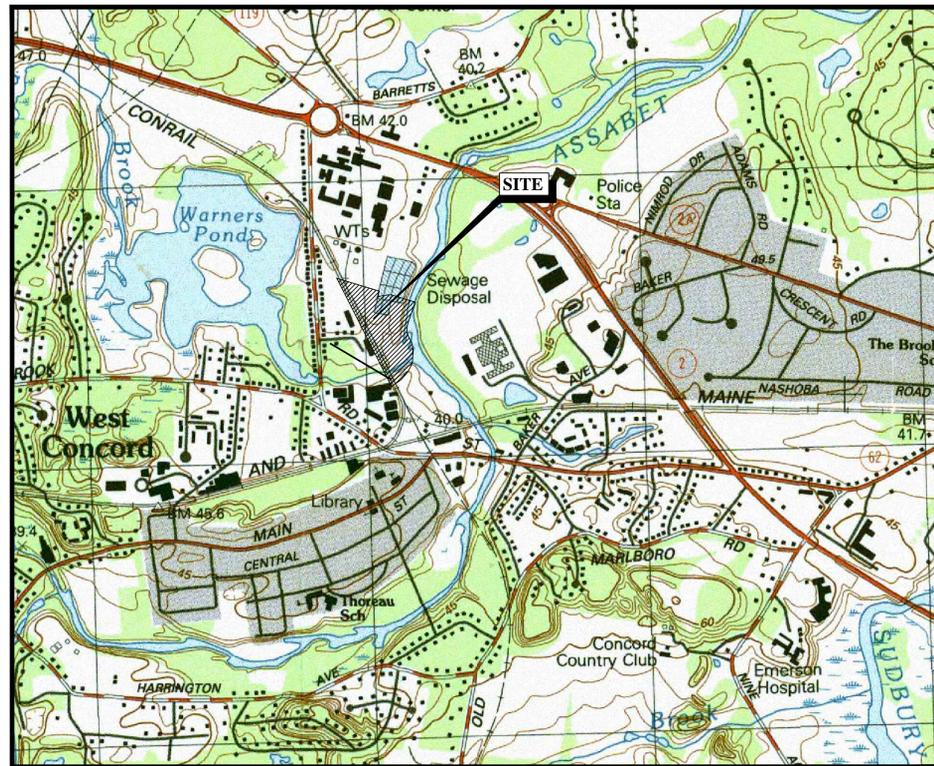


CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY

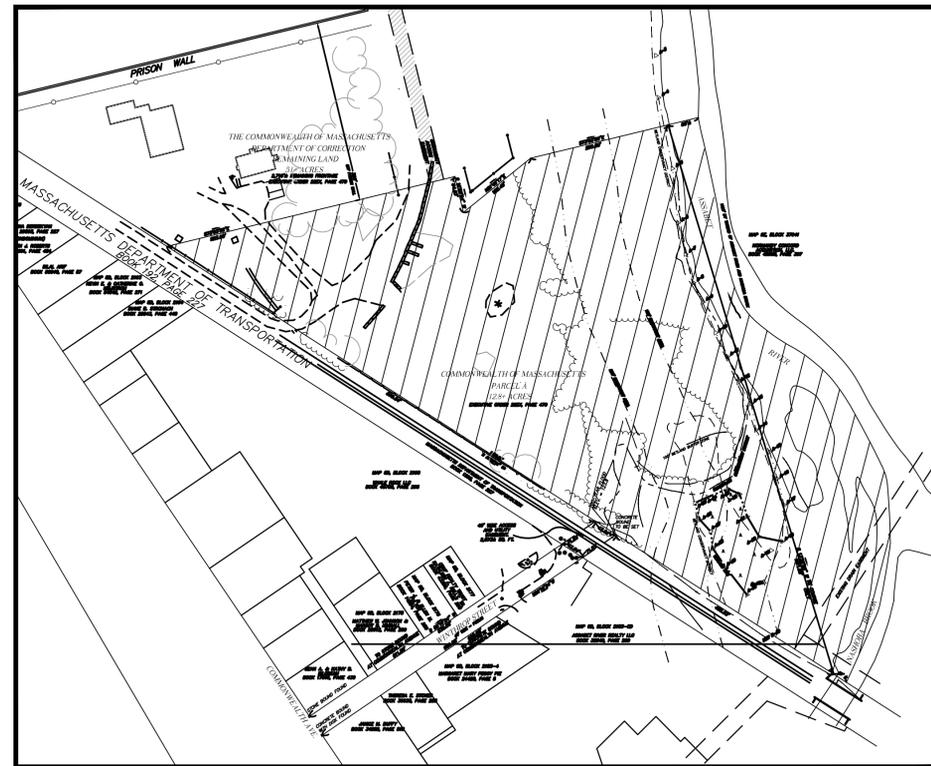
CONCORD · MASSACHUSETTS

NOVEMBER 16, 2016

REVISED MARCH 1, 2017



LOCATION MAP
SCALE: 1"=1000'



LOCATION MAP
SCALE: 1"=150'

SHEET INDEX

SHEET No.	SHEET TITLE
C0.00	COVER SHEET
C1.00	EXISTING CONDITIONS PLAN
C1.01	LEASE AREA PLAN
C1.10	SITE PREPARATION AND EROSION & SEDIMENT CONTROL PLAN
C1.20	SITE LAYOUT PLAN
C1.30	SITE GRADING & DRAINAGE PLAN
C1.40	SITE UTILITY PLAN
C3.00	EROSION & SEDIMENT CONTROL DETAILS
C3.10	CONSTRUCTION DETAILS
C3.20	CONSTRUCTION DETAILS
C3.30	CONSTRUCTION DETAILS
C3.40	CONSTRUCTION DETAILS
C3.50	CONSTRUCTION DETAILS
C3.60	CONSTRUCTION DETAILS
C3.70	CONSTRUCTION DETAILS
C3.80	CONSTRUCTION DETAILS
L1.10	SITE PLANTING PLAN
L1.20	PLANTING PLAN ENLARGEMENT & DETAILS

OWNERS:



The GRANTHAM GROUP, LLC
99 Pleasant Street · Marlborough, Massachusetts, 01752
Tel (508) 281-8001 · Fax (508) 449-6751

OWNERS REPRESENTATIVE:

POTOMAC CAPITAL
ADVISORS, INC.
303 CONGRESS STREET
BOSTON, MA 02210
(617) 723 5003

PREPARED BY



FUSS & O'NEILL
78 INTERSTATE DRIVE
WEST SPRINGFIELD, MA 01089
413.452.0445
www.fando.com

NOT FOR CONSTRUCTION

PROJ. No.: 20150485.A10
DATE: 11/16/2016

C0.00

PERCOLATION TEST DATA

PERC #	DEPTH (INCHES)	STABILIZED RATE (MIN-INCH)
109-A	64	<2
109-B	48	<2
109-C	54	<2
109-D	62	<2
109-E	58	<2
109-F	36	<2

DEEP TEST DATA

DEEP #	DEPTH (INCHES)	ROCK DEPTH (INCHES)	ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (INCHES)	SOIL DESCRIPTION
109-1	136	>136	136	0'-60" - FILL, MIXED SOIL & DEBRIS 60"-136" - MED SAND W/ 10% GRAVEL
109-2	124	>124	124	0'-20" - FILL, MIXED SOIL & DEBRIS 20"-74" - MED SAND W/ NO GRAVEL 74"-124" - MED SAND W/ 10% GRAVEL
109-3	124	>124	124	0'-28" - FILL, MIXED SOIL & DEBRIS 28"-124" - MED SAND W/ 10% GRAVEL
109-4	130	>130	130	0'-40" - FILL, MIXED SOIL & DEBRIS 40"-130" - MED SAND W/ 10% GRAVEL
109-5	130	>130	130	0'-36" - FILL, MIXED SOIL & DEBRIS 40"-130" - MED SAND W/ 10% GRAVEL
109-6	120	>120	94	0'-4" - LOAMY SAND, SBK, wf 4"-48" - MED SAND W/ NO GRAVEL 45"-120" - MED SAND W/ 10% GRAVEL

LEGEND & ABBREVIATIONS

- PROPERTY LINE
- EASEMENT
- MAJOR CONTOURS
- MINOR CONTOURS
- 100-YEAR FLOODPLAIN (ELEV. 124)
- FLOODPLAIN CONSERVANCY DISTRICT
- WETLAND CONSERVANCY DISTRICT
- WETLAND LINE
- BANK
- 100' WETLAND BUFFER ZONE
- 100' RIVERFRONT AREA
- 200' RIVERFRONT AREA
- TREE LINE
- EDGE OF PAVEMENT
- FENCE
- OVERHEAD WIRE
- UNDERGROUND GAS
- WATER LINE
- JERSEY BARRIER
- RETAINING WALL
- CONCRETE BOUND
- SANITARY MANHOLE
- UTILITY POLE
- LIGHT POLE
- WATER VALVE
- HYDRANT
- SIGN
- TREE
- WETLAND/BANK FLAG
- DRYWELL
- GAS VALVE
- PERCOLATION TEST POINT
- DEEP SOIL TEST POINT

MAP 8D, BLOCK 2168

WHALE ROCK LLC
BOOK 46705, PAGE 295

MAP 9D, BLOCK 2175

MATTHEW W. JOHNSON &
MARGOT B. KIMBALL
BOOK 28612, PAGE 209

MAP 9D, BLOCK 2183-CD

ASSABET RIVER REALTY LLC
BOOK 32540, PAGE 209

MAP REFERENCE

- EXISTING CONDITIONS DEPICTED ON THIS PLAN ARE BASED ON:
 - AN AUTOCAD FILE PROVIDED BY PLACES ASSOCIATED, INC. ON FEBRUARY 24, 2016.
 - SUPPLEMENTAL SITE SURVEY PERFORMED BY FUSS & O'NEILL ON OCTOBER 20, 2016.
- THE HORIZONTAL (NAD 83) AND VERTICAL (NAVD 88) DATUMS WERE DERIVED FROM GPS OBSERVATIONS AND ARE BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM.
- DEEP SOIL TEST PIT AND PERCOLATION TEST LOCATIONS AND INFORMATION WAS PREPARED BY GOLDSMITH, PREST, & RINGWALL, INC.
- WETLAND DELINEATION IS BASED ON AN "ORDER OF RESOURCE AREA DELINEATION," MASSDEP FILE #137-1203, ISSUED APRIL 19, 2013.
- 100 YEAR FLOOD BOUNDARY BASED ON "FIRM, FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS, (ALL JURISDICTIONS), MAP NUMBER 2501700359F, MAP REVISED JULY 7, 2014.

GENERAL NOTES

- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
 - DO NOT RELY SOLELY ON ELECTRONIC VERSIONS OF DRAWINGS, SPECIFICATIONS, AND DATA FILES THAT ARE PROVIDED BY THE ENGINEER. FIELD VERIFY LOCATION OF PROJECT FEATURES.
 - PERFORM NECESSARY CONSTRUCTION NOTIFICATIONS, APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK AS REQUIRED BY THE CONTRACT DOCUMENTS.
 - SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDINGS AND ADJACENT SITE ELEMENTS INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
 - LOCATION OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE AS LOCATED BY FIELD SURVEY, PLANS OF RECORD, INFORMATION FURNISHED BY THE RESPECTIVE UTILITY COMPANIES, AND OTHER AVAILABLE SOURCES. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME WITHIN THE PREMISES SURVEYED. LOCATIONS SHOULD BE VERIFIED BY THE RESPECTIVE UTILITY COMPANY BEFORE BEING RELIED UPON. ALL FIELD CHANGES MUST BE APPROVED BY THE ENGINEER.
 - LOCATION AND INVERTS OF EXISTING UTILITIES SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO CONSTRUCTION. ALL FIELD CHANGES MUST BE APPROVED BY THE ENGINEER.
 - FUSS & O'NEILL MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA. FUSS & O'NEILL FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. FUSS & O'NEILL HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BEFORE CONSTRUCTION, THE CONTRACTOR SHALL CALL DIG SAFE SYSTEMS FOR CLEARANCE.
 - REFER TO CONTRACT DOCUMENTS FOR GEOTECHNICAL REQUIREMENTS.
- REGULATORY REQUIREMENTS
- THIS PROJECT DISTURBS AREAS LOCATED WITHIN DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) REGULATED AREAS AND REQUIRES THE FILING OF A NOTICE OF INTENT (NOI), POTOMAC CAPITAL ADVISORS, INC. HAS SUBMITTED REQUIRED INFORMATION TO THE DEP AND CONCORD CONSERVATION COMMISSION.
 - NOTIFY CONCORD CONSERVATION COMMISSION A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION.
 - FIELD INSPECTOR SHALL BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION.
 - POST DEP SIGN NUMBER ASSIGNED IN ACCORDANCE WITH THE ORDER OF CONDITIONS.
 - APPROVED PLANS SHALL BE ON SITE AT ALL TIMES.
 - WITHIN LOCAL RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS.
 - WITHIN STATE RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH THE MASS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. PERFORM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
 - DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
 - THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND OR IS A PHASE OF A LARGER PROJECT THAT DISTURBS MORE THAN AN ACRE AND REQUIRES THE COMPLETION OF A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND THE FILING OF A CONSTRUCTION GENERAL PERMIT (CGP). THE SWPPP SHALL REMAIN ON SITE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR THE FILING OF THE CGP.
 - CALL DIG-SAFE 811 OR 1-888-DIG-SAFE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION.

THE GRANHAM GROUP, LLC.

EXISTING CONDITIONS PLAN

CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY PROJECT

CONCORD MASSACHUSETTS

PROJ. No.: 20150485A10
DATE: 11/16/2016

C1.00

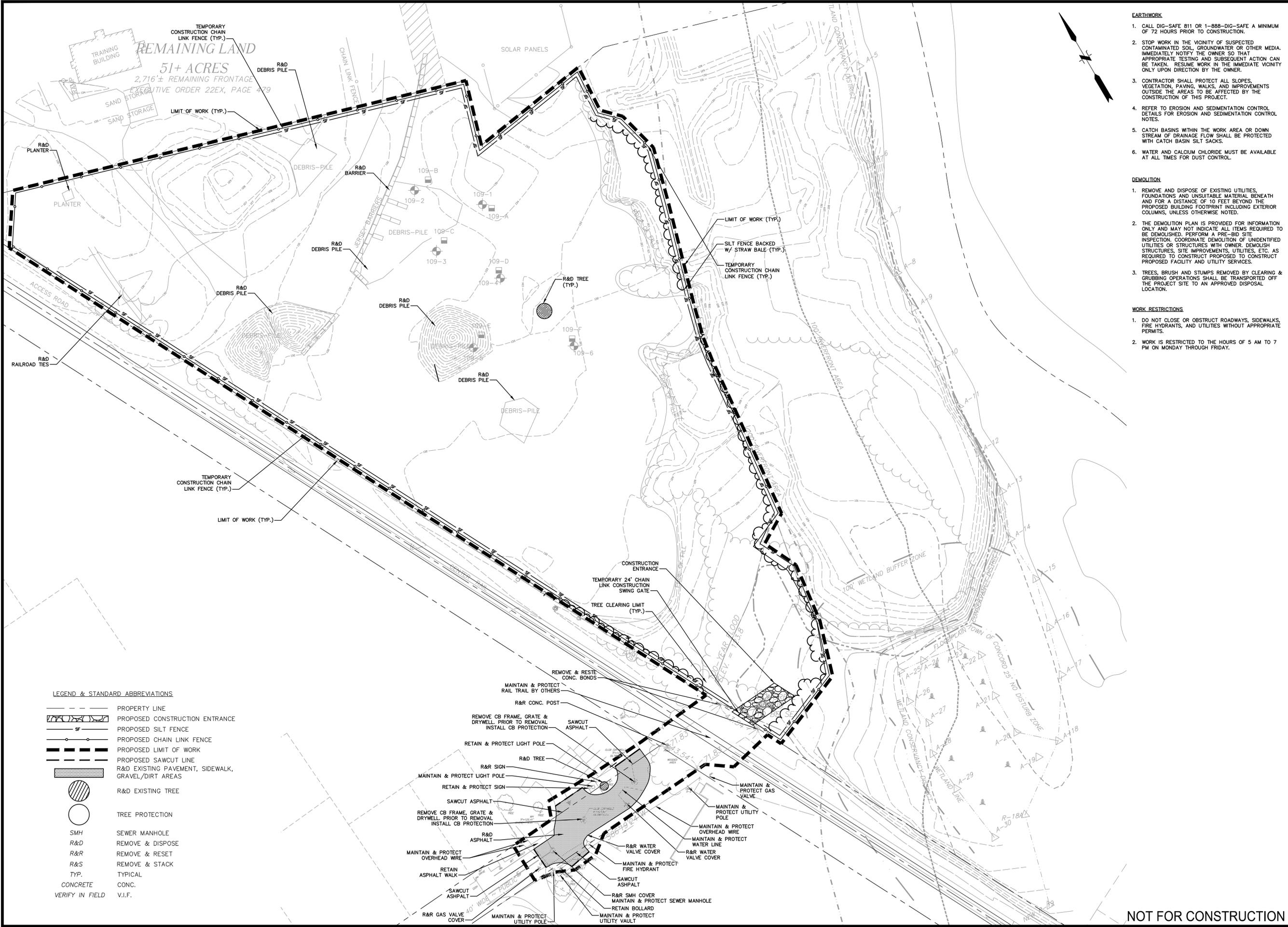
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VERT.: 1" = 40'
DATUM: NAD 83
VERT.: NAVD 88
GRAPHIC SCALE

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CONCORD, MA 01734
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NO. DATE DESCRIPTION DESIGNER REVIEWER

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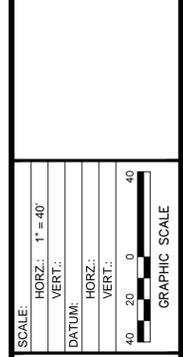


- EARTHWORK**
- CALL DIG-SAFE 811 OR 1-888-DIG-SAFE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION.
 - STOP WORK IN THE VICINITY OF SUSPECTED CONTAMINATED SOIL, GROUNDWATER OR OTHER MEDIA. IMMEDIATELY NOTIFY THE OWNER SO THAT APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN. RESUME WORK IN THE IMMEDIATE VICINITY ONLY UPON DIRECTION BY THE OWNER.
 - CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, FENCES, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
 - REFER TO EROSION AND SEDIMENTATION CONTROL DETAILS FOR EROSION AND SEDIMENTATION CONTROL NOTES.
 - CATCH BASINS WITHIN THE WORK AREA OR DOWN STREAM OF DRAINAGE FLOW SHALL BE PROTECTED WITH CATCH BASIN SILT SACKS.
 - WATER AND CALCIUM CHLORIDE MUST BE AVAILABLE AT ALL TIMES FOR DUST CONTROL.

- DEMOLITION**
- REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS, UNLESS OTHERWISE NOTED.
 - THE DEMOLITION PLAN IS PROVIDED FOR INFORMATION ONLY AND MAY NOT INDICATE ALL ITEMS REQUIRED TO BE DEMOLISHED. PERFORM A PRE-BID SITE INSPECTION. COORDINATE DEMOLITION OF UNIDENTIFIED UTILITIES OR STRUCTURES WITH OWNER. DEMOLISH STRUCTURES, SITE IMPROVEMENTS, UTILITIES, ETC. AS REQUIRED TO CONSTRUCT PROPOSED TO CONSTRUCT PROPOSED FACILITY AND UTILITY SERVICES.
 - TREES, BRUSH AND STUMPS REMOVED BY CLEARING & GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.

- WORK RESTRICTIONS**
- DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
 - WORK IS RESTRICTED TO THE HOURS OF 5 AM TO 7 PM ON MONDAY THROUGH FRIDAY.

No.	DATE	REVISED PER COMMENTS	DESCRIPTION	DESIGNER	REVIEWER
1.	2/17/2017			SBM	DD



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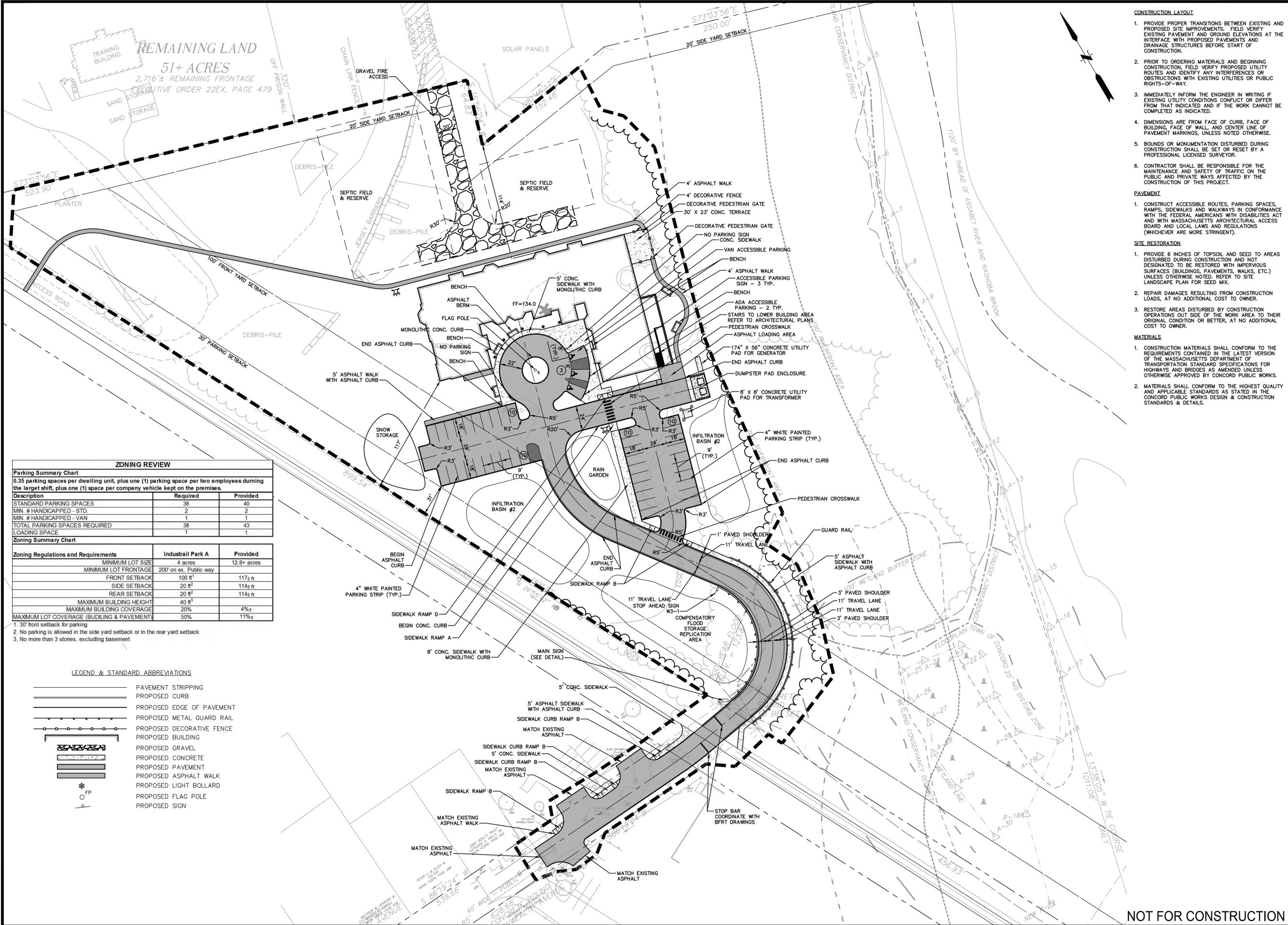
THE GRANTHAM GROUP, LLC.
 SITE PREPARATION AND
 EROSION & SEDIMENT CONTROL PLAN
 CHRISTOPHER HEIGHTS ASSISTED
 LIVING FACILITY PROJECTS
 MASSACHUSETTS
 CONCORD

PROJ. No.: 20150485.A10
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ZONING REVIEW

Parking Summary Chart

0.35 parking spaces per dwelling unit, plus one (1) parking space per two employees during the target shift, plus one (1) space per company vehicle kept on the premises.

Description	Required	Provided
STANDARD PARKING SPACES	38	40
MIN. # HANDICAPPED - STD.	2	2
MIN. # HANDICAPPED - VAN	1	1
TOTAL PARKING SPACES REQUIRED	38	43
LOADING SPACE	1	1

Zoning Summary Chart

Zoning Regulations and Requirements	Industrial Park A	Provided
MINIMUM LOT SIZE	4 acres	12.8+ acres
MINIMUM LOT FRONTAGE	200' on ex. Public way	
FRONT SETBACK	100 ft ²	117± ft
SIDE SETBACK	20 ft ²	114± ft
REAR SETBACK	20 ft ²	114± ft
MAXIMUM BUILDING HEIGHT	40 ft ³	
MAXIMUM BUILDING COVERAGE	20%	4%±
MAXIMUM LOT COVERAGE (BUILDING & PAVEMENT)	50%	11%±

- 30' front setback for parking
- No parking is allowed in the side yard setback or in the rear yard setback
- No more than 3 stories, excluding basement

LEGEND & STANDARD ABBREVIATIONS

- PAVEMENT STRIPPING
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED METAL GUARD RAIL
- PROPOSED DECORATIVE FENCE
- PROPOSED BUILDING
- PROPOSED GRAVEL
- PROPOSED CONCRETE
- PROPOSED PAVEMENT
- PROPOSED ASPHALT WALK
- PROPOSED LIGHT BOLLARD
- PROPOSED FLAG POLE
- PROPOSED SIGN

CONSTRUCTION LAYOUT

- PROVIDE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED SITE IMPROVEMENTS. FIELD VERIFY EXISTING PAVEMENT AND GROUND ELEVATIONS AT THE INTERFACE WITH PROPOSED PAVEMENTS AND DRAINAGE STRUCTURES BEFORE START OF CONSTRUCTION.
- PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, FIELD VERIFY PROPOSED UTILITY ROUTES AND IDENTIFY ANY INTERFERENCES OR OBSTRUCTIONS WITH EXISTING UTILITIES OR PUBLIC RIGHTS-OF-WAY.
- IMMEDIATELY INFORM THE ENGINEER IN WRITING IF EXISTING UTILITY CONDITIONS CONFLICT OR DIFFER FROM THAT INDICATED AND IF THE WORK CANNOT BE COMPLETED AS INDICATED.
- DIMENSIONS ARE FROM FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS NOTED OTHERWISE.
- BOUNDS OR MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.

PAVEMENT

- CONSTRUCT ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).

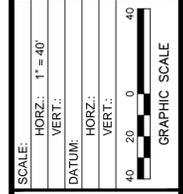
SITE RESTORATION

- PROVIDE 6 INCHES OF TOPSOIL AND SEED TO AREAS DISTURBED DURING CONSTRUCTION AND NOT DESIGNATED TO BE RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) UNLESS OTHERWISE NOTED. REFER TO SITE LANDSCAPE PLAN FOR SEED MIX.
- REPAIR DAMAGES RESULTING FROM CONSTRUCTION LOADS, AT NO ADDITIONAL COST TO OWNER.
- RESTORE AREAS DISTURBED BY CONSTRUCTION OPERATIONS OUT SIDE OF THE WORK AREA TO THEIR ORIGINAL CONDITION OR BETTER, AT NO ADDITIONAL COST TO OWNER.

MATERIALS

- CONSTRUCTION MATERIALS SHALL CONFORM TO THE REQUIREMENTS CONTAINED IN THE LATEST VERSION OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AS AMENDED UNLESS OTHERWISE APPROVED BY CONCORD PUBLIC WORKS.
- MATERIALS SHALL CONFORM TO THE HIGHEST QUALITY AND APPLICABLE STANDARDS AS STATED IN THE CONCORD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS & DETAILS.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/1/2017	REVISED PER COMMENTS	SBM	DD
2.	2/17/2017	REVISED PER COMMENTS	SBM	DD



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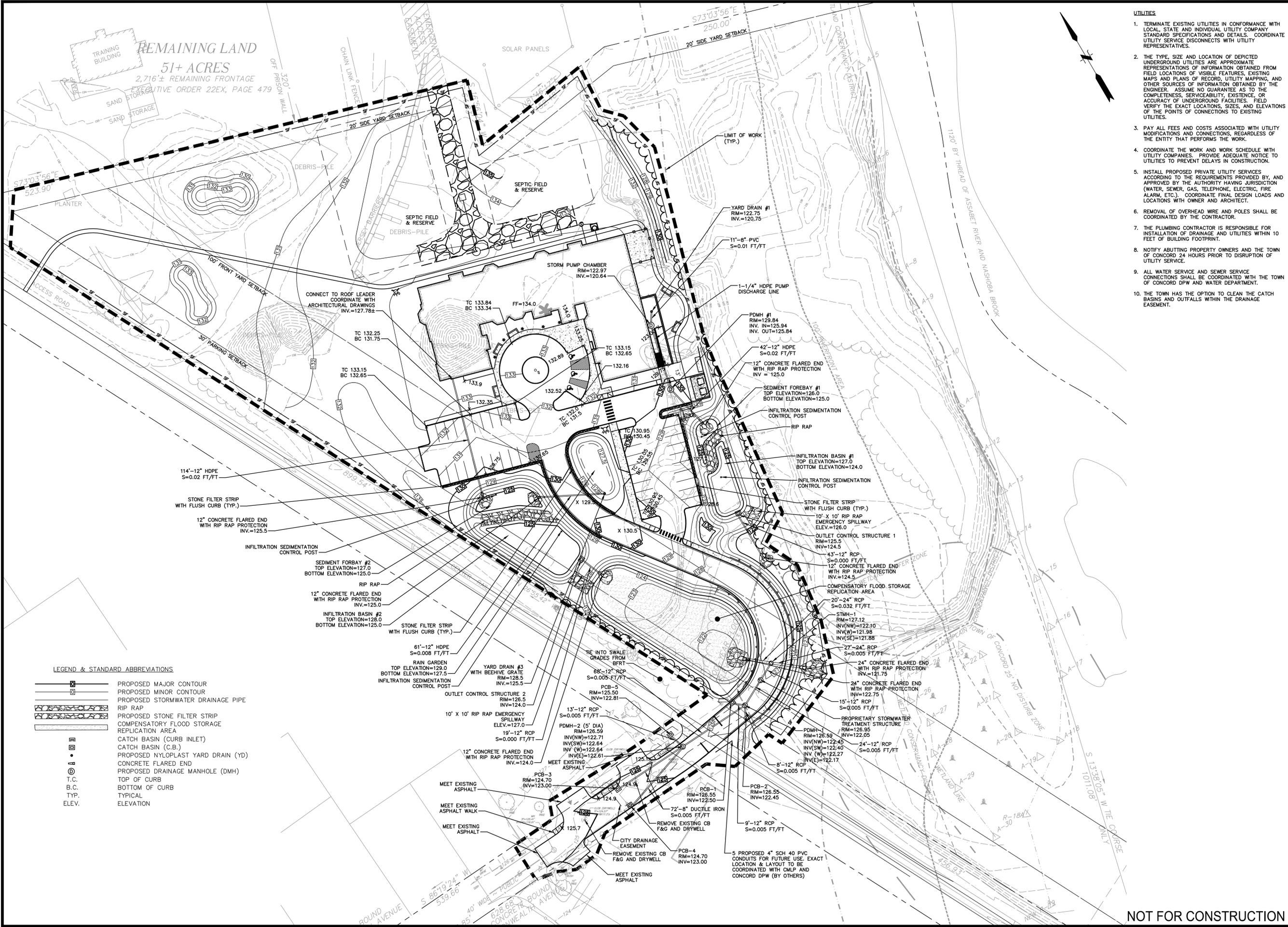
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LEGEND & STANDARD ABBREVIATIONS

	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED STORMWATER DRAINAGE PIPE
	RIP RAP
	PROPOSED STONE FILTER STRIP
	COMPENSATORY FLOOD STORAGE REPLICATION AREA
	CATCH BASIN (CURB INLET)
	CATCH BASIN (C.B.)
	PROPOSED NYLOPLAST YARD DRAIN (YD)
	CONCRETE FLARED END
	PROPOSED DRAINAGE MANHOLE (DMH)
	TOP OF CURB
	BOTTOM OF CURB
	TYP. ELEV.

- UTILITIES**
1. TERMINATE EXISTING UTILITIES IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. COORDINATE UTILITY SERVICE DISCONNECTS WITH UTILITY REPRESENTATIVES.
 2. THE TYPE, SIZE AND LOCATION OF DEPICTED UNDERGROUND UTILITIES ARE APPROXIMATE REPRESENTATIONS OF INFORMATION OBTAINED FROM FIELD LOCATIONS OF VISIBLE FEATURES, EXISTING MAPS AND PLANS OF RECORD, UTILITY MAPPING, AND OTHER SOURCES OF INFORMATION OBTAINED BY THE ENGINEER. ASSUME NO GUARANTEE AS TO THE COMPLETENESS, SERVICEABILITY, EXISTENCE, OR ACCURACY OF UNDERGROUND FACILITIES. FIELD VERIFY THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES.
 3. PAY ALL FEES AND COSTS ASSOCIATED WITH UTILITY MODIFICATIONS AND CONNECTIONS, REGARDLESS OF THE ENTITY THAT PERFORMS THE WORK.
 4. COORDINATE THE WORK AND WORK SCHEDULE WITH UTILITY COMPANIES. PROVIDE ADEQUATE NOTICE TO UTILITIES TO PREVENT DELAYS IN CONSTRUCTION.
 5. INSTALL PROPOSED PRIVATE UTILITY SERVICES ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE AUTHORITY HAVING JURISDICTION (WATER, SEWER, GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). COORDINATE FINAL DESIGN LOADS AND LOCATIONS WITH OWNER AND ARCHITECT.
 6. REMOVAL OF OVERHEAD WIRE AND POLES SHALL BE COORDINATED BY THE CONTRACTOR.
 7. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF DRAINAGE AND UTILITIES WITHIN 10 FEET OF BUILDING FOOTPRINT.
 8. NOTIFY ABUTTING PROPERTY OWNERS AND THE TOWN OF CONCORD 24 HOURS PRIOR TO DISRUPTION OF UTILITY SERVICE.
 9. ALL WATER SERVICE AND SEWER SERVICE CONNECTIONS SHALL BE COORDINATED WITH THE TOWN OF CONCORD DPW AND WATER DEPARTMENT.
 10. THE TOWN HAS THE OPTION TO CLEAN THE CATCH BASINS AND OUTFALLS WITHIN THE DRAINAGE EASEMENT.

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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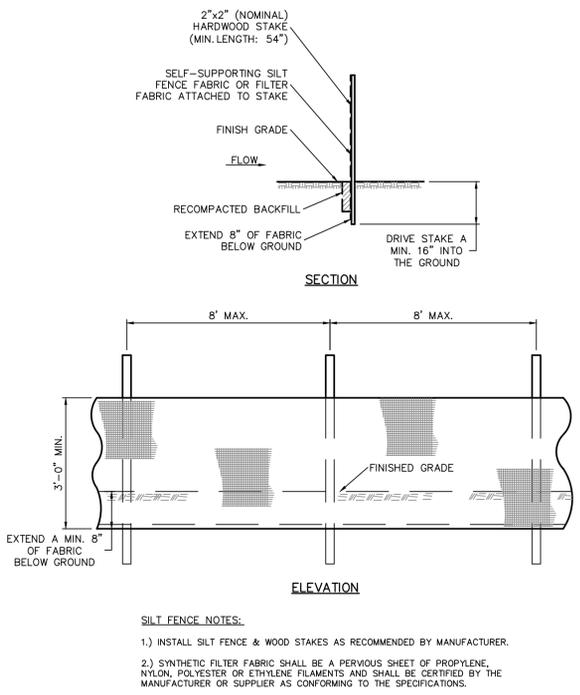
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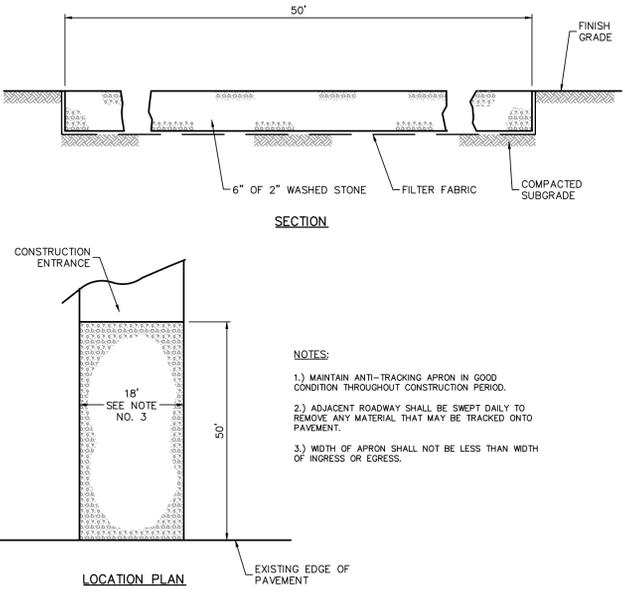
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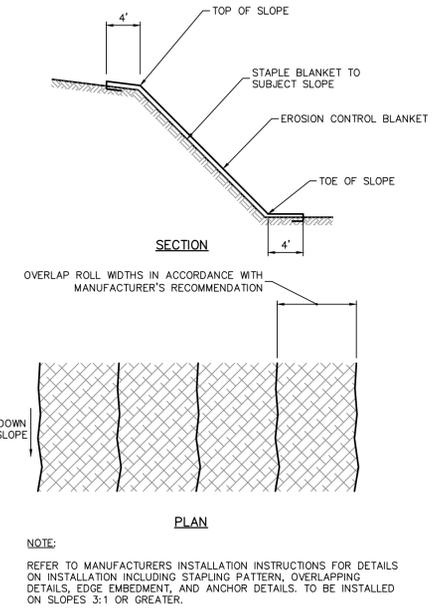
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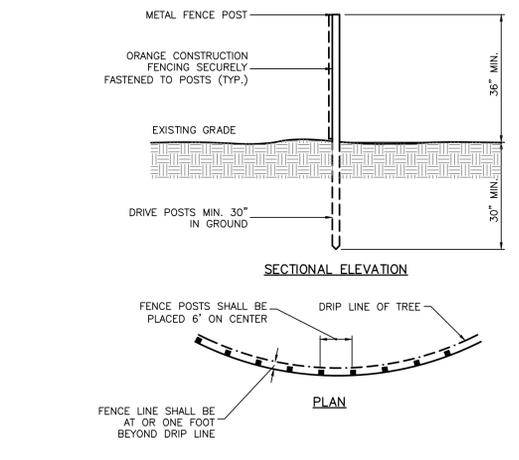
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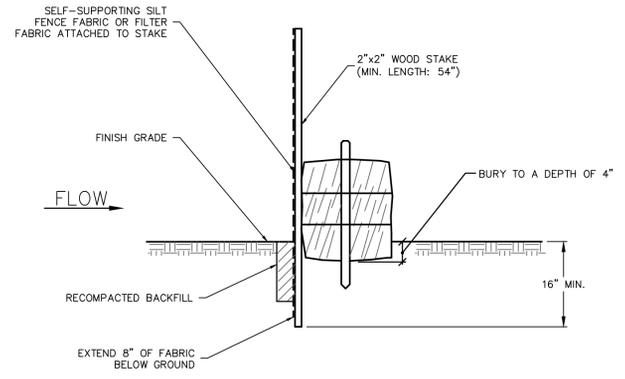
2 CONSTRUCTION ENTRANCE
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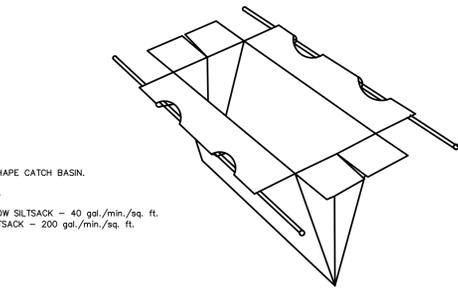
3 EROSION CONTROL BLANKET
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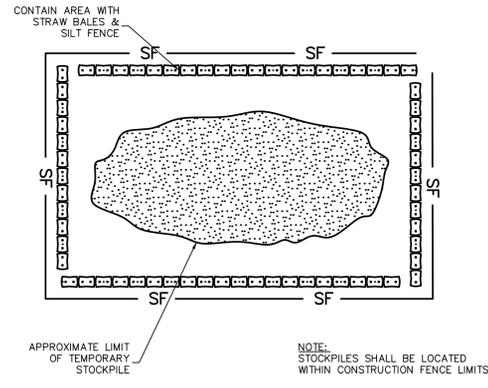
4 TREE PROTECTION FENCING
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5 SILT FENCE BACKED W/ STRAW BALES
 SCALE: N.T.S.



6 CATCH BASIN SILT SACK
 SCALE: N.T.S.



7 TEMPORARY SOIL STOCKPILE
 SCALE: N.T.S.

- EROSION & SEDIMENT CONTROL NOTES:**
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO STUMP REMOVAL AND CONSTRUCTION. STABILIZATION OF ALL REGRADED AND SOIL STOCKPILE AREAS WILL BE INITIATED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
 - SEDIMENT REMOVED FROM EROSION CONTROL STRUCTURES WILL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THIS PLAN. ALL HAYBALES OR SILT FENCE RETAINING SEDIMENT OVER 6" HIGH SHALL HAVE THE SEDIMENT REMOVED AND ALL DAMAGED EROSION CONTROLS REMOVED AND REPLACED.
 - THE CONTRACTOR WILL BE ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER TOWN AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY. THE OWNER SHALL BE RESPONSIBLE FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND HAUL ROADS. CONTRACTOR SHALL CONTROL DUST TO PREVENT A HAZARD TO TRAFFIC ON ADJACENT ROADWAYS.
 - IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN THIRTY (30) DAYS AFTER LAND DISTURBANCES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZE SOILS. OUTSIDE OF THE GROWING SEASON, ONLY WOOD MULCH SHALL BE USED.
 - STRAW BALES SHALL BE USED ONLY AS A TEMPORARY MEASURE. WHERE CONTROL MEASURES WILL BE REQUIRED FOR LONGER THAN SIXTY (60) DAYS, FILTER FABRIC SHALL BE USED.
 - WHERE DEWATERING IS NECESSARY, THERE SHALL NOT BE A DISCHARGE DIRECTLY INTO WETLANDS OR WATERCOURSES. PROPER METHODS AND DEVICES SHALL BE UTILIZED TO THE EXTENT PERMITTED BY LAW, SUCH AS PUMPING WATER INTO A TEMPORARY SEDIMENTATION BASIN, PROVIDING SURGE PROTECTION AT THE INLET AND THE OUTLET OF PUMPS, FLOATING THE INTAKE OF THE PUMP, OR OTHER METHODS TO MINIMIZE AND RETAIN THE SUSPENDED SOLIDS. IF A PUMPING OPERATION IS CAUSING TURBIDITY PROBLEMS, SAID OPERATION SHALL CEASE UNTIL SUCH TIME AS FEASIBLE MEANS OF CONTROLLING TURBIDITY ARE DETERMINED AND IMPLEMENTED. THE CONTRACTOR MUST SUBMIT HIS DESIGN ALONG WITH THE LOCATIONS OF THE BASIN TO THE TOWN PRIOR TO CONSTRUCTION.
 - INSPECTION - A CERTIFIED SOIL SCIENTIST OR ENGINEER SHALL INSPECT ALL DISTURBED AREAS OF THE CONSTRUCTION ACTIVITY THAT HAVE NOT BEEN FINALLY STABILIZED. STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.25 INCH OR GREATER. INSPECTION REPORTS SHALL BE SUBMITTED TO THE OWNER WEEKLY, AND TO THE INLAND WETLANDS AGENT AND THE PLANNING & ZONING COMMISSION MONTHLY. WHERE SITES HAVE BEEN FINALLY STABILIZED, SUCH INSPECTION SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH FOR THREE MONTHS. CONTROLS SHALL BE CLEANED, REPAIRED, AND/OR REPLACED AS REQUIRED. ANY DAMAGED CONTROLS SHALL BE REPAIRED IMMEDIATELY.
 - PERFORM CONSTRUCTION SEQUENCING IN SUCH A MANNER TO CONTROL EROSION AND TO MINIMIZE THE TIME THAT EARTH MATERIALS ARE EXPOSED BEFORE THEY ARE COVERED, SEED, OR OTHERWISE STABILIZED.
- OPERATION & MAINTENANCE PLAN DURING CONSTRUCTION:**
- AN OPERATION AND MAINTENANCE (O&M) PLAN DURING CONSTRUCTION FOR STORMWATER CONTROLS IS DESCRIBED AS FOLLOWS:
 - OWNER SHALL BE RESPONSIBLE FOR ALL OPERATION AND MAINTENANCE OF THE SITE.
 - NO EARTHWORK ACTIVITIES SHALL COMMENCE UNTIL SILT FENCE HAS BEEN INSTALLED.
 - AREAS LEFT EXPOSED TO EROSION FOR MORE THAN SEVEN DAYS SHALL BE ROUGH GRADED AND TEMPORARILY STABILIZED. AREAS DISTURBED BUT INACTIVE FOR MORE THAN THIRTY DAYS SHALL BE TEMPORARILY SEED.
 - EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED INITIAL SUCCESSFUL ESTABLISHMENT OF GROUND COVER.
 - NO STAGING OF MATERIALS OR LAY DOWN AREAS SHALL BE LOCATED WITHIN THE RESOURCE AREAS.
 - PAVED AREAS SHALL BE KEPT FREE OF SEDIMENT, AND SHALL BE CLEANED PERIODICALLY AS REQUIRED BY CONSTRUCTION ACTIVITIES.
 - CATCH BASINS SHALL BE PERIODICALLY INSPECTED FOR THE ACCUMULATION OF SEDIMENT. ALL CATCH BASINS WITHIN THIS PROJECT SHALL BE CLEANED AT THE END OF THE PROJECT.
 - TEMPORARY SOIL STOCKPILES SHALL BE LOCATED WITHIN AREAS CONSISTING OF FORMERLY PAVED OR DEVELOPED SURFACES, AND WILL BE MOVED AS NECESSARY TO ACCOMMODATE ONGOING WORK.
 - SEDIMENT STOCKPILES SHALL HAVE A SIDE SLOPE OF NO GREATER THAN 2:1. ALL STOCKPILES SHALL BE ROUGH GRADED OR MAINTAIN A ROUGHENED SURFACE TO PREVENT EROSION. STOCKPILES THAT ARE NOT TO BE USED WITHIN 7 DAYS SHALL BE SEED AFTER FORMATION OF STOCKPILE AS TO PREVENT EROSION. HAYBALE BARRIER AND SILT FENCE SHALL BE INSTALLED APPROXIMATELY 10 FEET FROM TOE OF SLOPE.
 - THE CONTRACTOR IS RESPONSIBLE TO INSPECT AND REPAIR EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED TO PREVENT DAMAGE OR SEDIMENTATION.
 - UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL MEASURES. CLEAN SEDIMENT AND DEBRIS FROM TEMPORARY MEASURES AND FROM PERMANENT STORM DRAIN AND SANITARY SEWER SYSTEMS.
 - CATCH BASIN PROTECTION TO BE INSTALLED IN ALL CATCH BASINS LOCATED ON SITE.
- OPERATION & MAINTENANCE PLAN POST CONSTRUCTION:**
- SUGGESTED OPERATION AND MAINTENANCE ACTIVITIES AND PROPOSED SCHEDULE AFTER CONSTRUCTION AS FOLLOWS:
 - SITE OWNER WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE SITE AFTER CONSTRUCTION IS COMPLETED.
 - THE STORMWATER COLLECTION SYSTEMS WILL BE INSPECTED A MINIMUM OF FOUR (4) TIMES PER YEAR TO MAINTAIN PROPER OPERATION. SEDIMENT AND DEBRIS SHALL BE REMOVED FROM STRUCTURES AND PIPES. ALL SEDIMENTATION WILL BE REMOVED FROM EACH DEEP SUMP CATCH BASIN A MINIMUM OF FOUR (4) TIMES A YEAR OR WHENEVER THE DEPTH OF DEPOSITS IS GREATER THAN OR EQUAL TO ONE HALF THE DEPTH FROM THE BOTTOM OF THE INVERT OF THE LOWEST PIPE. DEEP SUMP CATCH BASINS SHALL BE CLEANED AT THE END OF THE FOLIAGE AND SNOW REMOVAL SEASONS.
 - PAVED SURFACES WILL BE SWEEPED TWICE ANNUALLY, APRIL AND OCTOBER, TO REMOVE SAND AND DEBRIS FOLLOWING WINTER MONTHS.
 - SEDIMENT FOREDAYS SHALL BE INCLUDED CHECKING FOR SIGNS OF RILLING AND GULLING. ALSO THIS WILL INCLUDE CHECKING FOR THE ACCUMULATION OF SEDIMENTS AND POLLUTANTS. SEDIMENT FOREDAYS SHALL BE CLEANED AT LEAST FOUR TIMES PER YEAR AND WHEN SEDIMENT DEPTH IS BETWEEN 3 TO 6 INCHES. WHEN MOWING GRASSES, KEEP THE GRASS HEIGHT NOT GREATER THAN SIX (6) INCHES.
 - AT LEAST TWICE PER YEAR, DURING THE SPRING (APRIL) AND FALL (NOVEMBER), OUTLET STRUCTURES WILL BE EXAMINED AND CLEANED, AND ALL FLOATABLES AND SOLIDS TRAPPED WILL BE REMOVED.
 - STORMWATER STRUCTURES AND PIPES WILL BE INSPECTED EACH SPRING (APRIL) AND FALL (NOVEMBER) FOR ACCUMULATION OF SEDIMENT AND DEBRIS. CLEAN AS REQUIRED.
 - RAIN GARDEN AREAS AND RAIN GARDENS SHALL BE MONTHLY. RE-MULCH VOID AREAS ANNUALLY IN THE SPRING. REMOVE DEAD VEGETATION ANNUALLY IN THE SPRING OR FALL. REPLACE DEAD VEGETATION ANNUALLY IN THE SPRING OR FALL, AND REPLACE ENTIRE MEDIA AND ALL VEGETATION IN LATE SPRING OR EARLY SUMMER AS NEEDED.
 - INFILTRATION BASIN SHALL BE INSPECTED AFTER EVERY MAJOR STORM EVENT FOR THE FIRST THREE MONTHS AND A MINIMUM TWICE A YEAR THEREAFTER. BASIN SHALL BE INSPECTED FOR, BUT NOT LIMITED TO, EVIDENCE OF DIFFERENTIAL SETTLEMENT, CRACKING, EROSION, LEAKAGE IN THE EMBANKMENTS, TREE GROWTH ON THE EMBANKMENTS, CONDITION OF RIPRAP, AND SEDIMENT ACCUMULATION AND THE HEALTH OF THE TURF. ALL UPPER-STAGE, SIDE SLOPES, EMBANKMENTS, AND EMERGENCY SPILLWAYS SHALL BE MOWED AT LEAST TWICE A YEAR. TRASH AND DEBRIS SHALL BE REMOVED AT LEAST TWICE A YEAR AND ACCUMULATED SEDIMENT SHALL BE REMOVED AT LEAST TWICE A YEAR FROM THE BASIN.

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER

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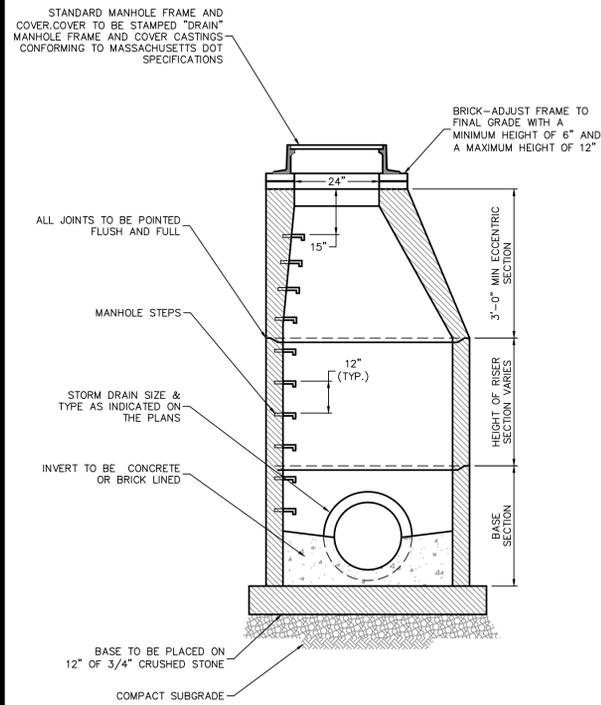
FUSS & O'NEILL
 78 INTERSTATE DRIVE
 WASHINGTONFIELD, MA 01089
 413.452.0445
 www.fussandoneill.com

THE GRANTHAM GROUP, LLC.
 EROSION & SEDIMENT CONTROL
 DETAILS
 CHRISTOPHER HEIGHTS ASSISTED
 LIVING FACILITY PROJECT
 MASSACHUSETTS
 CONCORD

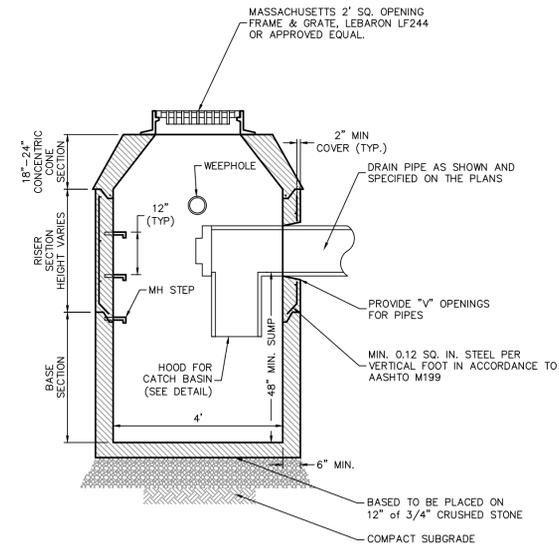
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 DATE: 11/16/2016

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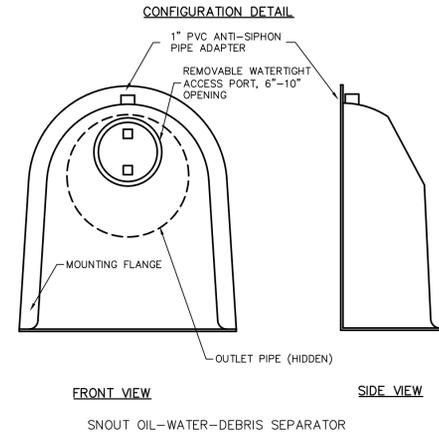
NOT FOR CONSTRUCTION



1 DRAINAGE MANHOLE
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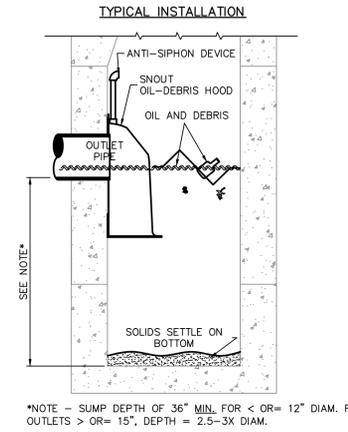


2 PRECAST CONCRETE CATCH BASIN
SCALE: N.T.S.

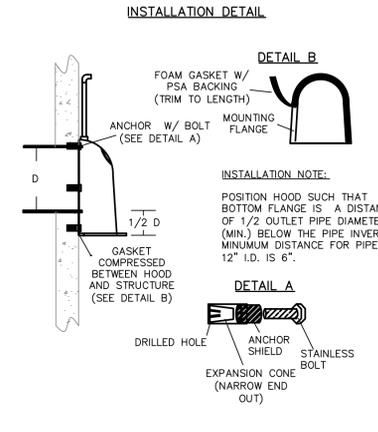


- NOTES:
- ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. 53 MT. ARCHER RD. LYME, CT 06371 (860) 434-0277, (860) 434-3195 FAX TOLL FREE: (800) 504-8008 OR (888) 434-0277 WEB SITE: www.bmpinc.com OR PRE-APPROVED EQUAL
 - ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
 - ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL)
 - THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOOT SIZE ALWAYS LARGER THAN PIPE SIZE).

3 HOOD FOR CATCH BASIN
SCALE: N.T.S.

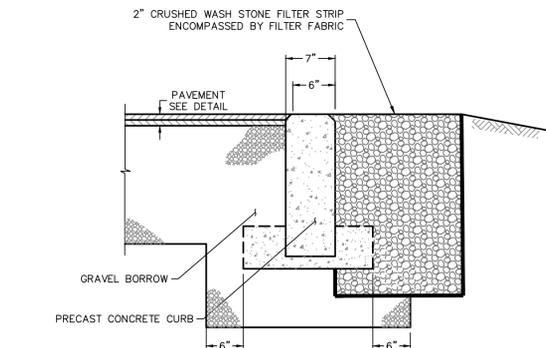


*NOTE - SUMP DEPTH OF 36" MIN. FOR < OR = 12" DIAM. FOR OUTLETS > OR = 15", DEPTH = 2.5-3X DIAM.

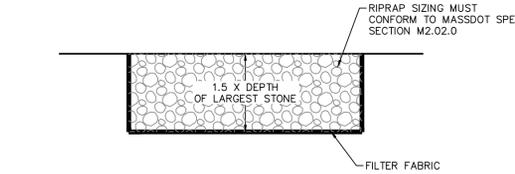
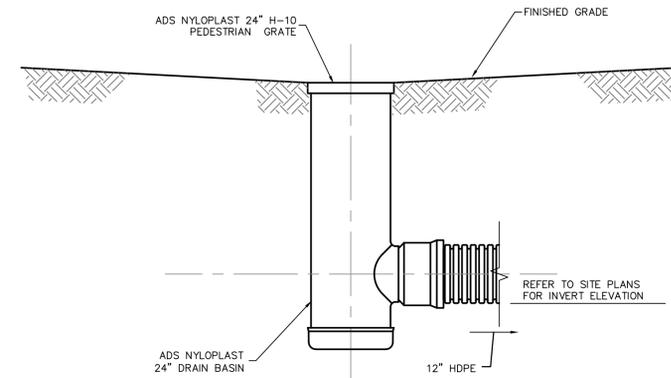


INSTALLATION NOTE:
POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR PIPES < 12" I.D. IS 6".

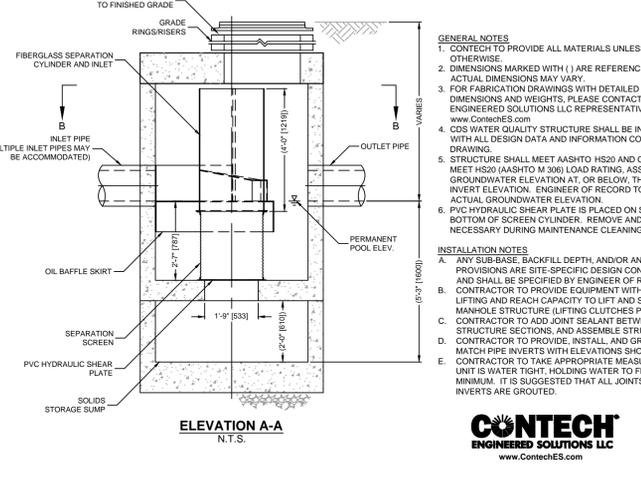
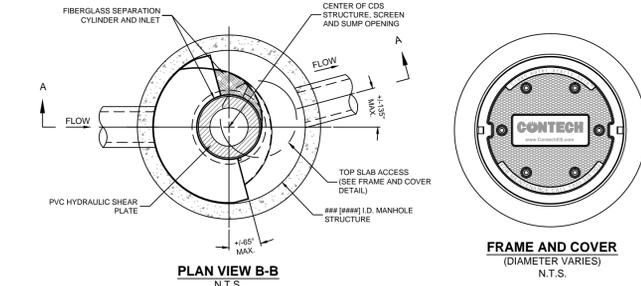
- THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES < 12" I.D.
- THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
- THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
- THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
- INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT. INSTALLATION KIT SHALL INCLUDE:
A. INSTALLATION INSTRUCTIONS
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
D. 3/8" STAINLESS STEEL BOLTS
E. ANCHOR SHIELDS



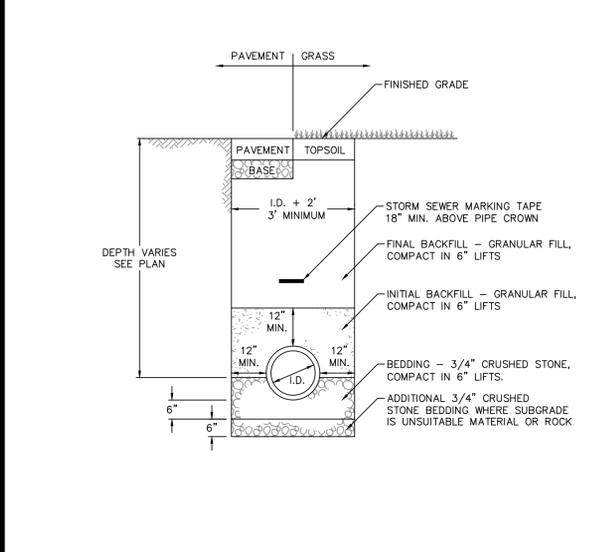
6 STONE FILTER STRIP W/ FLUSH PRECAST CONCRETE CURB
SCALE: N.T.S.



7 RIP RAP PROTECTION
SCALE: N.T.S.



8 PROPRIETARY STORMWATER TREATMENT STRUCTURE
SCALE: N.T.S.



4 STORM SEWER TRENCH
SCALE: N.T.S.

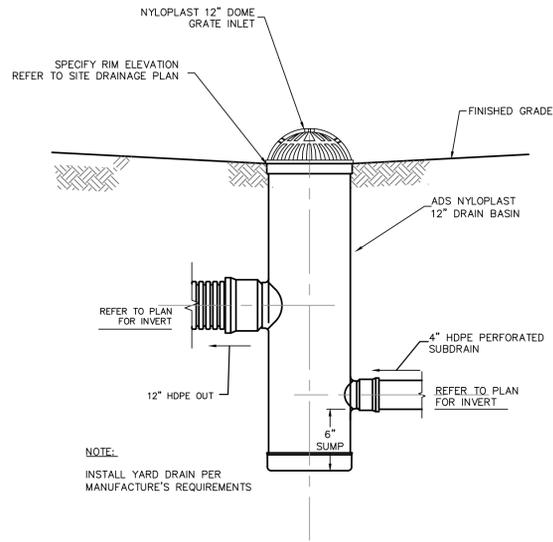
5 NYLOPLAST YARD DRAIN
SCALE: N.T.S.

- GENERAL NOTES:
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
 - CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
 - PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- INSTALLATION NOTES:
- ANY SUB-BASE BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 - CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



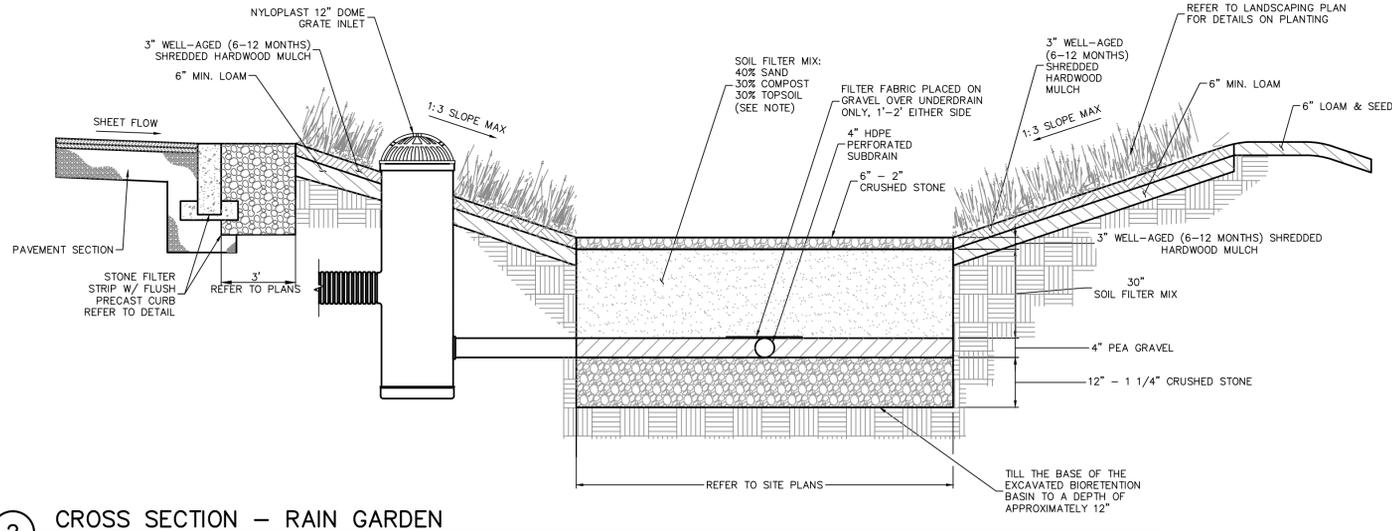
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<p>78 INTERSTATE DRIVE WILMINGTON, MASSACHUSETTS 01890 413.452.0445 www.fussandoneill.com</p>						
<p>THE GRANTHAM GROUP, LLC.</p> <p>CONSTRUCTION DETAILS</p> <p>CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY PROJECT</p> <p>CONCORD MASSACHUSETTS</p>						
<p>PROJ. No.: 20150485.A10 DATE: 11/16/2016</p>						
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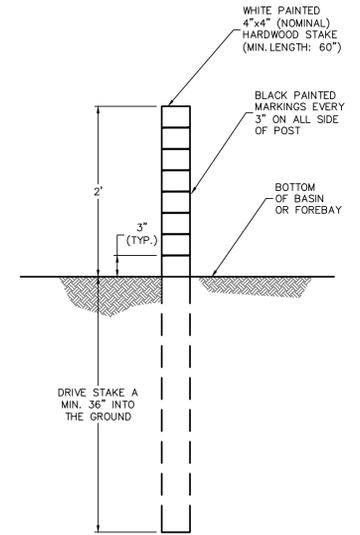


1 NYLOPLAST YARD DRAIN W/ BEEHIVE GRATE
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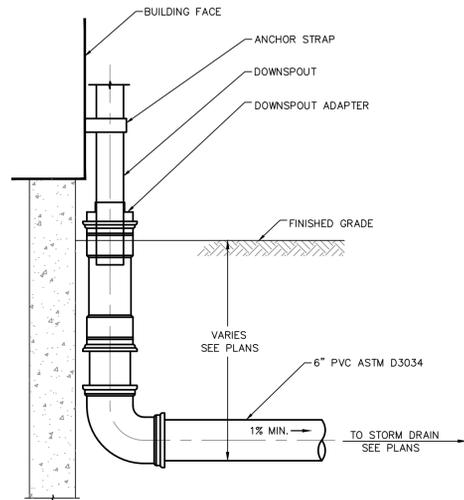
BIORETENTION BASIN NOTES:
 1. SAND COMPONENT SHALL MEET ASTM D422. COMPOST COMPONENT SHALL CONSIST OF WELL-AGED, WELL-AERATED LEAF COMPOST. TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE. CLAY OF SOIL MIX SHOULD NOT EXCEED 3%.
 2. THE SOIL SHOULD BE UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE BIORETENTION SOIL SHOULD BE FREE OF NOXIOUS WEEDS.
 3. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12 INCHES OR GREATER. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
 4. THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



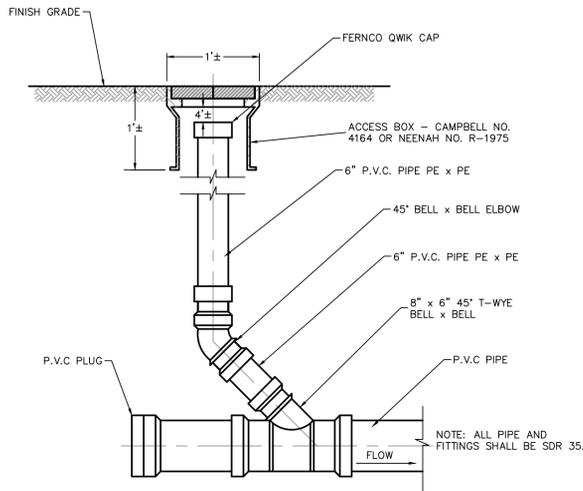
2 CROSS SECTION - RAIN GARDEN
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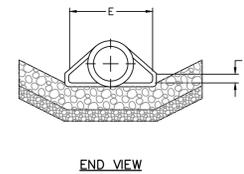
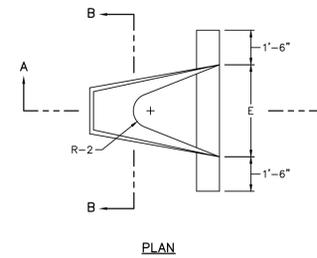
3 INFILTRATION BASIN SEDIMENTATION CONTROL POST
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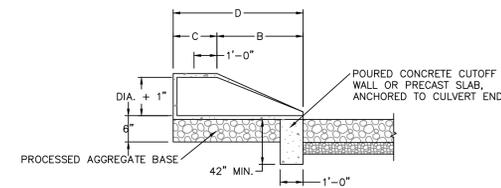
4 ROOF LEADER DRAIN CONNECTION
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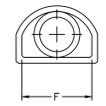
5 TERMINAL CLEAN-OUT
SCALE: N.T.S.



DIMENSIONS						
DIA.	A	B	C	D	E	F
12"	4"	2'-0"	6'-0 3/8"	6'-0 3/8"	2'-0"	1'-7 15/16"
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"	2'-0 5/16"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"	2'-5"
24"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	2'-9 3/16"
30"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3'-1"
36"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3'-11 13/16"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4'-5 7/8"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	4'-8 1/2"



SECTION A-A

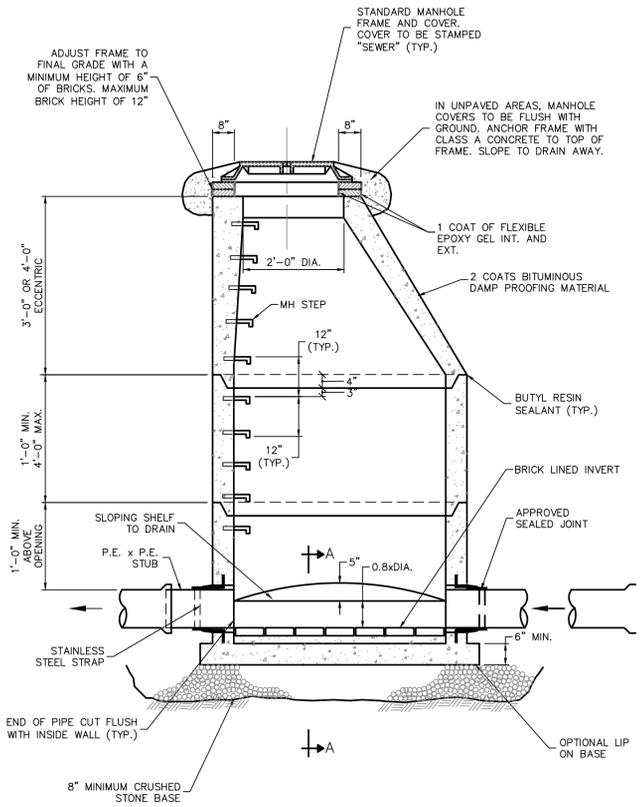


SECTION B-B

6 CONCRETE CULVERT FLARED END
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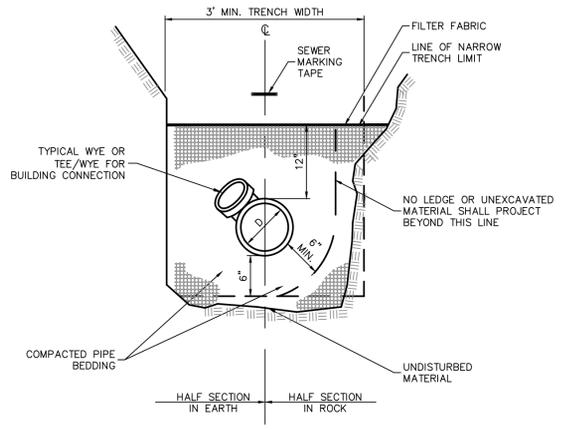
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FUSS & O'NEILL <small>78 INTERSTATE DRIVE 413.452.0445 WINGFIELD, MA 01089 www.fandob.com</small>									
THE GRANTHAM GROUP, LLC. CONSTRUCTION DETAILS CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY PROJECT <small>CONCORD MASSACHUSETTS</small>									
<small>PROJ. No.: 20150485.A10 DATE: 11/16/2016</small>									
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NOT FOR CONSTRUCTION									



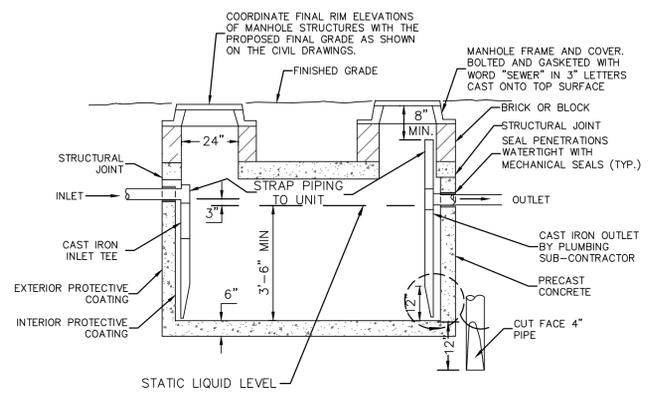
1 SANITARY SEWER MANHOLE
SCALE: N.T.S.

NOTE:
DETAIL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. INSTALLATION OF SANITARY SEWERS SHALL BE COORDINATED WITH THE CITY/TOWN PUBLIC WORKS.

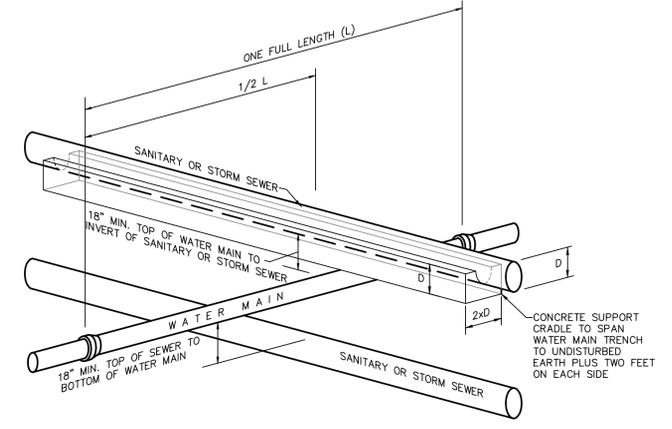


2 SANITARY SEWER TRENCH
SCALE: N.T.S.

- GREASE TRAP DESIGN NOTES:
- INTERIOR OF THE TANK AND EXTENSION TO GRADE MANHOLES SHALL BE COATED WITH AN EPOXY PETROLEUM RESISTANT SEALANT. EXTERIOR OF THE TANK AND EXTENSION GRADE MANHOLES SHALL BE COATED WITH A WATERPROOF FOUNDATION SEALANT. THIS INCLUDES THE TANK EXTERIOR TOP AND BOTTOM.
 - STRUCTURAL SEAM OF THE TANK SHALL BE FILLED IN WITH NON-SHRINKING CEMENT OR WATER PLUG AND COATED WITH A WATERPROOF SEALANT.
 - VOIDS BETWEEN INLET AND OUTLET PIPING OF THE TANK SHALL BE GROUTED WITH NON-SHRINKING CEMENT AND COATED WITH A WATERPROOF SEALANT.
 - THE TANK SHALL HAVE EXTENSIONS TO GRADE ABOVE THE INLET AND OUTLET PIPING. THE EXTENSION SHALL HAVE FRAMES AND MANHOLE COVERS. THE MANHOLES, EXTENSIONS AND ACCESSES TO THE TANK SHALL BE AT LEAST 24 INCHES IN DIAMETER.
 - THE HORIZONTAL STRUCTURAL SEAM OF THE TANK SHALL BE LOCATED ABOVE THE STATIC LIQUID LEVEL OF THE TANK.
 - DESIGN LOAD HS20-44 CONCRETE MIN. 5000 PSI #28 DAYS STEEL REINFORCEMENT-ASTM A-615-79 GR-60
 - SYSTEM CAPACITY SHALL BE 1,500 GALLONS.
 - GREASE TRAP SHALL BE PROVIDED AND INSTALLED BY PLUMBING SUB-CONTRACTOR AS REQUIRED BY 248 CMR.



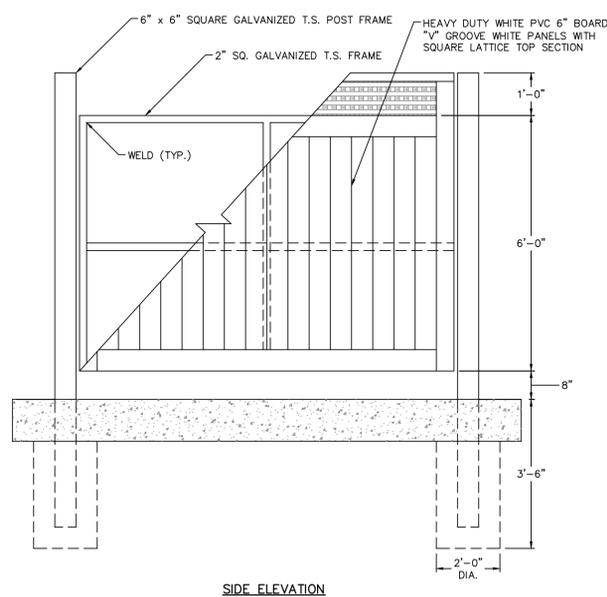
4 1,500 GALLON GREASE TRAP
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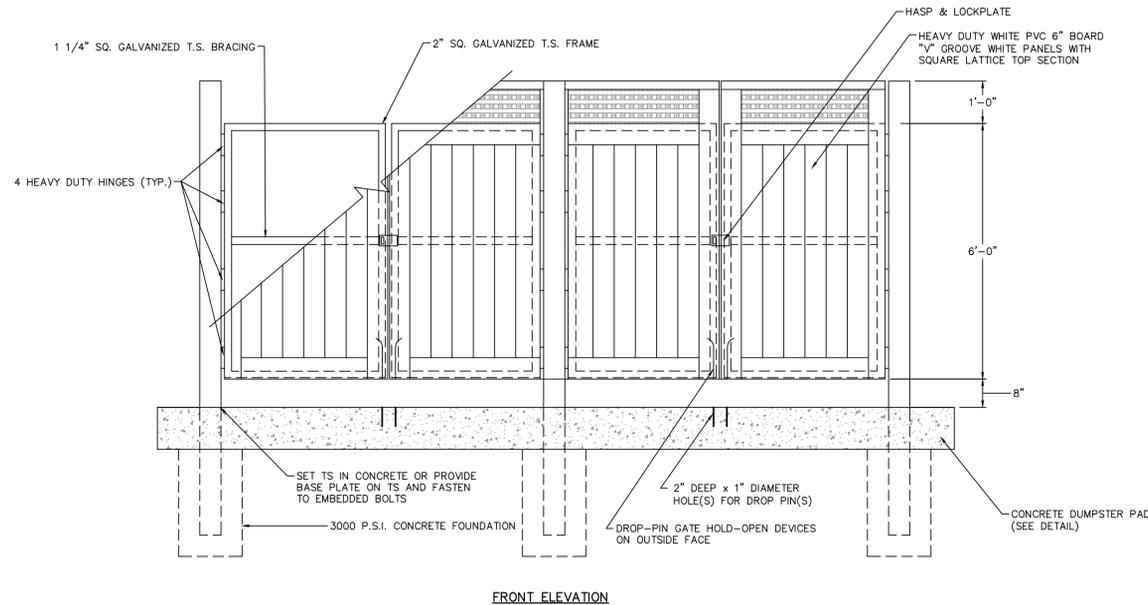
- NOTES:
- IF 18" VERTICAL SEPARATION CAN NOT BE ACHIEVED AT LOCATIONS OF WATER MAIN & SEWER CROSSINGS, CONTRACTOR SHALL CONSTRUCT EITHER OF THE FOLLOWING OPTIONS:
- CONSTRUCT SANITARY SEWER OF PVC PRESSURE PIPE MATERIAL 10' ON EACH SIDE OF THE WATER MAIN/STORM SEWER AND TEST PROPOSE SANITARY SEWER AT 150 PSI PRESSURE.
 - ENCASE SEWER PIPE IN CONCRETE, 4' DISTANCE ON EACH SIDE OF WATER MAIN / STORM SEWER CROSSING. CONCRETE ENCASMENT SHALL BE MINIMUM 6" ALL AROUND PROPOSED SEWER PIPE.

3 SECTION WATER/SEWER SEPARATION REQUIREMENTS
SCALE: N.T.S.

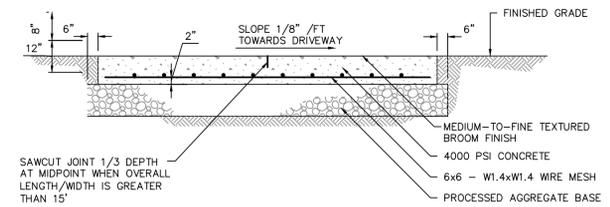
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<p>FUSS & O'NEILL 78 INTERSTATE DRIVE WASHINGTONFIELD, MA 01089 413.452.0445 www.fussob.com</p>			
<p>THE GRANTHAM GROUP, LLC. CONSTRUCTION DETAILS CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY PROJECT MASSACHUSETTS CONCORD</p>			
PROJ. No.:	20150485.A10		
DATE:	11/16/2016		
C3.40			
NOT FOR CONSTRUCTION			
No.	2/17/17	DATE	DESIGNER/REVIEWER
1.			SBM
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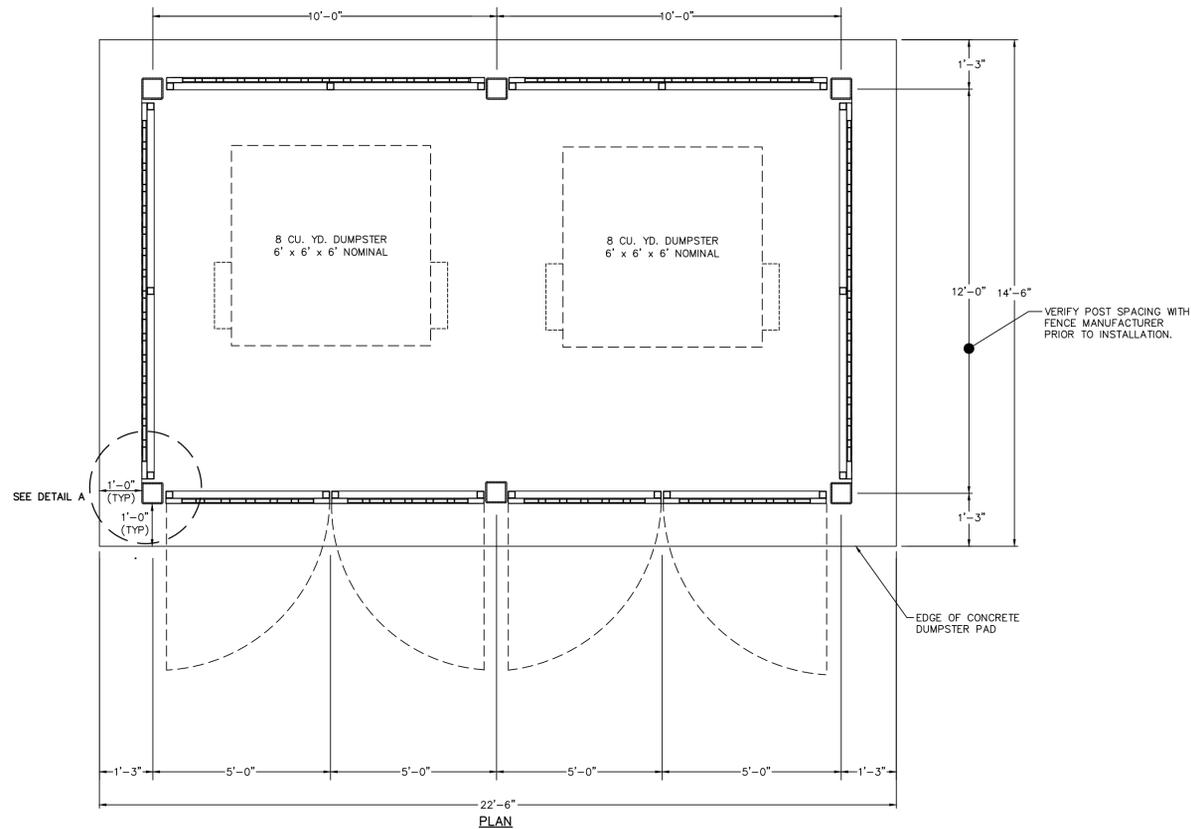
SIDE ELEVATION



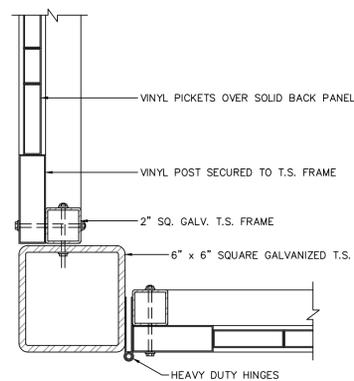
FRONT ELEVATION



SAWCUT JOINT 1/3 DEPTH AT MIDPOINT WHEN OVERALL LENGTH/WIDTH IS GREATER THAN 15'



PLAN



DETAIL A

2 CONCRETE DUMPSTER PAD
SCALE: N.T.S.

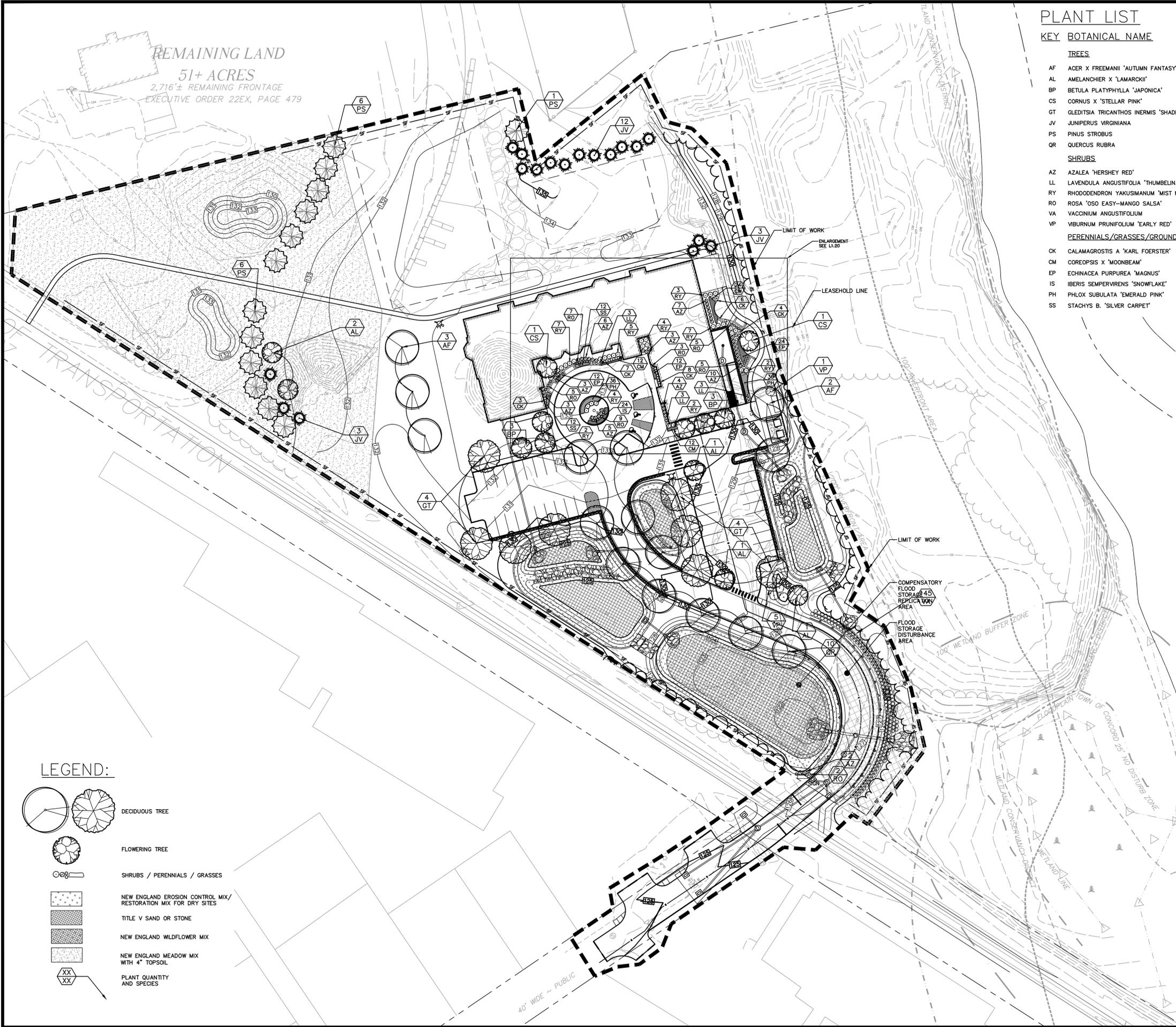
EXTERIOR CONCRETE NOTES:

- ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE 8TH EDITION AND ALL LOCAL REQUIREMENTS.
- DIMENSIONS AND CONDITIONS SHALL BE VERIFIED IN FIELD PRIOR TO THE COMMENCEMENT OF WORK.
- ALL CONCRETE SHALL HAVE A DESIGN STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
- REINFORCING RODS SHALL BE ASTM A615, GRADE 60 EXCEPT WHERE FIELD BENDING IS REQUIRED, GRADE 40.
- WELDED WIRE MESH SHALL BE ASTM A185. ALL WELDED WIRE MESH SHALL BE IN SHEET FORM.
- PROVIDE SAW CUT EXPANSION/CONTROL JOINTS AT AREAS NOTED. ALL SAW CUT EXPANSION JOINTS SHALL BE A MINIMUM OF 1/4 OF THE SLAB THICKNESS AND A MAXIMUM OF 1/3 OF THE SLAB THICKNESS. JOINTS MUST BE CUT WITHIN 24 HOURS OF CONCRETE PLACEMENT.
- JOINTS MUST BE SPACED IN ACCORDANCE WITH ACI-318 AND THE FOLLOWING RECOMMENDATIONS:
4" THICK SLAB-15'X15' < 250 SQ FT
5" THICK SLAB-18'X18' < 325 SQ FT
6" THICK SLAB-20'X20' < 400 SQ FT
8" THICK SLAB-25'X25' < 500 SQ FT
- ALL CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI-318.
- CONCRETE CONTRACTOR SHALL INSTALL CHASES THROUGH THE FOUNDATION WALLS AS DIRECTED BY THE GENERAL CONTRACTOR.
- EXTERIOR CONCRETE SLABS TO HAVE A LIGHT BROOM FINISH. CONCRETE SLABS TO RECEIVE (1) COAT OF CLEAR SEALER/HARDENER EXCEPT AS NOTED.
- ALL REINFORCING BARS TO HAVE MINIMUM 2" COVERAGE.
- ALL CONCRETE TO BE POURED WITH A MAXIMUM 4" SLUMP.
- FLOOR SLAB REINFORCING MUST BE LOCATED AT OR ABOVE MID DEPTH OF THE FLOOR SLAB UNLESS TOP AND BOTTOM REINFORCEMENT IS SPECIFIED. SHEETS ARE TO BE USED IN ALL WELDED WIRE MESH APPLICATIONS. WELDED WIRE MESH TO BE PLACED WITH CHAIRS OR BOLSTERS ONLY.
- POURING CONCRETE FLOORS IN A CHECKERBOARD PATTERN IS NOT APPROVED OR RECOMMENDED BY ACI.
- SEPARATE POURS MUST HAVE SMOOTH DOWELS (WRAPPED OR GREASED). DOWEL SIZES SHALL BE AS FOLLOWS:
4" THICK SLAB 1/2"x12" LONG 18" O.C.
5" THICK SLAB 1/2"x12" LONG 18" O.C.
6" THICK SLAB 3/4"x16" LONG 18" O.C.
8" THICK SLAB 3/4"x18" LONG 18" O.C.
BOND BREAKER COMPOUND TO BE PAINTED ON PRIOR TO POURING ADJACENT SLAB.
- CONCRETE SUBCONTRACTOR TO APPROVE SUBGRADES PRIOR TO SLAB INSTALLATION.
- CONTROL JOINTS AROUND ALL SLAB PENETRATIONS SHOULD BE SAWCUT THE FULL DEPTH OF THE SLAB OR BE DONE AS A CONSTRUCTION JOINT (POURED SEPARATELY).
- ALL JOINTS SHALL BE FILLED AND SEALED.

1 DOUBLE DUMPSTER ENCLOSURE
SCALE: N.T.S.

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MS VIEW: Plotter: DWG TO PDF.PC3 CTB File: FOSTB

SCALE: HORZ.: N.T.S. VERT.: DATUM: HORZ.: VERT.:	DESIGNER/REVIEWER
THE GRANTHAM GROUP, LLC. CONSTRUCTION DETAILS CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY PROJECT CONCORD MASSACHUSETTS	DESCRIPTION
PROJ. No.: 20150485.A10 DATE: 11/16/2016	DATE
C3.70	No.
NOT FOR CONSTRUCTION	



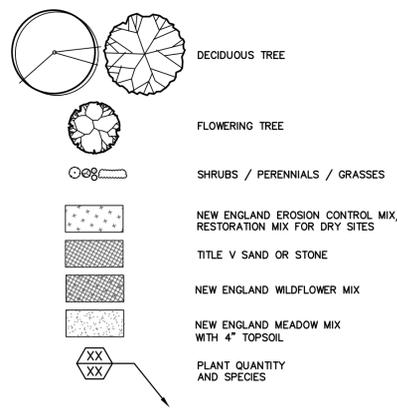
PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE
TREES				
AF	ACER X FREEMANI 'AUTUMN FANTASY'	AUTUMN FANTASY MAPLE	5	3"-3.5" CAL.
AL	AMELANCHIER X 'LAMARCKII'	LAMARCK SERVICEBERRY	5	6-8' HT.
BP	BETULA PLATYPHYLLA 'JAPONICA'	WHITESPIRE BIRCH	6	12-14' HT.
CS	CORNUS X 'STELLAR PINK'	PINK RUTGERS HYBRID DOGWOOD	2	2"-2.5" CAL.
GT	GLEDITSIA TRICANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	8	3"-3.5" CAL.
JV	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	18	6-8' HT.
PS	PINUS STROBUS	EASTERN WHITE PINE	13	6-8' HT.
QR	QUERCUS RUBRA	NORTHERN RED OAK	10	3"-3.5" CAL.
SHRUBS				
AZ	AZALEA 'HERSHEY RED'	RED EVERGREEN AZALEA	42	3 GAL.
LL	LAVENDULA ANGUSTIFOLIA 'THUMBELINA LEIGH'	DWARF ENGLISH LAVENDER	9	2 GAL.
RY	RHODODENDRON YAKUSIMANUM 'MIST MAIDEN'	PINK YAK RHODODENDRON	36	3 GAL.
RO	ROSA 'OSO EASY-MANGO SALSA'	RED ORANGE LANDSCAPE ROSE	36	3 GAL.
VA	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	145	1 GAL.
VP	VIBURNUM PRUNIFOLIUM 'EARLY RED'	EARLY RED BLACKHAW VIBURNUM	6	3 GAL.
PERENNIALS/GRASSES/GROUNDCOVERS				
CK	CALAMAGROSTIS A 'KARL FOERSTER'	FEATHER REED GRASS	28	2 GAL.
CM	COREOPSIS X 'MOONBEAM'	YELLOW THREADLEAF COREOPSIS	48	1 GAL.
EP	ECHINACEA PURPUREA 'MAGNUS'	PURPLE CONEFLOWER	48	1 GAL.
IS	IBERIS SEMPERVIRENS 'SNOWFLAKE'	CANDYTUFT	24	1 GAL.
PH	PHLOX SUBULATA 'EMERALD PINK'	PINK CREEPING PHLOX	72	1 GAL.
SS	STACHYS B. 'SILVER CARPET'	SILVER CARPET LAMB'S EARS	24	1 GAL.

PLANTING NOTES:

- ALL PLANTING MATERIAL TO BE NURSERY GROWN STOCK SUBJECT TO A.A.N. STANDARDS
- THE CONTRACTOR SHALL SUPPLY ALL PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND LISTED IN THE PLANT LIST. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT LIST AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER NUMBER SHALL APPLY.
- ALL PLANTS SHALL BE APPROVED PRIOR TO INSTALLATION AND SHALL BE LOCATED ON SITE BY THE CONTRACTOR FOR THE APPROVAL OF THE LANDSCAPE ARCHITECT. ANY INSTALLATIONS WHICH WERE NOT APPROVED BY THE LANDSCAPE ARCHITECT AND WHICH ARE SUBSEQUENTLY REQUESTED TO BE MOVED WILL BE DONE AT THE CONTRACTORS EXPENSE.
- PRECISE LOCATION OF ITEMS NOT DIMENSIONED ON THE PLAN ARE TO BE FIELD STAKED BY THE CONTRACTOR AND SHALL BE SUBJECT TO THE REQUIREMENTS SPECIFIED IN THE PREVIOUS NOTE.
- ALL SHRUB MASSINGS AND TREE PITS SHALL BE MULCHED TO A DEPTH OF 3" WITH SHREDDED PINE BARK MULCH.
- TREES SHALL NOT BE STAKED UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGED VEGETATION AND SHALL REPLACE OR REPAIR ANY DAMAGED MATERIAL AT HIS OWN EXPENSE. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 PRIOR TO CONSTRUCTION.
- ALL SHRUB AND GROUNDCOVER PLANTING AREAS SHALL HAVE CONTINUOUS BEDS OF TOPSOIL 12" DEEP. ALL SOD AND HYDROSEED AREAS SHALL HAVE A MINIMUM HIGH-QUALITY (MINIMUM 10% ORGANIC CONTENT) TOPSOIL BED OF 6".
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES IN THE FIELD. WHERE PLANT MATERIAL MAY INTERFERE WITH UTILITIES, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT TO COORDINATE THEIR INSTALLATION.
- FOR PLANTING SOIL MIX, SEE SPECIFICATIONS OR PLANTING DETAILS.
- ALL EXISTING RILL, GULLY OR CHANNEL EROSION SHALL BE FILLED WITH APPROPRIATE BACKFILL MATERIAL, FINE RAKED, SCARIFIED AND STABILIZED WITH APPROPRIATE VEGETATIVE MATERIAL AND / OR APPROPRIATE SEDIMENTATION AND EROSION CONTROL MEASURES.
- ADJUSTMENTS IN THE LOCATION OF THE PROPOSED PLANT MATERIAL AS A RESULT OF EXISTING VEGETATION TO REMAIN SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL MAINTENANCE REPAIR AND REPLACEMENT OF PLANT MATERIAL AS REQUIRED, FOR THE DURATION OF THE PROJECT AND SUBSEQUENT WARRANTY PERIOD.
- PLANTINGS SHALL BE INSTALLED AND ESTABLISHED OUTSIDE OF THE PEAK WATER DEMAND PERIOD UNLESS OTHERWISE APPROVED IN WRITING BY THE CONCORD PUBLIC WORKS WATER AND SEWER DIVISION. PLANTINGS INSTALLED IN THE DRY SUMMER MONTHS AND / OR LAWN SEEDED OUT OF SPRING OR FALL PERIODS, IF ALLOWED BY OWNER AND WATER AND SEWER DIVISION, WILL REQUIRE AGGRESSIVE IRRIGATION PROGRAMS AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE DIRECTED BY THE OWNER.
- UPON COMPLETION OF PLANTING, REMOVE FROM SITE ALL EXCESS SOIL, MULCH AND MATERIALS AND DEBRIS RESULTING FROM WORK OPERATIONS. CLEAN UP SHOULD BE COMPLETED AT THE END OF EACH WORKING DAY. RESTORE TO ORIGINAL CONDITIONS ALL DAMAGED PAVEMENTS, PLANTING AREAS, STRUCTURES AND LAWN AREAS RESULTING FROM LANDSCAPING OPERATIONS.
- CONTRACTOR SHALL SURVEY, LOCATE, AND PROTECT ALL TREES WITHIN AREAS SHOWN AS "EXISTING VEGETATION TO REMAIN" WITHIN THE DEVELOPMENT ENVELOPE FOR REVIEW BY L.A. PRIOR TO CLEARING OPERATIONS.
- CONTRACTOR TO RESEED ALL DISTURBED AREAS
- SIDES OF INFILTRATION AREAS TO BE SEEDDED WITH NEW ENGLAND EROSION CONTROL / RESTORATION MIX FOR DRY SITES AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS OR APPROVED EQUAL. NEW ENGLAND WETLAND PLANTS, INC. WWW.NEWP.COM 413-548-8000
 MIX SHALL CONTAIN SPECIES: CREEPING RED FESCUE, (FESTUCA RUBRA), CANADA WILD RYE, (ELYMUS CANADENSIS), ANNUAL RYEGRASS, (LOLIUM MULTIFLORUM), PERENNIAL RYEGRASS, (LOLIUM PERENNE), BLUE GRAMA, (BOULELOUA GRAEILIS), LITTLE BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), INDIAN GRASS, (SORGHASTRUM NUTANS), ROUGH BENTGRASS, (AGROSTIS SCABRA), UPLAND BENTGRASS, (AGROSTIS PERENNANS)
- BOTTOM OF RAIN GARDEN, INFILTRATION BASIN FOREBAYS AND COMPENSATORY STORAGE AREA TO BE SEEDDED WITH NEW ENGLAND WILDFLOWER MIX AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS OR APPROVED EQUAL. NEW ENGLAND WETLAND PLANTS, INC. WWW.NEWP.COM 413-548-8000
 MIX SHALL CONTAIN SPECIES: LITTLE BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), CREEPING RED FESCUE, (FESTUCA RUBRA), INDIAN GRASS, (SORGHASTRUM NUTANS), PARTRIDGE PEA, (CHAMAECRISTA FASCICULATA), CANADA WILD RYE, (ELYMUS CANADENSIS), VIRGINIA WILD RYE, (ELYMUS VIRGINICUS), COMMON MILKWEED, (ASCLEPIAS SYRIACA), GOLDEN ALEXANDERS, (CIZIA AUREA), OX EYE SUNFLOWER, (HELIOPSIS HELIANTHOIDES), BLACK EYED SUSAN, (RUDBECKIA HIRTA), NEW ENGLAND ASTER, (ASTER NOVAE-ANGLAE), WILD BERGAMOT, (MONARDA FISTULOSA), TALL WHITE BEARDTONGUE, (PENSTEMON DIGITALIS), SMOOTH BLUE ASTER, (ASTER LAEVIS), EVENING PRIMROSE, (OENOTHERA BIGNONIENSIS), NEW YORK IRONWEED, (VERNONIA NOVEBORACENSIS), GRAY GOLDENROD, (SOLIDAGO NEMORALIS).
- THE LOWEST PORTION OF THE INFILTRATION BASINS SHALL CONSIST OF A MINIMUM OF 12" OF TITLE V SAND OR STONE PLACED DIRECTLY OVER NATIVE SOILS.
- TURF GRASS INSTALLATION SHALL BE LIMITED. TURF GRASS SHALL BE A DROUGHT TOLERANT GRASS SEED MIX APPROVED BY THE CONCORD PUBLIC WORKS WATER AND SEWER DIVISION.

LEGEND:



SCALE: HORIZ.: 1" = 40'	VERT.: 1" = 40'	DATE: 3/1/2017	DESIGNER: SEM	REVIEWER: DD
DATUM:	HORIZ.: 1" = 40'	VERT.: 1" = 40'	REVISED PER COMMENTS: 1.	REVISED PER COMMENTS: 2.
GRAPHIC SCALE		DATE: 2/17/2017		
THE GRANTHAM GROUP, LLC.		SITING PLAN		
CHRISTOPHER HEIGHTS ASSISTED LIVING FACILITY PROJECTS		MASSACHUSETTS		
CONCORD		PROJ. No.: 20150485.A10		
		DATE: 11/16/2016		
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