SITE PLAN FOR PARKING LOT EXPANSION 120 CONSTITUTION BLVD FRANKLIN, MA.

GENERAL NOTES:

- 1. EXISTING PROPERTY LINE AND UTILITY INFORMATION SHOWN IS BASED ON AN EXISTING SURVEY CONDUCTED BY WSP, INC DATED JULY 22, 2021
- 2. THE ACCURACY AND COMPLETENESS OF THE UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, SIZE, TYPE, ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY BY THE WORK. AT LEAST 72 HOURS BEFORE EXCAVATION, THE CONTRACTOR SHALL BE REQUIRED TO CONTACT DIGSAFE AT 1-888-344-7233.
- 3. THE CONTRACTOR SHALL FIELD VERIFY CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
- 4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE APPROPRIATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION
- 5. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN, PRIOR TO EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION OR REPAVING.
- 6. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED, REMOVED AND DISPOSED.
- 7. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL PROJECT LIMITS.

SHEET INDEX

- SHEET C.1 TITLE SHEET
- DEMOLITION PLAN
- LAYOUT AND MATERIALS PLAN
- GRADING, DRAINAGE AND UTILITY SHEET
- LANDSCAPE PLAN
- LIGHTING PLAN
- DETAIL SHEET 1 OF 4
- DETAIL SHEET 2 OF 4
- SHEET C.9 DETAIL SHEET 3 OF 4 SHEET C.10 DETAIL SHEET 4 OF 4

EXISTING CONDITIONS PLAN

LEGEND

DECIDUOUS TREE

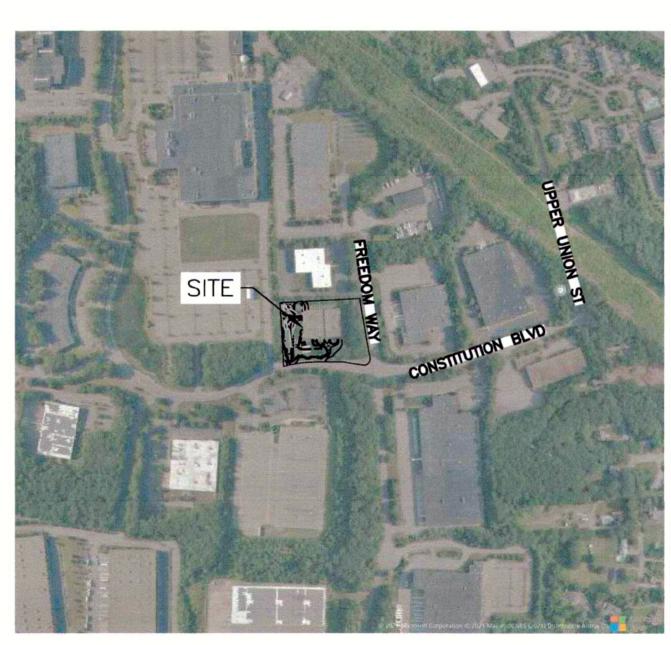
CONIFER TREE

हिन्दे SHRUB

©	DRILL HOLE FOUND	-	SIGN (SINGLE POSTED)		ABUTTERS LOT LINE
0	IRON PIPE FOUND	00	- SIGN (DOUBLE POSTED)		PROPERTY LINE
	ROUND CATCH BASIN	0	POST		EASEMENT
4	CULVERT	•	MONITORING WELL		CHAIN LINK FENCE
•	DRAIN MANHOLE	0	BOLLARD	-0-0-0-0-0-0-0-	METAL FENCE
•	NO LABEL MANHOLE	ಕ್ರಿ	HANDICAP PARKING	$\cdot \infty \times $	STONE WALL
S	SEWER MANHOLE	-	- WATER LINE MARKER	$\cdots \cdots \cdots$	TREE LINE
E	ELECTRIC METER	0	VENT	— — —191 — — —	INTERMEDIATE CONTOURS
G	GAS METER	BMK	BENCHMARK	192	INDEX CONTOURS
H	GAS VALVE	вомо	BOLT OVER MAIN OUTLET	s	SEWER LINE
M	WATER GATE	EOP	EDGE OF PAVEMENT	D	DRAIN LINE
P	FIRE HYDRANT	ВС	BITUMINOUS CURB		WATER LINE
۰	GUY WIRE	FFE	FINISHED FLOOR ELEVATION	G	GAS LINE
Ø	UTILITY POLE WITH RISER	SRW	STONE RETAINING WALL	OHW	OVERHEAD WIRES
- 0-	UTILITY POLE	CRW	CONCRETE RETAINING WALL	w(R)	RECORD WATER LINE
-6	UTILITY POLE WITH LIGHT AND RISER	PVC	POLYVINYL CHLORIDE	E(R)	RECORD UNDERGROUND EL

- SIGN (SINGLE POSTED)

NPV NO PIPES VISIBLE



PROJECT TEAM:

OWNER LRF2 BOS CONSTITUTION BLVD, LLC 50 TICE BOULEVARD - SUITE A28 WOODCLIFF LAKE, NJ 07677

APPLICANT ahp ARCHITECHS, INC THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL, MA 01852

SURVEYOR WSP USA, INC

9 EXECUTIVE PARK DRIVE SUITE 101 MERRIMACK, NH 03054

WETLAND SCIENTIST
WILLIAMS AND SPARAGES 189 NORTH MAIN STREET MIDDLETON, MA 01949

<u>OWNER</u>

LRF2 BOS CONSTITUTION BLVD, LLC 50 TICE BOULEVARD - SUITE A28 WOODCLIFF LAKE, NJ 07677

ASSESSORS INFORMATION

ASSESSORS MAP 319 LOT 16

REFERENCES

1. EXISTING CONDITIONS SURVEY BY WSP, LLC DATED JULY 22, 2021

ZONING REQUIREMENTS

THE BUILDING FOOTPRINT IS TO REMAIN UNCHANGED, THE SITE PLAN IS FOR THE CONSTRUCTION OF ADDITIONAL PARKING ON THE PARCEL.

PARKING REQUIREMENTS

INDUSTRIAL ESTABLISHMENT

1 SPACE PER 400 SF GROSS FLOOR AREA

GROSS FLOOR AREA = 29,886 SF X 1 SP/400 SF = 75 SPACES REQUIRED EXISTING SPACES = 23 SPACES

PROPOSED SPACES CONSTRUCTION/RESTRIPING = 50 SPACES *SEE WAIVER 1

SITE PLAN WAIVERS REQUIRED

1. PER ARTICLE V SPECIAL REGULATIONS, 185-21, B(3)(b)(i) INDUSTRIAL PARKING SCHEDULE REQUIREMENTS OF 1 SPACE PER 400 SQUARE FEET OF GROSS FLOOR

APPROVAL UNDER SITE PLAN REQUIRE BY FRANKLIN

DATE:

PLANNING BOARD

BEING A MAJORITY



HOWARD STEIN HUDSON

114 Turnpike Road, Suite 2C Chelmsford, MA 01824 www.hshassoc.com

50 TICE BOULEVARD - SUITE A28 WOODCLIFF LAKE, NJ 07677

THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL, MA 01852

REVISIONS: NO BY DATE DESCRIPTION

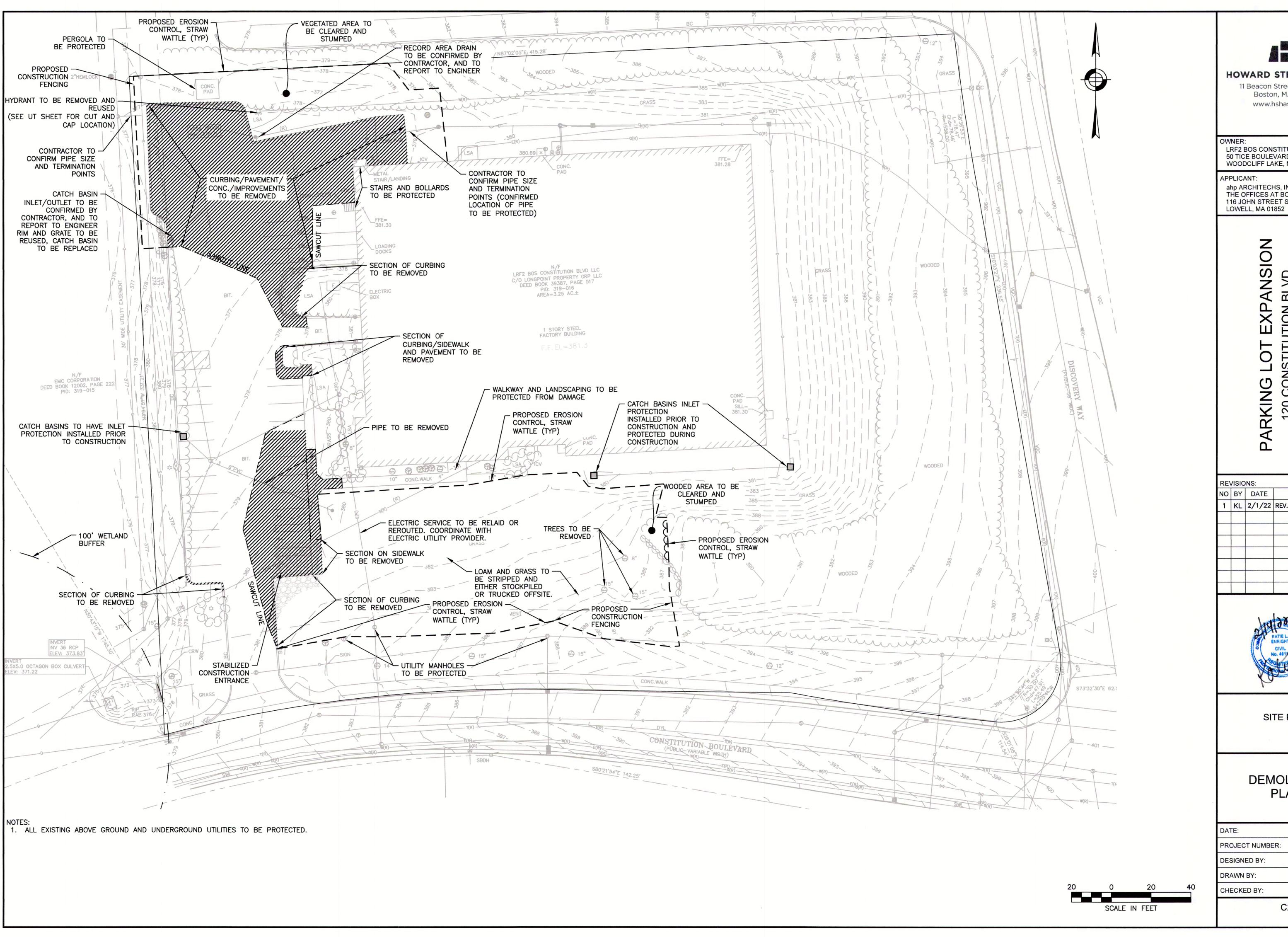
	1		
1	KL	2/1/22	REV. PARKING LAYOUT



SITE PLAN

COVER SHEET

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	SHEET 1 OF 10



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ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115

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SITE PLAN

DEMOLITION PLAN

DATE:	08/20/21
PROJECT NUMBER:	21123
DESIGNED BY:	KL
DRAWN BY:	KL
CHECKED BY:	KE
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	SHEET 2 OF 10





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ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL, MA 01852

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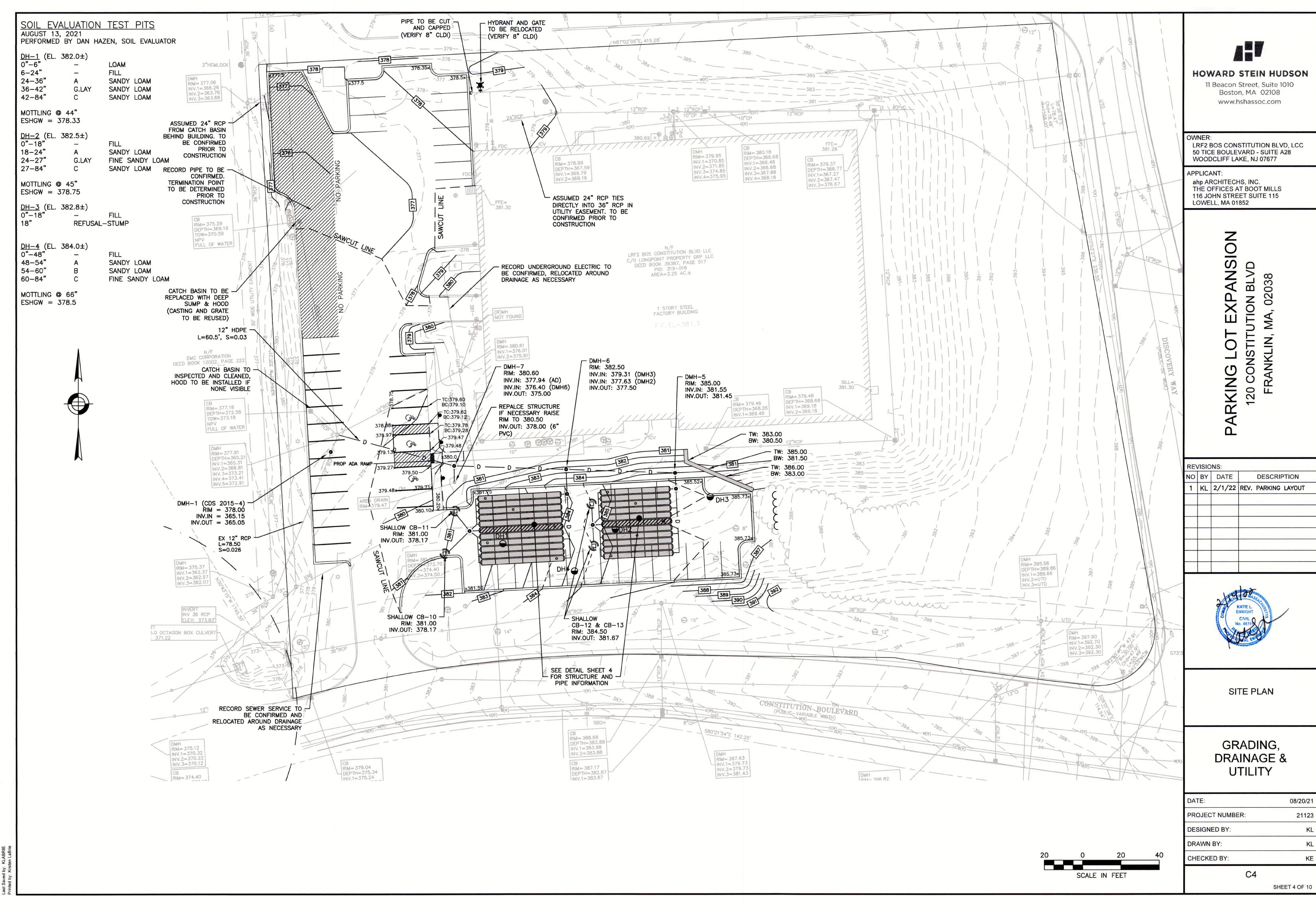
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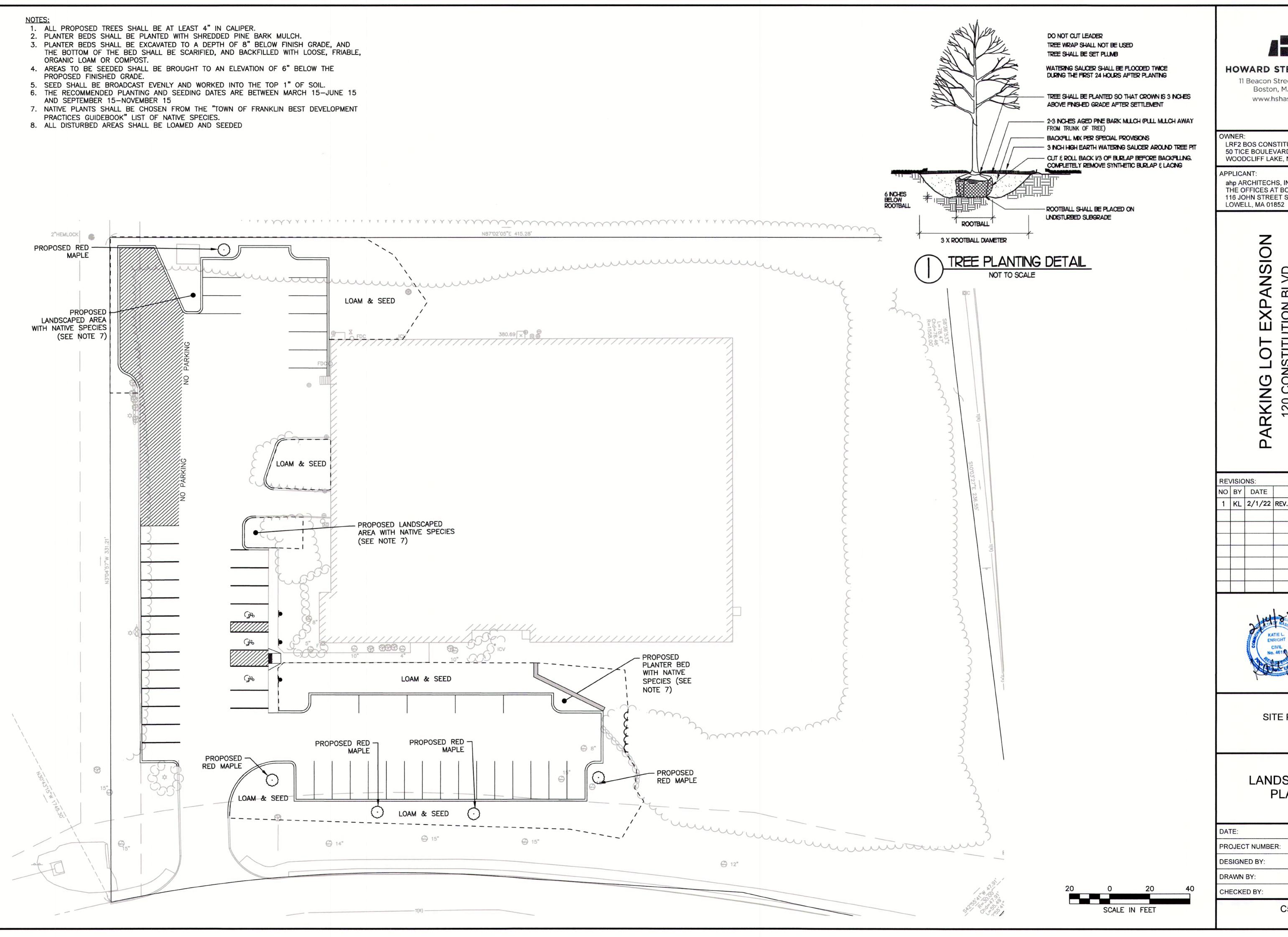
SITE PLAN

LAYOUT & MATERIALS PLAN

DATE:	08/20/21	
PROJECT NUMBER:	21123	
DESIGNED BY:	KL	
DRAWN BY:	KL	
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	SHEET 3 OF 10	



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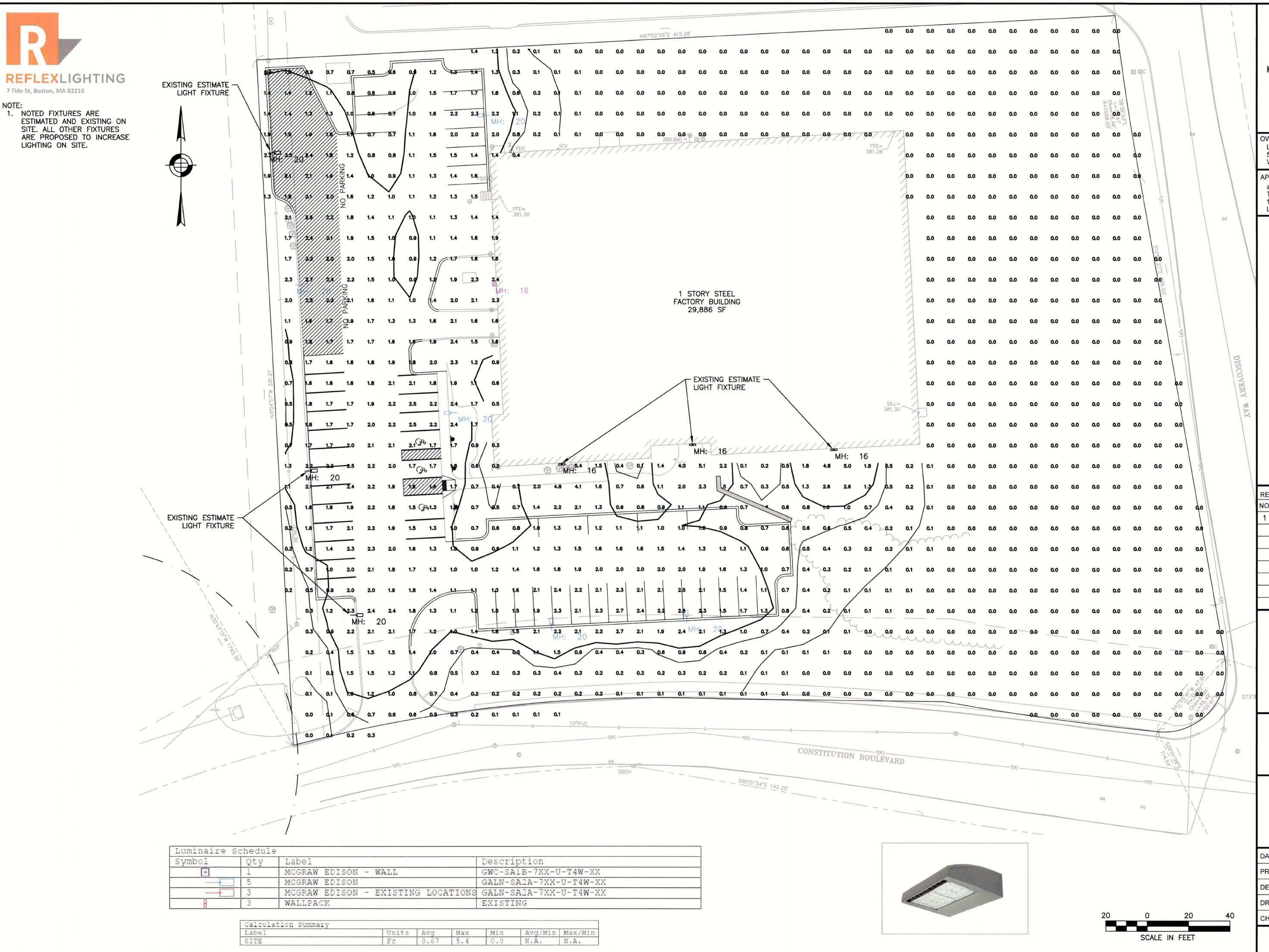
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SITE PLAN

LANDSCAPE PLAN

ATE:	08/20/21	
ROJECT NUMBER:	21123	
ESIGNED BY:	KL	
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	SHEET 5 OF 10	



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APPLICANT:

ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115

LOWELL, MA 01852

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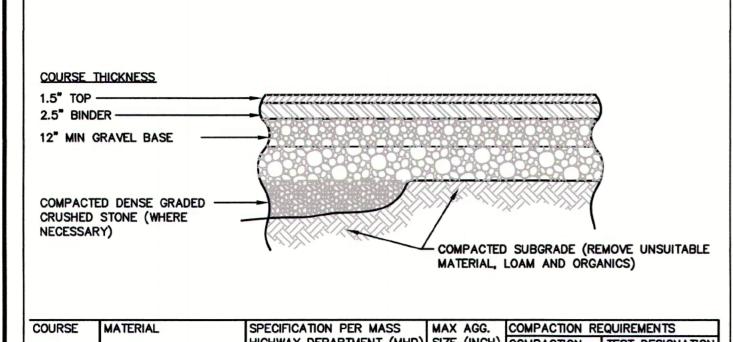
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SITE PLAN

LIGHTING PLAN

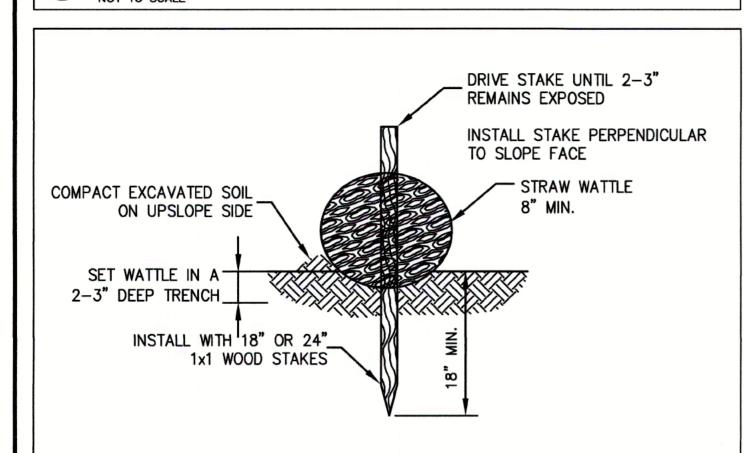
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	SHEET 6 OF 8	



COURSE	MATERIAL			COMPACTION RE	QUIREMENTS
	17-00	HIGHWAY DEPARTMENT (MHD)	SIZE (INCH)	COMPACTION	TEST DESIGNATION
TOP	BITUMINOUS CONCRETE	M3.11.03 CLASS I, TYPE I-1	3/4	[NOTE 1]	AASHTO-T166
BINDER	BITUMINOUS CONCRETE	M3.11.03 CLASS I, TYPE I-1	3/4	[NOTE 1]	AASHTO-T166
BASE	GRAVEL BORROW	M1.03.0 TYPE C		95% [NOTE 3]	
SUBBASE		M1.03.0 TYPE B		95% [NOTE 3]	
SUBGRADE	ORDINARY BORROW	M1.01.0 [SEE NOTE 2]	8	95% [NOTE 3]	AASHTO-T99

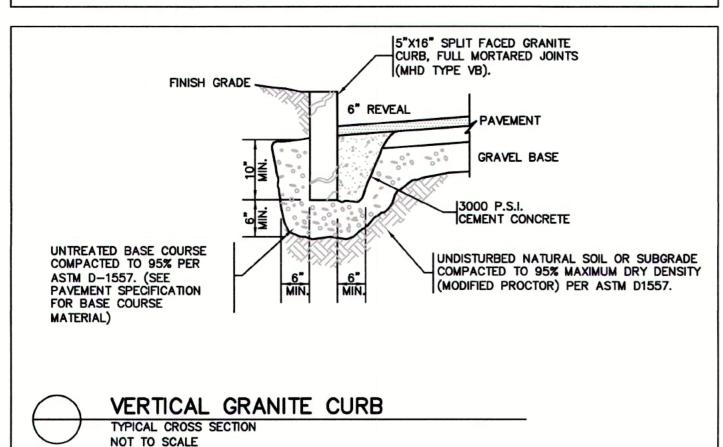
1] COMPACT TO TEST AVERAGE OF 95%; TEST SHALL NOT BE LOWER THAN 93%. 2 UNSUITABLE MATERIAL IN THE SUBGRADE SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SUBSTITUTE MATERIAL: 3/4" MINUS DENSE GRADED CRUSHED STONE. [3] MATERIAL SHALL BE SPREAD AND COMPACTED IN LAYERS NOT EXCEEDING 8-INCHES IN DEPTH, COMPACTED MEASUREMENT; LAST LAYER OF MATERIAL SHALL NOT EXCEED 4-INCHES IN DEPTH, COMPACTED MEASUREMENT.

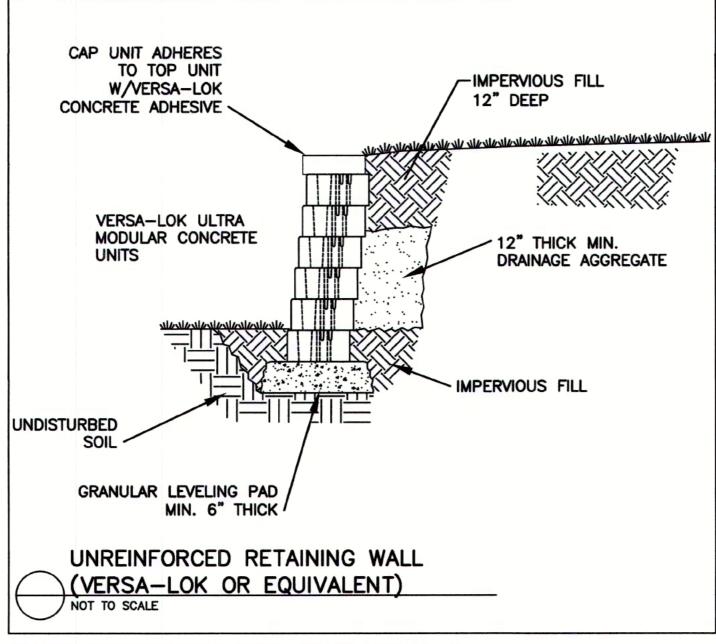
BITUMINOUS CONCRETE PAVEMENT TYPICAL CROSS SECTION NOT TO SCALE

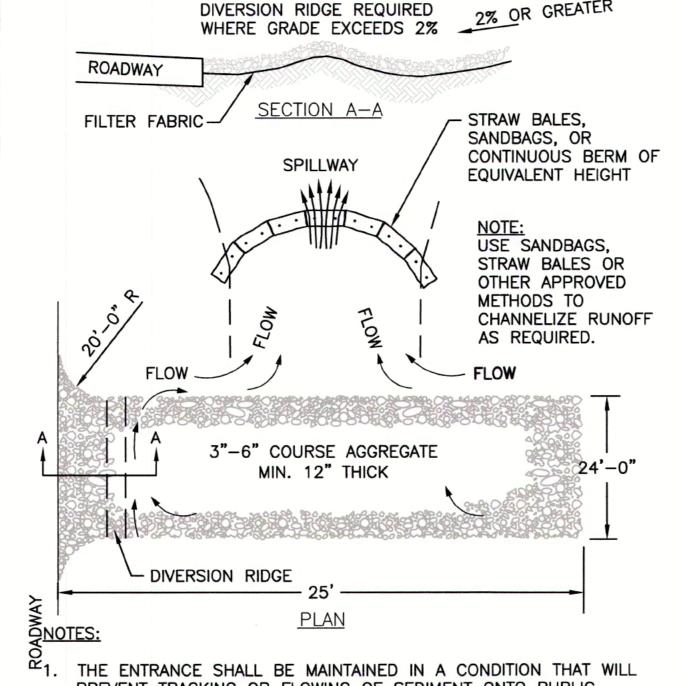


- 1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3"(5-7.5 CM) DEEP X 9"(22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
- PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
- 3. SECURE THE WATTLE WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 - 1.2 M) AND WITH A STAKE ON EACH END. (STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.
- STRAW WATTLE MATERIAL SHALL BE FREE OF STRAW AND ENCASED IN EITHER JUTE, NYLON, OR OTHER PHOTO DEGRADABLE MATERIAL.







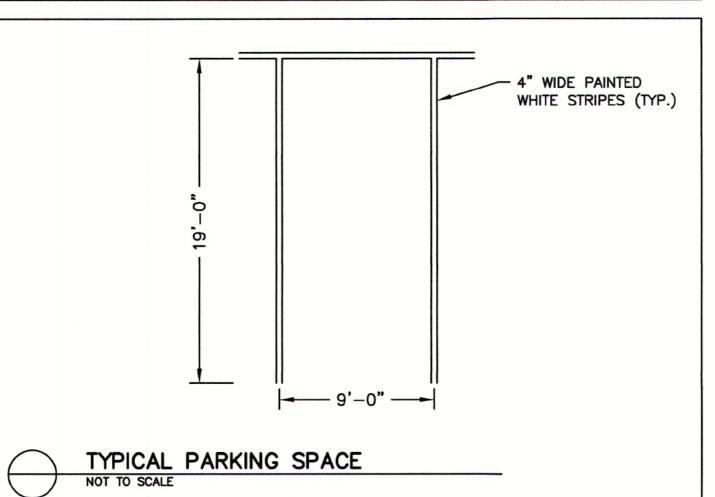


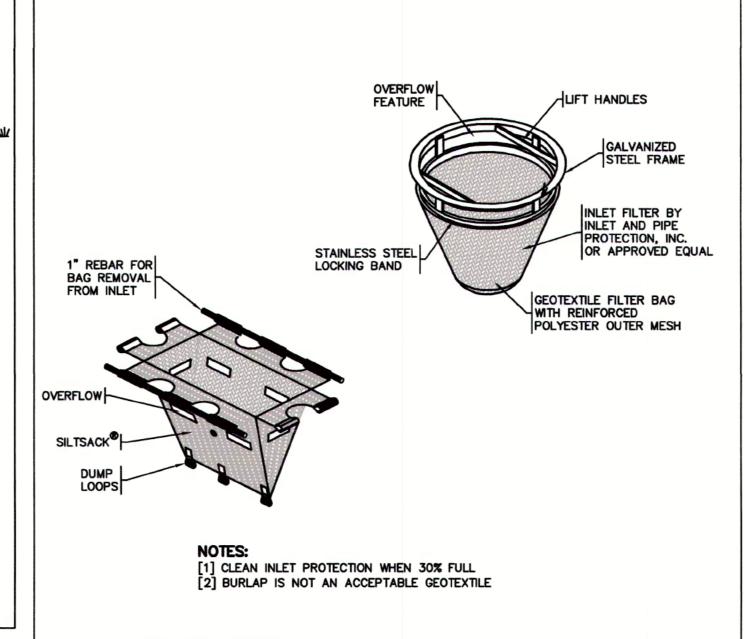
PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

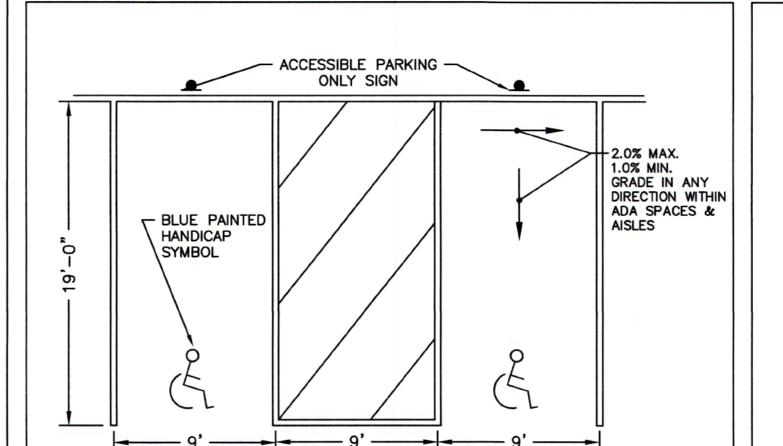
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. 3. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE APPLIED WHERE NECESSARY TO KEEP PUBLIC WAYS FREE OF SEDIMENT

STABILIZED CONSTRUCTION ENTRANCE TYPICAL CROSS SECTION NOT TO SCALE

INCLUDING STAGING AREAS







TYPICAL HANDICAP PARKING SPACE TYPICAL CROSS SECTION NOT TO SCALE

TRENCH DETAIL - DRAINAGE

NOT TO SCALE

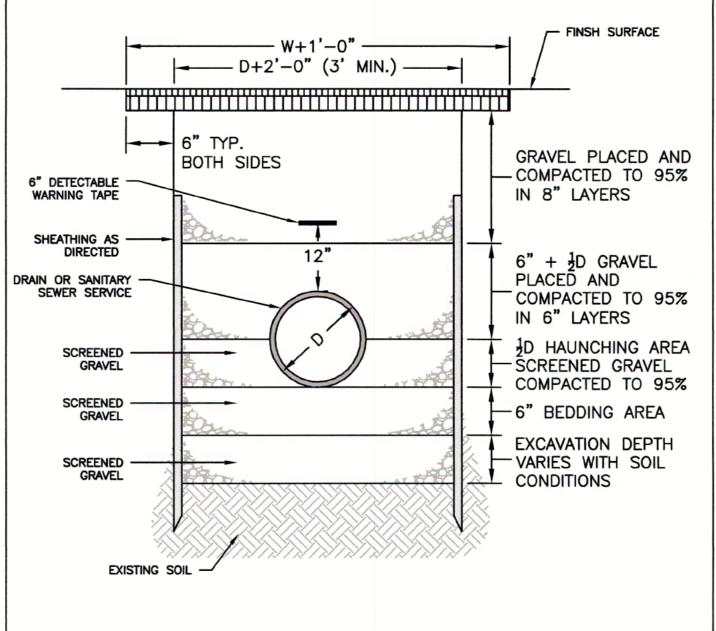
* GRADING WITHIN THE HANDICAP PARKING SPACE

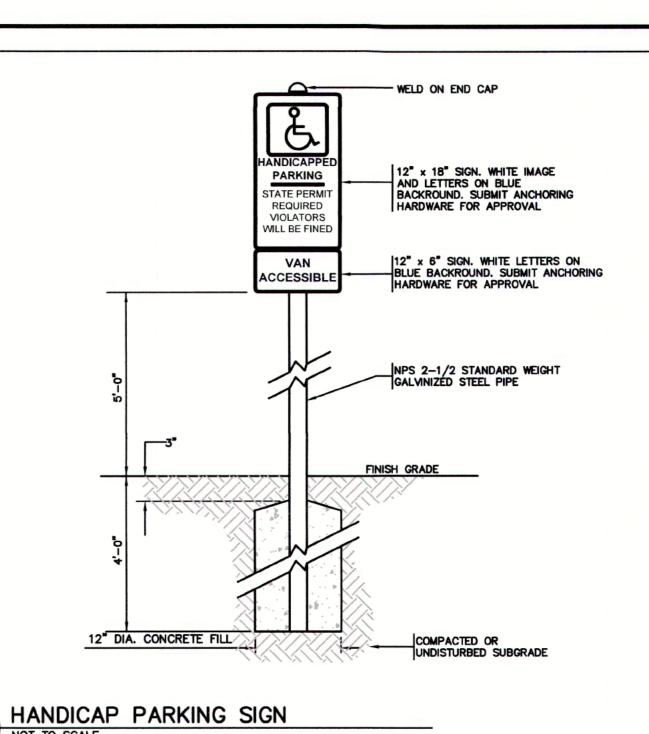
SHALL NOT EXCEED 2.0% IN ANY DIRECTION.

INLET PROTECTION

TYPICAL CROSS SECTION

NOT TO SCALE





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APPLICANT:

ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL, MA 01852

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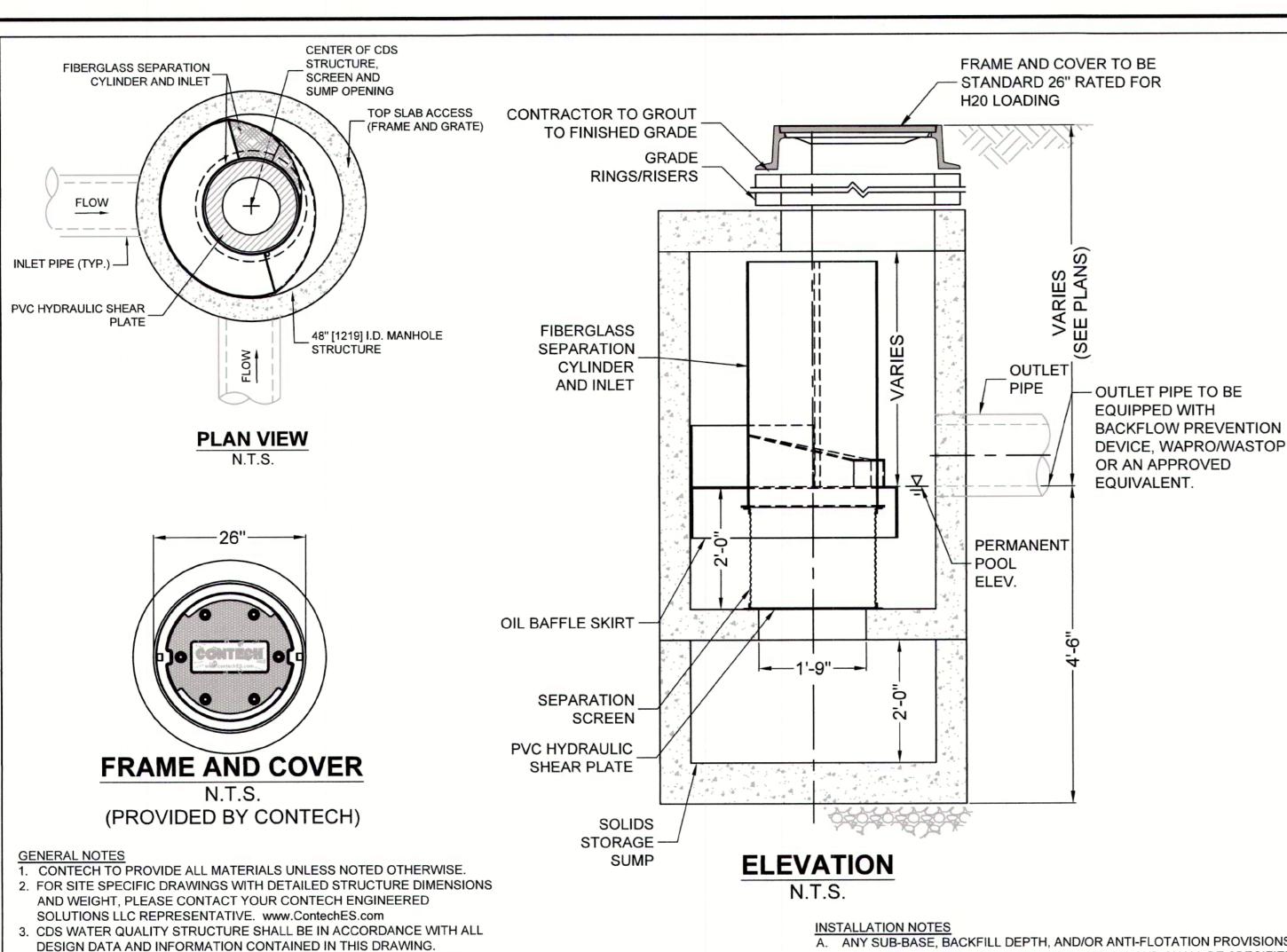
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SITE PLAN

DETAIL SHEET 1 OF 4

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	SHEET 7 OF 10



- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

DRAIN MANHOLE CONTECH CDS 2015-4 WATER QUALITY UNIT NOT TO SCALE

CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF

. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH

COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE

OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM

ACTUAL GROUNDWATER ELEVATION, CASTINGS SHALL MEET AASHTO

BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY

6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM

5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT

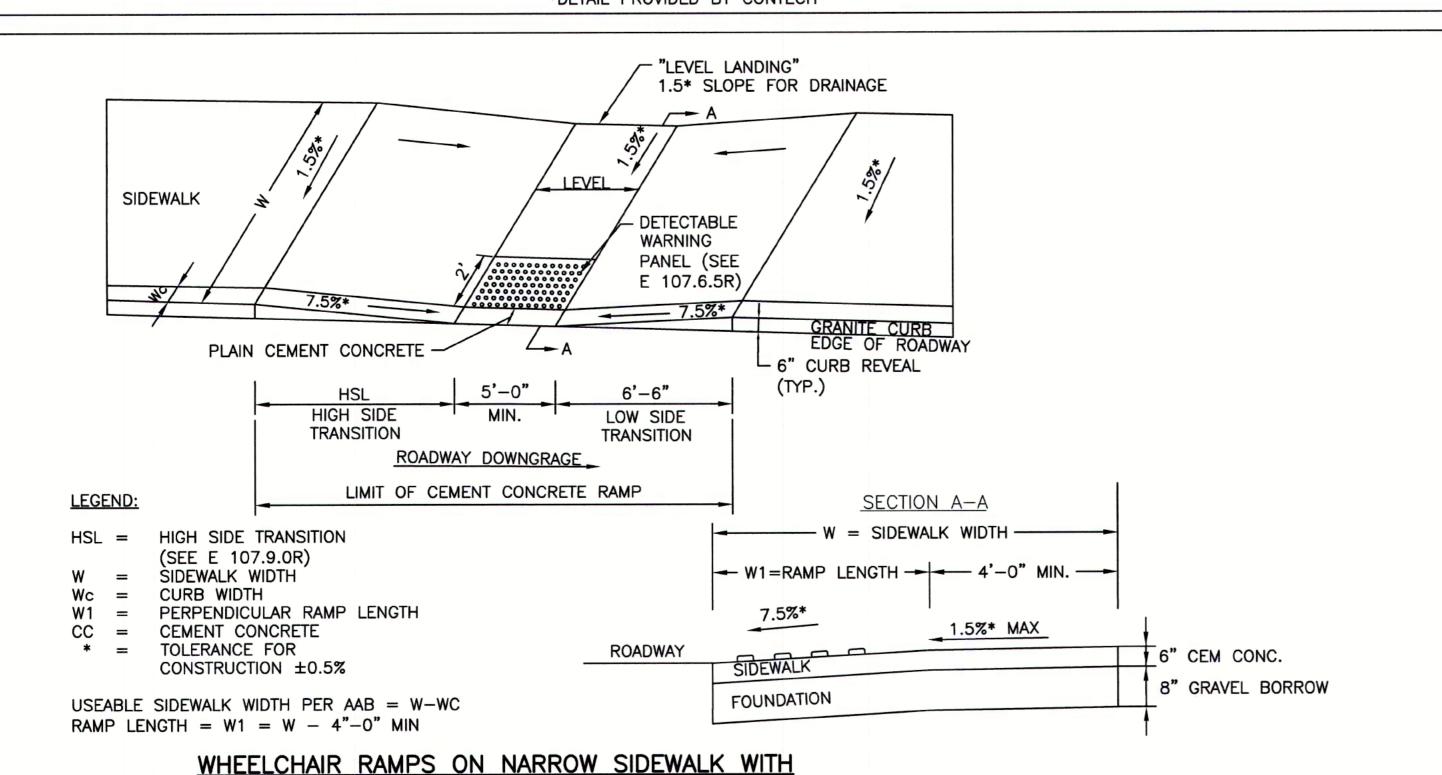
M306 AND BE CAST WITH THE CONTECH LOGO.

C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

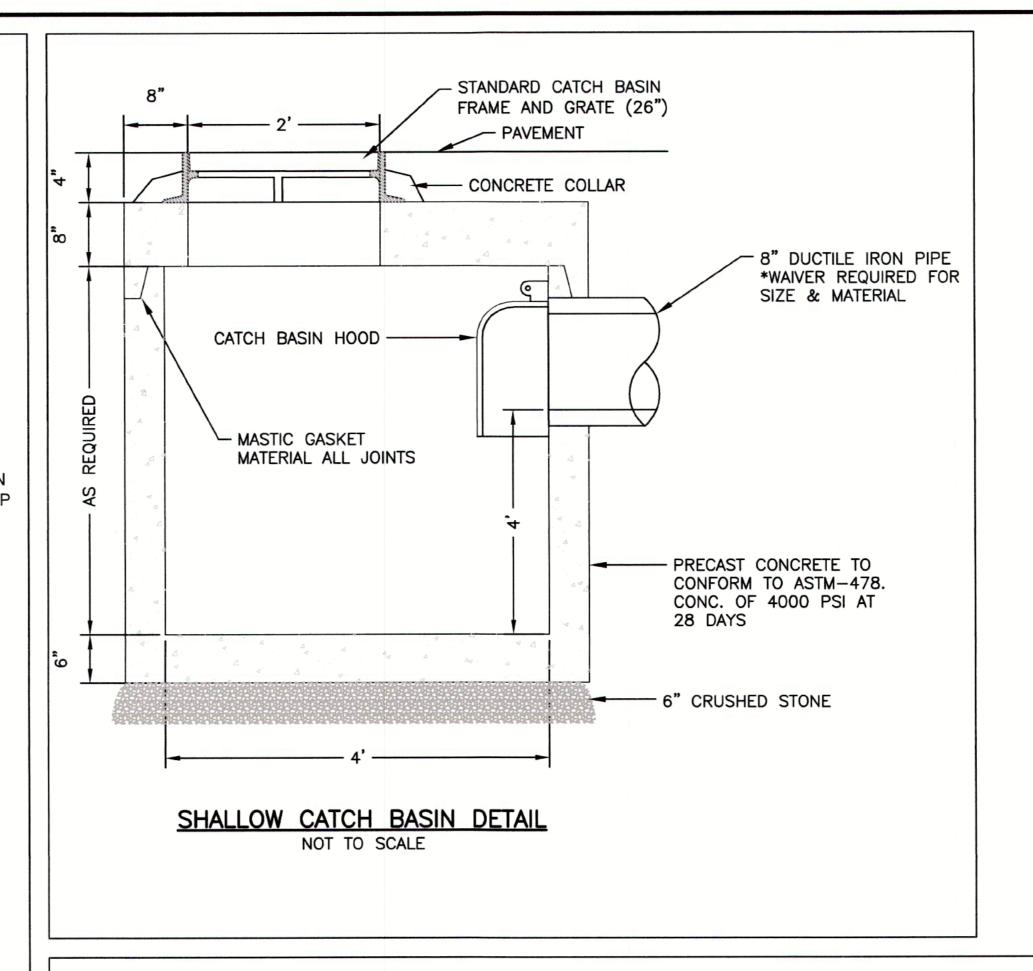
DURING MAINTENANCE CLEANING.

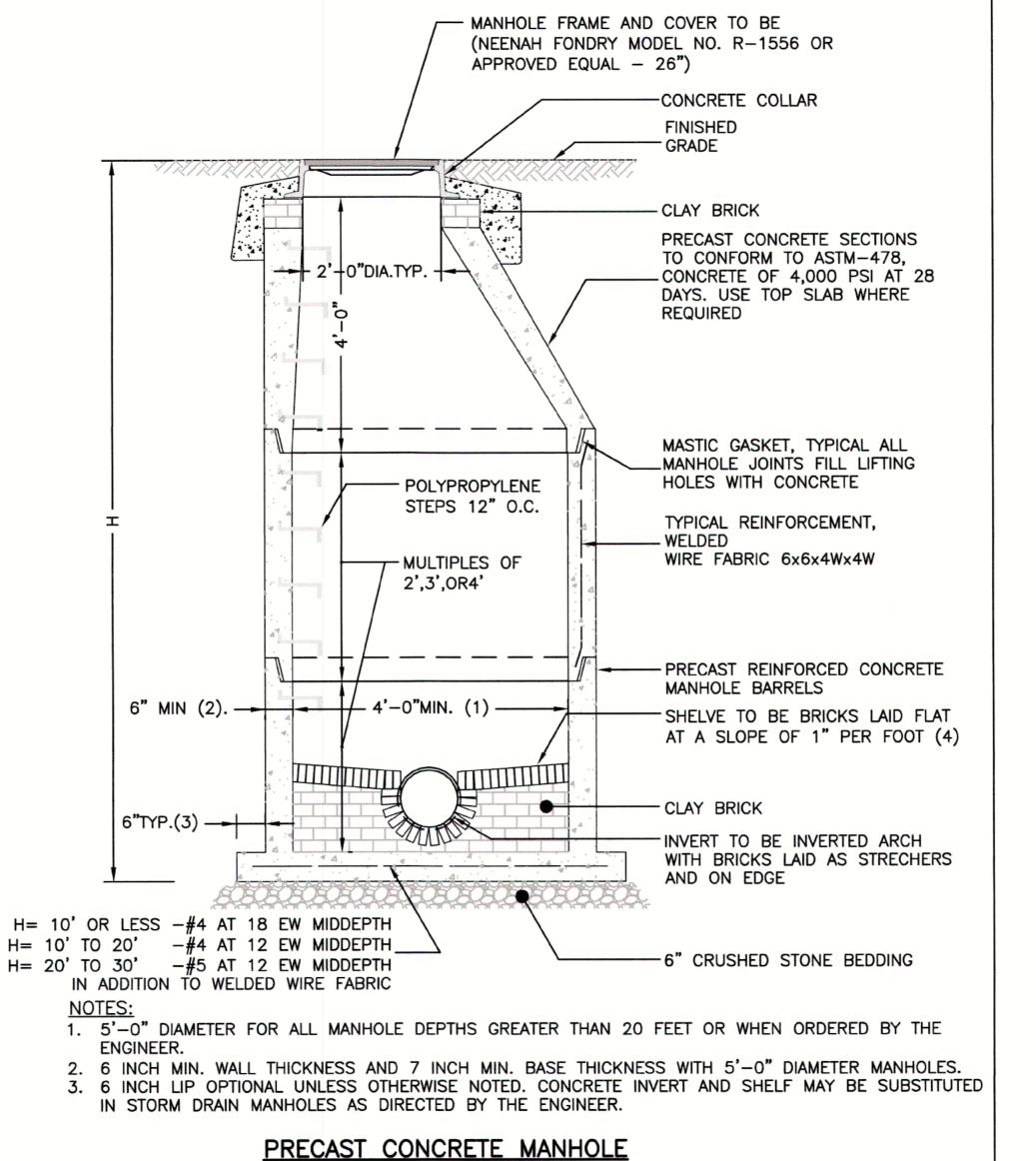
PROJECT.

*DETAIL PROVIDED BY CONTECH



DETECTABLE WARNING PANEL (E107.2.1R)
NOT TO SCALE





NOT TO SCALE

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APPLICANT:

ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL, MA 01852

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REVISIONS: NO BY DATE DESCRIPTION 1 KL 2/1/22 REV. PARKING LAYOUT

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SITE PLAN

DETAIL SHEET 2 OF 4

DATE: 08/20/21 PROJECT NUMBER: 21123 **DESIGNED BY:** DRAWN BY: CHECKED BY: C8 SHEET 8 OF 10





SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION
- 4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- 6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL. INTERLOCKING STACKING LUGS. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER
 - JOINT SHALL NOT BE LESS THAN 2". TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/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.
- 8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A
- STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY
- ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- 3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE
- STORMTECH RECOMMENDS 3 BACKFILL METHODS: STONESHOOTER LOCATED OFF THE CHAMBER BED.
- . BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE. BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- 7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2"
- 8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- 9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE

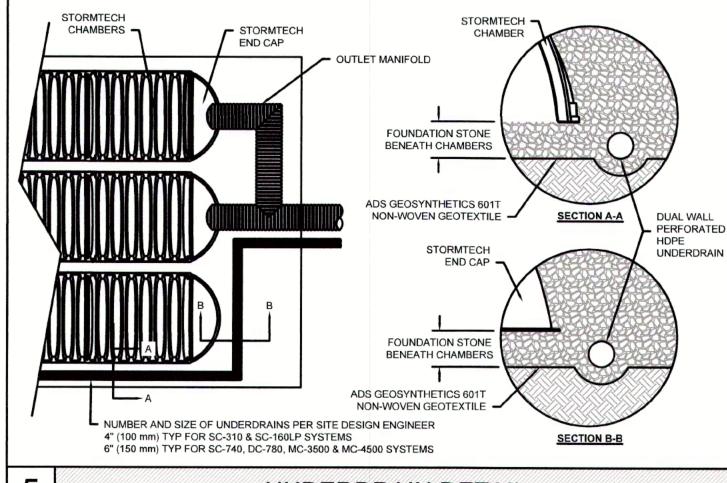
NOTES FOR CONSTRUCTION EQUIPMENT

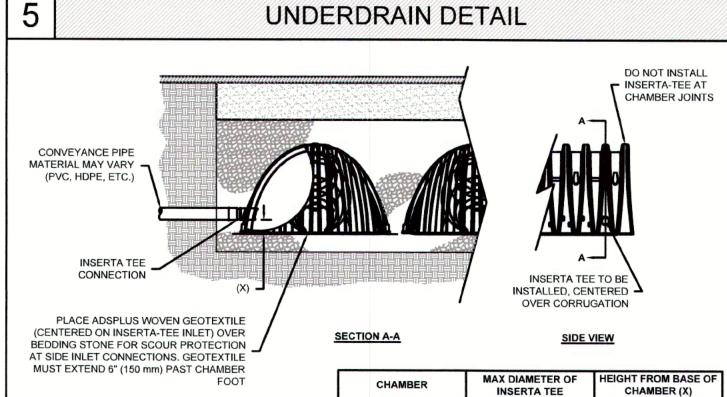
SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".

- 1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- 2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
- NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS. NO RUBBER TIRED LOADERS. DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL
- DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE" WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP

AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY. CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.





INSTERMENT ONNECTIONS. GEOTEXTILE				
IUST EXTEND 6" (150 mm) PAST CHAMBER FOOT	CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)	
[SC-310	6" (150 mm)	4" (100 mm)	
[SC-740	10" (250 mm)	4" (100 mm)	
	DC-780	10" (250 mm)	4" (100 mm)	
	MC-3500	12" (300 mm)	6" (150 mm)	
' <u>E:</u>	MC-4500	12" (300 mm)	8" (200 mm)	
T NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. ITACT STORMTECH FOR MORE INFORMATION.		NGS AVAILABLE FOR SDR : NT WELD, N-12, HP STORM,		
T NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.	DC-780 MC-3500 MC-4500 INSERTA TEE FITTII	10" (250 mm) 12" (300 mm) 12" (300 mm) NGS AVAILABLE FOR SDR	26, SDR 3	

INSERTA-TEE SIDE INLET DETAIL

BUILD ROW IN THIS DIRECTION OVERLAP NEXT CHAMBER HERE (OVER SMALL CORRUGATION) (251 mm) 34.0" X 16.0" X 85.4" (864 mm X 406 mm X 2169 mm) CHAMBER STORAGE 14.7 CUBIC FEET MINIMUM INSTALLED STORAGE* 31.0 CUBIC FEET (0.88 m³) (16.8 kg) 35.0 lbs. *ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"

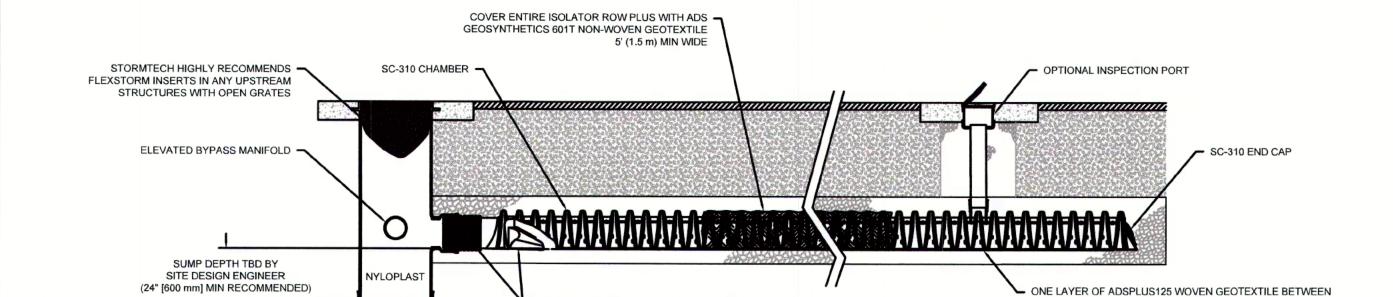
85.4" (2169 mm) INSTALLED LENGTH -

—— 90.7" (2304 mm) ACTUAL LENGTH ————

PART #	STUB	Α	В	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	C!! (450)		
SC310EPE06B / SC310EPE06BPC	6 (150 mm)	9.6" (244 mm)	***	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	
SC310EPE08B / SC310EPE08BPC	0 (200 11111)	11.9 (302 11111)	-	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm) 12.7" (323 mr		1.4" (36 mm)	
SC310EPE10B / SC310EPE10BPC	10 (230 11111)	12.7 (323 11111)		0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)		0.9" (23 mm)
SC310EPE12BR	12" (300 mm)	13.5" (343 mm)		0.9" (23 mm)

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

SC-310 TECHNICAL SPECIFICATIONS

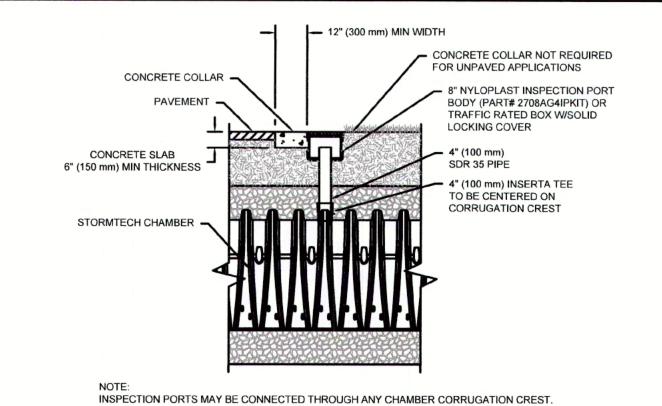


12" (300 mm) HDPE ACCESS PIPE REQUIRED

USE FACTORY PRE-FABRICATED END CAP

WITH FLAMP PART #: SC310EPE12BR

SC-310 ISOLATOR ROW PLUS DETAIL



INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS

USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)

FOUNDATION STONE AND CHAMBERS

4' (1.2 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

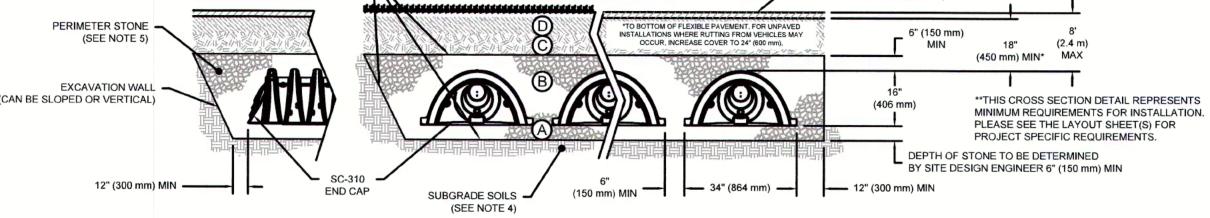
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
-) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED 3. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN . VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

- 1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS
- OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	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.
С	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 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
В	EMBEDMENT STONE : FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE" STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGNS, CONTACT STORMTECH FOR 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.
 - ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN CRUSHED, ANGULAR STONE IN A & B LAYERS PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER) PERIMETER STONE 6" (150 mm) (SEE NOTE 5) MIN (450 mm) MIN* MAX EXCAVATION WALL -(CAN BE SLOPED OR VERTICAL)



CHAMBERS'

YELLOW COLORS.

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION
- 2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS. REQUIREMENTS FOR HANDLING AND INSTALLATION:
- TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2". TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/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



HOWARD STEIN HUDSON

11 Beacon Street, Suite 1010 Boston, MA 02108 www.hshassoc.com

LRF2 BOS CONSTITUTION BLVD, LCC 50 TICE BOULEVARD - SUITE A28 WOODCLIFF LAKE, NJ 07677

APPLICANT:

ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL. MA 01852

REVISIONS: NO BY DATE DESCRIPTION 1 KL 2/1/22 REV. PARKING LAYOUT



SITE PLAN

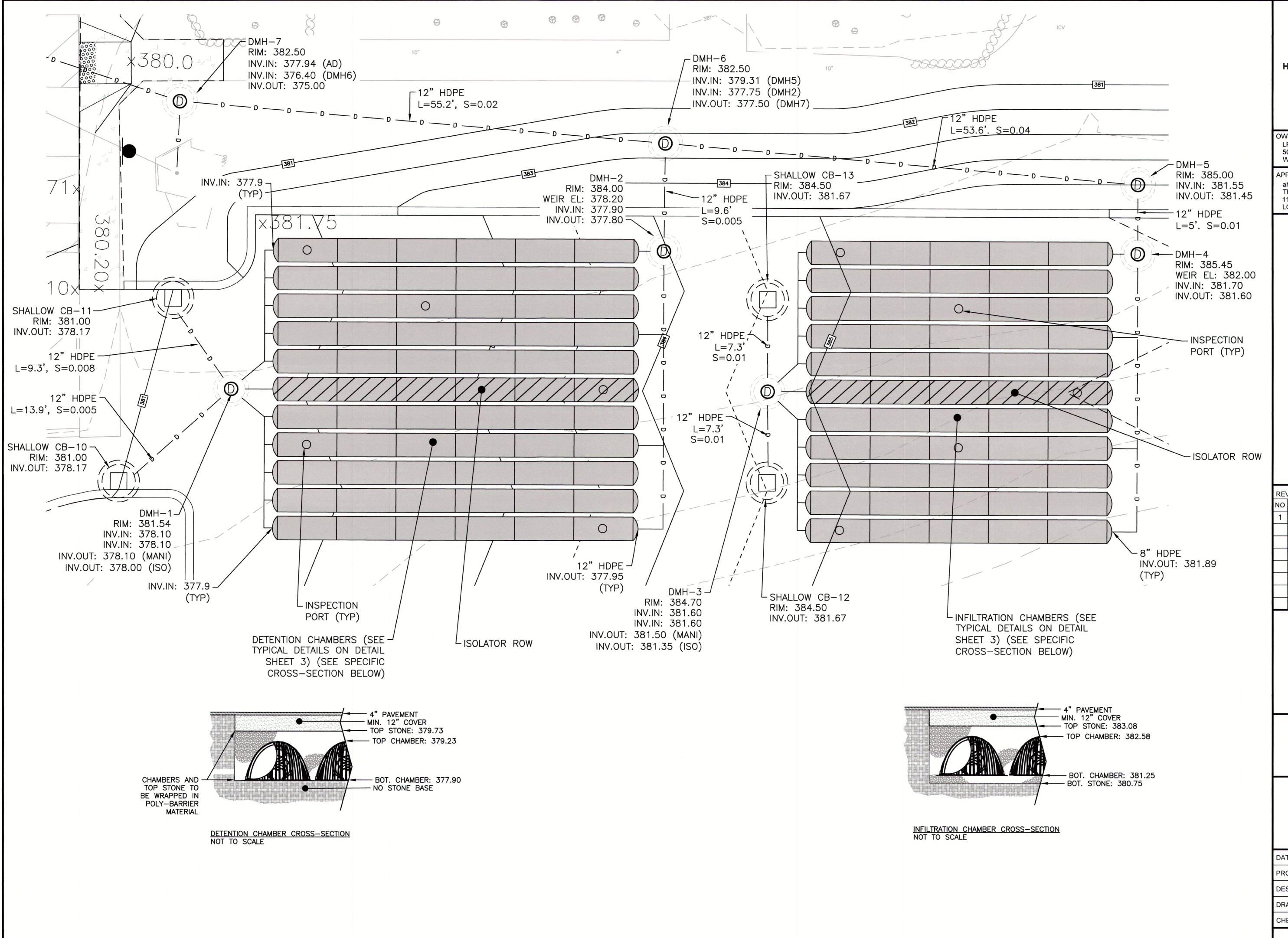
DETAIL SHEET

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DJECT NUMBER:	21123
SIGNED BY:	KL
AWN BY:	KL
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	SHEET 9 OF 10

(SC SERIES CHAMBER)

SC-310 CROSS SECTION DETAIL

4" PVC INSPECTION PORT DETAIL





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APPLICANT:

ahp ARCHITECHS, INC. THE OFFICES AT BOOT MILLS 116 JOHN STREET SUITE 115 LOWELL, MA 01852

EXPANSION TION BLVD A, 02038

LOT ARKING LOT 120 CONSTITU FRANKLIN, I

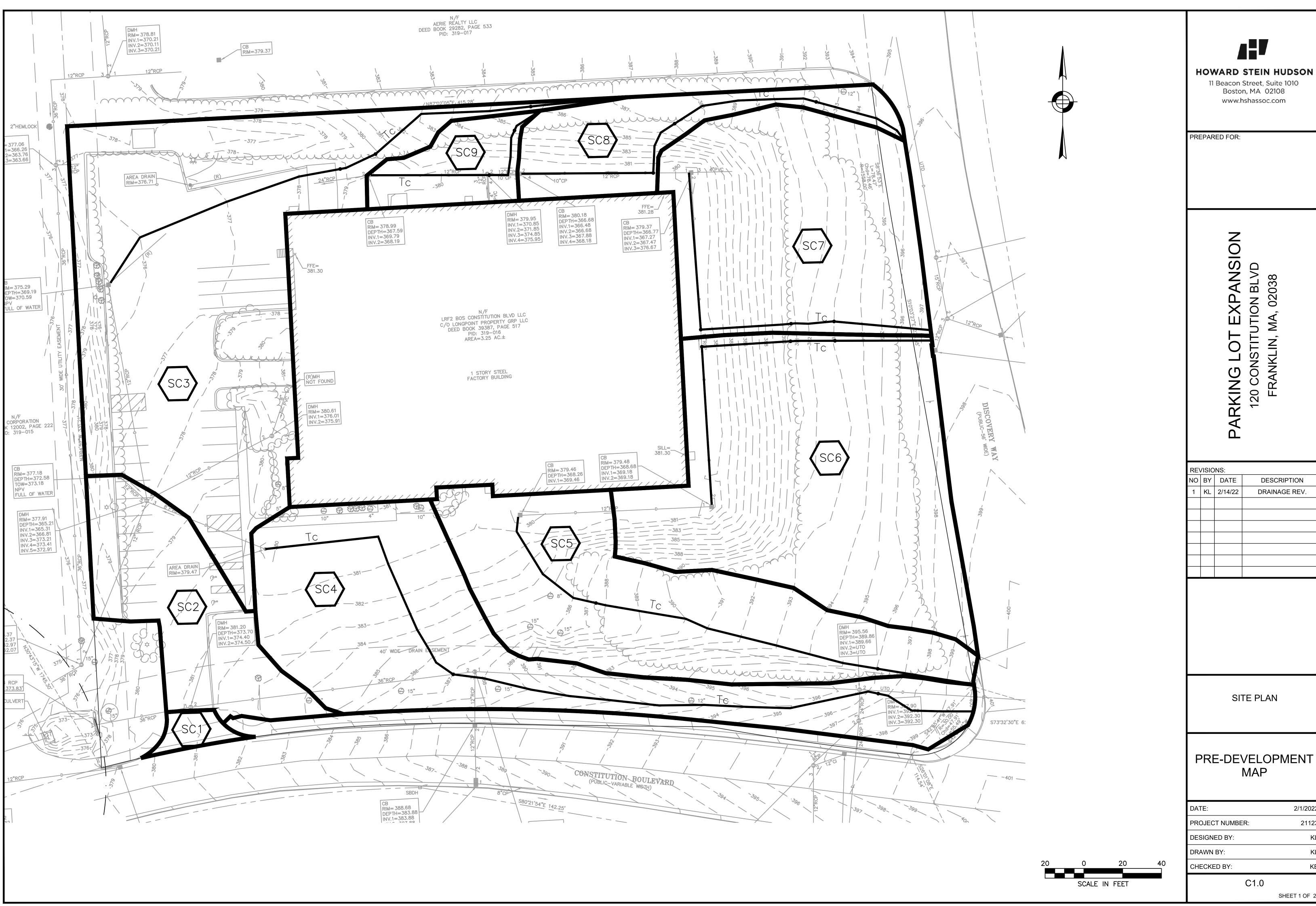
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SITE PLAN

DETAIL SHEET 4 OF 4

DATE:	08/20/21
PROJECT NUMBER:	21123
DESIGNED BY:	KL
DRAWN BY:	KL
CHECKED BY:	KE
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	SHEET 10 OF 10

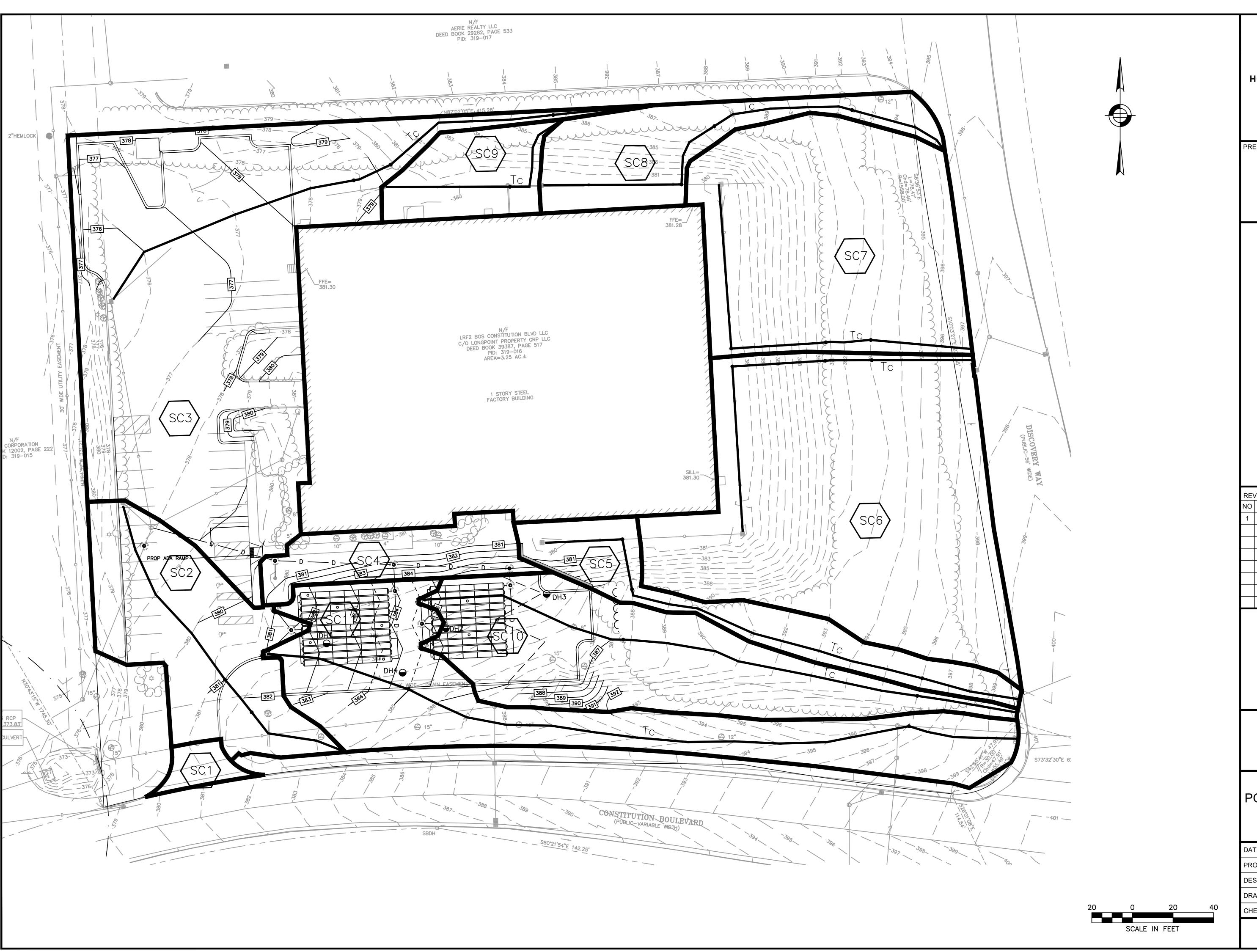


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REVISIONS:				
NO	BY	DATE	DESCRIPTION	
1	KL	2/14/22	DRAINAGE REV.	

PRE-DEVELOPMENT

DATE:	2/1/2022
PROJECT NUMBER:	21123
DESIGNED BY:	KL
DRAWN BY:	KL
CHECKED BY:	KE
C1.0	
	SHEET 1 OF 2





11 Beacon Street, Suite 1010 Boston, MA 02108 www.hshassoc.com

PREPARED FOR:

PARKING LOT EXPANSION 120 CONSTITUTION BLVD FRANKLIN, MA, 02038

RE\	REVISIONS:				
Ю	BY	DATE	DESCRIPTION		
1	KL	2/14/22	DRAINAGE REV.		

SITE PLAN

POST-DEVELOPMENT MAP

DATE:	2/1/2022
PROJECT NUMBER:	21123
DESIGNED BY:	KL
DRAWN BY:	KL
CHECKED BY:	KE
C2.0	
	SHEET 2 OF 2