

# BELMONT HILL SCHOOL BELMONT, MA

JULY 27, 2022

# DRAWING SET FOR PERMITTING

# DRAWING LIST

SHEET NO.	SHEET TITLE	DATE SUBMIT
XXXXX	EXISTING CONDITIONS PLAN:	07.27.22
XXXXX	EXISTING CONDITIONS PLAN:	07.27.22
CS-100	KEY PLAN	07.27.22
CS-002	NOTES AND LEGEND	07.27.22
CS-511	SITE DETAILS	07.27.22
CES-110	SITE PREP AND EROSION CONTROL PLAN 1	07.27.22
CES-120	SITE PREP AND EROSION CONTROL PLAN 2	07.27.22
CES-130	SITE PREP AND EROSION CONTROL PLAN 3	07.27.22
CES-140	SITE PREP AND EROSION CONTROL PLAN 4	07.27.22
C-511	SITE DETAILS	07.27.22
C-521	SITE PREP AND EROSION CONTROL DETAILS 1	07.27.22
CU-110	DRAINAGE AND UTILITIES PLAN 1	07.27.22
CU-120	DRAINAGE AND UTILITIES PLAN 2	07.27.22
CU-130	DRAINAGE AND UTILITIES PLAN 3	07.27.22
CU-140	DRAINAGE AND UTILITIES PLAN 4	07.27.22
CU-531	DRAINAGE AND UTILITY DETAILS 1	07.27.22
CU-532	DRAINAGE AND UTILITY DETAILS 2	07.27.22
CU-533	DRAINAGE AND UTILITY DETAILS 3	07.27.22
CU-534	DRAINAGE AND UTILITY DETAILS 4	07.27.22
TM101	TURNING MOVEMENTS - FIRETRUCK ENTER	07.27.22
TM102	TURNING MOVEMENTS - FIRETRUCK EXIT	07.27.22
TM103	MARSH STREET TURNING MOVEMENTS	07.27.22
LL-100	SITE LIGHTING PLAN	07.27.22
LL-110	SITE LIGHTING PLAN	07.27.22
LL-120	SITE LIGHTING PLAN	07.27.22
LL-130	SITE LIGHTING PLAN	07.27.22
LL-140	SITE LIGHTING PLAN	07.27.22
LL-501A	DETAILS 1	07.27.22
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L-210	MATERIALS PLAN: ZAMBONI LOT	07.27.22
L-220	MATERIALS PLAN: UPPER LOT	07.27.22
L-230	MATERIALS PLAN: EAST LOT	07.27.22
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L-310	GRADING PLAN: ZAMBONI LOT	07.27.22
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L-510	PLANTING PLAN: ZAMBONI LOT	07.27.22
L-520	PLANTING PLAN: UPPER LOT	07.27.22
L-530	PLANTING PLAN: EAST LOT	07.27.22
L-540	PLANTING PLAN: FACILITIES LOT	07.27.22
A1.0	SITE PLAN	07.27.22
A1.1	FLOOR PLANS	07.27.22
A1.2	ROOF PLAN	07.27.22
A3.1	EXTERIOR ELEVATIONS	07.27.22

# REED-HILDERBRAND

LANDSCAPE ARCHITECTURE

Reed Hilderbrand LLC

CLIENT

BELMONT HILL SCHOOL

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350 PROSPECT STREET BELMONT, MA, 02478

# LANGAN

# design LAB architects ARCHITECT

**CIVIL ENGINEER** LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES INC.

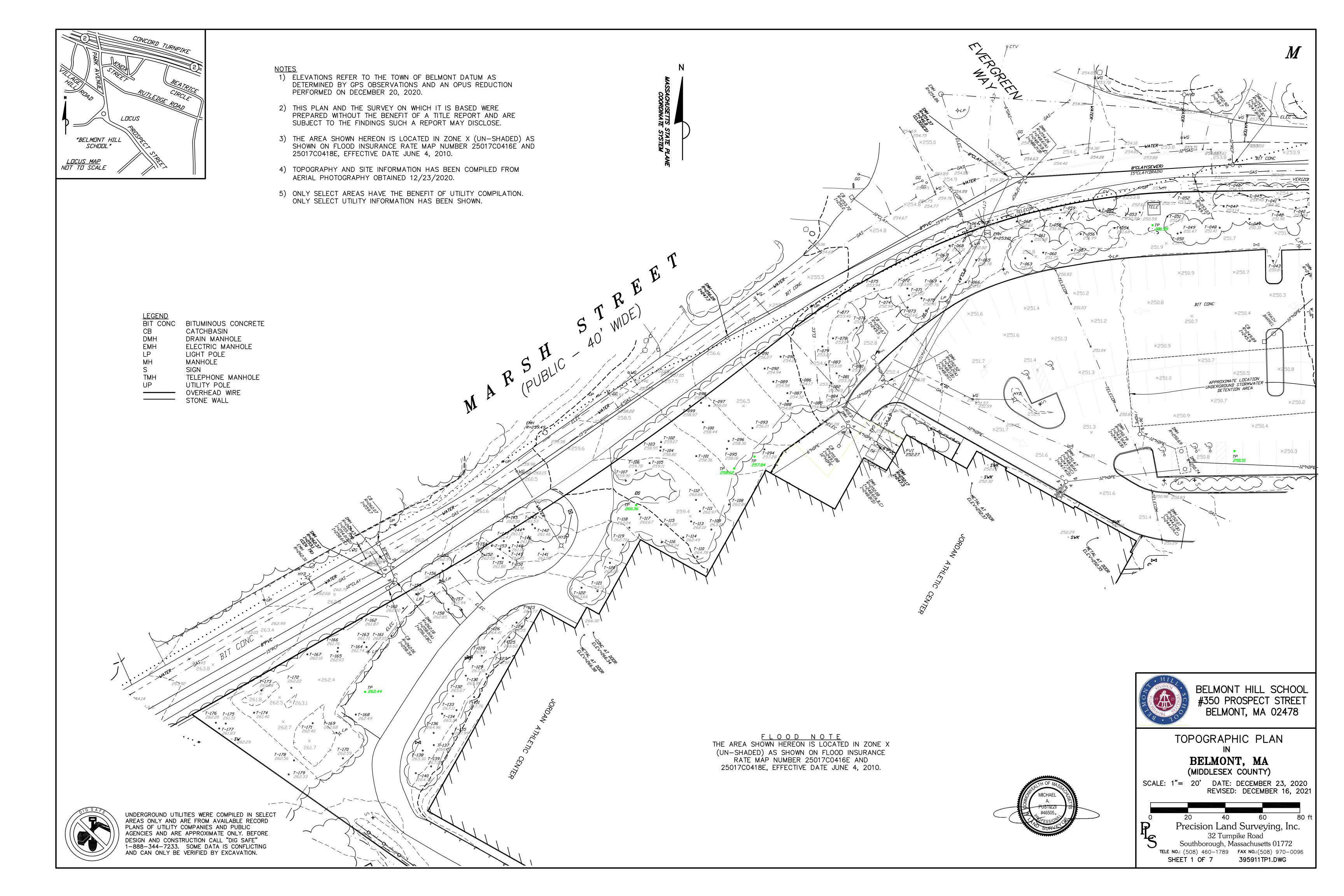
100 Cambridge Street, Suite 1310 Boston, MA

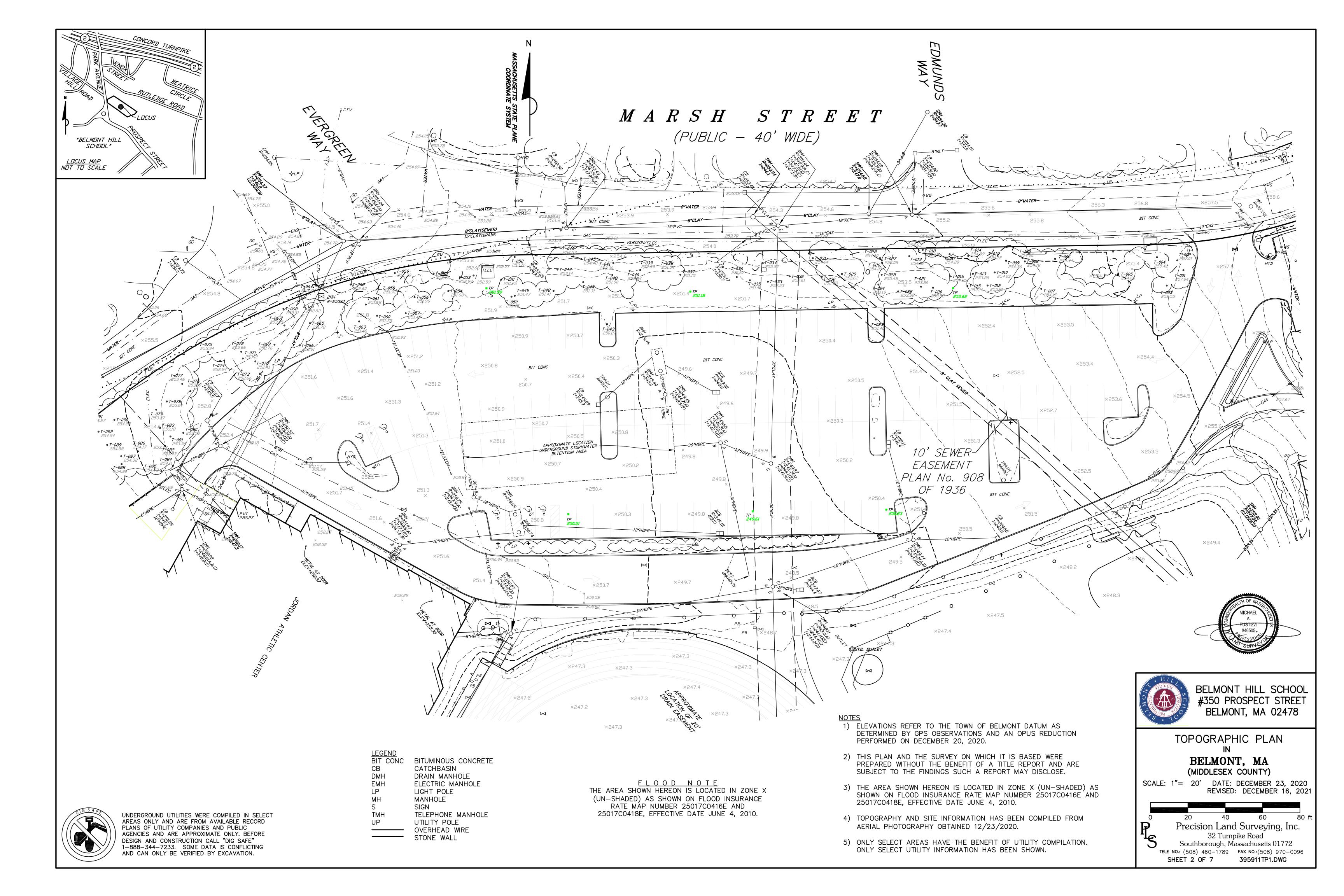
T: 617.824.9100 F: 617.824.9101 www.langan.com

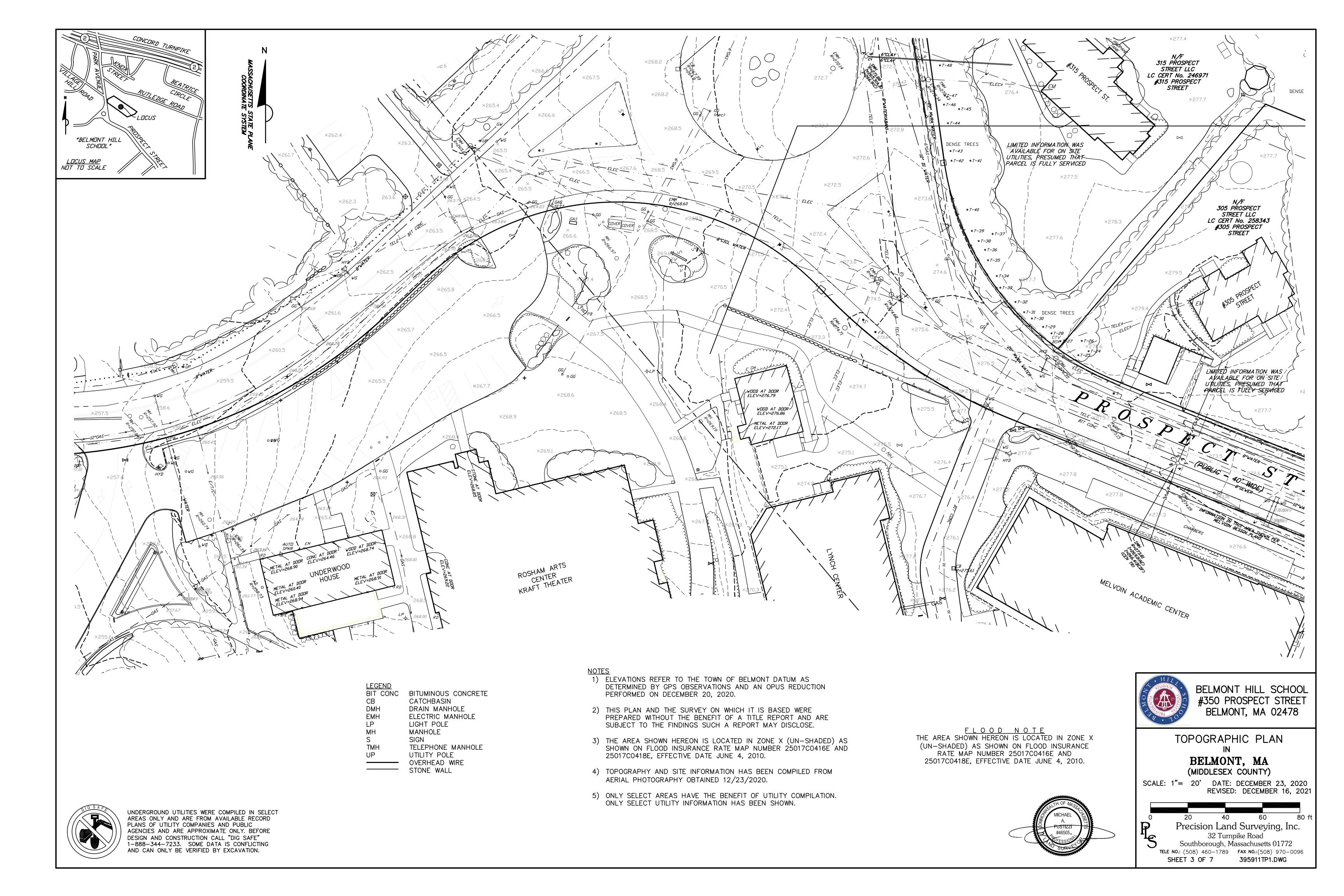
DESIGNLAB ARCHITECTS

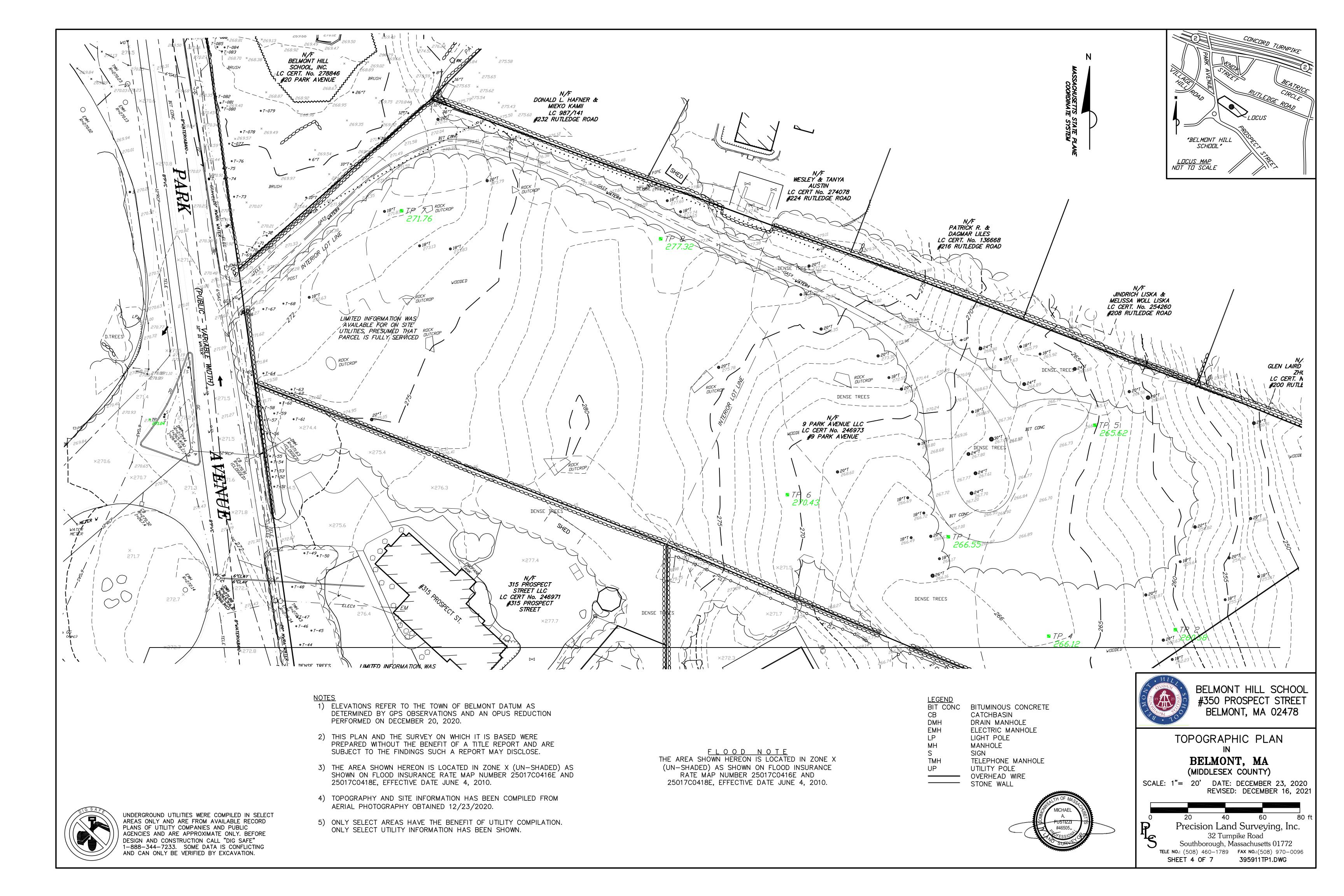
35 CHANNEL CENTER ST. STE. 103 BOSTON, MA 02210

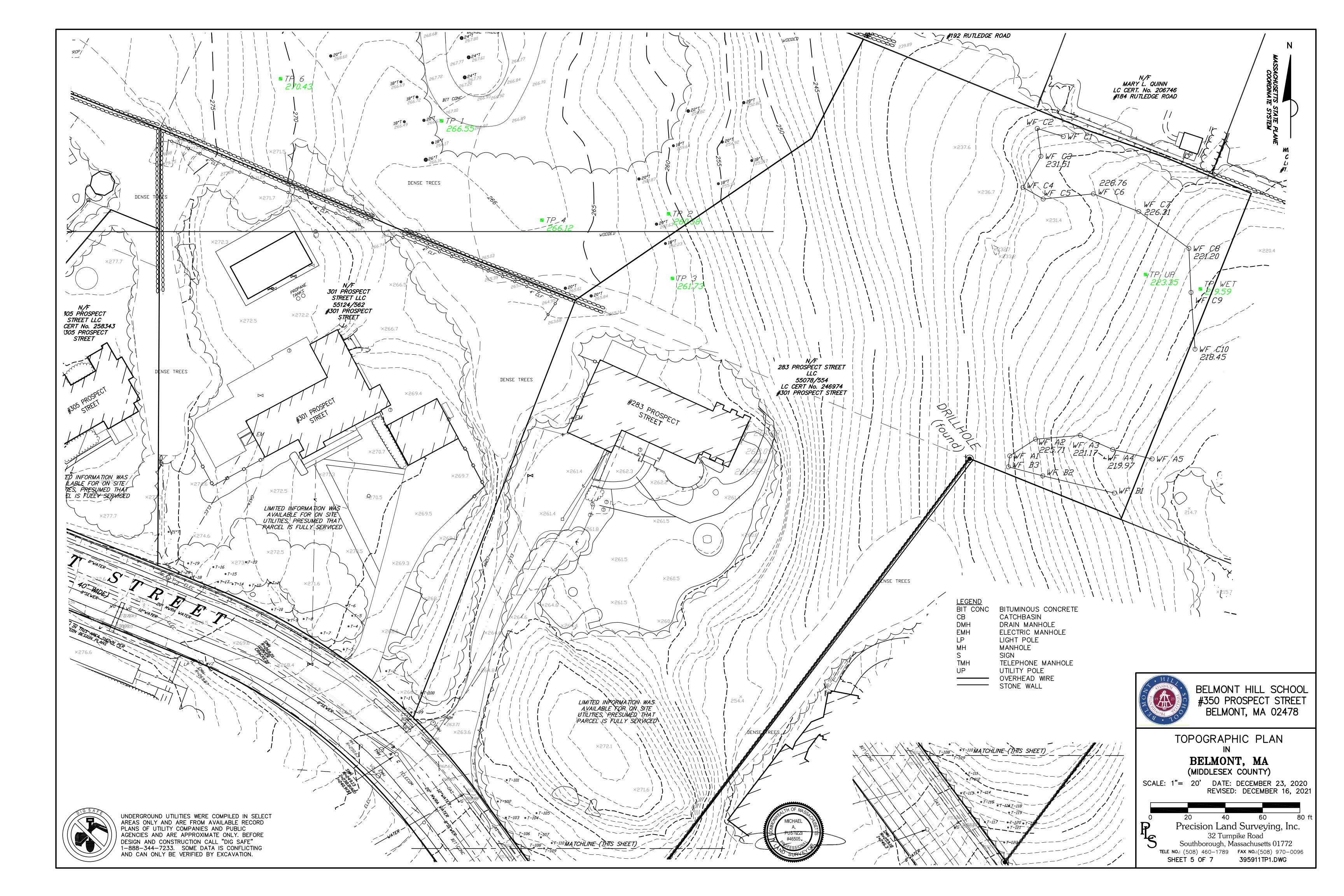
T: 617.350.3005 WWW.DESIGNLABARCH.COM

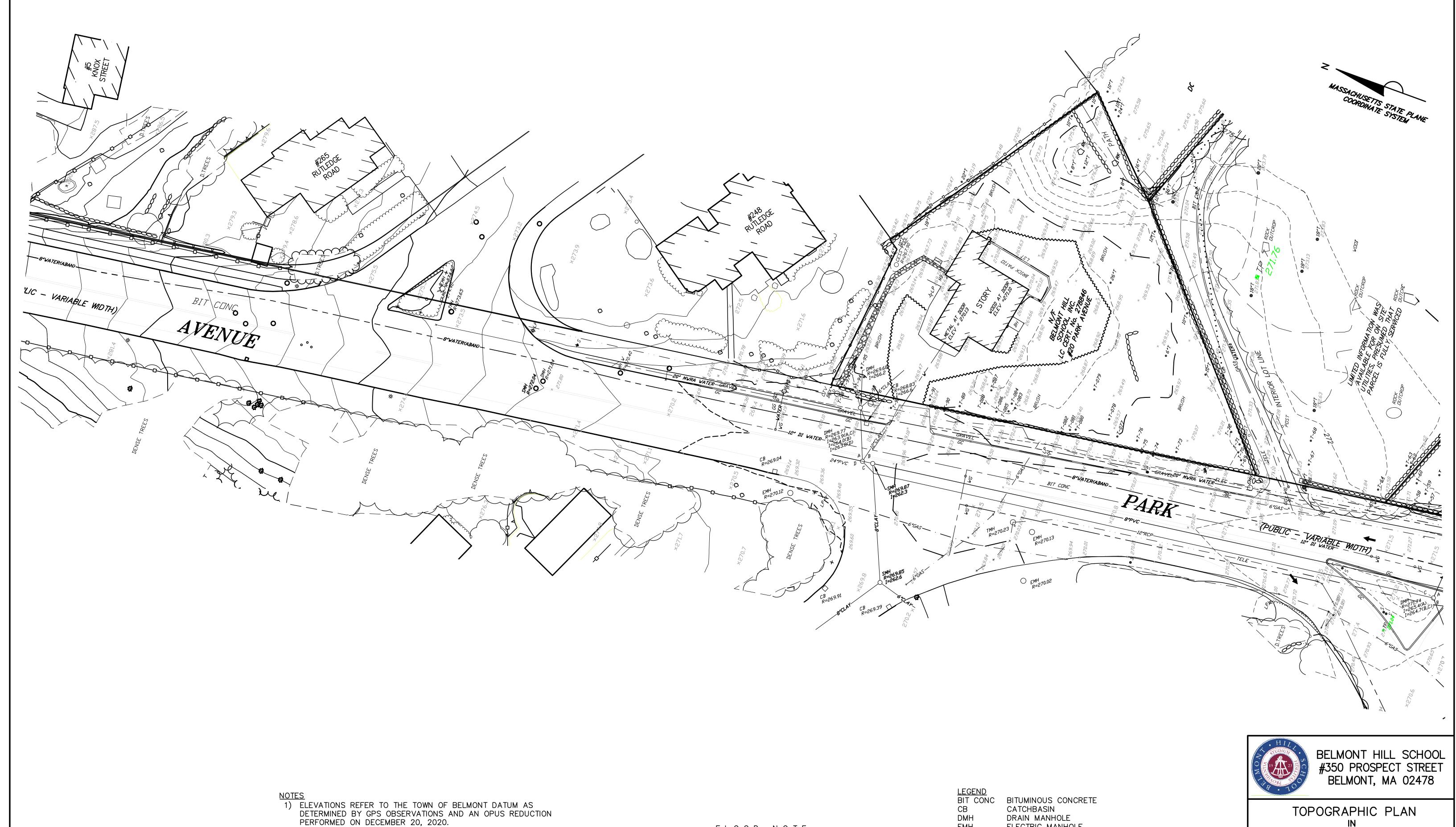












- 2) THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WERE PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND ARE SUBJECT TO THE FINDINGS SUCH A REPORT MAY DISCLOSE.
- 3) THE AREA SHOWN HEREON IS LOCATED IN ZONE X (UN-SHADED) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0416E AND 25017C0418E, EFFECTIVE DATE JUNE 4, 2010.
- 4) TOPOGRAPHY AND SITE INFORMATION HAS BEEN COMPILED FROM AERIAL PHOTOGRAPHY OBTAINED 12/23/2020.

FLOOD NOTE

THE AREA SHOWN HEREON IS LOCATED IN ZONE X

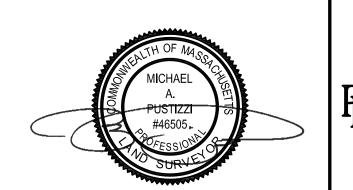
(UN-SHADED) AS SHOWN ON FLOOD INSURANCE

RATE MAP NUMBER 25017C0416E AND

25017C0418E, EFFECTIVE DATE JUNE 4, 2010.

LEGEND
BIT CONC BITUMINOUS CONCRE
CB CATCHBASIN
DMH DRAIN MANHOLE
EMH ELECTRIC MANHOLE
LP LIGHT POLE
MH MANHOLE
S SIGN
TMH TELEPHONE MANHOL

MANHOLE
SIGN
H TELEPHONE MANHOLE
UTILITY POLE
OVERHEAD WIRE
STONE WALL



BELMONT, MA (MIDDLESEX COUNTY)

SCALE: 1"= 20' DATE: DECEMBER 23, 2020 REVISED: DECEMBER 16, 2021

> 20 40 60 80 f Precision Land Surveying, Inc.

32 Turnpike Road
Southborough, Massachusetts 01772

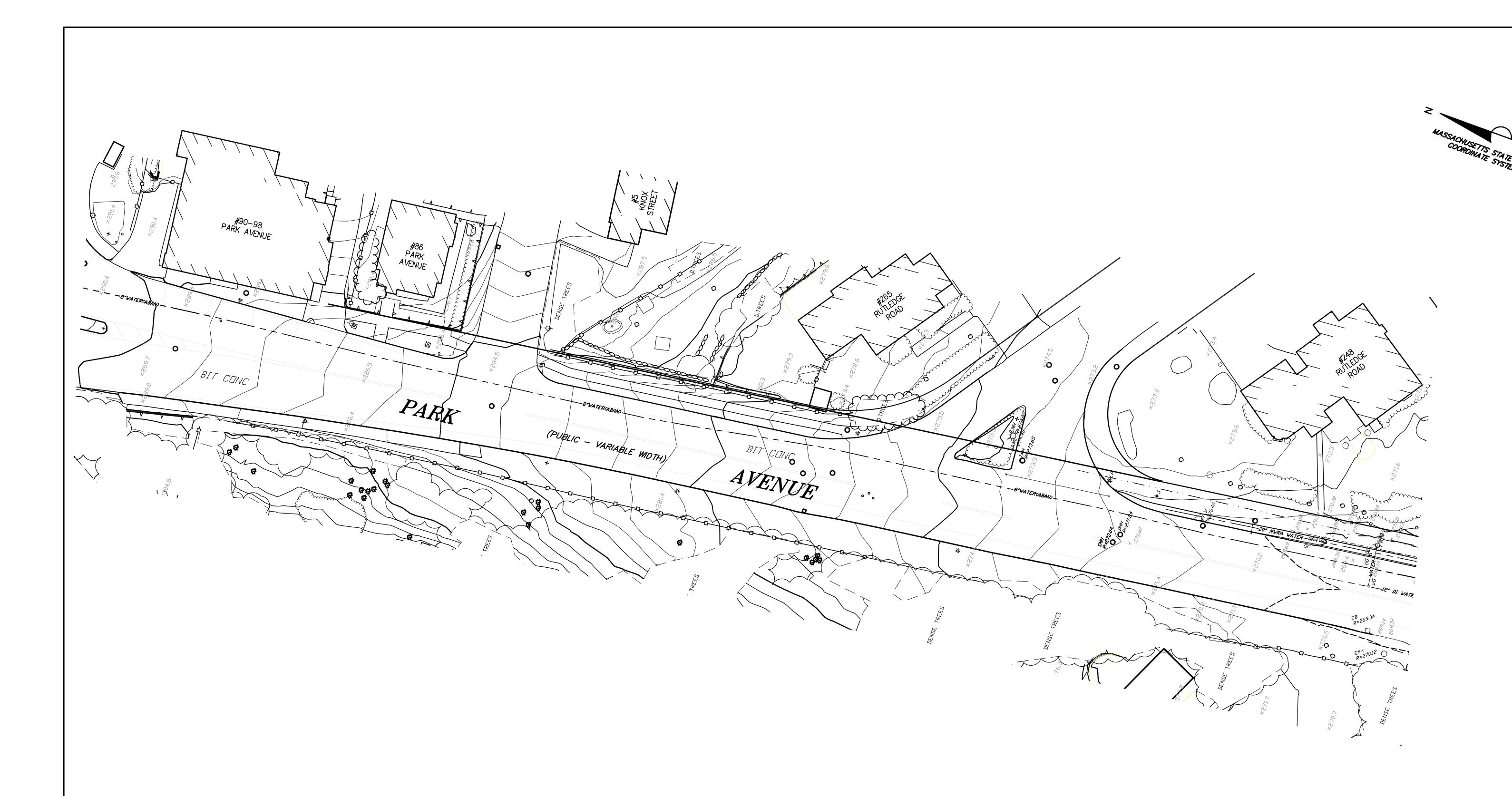
TELE NO.: (508) 460–1789 FAX NO.: (508) 970–0096

SHEET 6 OF 7 395911TP1.DWG



UNDERGROUND UTILITIES WERE COMPILED IN SELECT AREAS ONLY AND ARE FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. BEFORE DESIGN AND CONSTRUCTION CALL "DIG SAFE" 1-888-344-7233. SOME DATA IS CONFLICTING AND CAN ONLY BE VERIFIED BY EXCAVATION.

5) ONLY SELECT AREAS HAVE THE BENEFIT OF UTILITY COMPILATION. ONLY SELECT UTILITY INFORMATION HAS BEEN SHOWN.



- 1) ELEVATIONS REFER TO THE TOWN OF BELMONT DATUM AS DETERMINED BY GPS OBSERVATIONS AND AN OPUS REDUCTION PERFORMED ON DECEMBER 20, 2020.
- 2) THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WERE PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND ARE SUBJECT TO THE FINDINGS SUCH A REPORT MAY DISCLOSE.
- 3) THE AREA SHOWN HEREON IS LOCATED IN ZONE X (UN-SHADED) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0416E AND 25017C0418E, EFFECTIVE DATE JUNE 4, 2010.
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BIT CONC CB EMH

BITUMINOUS CONCRETE CATCHBASIN DRAIN MANHOLE ELECTRIC MANHOLE LIGHT POLE MANHOLE

TELEPHONE MANHOLE UTILITY POLE OVERHEAD WIRE STONE WALL



BELMONT HILL SCHOOL #350 PROSPECT STREET BELMONT, MA 02478

TOPOGRAPHIC PLAN

BELMONT, MA (MIDDLESEX COUNTY)

SCALE: 1"= 20' DATE: DECEMBER 23, 2020 REVISED: DECEMBER 16, 2021

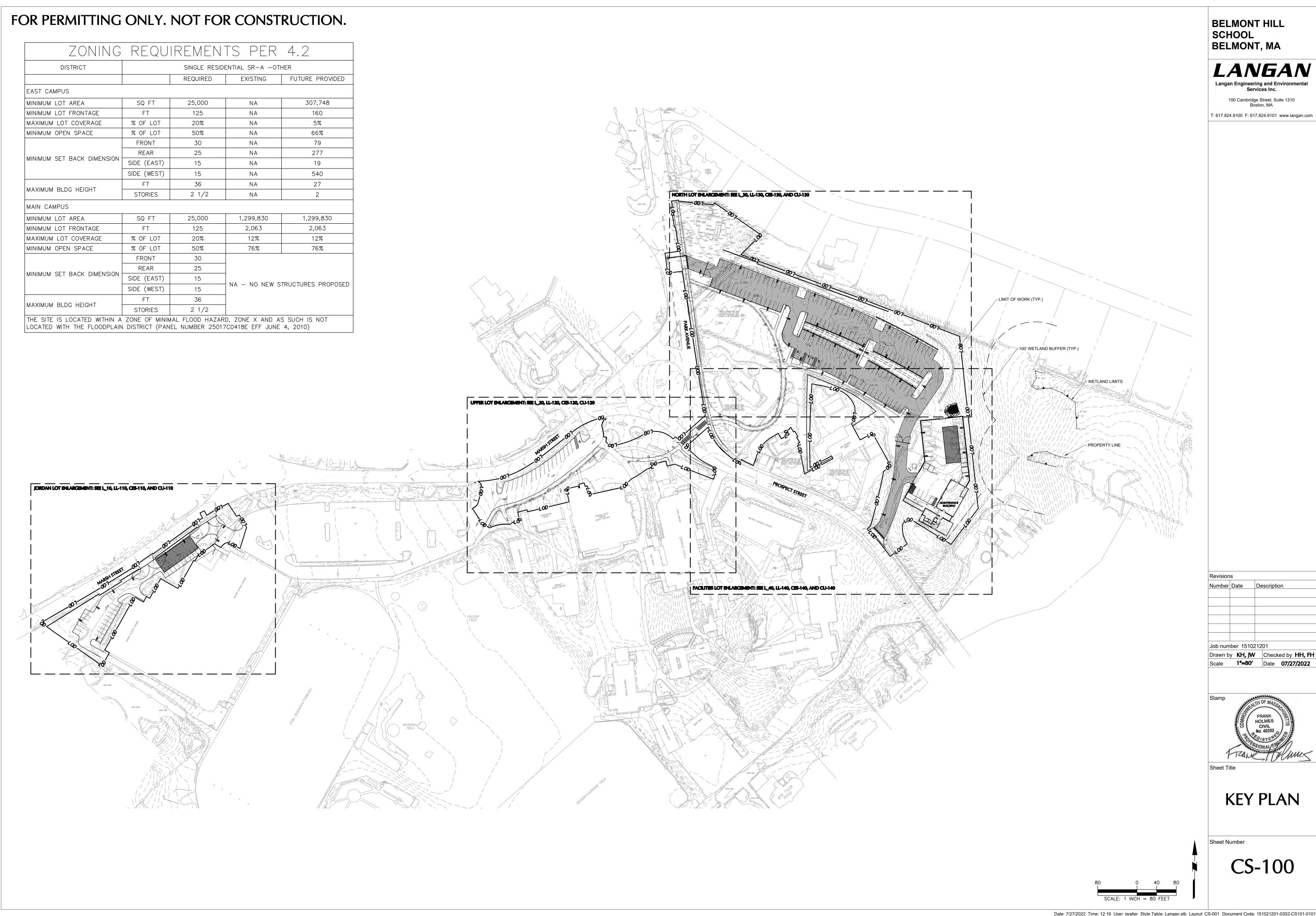
Precision Land Surveying, Inc.

32 Turnpike Road Southborough, Massachusetts 01772 TELE NO.: (508) 460-1789 FAX NO.: (508) 970-0096 SHEET 7 OF 7 395911TP1.DWG



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AERIAL PHOTOGRAPHY OBTAINED 12/23/2020.



#### **GENERAL CIVIL NOTES**

- PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY PRECISION LAND SURVEYING. INC. THE EXISTING CONDITIONS SHOWN HERE ARE FROM SURVEY DATA UPDATED THROUGH 03/23/2022.
- 1.1. ELEVATIONS REFER TO THE TOWN OF BELMONT DATUM AS DETERMINED BY GPS OBSERVATIONS AND AN OPUS REDUCTION PERFORMED ON DECEMBER 20, 2020.
- 1.2. THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WERE PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND ARE SUBJECT TO THE FINDINGS SUCH A REPORT MAY DISCLOSE.
- THE AREA SHOWN HEREON IS LOCATED IN ZONE X (UN-SHADED) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0416E AND 25017C0418E, EFFECTIVE DATE JUNE 4, 2010.
- TOPOGRAPHY AND SITE INFORMATION HAS BEEN COMPILED FROM AERIAL PHOTOGRAPHY OBTAINED 12/23/2020.
- ONLY SELECT AREAS HAVE THE BENEFIT OF UTILITY COMPILATION. ONLY SELECT UTILITY INFORMATION HAS BEEN SHOWN.
- WETLANDS DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS AND LOCATED BY PRECISION LAND SURVEYING, INC.
- PROPOSED SITE WORK IMPROVEMENTS SHALL CONFORM TO THE STANDARD DETAILS AND SPECIFICATIONS OF THE TOWN OF BELMONT. IN THE ABSENCE OF LOCAL STANDARDS, SITE WORK SHALL CONFORM TO THE REQUIREMENTS OF MASSACHUSETTS DOT STANDARD DETAILS.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE (WWW.DIGSAFE.COM), EXCAVATION TEST HOLES, PERFORMING TEST BORINGS, AND PERFORMING WHATEVER ADDITIONAL INVESTIGATION NECESSARY TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES TO REMAIN THROUGHOUT THE CONSTRUCTION PERIOD. ANY CONFLICTS BETWEEN EXISTING UTILITIES AND PROPOSED UTILITIES DISCOVERED DURING CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT ENGINEER.
- SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS, DIMENSIONS AND DETAILS OF ALL DOORS, RAMPS, SIDEWALKS AND WALLS ASSOCIATED WITH THE BUILDING.
- ALL IMPROVEMENTS CONSTRUCTED IN THE TOWN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO TOWN OF BELMONT STANDARD DETAILS. IN THE ABSENCE OF LOCAL DETAILS & REQUIREMENTS AND WORK IN THE STATE RIGHT-OF-WAY SHALL COMPLY WITH THE STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, TH COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (2021 EDITION) AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS (DATED SEPTEMBER 30, 2021).
- FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC) AS REQUIRED BY OWNER AND/OR GOVERNING AUTHORITY.
- ALL SIGNS AND PAVEMENT MARKINGS SHALL CONFORM THE LATEST EDITION OF THE MUTCD AND MASSACHUSETTS DEPARTMENT OF TRANSPORTATION REGULATIONS.
- ABBREVIATIONS:
- ARCH. = ARCHITECTURAL
- AD = AREA DRAINBC = BOTTOM OF CURB
- BW = BOTTOM OF WALL
- CB = CATCH BASINCLDI = CONCRETE LINED DUCTILE IRON
- CO = CLEAN OUTCONC. = CONCRETE
- DCB = DOUBLE CATCH BASIN DMH = DRAIN MANHOLE
- EMH = ELECTRIC MANHOLE EX. = EXISTING
- FES = FLAIRED END SECTION
- FFE = FINISHED FLOOR ELEVATION GR = GRADE
- HDPE = HIGH DENSITY POLYETHYLENE PIPE HH = HANDHOLE
- HP = HIGHPOINTINV = INVERT
- LA = LANDSCAPED AREA
- LF = LINEAR FEET
- LP = LOW POINTMH = MANHOLE
- NTS = NOT TO SCALEOCS = OUTLET CONTROL STRUCTURE
- PR. = PROPOSED
- PVC = POLYVINYL CHLORIDE PIPE (SDR-35)
- RCP = REINFORCED CONCRETE PIPE
- RET. = RETAININGRL = ROOF LEADER
- R.O.W = RIGHT OF WAY
- R&D = REMOVE & DISPOSER&R = REMOVE & RESET
- R&S = REMOVE & SALVAGESSMH = SANITARY SEWER MANHOLE
- TF = TOP OF FRAMETC = TOP OF CURB
- TW = TOP OF WALL
- TYP. = TYPICALVIF = VERIFY IN FIELD
- WQS = WATER QUALITY STRUCTURE

#### SITE PREP, DEMO & EROSION NOTES

- CLEAR AND GRUB ALL EXISTING PLANTED AREAS WITHIN THE LIMITS OF GRADING. STOCKPILE TOPSOIL FOR REUSE.
- SOIL AND SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IN ACCORDANCE WITH THE LOCAL GOVERNING AUTHORITY, THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES AND THE MASSACHUSETTS STORMWATER STANDARDS.
- CONTRACTOR SHALL PREVENT DUST, SEDIMENT AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS. ADJOINING STREETS AND PROPERTIES TO BE KEPT FREE OF DEBRIS RESULTING FROM DEMOLITION AND SHALL BE CLEANED ON A DAILY BASIS OR AS NEEDED.
- CONTRACTOR SHALL MAINTAIN THE INFILTRATION CAPACITY OF SUBGRADE WITHIN THE FOOTPRINT OF THE INFILTRATION FACILITIES. CONTRACTOR SHALL PREVENT EXCESSIVE SILT AND SEDIMENT BUILDUP AND EXCESSIVE LOADING IN THESE AREAS. IF THE INFILTRATION CAPACITY OF THESE AREAS IS COMPROMISED, THE CONTRACTOR SHALL AMEND OR MODIFY THE SUBGRADE TO RESTORE
- EXISTING TREES TO REMAIN WITHIN THE LIMIT OF WORK ARE TO BE PROTECTED. TREE PROTECTION FENCING TO BE 6' TALL CHAIN LINK FENCE AND TO BE SET UP AT DRIP LINE OF EXISTING TREES OR EXTENT OF CRITICAL ROOT ZONE, WHICHEVER IS GREATER. EXISTING TREES AND SHRUBS TO REMAIN SHALL NOT BE ALTERED UNDER ANY CIRCUMSTANCES UNLESS REVIEWED BY THE LANDSCAPE ARCHITECT AND MUST REMAIN IN THE SAME CONDITION AS OBSERVED PRIOR TO CONSTRUCTION.
- TREE AND SHRUB REMOVAL SHALL INCLUDE THE FELLING, CUTTING, GRUBBING OUT OF ROOTS, AND SATISFACTORY OFF-SITE DISPOSAL OF ALL STUMPS AND VEGETATIVE AND EXTRANEOUS DEBRIS PRODUCED THROUGH THE REMOVAL OPERATIONS.
- NO HEAVY MACHINERY IS TO BE USED WITHIN THE CRITICAL ROOT ZONES OF EXISTING TREES. EXCAVATION WITHIN CRITICAL ROOT ZONE IS TO BE PERFORMED BY HAND. REVIEW ALL WORK PROPOSED WITHIN THE CRITICAL ROOT ZONE WITH THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- ALL EXISTING UTILITIES NOT IDENTIFIED AS TO BE REMOVED ARE TO BE PROTECTED. ALL VALVE BOXES, FRAMES, GRATES AND COVERS SHALL BE ADJUSTED TO FINISHED GRADE AS REQUIRED.
- DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST WHICH MAY CAUSE OFF-SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY.
- ). EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED PRIOR TO START OF DEMOLITION AND CONSTRUCTION AND DISTURBANCE OF SITE CONTRIBUTORY DRAINAGE AREAS. THE OWNER OR ITS CONTRACTOR SHALL INSPECT, REPAIR AND REMOVE ALL SEDIMENT AND EROSION CONTROL DEVICES, AS INDICATED HEREIN. ALL EARTH CHANGES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST POSSIBLE PERIOD OF TIME.
- 11. DISPOSAL OF COLLECTED SEDIMENT SHALL BE MADE TO AREA DESIGNATED BY THE OWNER'S SOIL ENGINEER.
- 12. FILTER FABRIC/SILT FENCE WILL BE INSTALLED ALONG THE TOE OF ALL CRITICAL CUT AND FILL SLOPES.
- 3. ALL TOPSOIL NOT TO BE USED FOR FINAL GRADING/LANDSCAPED AREAS SHALL BE REMOVED FROM THE SITE IMMEDIATELY, IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL LAW. ALL TOPSOIL TO BE USED IN LANDSCAPED AREAS SHALL BE STORED/STOCKPILED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL LAW STANDARDS.
- . ALL STORM DRAINAGE OUTLETS MUST BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
- 5. SILT FENCES AND BARRIERS MUST BE CLEANED OR REPLACED PERIODICALLY TO REMOVE BUILT-UP SILT.
- ALL EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSPECTED ON A DAILY BASIS AND CLEANED IMMEDIATELY AFTER EACH STORM.
- . ANY TEMPORARY OR PERMANENT FACILITY DESIGNED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR FROM THE EARTH CHANGE AREA SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.
- B. THE CONTRACTOR SHALL CORRECT ANY OMISSIONS, ERRORS, OR FIELD OPERATIONS IMMEDIATELY AND IN ACCORDANCE WITH THE GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
- ). SEDIMENT DISPOSAL AREAS AND TOPSOIL STOCKPILES NO SCHEDULED FOR CONSTRUCTION ACTIVITIES WITHIN THIRTY (30) DAYS OF DISTURBANCE SHALL BE STABILIZED AS FOLLOWS:
- A. SOIL AMENDMENTS AS NECESSARY.
- ANNUAL RYE GRASS SEEDING APPLIED AT A RATE OF NOT LESS THAN 1 LB. PER 1,000 SF.
- MULCH ALL NEWLY SEEDED AREAS WITHIN 80 LBS. OF SALT HAY OR SMALL GRAIN STRAW PER 1,000
- D. WHEN DISTURBED AREAS ARE SCHEDULED FOR IMMEDIATE LANDSCAPING THEY MAY BE MULCHED AND SEEDED PER ITEM C ABOVE.

#### STORM DRAINAGE NOTES

- ALL STORM DRAINAGE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS/DETAILS OF THE TOWN OF BELMONT AND IN ACCORDANCÉ WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ORDINANCES/REQUIREMENTS GOVERNING THE PROPOSED WORK.
- THE LOCATION OF EXISTING UNDERGROUND STORM DRAINAGE INFRASTRUCTURE SHOWN HEREON IS TAKEN FROM DESIGN PLANS, AS-BUILT SKETCHES, LIMITED PHYSICAL EXPLORATION AND OTHER SOURCES OF INFORMATION AND IS NOT TO BE CONSTRUED AS AN ACCURATE "AS-BUILT" SURVEY AND IS SUBJECT TO SUCH CORRECTIONS THAT A MORE ACCURATE SURVEY MAY
- THE EXISTING STORM DRAINAGE INDICATED HEREON MAY NOT BE LOCATED AS SHOWN. ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT
- ENGINEER. RESET ALL EXISTING STORM DRAINAGE STRUCTURES TO MASSACHUSETTS STATE STANDARDS AND AS REQUIRED BY REPAIRING, MILLING OR OVERLAYING.ALL PROPOSED STORM

DRAINAGE PIPING TO UTILIZE WATER-TIGHT JOINTS.

- CLEANOUTS SHALL BE PROVIDED FLUSH TO GRADE AT ALL LOCATIONS OF ROOF DRAIN INTERSECTIONS, BENDS AND UPSTREAM ENDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SIZING ALL DRAINAGE STRUCTURES AND SUBMITTING SHOP DRAWINGS TO ENGINEER FOR REVIEW. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL

PAVEMENT REPAIRS REQUIRED AS A RESULT OF ANY

STORMWATER WORK.

THE CONTRACTOR SHALL COORDINATE REQUIRED INSPECTIONS WITH THE OFFICE OF COMMUNITY DEVELOPMENT PRIOR TO BACKFILLING OF CONNECTIONS TO TOWN OF BELMONT STORM SEWERS.

#### **UTILITIES NOTES**

- ALL UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS/DETAILS OF THE UTILITY COMPANY HAVING AUTHORITY OVER THE PROPOSED WORK. ALL PROPOSED UTILITY WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ORDINANCES/REQUIREMENTS GOVERNING THE PROPOSED WORK.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN HEREON IS TAKEN FROM DESIGN PLANS, AS-BUIL SKETCHES, EXISTING UTILITY COMPANY RECORDS, AND OTHER SOURCES OF INFORMATION AND IS NOT TO BE CONSTRUED AS AN ACCURATE "AS-BUILT" SURVEY AND SUBJECT TO SUCH CORRECTIONS THAT A MORE ACCURATI SURVEY MAY DISCLOSE.
- THE EXISTING UTILITIES INDICATED HEREON MAY NOT BE LOCATED AS SHOWN. IN ADDITION, OTHER UTILITIES NOT SHOWN HEREON MAY BE PRESENT. ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT ENGINEER.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY DISCREPANCIES DISCOVERED DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPORTED TO THE PROJECT ENGINEER
- ANY UTILITY EASEMENTS REQUIRED BY ANY OF THE VARIOUS UTILITY COMPANIES SHALL BE OBTAINED. EXECUTED, AND RECORDED PRIOR TO ANY OF THE AFFECTED UTILITY WORK BEING PERFORMED.
- ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND UNLESS OTHERWISE NOTED.
- RESET ALL EXISTING UTILITY INFRASTRUCTURE, INCLUDING SANITARY MANHOLE STRUCTURES, VALVE BOXES AND VAULTS, TO PROPOSED FINISHED GRADE IN ACCORDANCE WITH MASSACHUSETTS STATE STANDARDS AND AS REQUIRED BY IMPROVEMENTS, REPAIRING, MILLING OR OVERLAYING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAVEMENT REPAIRS REQUIRED AS A RESULT OF ANY UTILITY WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE DOMESTIC AND FIRE SERVICE LINE CONNECTIONS TO EXISTING MAINS.
- TEST PITS ARE TO BE PERFORMED PRIOR TO INSTALLATION OF DOMESTIC AND FIRE SERVICE LINE CONNECTIONS TO CONFIRM THE SIZE AND MATERIAL OF THE MAIN.
- D. TAPPING SLEEVES AND GATE VALVE ASSEMBLIES SHALL E INSTALLED AT EACH DOMESTIC AND FIRE SERVICE LINE CONNECTION AND SHALL BE MANUFACTURED BY CLOW VALVE CO., MUELLER CO., OR AMERICAN VALVE AND
- SCHEDULING OF ALL DOMESTIC AND FIRE SERVICE LINE CONNECTION WORK SHALL BE COORDINATED WITH THE TOWN OF BELMONT WATER DIVISION TO ALLOW FOR A REPRESENTATIVE FROM THE AGENCY TO BE ONSITE TO OVERSEE THE CONNECTIONS AND PERFORM A WATER SHUTDOWN AS NEEDED.
- 12. WATER METERS AND ASSOCIATED ENCODER RECEIVER TRANSMITTER EQUIPMENT SHALL BE COMPATIBLE WITH THE TOWN'S EXISTING METER READING SYSTEM.
- 3. ALL WATER MAINS AND SERVICES SHALL HAVE A MINIMUM OF 5'-0" OF COVER. INSULATION SHALL BE USED FOR ANY MAINS AND SERVICES RECEIVING LESS THAN 5'-0" OF COVER. INSULATION SHALL BE 2-INCHES THICK, "FOAMGLASS" STYLE WITH JACKETING AS MANUFACTURED BY PITTSBURGH CORNING CORP IN ACCORDANCE WITH AWWA C552.
- 4. ALL WATER MAINS AND SERVICES SHALL MAINTAIN A MINIMUM VERTICAL SEPARATION OF 18-INCHES FROM OTHER UTILITIES WITH STRICT ADHERENCE TO THIS SEPARATION FOR SEWER AND DRAIN LINES IN ACCORDANCE WITH MASSDEP'S GUIDELINES AND POLICIES FOR PUBLIC WATER SYSTEMS. IF ADEQUATE SEPARATION IS NOT MAINTAINED, PIPELINES SHALL BE SLEEVED OR ENCASED IN FLOWABLE AND EXCAVATABLE CONCRETE. IN ADDITION, NO WATER MAINS OR SERVICES SHALL BE INSTALLED WITHIN THE SAME TRENCH AS OTHER UTILITIES A MINIMUM OF 10-FEET OF HORIZONTAL SEPARATION FROM SEWER OR DRAIN LINES SHALL BE MAINTAINED.
- . VALVE BOXES SHALL BE CAST IRON, ADJUSTABLE SLIDING HEAVY PATTERN TYPE WITH FLANGE ON THE TOP OF THE SECTION, BE STAMPED "WATER" ON THE TOP COVER, BE DIRT-TIGHT, AND FULLY ENCLOSE THE VALVE OPERATING NUT AND STUFFING BOX.
- 16. ALL FIRE HYDRANTS SHALL MEET TOWN OF BELMONT DESIGN STANDARDS.
- 7. THE CONTRACTOR SHALL COORDINATE REQUIRED INSPECTIONS WITH THE OFFICE OF COMMUNITY DEVELOPMENT PRIOR TO BACKFILLING OF CONNECTIONS TO TOWN OF BELMONT SANITARY SEWERS.

#### **LEGEND**

EXISTING PROPOSED PROPERTY LINE LIMIT OF DISTURBANCE 100' WETLAND BUFFER ZONE WETLANDS LIMITS \_\_\_\_ CONSTRUCTION FENCING —x——x——x— COMPOST FILTER TUBE & SILT -0-0-0-0-R&D STRUCTURE AND FOUNDATIONS REMOVE EXISTING PAVEMENT TREE REMOVAL AREA + + + +STABILIZED CONSTRUCTION SUBSURFACE INFILTRATION UTILITY REMOVAL ·// // // // WALL REMOVAL RIP RAP OUTLET PROTECTION PERMEABLE PAVEMENT MILL AND OVERLAY PAVEMENT UNDERGROUND ELECTRIC UNDERGROUND TELE/COM NATURAL GAS PIPING WATER SERVICE LINES SANITARY SEWER PIPE STORM SEWER PIPE TRENCH DRAIN

STORM CATCH BASIN

STORM AREA DRAIN

STORM MANHOLE

HAND HOLES

GATE VALVE

FIRE HYDRANT

TREE REMOVAL

TREE REMOVAL

INLET PROTECTION

R&D LIGHT POLE AND

R&S LIGHT BOLLARD

R&D DRAINAGE STRUCTURE

BMP INSPECTION PORT

TELE/COMM AND ELECTRIC

SANITARY SEWER MANHOLE

(TREE INCLUDED IN TREE SURVEY)

 $\bowtie$ 

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Number Date Description Job number 151021201 Drawn by **KH, JW** Checked by **HH, FH** Scale **N/A** Date **07/27/2022** 

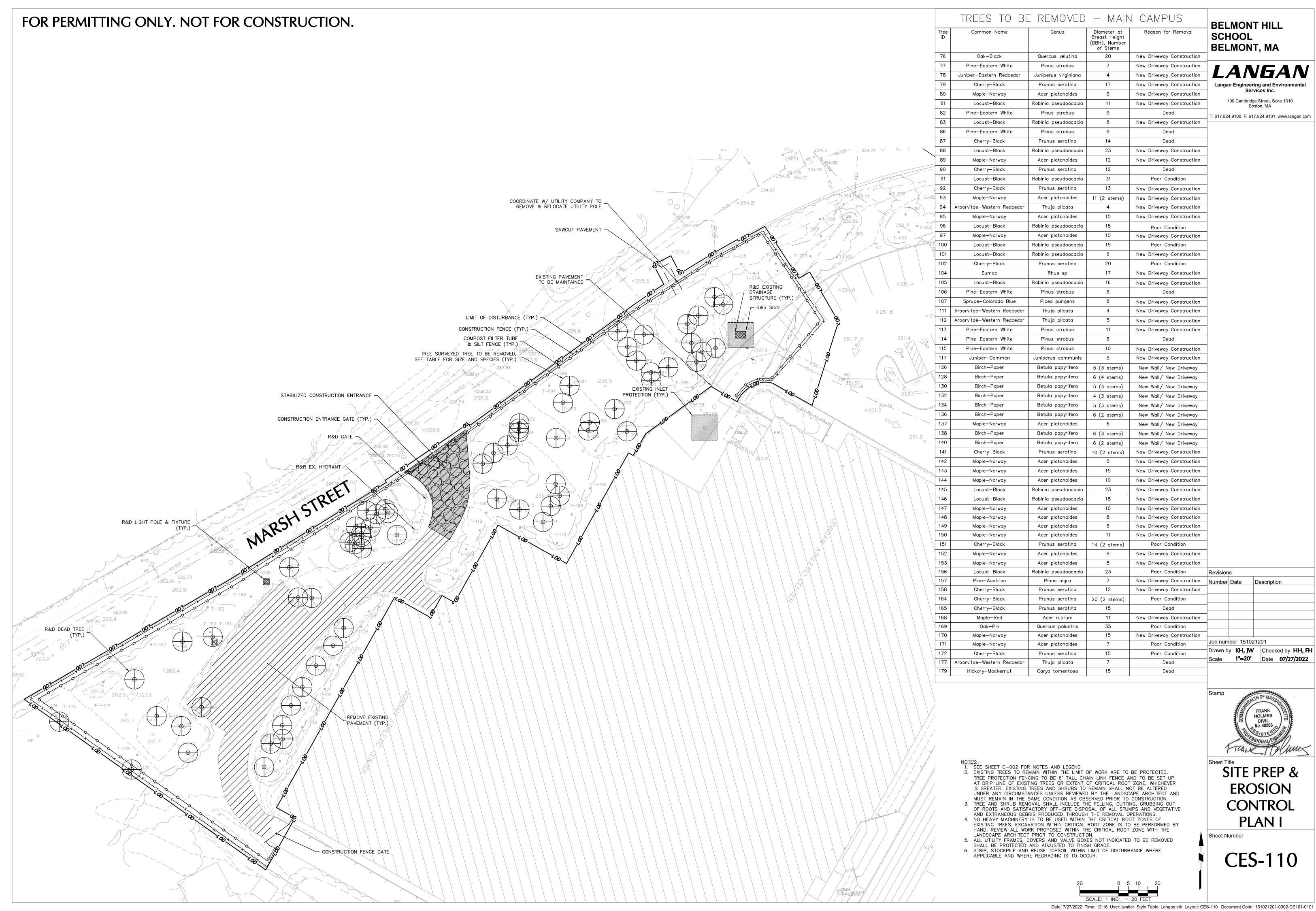
HOLMES

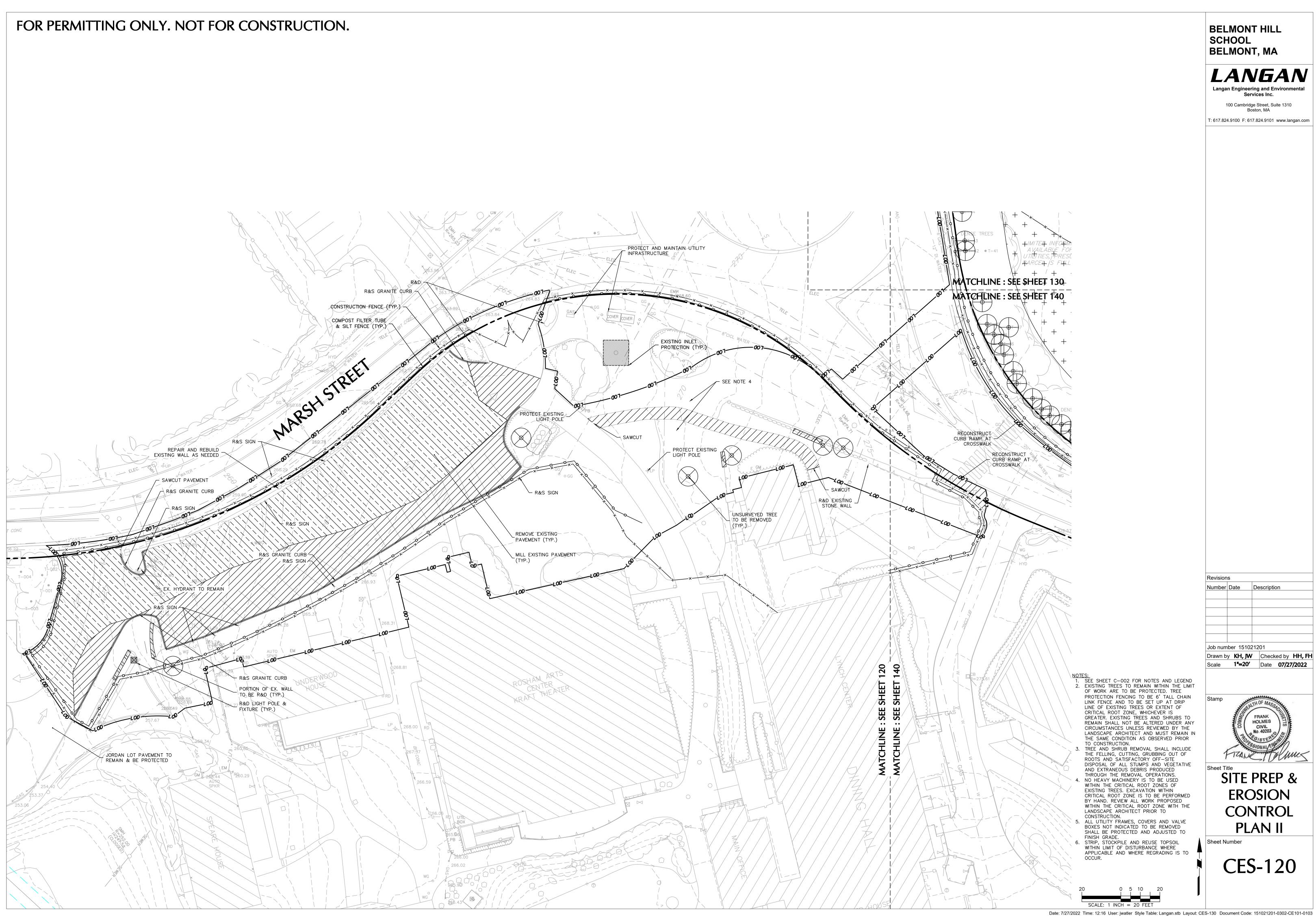
NOTES & **LEGEND** 

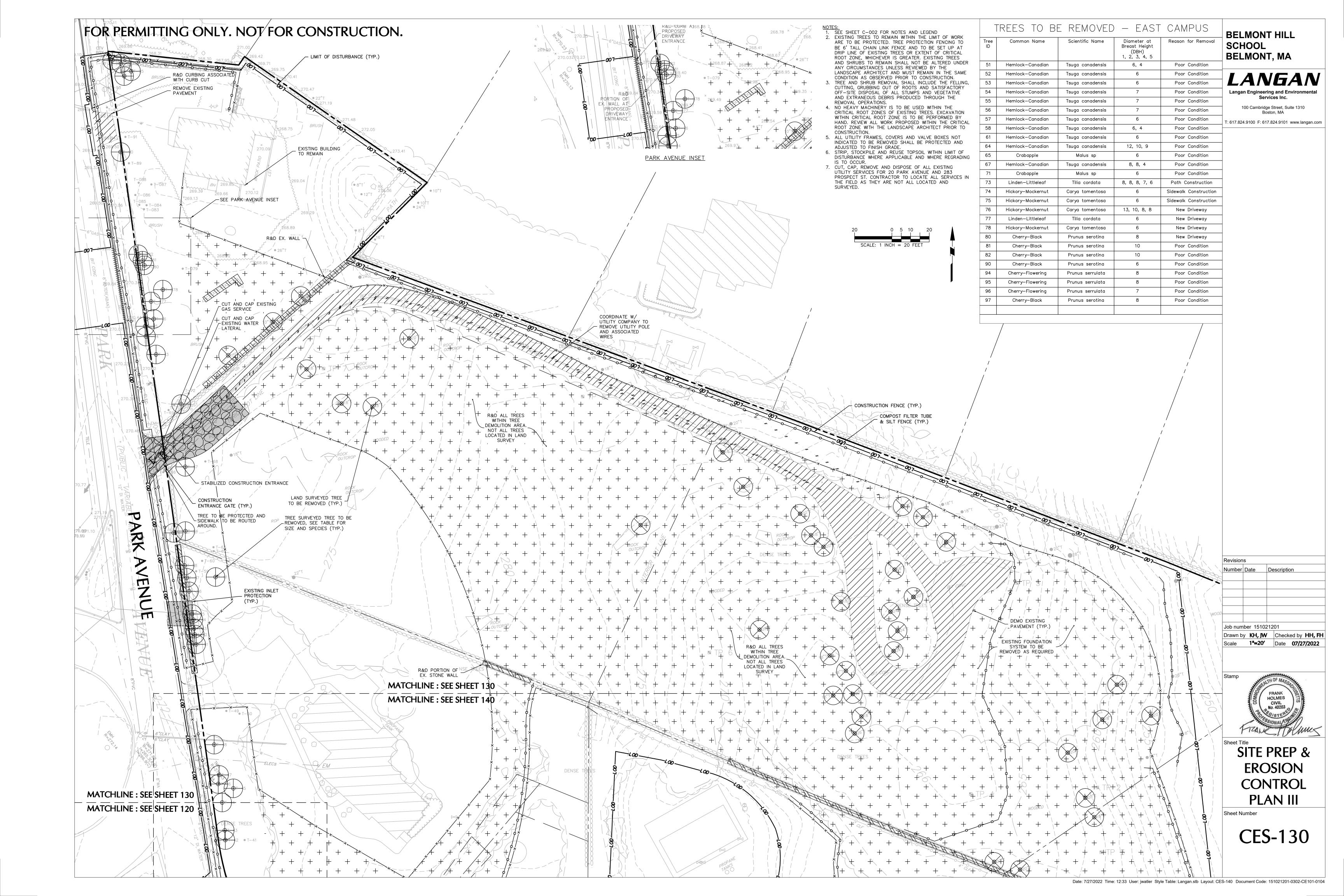
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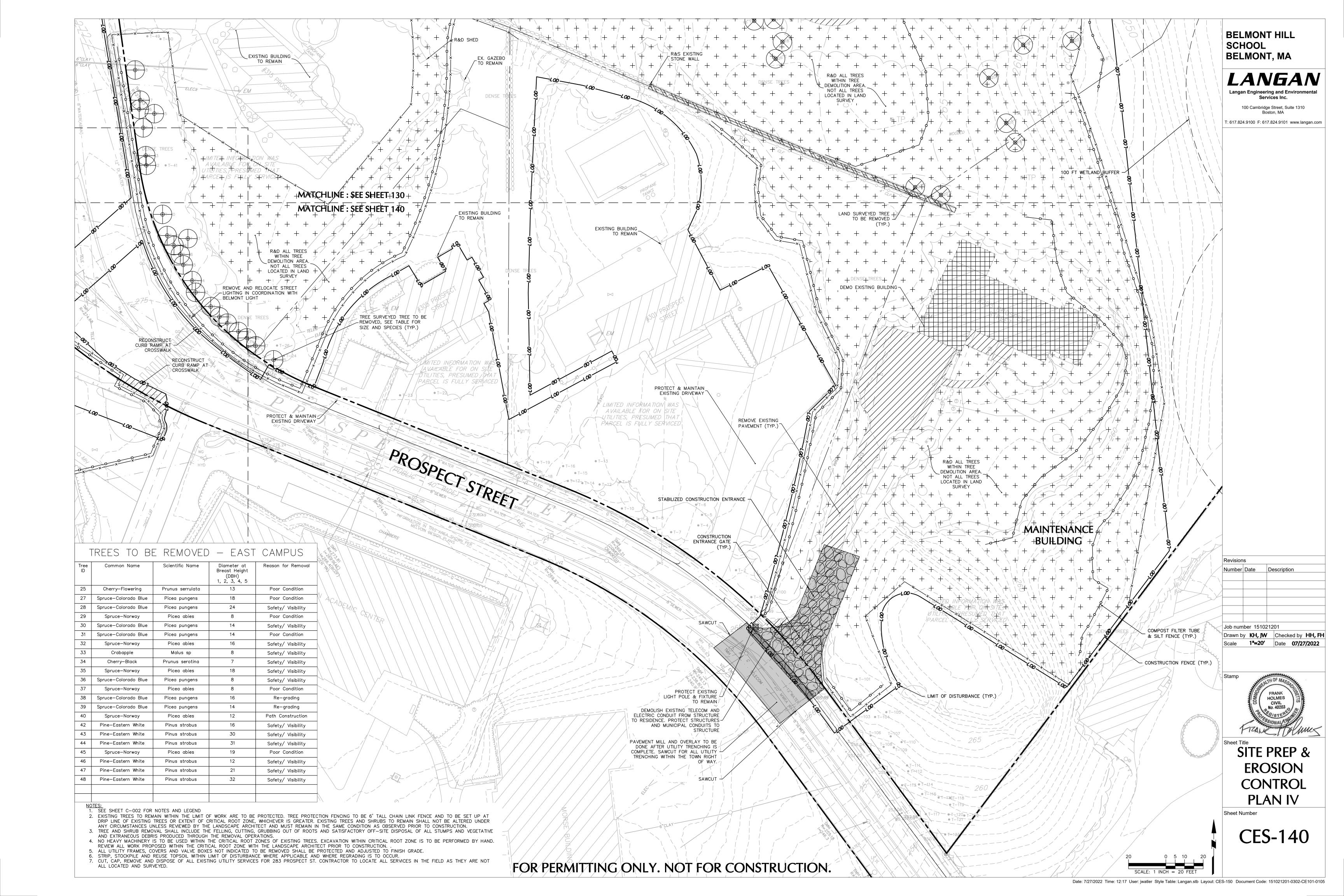
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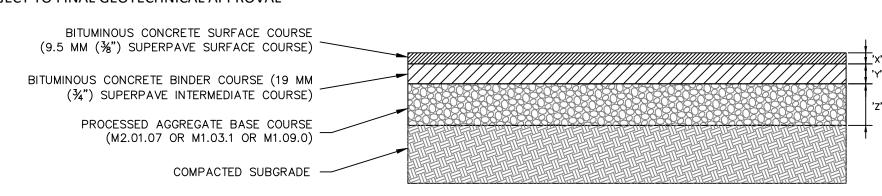
FOR PERMITTING ONLY. NOT FOR CONSTRUCTION.











#### NOTES:

1. PAVING COURSES SHALL BE CONSTRUCTED IN LAYERS NOT LESS THAN 1.5 INCHES THICK PER LIFT.

LAWN WITH SANDY LOAM. SEE PLANTING

PLAN FOR SEEDING INFORMATION

§" CLEAN, DOUBLE-WASHED.

1½" CLEAN, DOUBLE-WASHED

REFER TO POROUS

STEEL EDGING

PEA GRAVEL

UNDISTURBED

GEOTEXTILE

NATURAL SOILS

6 OZ. NON-WOVEN

CRUSHED STONE

¼"x5"x16'`

PAVEMENT SECTION

- 2. ALL AREAS TO BE PAVED SHALL BE PROOFROLLED WITH AT LEAST 4 PASSES OF A SMOOTH ROLLER HAVING A MINIMUM STATIC DRUM WEIGHT OF 10 TONS. ANY SOFT AREAS SHALL BE REMOVED AND REPLACED WITH CLEAN, GRANULAR, FREE-DRAINING SOIL. FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12-INCHES AND SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY THE GEOTECHNICAL REPORT.
- 3. PAVEMENT CLASSES REFER TO MASSACHUSETTS, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION (MDOT SS) M3.11.03. PRESSED AGGREGATE SHALL REFER TO M2.01.07 OR M1.03.1.

1. POROUS ASPHALT FOR POROUS PAVEMENT SHALL BE PLACED IN TWO LIFTS WITH AN ASPHALT BINDER CONTENT OF 6.0% TO 6.5% BY WEIGHT OF DRY AGGREGATE. IN ACCORDANCE WITH ASTM D6390, DRAIN DOWN OF THE BINDER SHALL BE NO GREATER THAN 0.3%. AGGREGATE GRAIN IN THE ASPHALT SHALL BE A MINIMUM 90% CRUSHED MATERIAL AND HAVE THE FOLLOWING GRADATION:

POROUS ASPHA	ALT GRADATION				
STANDARD SIEVE SIZE (INCH/MM)	PASSING SIEVE (%)				
0.75/19	100				
0.50/12.5	85-100				
0.375/9.5	55-75				
NO. 4/4.75	10-25				
NO. 8/2.36	5-10				
NO. 200/0.075	2-4				

POROUS ASPHALT-

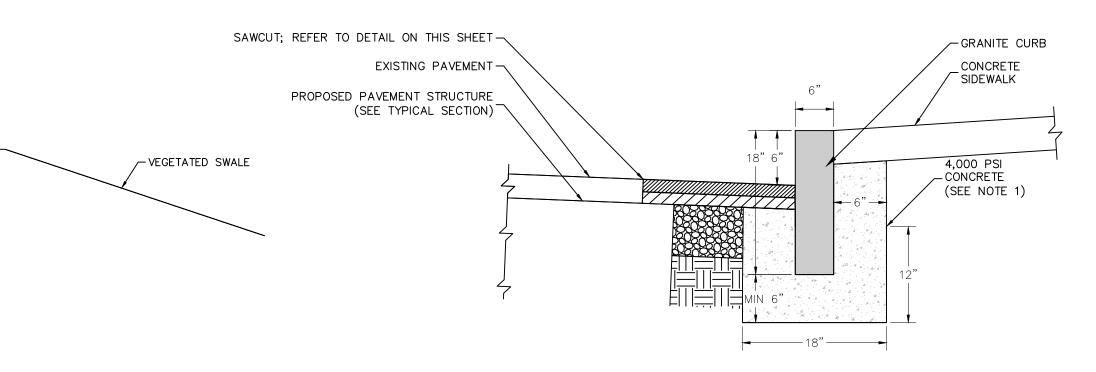
CHOKER COURSE

34" CLEAN, DOUBLE-WASHED-CRUSHED STONE (M2.01.4) 1½" CLEAN, DOUBLE-WASHED CRUSHED STONE (M2.02.1)

UNDISTURBED NATURAL SOILS-

- 2. NEAT ASPHALT BINDER MODIFIED WITH AN ELASTOMERIC POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS OF PG 76-22 AS SPECIFIED IN AASHTO MP-1. THE ELASTOMER POLYMER SHALL BE STYRENE-BUTADIENE (SBS), OR APPROVED EQUAL, APPLIED AT A RATE OF 1.5-3% BY WEIGHT OF THE TOTAL BINDER.
- 3. HYDRATED LIME SHOULD BE ADDED AT A DOSAGE RATE OF 1% BY WEIGHT OF THE TOTAL DRY AGGREGATE TO MIXES CONTAINING GRANITE. HYDRATED LIME SHALL MEET THE REQUIREMENTS OF ASTM C 977. THE ADDITIVE MUST BE ABLE TO PREVENT THE SEPARATION OF THE ASPHALT BINDER FROM THE AGGREGATE AND ACHIEVE REQUIRED TENSILE STRENGTH RATIO (TSR) OF AT LEAST 80% ON THE ASPHALT MIX WHEN TESTED IN ACCORDANCE WITH AASHTO T 283. THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D-1664 AND ASTM D-3625. IF THE ESTIMATED COATING AREA IS NOT ABOVE 95% OR THE TSR FALLS BELOW 80% ADDITIONAL ANTI-STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.
- 4. THE DOSAGE OF FIBER ADDITIVES SHALL BE EITHER 0.3% CELLULOSE FIBERS OR 0.4% MINERAL FIBERS BY TOTAL MIXTURE MASS. 5. AIR VOID CONTENT SHALL BE 16-22.0% PER ASTM D6752/AASHTO T275

#### **POROUS PAVEMENT**



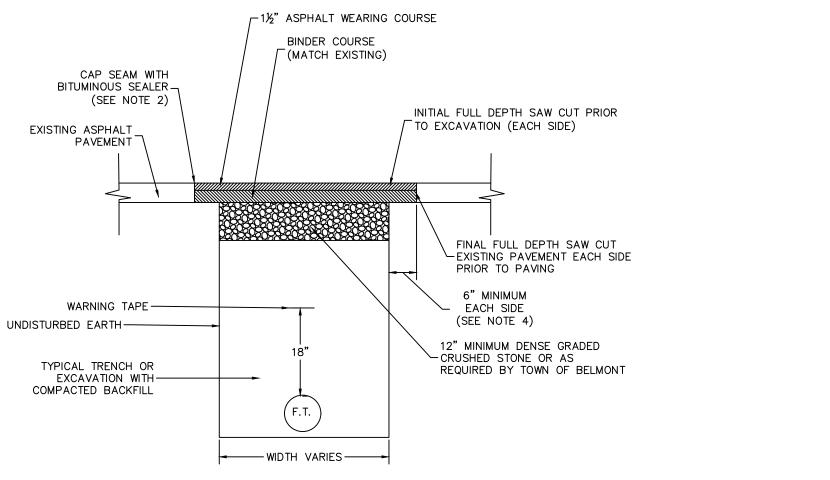
#### NOTES:

1. ALL RADII AND JOINTS ARE TO BE SET IN 12" DEEP 18" WIDE 4,000 PSI CONCRETE. STRAIGHT SECTIONS BETWEEN JOINTS CAN BE SET ON PROCESSED AGGREGATE. 2. GROUT ALL JOINTS

# 6

# **VERTICAL GRANITE CURB**

# **ASPHALT PAVEMENT**



NOTES:

SAWCUT EXISTING -

BITUMINOUS CONCRETE

PAVEMENT. FINISH WITH

EXISTING

HOT JOINT SEALER

- 1. EXISTING PAVEMENT IS TO BE SAW CUT FULL DEPTH TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING. SAW CUT IS TO BE MADE AFTER BACKFILLING THE TRENCH AT BOTTOM OF NEW PAVEMENT
- 2. ALL SEAMS BETWEEN EXISTING AND NEW SURFACES ARE TO BE SEALED WITH AN ASPHALT EMULSION.
- 3. PAVEMENT SECTION TO BE CONFIRMED WITH THE TOWN OF BELMONT.
- 4. 6 INCH MINIMUM TO BE FROM EDGE OF UNDISTURBED EARTH, EACH SIDE OF TRENCH.

# PAVEMENT TRENCH RESTORATION

PROPOSED PAVEMENT SURFACE (SEE TYPICAL SECTION) -GRANITE CURB 4" REVEAL-TREATMENT VARIES PLACE GRAVEL PRIOR TO SETTING OF EDGING -4,500 PSI CONCRETE (SEE NOTE 1) GRAVEL SUB-BASE

> NOTES:
>
> 1. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE TO THE DEPARTMENT UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS; ALL TEST REQUIREMENTS ARE WAVED.

- 2. THE ANGLE IS TO BE A MINIMUM OF 60° FROM VERTICAL UNDER ALL CONDITIONS.

## SLOPED GRANITE CURB

CUT BITUMINOUS CONCRETE PAVEMENT DRIVEWAY SYMMETRICAL C.L. -1/2 PAVING BLOCK— RAMPED SECTION GUTTER LINE

LAWN EDGE (AT POROUS PAVEMENT AND VEGETATED SWALE)

**HALF PLAN** 

**CROSS SECTION** 

**CONCRETE DRIVEWAY APRON** 

-VARIES-7" COMPACTED AGGREGATE BASE COURSE ∼8" CLASS 'F' CONCRETE MAX REINFORCING \_6"X6" #8 WIRE MESH

CS-511

Sheet Number

SITE DETAILS

Number Date Description

Job number 151021201

Drawn by **KH, JW** Checked by **HH, FH** 

Scale **N/A** Date **07/27/2022** 

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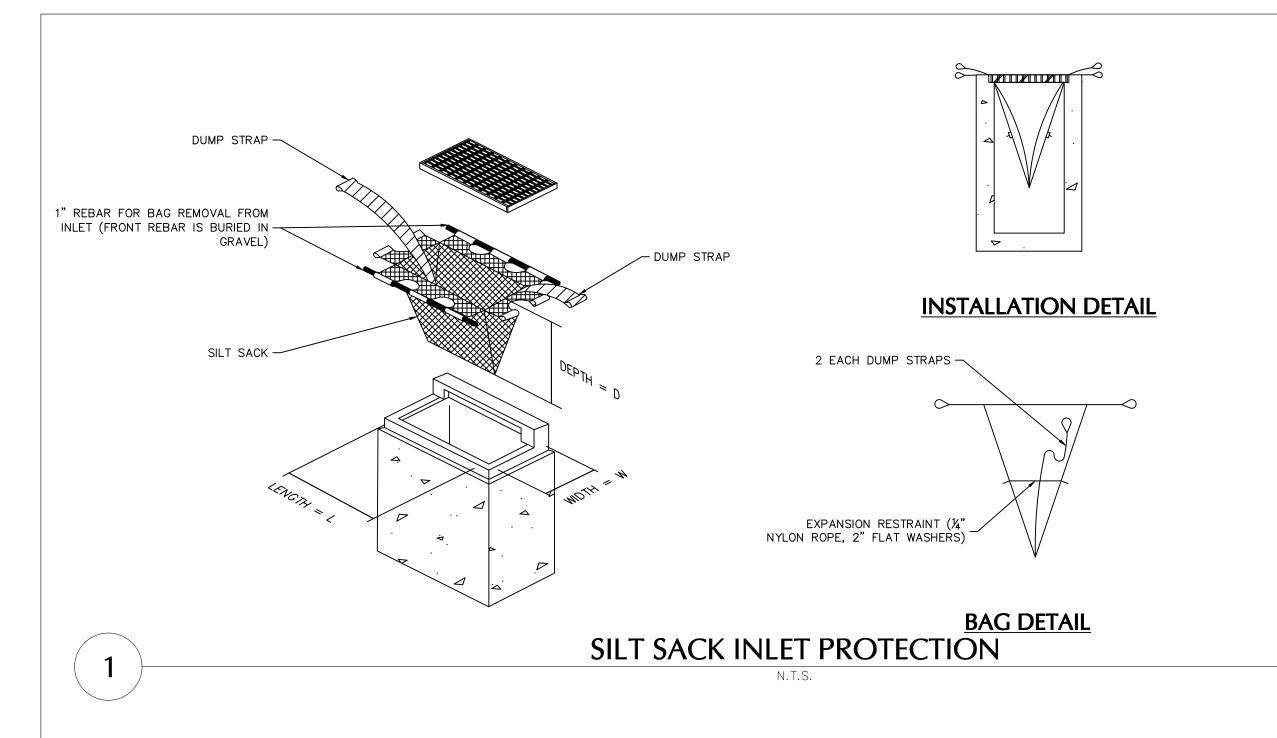
**SCHOOL** 

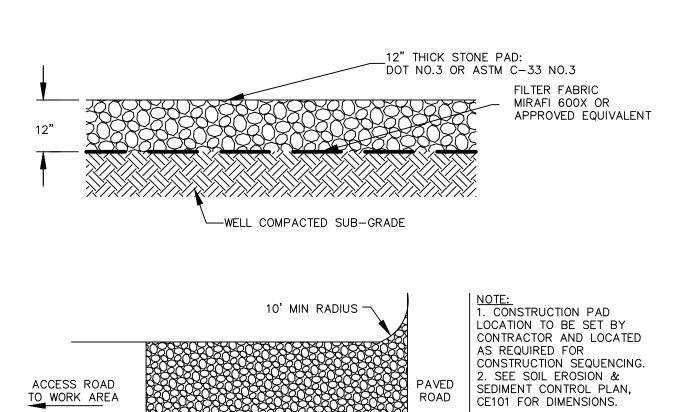
PAVEMENT SECTION EXISTING PAVEMENT COMPACTED SUBGRADE EXISTING PAVEMENT BASE TO ——— BE CUT AT A 1:1 SLOPE NOTES:

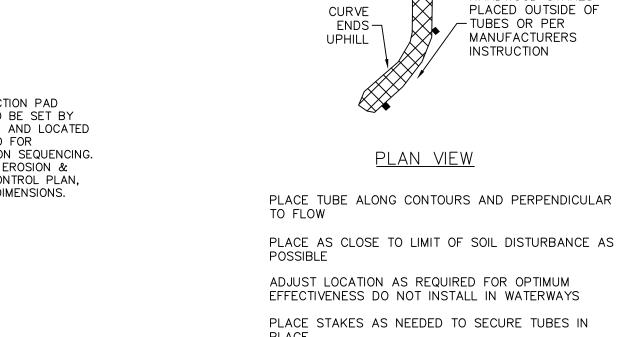
1. CONTRACTOR TO INSTALL TACK COAT ON ALL BUTT EDGES OF EXISTING PAVEMENT SAWCUT PAVEMENT SECTION

HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

3. GROUT ALL JOINTS.







FLOW

PROTECTED ZONE

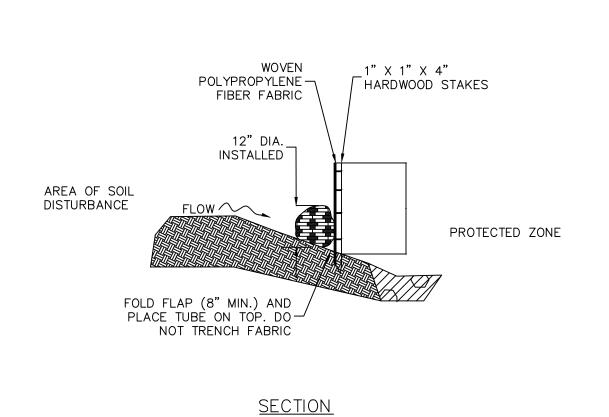
SEDIMENT BARRIERS

N.T.S.

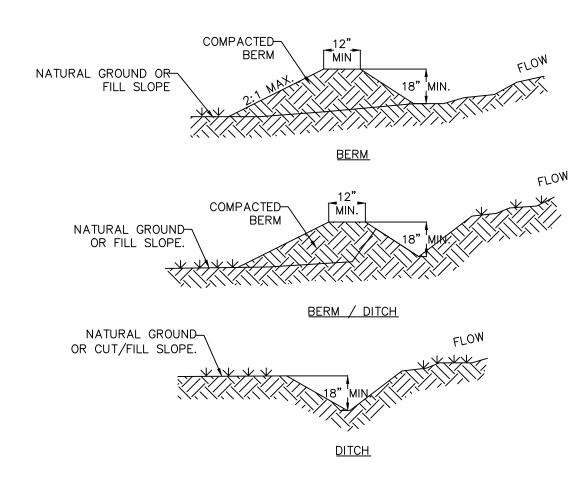
HARDWOOD STAKES

PLACED OUTSIDE OF

# STABILIZED CONSTRUCTION ENTRANCE



COMPOST FILTER TUBE & SILT FENCE

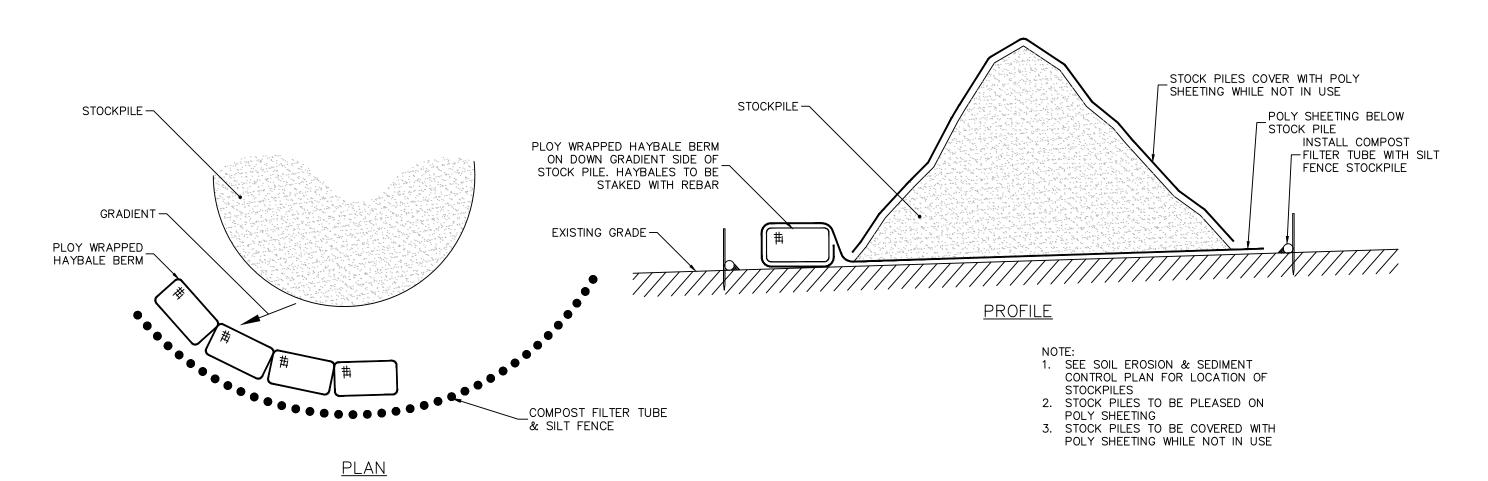


POSITIVE GRADE MUST BE PROVIDED TO ASSURE DRAINAGE. 2:1 MAX. SIDE SLOPE. IF SLOPE EXCEEDS 2% OR CHANNEL IS CONSTRUCTED IN FILL, PROVIDE CHANNEL LINER PER DETAIL, EC 5, TRY NOT TO EXCEED 5% (HIGH RUNOFF VELOCITIES RESULT). MAXIMUM DRAINAGE AREA IS 5.00 ACRES WITHOUT SUPPORTING CALCULATIONS FOR PERMANENT CHANNEL. DIVERSIONS AT THE TOPS OF SLOPES MUST EMPTY INTO AN APPROVED SLOPE DRAIN (SEE DETAILS). THE BERM/DITCH IS THE MOST COMMONLY USED DIVERSION.

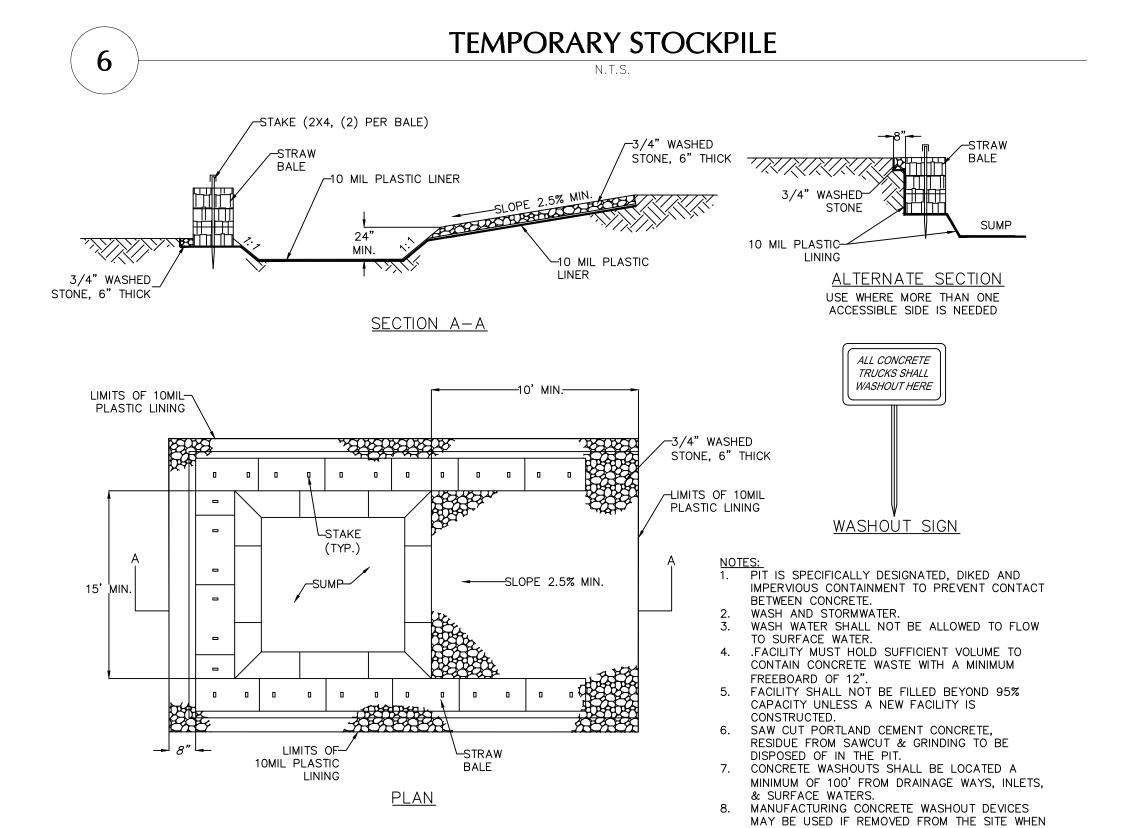
MACHINE COMPACTING OF ALL FILL IS REQUIRED/ DIVERSIONS SUFFICIENT TO DIRECT ALL SEDIMENT-LADEN STORMWATER INTO SEDIMENT CONTROL DEVICE MUST BE INSTALLED PRIOR TO CLEARING AND GRUBBING OF AREA (OR IN CONJUNCTION WITH THIS OPERATION IF SEDIMENT CONTROLS AND DIVERSIONS ARE INSTALLED AT EACH CRITICAL POINT AS

- DIVERSION'S SHOULD BE LOCATED AS SHOWN ON THE PLANS AND TO MINIMIZE DAMAGES BY CONSTRUCTION
- DIVERSIONS SHOULD BE SEEDED AND LINED WITH STRAW MAT IF THEY ARE TO REMAIN IN PLACE OVER 14
- 6. CHECK DIVERSIONS AFTER EACH RAIN, AND ONCE PER SEVEN CALENDAR DAYS OR MORE FREQUENTLY IF REQUIRED BY REGULATORY AGENCY. REPAIR AS NEEDED TO MAINTAIN FUNCTION.

TEMPORARY DIVERSION



N.T.S.



**CONCRETE WASHOUT AREA** 

95% FULL CAPACITY.



**CES-521** 

Sheet Number

Revisions

Number Date Description

Job number 151021201

Drawn by **KH, JW** Checked by **HH, FH** 

Scale **N/A** Date **07/27/2022** 

SITE PREP &

**EROSION** 

**CONTROL** 

**DETAILS I** 

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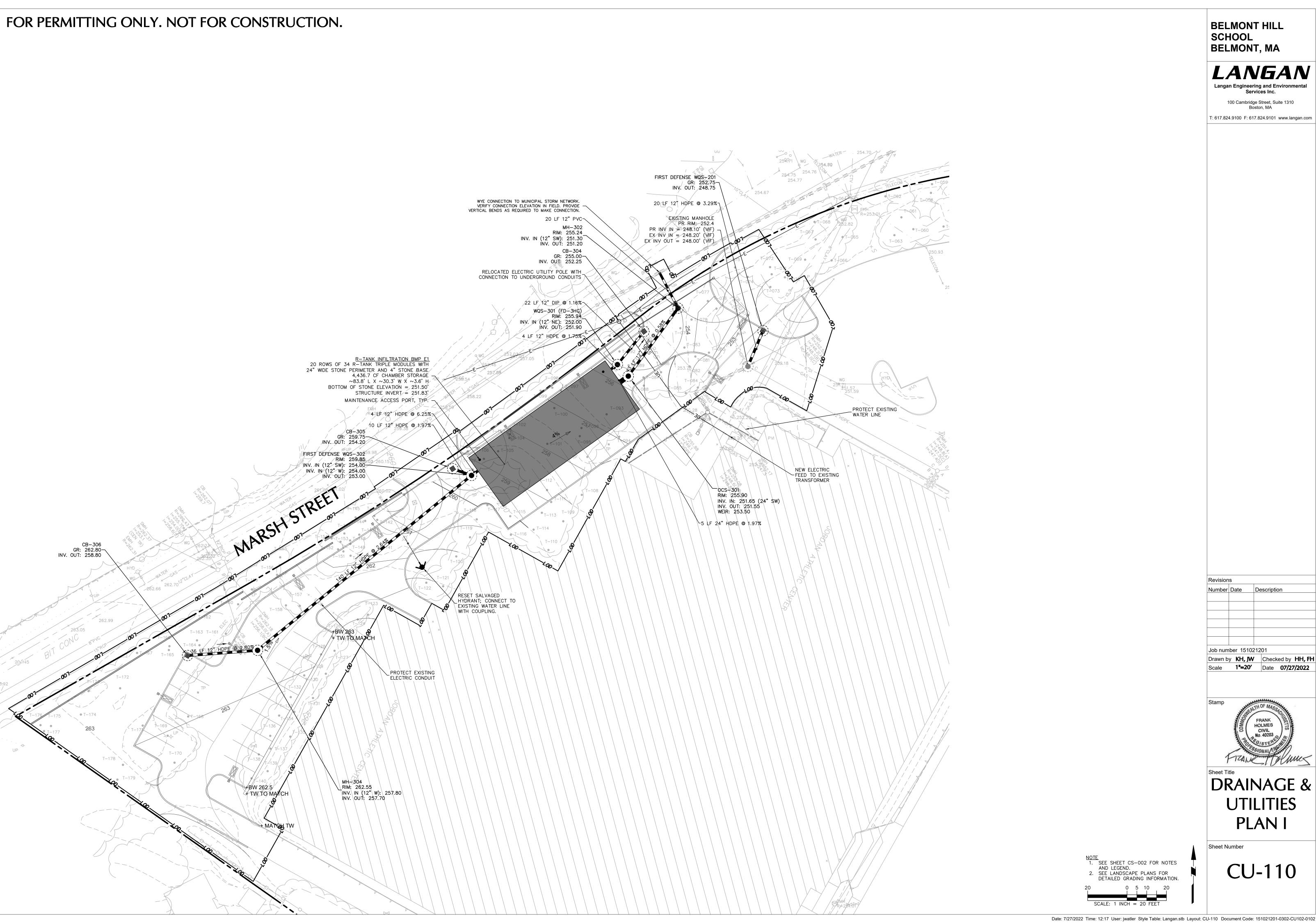
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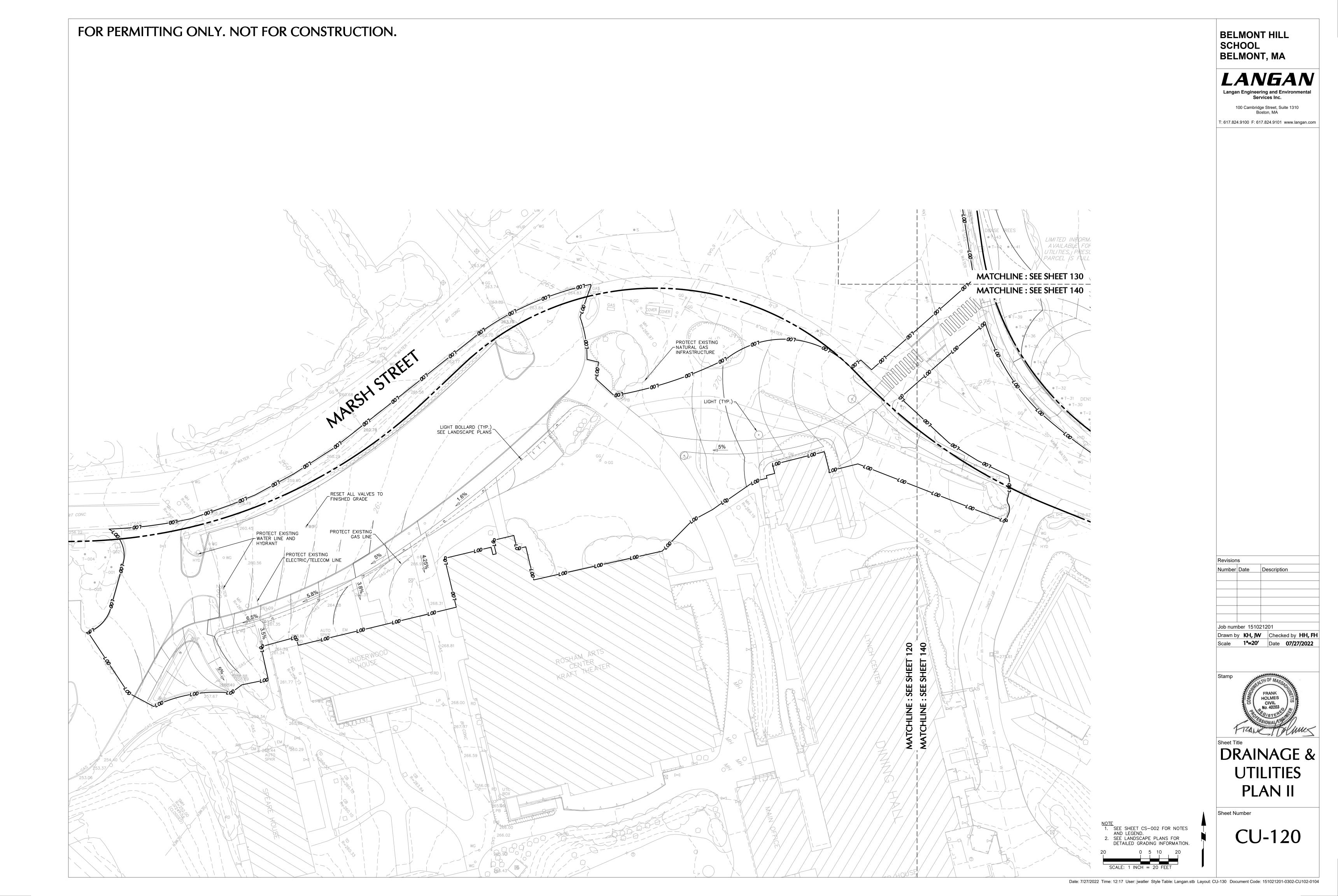
Boston, MA

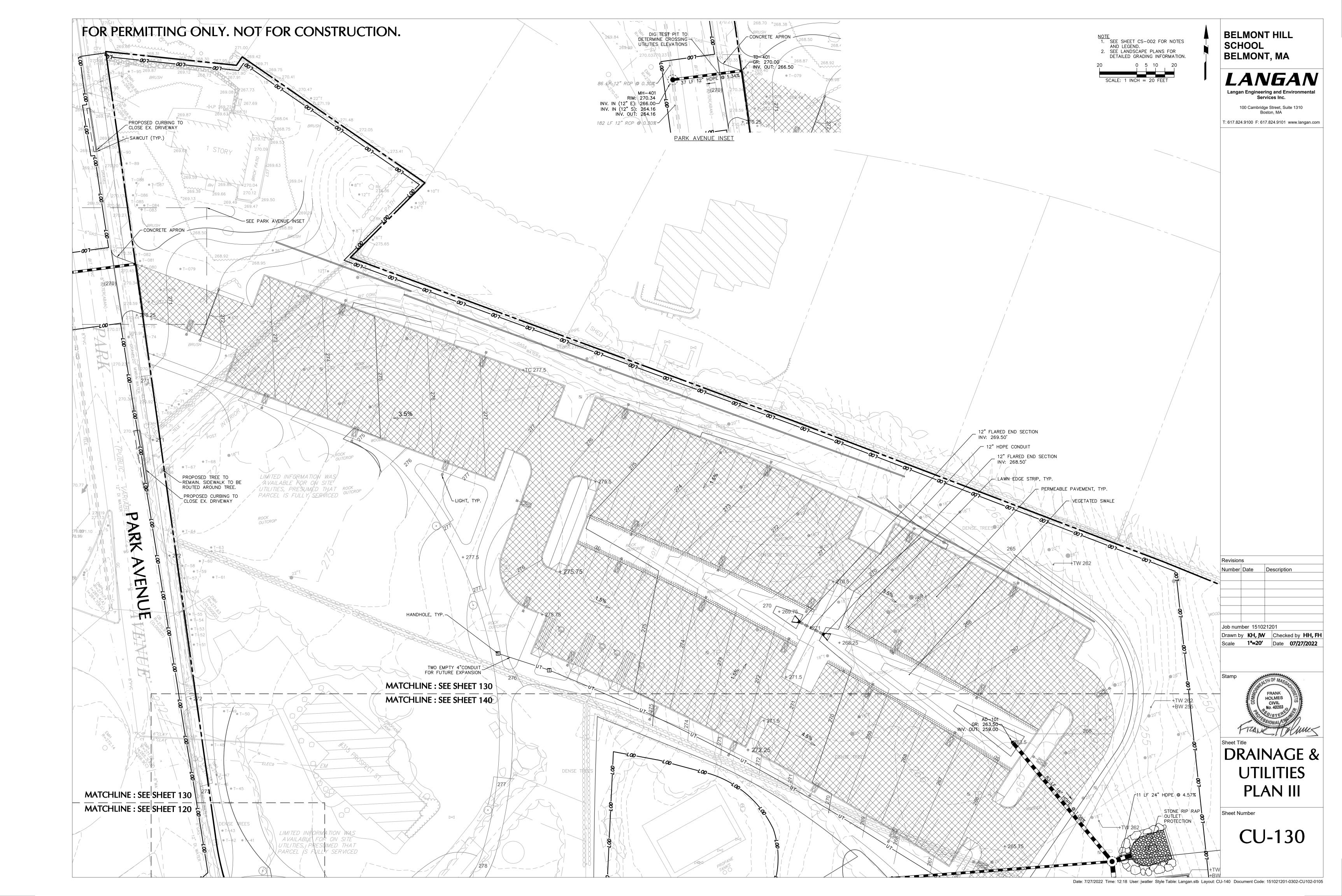
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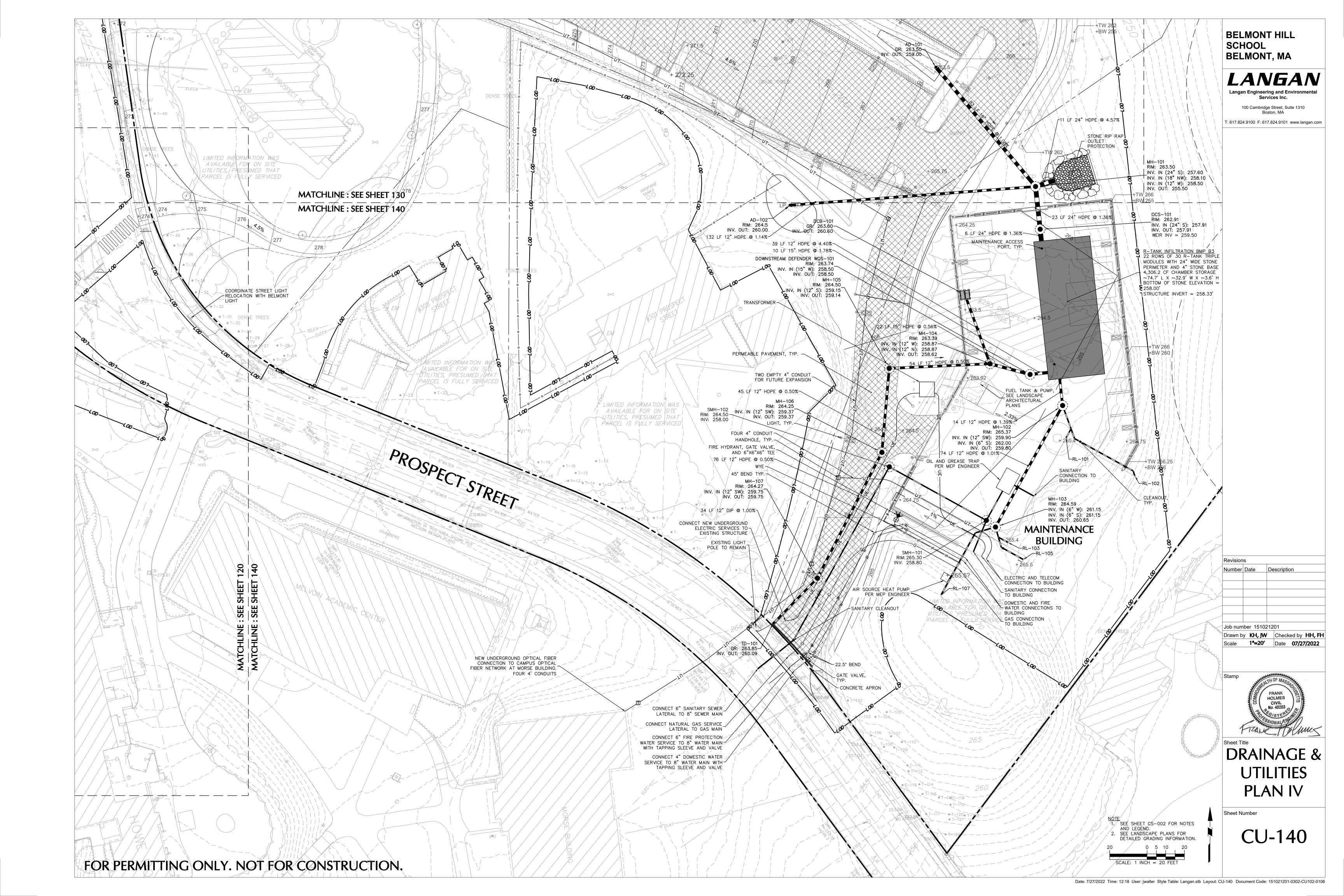
SCHOOL

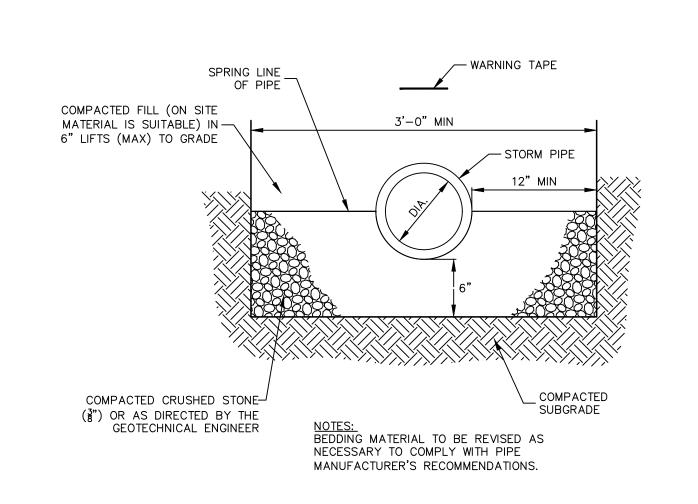
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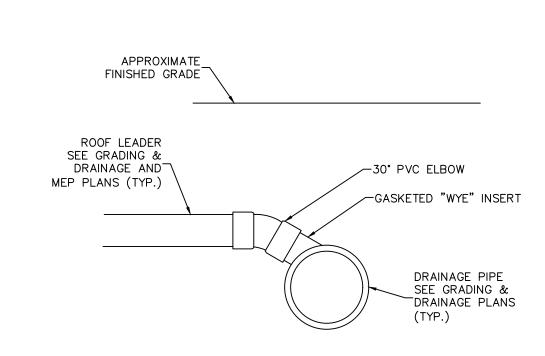


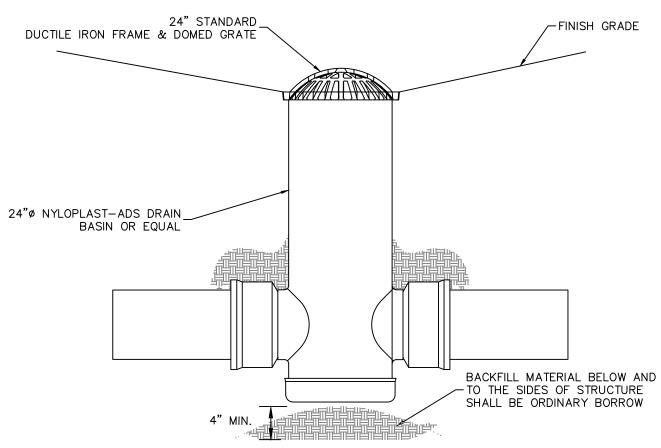












1. GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.2

4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR

CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.

3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE

FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05

NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS.

# BACKFILL MATERIAL BELOW AND

ADJUST TO GRADE WITH MAX. OF FOUR COURSES OF BRICK 2'-6" DIA. MAX. 2'-0" DIA. MIN. -8" MIN PRECAST REINFORCED CONCRETE MANHOLE ECCENTRIC CONE 3' OR 4' CONE ─ WELDED WIRE FABRIC PRECAST REINFORCED CONCRETE TONGUE 12" (TYP.) AND GROVE RISERS AS REQUIRED RISER VARIES \_LIFTING HOLES (TYP.) STEP / FILL WITH MORTAR KNOCKOUTS FOR PIPES WATERTIGHT MIN. 4" FROM TOP & GASKET OR SEALER BASE 4' MIN. CONCRETE OR BRICK & MORTAR INVERT `—12" GRANULAR FILL

FRAME-SET IN FULL BED OF MORTAR

- 1. 5' OR 6' DIA. PRECAST BASES MAY BE USED WHEN REQUIRED DUE TO SIZE OR NUMBER OF PIPES AT THE MANHOLE. PRECAST REDUCERS WILL BE PLACED ABOVE THE 5' OR 6' BASES AS DIRECTED BY THE ENGINEER. WALL THICKNESS TO INCREASE 1" FOR EACH 1' OF INSIDE DIAMETER INCREASE. MINIMUM 6" WALL DIMENSION SHOULD BE PROVIDED BETWEEN ALL PIPES. 2. FRAME DIAMETER OF 3'-3" WITH 4" FLANGE MUST BE USED WHEN THE TOP DIA. OF THE
- PRECAST CONE IS LESS THAN 3'-6". ALL OTHER FRAME DIMENSIONS ARE TO REMAIN THE SAME. 3. MINIMUM CONCRETE COMPRESSIVE STRENGTH OF F'C = 4000 PSI SHALL BE OBTAINED PRIOR TO

# STORMWATER TRENCH / BEDDING

**ROOF DRAIN CONNECTION TO MAIN** 

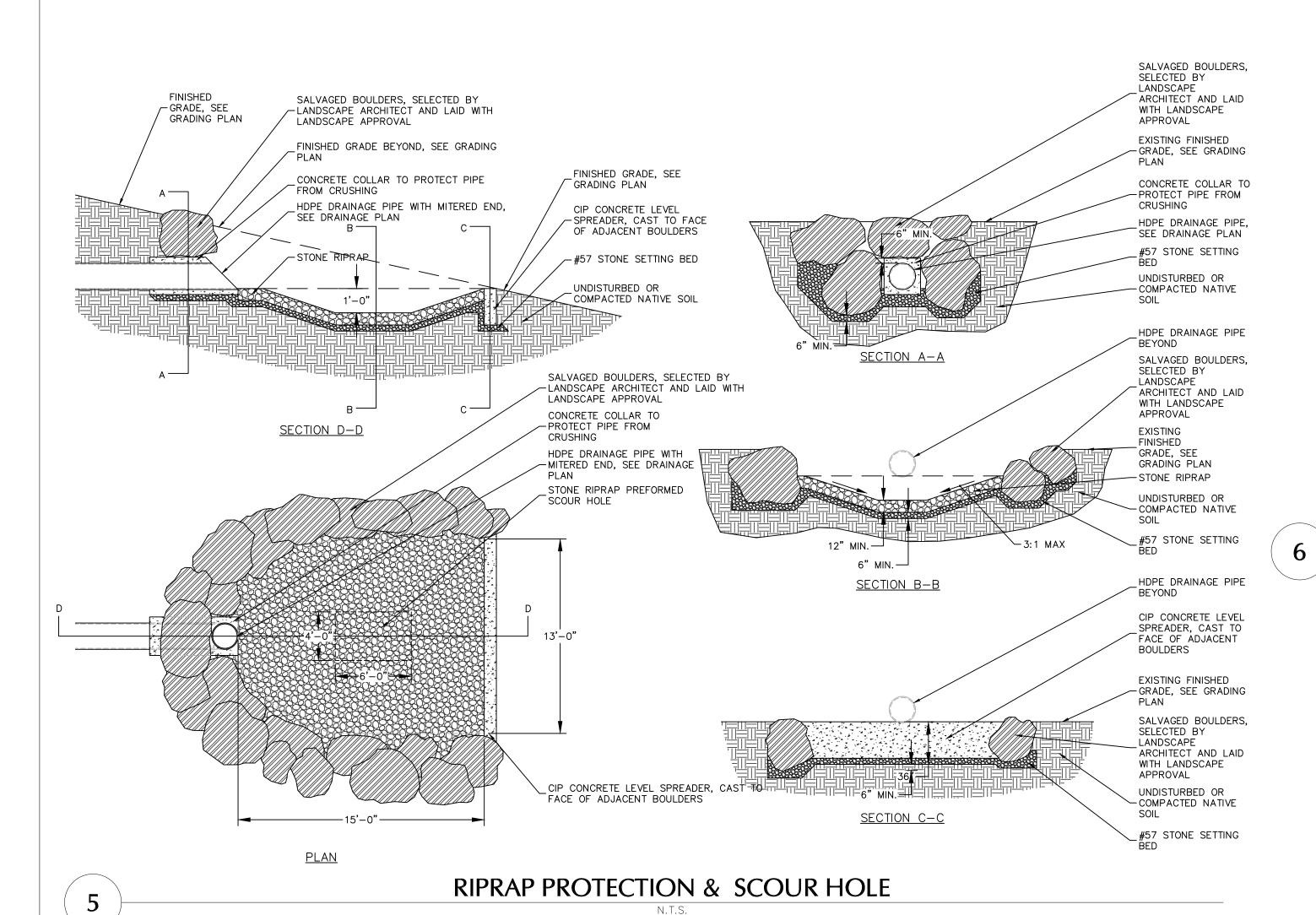
**AREA DRAIN** N.T.S.

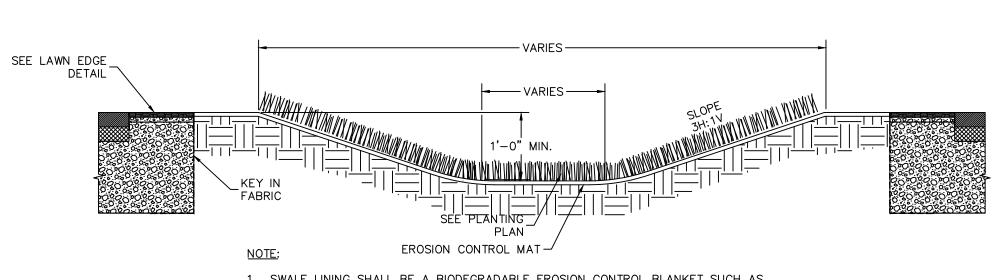
5 ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°.

NOTES:



### STORMWATER MANHOLE





1. SWALE LINING SHALL BE A BIODEGRADABLE EROSION CONTROL BLANKET SUCH AS BIONET® S150BN®OR EQUAL WITH A DESIGN PERMISSIBLE SHEAR STRESS UNVEGETATED 2. SWALE SHALL BE VEGETATED PER PLANTING PLAN.

**VEGETATED SWALE** 

Number Date Description

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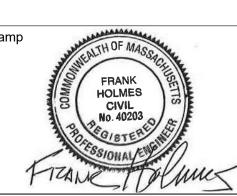
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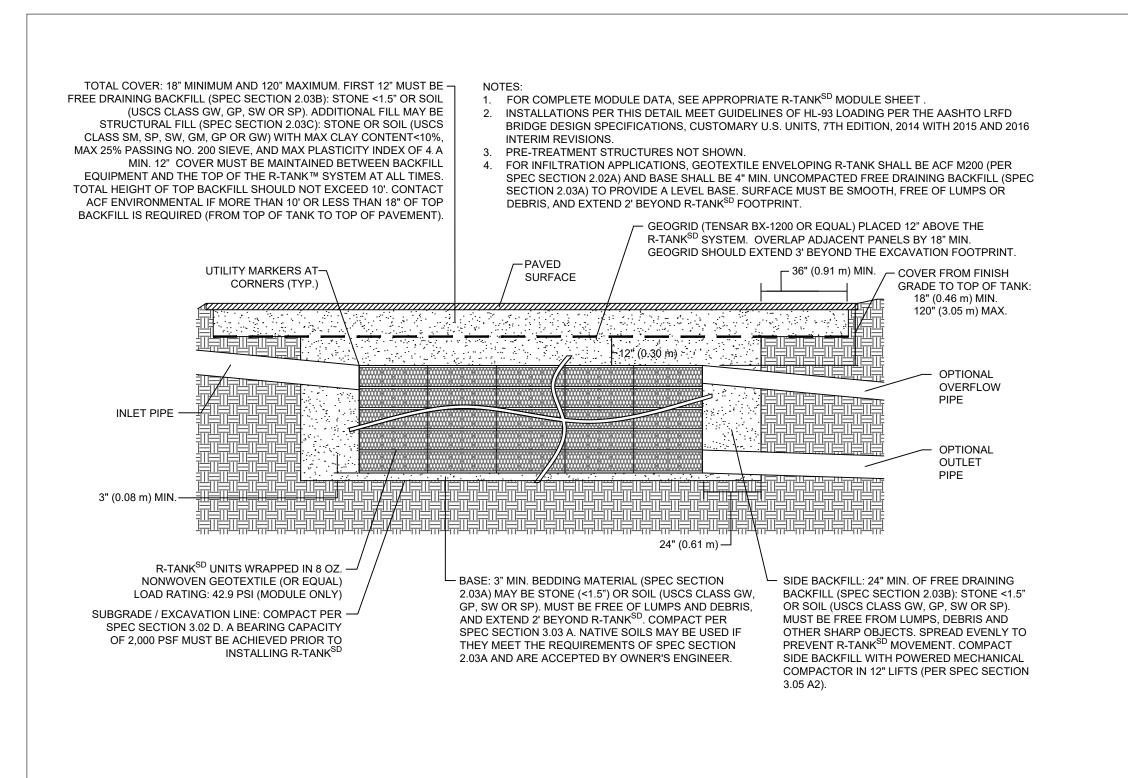
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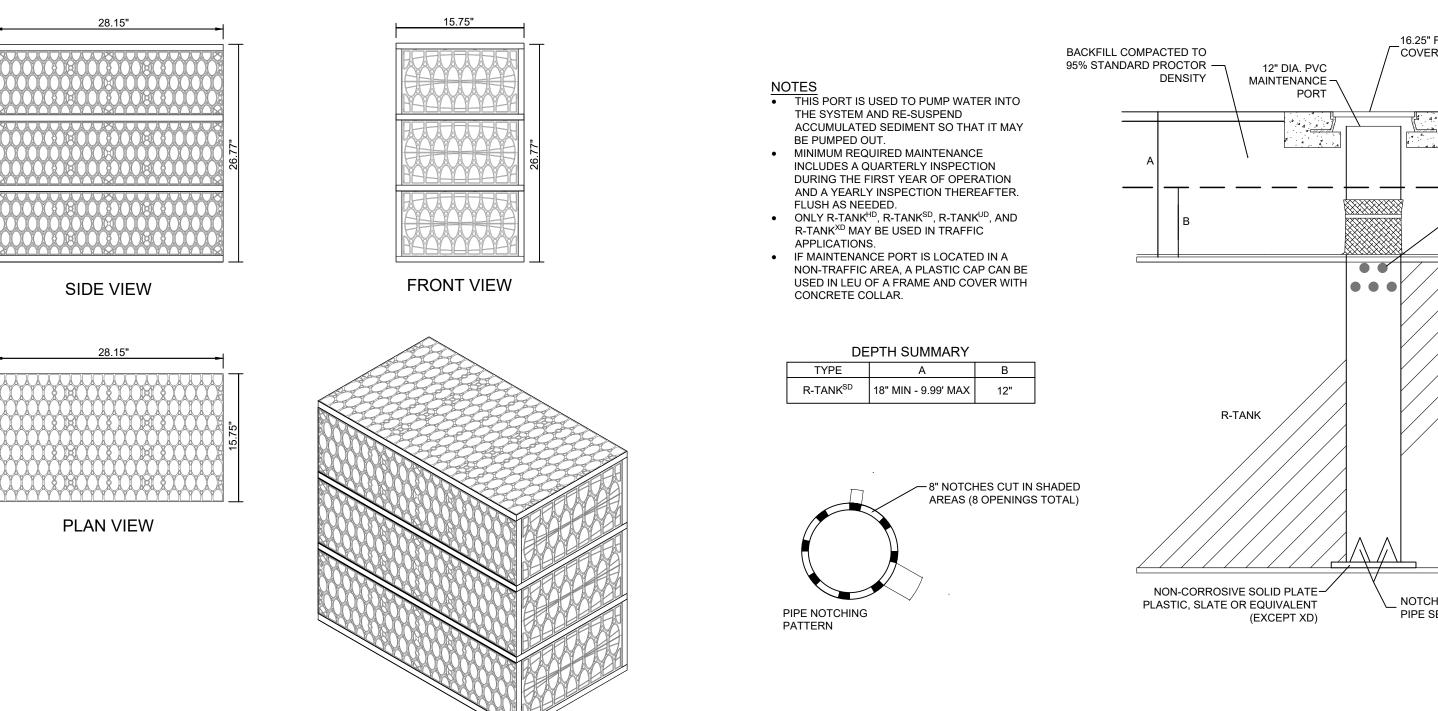
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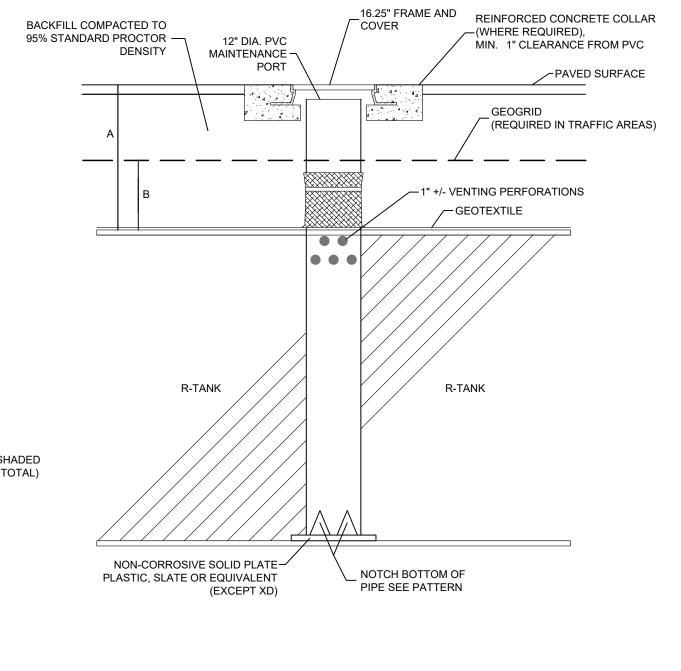


DRAINAGE & UTILITY **DETAILS I** 

CU-531



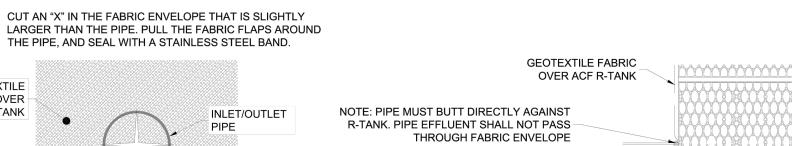




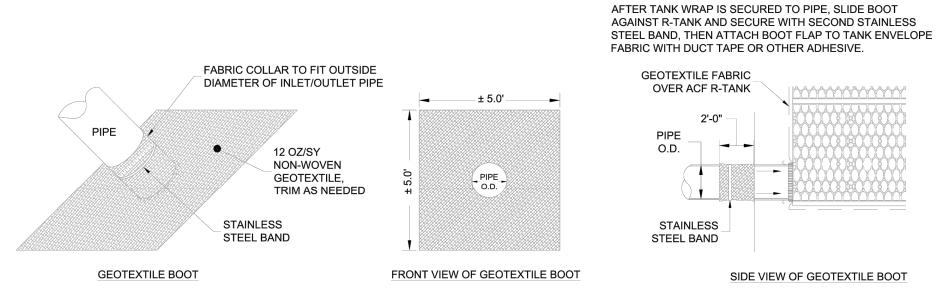
R-TANK MAINTENANCE PORT

N.T.S. - PROVIDED BY ACF ENVIRONMENTAL

#### R-TANK INFILTRATION BMP - SECTION VIEW N.T.S. - PROVIDED BY ACF ENVIRONMENTAL



"X" CUT IN THE FABRIC TO ALLOW PIPE/TANK STAINLESS STEEL BAND USED TO PREVENT BACKFILL FROM ENTERING STRUCTURE SIDE VIEW OF PIPE/FABRIC CONNECTION



R-TANK INFILTRATION BMP - INLET/OUTLET WITH GEOTEXTILE BOOT

N.T.S. - PROVIDED BY ACF ENVIRONMENTAL

INTERFACE

END VIEW OF PIPE/FABRIC CONNECTION

# RIM: VARIES-T.O.S.: 5.74 ft [1.969 m] (MINIMUM)-NOTE: ADDITIONAL HEIGHT PLAN VIEW REQUIRED DEPENDING ON PIPE

R-TANK INFILTRATION BMP - TRIPLE MODULE

N.T.S. - PROVIDED BY ACF ENVIRONMENTAL

PIPE INVERTS: 3.30 ft [1.131 m] (MINIMUM)—— PREASSEMBLY REFERENCE: 2.37 ft [.813 m] BOTTOM OF INTERNALS: 1.63 ft [.559 m]-**HYDRO FRAME** SUMP: .00 ft [.000 m]-COVER SECTION A-A (INCLUDED) GRADE RINGS BY OTHER

ISOMETRIC VIEW

PRODUCT SPECIFICATION: 1. Peak Hydraulic Flow: 15.0 cfs (424 l/s) 2. Min Sediment Storage Capacity: 0.4 cu. yd. (0.3 cu. m.) 3. Maximum Inlet/Outlet Pipe Diameters: 18 in. (450 mm) 1. General Arrangement drawings only. Contact Hydro International for site specific drawings. 2. The diameter of the inlet and outlet pipes may be no more than 18". 3. Multiple inlet pipes possible (refer to project plan). 4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plan.s) 5. Peak flow rate and minimum height limited by available cover and pipe diameter.

6. Larger sediment storage capacity may be provided with a deeper sump depth.

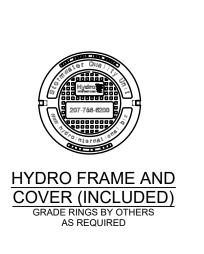
AS REQUIRED

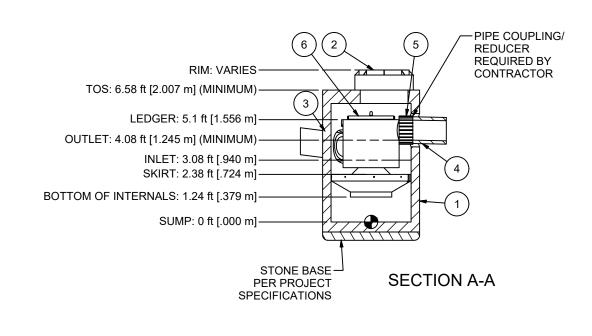
1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE 2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE. 3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

#### FIRST DEFENSE WATER QUALITY STRUCTURE (3-FT DIAMETER ) N.T.S. - PROVIDED BY HYDRO INTERNATIONAL

**GEOTEXTILE** FABRIC OVER

ACF R-TANK





N.T.S. - PROVIDED BY HYDRO INTERNATIONAL

stormwater treatment unit shall adhere to the hydraulic parameters given in the chart below and provide the removal efficiencies and storage capacities as follows:

1. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff 2. Peak Hydraulic Capacity: 3.0 cfs (85 l/s) B. Sediment Storage Capacity: 0.70 cu. yd. (0.53 cu. m) Continuous Oil Storage Capacity: 70 gal. (265 liters)

5. Sediment shall be stored in a zone that is isolated from the main flow path and protected from reintrainment by a benching skirt. 6. OK-110 110 micron 80% TSS removal 1.56 cfs (44.2 l/s) (Independently Verified)

NOTE: NOT FOR CONSTRUCTION. CONTACT HYDRO FOR SITE SPECIFIC DETAIL

# DOWNSTREAM DEFENDER WATER QUALITY STRUCTURE (4-FT DIAMETER)

massDO1

# N.T.S. - PROVIDED BY MASSDOT

**CATCH BASIN HOOD** 

CATCH BASIN HOOD

DATE OF ISSUE

OCTOBER 2017

E 201.12.0

DRAWING NUMBER

**BELMONT HILL SCHOOL BELMONT, MA** 

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Boston, MA

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Revisions Number Date Description Job number 151021201 Drawn by **KH, JW** Checked by **HH, FH** N/A Date **07/27/2022** 

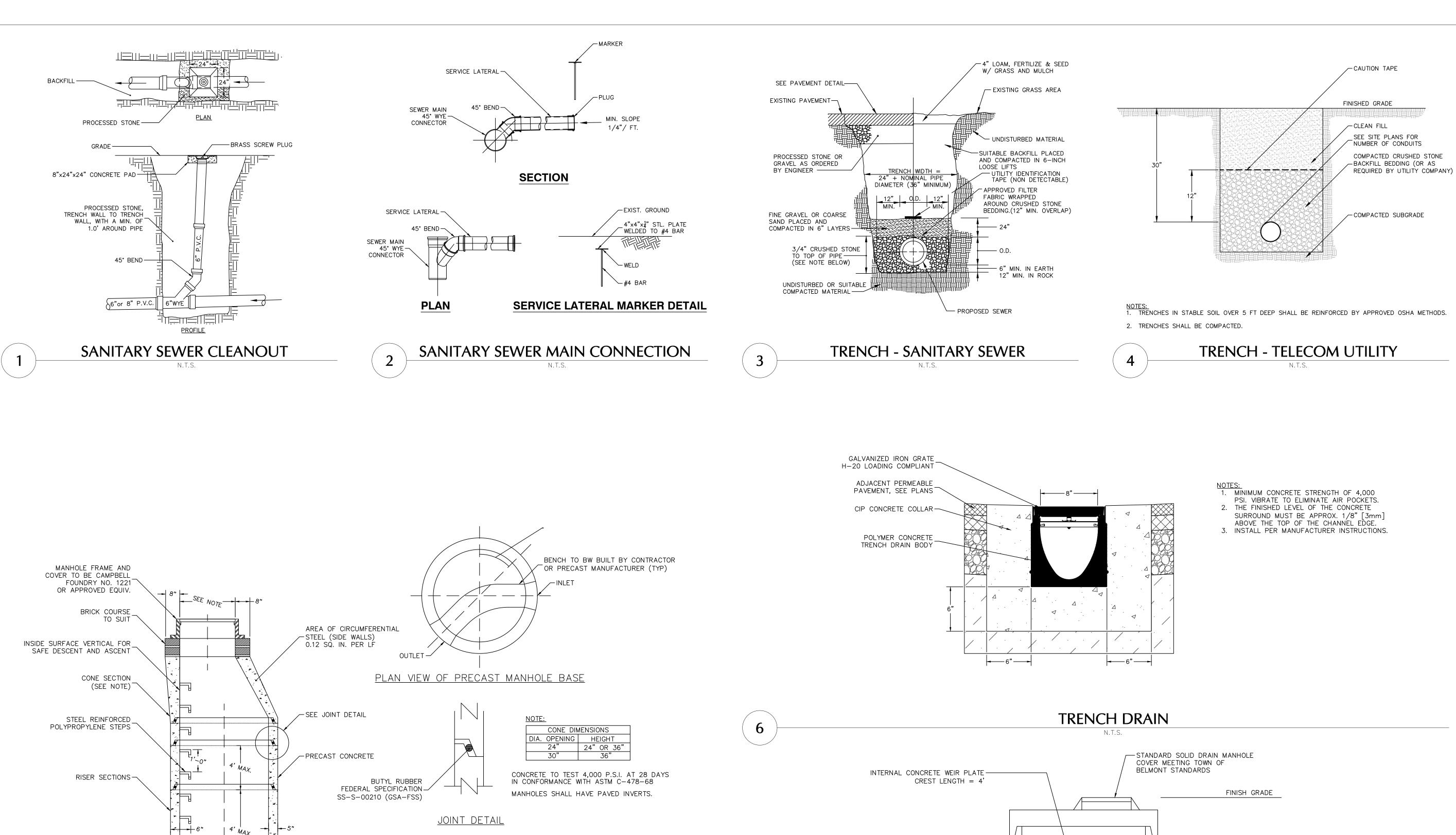
**DRAINAGE &** 

UTILITY **DETAILS II** 

Sheet Number

CU-532

Date: 7/27/2022 Time: 12:18 User: jwatler Style Table: Langan.stb Layout: C-533 Document Code: 151021201-0302-CU501-0102



PROVIDE U-SHAPED CHANNEL TO CENTER

OF PIPE FOR PIPE SIZES UP TO 15", FOR

\_PIPE SIZES GREATER THAN 15", PROVIDE

U-SHAPED CHANNEL FOR HEIGHT EQUAL TO THREE-FOURTHS OF THE PIPE

SHELVE TO BE BRICKS LAID FLAT

AT A SLOPE OF 1" PER FOOT (4)

INVERT TO BE INVERTED ARCH -WITH BRICKS LAID AS STRETCHERS

AND ON EDGE

DIAMETER USED

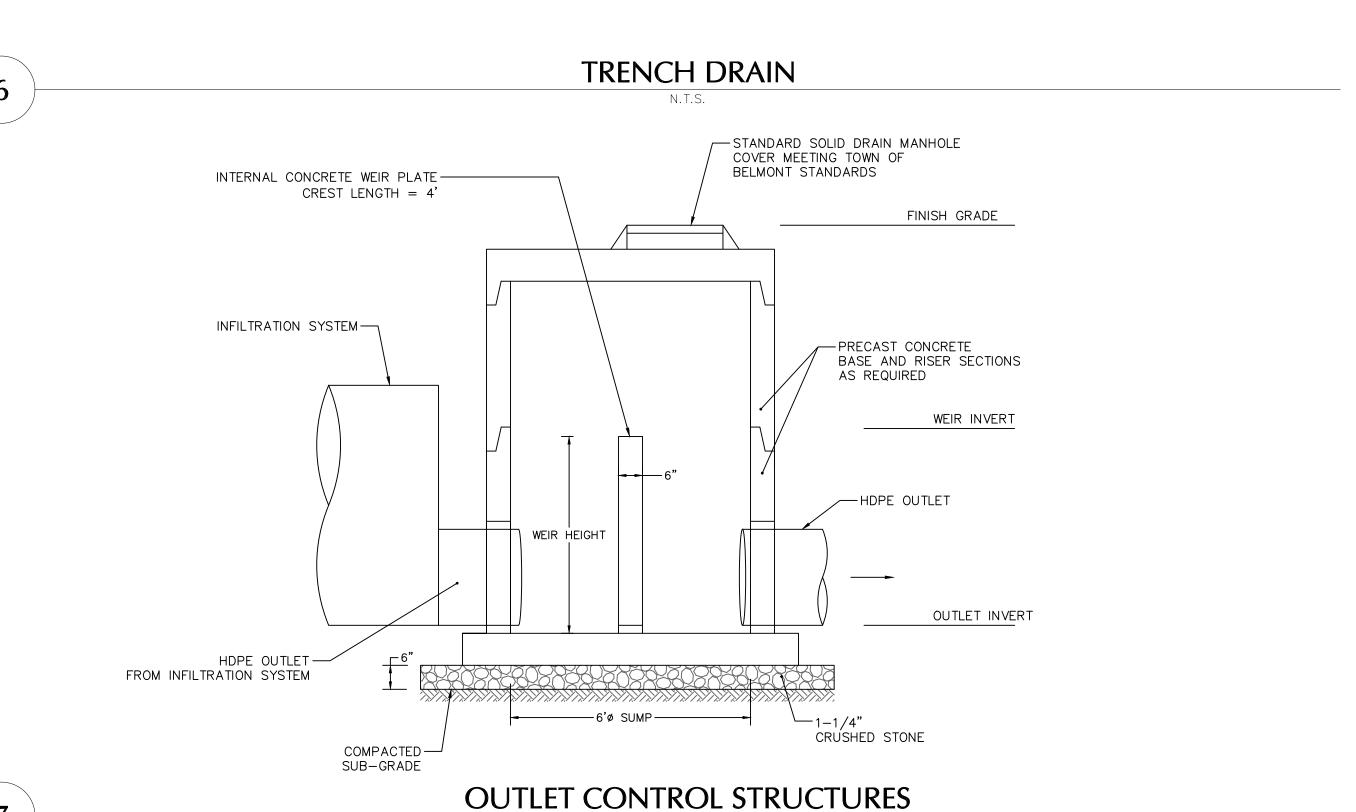
CONCRETE, 4,000 PSI

4%-7% AIR ENTRAINMENT

BENCH PROVIDED BY CONTRACTOR IN

FIELD OR BY PRECAST MANUFACTURER

MIN 28 DAY TEST



SCHOOL **BELMONT, MA** Langan Engineering and Environmenta Services Inc. 100 Cambridge Street, Suite 1310 Boston, MA

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Number Date Description Job number 151021201 Drawn by **KH, JW** Checked by **HH, FH** 

Scale **N/A** Date **07/27/2022** 

**DRAINAGE &** UTILITY **DETAILS III** 

Sheet Number

CU-533

3/4" COMPACTED CRUSHED STONE

MANHOLE ASSEMBLY

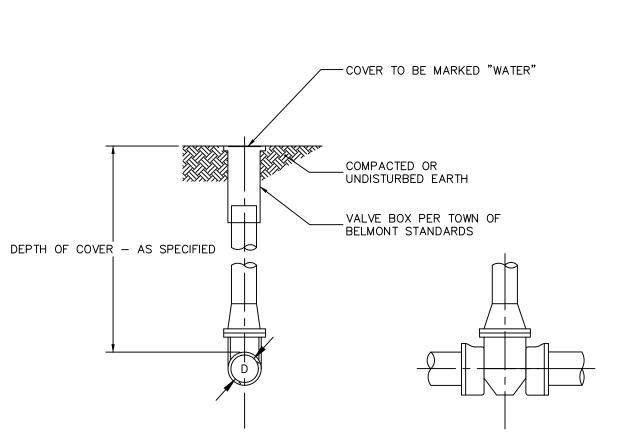
INLET AND OULET PRECAST

DIA. OF HOLES TO SUIT-

AT ANY ANGLE (SEE PLAN VIEW)

BASE RISER SECTION (MONOLITHIC) -

5

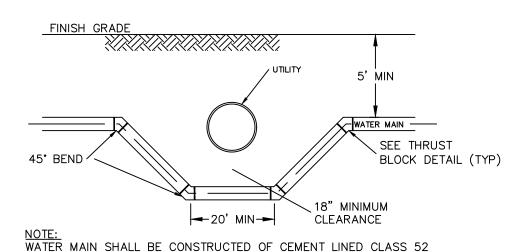


36" MIN ─── MUELLER SUPER CENTURION A423: —HYDRANT, OPEN LEFT, OR APPROVED EQUAL NOZZLE THREAD NATION STANDARD VALVE BOX — NO. 6 CRUSHED STONE PER M.101.01 DIAXDIAX6" M.J. HYDRANT TEE -\ RESTRAINED JOINT CONCRETE THRUST BLOCK AND HYDRANT BASE BEARING AGAINST FIRM, UNDISTURBED 6" M.J. GATE VALVE DRAIN HOLE TO REMAIN CLEAR OF CONCRETE └6" D.I. PIPE

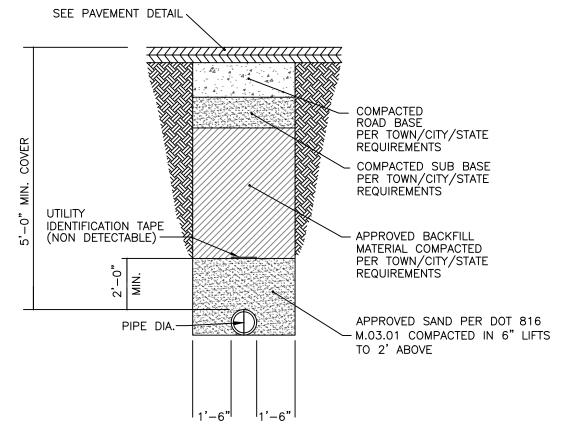
PAVEMENT SURFACE FINISHED GRADE ANCHOR TEE -\_\_\_\_ MECHANICAL JOINT \_(TYP.) CONCRETE THRUST BLOCK UNDISTURBED EARTH

CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.

N.T.S.



WATER MAIN DROP



**GATE VALVE** 

N.T.S.

TRENCH - WATER MAIN

Number Date Description

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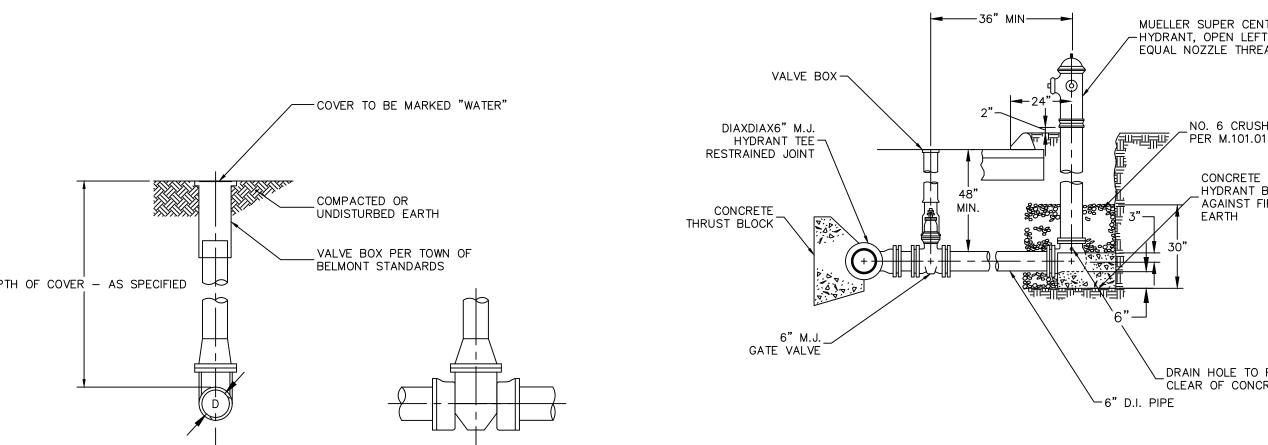
SCHOOL

Job number 151021201

Drawn by **KH, JW** Checked by **HH, FH** Scale **N/A** Date **07/27/2022** 

DRAINAGE & UTILITY **DETAILS IV** 

CU-534

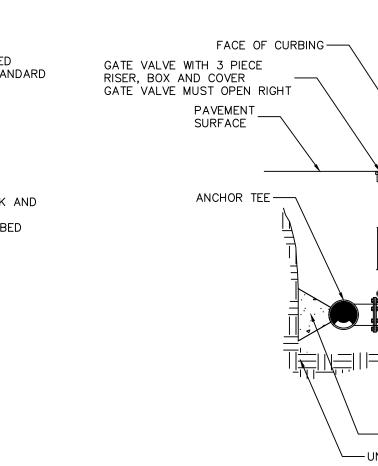


NOTES:

1. ALL MECHANICAL JOINTS TO BE RESTRAINED WITH MEGALUG RETAINER GLANDS.

2. FIRE HYDRANTS SHALL HAVE 5-1/4" MAIN VALVE OPENING, 2 - 2-1/2" HOSE NOZZLES, 1 - 4-1/2" PUMPER NOZZLE AND A 6" M.J. INLET SHOE.

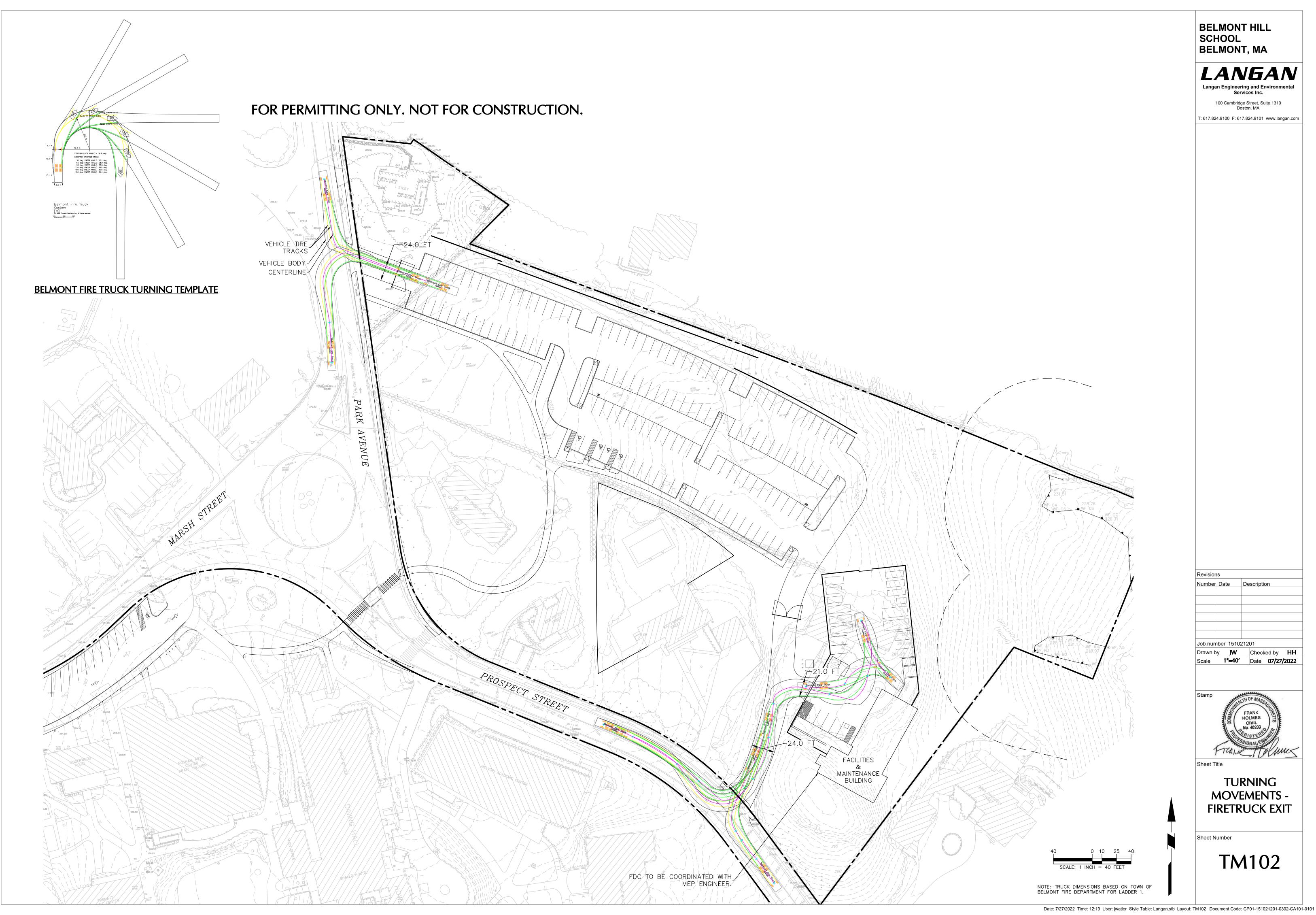
FIRE HYDRANT N.T.S.



NOTE:
WATER MAIN SHALL BE CONSTRUCTED OF CEMENT LINED CLASS 52
DUCTILE IRON PIPE OR BETTER. ONE FULL LENGTH OF WATER MAIN
SHOULD BE CENTERED UNDER THE CROSS PIPE SO THAT BOTH
JOINTS WILL BE AS FAR FROM THE CROSSING AS POSSIBLE.

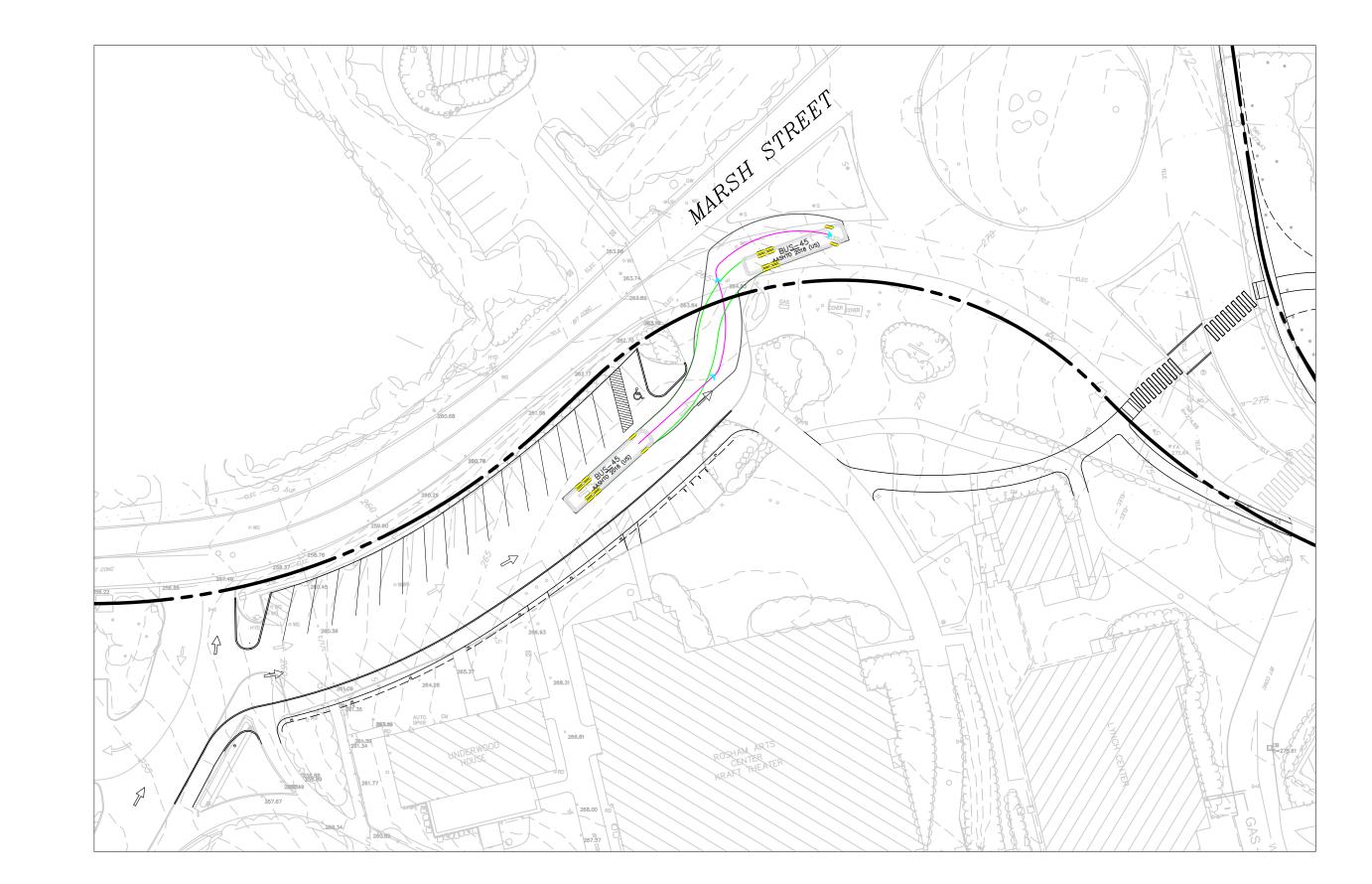
WATER SERVICE CONNECTION



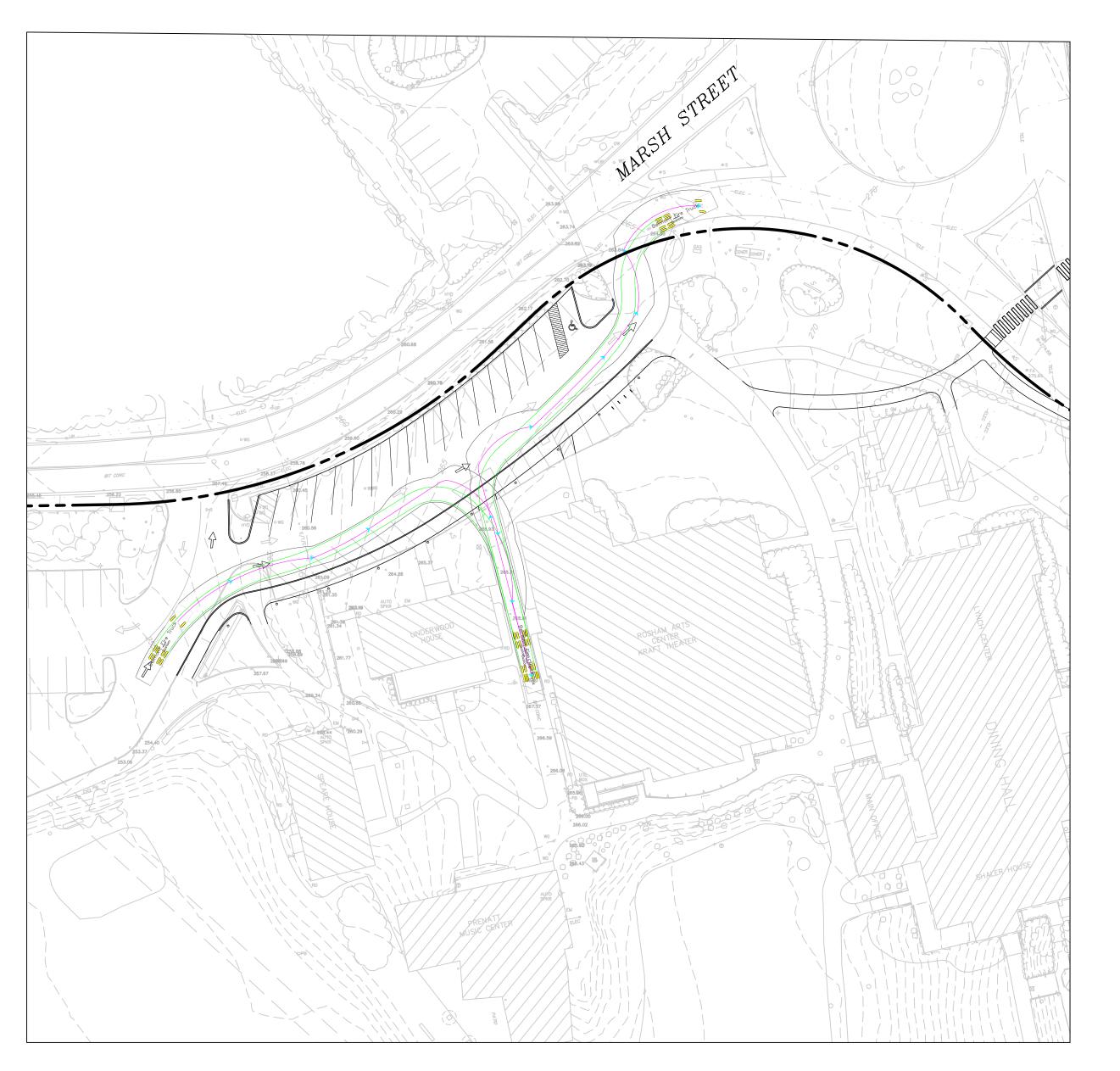


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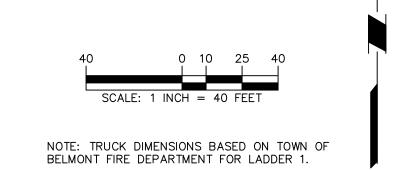
MARSH STREET - BUS ENTRANCE



**MARSH STREET - BUS EXIT** 



**BELMONT FIRE TRUCK - ENTRANCE & EXIT** 



BELMONT HILL SCHOOL BELMONT, MA

LANGAN

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Services Inc.

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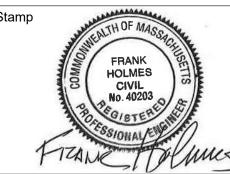
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Revisions

Number Date Description

Job number 15102120

Checked by ale 1"=40' Date 07/27/2

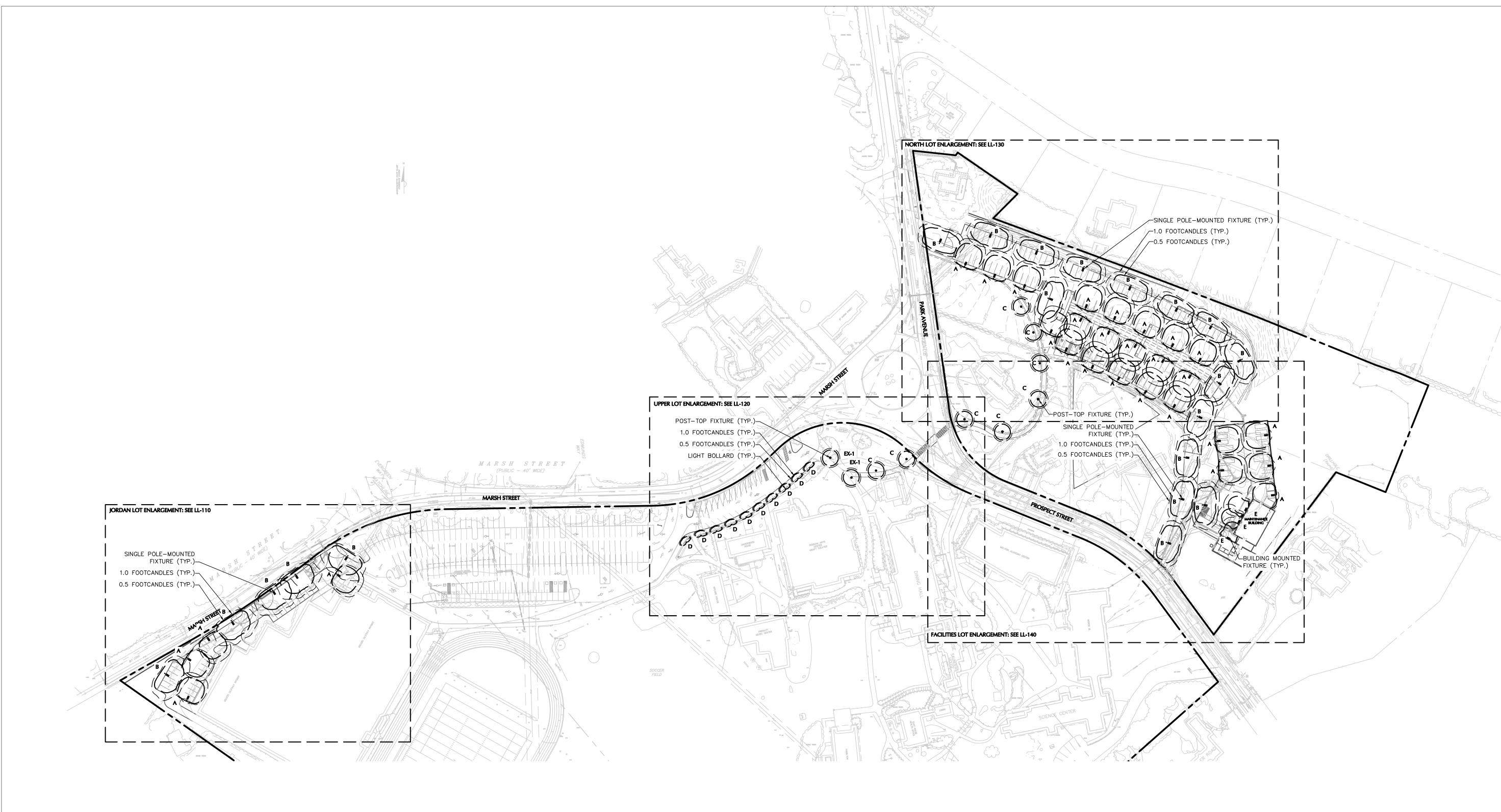


Sheet Title

MARSH STREET TURNING MOVEMENTS

Shoot Number

TM103



SYMBOL	KEY	QTY.	FIXTURE MANUFACTURER	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE MOUNTING HEIGHT	LAMP	COLOR TEMPERATURE	OPTICS	LUMENS	LLF	FIXTURE CATALOGUE NO.	POLE MANUFACTURER	POLE DESCRIPTION	POLE LENGTH	POLE CATALOGUE NO.
•	EX-1	2	PENN GLOBE	PLANNUS-W	POST-TOP FIXTURE COLOR: BLACK	16'-0"	54W LED	3000K	TYPE III	4,763	0.90	_	-	-	-	-
Ą	A	28	BEGA	99522	SINGLE POLE-MOUNTED FIXTURE; COLOR: BLACK	16'-0"	56W LED	3000K	TYPE IV	6,855	0.90	3000K-99522-K3-BLK	BEGA	ROUND FIXED NON-TAPERED ALUMINUM; COLOR: BLACK	16'-0"	16 RFNS1
Ą	В	20	BEGA	99595	SINGLE POLE-MOUNTED FIXTURE; COLOR: BLACK	16'-0"	59.6W LED	3000K	TYPE III	7,343	0.90	3000K-99595-K3-BLK	BEGA	ROUND FIXED NON-TAPERED ALUMINUM; COLOR: BLACK	16'-0"	16 RFNS1
•	С	8	PENN GLOBE	PLANNUS-W	POST-TOP FIXTURE COLOR: BLACK	11'-0"	54W LED	3000K	TYPE III	4,763	0.90	F2MV-LX290-BHX23 * INDICATES HHS	PENN GLOBE	ALUMINUM; COLOR: BLACK, MATCH EXISTING AND POLES ON CAMPUS	8'-0"	P636
8	D	10	BEGA	99058	LIGHT BOLLARD	3'-0"	14.5W LED	3000K	ASYMMETRIC	1,414	0.90	3000K-99058-K3 (EXPRESS)-BLK	-	-	-	-
A	E	3	BEGA	24351	WALL-MOUNTED FIXTURE COLOR: BLACK	16'-0" ABOVE FFE	26W LED	3000K	TYPE III	3,250	0.90	3000K-24816-K3-BLK	-	-	-	REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS

DESCRIPTION	AVG.	MAX.	MIN.	MAX./MIN.	AVG./MIN.
NORTH ENTRY DRIVE	2.5fc	5.9fc	0.5fc	11.8:1	4.9:1
NORTHEAST PARKING	2.9fc	11.3fc	0.5fc	22.6:1	5.7:1
SOUTHWEST PARKING	2.41fc	12.0fc	0.5fc	24.0:1	4.82:1

80 0 20 40 80 SCALE: 1 INCH = 80 FFFT BELMONT HILL SCHOOL BELMONT, MA

LANGAN

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Boston, MA
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Revisions
Number Date Description

Job number 151021201

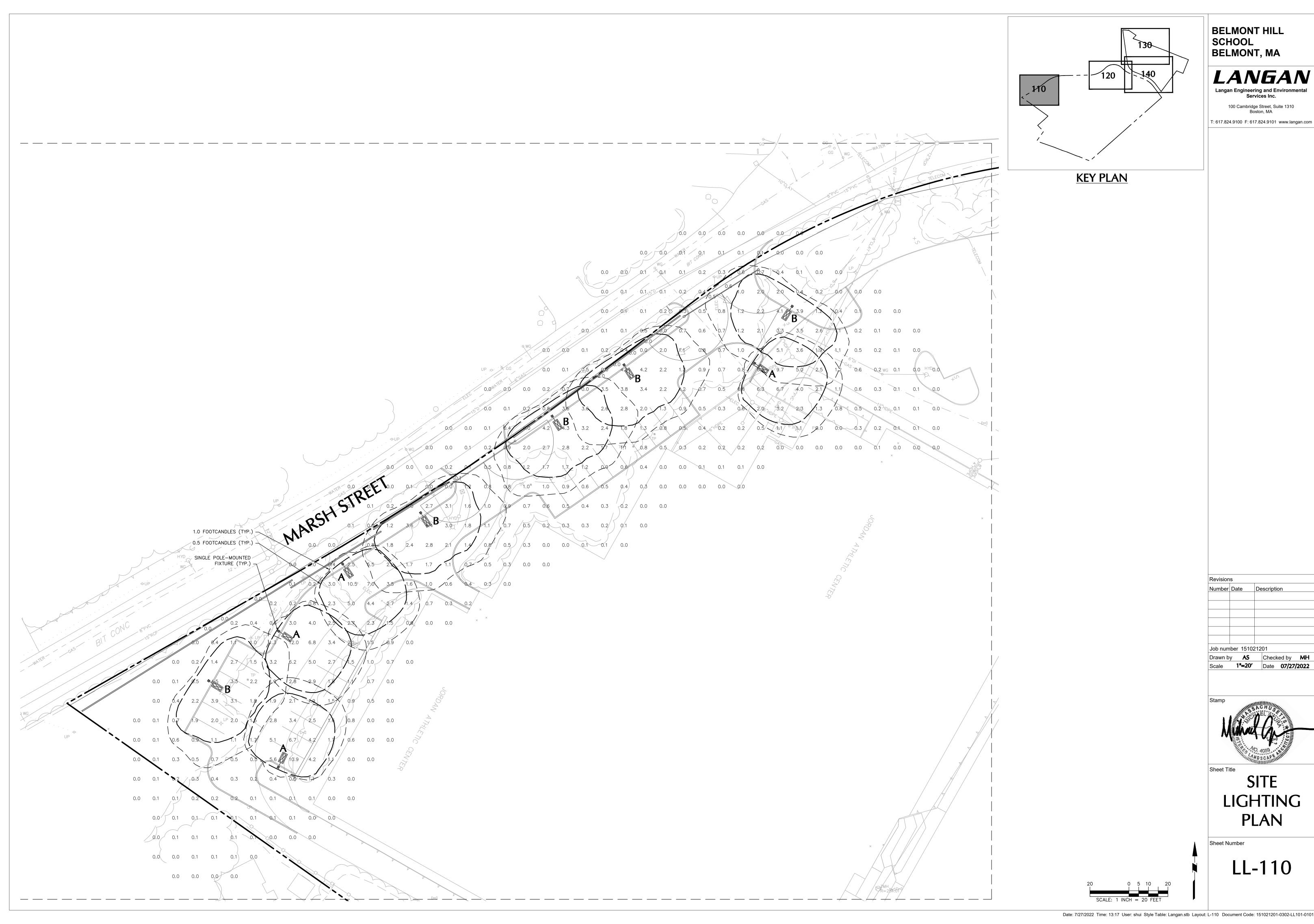
Drawn by AS Checked by MH
Scale 1"=80' Date 07/27/2022

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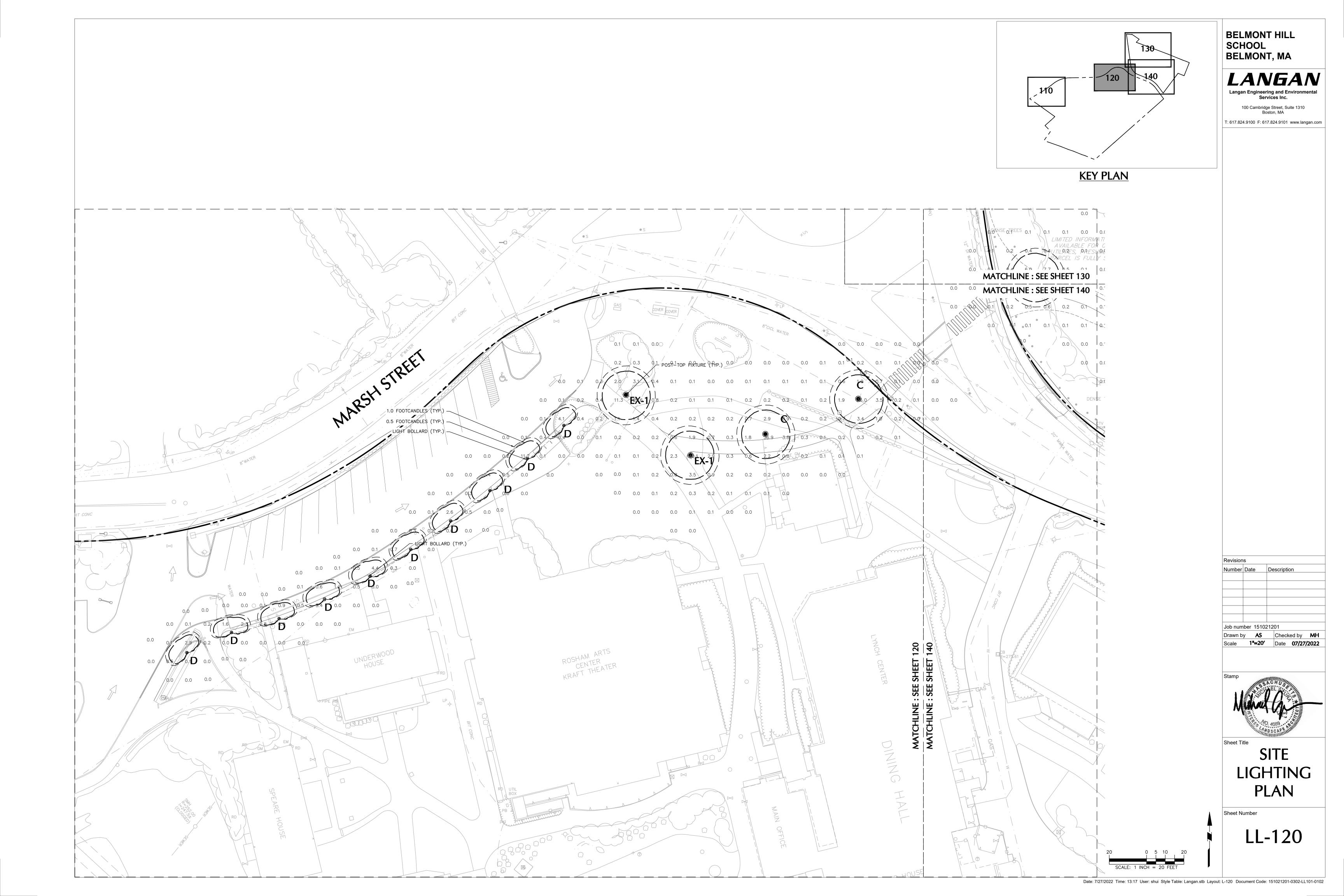
SITE LIGHTING PLAN

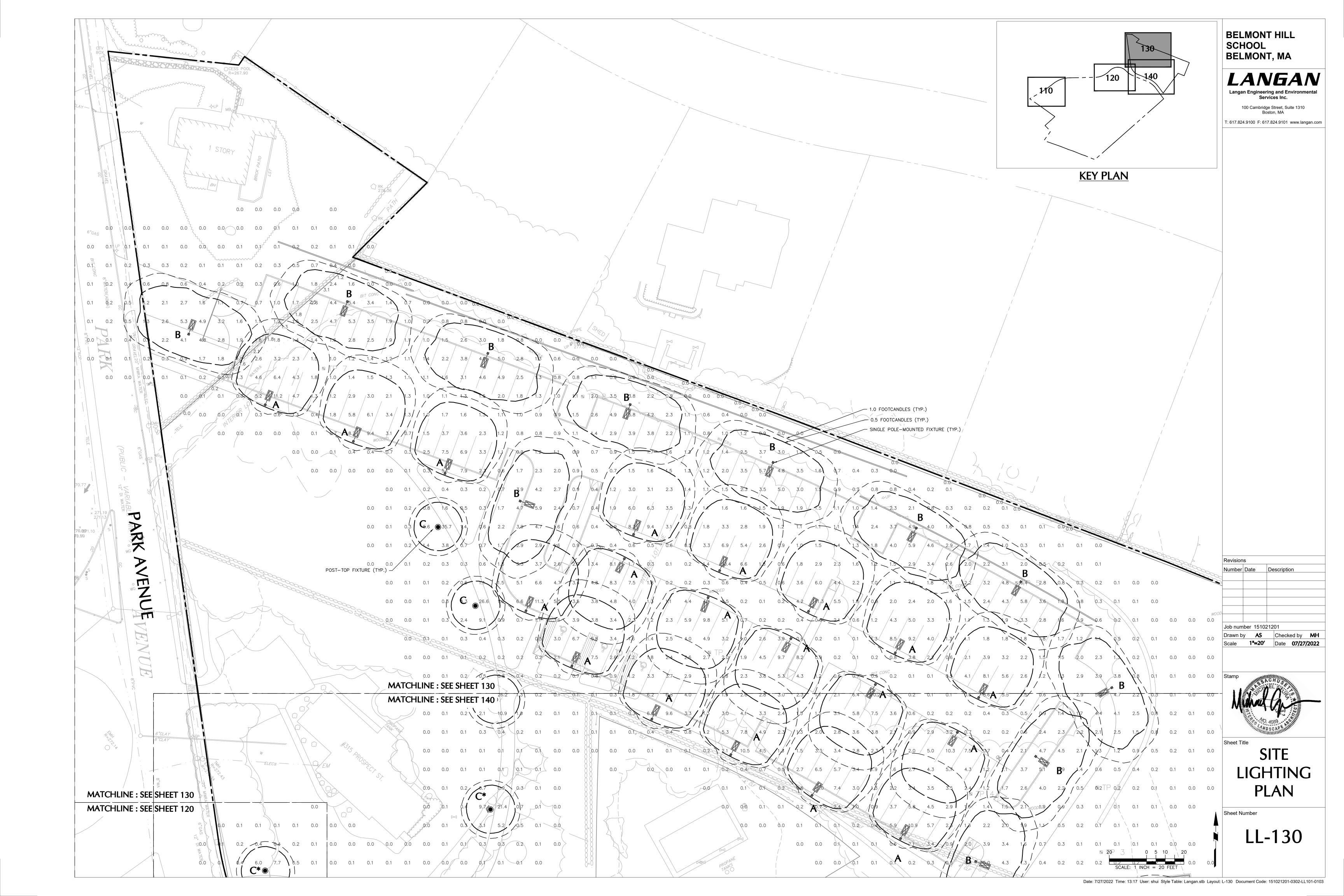
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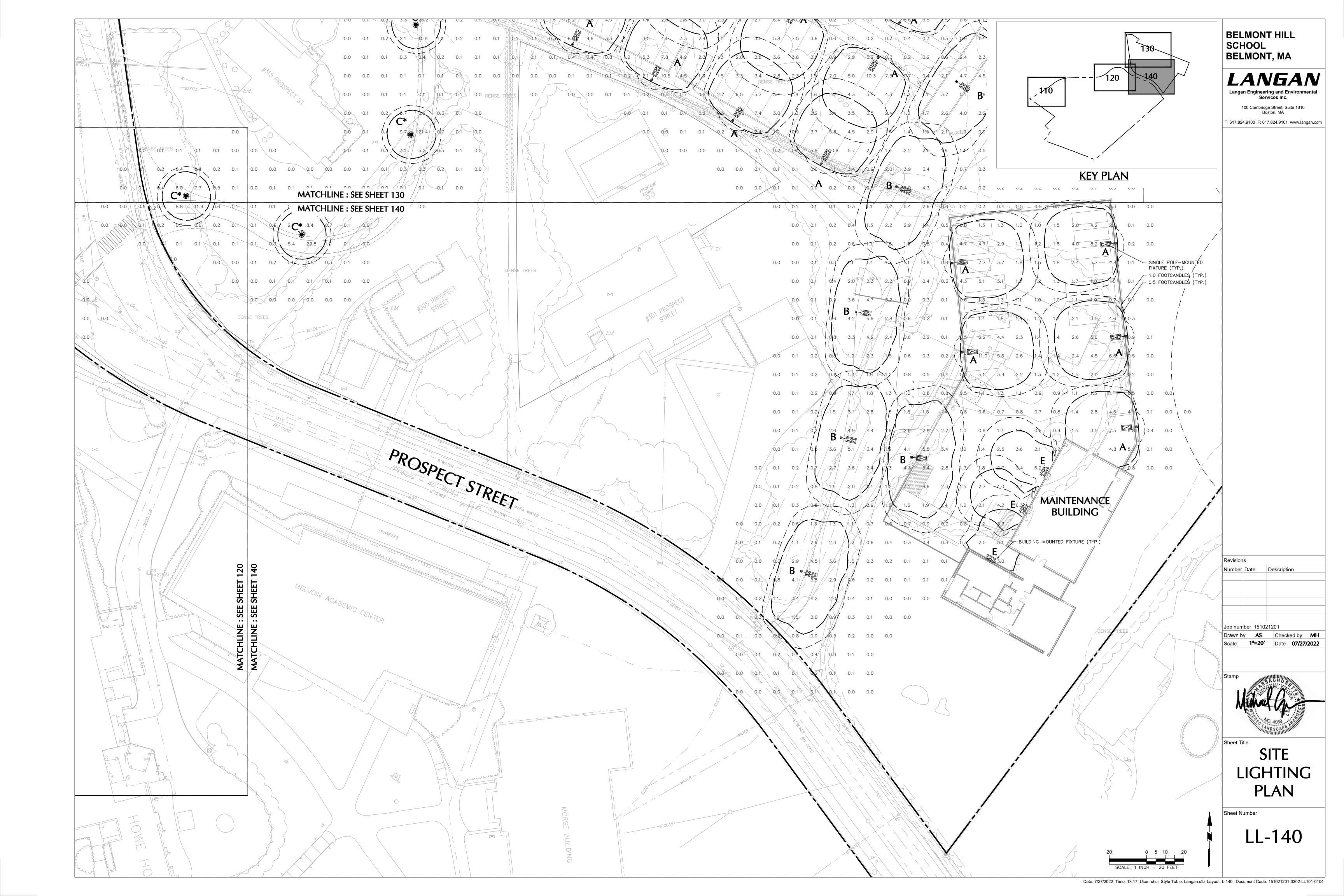
LL-100



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#### **LIGHTING NOTES:**

- 1. POINT-BY-POINT CALCULATIONS PROVIDED WITHIN HAVE BEEN PREPARED IN ACCORDANCE TO IESNA STANDARDS AND IN CONSIDERATION OF THE VARIABLES WITHIN THESE NOTES AND SITE LIGHTING SCHEDULE. THE VALUES SHOWN ON THE PLANS ARE NOT AN INDICATION OF THE INITIAL LIGHT INTENSITIES OF THE LAMPS. THESE VALUES ARE AN APPROXIMATION OF THE MAINTAINED INTENSITIES DELIVERED TO THE GROUND PLANE USING INDUSTRY STANDARD LIGHT LOSS FACTORS (LLF) WHICH COVER LAMP DEGRADATION AND NATURAL BUILDUP/ DIRT DEGRADATION ON THE FIXTURE LENS. THE LIGHTING PLAN IS DESIGNED WITH AN INDUSTRY STANDARD LLF IN ACCORDANCE WITH GUIDANCE AS PROVIDED BY IESNA. MINOR VARIATIONS IN TOPOGRAPHY, PHYSICAL OBSTRUCTIONS, AMBIENT OR ADJACENT LIGHT SOURCES AND/OR OTHER POTENTIAL IMPACTS HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS. THEREFORE, AS-BUILT LIGHT INTENSITIES MAY VARY, IN EITHER DIRECTION, FROM WHAT IS EXPLICITLY PORTRAYED WITHIN THESE DRAWINGS.NO GUARANTEE OF LIGHT LEVELS IS EXPRESSED OR IMPLIED BY THE POINT BY POINT CALCULATIONS SHOWN ON THESE PLANS.
- 2. LIGHT LEVEL POINT SPACING IS 10 FT. LEFT TO RIGHT AND 10 FT. TOP TO BOTTOM. POINT BY POINT CALCULATIONS ARE BASED ON THE LIGHT LOSS FACTOR AS STATED IN THE LIGHTING SCHEDULE.

#### COMPLIANCE

- 3. ALL SITE LIGHTING RELATED WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
- 4. LIGHTING LAYOUT COMPLIES WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) SAFETY STANDARDS FOR LIGHT LEVELS.

#### COORDINATION

- 5. CONTRACTOR TO COORDINATE POWER SOURCE WITH LIGHT FIXTURES TO ENSURE ALL SITE LIGHTING IS OPERATING EFFECTIVELY, EFFICIENTLY
- 6. REFER TO ELECTRIFICATION PLAN FOR PROVIDING ADEQUATE POWER FOR SITE LIGHTING.
- 7. CONTRACTOR TO COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
- 8. INSTALLATION OF ALL LIGHTING FIXTURES, POLES, FOOTINGS, AND FEEDER CABLE TO BE COORDINATED WITH ALL SITE WORK TRADES TO AVOID CONFLICT WITH FINISHED AND PROPOSED WORK.
- 9. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND FEEDER CABLE FOR EXTERIOR LIGHTING WITH EXISTING AND PROPOSED UTILITIES, SITE DRAINAGE SYSTEMS, AND PAVING. CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE SHOULD ANY UTILITIES, NOT SHOWN ON THE PLANS, BE FOUND DURING EXCAVATIONS.

#### **POLES AND FOOTINGS**

- 10. PROVIDE A CONCRETE BASE FOR EACH LIGHT POLE AT THE LOCATIONS INDICATED ON THE CONSTRUCTION DRAWINGS AND/OR IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS RELATING DIRECTLY TO CAST-IN-PLACE CONCRETE. THE USE OF ALTERNATE LIGHTING FOUNDATIONS, CHANGE THE SIZING AND REINFORCEMENT REQUIREMENTS FROM THOSE SHOWN ON THESE PLANS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ORDERING ANY SUBSTITUTED PRODUCTS.
- 11. CONTRACTOR SHALL EXAMINE AND VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO SUPPORT LOADS EXERTED UPON THE FOUNDATIONS DURING EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNSATISFACTORY CONDITIONS.
- 12. POLE FOUNDATIONS SHALL NOT BE POURED IF FREE STANDING WATER IS PRESENT IN EXCAVATED AREA.
- 13. ALL POLES 25 FT OR GREATER SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS.

#### WALL MOUNTED FIXTURES

- 14. CONTRACTOR TO COORDINATE INSTALLATION OF ALL THE WALL MOUNTED FIXTURES AND ELECTRICAL CONNECTIONS TO SITE STRUCTURE(S) WITH BUILDING MEP, ARCHITECT, AND/OR OWNER.
- 15. INSTALLATION AND ELECTRICAL CONNECTIONS FOR WALL MOUNTED FIXTURES TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, UTILITY AND SITE PLANS AND TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

#### **ADJUSTMENT AND INSPECTION**

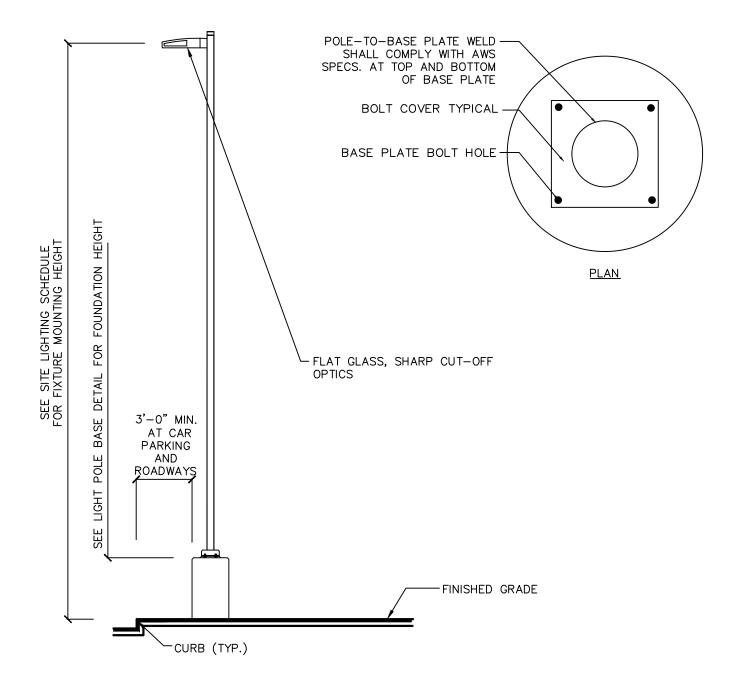
- 16. CONTRACTOR TO OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR IMPROPER CONNECTIONS AND OPERATION.
- 17. CONTRACTOR TO AIM AND ADJUST ALL LUMINAIRES TO PROVIDE ILLUMINATION LEVELS AND DISTRIBUTION AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
- 18. CONTRACTOR TO CONFIRM THAT LIGHT FIXTURES, TILT ANGLE AND AIMING MATCH SPECIFICATIONS ON THE PLANS.

#### REQUIREMENTS FOR ALTERNATES

- 19. ALL LIGHTING SUBSTITUTIONS MUST BE MADE WITHIN 14 DAYS PRIOR TO THE BID DATE TO PROVIDE AMPLE TIME FOR REVIEW AND TO ISSUE AN ADDENDUM INCORPORATING THE SUBSTITUTION WITH THE FOLLOWING REQUIREMENTS:
- A. ANY SUBSTITUTION TO LIGHTING FIXTURES, POLES, ETC. MUST BE APPROVED BY THE OWNER, ENGINEER AND TENANTS. ANY COST ASSOCIATED WITH REVIEW AND/OR APPROVAL OF THE SUBSTITUTIONS SHALL BE ENTIRELY BORNE BY THE CONTRACTOR B. COMPUTER PREPARED PHOTOMETRIC LAYOUT OF THE PROPOSED LIGHTED AREA WHICH INDICATES, BY ISOFOOTCANDLE, THE SYSTEM'S
- C. A PHOTOMETRIC REPORT FROM A NATIONAL INDEPENDENT TESTING LABORATORY WITH REPORT NUMBER, DATE, FIXTURE CATALOG NUMBER, LUMINAIRE AND LAMP SPECIFICATIONS; IES CALCULATIONS, POINT BY POINT FOOT CANDLE PLAN, STATISTIC ZONES SHOWING AVERAGÉ, MAXIMUM, MINIMUM AND UNIFORMITY RATIOS, SUMMARY, ISOLUX PLOT, AND CATALOGUE CUTS. CATALOGUE CUTS MUST
- D. POLE MANUFACTURER AASHTO CALCULATIONS INDICATING THE POLE AND ANCHOR BOLTS BEING SUBMITTED ARE CAPABLE OF

IDENTIFY OPTICS, LAMP TYPE, DISTRIBUTION TYPE, REFLECTOR, LENS, BALLASTS, WATTAGE, VOLTAGE, FINISH HOUSING DESCRIPTION

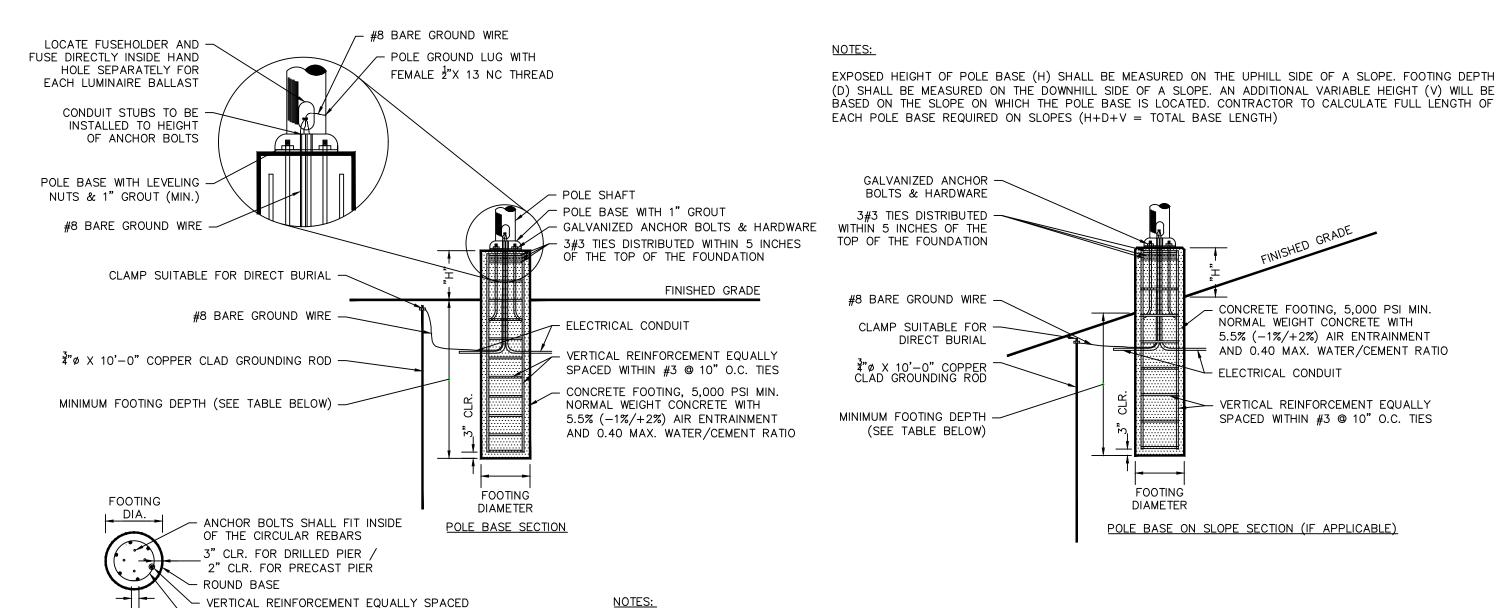
- SUPPORTING THE POLE AND FIXTURE SYSTEMS BEING UTILIZED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. E. THE UNDERWRITERS LABORATORY LISTING AND FILE NUMBER FOR THE SPECIFIC FIXTURE(S) TO BE UTILIZED.
- F. A COLOR PHOTOGRAPH THAT CLEARLY SHOWS THE REPLACEMENT FIXTURE POLE MOUNTED, THE FIXTURE'S COLOR, FINISH, AND PHYSICAL CHARACTERISTICS.



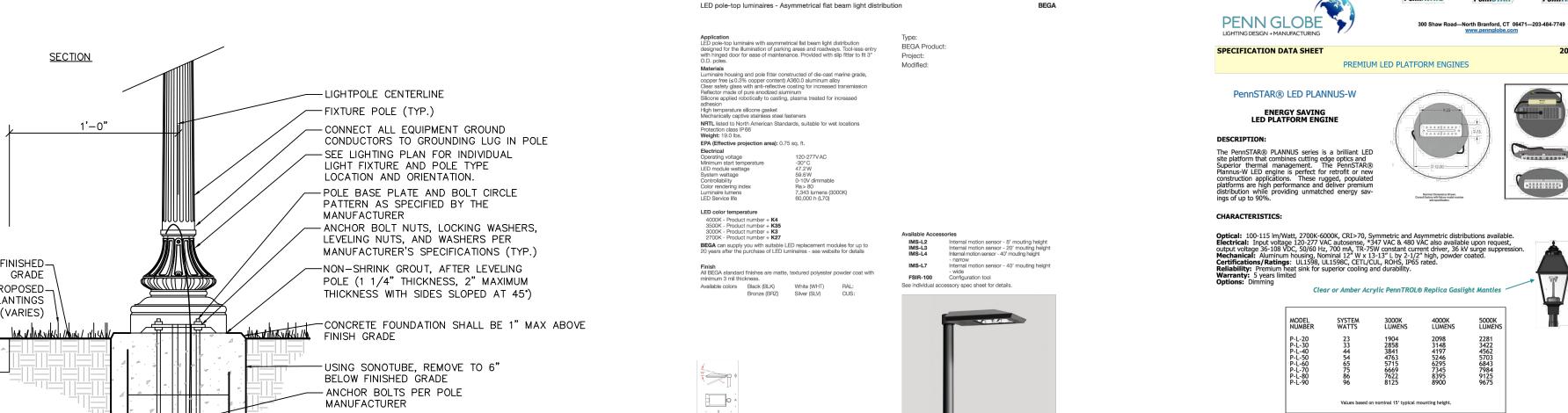
**SECTION** 

1. ALL LIGHT POLES SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS. 2. CURB LOCATION IS SHOWN FOR SCHEMATIC PURPOSE. LIGHT POLES SHALL BE LOCATED PER THE LIGHTING PLANS.

**LIGHT FIXTURE AND POLE** 



- 1. SHAFT CAP, ARMS, BASE FLANGE, ANCHOR BOLTS, LEVELING NUTS, CONNECTION HARDWARE, BOLT COVERS, HANDHOLE COVER, AND BOLT CIRCLE
- TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER. 2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER
- CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENT OF ACI 318. CAST-IN-PLACE SHALL HAVE UNCONFINED COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI AT 28-DAYS. DEFORMED REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL. IF POLE BASE IS CAST-IN-PLACE, POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND-RUBBED SMOOTH.
- CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH REPORT. THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST
  - ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.
- 8. CONTRACTOR TO CONFIRM GROUNDING DESIGN WITH MEP.



Pole-top luminaire · Asymmetrical flat beam

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Recommended for use with 20' to 30' poles

FIXTURE A & E

**FIXTURE POLE** 

FINISHED-PROPOSED-PLANTINGS (VARIES) - 6 #5 EQUALLY SPACED -ELECTRICAL CONDUIT (REFER TO SITE ELECTRIFICATION PLANS) - CONCRETE FOOTING 5000 PSI 3" CLEAR <u>PLAN</u> ROUND BASE EQÜALLY SPACED ANCHOR BOLTS PER MANUFACTURER

─ #3 TIES AT 10" O.C. WITH 6" LAP

2'-0"

DIAMETER | HEIGHT "H" | REINFORCEMENT

FLUSH

6#5 BARS

FIXTURE | MOUNTING | FOOTING | EXPOSED | VERTICAL

PARKING LOT FIXTURE BASE

<u>PLAN</u>

DEPTH

7**'**-0"

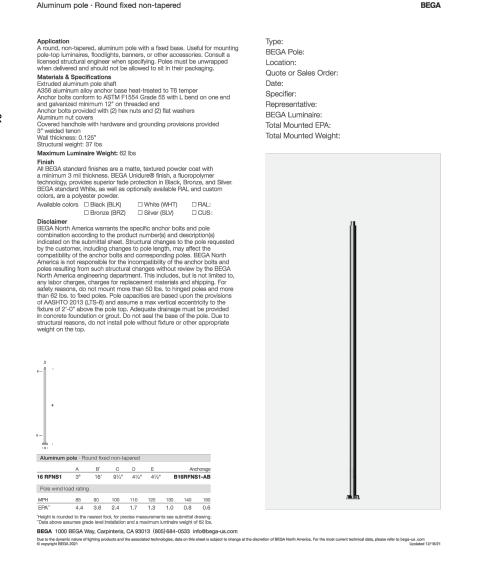
TYPE

A -D 16'

HEIGHT

- 1. SHAFT CAP, ARMS, BASE FLANGE, ANCHOR BOLTS, LEVELING NUTS, CONNECTION HARDWARE, BOLT COVERS, HANDHOLE COVER, AND BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER. 2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER 250-86, N.E.C.
- 3. CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL. 4. POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND-RUBBED
- 5. CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH
- 6. THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED
- AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.

PEDESTRIAN FIXTURE BASE IN LAWN



Shielded LED bollard - asymmetric BEGA Product: LED color temperature Wildlife friendly amber LED - Optional Luminaire is optionally available with a narrow band source (585-600nm) approved by the FWC. This lig Finish
All BEGA standard finishes are matte, textured polyester poywder coat with 
 LED
 A
 B
 Anchorage

 99 058
 11.6W
 7½
 39%
 79817
 BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

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POST-TOP FIXTURE C

N.T.S

Date: 6/22/2022 Time: 13:53 User: swinterbottom Style Table: Langan.stb Layout: L-531 Document Code: 151021201-0302-LL501-0101

N.T.S

Revisions Number Date Description

**BELMONT HILL** 

**BELMONT, MA** 

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Boston, MA

SCHOOL

Job number 151021201 Drawn by **AC** Checked by **MH** Scale **N/A** Date **07/27/2022** 

Sheet Title

**DETAIL** 

Sheet Number

LL-501A

LED wall luminaire - surface washer

Application

LED wall furninaire with asymmetrical light distribution designed for illuminating horizontal surfaces from vertical mounting surfaces.

Materials

Luminaire housing and faceplate constructed of die-cast marine grade, copper free (s0.3% copper content) A360.0 aluminum alloy
Clear safety glass

Reflector made of pure anodized aluminum
Silicone applied robotically to casting, plasma treated for increased adhesion
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations Protection class IP65
Weight: 11.5 lbs

Electrical
Operating voltage
Minimum start temperature
LED module wattage
System wattage
Controllability
Color rendering Index
Luminaire lumens
Lifetime at Ta = 15° C
Lifetime at Ta = 15° C
Lifetime at Ta = 35° C
LED color temperature

400K - Product number + K4
3500K - Product number + K4
3500K - Product number + K27

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors | Black (BLK) | White (WHT) | RAL: |
| Bronze (BRZ) | Silver (SLV) | CUS:

LED wall luminaire · surface washer LED A B C 24816 55.3W 8½ 4 19½

N.T.S

**BELMONT HILL** SCHOOL BELMONT, MA

**LANGAN** Langan Engineering and Environmental Services Inc.

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Number Date Description

Job number 151021201

Drawn by **AC** Checked by **MH** 

Scale **N/A** Date **07/27/2022** 

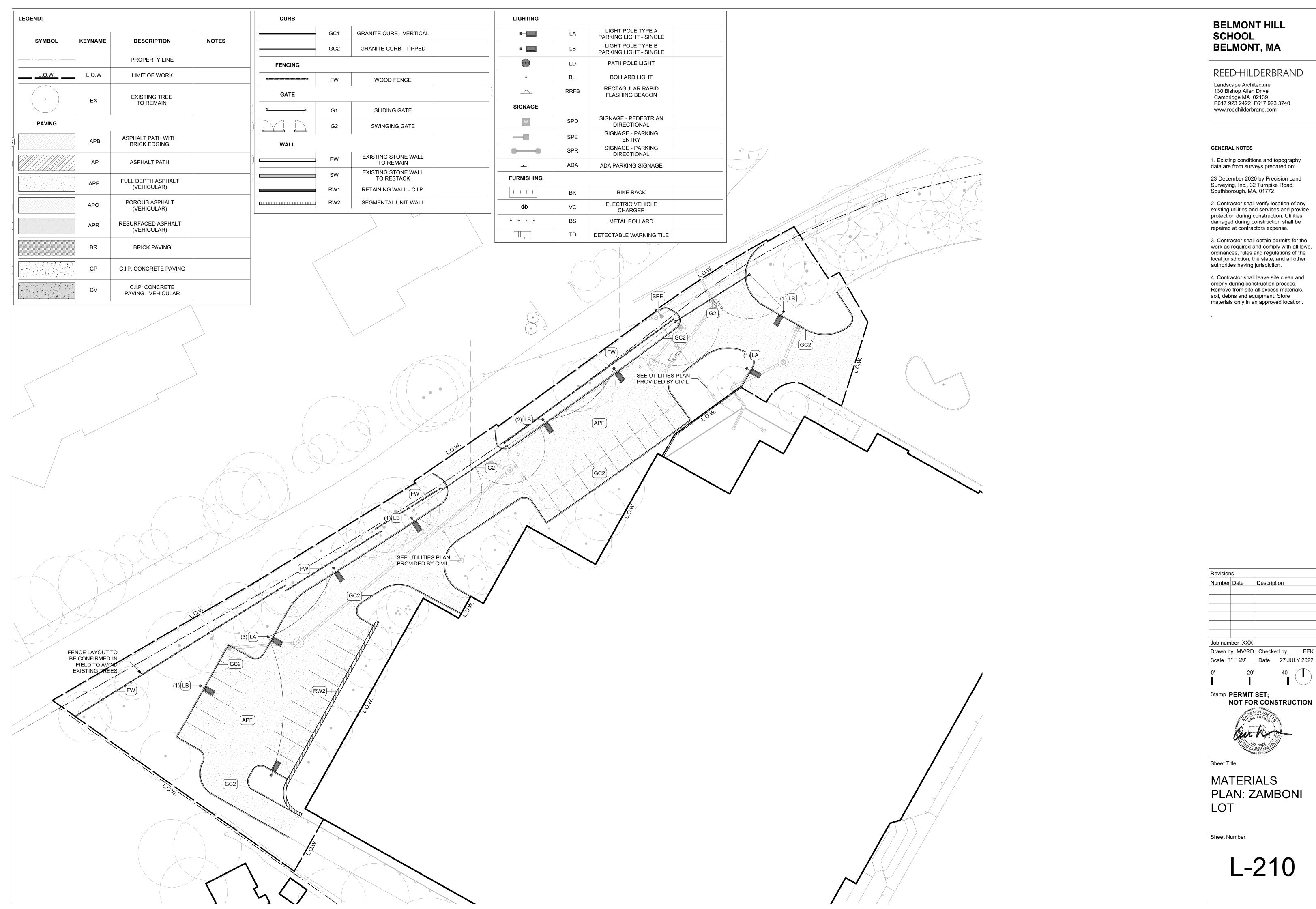


Sheet Title

**DETAIL** 

Sheet Number

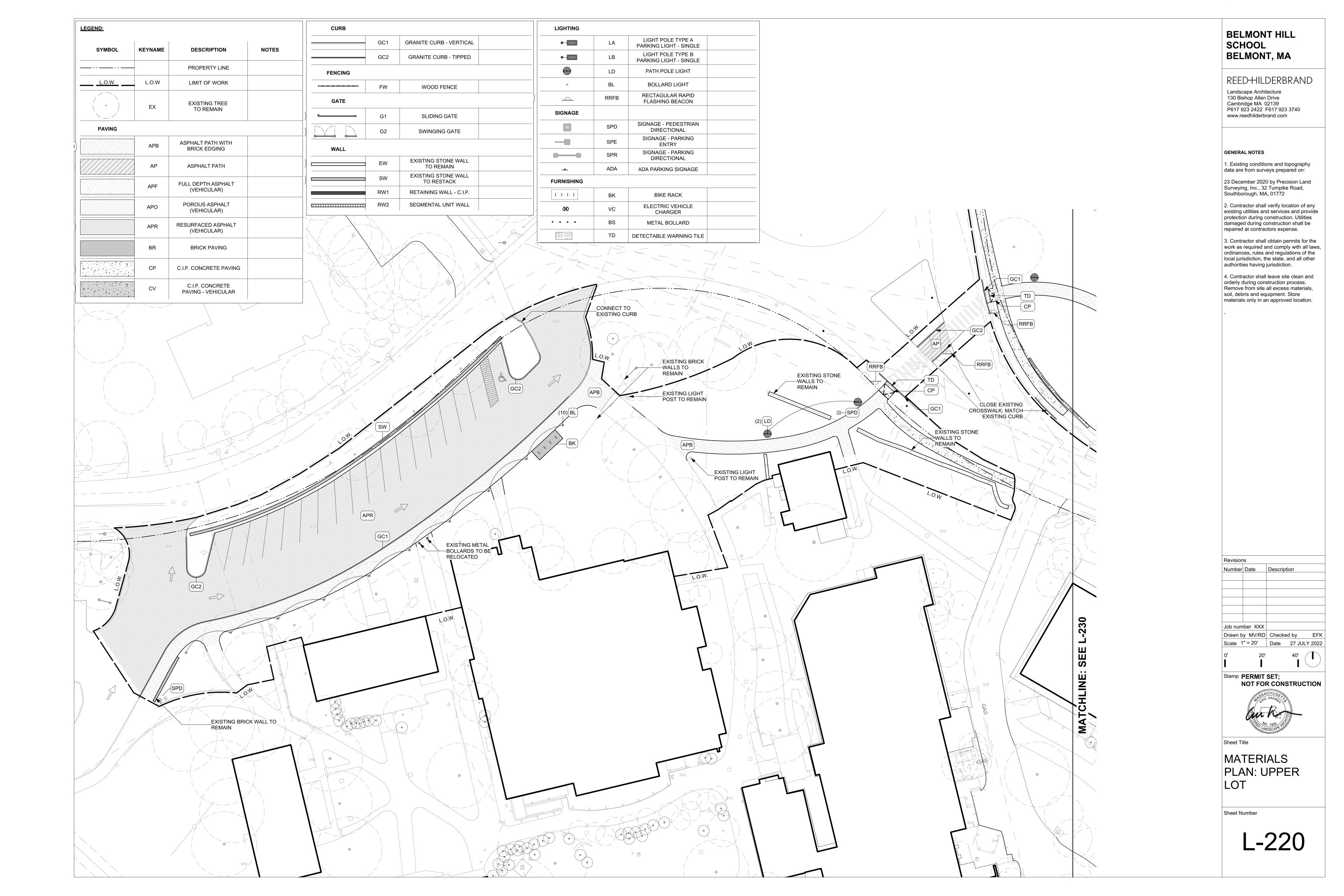
LL-501B

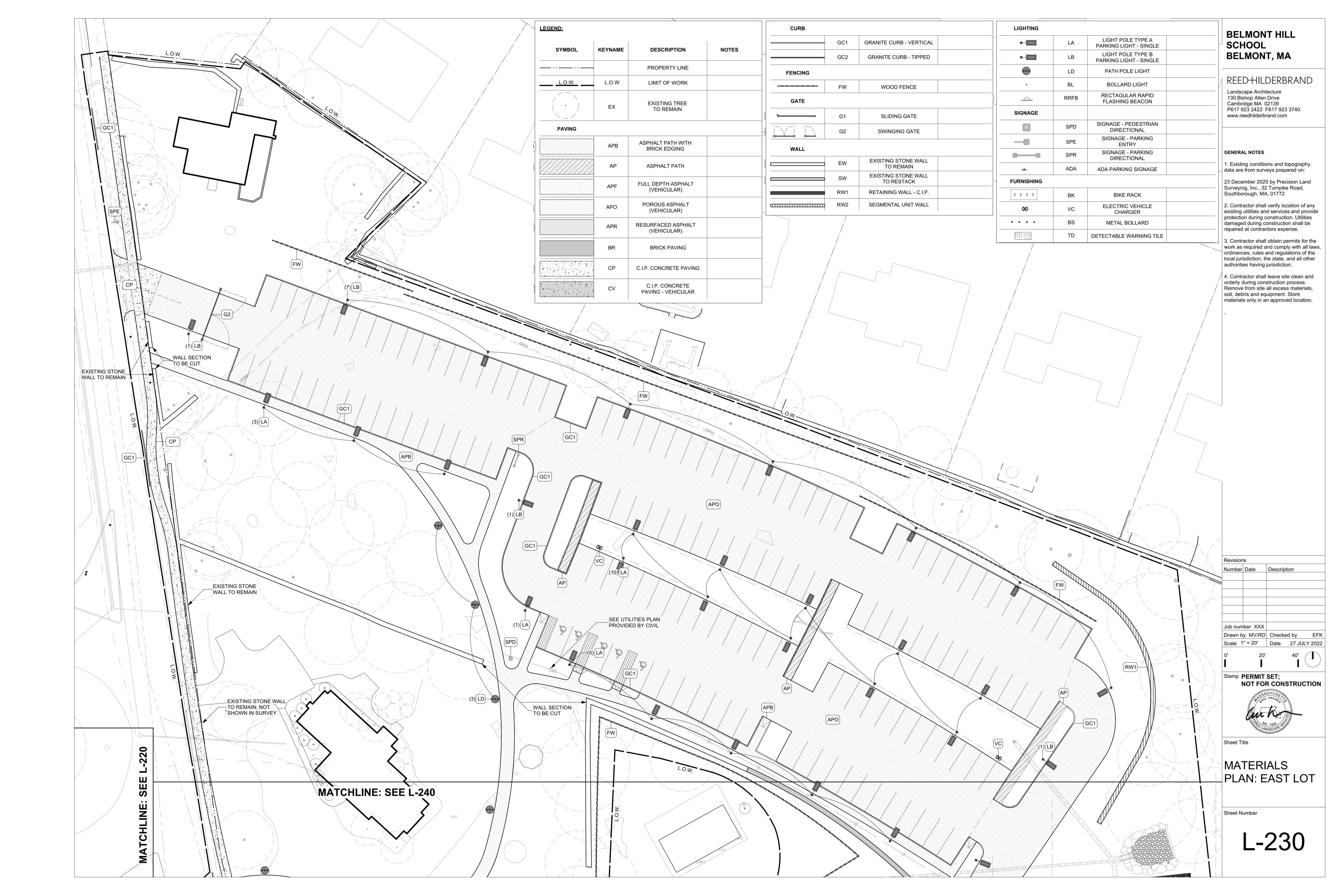


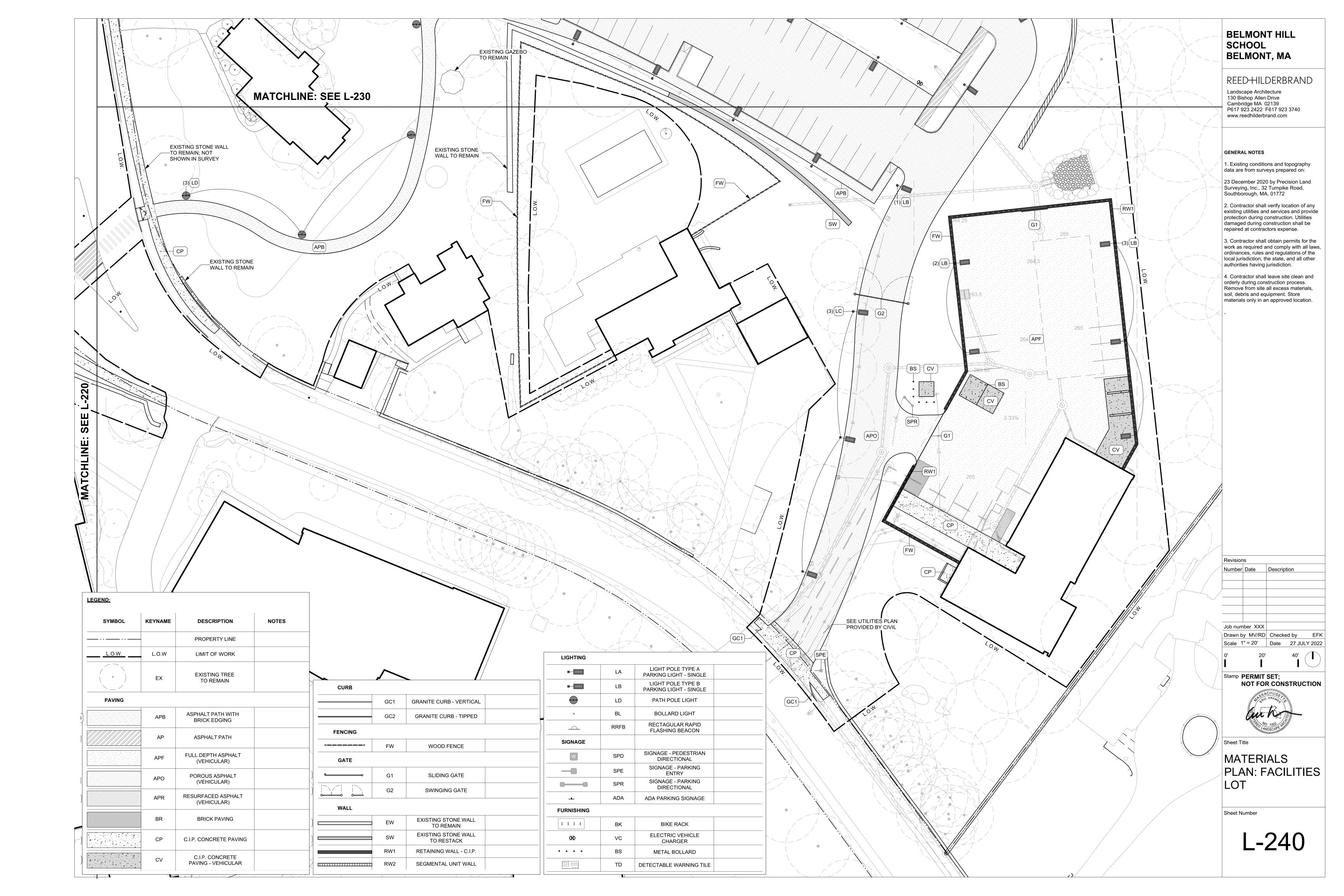
work as required and comply with all laws, ordinances, rules and regulations of the

Scale 1" = 20' Date 27 JULY 2022

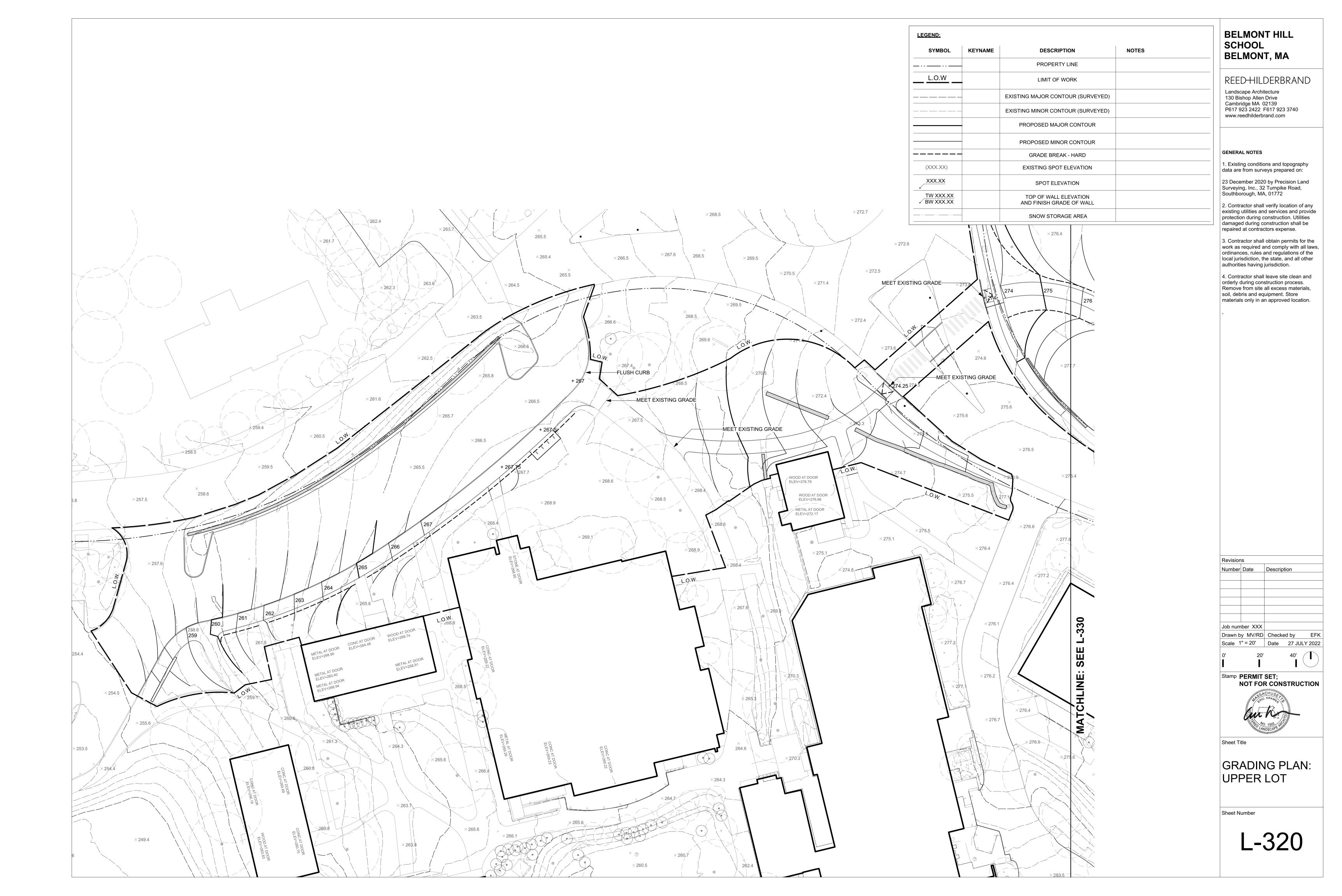






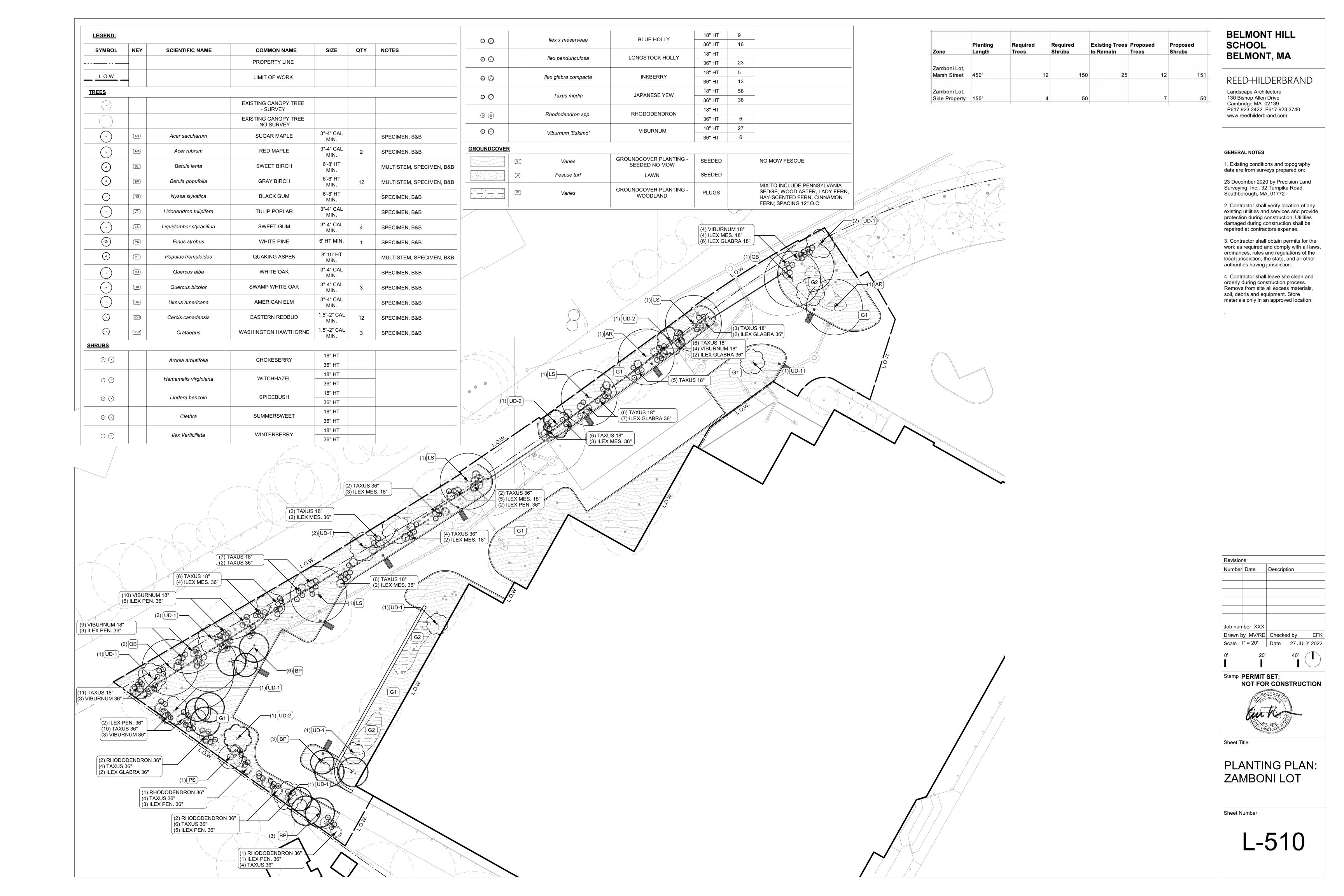


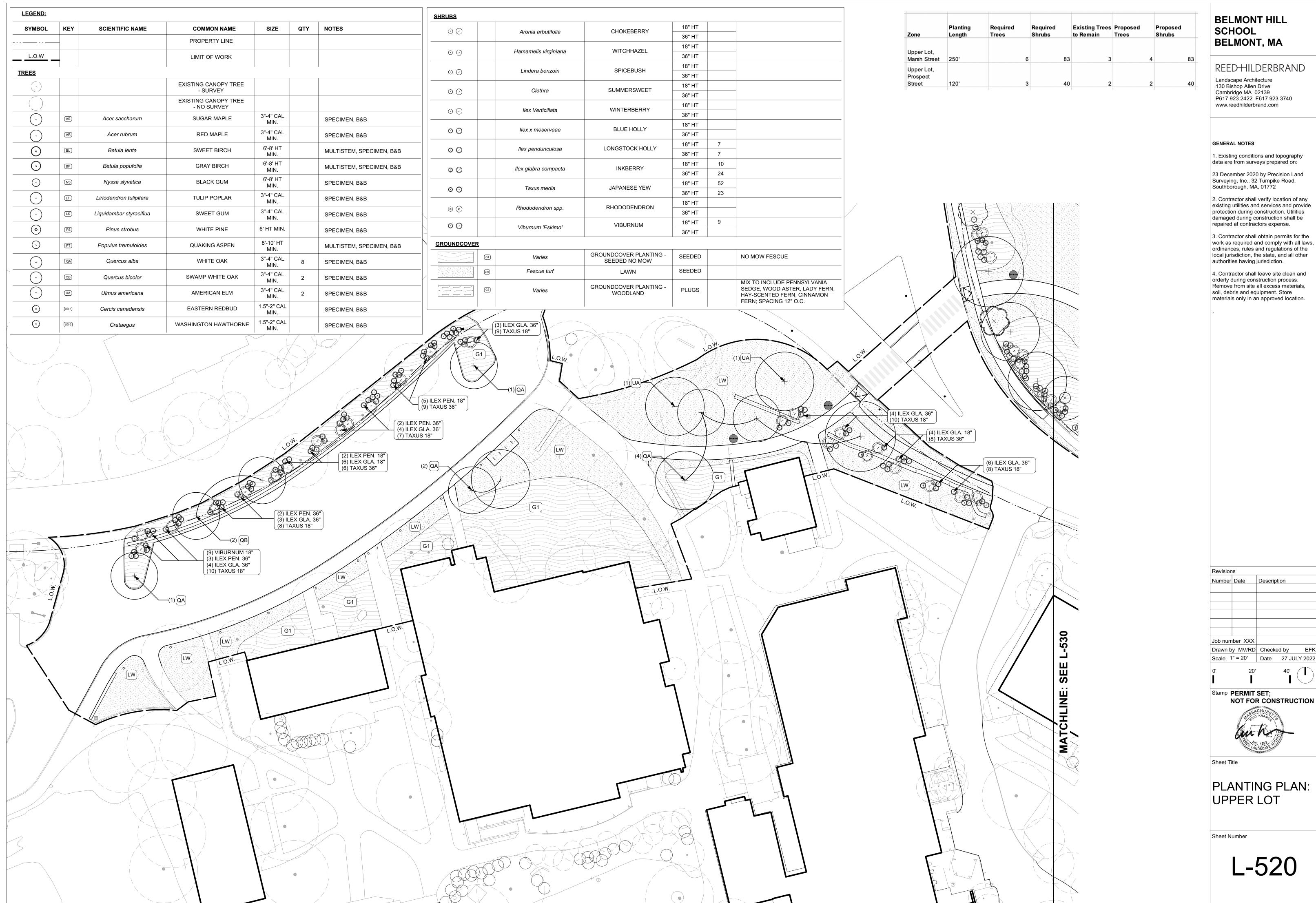


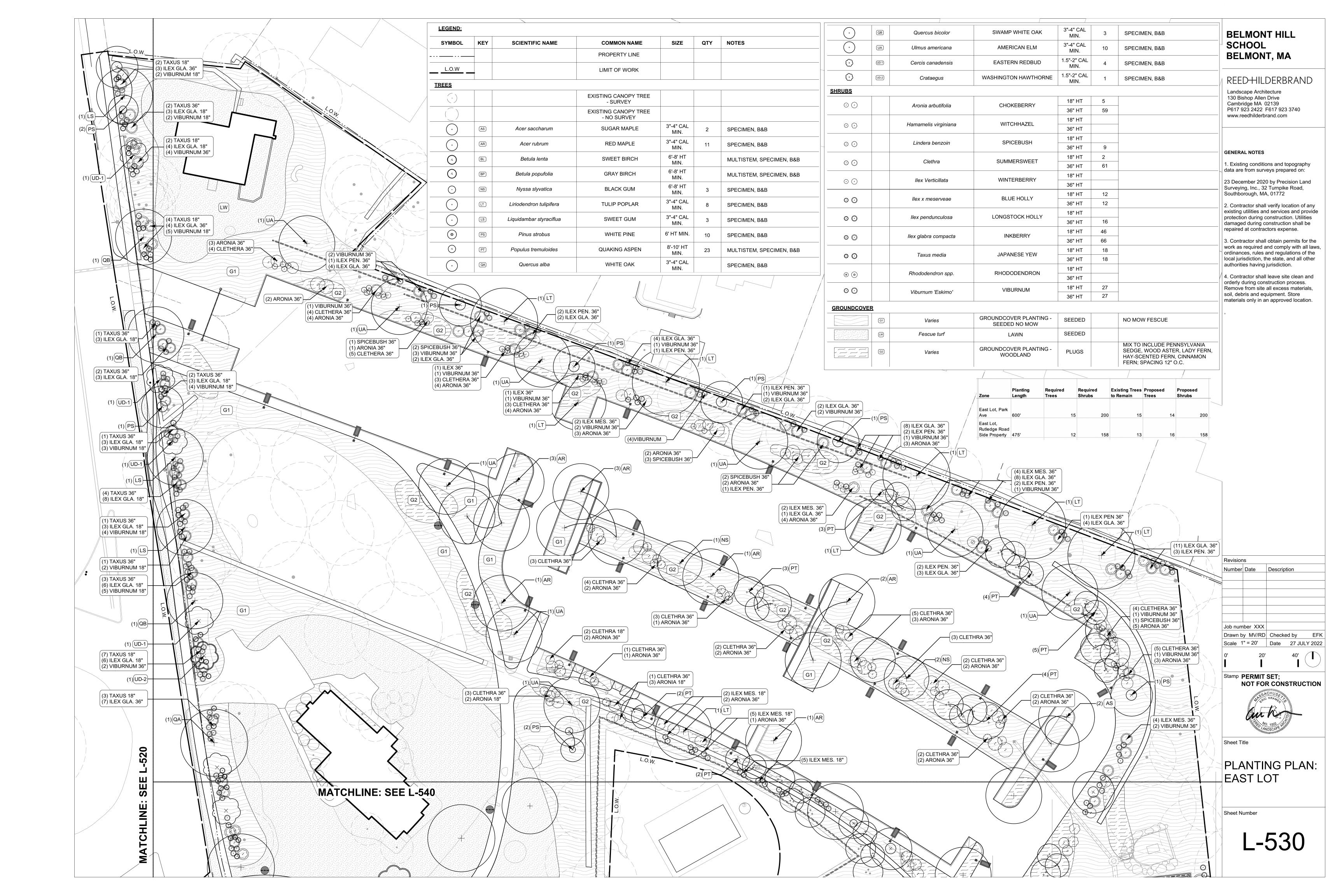


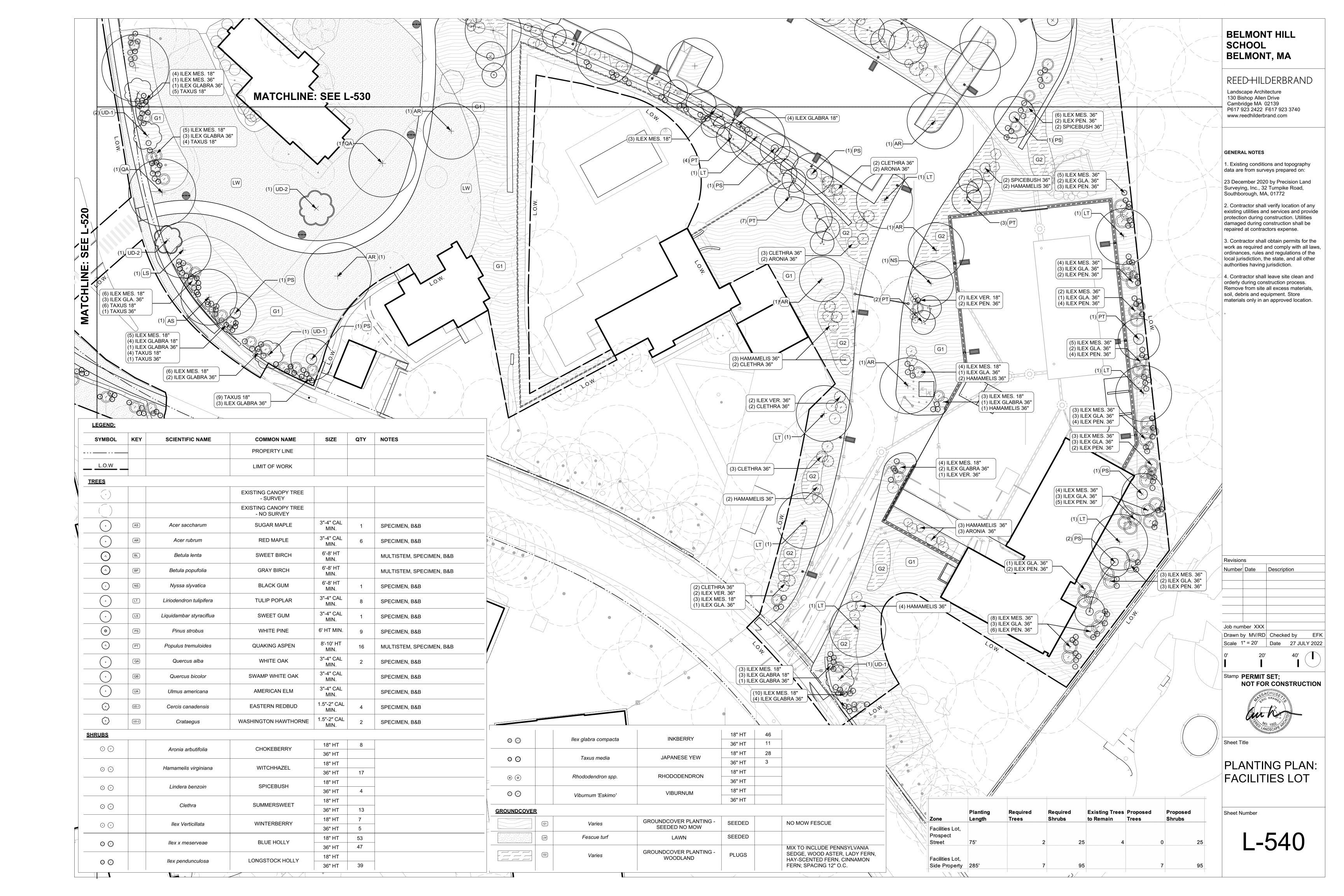


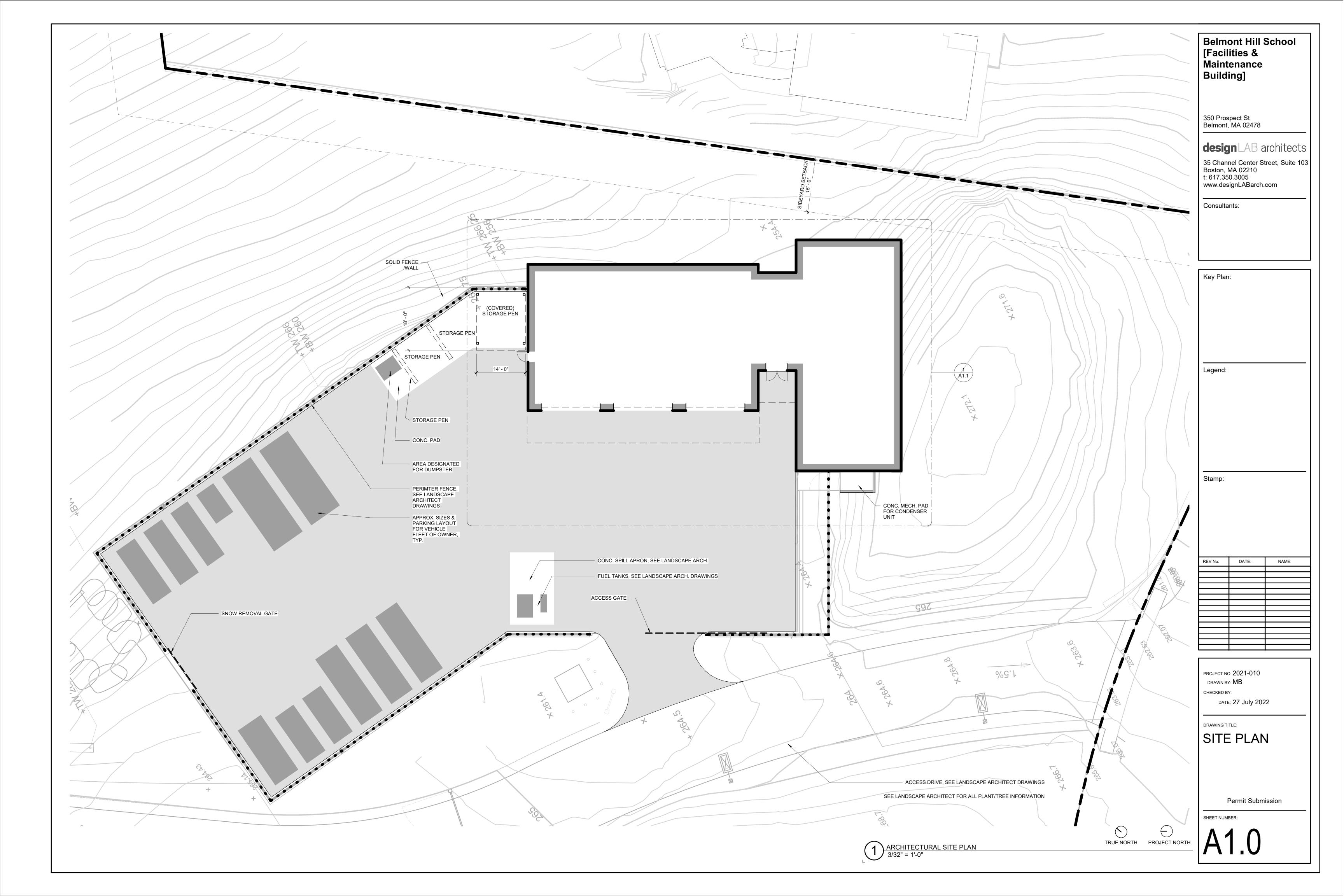


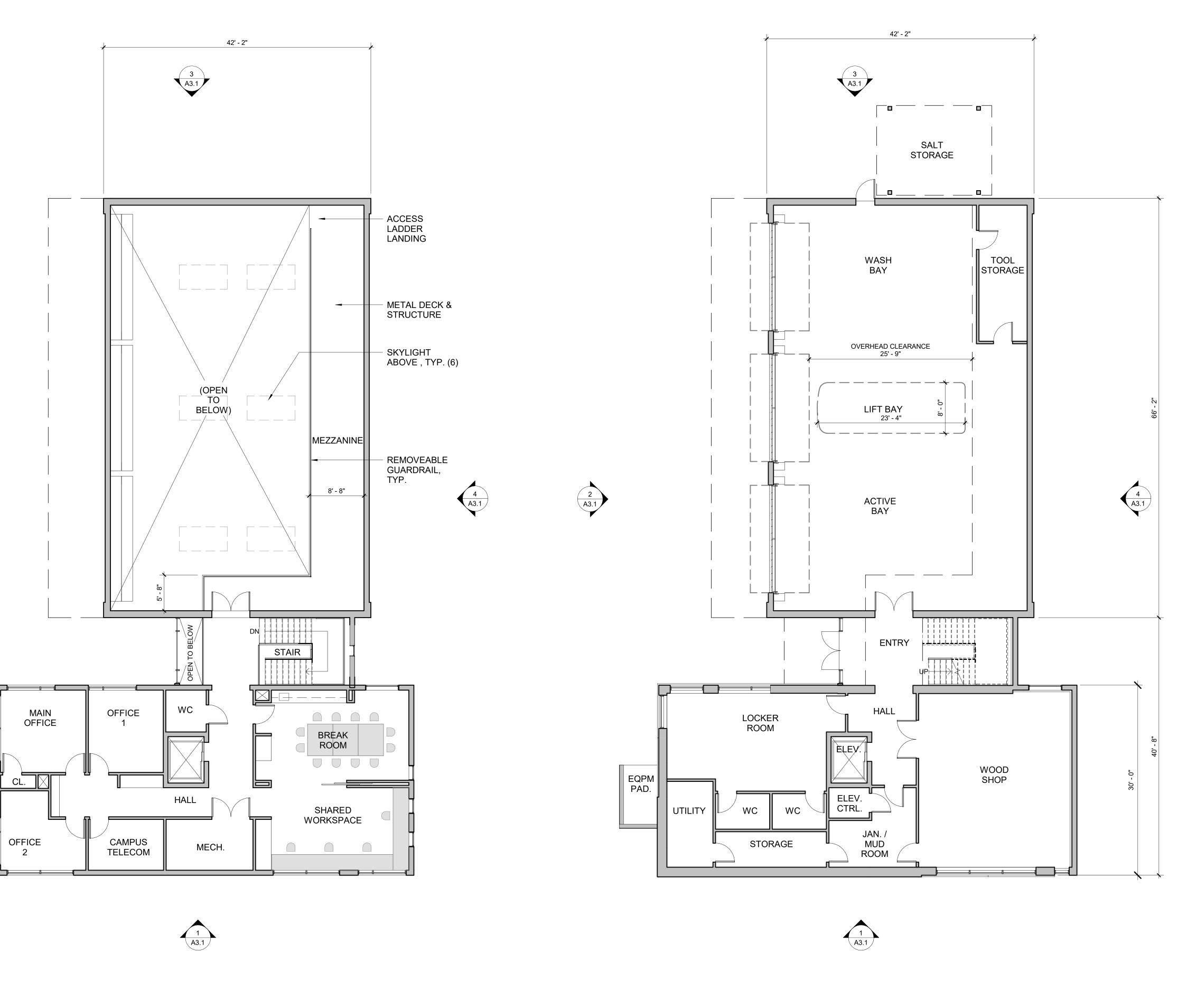












Belmont Hill School
[Facilities &
Maintenance
Building]

350 Prospect St Belmont, MA 02478

**design** LAB architects

35 Channel Center Street, Suite 103 Boston, MA 02210 t: 617.350.3005 www.designLABarch.com

Consultants:

Key Plan:

Legend:

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REV No: DATE: NAME:

СНІ

CHECKED BY: MAU

DATE: 27 July 2022

PROJECT NO: 2021-010

DRAWN BY: MB

DRAWING TITLE:

FLOOR PLANS

Permit Submission

SHEET NUMBER:

A1.1

GENERAL NOTES:

PERIMETER WALLS @ GARAGE:
 A. FIELD STONE ON MASONRY CLIPS OVER 8" CMU @

GABLE ENDS

B. SIDING ON BATTENS OVER 8" CMU

2. PERIMTER WALLS @ OFFICE WING:

A. SIDING ON GIRTS W/ CONTINUOUS ROCK WOOL

INSULATION OVER WOOD STUD FRAMED WALL W/

PROJECT NORTH

INSULATION OVER WOOD STUD FRAMED WALL W/
CAVITY INSULATION

B. FIELD STONE ON MASONRY CLIPS ON GIRTS W/
CONTINUOUS ROCK WOOL INSULATION OVER:
a. WOOD STUD FRAMED WALL W/ CAVITY

INSULATION
b. CAST IN PLACE CONC. PER STRUCTURAL
3. SUB GRADE WALLS ABOVE FINISH FLOOR: 2"
CONTINUOUS ROCK WOOL INSULATION OVER CAS

SUB GRADE WALLS ABOVE FINISH FLOOR: 2"
 CONTINUOUS ROCK WOOL INSULATION OVER CAST IN
 PLACE CONC. PER STRUCTURAL
 ROOF @ GARAGE: PRE FINISHED STANDING SEAM

WOOD TRUSSES

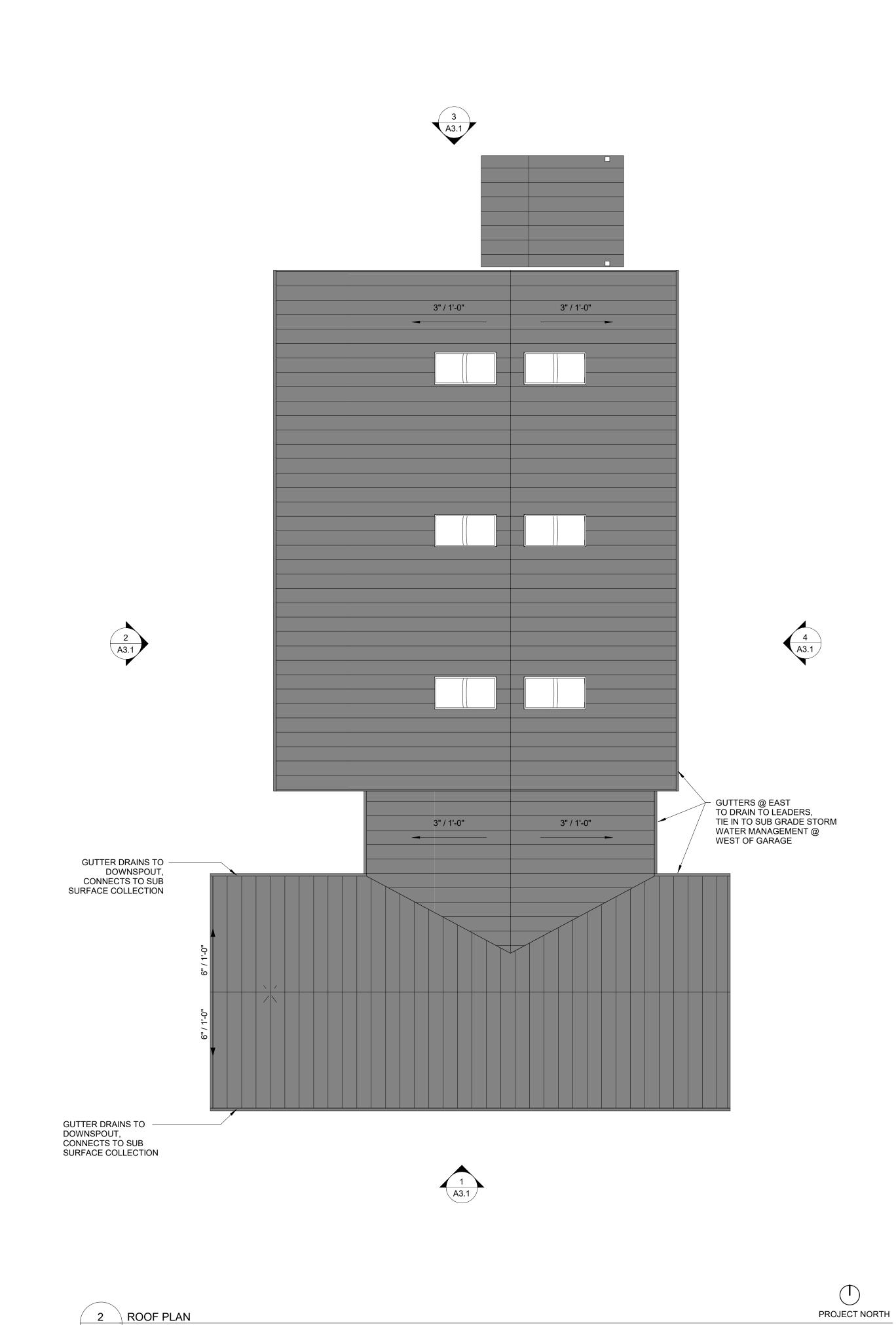
5. ROOF @ OFFICE: PRE FINISHED STANDING SEAM
METAL ROOF OVER WOOD DECK ON PREFABRICATED
WOOD TRUSSES W/ INSULTATION IN ATTIC
A. SCISSOR TRUSSES ABOVE SLOPED CEILING

SPACES AT BREAK ROOM & SHARED WORK.

METAL ROOF OVER WOOD DECK ON PREFABRICATED

2 LEVEL 2 PLAN
1/8" = 1'-0"

1 LEVEL 1 PLAN 1/8" = 1'-0"



A1.2  $\int 1/8" = 1'-0"$  REFERRED FROM: A3.1

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Stamp:

DATE:

## **GENERAL NOTES:**

- PERIMETER WALLS @ GARAGE:
   A. FIELD STONE ON MASONRY CLIPS OVER 8" CMU @
- GABLE ENDS

  B. SIDING ON BATTENS OVER 8" CMU
- 2. PERIMTER WALLS @ OFFICE WING:

  A. SIDING ON GIRTS W/ CONTINUOUS ROCK WOOL

  INSULATION OVER WOOD STUD FRAMED WALL W/
- CAVITY INSULATION

  B. FIELD STONE ON MASONRY CLIPS ON GIRTS W/
- CONTINUOUS ROCK WOOL INSULATION OVER:

  a. WOOD STUD FRAMED WALL W/ CAVITY INSULATION
- b. CAST IN PLACE CONC. PER STRUCTURAL3. SUB GRADE WALLS ABOVE FINISH FLOOR: 2" CONTINUOUS ROCK WOOL INSULATION OVER CAST IN
- PLACE CONC. PER STRUCTURAL

  4. ROOF @ GARAGE: PRE FINISHED STANDING SEAM
  METAL ROOF OVER WOOD DECK ON PREFABRICATED WOOD TRUSSES

  5. ROOF @ OFFICE: PRE FINISHED STANDING SEAM
- METAL ROOF OVER WOOD DECK ON PREFABRICATED WOOD TRUSSES W/ INSULTATION IN ATTIC A. SCISSOR TRUSSES ABOVE SLOPED CEILING SPACES AT BREAK ROOM & SHARED WORK.

DRAWN BY: Author снескед ву: Checker

PROJECT NO: 2021-010

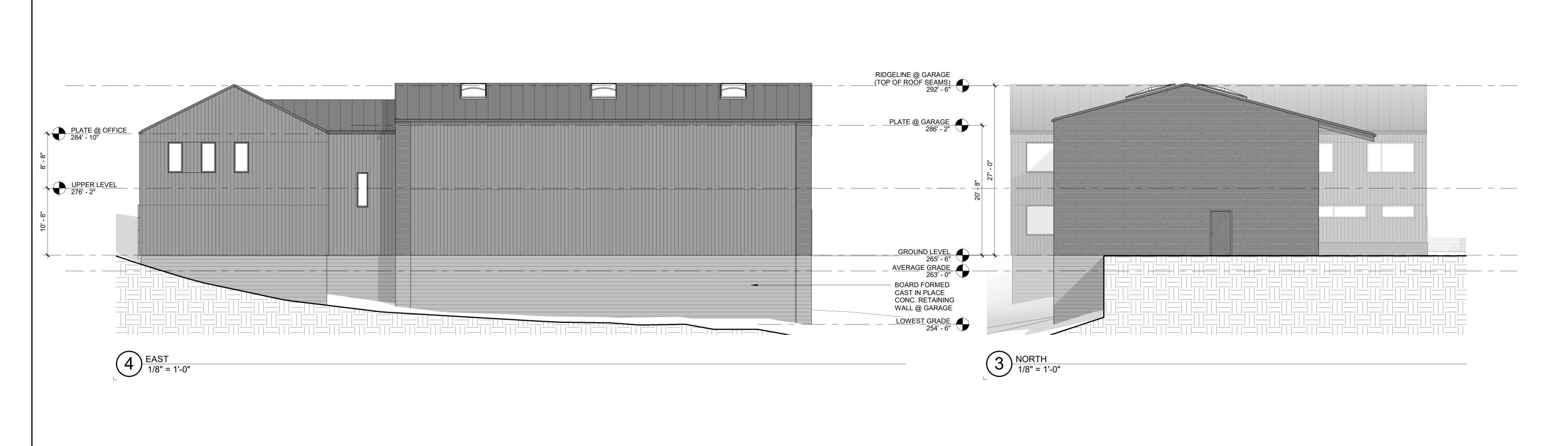
DATE: 27 July 2022

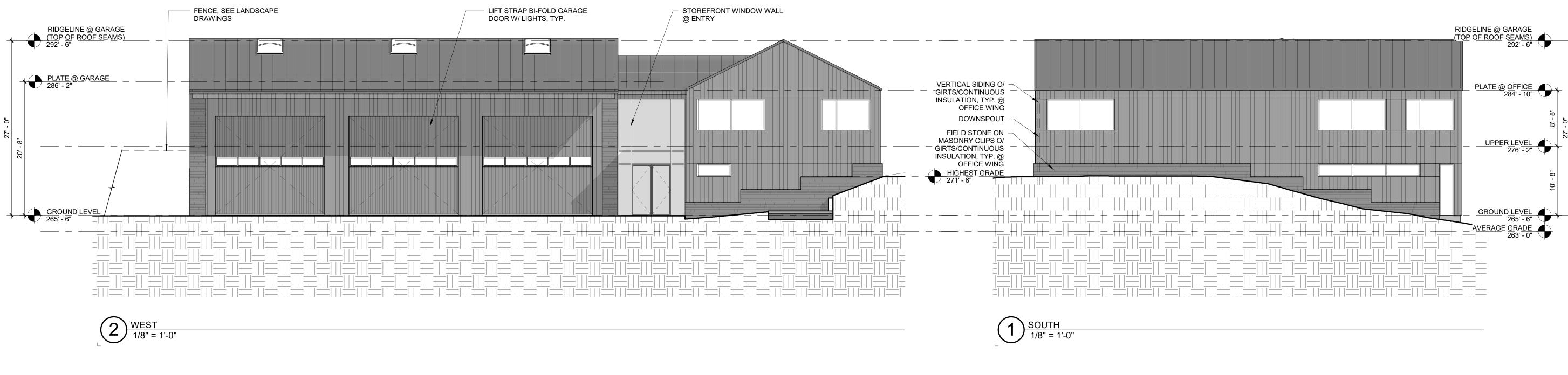
DRAWING TITLE:

ROOF PLAN

Permit Submission

SHEET NUMBER:





## GENERAL NOTES:

- PERIMETER WALLS @ GARAGE:
   A. FIELD STONE ON MASONRY CLIPS OVER 8" CMU @ GABLE ENDS
- B. SIDING ON BATTENS OVER 8" CMU
  2. PERIMTER WALLS @ OFFICE WING:
  A. SIDING ON GIRTS W/ CONTINUOUS ROCK WOOL INSULATION OVER WOOD STUD FRAMED WALL W/ CAVITY INSULATION
- B. FIELD STONE ON MASONRY CLIPS ON GIRTS W/
  CONTINUOUS ROCK WOOL INSULATION OVER:
  a. WOOD STUD FRAMED WALL W/ CAVITY
  INSULATION
- b. CAST IN PLACE CONC. PER STRUCTURAL
   3. SUB GRADE WALLS ABOVE FINISH FLOOR: 2"
   CONTINUOUS ROCK WOOL INSULATION OVER CAST IN PLACE CONC. PER STRUCTURAL
- PLACE CONC. PER STRUCTURAL

  4. ROOF @ GARAGE: PRE FINISHED STANDING SEAM
  METAL ROOF OVER WOOD DECK ON PREFABRICATED
  WOOD TRUSSES
- 5. ROOF @ OFFICE: PRE FINISHED STANDING SEAM
  METAL ROOF OVER WOOD DECK ON PREFABRICATED
  WOOD TRUSSES W/ INSULTATION IN ATTIC
  A. SCISSOR TRUSSES ABOVE SLOPED CEILING
  SPACES AT BREAK ROOM & SHARED WORK.

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DRAWING TITLE:

EXTERIOR ELEVATIONS

Permit Submission

SHEET NUMBER:

A3.1