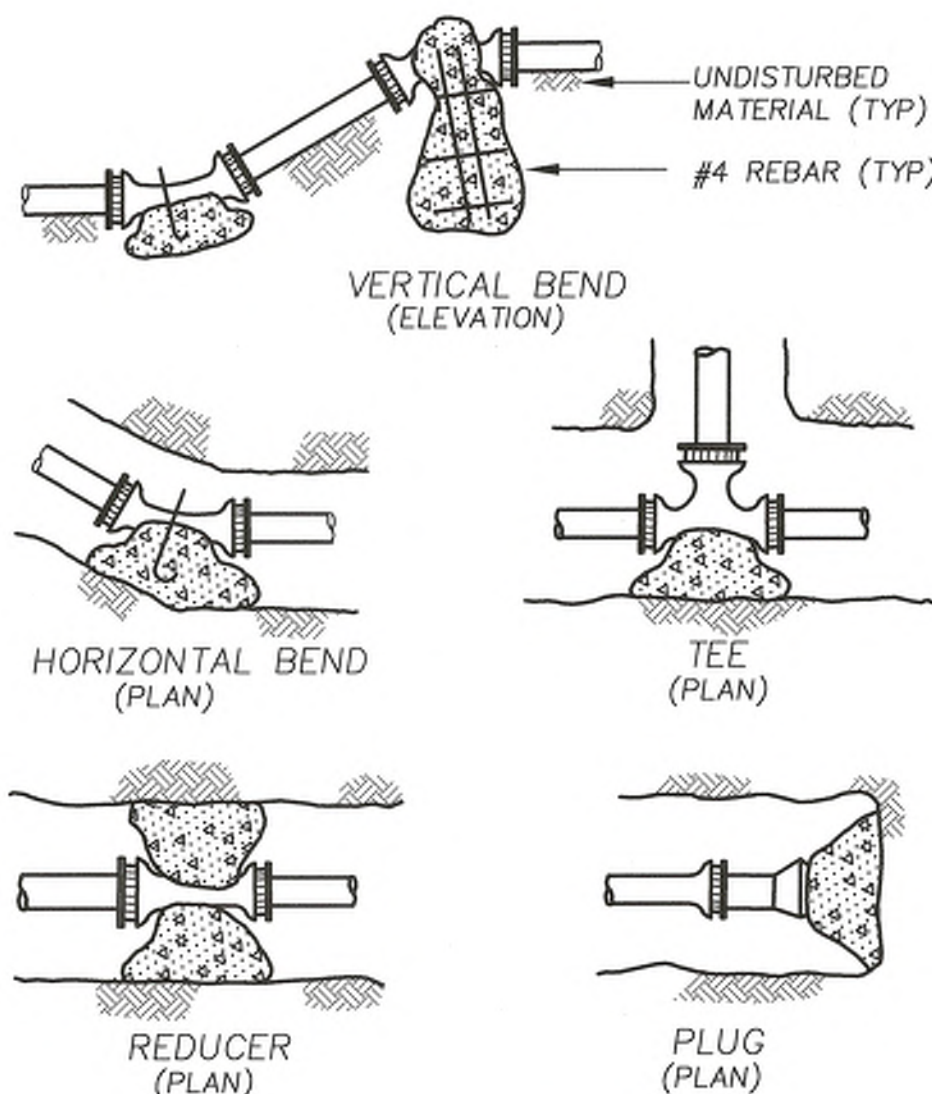
PUMP CHAMBER DETAIL
NOT TO SCALE

1,000 GALLON PUMP CHAMBER (7'-6"x4'-8" INSIDE DIM) H-20, PRECAST CONCRETE, TO BE MADE WATER TIGHT, SHEA CONCRETE OR APPROVED EQUAL.

(2) PUMPS TO ALTERNATE VIA CONTROL PANEL

PROVIDE A ZOELLER DUPLEX CONTROL PANEL, OR EQUAL, FOR EACH PUMP

ZOELLER MODEL 810 (1 HP) PUMP OR APPROVED EQUAL PUMP CYCLE = 1.5'x4'x1,000 GAL=375 GAL



THRUST BLOCK DETAILS
NOT TO SCALE

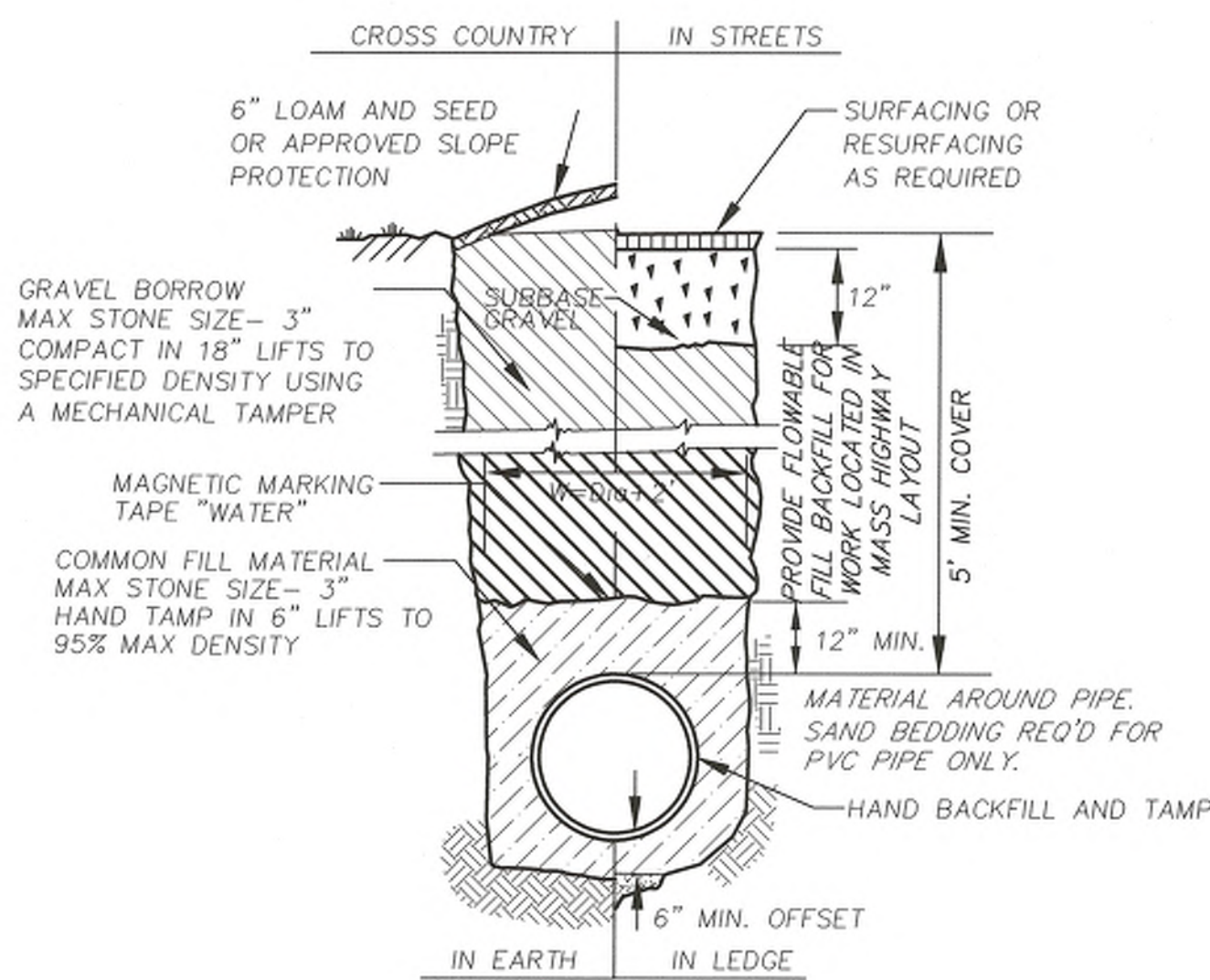
AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE FEET BASED ON 250 P.S.I. & 1.5 TONS/S.F. ALLOWABLE SOIL BEARING CAPACITY

PIPE SIZE (M.)	1/4 BEND	1/8 BEND	1/16 BEND	PLUG & TEES
4,6,8	6.0	2.9	2.3	4.5
10	9.6	5.2	2.3	6.7
12	13.3	6.7	3.7	9.6
16	24.0	11.8	3.7	17.0

BEARING AREA - SQ. FT.

NORMAL FITTING DIAMETER	FITTING				
	90° BEND	45° BEND	BETWEEN 10°-45°	BRANCH OF TEE	DEAD END
6"	4	2	2	4	4
8"	7	4	3	5	5

- ALL BENDS, TEES, WYES, HYDRANTS AND DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.
- BEARING AREA (H X L) IS AREA OF CONE IN CONTACT WITH WALL OF TRENCH.
- BOULDERS ARE NOT TO BE USED AS THRUST BLOCKS.



TYPICAL WATER MAIN TRENCH
NOT TO SCALE

WATER JETTING OR PUDDLING PROHIBITED.



155 Merrimack Street 2nd Floor
Lowell, MA 01852

GREENMONT SENIOR
HOUSING

144 GREENMONT AVE
DRACUT, MA 01826



PLACES Associates, Inc.

Planning
Landscape
Architecture
Civil
Engineering
Surveying

256 Great Road, Suite 4
Littleton, MA 01460
(978) 466-0334
www.placesassociates.com



132 Lincoln Street, Boston MA 02111 617.350.7420
www.bwaboston.com

Issue

No.	Description	Date
01	SCHEMATIC DESIGN	01/19/21
02	DESIGN DEVELOPMENT SET	01/13/22
03	70% CD SUBMISSION	06/21/22
04	90% CD SUBMISSION	01/19/23
05	100% CD SUBMISSION	05/31/23
06	100% CD SUBMISSION	06/13/23

DRAWING TITLE

CONSTRUCTION
DETAILS

SHEET NO.

C-8

PROJECT NO. 5278

Copyright BWA Architecture, INC.