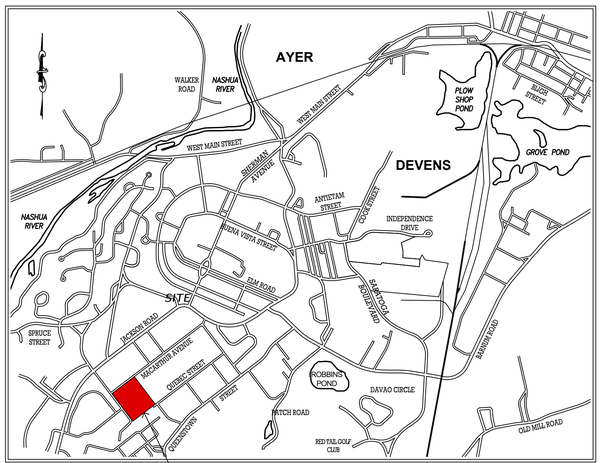
PROJECT: **PROPOSED BUILDING**
4 MacARTHUR AVENUE
DEVENS, MASSACHUSETTS

APPLICANT: **MacARTHUR AVENUE, LLC**
133 PEARL STREET
BOSTON, MA 02110

CIVIL ENGINEER: **EUGENE T. SULLIVAN, INC.**
230 LOWELL STREET- SUITE 2A
WILMINGTON, MASSACHUSETTS



4 MacARTHUR AVENUE SITE

LOCUS PLAN

DRAWING INDEX:

SHEET NO.	DESCRIPTION
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COMMONWEALTH OF MASSACHUSETTS
EUGENE T. SULLIVAN
CIVIL
No. 45737
REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOTIFY "DIG-SAFE" [888.344.7233] AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
2. THE UNDERGROUND UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED BY FIELD SURVEY AND EXISTING DRAWINGS. THIS ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN USE OR ABANDONED. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.
3. THESE SITE PLANS ARE BASED UPON AN ON-THE-GROUND TOPOGRAPHICAL SURVEY. NO ATTEMPT WAS MADE IN PREPARING THESE PLANS TO ASCERTAIN THE LOCATION OF NON-VISUALLY APPARENT SUBSURFACE UTILITIES AND STRUCTURES OR CONDITIONS.
4. THESE PLAN HAVE BEEN PREPARED FOR THIS CLIENT AND THIS PROJECT. REPRODUCTION IN WHOLE OR IN PART FOR OTHER PURPOSES IS STRICTLY PROHIBITED.
5. THESE DRAWINGS SHALL NOT BE SCALED. IF CLARIFICATION OF INTENT IS REQUIRED, THE CONTRACTOR SHALL REQUEST CLARIFICATION PRIOR TO CONTINUING HIS WORK.
6. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO INITIATION OF THE WORK AND SHALL NOTIFY THE CIVIL ENGINEER OF RECORD AND THE OWNER OF ANY DISCREPANCIES WITH THE SITE CONDITIONS OR PROPOSED CONSTRUCTION IMMEDIATELY UPON DISCOVERY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING PROPOSED CONSTRUCTION WITH EXISTING CONDITIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED PERMITS AND LICENSES.
9. ALL WORK SHALL CONFORM TO ALL LOCAL AND STATE REGULATORY AGENCIES AND UTILITY REQUIREMENTS.
10. UPON ENTERING THE SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL, DEWATERING AND SHALL UNDERTAKE ALL MEASURES TO PROTECT WETLANDS, THE DRAINAGE SYSTEMS, ADJACENT PROPERTIES AND STREETS FROM SILTATION, STORMWATER RUNOFF, AND DUST DURING THE ENTIRE PROJECT DURATION.
11. THE LIMIT OF WORK SHALL BE AS DESIGNATED ON THESE PLANS, AND/OR THE EDGE OF PROPOSED GRADING AND/OR THE PROPERTY LINES IF NOT INDICATED OTHERWISE.
12. THE CONTRACTOR SHALL CLEARLY MARK THE LIMITS OF WORK PRIOR TO THE START OF CONSTRUCTION.
13. MATERIALS IMPORTED TO THE SITE SHALL BE FREE OF HAZARDOUS WASTE AND NOXIOUS MATERIALS, STORED AS DESIGNATED AND SHALL NOT HAMPER THE SITE ACTIVITIES.
14. MATERIALS EXPORTED FROM THE SITE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN A LEGAL MANNER.
15. ALL NECESSARY POLICE DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE DETAILS WITH THE LOCAL POLICE DEPARTMENT.
16. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. ALL COSTS RELATED TO THE REPAIR OF DAMAGED UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION AT NO ADDITIONAL COSTS TO THE OWNER.
17. THE CONTRACTOR SHALL UTILIZE ALL PRECAUTIONS AND MEASURES NECESSARY TO ENSURE THE SAFETY OF THE PUBLIC, ALL PERSONNEL AND PROPERTY DURING CONSTRUCTION IN ACCORDANCE WITH OSHA STANDARDS, INCLUDING BARRICADES, SAFETY LIGHTING, CONES, POLICE DETAILS, AND/OR FLAGMEN AS NECESSARY.
18. ALL TRENCHING WORK WITHIN A ROADWAY SHALL BE COORDINATED WITH THE PROPER LOCAL AND/OR STATE AGENCY. TRENCH SAFETY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR DOING THE TRENCH WORK, INCLUDING ANY LOCAL AND/OR STATE PERMITS REQUIRED FOR THE TRENCHWORK.
19. ALL TRENCHWORK WITHIN EXISTING PAVEMENT SHALL BE SAWCUT PER THE APPLICABLE DETAILS. TRENCHWORK BACKFILL AND COMPACTION SHALL HAVE MAXIMUM 8" LIFTS. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE THE PATCH AND REPAVE AFTER ONE COMPLETE 12-MONTH CYCLE IF SETTLEMENT OCCURS DUE TO INADEQUATE COMPACTION.
20. SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION WILL BE PROVIDED BY THE CONTRACTOR AND SHALL BE CONDUCTED BY A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS DURING CONSTRUCTION.
21. CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, TRENCHWORK AND ROADWAY WORK.
22. SOLID WASTES SHALL BE COLLECTED AND STORED IN A SECURED DUMPSTER. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.
23. THE CONTRACTOR SHALL RESTORE ALL SURFACES EQUAL TO THEIR ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE. AREAS NOT DISTURBED BY CONSTRUCTION SHALL BE LEFT NATURAL. THE CONTRACTOR SHALL TAKE CARE TO PREVENT DAMAGE TO SHRUBS, TREES AND OTHER LANDSCAPING AND/OR NATURAL FEATURES.
24. LEDGE OR BOULDER EXCAVATION IS ANTICIPATED FOR THIS SITE. THE CONTRACTOR SHALL PROVIDE A UNIT COST PER CUBIC YARD FOR LEDGE AND/OR BOULDER REMOVAL. LEDGE AND/OR BOULDERS LESS THAN ONE CUBIC YARD IN SIZE WILL NOT BE CONSIDERED PAYABLE ROCK.

DEVENS UXO PROTOCOL AND SOILS POLICY:

1. THIS PROPERTY IS SUBJECT TO THE DEVENS UXO PROTOCOL AND PROCEDURES:
   1.1. WHEREAS DEVENS IS A FORMER ACTIVE MILITARY INSTALLATION, IT IS POSSIBLE THAT UNEXPLODED ORDNANCE ["UXO"] AND/OR MUNITIONS OF EXPLOSIVE CONCERN ["MEC"] MAY EXIST AND/OR BE ENCOUNTERED AT DEVENS. PRIOR TO PERFORMING ANY INTRUSIVE SOIL WORK, ALL PERSONNEL ONSITE MUST VIEW A UXO/MEC INSTRUCTIONAL VIDEO BRIEFING INTENDED TO INSTRUCT ON-SITE PERSONNEL AS TO HOW TO VISUALLY RECOGNIZE UNEXPLODED ORDNANCE ["UXO"] AND/OR MUNITIONS OF EXPLOSIVE CONCERN ["MEC"] WHICH COULD BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES AND PROVIDING INSTRUCTION OF THE PROCEDURES TO BE FOLLOWED IF A POTENTIAL UXO/MEC IS ENCOUNTERED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING VIEWING OF THE VIDEO BY ALL PERSONNEL [BOTH CONTRACTOR AND SUBCONTRACTORS] WHO WILL BE EXCAVATING [EITHER BY MACHINE OR HAND TOOLS], WILL BE WORKING WITHIN AN EXCAVATED AREA OR WHO WILL BE OVERSEEING OR SUPERVISING EITHER. ARRANGEMENTS CAN BE MADE FOR VIEWING OF THE INSTRUCTIONAL VIDEO BY CONTACTING THE DEVENS FIRE DEPARTMENT [978.772.4600] LOCATED AT 182 JACKSON ROAD, DEVENS, MA. CONTACT FIRE DEPARTMENT TO SCHEDULE THE VIEWING TO AVOID ANY DELAYS IN THE CONTRACTOR'S PROPOSED CONSTRUCTION SCHEDULE.
   1.2. IF AN ORDNANCE IS FOUND OR SUSPECTED, THE CONTRACTOR SHALL FOLLOW THE FOLLOWING PROCEDURES:

   DO NOT TOUCH

   STOP ALL OPERATIONS IN THE AREA OF THE ITEM

   SHUT OFF ALL EQUIPMENT IN THE AREA OF THE ITEM

   EVACUATE THE AREA

   CALL DEVENS DISPATCH AT 978.772.7200

   1.3 DISPATCH WILL NOTIFY THE APPROPRIATE EMERGENCY AND PUBLIC SAFETY PERSONNEL INCLUDING NOTIFICATION OF THE ARMY UXO RESPONSE COORDINATOR.
   1.4 STATE POLICE, IN CONJUNCTION WITH THE DEVENS FIRE CHIEF AND THE US ARMY WILL DETERMINE THE COURSE OF ACTION TO BE FOLLOWED REGARDING THE RELOCATING, REMOVING, AND/OR DESTROYING OF FOUND UXO UPON FURTHER INVESTIGATION OF THE ITEM.
   1.5 THE CONTRACTOR WILL BE NOTIFIED WHEN PERSONNEL CAN RETURN TO THE AREA AND/OR WHEN AND WHERE OPERATION OF EQUIPMENT CAN RESUME.

2. TO THE EXTENT RESAONABLY PRACTICAL, NO SOIL SHALL LEAVE ANY CONSTRUCTION SITE AT DEVENS. IN THE EVENT THAT EXCESS SOILS MUST BE REMOVED FROM A DEVELOPMENT SITE, THE FOLLOWING PROTOCOL SHALL APPLY:

   a. EXCESS SOILS MAY BE TRANSPORTED TO ANOTHER SUITABLE LOCATION WITHIN DEVENS, PROVIDED HOWEVER, THAT:

      THE SOILS MUST BE RESTRICTED FOR USE ONLY AT A COMMERCIAL SITE.

      THERE IS WRITTEN DOCUMENTATION EVIDENCING THE CONSENT AND APPROVAL OF THE PARTY AGREEING TO ACCEPT THE SOILS FOR A SPECIFIC USE AND THE USE, LOCATION AND DISPOSITION OF THE SOILS SHALL BE APPROVED IN WRITING BY MASS DEVELOPMENT.

      CHEMICAL TESTING OF SOILS TO BE TRANSPORTED MUST BE PERFORMED IN CONFORMITY WITH THE SOIL MANAGEMENT PLAN DEVELOPED BY HALEY AND ALDRICH AND ANY SITE SPECIFIC REQUIREMENTS IMPOSED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION [MA DEP]. THE MA DEP MUST REVIEW AND APPROVE THE RESULTS OF THE SOILS TESTS PRIOR TO THE SOILS BEING TRANSPORTED.

      UPON APPROVAL OF SOIL TEST RESULTS BY THE MA DEP, THE OWNER OF THE SOILS SHALL REQUEST THAT MASS DEVELOPMENT PROVIDE WRITTEN APPROVAL FOR THE SOILS TO BE TRANSPORTED: AND

      ANY RELOCATION OF THE SOILS SHALL BE COMPLIANT WITH ALL APPLICABLE DEC REGULATIONS AND BYLAWS.

   b. IF THERE IS NO SUITABLE LOCATION ON DEVENS TO RELOCATE THE SOILS, THE SOILS MAY BE REMOVED TO A LOCATION OUTSIDE OF DEVENS PROVIDED HOWEVER, THAT:

      THE REQUIREMENTS IN 2A ABOVE SHALL APPLY: AND

      ALL SOILS TO BE RELOCATED OUTSIDE OF DEVENS SHALL BE PASSED THROUGH A 1" DIAMETER SCREEN UNDER THE SUPERVISION OF OF TRAINED UXO PERSONNEL.

      ALL TAILINGS [I.E. DEBRIS/MATTER NOT PASSING THROUGH THE SCREEN] SHALL BE UTILIZED ONSITE.

      IF UXO IS FOUND IN THE TAILINGS, OPERATIONS IN THE VICINITY OF THE FOUND ITEM SHALL IMMEDIATELY CEASE AND MASS DEVELOPMENT AND THE STATE POLICE SHALL BE NOTIFIED BY THE CONTRACTOR.

EROSION AND SEDIMENT CONTROL:

THE FOLLOWING EROSION AND SEDIMENT CONTROL TECHNIQUES AND PROCEDURES ARE TO BE EMPLOYED TO PROTECT THE ADJACENT WETLANDS AND NEIGHBORING PROPERTIES AND ROADWAYS.

1. PRIOR TO ANY SITE ACTIVITIES, EROSION CONTROLS ARE TO BE PLACED WHERE SHOWN ON THESE PLANS. EROSION CONTROLS ARE TO TRAP SEDIMENT TRANSPORTED BY RUN-OFF BEFORE IT IMPACTS THE WETLANDS OR LEAVES THE CONSTRUCTION SITE. THESE SILT FENCES AND HAY BALES ARE TO BE INSPECTED PERIODICALLY AND REPAIRED / REPLACED AS NECESSARY DURING THE CONSTRUCTION PROJECT. INSPECTIONS OF THE EROSION CONTROLS ARE TO BE PERFORMED WEEKLY AND AFTER EVERY SIGNIFICANT PRECIPITATION EVENT [EXCEEDING ½" OF PRECIPITATION].
2. THE EROSION CONTROLS ARE TO BE IN PLACE PRIOR TO ANY EXCAVATION OR CLEARING OF THE SITE. AREAS OUTSIDE THE EROSION CONTROLS ARE NOT TO BE DISTURBED DURING CONSTRUCTION.
3. SEDIMENT BUILDUP AT THE EROSION CONTROLS SHALL BE REMOVED ONE THE SEDIMENT VOLUME REACHES ½ THE HEIGHT OF THE EROSION CONTROLS.
4. DIVERT RUNOFF FROM OFFSITE AND UNDISTURBED AREAS AWAY FROM CONSTRUCTION TO MINIMIZE SOIL EROSION AND SEDIMENTATION ON AND OFF-SITE. TEMPORARILY STABILIZE ALL HIGHLY ERODIBLE SOILS AND SLOPES IMMEDIATELY.
5. LAND DISTURBANCE ACTIVITIES EXCEEDING TWO ACRES IN SIZE SHALL NOT BE DISTURBED WITHOUT A SEQUENCING PLAN THAT REQUIRES STORMWATER CONTROLS TO BE INSTALLED AND EXPOSED SOILS STABILIZED. AS DISTURBANCES BEYOND THE TWO ACRES CONTINUES. A CONSTRUCTION PHASING PLAN, INCLUDING EROSION CONTROL AND SEDIMENT CONTROL PLAN FOR EACH PHASE, SHALL BE SUBMITTED PRIOR TO ANY CONSTRUCTION ON THE SITE. MASS CLEARINGS AND GRADING OF THE ENTIRE SITE SHOULD BE AVOIDED.
6. SOIL STOCKPILES MUST BE STABILIZED OR COVERED AT THE END OF EACH WORKDAY. STOCKPILE SIDE SLOPES SHALL NOT BE GREATER THAN 2:1. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS.
7. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED.
8. PERMANENT SEEDING SHALL BE UNDERTAKEN IN THE SPRING FROM MARCH THRU MAY, AND IN LATE SUMMER AND EARLY FALL FROM AUGUST TO OCTOBER 15. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15 AN APPROPRIATE TEMPORARY MULCH AND/OR NON-ASPHALTIC SOIL TACKIFIER WITH WINTER RYE SHALL BE APPLIED.
9. ALL SLOPES STEEPER THAN 3:1, AS WELL AS PERIMETER DIKES, SEDIMENT BASINS OR TRAPS, AND EMBANKMENTS MUST, UPON COMPLETION, BE IMMEDIATELY STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH OR OTHER APPROVED STABILIZATION MEASURES.
10. TEMPORARY SEDIMENT TRAPPING DEVICES MUST NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONSTRUCTION AREAS ASSOCIATED WITH THE PROJECT. SIMILARLY, STABILIZATION MUST BE ESTABLISHED PRIOR TO CONVERTING TEMPORARY SEDIMENT TRAPS/BASINS INTO PERMANENT [POST-CONSTRUCTION] STORMWATER MANAGEMENT FACILITIES. ALL FACILITIES USED FOR TEMPORARY MEASURES SHALL BE CLEANED AND RE-STABILIZED PRIOR TO BEING PUT INTO FINAL OPERATION.
11. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF REMOVAL.
12. TO REDUCE THE TRACKING OF SEDIMENT ONTO PUBLIC WAYS, PROVIDE A CRUSHED STONE FILTER AT THE DRIVE ENTRANCE. ALL CONSTRUCTION VEHICLES ENTERING AND LEAVING THE SITE SHALL USE THE PROPOSED CONSTRUCTION ENTRANCE.
13. PROPER MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR IF DE-WATERING IS NECESSARY DURING CONSTRUCTION. THESE MEASURES SHALL INCLUDE DE-WATERING BAGS, TEMPORARY HAYBALES, SILT FENCES, SILT SOCKS AND/OR OTHER APPROVED DEVICES. THE DE-WATERING SETUP SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
14. THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE DURING CONSTRUCTION OF ALL STORMWATER FACILITIES INSTALLED OR AFFECTED BY THE PROJECT. ANY SEDIMENT OR DEBRIS COLLECTED WITHIN THESE FACILITIES FROM THE PROJECT WORK SHALL BE REMOVED PRIOR TO THE OWNER'S ACCEPTANCE.
16. STREET SWEEPING SHALL BE PERFORMED ON ADJACENT ROADS AND STREETS AS NECESSARY DURING THE PROJECT DURATION.

CONSTRUCTION SEQUENCING:

THE FOLLOWING EROSION CONTROL PRINCIPLES SHALL APPLY TO THE LAND GRADING AND CONSTRUCTION PHASES:

1. STRIPPING OF VEGETATION, GRADING, OR OTHER SOIL DISTURBANCE SHALL BE DONE IN A MANNER TO MINIMIZE SOIL EROSION.
2. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
3. THE EXTENT OF THE AREA AND DURATION OF PERIOD WHICH THE AREA IS EXPOSED AND FREE OF VEGETATION SHALL BE KEPT WITHIN PRACTICAL LIMITS.
4. TEMPORARY SEEDING, MULCHING, OR OTHER SUITABLE STABILIZATION MEASURES SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE.
5. ALL SEDIMENT SHALL BE CONTAINED ONSITE AND REMOVED AS NECESSARY. CUT AND FILL SLOPES AND STOCKPILED MATERIALS SHALL BE PROTECTED USING SILT FENCE AND FILTER LOGS TO PREVENT EROSION. SLOPES, ESPECIALLY DOWNGRADIENT OF PAVED AREAS, SHALL BE STABILIZED AS SOON AS POSSIBLE AND PROTECTED WITH PERMANENT EROSION PROTECTION WHEN EROSION EXPOSURE PERIOD IS EXPECTED TO BE GREATER THAN OR EQUAL TO THREE MONTHS, AND TEMPORARY EROSION PROTECTION HAS BEEN INCORPORATED PRIOR TO CONSTRUCTION.
6. PERMANENT EROSION PROTECTION SHALL BE ACCOMPLISHED BY SEEDING WITH GRASS OR OTHER MIXTURES AS SHOWN ON THESE PLANS.
7. TEMPORARY EROSION PROTECTION SHALL BE ACCOMPLISHED BY COVERING WITH EROSION PROTECTION MATERIALS AS REQUIRED BY THE ORDER OF CONDITIONS.
8. EXCEPT WHERE SPECIFIED SLOPE IS INDICATE ON THESE PLANS, FILL SLOPES SHALL BE LIMITED TO A GRADE OF 2:1 [HORIZONTAL TO VERTICAL], CUT SLOPES AT 1.5:1 SHOULD BE NETTED WITH BIODEGRADABLE JUTE MESH OR EQUAL.

I HEREBY CERTIFY THAT THE SUBJECT PROPERTY IS LOCATED IN ZONE X (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR WORCESTER COUNTY, MASSACHUSETTS, PANEL 313 OF 1075, COMMUNITY NUMBER 250308, MAP NUMBER 25027C0313E, EFFECTIVE DATE, JULY 4, 2011.

I HEREBY CERTIFY THAT THE PROPERTY LINES SHOWN ON THIS PLAN ARE THE LINES DIVIDING EXISTING OWNERSHIPS AND THE LINES OF THE STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

PROFESSIONAL LAND SURVEYOR DATE

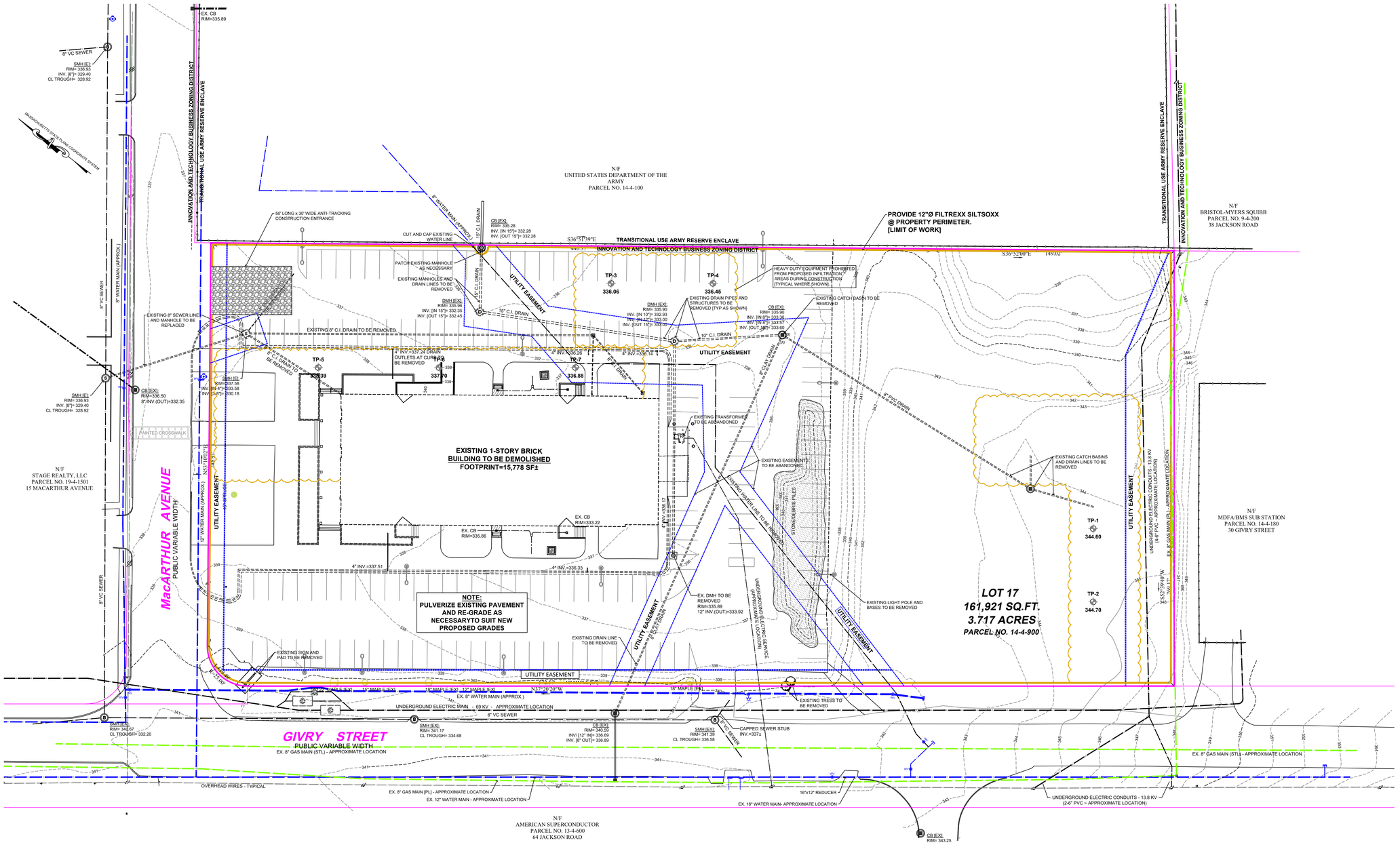
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH UNIFORM INSTRUCTIONS FOR THE PREPARATION OF PLANS AS SET FORTH BY THE REGISTERS OF DEEDS.

PROFESSIONAL LAND SURVEYOR DATE

FOR REGISTRY USE ONLY

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE: _____



C.1 EXISTING CONDITIONS PLAN

SCALE: 1" = 30'-0"

GRAPHIC SCALE

30 15 0 15 30 60 120

Eugene T. Sullivan, Inc.

Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE: _____

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT GRADE
- UTILITY POLE
- EDGE OF BORDERING VEGETATED WETLANDS
- SILT FENCE AND HAY BALES
- PROPOSED DRAIN PIPE
- DRAIN MANHOLE
- CATCH BASIN
- SEWER PIPE
- SEWER MANHOLE
- WATER LINE
- WATER GATE VALVE
- HYDRANT
- GAS LINE
- GAS GATE VALVE
- ELECTRIC LINE
- GUARDRAIL
- CHAIN LINK FENCE

COMMONWEALTH OF MASSACHUSETTS
EUGENE T. SULLIVAN
CIVIL
No. 45197
REGISTERED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH UNIFORM INSTRUCTIONS FOR THE PREPARATION OF PLANS AS SET FORTH BY THE REGISTERS OF DEEDS.

PROFESSIONAL LAND SURVEYOR DATE

FOR REGISTRY USE ONLY

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

EXISTING CONDITIONS PLAN

SCALE: 1" = 30'-0"

DATE: DECEMBER 3, 2020

DRAWING NUMBER

C.1

ZONING REQUIREMENTS

INNVOVATION AND TECHNOLOGY BUSINESS ZONING DISTRICT

	REQUIRED	PROPOSED
MINIMUM LOT AREA	--	161,925 SF
MINIMUM LOT FRONTAGE	--	861 FEET
MINIMUM FRONT YARD	25 FEET	10 FEET **
MINIMUM SIDE YARD	10 FEET	70 FEET
MINIMUM REAR YARD	25 FEET	NA
BUILDING FOOTPRINT		55,500 SF
MAXIMUM FLOOR AREA RATIO	.50	.34
TOTAL IMPERVIOUS AREA		121,060 SF
MAXIMUM IMPERVIOUS SURFACE RATIO	.75	.66
MAXIMUM BUILDING HEIGHT	75 FEET	38 FEET

WAIVERS REQUESTED:

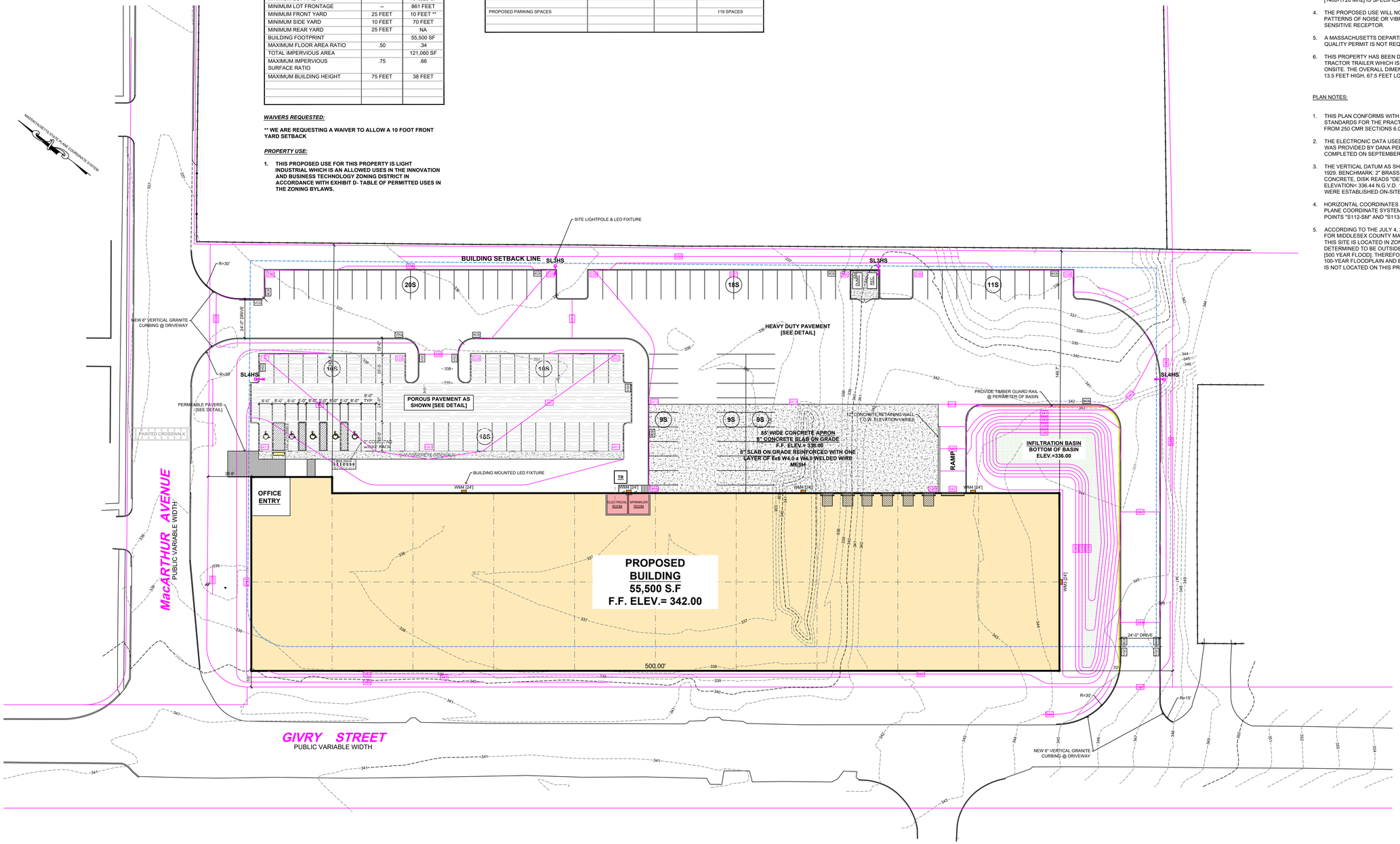
**** WE ARE REQUESTING A WAIVER TO ALLOW A 10 FOOT FRONT YARD SETBACK**

PROPERTY USE:

1. **THIS PROPOSED USE FOR THIS PROPERTY IS LIGHT INDUSTRIAL WHICH IS AN ALLOWED USES IN THE INNOVATION AND BUSINESS TECHNOLOGY ZONING DISTRICT IN ACCORDANCE WITH EXHIBIT D- TABLE OF PERMITTED USES IN THE ZONING BYLAWS.**

PARKING CALCULATIONS

	CRITERIA	UNIT OF MEASURE	REQUIRED
MANUFACTURING & INDUSTRIAL USES	2 SPACES PER 1,000 G.S.F.	55,500 S.F.	111 SPACES
PARKING SPACES REQUIRED			111 SPACES
PROPOSED PARKING SPACES			119 SPACES



SITE LAYOUT PLAN

C.2 SCALE: 1" = 30'-0"

GRAPHIC SCALE

30 15 0 15 30 60 120

LUMINAIRE SCHEDULE

Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
2	SL3HS	SINGLE	20935	205.9	0.850	B2-U0-G4	GARDCO ECF-S-64L-1A-NW-G2-AR-3/ POLE MOUNTED @ 30' A.F.G
2	SL4HS	SINGLE	21559	205.9	0.850	B2-U0-G4	GARDCO ECF-S-64L-1A-NW-G2-AR-4/ POLE MOUNTED @ 30' A.F.G
1	WM-3	SINGLE	14581	137.8	0.850	B2-U0-G2	GARDCO 161-46L-900-NW-G2-3 WALL MOUNTED @ 24 FEET A.F.G.
4	WM-4	SINGLE	14022	138	0.850	B2-U0-G2	GARDCO 161-46L-900-NW-G2-4 WALL MOUNTED @ 24 FEET A.F.G.

NOTES:

1. THIS PROPERTY IS LOCATED WITHIN THE VIEWSHED OVERLAY DISTRICT.
2. THIS PROPERTY IS NOT LOCATED WITHIN THE WATERSHED DISTRICT, AQUIFER DISTRICT ZONE II.
3. THE PROPOSED USE OF THIS PROPERTY WILL NOT GENERATE ELECTROMAGNETIC INTERFERENCE TO ANY SENSITIVE RECEPTOR. INTERFERENCE WITH THE HARVARD-SMITHSONIAN RADIO TELESCOPE [1400-1720 MHz] IS SPECIFICALLY PROHIBITED.
4. THE PROPOSED USE WILL NOT CAUSE PRONOUNCED, MULTIPLE PATTERNS OF NOISE OR VIBRATION TO, OR INTERFERE WITH, ANY SENSITIVE RECEPTOR.
5. A MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION AIR QUALITY PERMIT IS NOT REQUIRED FOR THIS PROPOSED USE.
6. THIS PROPERTY HAS BEEN DESIGNED TO ACCOMMODATE A WB-67 TRACTOR TRAILER WHICH IS THE LARGEST VEHICLE ANTICIPATED ONSITE. THE OVERALL DIMENSIONS OF THIS VEHICLE ARE AS FOLLOWS: 13.5 FEET HIGH, 67.5 FEET LONG AND 8.5 FEET WIDE.

PLAN NOTES:

1. THIS PLAN CONFORMS WITH PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS INTERPRETED FROM 250 CMR SECTIONS 6.01 AND 6.02.
2. THE ELECTRONIC DATA USED IN THE PREPARATION OF THESE PLANS WAS PROVIDED BY DANA PERKINS INC. THE FIELD SURVEY WORK WAS COMPLETED ON SEPTEMBER 25, 2018.
3. THE VERTICAL DATUM AS SHOWN HEREON IS BASED ON THE NGVD 1929. BENCHMARK: 2" BRASS DISK SET IN FENCI TUBE ENCASED IN CONCRETE, DISK READS "DEVENS ENGINEERING MASSACHUSETTS" ELEVATION= 336.44 N.G.V.D. 1929 [STATION S112-SM]. ELEVATIONS WERE ESTABLISHED ON-SITE BY AN ON THE GROUND FIELD SURVEY.
4. HORIZONTAL COORDINATES ARE TIED TO THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD83 AND DEVENS SURVEY CONTROL POINTS "S112-SM" AND "S113-S".
5. ACCORDING TO THE JULY 4, 2011 FEMA FLOOD INSURANCE RATE MAP FOR MIDDLESEX COUNTY MAP # 25027C0292E AND MAP # 25027C0311E THIS SITE IS LOCATED IN ZONE "X" WHICH IS CLASSIFIED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN [500 YEAR FLOOD]. THEREFORE THE SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN AND BORDERING LAND SUBJECT TO FLOODING IS NOT LOCATED ON THIS PROPERTY.

EUGENE T. SULLIVAN, INC. CONSULTING ENGINEERS

Eugene T. Sullivan, Inc.
Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE: _____

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT GRADE
- UTILITY POLE
- EDGE OF BORDERING VEGETATED WETLANDS
- SILT FENCE AND HAY BALES
- PROPOSED DRAIN PIPE
- DRAIN MANHOLE
- CATCH BASIN
- SEWER PIPE
- SEWER MANHOLE
- WATER LINE
- WATER GATE VALVE
- HYDRANT
- GAS LINE
- GAS GATE VALVE
- ELECTRIC LINE
- GUARDRAIL
- CHAIN LINK FENCE

COMMONWEALTH OF MASSACHUSETTS
EUGENE T. SULLIVAN
CIVIL
No. 45797
REGISTERED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH UNIFORM INSTRUCTIONS FOR THE PREPARATION OF PLANS AS SET FORTH BY THE REGISTERS OF DEEDS.

PROFESSIONAL LAND SURVEYOR DATE

FOR REGISTRY USE ONLY

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

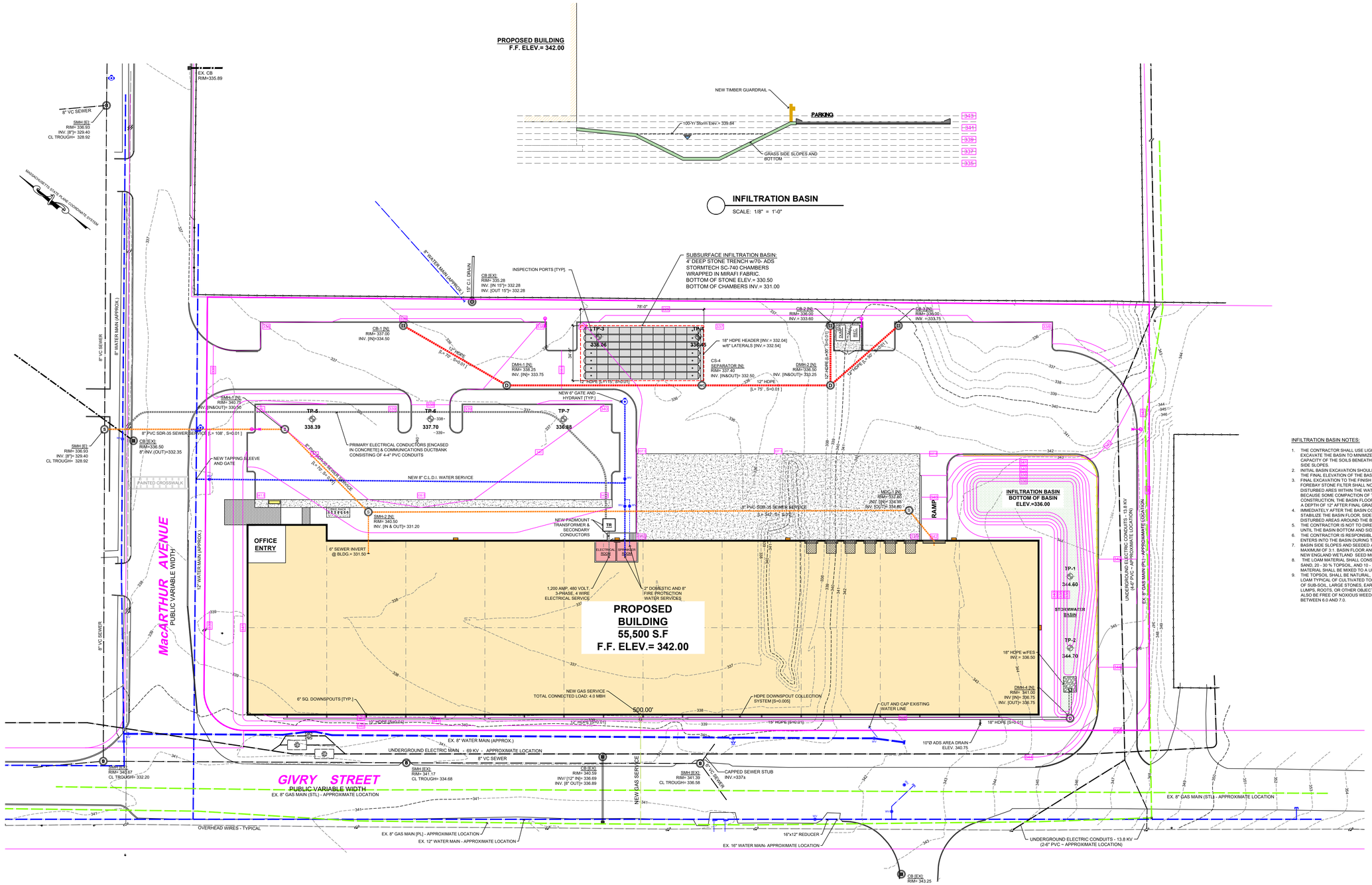
SITE LAYOUT PLAN

SCALE: 1" = 30'-0"

DATE: DECEMBER 3, 2020

DRAWING NUMBER

C.2



C.3 DRAINAGE AND UTILITIES

SCALE: 1" = 30'-0"

GRAPHIC SCALE

30 15 0 15 30 60 120

INFILTRATION BASIN NOTES:

1. THE CONTRACTOR SHALL USE LIGHT EARTH MOVING EQUIPMENT TO EXCAVATE THE BASIN TO MINIMIZE COMPACTION AND INFILTRATION CAPACITY OF THE SOILS BENEATH THE BASIN FLOOR AND ALONG THE SIDE SLOPES.
2. INITIAL BASIN EXCAVATION SHOULD BE CARRIED TO WITHIN 2 FEET OF THE FINAL ELEVATION OF THE BASIN FLOOR.
3. FINAL EXCAVATION TO THE FINISH GRADE AND CONSTRUCTION OF THE FOREBAY STONE FILTER SHALL NOT BE COMPLETED UNTIL ALL DISTURBED ARES WITHIN THE WATERSHED HAVE BEEN STABILIZED. BECAUSE SOME COMPACTION OF THE SOIL IS INEVITABLE DURING CONSTRUCTION, THE BASIN FLOOR SOILS SHALL BE DEEPLY TILLED TO A DEPTH OF 12" AFTER FINAL GRADING IS COMPLETED.
4. IMMEDIATELY AFTER THE BASIN CONSTRUCTION IS COMPLETED, STABILIZE THE BASIN FLOOR, SIDE SLOPES, AND ALL REMAINING DISTURBED AREAS AROUND THE BASIN WITH DENSE TURF BY SEEDING.
5. THE CONTRACTOR IS NOT TO DIRECT ANY RUNOFF INTO THE BASIN UNTIL THE BASIN BOTTOM AND SIDE SLOPES ARE FULLY STABILIZED.
6. THE CONTRACTOR IS RESPONSIBLE TO REMOVE ANY SEDIMENT WHICH ENTERS INTO THE BASIN DURING THE CONSTRUCTION PHASE.
7. BASIN SIDE SLOPES AND SEEDED AREAS NEAR THE BUILDING TO BE A MAXIMUM OF 3:1. BASIN FLOOR AND SIDE SLOPES TO BE SEEDED WITH NEW ENGLAND WETLAND SEED MIX OR APPROVED EQUAL.
8. THE LOAM MATERIAL SHALL CONSIST OF 60 - 70 % WASHED SCREENED SAND, 20 - 30 % TOPSOIL, AND 10 - 20 % ORGANIC MATTER. THE LOAM MATERIAL SHALL BE MIXED TO A UNIFORM CONSISTENCY.
9. THE TOPSOIL SHALL BE NATURAL, FERTILE, FRIABLE, LOAM OR SANDY LOAM TYPICAL OF CULTIVATED TOPSOIL, THE TOPSOIL SHALL BE FREE OF SUB-SOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OR OTHER OBJECTIONABLE MATTER. TOPSOIL SHALL ALSO BE FREE OF NOXIOUS WEEDS, AND SHALL HAD A PH FACTOR BETWEEN 6.0 AND 7.0.

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT GRADE
- UTILITY POLE
- EDGE OF BORDERING VEGETATED WETLANDS
- SILT FENCE AND HAY BALES
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NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE:

EUGENE T. SULLIVAN CIVIL No. 45797 REGISTERED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH UNIFORM INSTRUCTIONS FOR THE PREPARATION OF PLANS AS SET FORTH BY THE REGISTERS OF DEEDS.

PROFESSIONAL LAND SURVEYOR DATE

FOR REGISTRY USE ONLY

PREPARED FOR:
MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:
PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:
DRAINAGE AND UTILITIES PLAN

SCALE: 1" = 30'-0"
DATE: DECEMBER 3, 2020

DRAWING NUMBER
C.3

DRAINAGE AND UTILITIES NOTES:

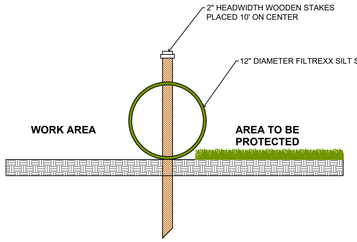
1. ALL UNDERGROUND STRUCTURES, INCLUDING MANHOLES, CATCH BASINS, AREA DRAINS, THE PUMP STATION AND GREASE TRAP, SHALL BE DESIGNED TO WITHSTAND H-20 LOADING.
2. ALL STORM DRAINAGE PIPING TO BE HIGH DENSITY POLYETHYLENE [HDPE: ADS N-12 OR APPROVED EQUAL] OR RCP CLASS IV CAPABLE OF WITHSTANDING H-20 LOADING. MINIMUM CLEARANCE BETWEEN PROPOSED DRAINAGE PIPING AND OTHER UTILITIES/STRUCTURES SHALL BE 18 INCHES VERTICALLY AND 4 FEET HORIZONTALLY. THE MINIMUM COVER OF THE HDPE PIPE IS 1'-0" FOR H-20 LOADS, THIS COVER IS MEASURED FROM THE PIPE OD TO THE TOP OF RIGID PAVEMENT.
3. THE MAINTENANCE OF ALL DRAINAGE STRUCTURES IS THE RESPONSIBILITY OF THE OWNER.
4. ALL CONSTRUCTION AND TESTING METHODS SHALL COMPLY WITH THE LOCAL RULES AND REGULATIONS. IN CASES WHERE THE DRAWINGS DIFFER FROM THESE REGULATIONS, THE MOST RESTRICTIVE REQUIREMENT SHALL APPLY.
5. ALL DRAINAGE STRUCTURES AND DETAILS TO BE BE CONSTRUCTED AND INSPECTED CONSISTENT WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY.
6. THE CONTRACTOR SHALL INSPECT AND RESTORE / CLEAN ALL FACILITIES [INLETS, MANHOLES, BASINS, ETC] OF SEDIMENT AND DEBRIS PRIOR TO THE ENGINEER'S ACCEPTANCE.
7. PROPOSED GAS, ELECTRIC, WATER, TELEPHONE AND TELEVISION SERVICE LOCATIONS MUST BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY. ALL CONSTRUCTION DETAILS TO BE CONSISTENT WITH UTILITY COMPANY STANDARDS AND REQUIREMENTS.
8. CONTRACTOR TO PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
9. ALL WATER MAINS AND WATER SERVICES SHALL HAVE A MINIMUM OF FIVE [5] FEET OF COVER.
10. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM.
11. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE LOCAL AUTHORITY. THE CONTRACTOR SHALL CONSTRUCT THE WATER MAIN AND ITS APPURTENANCE WORK IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT'S STANDARDS AND SPECIFICATIONS AND PAY FOR ALL ASSOCIATED FEES AS REQUIRED BY THE WATER DEPARTMENT. THE CONTRACTOR SHALL CONTACT THE WATER DEPARTMENT TO ENSURE PROPER INSPECTIONS OF WATER PIPING PRIOR TO BACKFILLING.
12. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE LOCAL AUTHORITY.
13. ALL SEWER PIPE WITH LESS THAN 5' OF COVER UNDER PAVEMENT AND LESS THAN 4' OF COVER UNDER LOAMED AREAS SHALL BE INSULATED. INSULATION SHALL BE 2" THICK POLYURETHANE INSULATION WITH PVC JACKET PLACED AROUND PIPE.
14. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ANY WATER AND SANITARY SEWER LINES. AN 18" INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
15. THE RELOCATION OF THE WATER AND SEWER SERVICES ALONG THE EAST END OF THE PROPOSED ADDITION WILL REQUIRE CLOSE COORDINATION WITH THE DEVENS UTILITIES DEPARTMENT TO MINIMIZE POTENTIAL IMPACTS ON ADJACENT PROPERTIES. THE NEW SEWER CONNECTIONS WILL REQUIRE A BYPASS PUMP STATION TO ENSURE SERVICE TO THE OTHER PROPERTIES.
16. MECHANICAL AND FIRE PROTECTION ENGINEERS TO VERIFY DESIGN AND SIZES OF PROPOSED WATER AND SEWER SERVICES TO SITE.
17. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH THE POWER COMPANY.
18. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
19. WHERE MANUFACTURERS ARE SPECIFIED ON THESE DRAWINGS, APPROVED EQUALS MAY BE SUBSTITUTED UPON WRITTEN APPROVAL FROM THE CIVIL ENGINEER OF RECORD.
20. IF AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY OR OTHER CONFLICT SHALL BE ACCURATELY DETERMINED BY THE CONTRACTOR WITHOUT DELAY, AND THE INFORMATION FURNISHED IN WRITING TO CIVIL ENGINEER OF RECORD TO RESOLVE THE CONFLICT.
21. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF NEW UTILITY SERVICES, LOCATIONS AND ELEVATIONS WITH THE UTILITY COMPANIES AND THE BUILDING DRAWINGS.
22. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT TESTING REPORTS, SHOP DRAWINGS AND PRODUCT SPECIFICATIONS TO THE CIVIL ENGINEER OF RECORD FOR MATERIALS, STRUCTURES, EQUIPMENT, RETAINING WALLS, ETC. FOR APPROVAL PRIOR TO INSTALLATION.
23. THE CONTRACTOR IS TO SUBMIT AS-BUILT PLANS IN ELECTRONIC CAD FORMAT TO THE OWNER AND CIVIL ENGINEER OF RECORD UPON COMPLETION OF THE PROJECT. THE AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A MA LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.

GRADING NOTES:

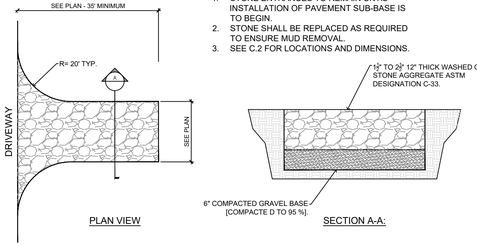
COMPACTION REQUIREMENTS:

MINIMUM COMPACTION	LOCATION
95 %	BELOW PAVED OR CONCRETE AREAS
95 %	TRENCH BEDDING MATERIALS
90 %	BELOW LOAM AND SEED AREAS

1. ALL PERCENTAGES OF COMPACTION TESTING SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C. FIELD DENSITY TESTS MUST BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR EARTHWORK AND COMPACTION REQUIREMENTS FOR ALL SLABS AND BUILDING FOUNDATIONS.
3. SPRINKLER OR USE A WATER TRUCK AS NECESSARY TO APPLY WATER DURING GRADING OPERATIONS IN ORDER TO MINIMIZE SEDIMENT TRANSPORT AND MAINTAIN ACCEPTABLE AIR QUALITY CONDITIONS. REPETITIVE TREATMENTS SHALL BE DONE AS NEEDED UNTIL THE GRADES ARE PAVED OR SEEDED.
4. ONCE THE PERIMETER EROSION CONTROL MEASURES HAVE BEEN IMPLEMENTED, CUTTING AND EARTH PREPARATION SHALL COMMENCE FOR THE PROPOSED CONSTRUCTION ENTRANCE.
5. DIVERSION BERMS AND SEDIMENT TRAPS SHALL BE CONSTRUCTED, AS NEEDED, TO CAPTURE SILT LADEN RUNOFF FROM THE SITE.
6. SITE CLEARING AND GRUBBING CAN PROCEED UP TO THE LIMIT OF WORK. NO ALTERATIONS SHALL TAKE PLACE OUTSIDE THE LIMIT OF WORK FOR THE PROJECT WITHOUT PRIOR AUTHORIZATION FROM THE CIVIL ENGINEER OF RECORD AND THE CONSERVATION AGENT.
7. PROCEED WITH ROUGH GRADING OF SUB-SOILS IN PREPARATION FOR GRAVEL BASE COURSES.
8. ALL EARTHWORK AND SITE PREPARATION SHALL BE DONE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF ANY SUBSURFACE INVESTIGATION OR GEOTECHNICAL REPORTS PREPARED FOR THIS SITE.
9. 2" BINDER COURSE AND ½" FINISH COURSE OF BITUMINOUS PAVEMENT TO BE INSTALLED ON SITE ON ALL PARKING AREAS. GRAVEL BASE CROSS-SECTION TO BE PREPARED AND INSPECTED BY THE CIVIL ENGINEER OF RECORD PRIOR TO PAVEMENT INSTALLATION.
10. THE CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ENSURE A SMOOTH FIT AND CONTINUOUS GRADE.
11. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL RECIEVE A MINIMUM OF 6" OF LOAM AND SEEDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ANY LOAMED AND SEEDED AREAS UNTIL LAWN GROWTH IS ESTABLISHED AND APPROVED BY THE ENGINEER / OWNER.
12. CONTRACTOR TO PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. THE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM ANY BUILDINGS FOR ALL NATURAL AND PAVED AREAS.



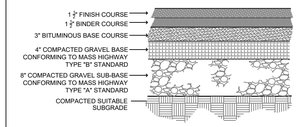
FILTREXX SILT SOXX DETAIL



NOTES:
1. STONE ENTRANCES TO REMAIN UNTIL INSTALLATION OF PAVEMENT SUB-BASE IS TO BEGIN.
2. STONE SHALL BE REPLACED AS REQUIRED TO ENSURE MUD REMOVAL.
3. SEE C.2 FOR LOCATIONS AND DIMENSIONS.

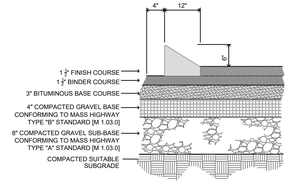
STONE ANTI-TRACKING PAD

NOTES:
1. SANDY-LOAM AND/OR LOAMY-SAND TOPSOIL MATERIALS SHALL BE EXCAVATED FROM ALL PAVED AREAS PRIOR TO SUB-BASE INSTALLATION.
2. SUB-GRADE [EXISTING MATERIALS] SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND/OR COARSE SAND, FREE FROM LOAM AND CLAY TO A DEPTH NOT LESS THAN 4 FEET BELOW THE FINISH PAVEMENT SURFACE.
3. SUBGRADE FILL SHALL BE COMPACTED TO 95% COMPACTION.
4. PRIOR TO INSTALLING THE FINISH COURSE THE BINDER COURSE SURFACE SHALL BE SWEPT CLEAN BY A STREET SWEEPING MACHINE AND A TACK COAT SHALL BE INSTALLED TO A LEVEL APPROVED BY THE ENGINEER.

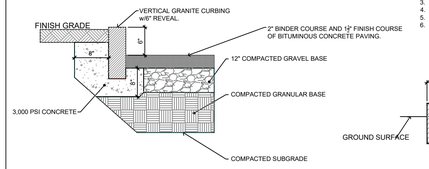


HEAVY DUTY PAVEMENT DETAIL

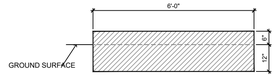
NOTES:
1. BERM TO BE CONSTRUCTED OF BITUMINOUS CONCRETE WEARING SURFACE COURSE.
2. THE BITUMINOUS BERM MUST BE FOUNDED ENTIRELY ON THE BASE COURSE.



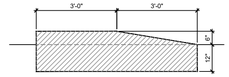
BITUMINOUS CONCRETE CURBING DETAIL



NOTE:
1. RE-USE EXISTING GRANITE CURBING WHEREVER POSSIBLE.
2. MIN. VERTICAL CURBING HT: 18"
3. MIN CURBING WIDTH: 6"
4. PROVIDE CURBING EXPANSION JOINTS @ 5'-0" O.C.
5. MINIMUM CONCRETE STRENGTH OF 4,000 P.S.I.
6. INSTALL TRANSITION CURBING AT ALL WALKWAYS/RAMPS AND CURB ENDINGS.

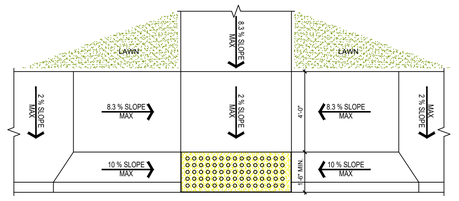


STANDARD PROFILE



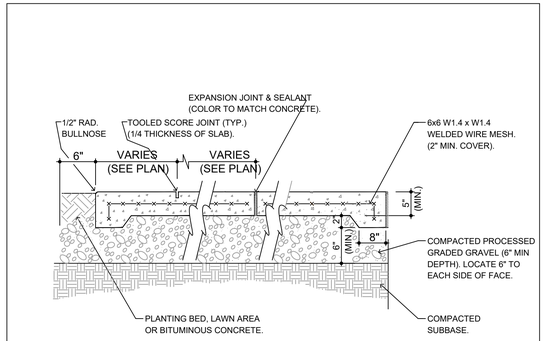
TRANSITION END SECTION

VERTICAL GRANITE CURBING DETAILS

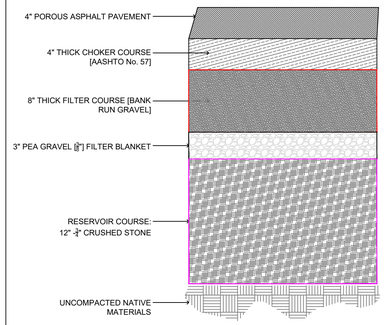


HANDICAPPED ACCESS RAMP @ SIDEWALK

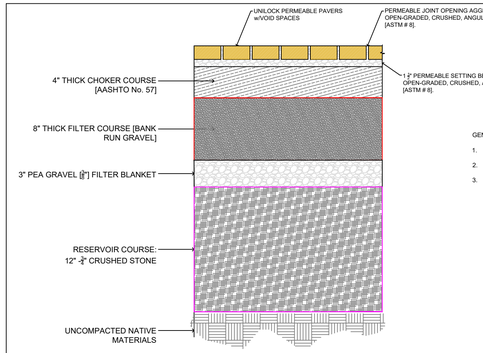
NOTES - POURED CONCRETE WALKS:
1. CONCRETE TO BE 4000 PSI (28 DAYS), 4% AIR-ENTRAINED WITH STEEL TROWELED EDGE. SURFACE TO HAVE LIGHT BROOM FINISH. LOCATE PREMOLDED EXPANSION JOINT MATERIAL AT BUILDING EDGE (COLOR TO MATCH CONCRETE). EXPANSION JOINTS LOCATED 20' FEET (MAXIMUM).
2. GRAVEL SUBBASE SHALL CONTAIN NO STONES GREATER THAN 2" & BE INSTALLED TO A MINIMUM 6" DEPTH. COMPACT IN 6" MAXIMUM LIFTS. REMOVE ALL ORGANIC SILTS AND UNSUITABLE MATERIAL BENEATH.
3. SCORE JOINTS TO BE 5' O.C. MAX. (EACH WAY), ALONG ENTIRE LENGTH. ALL JOINTS TO BE APPROVED BY ARCHITECT. SEE PLAN FOR LOCATIONS.



CONCRETE SIDEWALK DETAIL

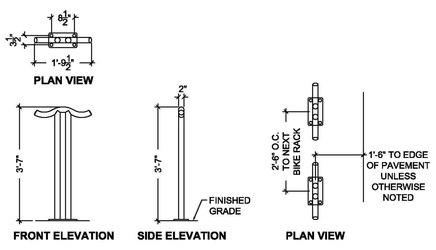


POROUS PAVEMENT DETAIL



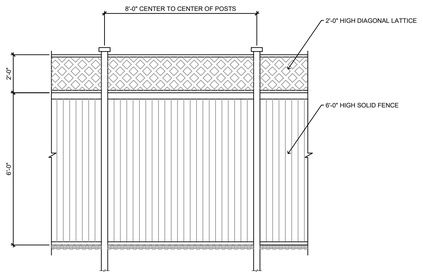
GENERAL NOTES:
1. ALL AGGREGATE MATERIAL SHALL BE CRUSHED, ANGULAR STONE AND FREE OF FINES.
2. SURFACE SLOPE SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 5%.
3. MAINTAIN A MINIMUM DISTANCE OF 2 FEET BETWEEN THE BOTTOM OF THE PERMEABLE BASE AND THE WATER TABLE.

PERMEABLE PAVER DETAIL

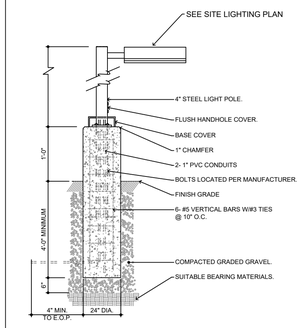


NOTES:
1. BIKE RACK SHALL BE SURFACE MOUNTED AT LOCATION SHOWN ON PLANS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

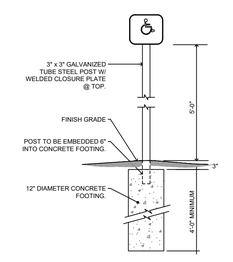
BIKE RACK DETAIL



PVC FENCE @ DUMPSTER LOCATION



LIGHT POLE & FOOTING DETAIL



HANDICAPPED PARKING SIGN

RICHARD T. SULLIVAN JR. CONSULTING ENGINEER

Eugene T. Sullivan, Inc.
Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE:

COMMONWEALTH OF MASSACHUSETTS — EUGENE T. SULLIVAN — CIVIL — No. 45797 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

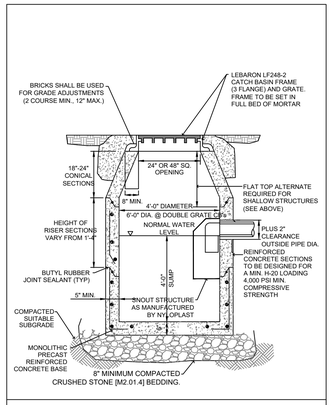
CONSTRUCTION DETAILS

SCALE: 1" = 30'-0"

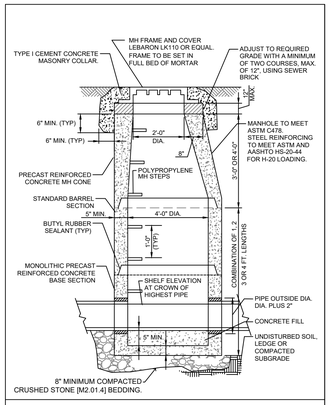
DATE: DECEMBER 3, 2020

DRAWING NUMBER

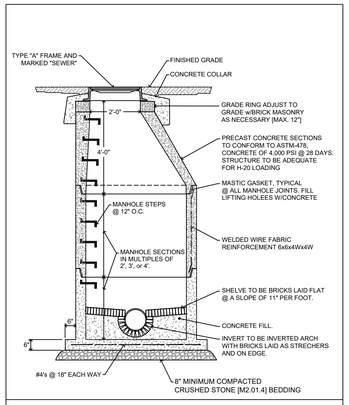
C.4.1



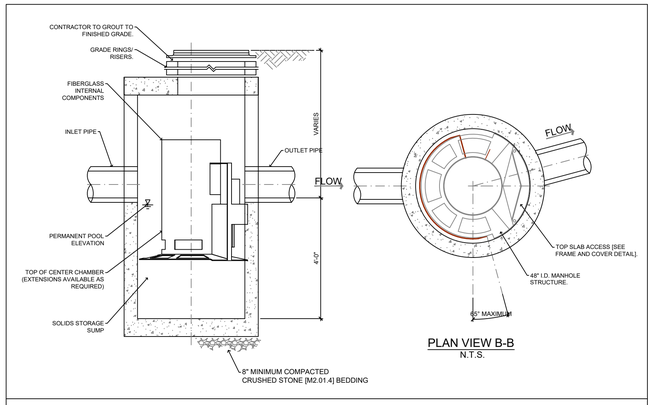
CATCH BASIN DETAIL



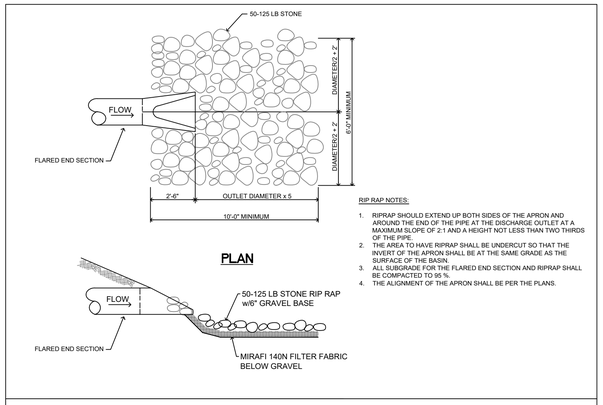
DRAIN MANHOLE DETAIL



SEWER MANHOLE DETAIL



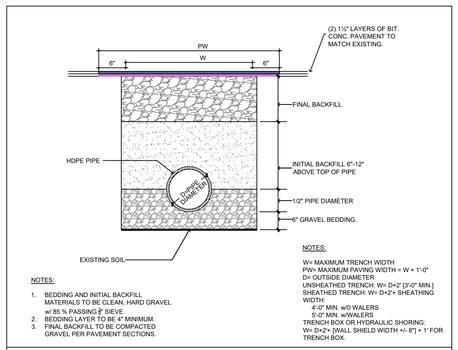
CS-4 CASCADE SEPARATOR DETAIL



RIP RAP NOTES:

1. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS OF THE PIPE.
2. THE AREA TO HAVE RIPRAP SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE AS THE SURFACE OF THE BASIN.
3. ALL SUBGRADE FOR THE FLARED END SECTION AND RIPRAP SHALL BE COMPACTED TO 95 %.
4. THE ALIGNMENT OF THE APRON SHALL BE PER THE PLANS.

RIPRAP DETAIL

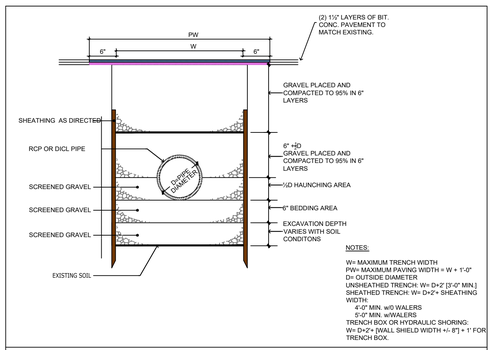


NOTES:

1. BEDDING AND INITIAL BACKFILL MATERIALS TO BE CLEAN, HARD GRAVEL w/ 85 % PASSING 2" SIEVE.
2. BEDDING LAYER TO BE 4" MINIMUM.
3. FINAL BACKFILL TO BE COMPACTED GRAVEL PER PAVEMENT SECTIONS.

W= MAXIMUM TRENCH WIDTH
PW= MAXIMUM PAVING WIDTH = W + 1'-0"
D= OUTSIDE DIAMETER
UNSHEATHED TRENCH: W= D+2' [3'-0" MIN.]
SHEATHED TRENCH: W= D+2'+ SHEATHING WIDTH:
4'-0" MIN. w/0 WALERS
5'-0" MIN. w/WALERS
TRENCH BOX OR HYDRAULIC SHORING:
W= D+2'+ [WALL SHIELD WIDTH +/- 8"] + 1' FOR TRENCH BOX.

DRAINAGE PIPE TRENCH DETAIL



NOTES:

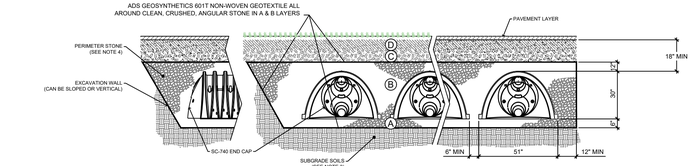
W= MAXIMUM TRENCH WIDTH
PW= MAXIMUM PAVING WIDTH = W + 1'-0"
D= OUTSIDE DIAMETER
UNSHEATHED TRENCH: W= D+2' [3'-0" MIN.]
SHEATHED TRENCH: W= D+2'+ SHEATHING WIDTH:
4'-0" MIN. w/0 WALERS
5'-0" MIN. w/WALERS
TRENCH BOX OR HYDRAULIC SHORING:
W= D+2'+ [WALL SHIELD WIDTH +/- 8"] + 1' FOR TRENCH BOX.

WATER / SEWER PIPE TRENCH DETAIL

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

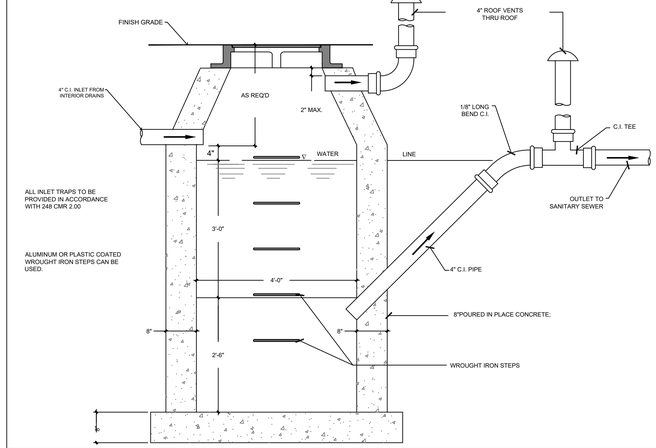
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[4] A-1, A-2-4, A-3 OR AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #1 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



GENERAL CONSTRUCTION NOTES:

MANHOLE TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE,COVER TO HAVE A CENTER HOLE.

A TIGHT COVER MUST BE USED IF MANHOLE IS LOCATED INSIDE OF BUILDING.

OPENING SHALL BE NOT LESS THAN 24" DIAMETER.

THE MANHOLE SHALL BE SO LOCATED AND CONSTRUCTED THAT SURFACE WATER SHALL BE EXCLUDED.

INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE.

WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.

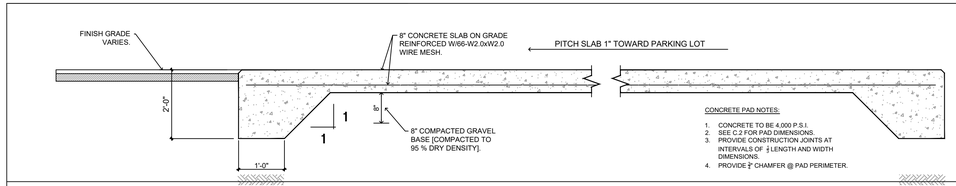
THE MANHOLE MUST BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.

ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE MANHOLE, AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER MEANS.

WROUGHT IRON STEPS SHALL BE SPACED AT 18" O.C.

BOTH VENTS SHALL BE EXTENDED INDEPENDENTLY 18" ABOVE THE ROOF, OR AS APPROVED BY LOCAL AUTHORITIES.

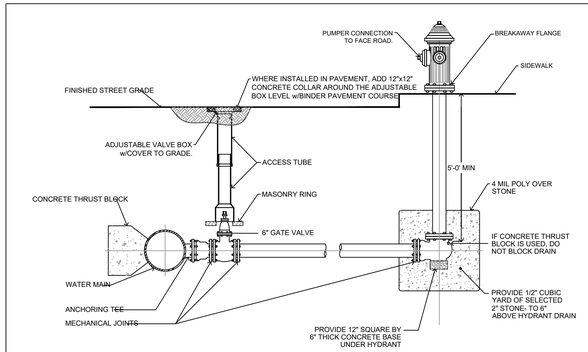
MDC SEPARATOR DETAIL



CONCRETE PAD NOTES:

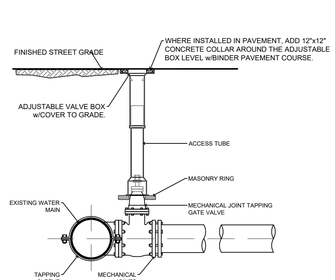
1. CONCRETE TO BE 4,000 P.S.I.
2. SEE C.2 FOR PAD DIMENSIONS.
3. PROVIDE CONSTRUCTION JOINTS AT INTERVALS OF ½ LENGTH AND WIDTH DIMENSIONS.
4. PROVIDE ¾" CHAMFER @ PAD PERIMETER.

CONCRETE APRON/ DUMPSTER PAD DETAIL



NOTES:

1. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH.
2. USE RESTRAINED JOINT FITTINGS [MEGALUG OR APPROVED EQUAL]
3. SIZE OF BLOCK AND MEGALUG FITTINGS TO BE DESIGNED FOR SPECIFIC FIELD CONDITIONS.



WATER SERVICE NOTES:

1. ALL CONSTRUCTION AND TESTING METHODS SHALL COMPLY WITH THE TOWN OF WILMINGTON RULES AND REGULATIONS. IN CASES WHERE THESE PLANS DIFFER FROM THESE REGULATIONS, THE MOST RESTRICTIVE REQUIREMENTS SHALL APPLY.
2. ALL MATERIALS TO BE USED SHALL BE APPROVED BEFORE INSTALLATION BY THE DEPARTMENT OF PUBLIC WORKS / WATER DEPARTMENT AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. PIPE SHALL BE DUCTILE IRON MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI/AWWA C151/A21.51 AND SHALL BE SPECIAL THICKNESS CLASS 52 WITH A MINIMUM WALL THICKNESS OF 0.33 INCHES FOR 8 INCH PIPE. JOINTS SHALL BE PUSH ON OR MECHANICAL. PUSH JOINTS SHALL BE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11. PIPE SHALL HAVE CEMENT MORTAR LINING AND SEAL COATING IN ACCORDANCE WITH ANSI/AWWA C104/21.4-09.
3. THE CONTRACTOR SHALL PROVIDE CAD AS-BUILTS OF ALL MAINS AND SERVICE LATERALS, INCLUDING DEPTHS AND TIES TO PERMANENT STRUCTURES.

TYPICAL HYDRANT AND WATER PIPE CONNECTION DETAILS

EUGENE T. SULLIVAN JR. CONSULTING ENGINEERS

Eugene T. Sullivan, Inc.
Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE: _____

COMMONWEALTH OF MASSACHUSETTS
EUGENE T. SULLIVAN
No. 45737
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

CONSTRUCTION DETAILS

SCALE: 1" = 30'-0"

DATE: DECEMBER 3, 2020

DRAWING NUMBER

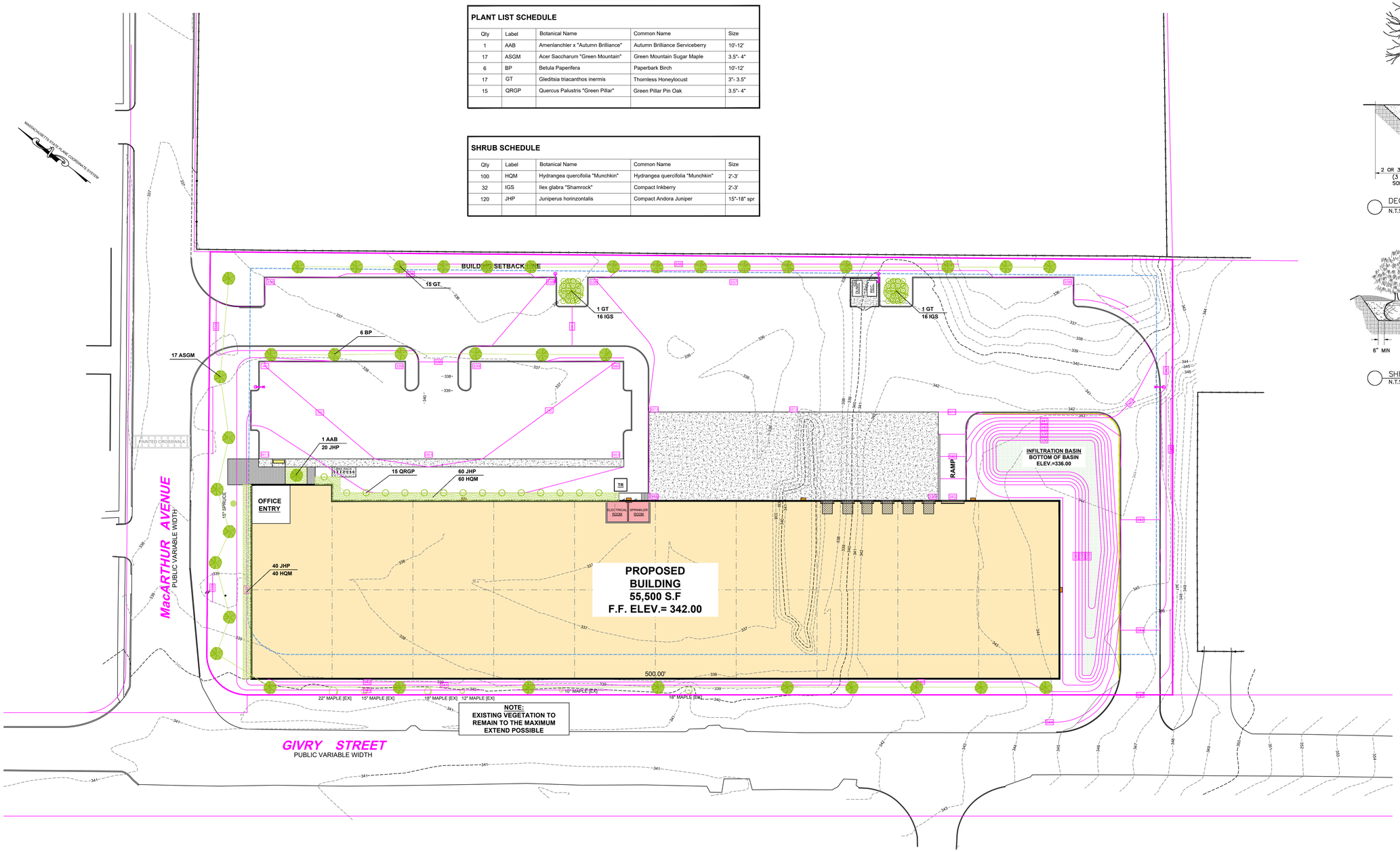
C.4.2

PLANT LIST SCHEDULE

Qty	Label	Botanical Name	Common Name	Size
1	AAB	Amenlanchler x "Autumn Brilliance"	Autumn Brilliance Serviceberry	10'-12'
17	ASGM	Acer Saccharum "Green Mountain"	Green Mountain Sugar Maple	3.5"- 4"
6	BP	Betula Paperifera	Paperbark Birch	10'-12'
17	GT	Gleditsia triacanthos inermis	Thornless Honeylocust	3"- 3.5"
15	QRGP	Quercus Palustris "Green Pillar"	Green Pillar Pin Oak	3.5"- 4"

SHRUB SCHEDULE

Qty	Label	Botanical Name	Common Name	Size
100	HQM	Hydrangea quercifolia "Munchkin"	Hydrangea quercifolia "Munchkin"	2'-3'
32	IGS	Ilex glabra "Shamrock"	Compact Inkberry	2'-3'
120	JHP	Juniperus horinzontalis	Compact Andora Juniper	15"-18" spr



L.1 **LANDSCAPING PLAN**
SCALE: 1" = 30'-0"

GRAPHIC SCALE

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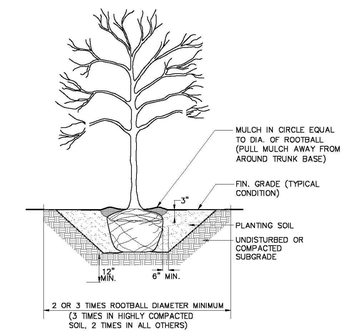
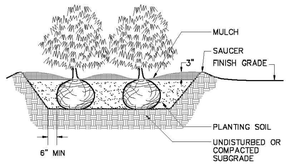


DECIDUOUS TREE PLANTING
N.T.S.



SHRUB PLANTING
N.T.S.

NOTES:

ALL AREAS DISTURBED DURING CONSTRUCTION TO RECEIVE A MINIMUM OF 6" OF LOAM AND SEEDED. LOAM SHALL BE A FERTILE, FRIABLE MEDIUM TEXTURED SANDY LOAM FREE OF MATERIALS TOXIC TO HEALTHY PLANT GROWTH.LOAM SHALL BE FREE OF STUMPS, ROOTS, STONES AND FREE OF OTHER EXTRANEOUS MATTER ONE INCH [1"] OR GREATER IN DIAMETER.

ALL MIX TO BE AS PROVIDED BY ALLEN SEED OR APPROVED EQUIVALENT AT 5-7 LBS PER ACRE IN ALL DISTURBED AREAS AS SHOWN ON THE PLANS: [ALL AREAS WITHIN 10 FEET OF PARKING AND DRIVEWAYS AND 30 FEET OF THE BUILDING].

25% IMPROVED PERENNIAL RYE
25% IMPROVED ANNUAL RYE
25% CREEPING RED FESCUE
16.5% TURF TYPE TALL FESCUE
5% KENTUCKY BLUE GRASS
1% RED TOP
.5% COLONIAL BENTGRASS

ALL INFILTRATION/DETENTION BASINS TO BE SEED MIX "A" NEW ENGLAND CONSERVATION/WILDLIFE MIX- 25 LBS PER ACRE NURSE GRASS AND PERENNIAL RYE 5 LBS PER ACRE.

Elymus virginicus
Schizachyrium scoparium
Andropagon gerardil
Festuca rubra
Panicum virgatum
Chamaecrista fesciculatata
Panicum clandestinum
Sorghastrum nutans
Heliopsis helianthoides
Asclepias syriaca
Eupatorium masculatum
Euthamia graminifolia
Verbena hestata
Astar novae-angliea
Solidago juncea

ALL AREAS OUTSIDE OF 10 FEET OF PARKING AND DRIVEWAYS AND 30 FEET FROM THE BUILDING SHALL RECEIVE SEED MIX "B": NEW ENGLAND NATIVE WARM SEASON GRASS MIX- 23 LBS PER ACRE NURSE GRASS- AND ANNUAL RYE 5 LBS PER ACRE

Elymus Virginicus
Schizachyrium scoparium
Andropagon gerardil
Sorghastrum nutans
Panicum virgatum
Festuca rubra

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH UNIFORM INSTRUCTIONS FOR THE PREPARATION OF PLANS AS SET FORTH BY THE REGISTERS OF DEEDS.

PROFESSIONAL LAND SURVEYOR DATE

FOR REGISTRY USE ONLY

EUGENE T. SULLIVAN INC. CONSULTING ENGINEERS

Eugene T. Sullivan, Inc.
Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE:

LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT GRADE
- UTILITY POLE
- EDGE OF BORDERING VEGETATED WETLANDS
- SILT FENCE AND HAY BALES
- PROPOSED DRAIN PIPE
- DRAIN MANHOLE
- CATCH BASIN
- SEWER PIPE
- SEWER MANHOLE
- WATER LINE
- WATER GATE VALVE
- HYDRANT
- GAS LINE
- GAS GATE VALVE
- ELECTRIC LINE
- GUARDRAIL
- CHAIN LINK FENCE

COMMONWEALTH OF MASSACHUSETTS
EUGENE T. SULLIVAN
CIVIL
No. 45797
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

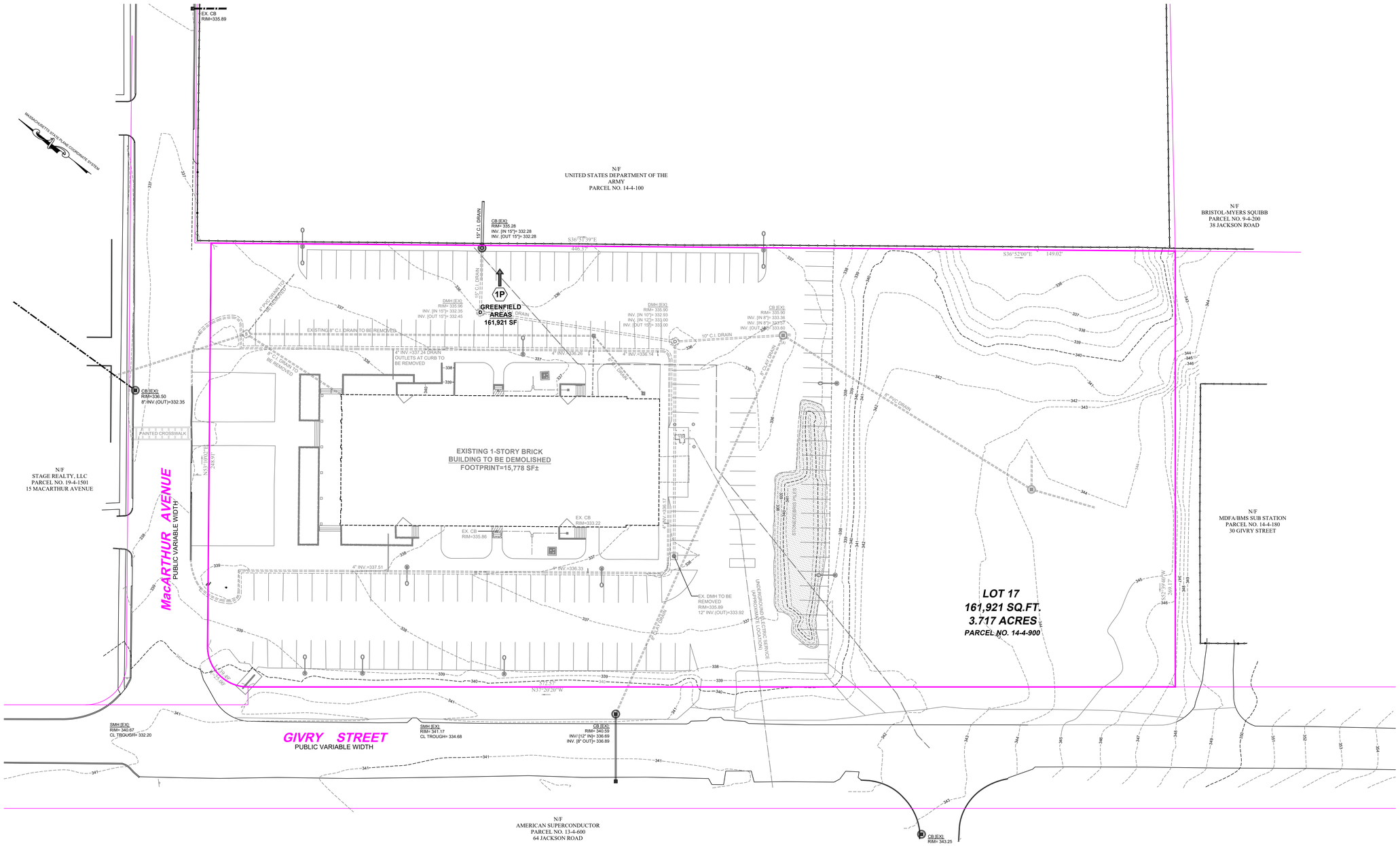
LANDSCAPING PLAN

SCALE: 1" = 30'-0"

DATE: DECEMBER 3, 2020

DRAWING NUMBER

L.1



PRE-DEVELOPMENT WATERSHED

PD.1 SCALE: 1" = 30'-0"

GRAPHIC SCALE

30 15 0 15 30 60 120

Eugene T. Sullivan, Inc.

Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE
DEVENS ENTERPRISE
COMMISSION:

DATE:

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

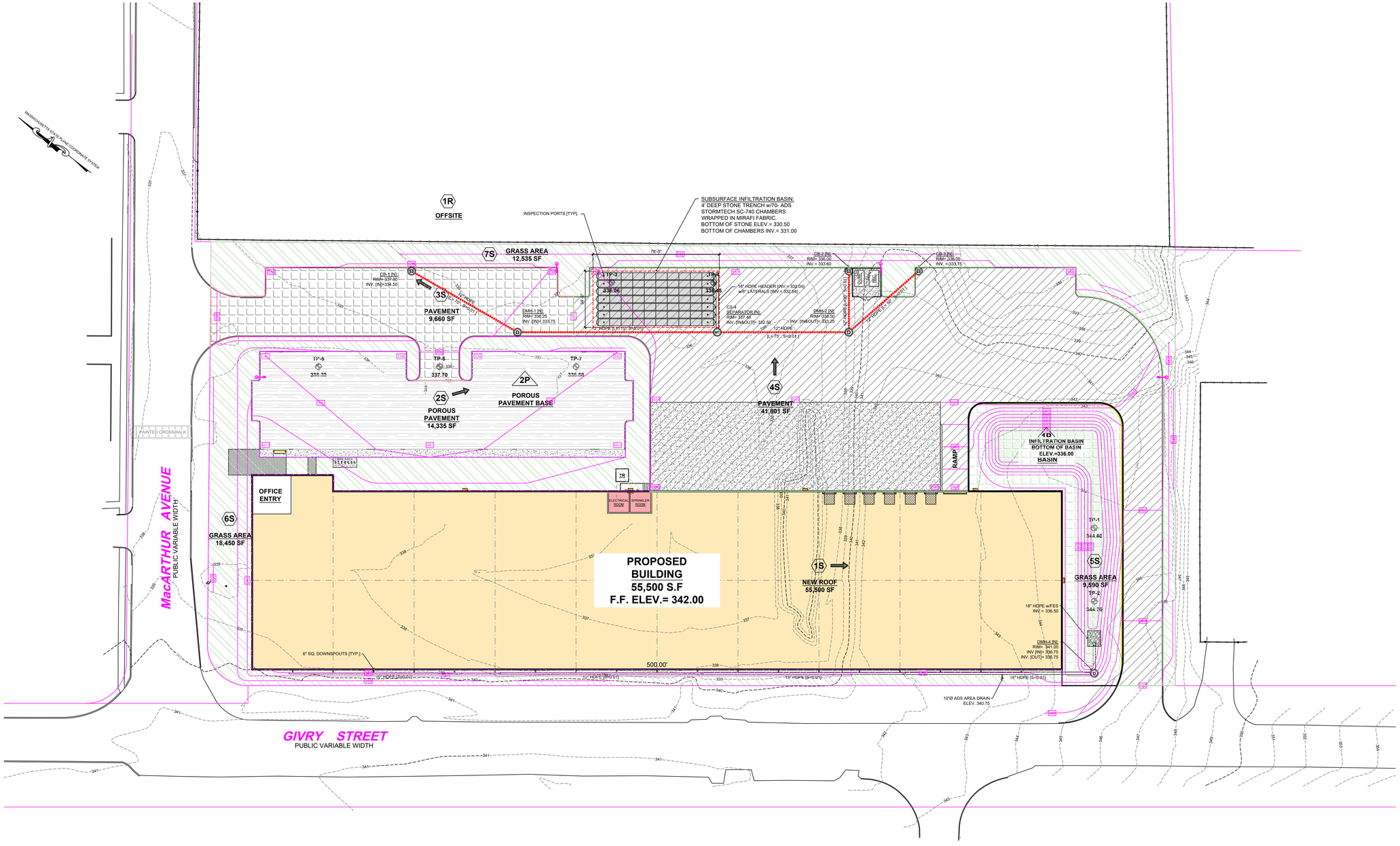
PRE-DEVELOPMENT WATERSHED

SCALE: SCALE:

DATE: SCALE:

DRAWING NUMBER

PD.1



PD.2 **POST-DEVELOPMENT WATERSHED**

SCALE: 1" = 30'-0"

GRAPHIC SCALE

30 15 0 15 30 60 120

Eugene T. Sullivan, Inc.

Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE:

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

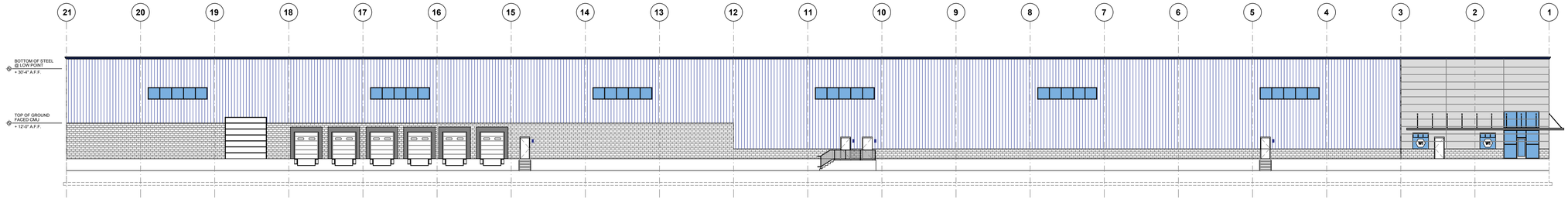
DRAWING:

POST-DEVELOPMENT WATERSHED

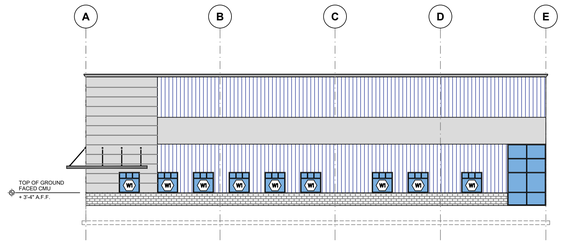
SCALE: SCALE:
DATE: SCALE:

DRAWING NUMBER

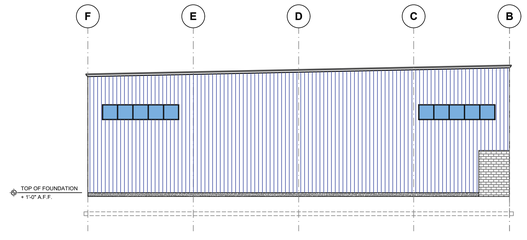
PD.2



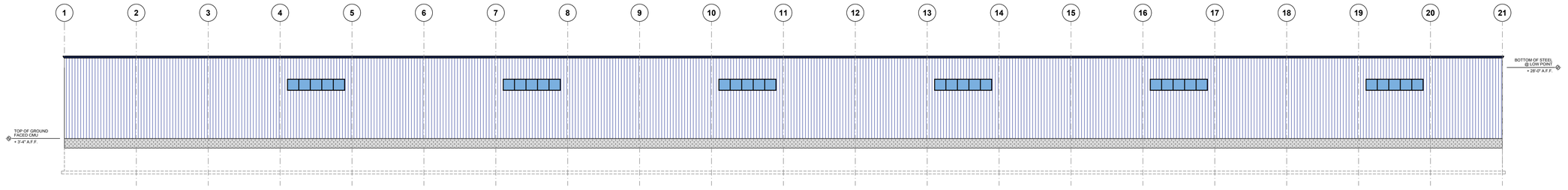
A.1 NORTH ELEVATION
SCALE: 1/16" = 1'-0"



A.1 WEST ELEVATION
SCALE: 1/16" = 1'-0"



A.1 EAST ELEVATION
SCALE: 1/16" = 1'-0"



A.1 SOUTH ELEVATION
SCALE: 1/16" = 1'-0"

Eugene T. Sullivan, Inc.

Consulting Engineers
230 Lowell Street - Suite 2A
Wilmington, MA 01887
Phone: 978.657.6469
Fax: 978.657.8563
Email: ETSPE@aol.com

NO	DATE	REVISIONS

APPROVED BY THE DEVENS ENTERPRISE COMMISSION:

DATE: _____

EUGENE T. SULLIVAN JR. CIVIL No. 45737 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

PREPARED FOR:

MacArthur Avenue, LLC
133 Pearl Street
Boston, MA

PROJECT:

PROPOSED BUILDING
4 MacArthur Avenue
Devens, Massachusetts

DRAWING:

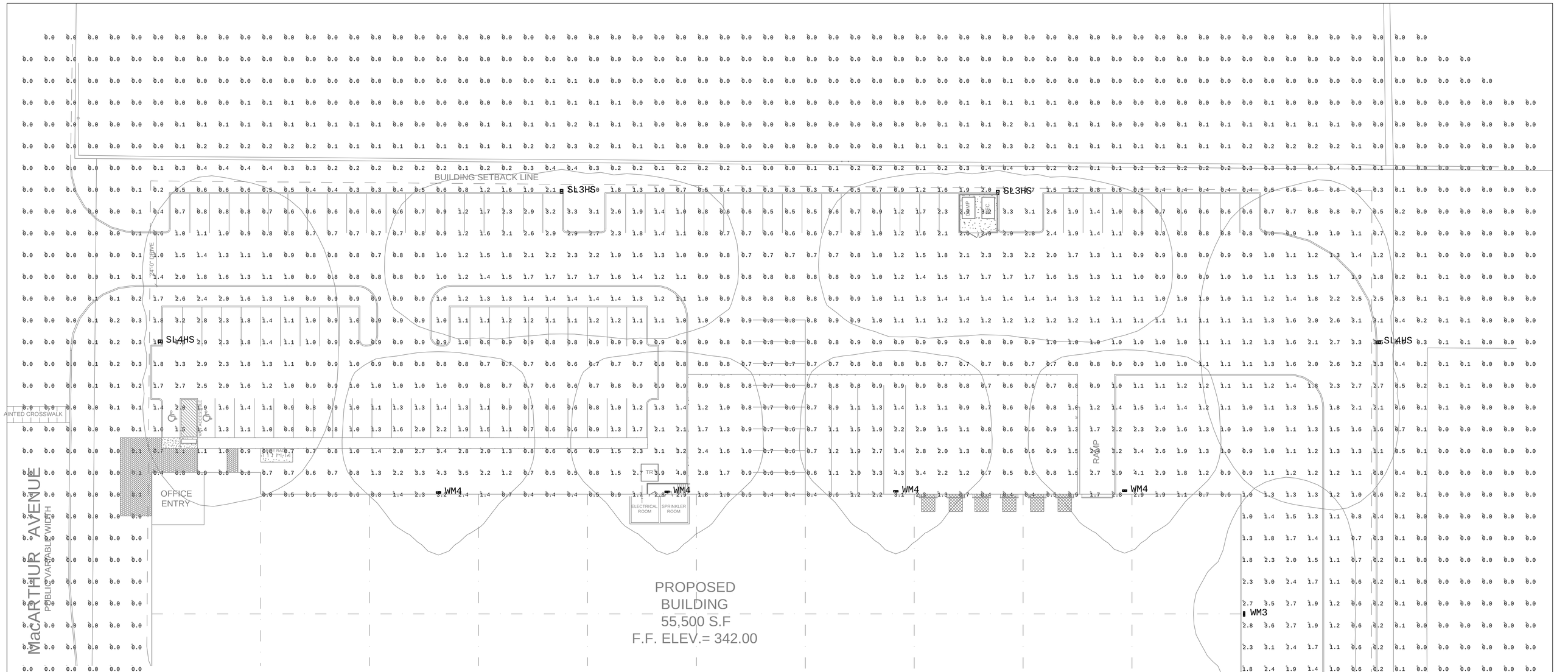
BUILDING ELEVATIONS

SCALE: 1/16" = 1'-0"

DATE: DECEMBER 3, 2020

DRAWING NUMBER

A.1



JOB NAME: 4 MACARTHUR RD
APEX LIGHTING SOLUTIONS
REFLECTANCES: N/A
WORKPLANE/CALC PLANE: @ GRADE
MOUNTING HEIGHT: POLE FIXTURES=30FT; WALL MOUNTS=24FT
APPS: CTR
SALES: DT

Luminaire Schedule

Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
2	SL3HS	SINGLE	20935	205.9	0.850	B2-U0-G4	GARDCO ECF-S-64L-1A-NW-G2-AR-3-VOLT-HIS-FINISH MOUNTED TO POLE @ 30FT AFG TO TOF
2	SL4HS	SINGLE	21559	205.9	0.850	B2-U0-G4	GARDCO ECF-S-64L-1A-NW-G2-AR-4-VOLT-HIS-FINISH MOUNTED TO POLE @ 30FT AFG TO TOF
1	WM3	SINGLE	14581	137.8	0.850	B2-U0-G2	GARDCO 161-46L-900-NW-G2-3-VOLT-DIM-FINISH WALL MOUNTED @ 24FT AFG TO BOF
4	WM4	SINGLE	14022	138	0.850	B2-U0-G2	GARDCO 161-46L-900-NW-G2-4-VOLT-DIM-FINISH WALL MOUNTED @ 24FT AFG TO BOF

Calculation Summary

Label	Grid Z	Avg	Max	Min	Avg/Min	Max/Min
SITE	0	0.65	4.3	0.0	N.A.	N.A.
LONG ENTRYWAY		0.90	2.7	0.1	9.00	27.00
PARKING LOT		1.19	4.3	0.4	2.98	10.75

GENERAL DISCLAIMER:

Calculations have been performed according to IES standards and good practice Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

* LLF Determined Using Current Published Lamp Data

NOTE TO REVIEWER:

Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.

For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.

REVISIONS:

REV. X XX-XX-XX XXXXX

APEX LIGHTING SOLUTIONS
THE POINT WHERE ALL ASCENDING LINES CONVERGE
20-30 BEAVER ROAD
WETHERSFIELD, CT 06109
TELEPHONE 860.632.8766
FACSIMILIE 860.632.8236
www.apexltg.com

PROJECT TITLE:

4 MACARTHUR RD

DRAWING TITLE:

EXTERIOR LIGHTING
PHOTOMETRIC CALCULATION

FILE NAME: SL1 4 MACARTHUR RD CTR 11-30-20.dwg

SCALE : 1"=20'-0"

DATE: 11/30/20

DRAWN BY: CTR

SHEET:

SL-1