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 FEDERAL, STATE, AND LOCAL REQUIREMENTS AT HIS/HER OWN EXPENSE, OUTSIDE OF THE PROJECT LIMITS.

SHEET INDEX

- SHEET C.1 TITLE SHEET SHEET C.2 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

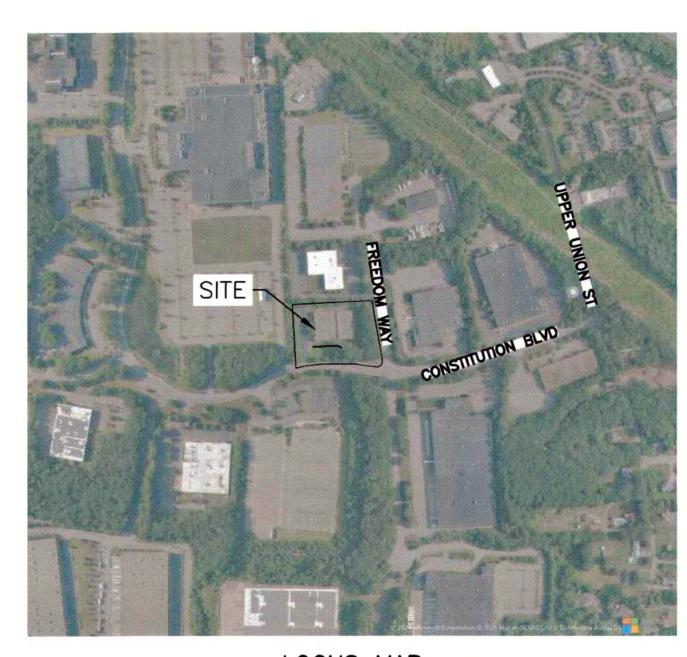
DECIDUOUS TREE

CONIFER TREE

0	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
٠ 🗗	CULVERT	•	MONITORING WELL		CHAIN LINK FENCE
•	DRAIN MANHOLE	0	BOLLARD	-0-0-0-0-0-0-0	METAL FENCE
•	NO LABEL MANHOLE	<u>ಕ</u> ್ಕಿ	HANDICAP PARKING	$\cdot \infty \times $	STONE WALL
(S)	SEWER MANHOLE		- WATER LINE MARKER	.~~~~.	TREE LINE
E	ELECTRIC METER	0	VENT	— — —191— — —	INTERMEDIATE CONTOURS
G	GAS METER	BMK	BENCHMARK		INDEX CONTOURS
H	GAS VALVE	BOMO	BOLT OVER MAIN OUTLET	s	SEWER LINE
M	WATER GATE	EOP	EDGE OF PAVEMENT	D	DRAIN LINE
P	FIRE HYDRANT	BC	BITUMINOUS CURB	w	WATER LINE
	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		RECORD WATER LINE
0-€	UTILITY POLE WITH LIGHT AND RISER	PVC	POLYVINYL CHLORIDE	E(R)	RECORD UNDERGROUND ELE

INV. INVERT

NPV NO PIPES VISIBLE



PROJECT TEAM:

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

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

SURVEYOR WSP USA, INC 9 EXECUTIVE PARK DRIVE MERRIMACK, NH 03054

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

OWNER

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

INDUSTRIAL ZONE

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 PLANNING	SIL	i Dai	TLE GOITLE	51	TIVINICE

BEING A MAJORITY

DATE:



HOWARD STEIN HUDSON

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50 TICE BOULEVARD - SUITE A28 WOODCLIFF LAKE, NJ 07677

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

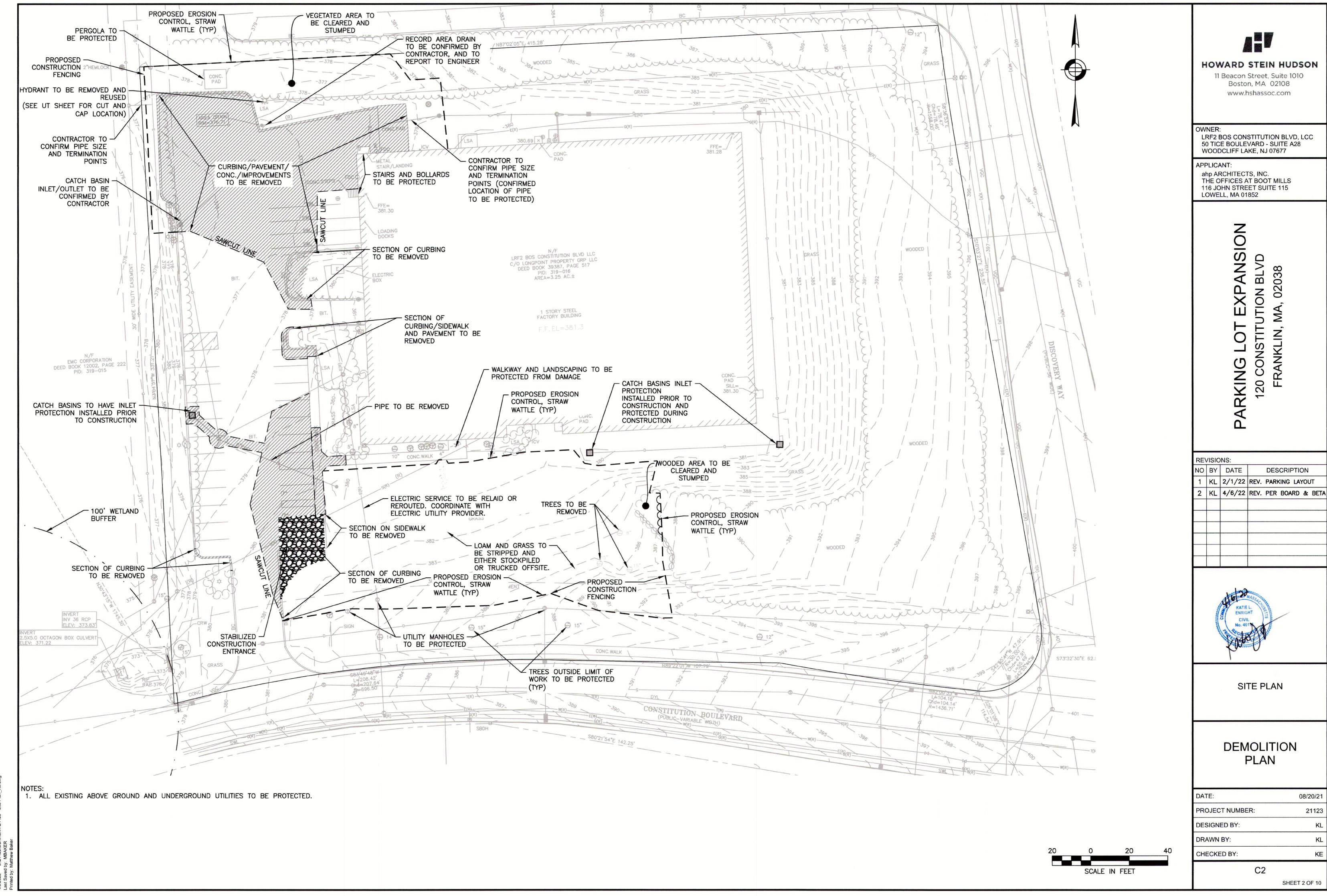
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2	KL	4/6/22	REV.	PER	BOARD	&	BETA



SITE PLAN

COVER SHEET

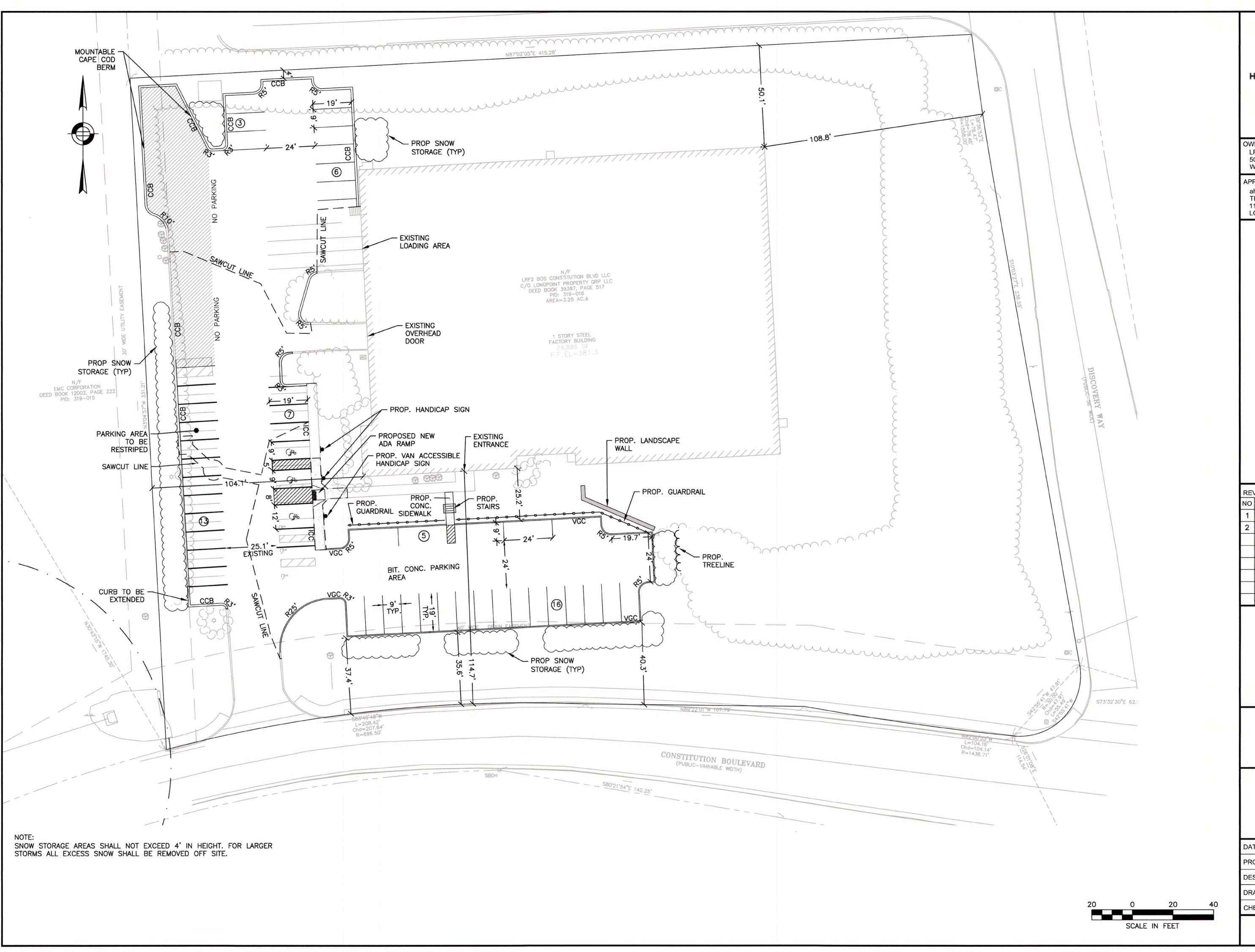
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PROJECT NUMBER:		21123
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10	BY	DATE	DESCRIPTION				
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1 | KL | 2/1/22 | REV. PARKING LAYOUT 2 KL 4/6/22 REV. PER BOARD & BETA

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





HOWARD STEIN HUDSON

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OWNER:

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

APPLICANT:

ahp ARCHITECTS, INC.

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

EXPANSION ION BLVD

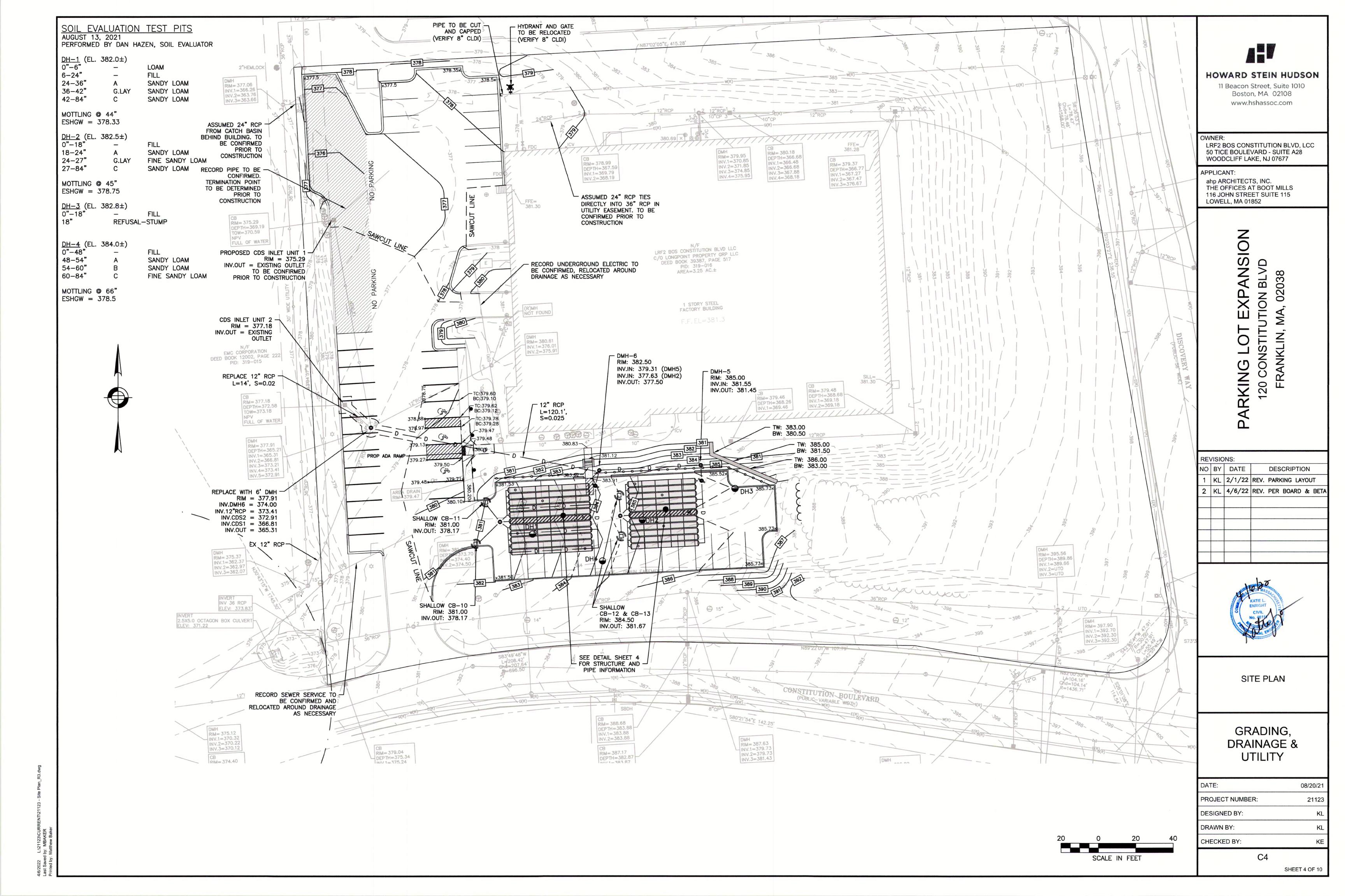
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2	KL	4/6/22	REV. PER BOARD & BETA				

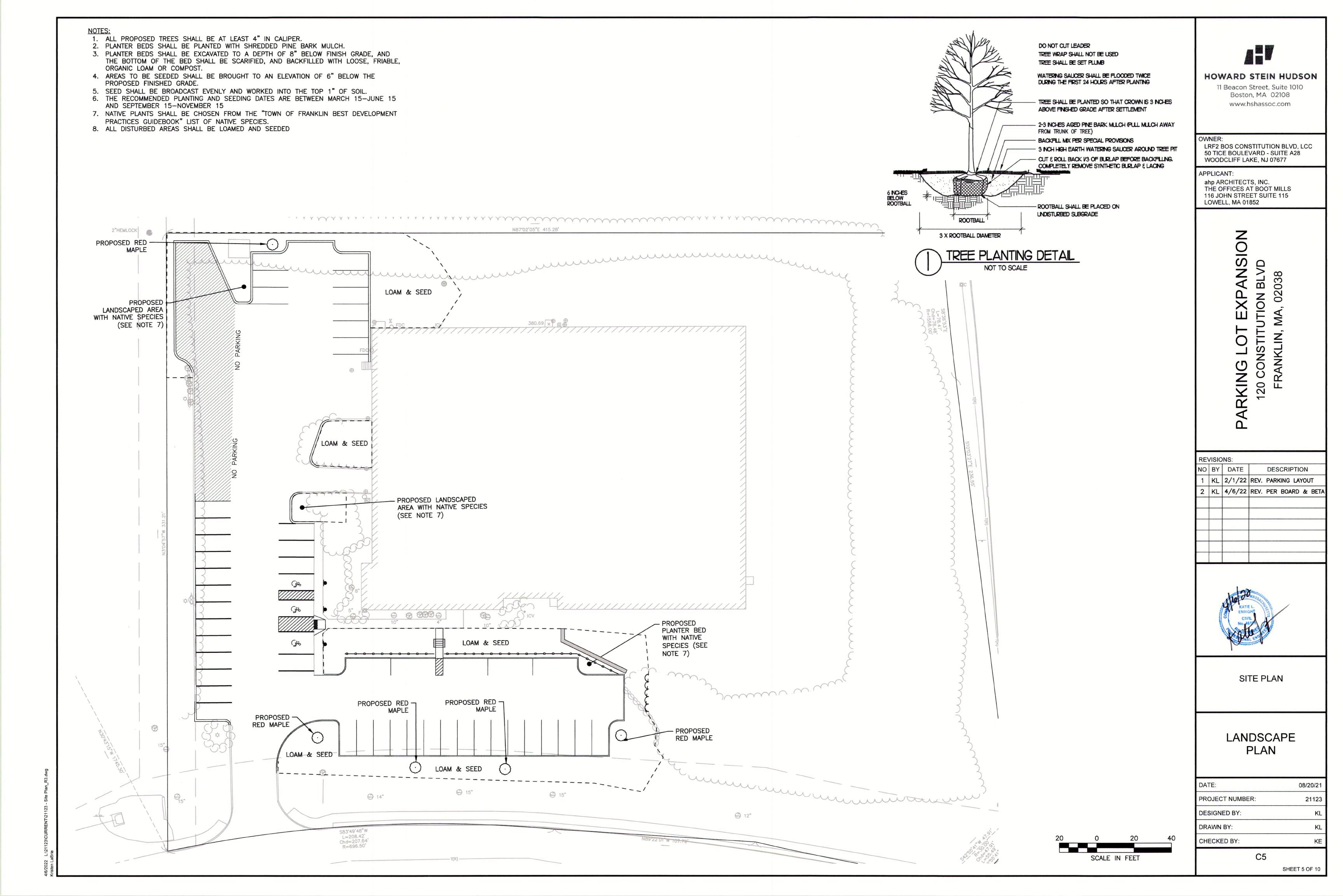


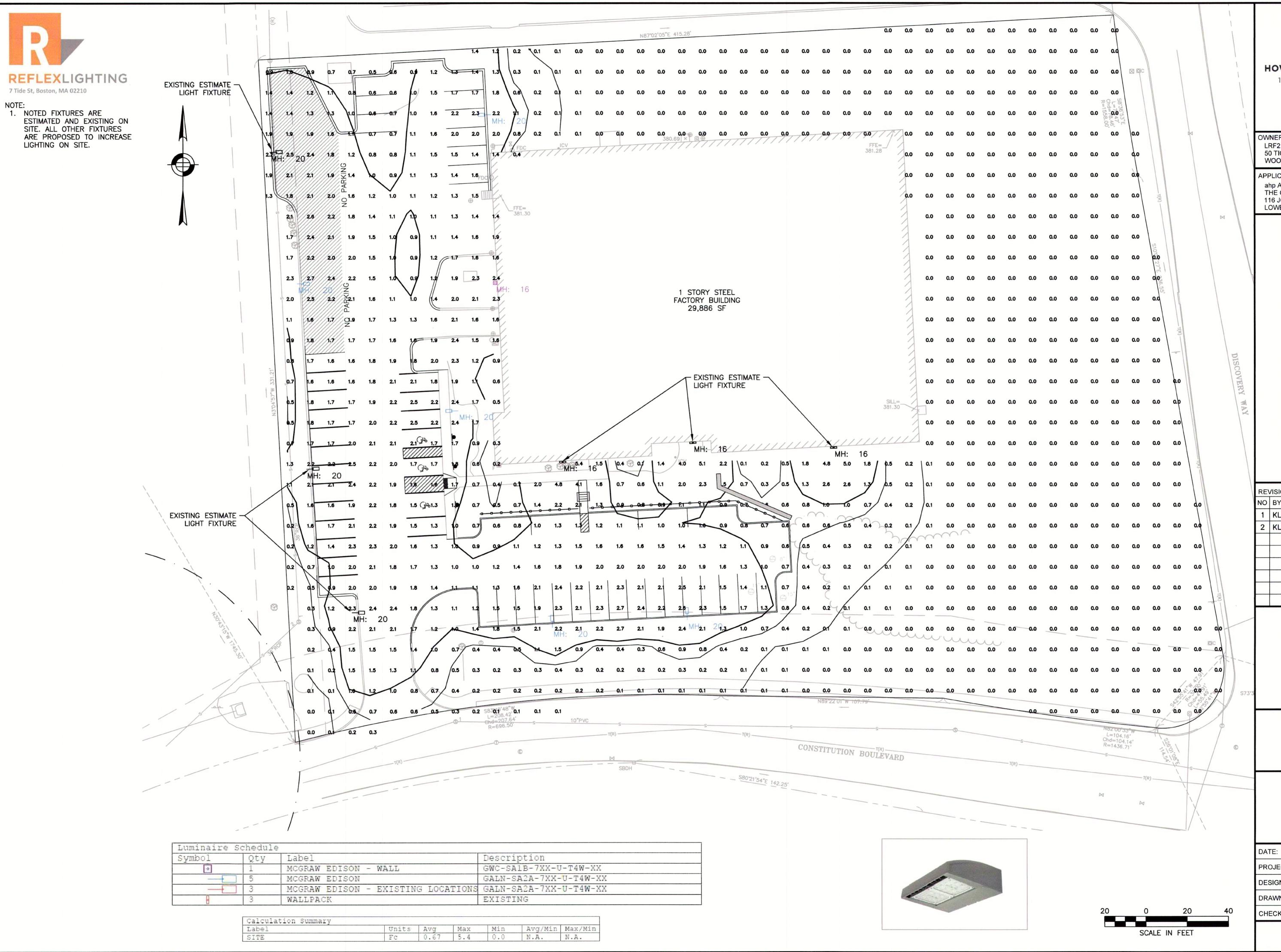
SITE PLAN

LAYOUT & MATERIALS PLAN

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







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

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LOWELL, MA 01852

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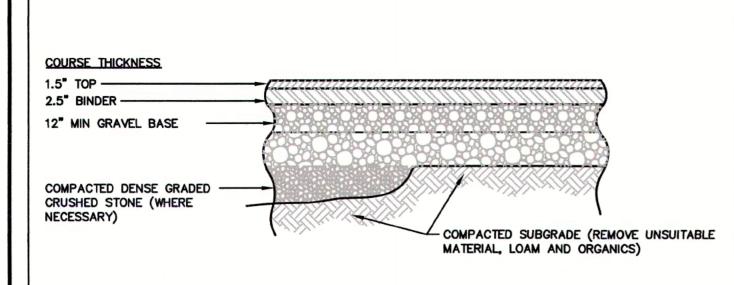
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SITE PLAN

LIGHTING PLAN

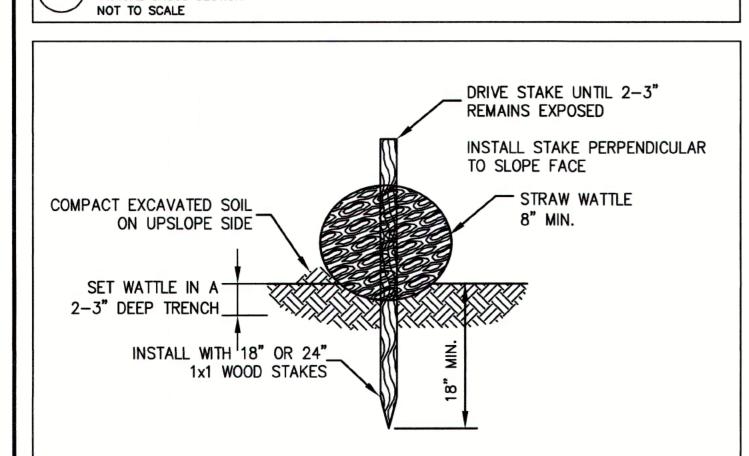
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COURSE	MATERIAL			COMPACTION R	EQUIREMENTS
		HIGHWAY DEPARTMENT (MHD)	SIZE (INCH)	COMPACTION	TEST DESIGNATION
TOP	BITUMINOUS CONCRETE	M3.11.03 CLASS I, TYPE I-1	3/4	[NOTE 1]	AASHTO-T166
BINDER	BITUMINOUS CONCRETE	M3.11.03 CLASS I, TYPE I-1			AASHTO-T166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

COMPACT TO TEST AVERAGE OF 95%; TEST SHALL NOT BE LOWER THAN 93%.] 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.

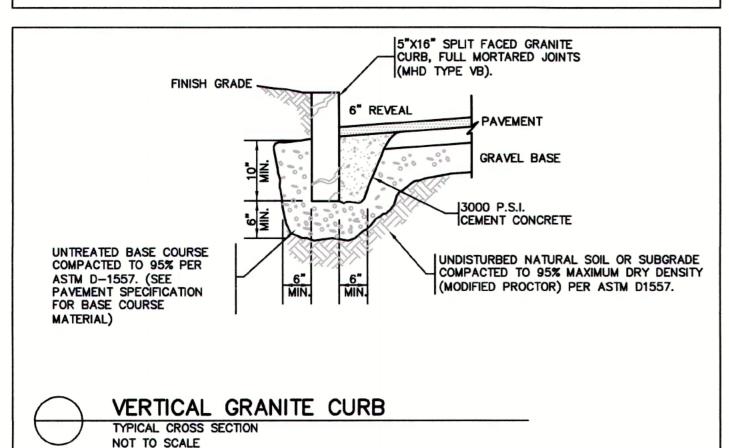
BITUMINOUS CONCRETE PAVEMENT TYPICAL CROSS SECTION

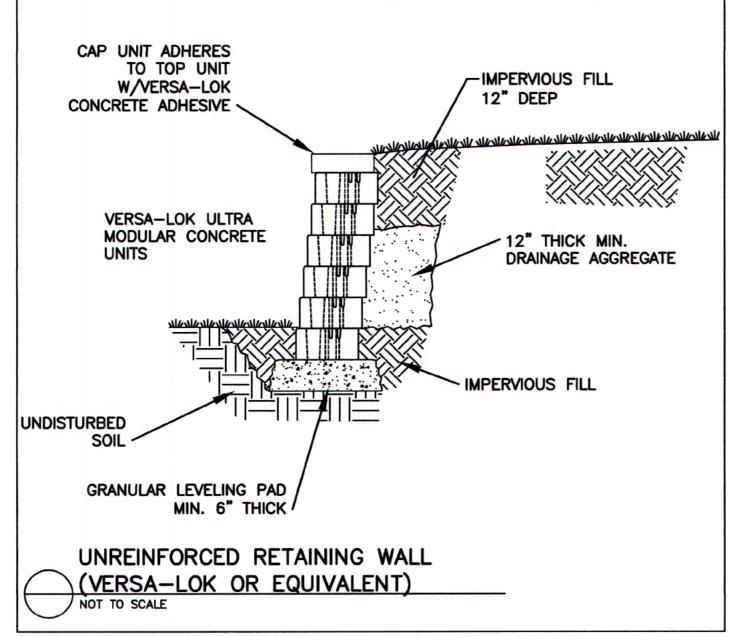


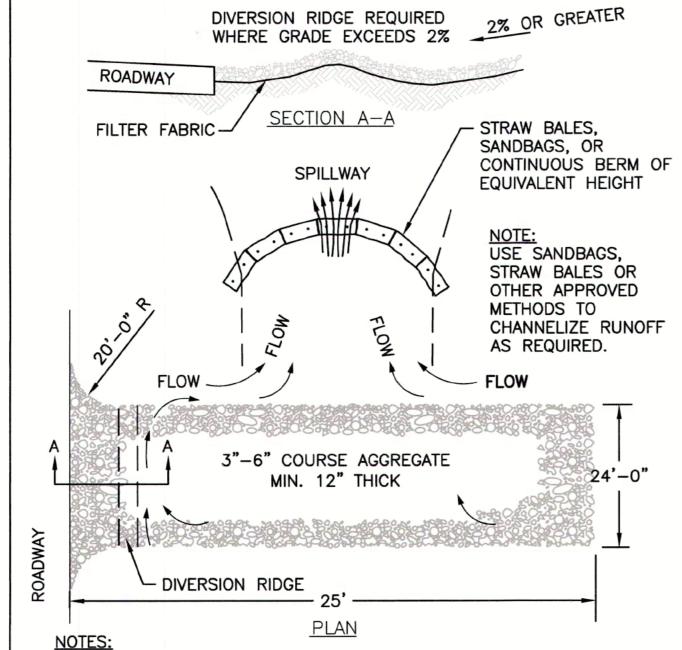
NOTES:

- 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.



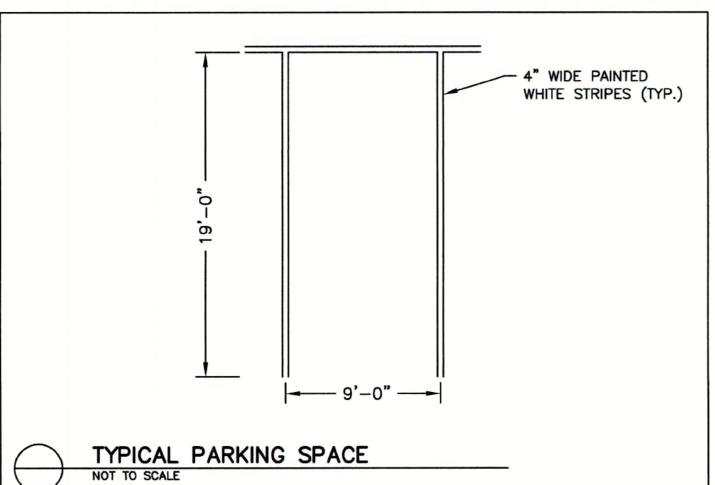


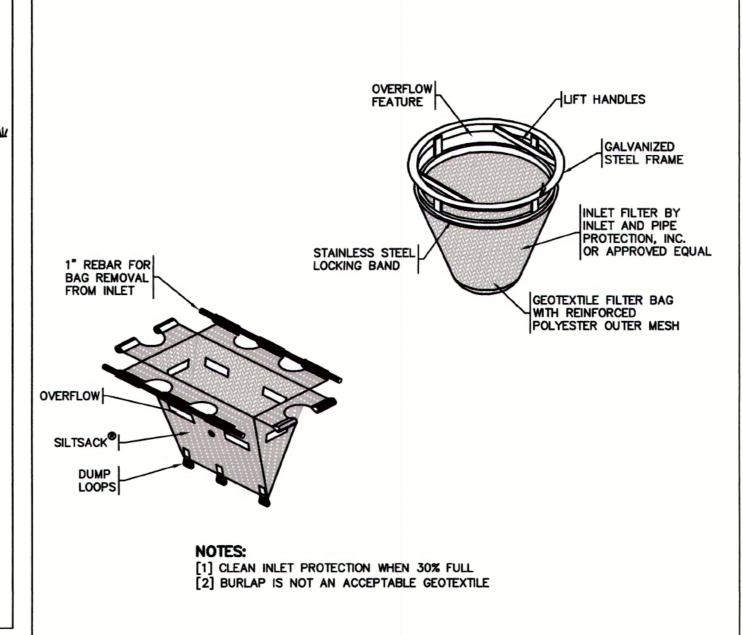




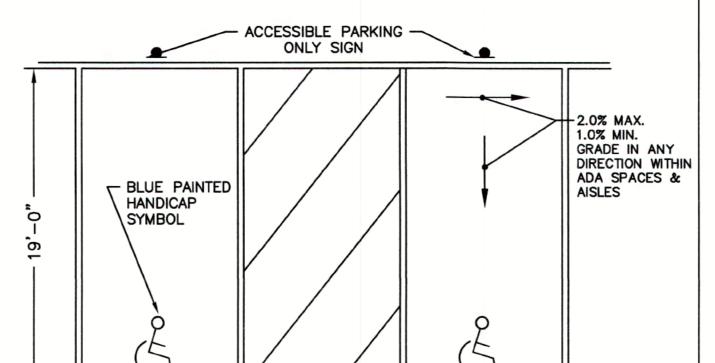
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- 3. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE APPLIED WHERE NECESSARY TO KEEP PUBLIC WAYS FREE OF SEDIMENT INCLUDING STAGING AREAS

STABILIZED CONSTRUCTION ENTRANCE TYPICAL CROSS SECTION NOT TO SCALE



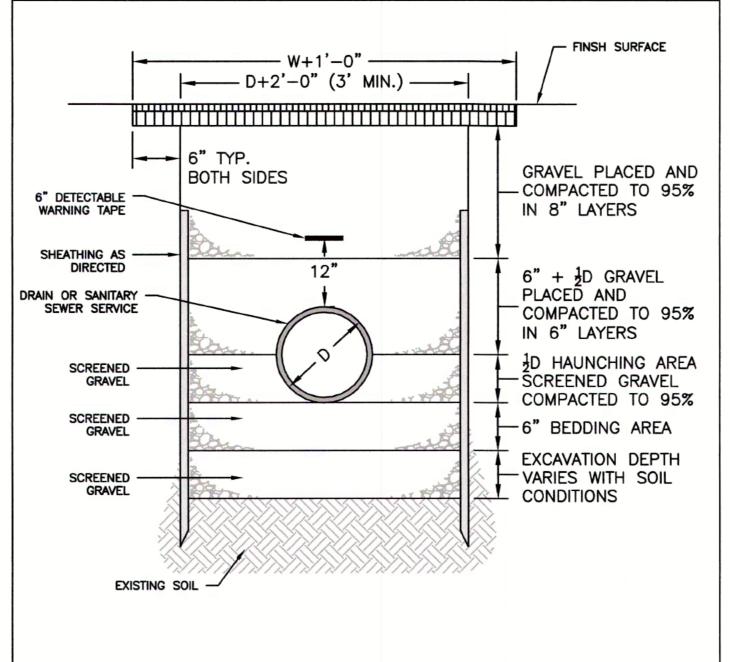


INLET PROTECTION TYPICAL CROSS SECTION NOT TO SCALE



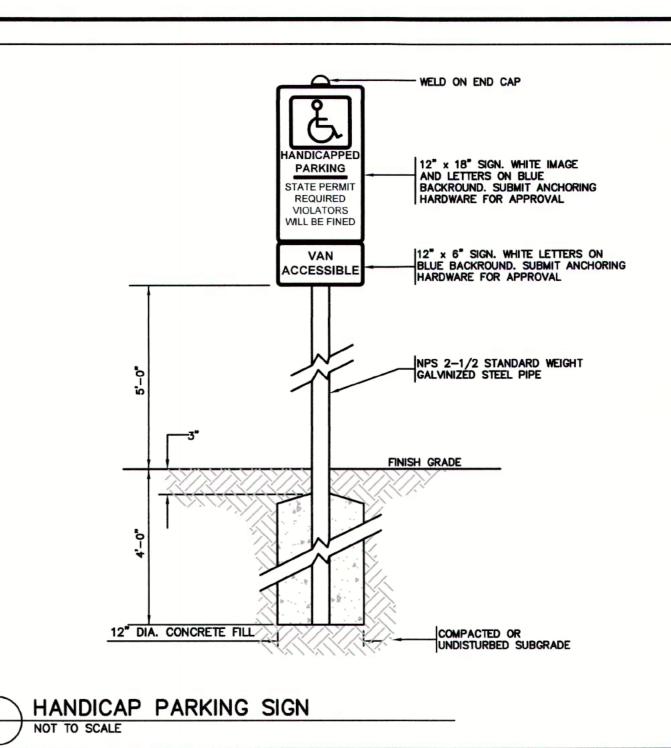
NOTE:
* GRADING WITHIN THE HANDICAP PARKING SPACE SHALL NOT EXCEED 2.0% IN ANY DIRECTION.

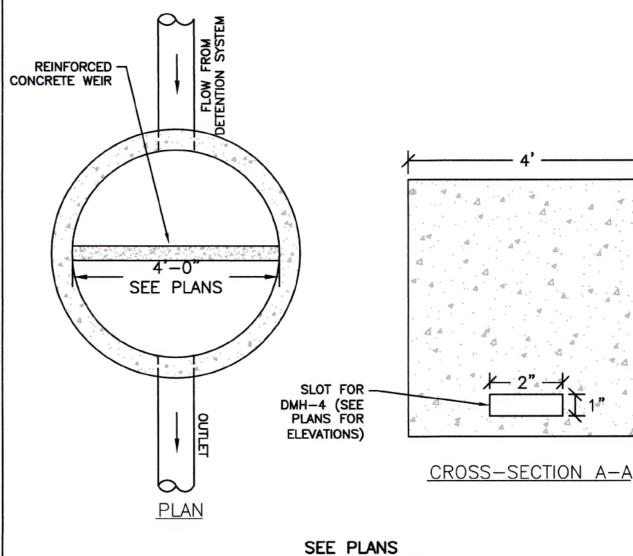
TYPICAL HANDICAP PARKING SPACE TYPICAL CROSS SECTION NOT TO SCALE

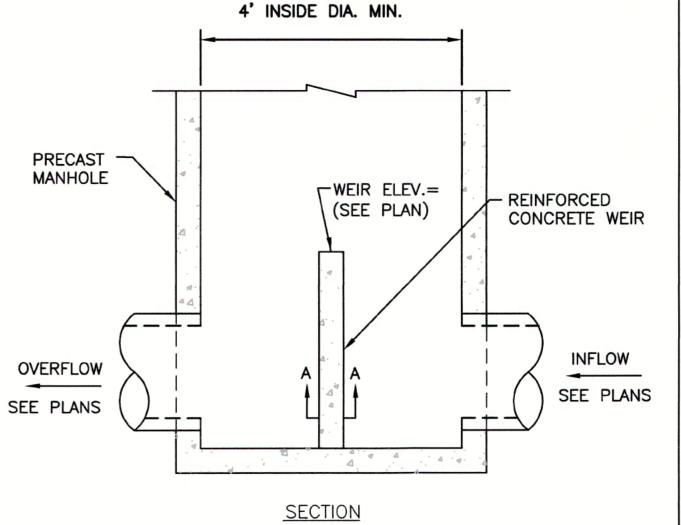


TRENCH DETAIL - DRAINAGE

NOT TO SCALE







- 1. 6 INCH MIN. WALL THICKNESS AND 7 INCH MIN. BASE
- THICKNESS WITH 5'-0" DIAMETER MANHOLES. 2. 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN
- MANHOLES AS DIRECTED BY THE ENGINEER. 3. CONTRACTOR TO SUBMIT METHOD OF BRACING WEIR.

DRAIN MANHOLE WITH WEIR NOT TO SCALE



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APPLICANT:

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

LOWELL, MA 01852

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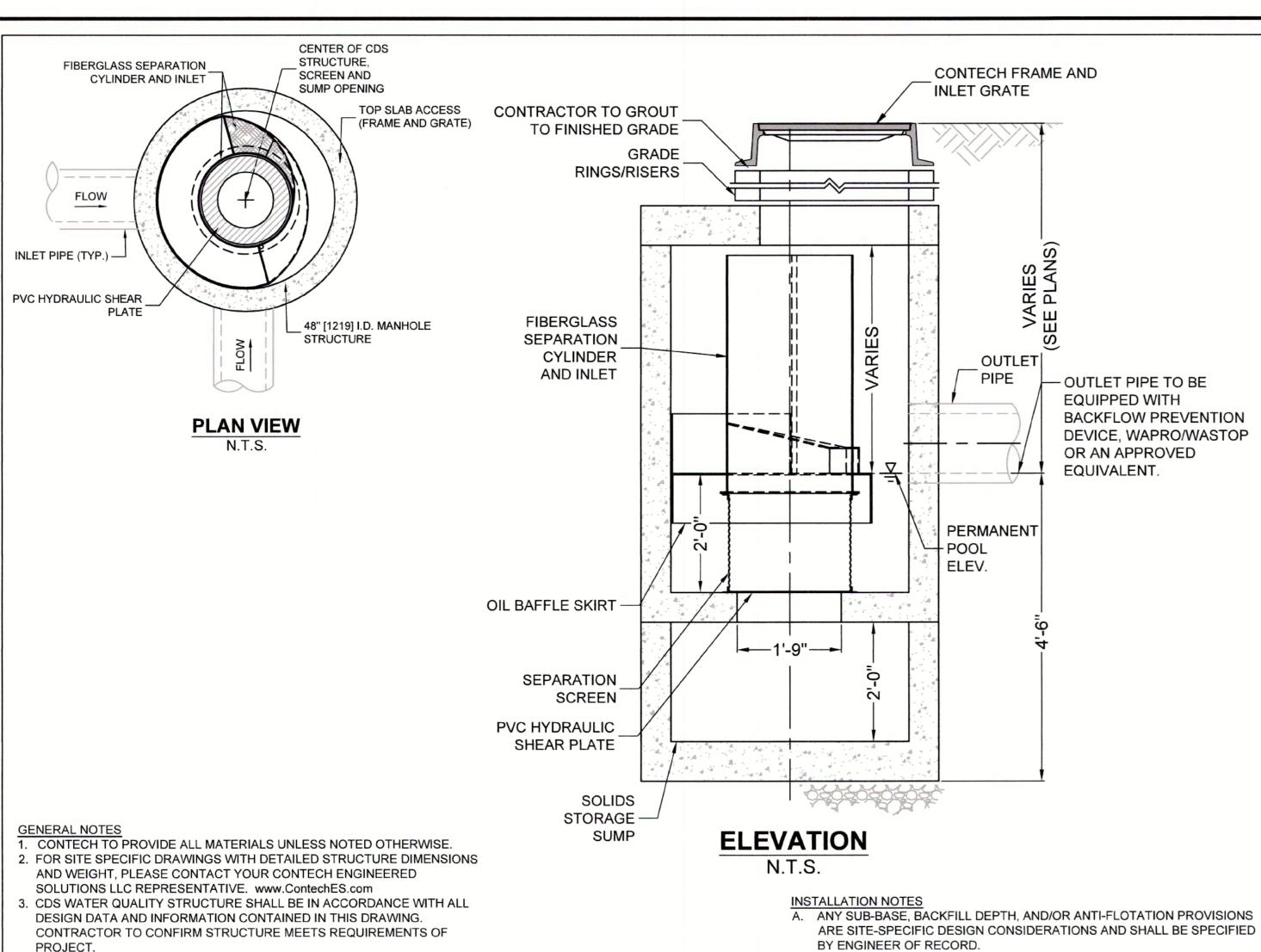
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SITE PLAN

DETAIL SHEET 1 OF 4

DATE:	08/20/21
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	SHEET 7 OF 10



- 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.

CATCH BASIN INLET CONTECH CDS 2015-4 WATER QUALITY UNIT

NOT TO SCALE

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

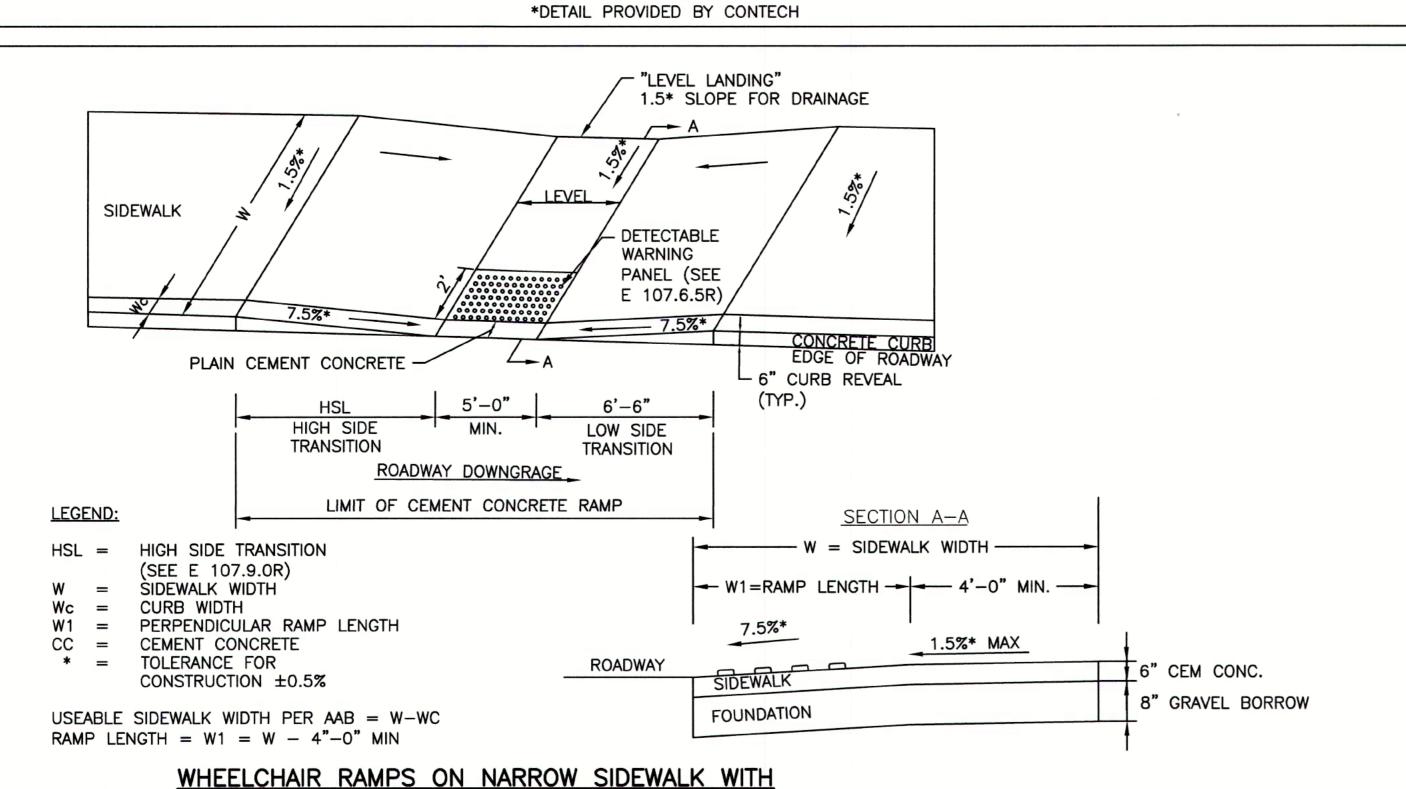
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM

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

M306 AND BE CAST WITH THE CONTECH LOGO.

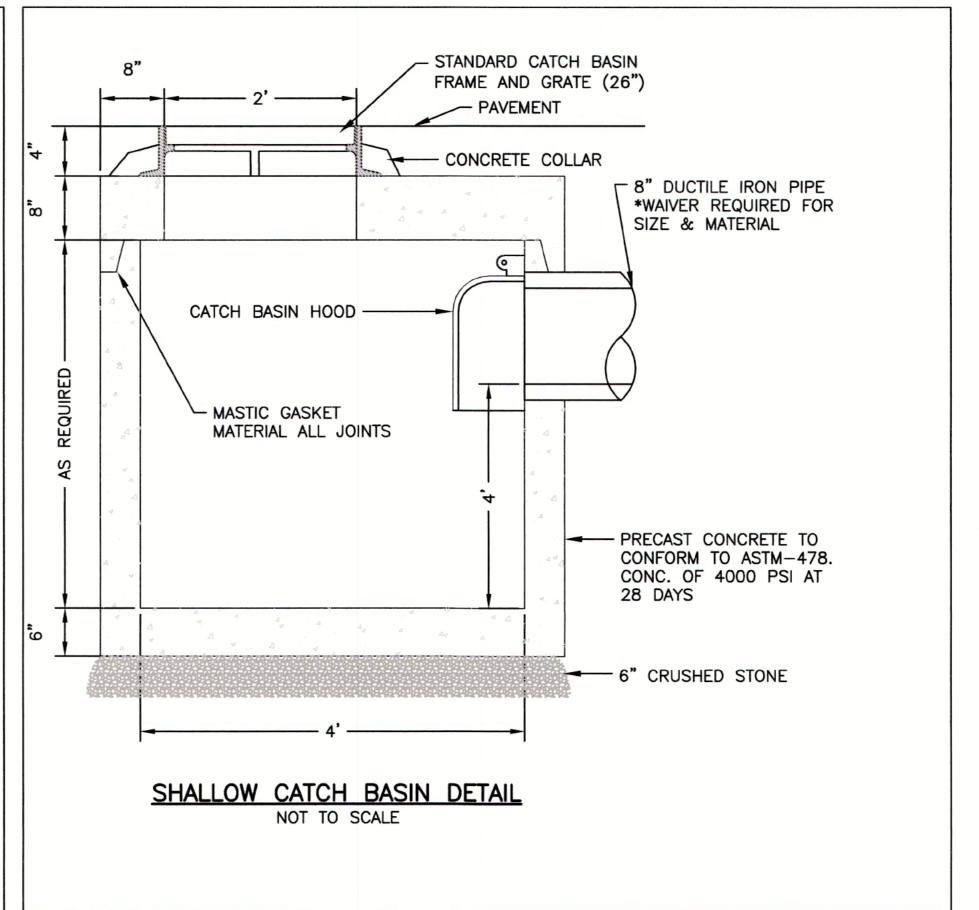
C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

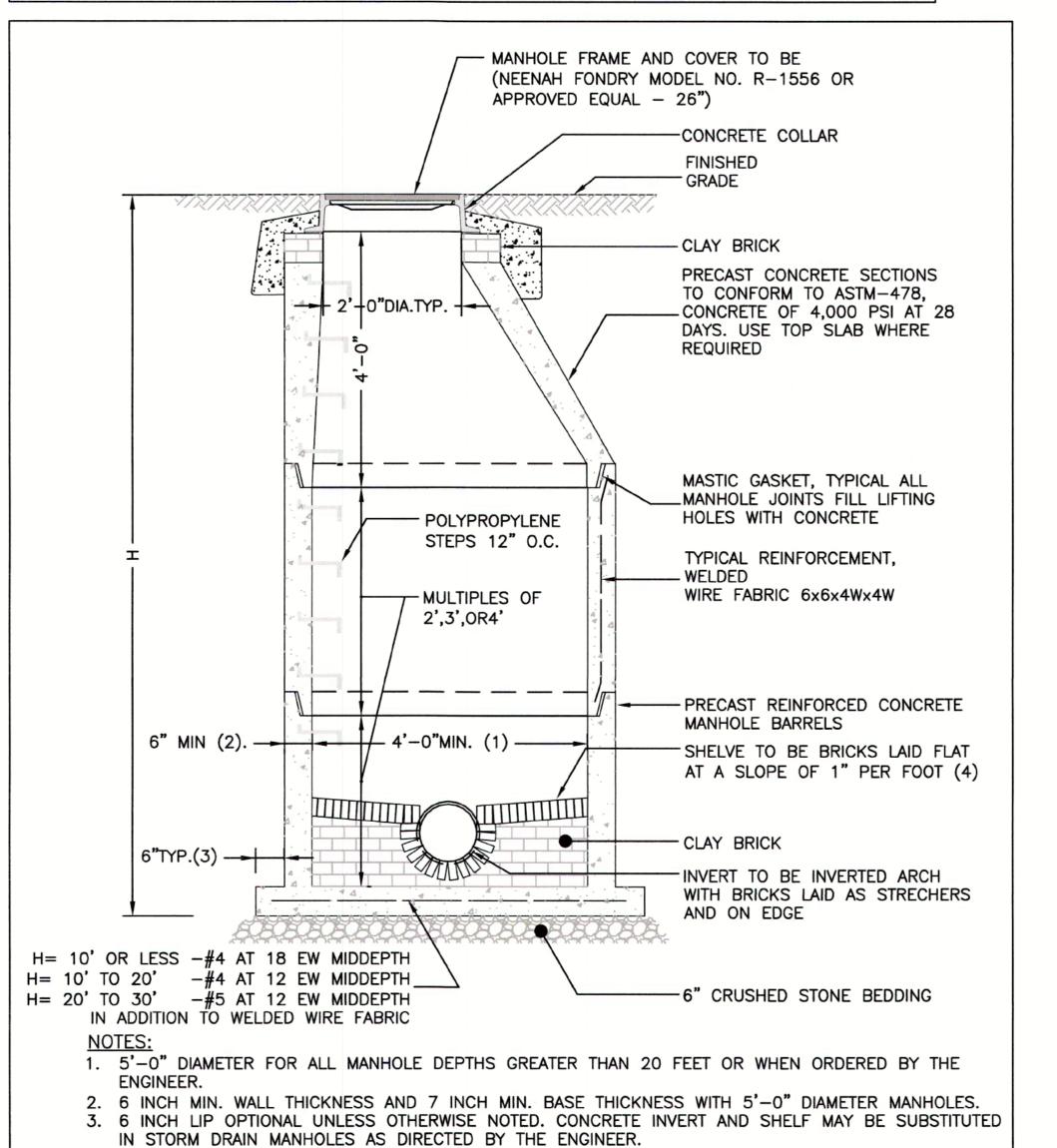
DURING MAINTENANCE CLEANING.



DETECTABLE WARNING PANEL (E107.2.1R)

NOT TO SCALE





PRECAST CONCRETE MANHOLE

NOT TO SCALE



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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 2 KL 4/6/22 REV. PER BOARD & BETA



SITE PLAN

DETAIL SHEET 2 OF 4

DATE:	08/20/21
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	SHEET 8 OF 10





SC-310 STORMTECH CHAMBER SPECIFICATIONS

CHAMBERS SHALL BE STORMTECH SC-310.

STORMTECH HIGHLY RECOMMENDS . FLEXSTORM INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES

ELEVATED BYPASS MANIFOLD

SUMP DEPTH TBD BY SITE DESIGN ENGINEER

(24" [600 mm] MIN RECOMMENDED)

CONCRETE COLLAR

CONCRETE SLAB

6" (150 mm) MIN THICKNESS

STORMTECH CHAMBER

PAVEMENT

- 2. 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
- 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
 - FOR THERMOPLASTIC PIPE. 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.

NYLOPLAS

— 12" (300 mm) MIN WIDTH

COVER ENTIRE ISOLATOR ROW PLUS WITH ADS . GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE

12" (300 mm) HDPE ACCESS PIPE REQUIRED

USE FACTORY PRE-FABRICATED END CAP WITH FLAMP PART #: SC310EPE12BR

CONCRETE COLLAR NOT REQUIRED

BODY (PART# 2708AG4IPKIT) OR

TRAFFIC RATED BOX W/SOLID

(100 mm) INSERTA TEE

TO BE CENTERED ON

FOR UNPAVED APPLICATIONS

LOCKING COVER

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

- 1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- 2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- 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.
- 6. MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- 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

TRUCK TRAVEL OR DUMPING.

- 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
- SC-310/SC-740/DC-780 CONSTRUCTION GUIDE". 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP

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.

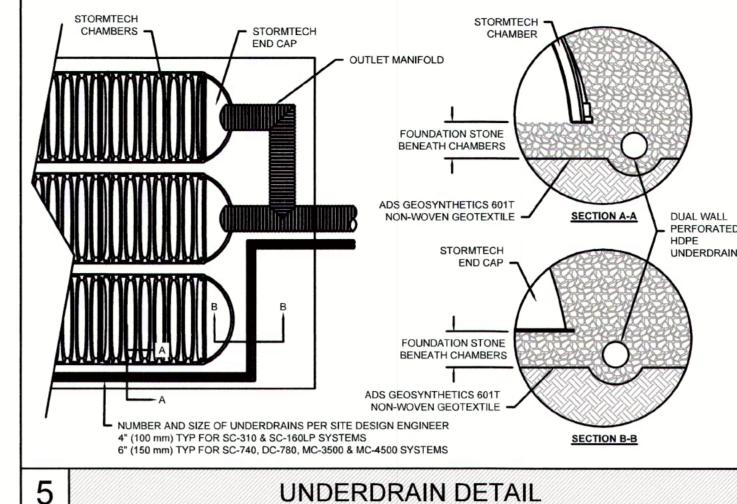
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

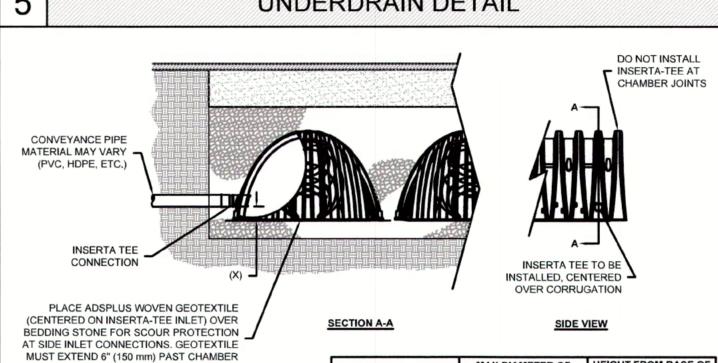
OPTIONAL INSPECTION PORT

FOUNDATION STONE AND CHAMBERS

ONE LAYER OF ADSPLUS125 WOVEN GEOTEXTILE BETWEEN

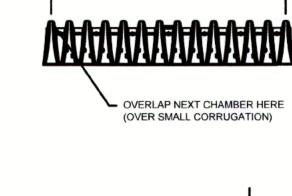
4' (1.2 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS





DING STONE FOR SCOOK PROTECTION			
MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT NOTE: PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS.	CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE (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)
	MC-4500	12" (300 mm)	8" (200 mm)
	INSERTA TEE FITTII	NGS AVAILABLE FOR SDR 2	6, SDR 35, SCH 40 IPS
	DC-780 MC-3500 MC-4500	10" (250 mm) 12" (300 mm) 12" (300 mm)	26,

85.4" (2169 mm) INSTALLED LENGTH -90.7" (2304 mm) ACTUAL LENGTH -BUILD ROW IN THIS DIRECTION

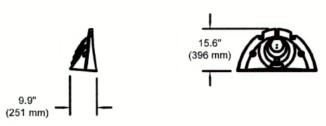


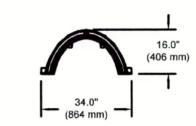
(864 mm X 406 mm X 2169 mm)

 (0.42 m^3)

 (0.88 m^3)

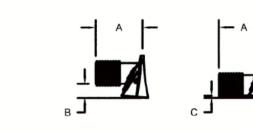
(16.8 kg)





34.0" X 16.0" X 85.4" 14.7 CUBIC FEET CHAMBER STORAGE MINIMUM INSTALLED STORAGE* 31.0 CUBIC FEET 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" PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B" PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PRE CORED END CAPS END WITH "PC"				
PART#	STUB	Α	В	С
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	
SC310EPE06B / SC310EPE06BPC	6" (150 mm)			0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	
SC310EPE08B / SC310EPE08BPC		(200 mm) 11.9 (302 mm)		0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	0" (250 mm) 12.7" (323 mm)	1.4" (36 mm)	
SC310EPE10B / SC310EPE10BPC	10 (250 11111)	12.7 (323 (((()))		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)
ALL STURS EXCEPT FOR THE SC310FF	E12B ARE PLACED	AT BOTTOM OF END	CAP SUCH THAT THE O	ITSIDE DIAMETER OF

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT

* 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

INSERTA-TEE SIDE INLET DETAIL

GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

SC-310 TECHNICAL SPECIFICATIONS

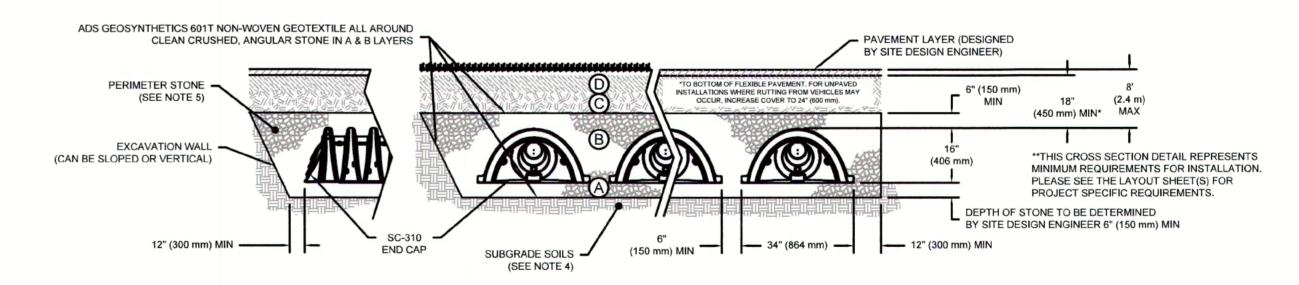
ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

	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.
	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.
А	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

CONTACT STORMTECH FOR MORE INFORMATION.

- 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.



- . 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
- 4. 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

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REVISIONS:

NO BY DATE

TION

20

1 KL 2/1/22 REV. PARKING LAYOUT

2 | KL | 4/6/22 | REV. PER BOARD & BETA

DESCRIPTION

ahp ARCHITECTS, INC.

LOWELL, MA 01852

APPLICANT:

SITE PLAN

DETAIL SHEET 3 OF 4

TE:	08/20/21
OJECT NUMBER:	21123
SIGNED BY:	KL
AWN BY:	KL
IECKED BY:	KE
C9	
	SHEET 9 OF 10

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN A 2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. 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) A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. B. ALL ISOLATOR PLUS ROWS
 - B.1. 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
 -) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) 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
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- 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.

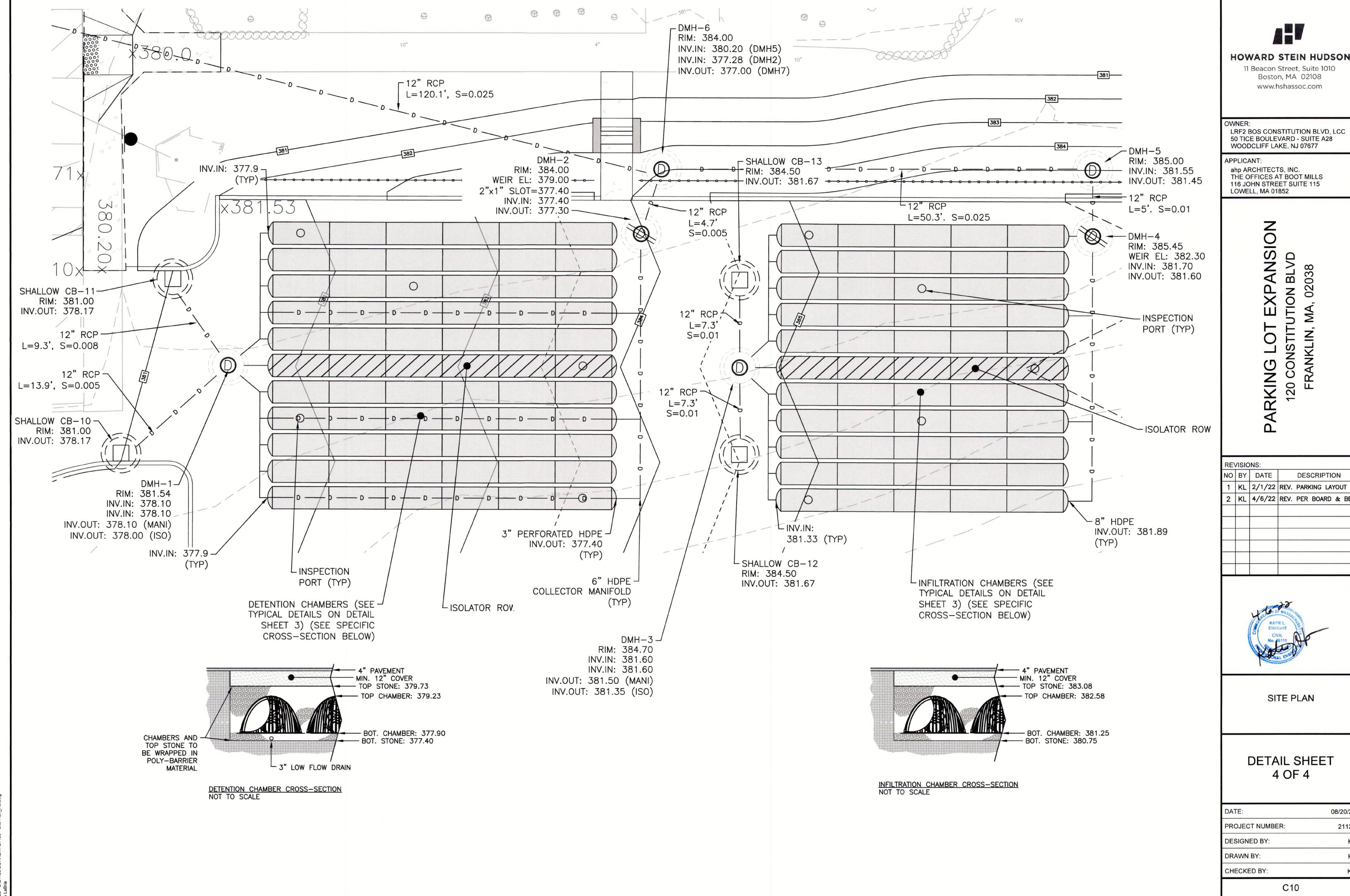
SC-310 ISOLATOR ROW PLUS DETAIL

- 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

INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

CHAMBERS'

SC-310 CROSS SECTION DETAIL



NO BY DATE DESCRIPTION

1 KL 2/1/22 REV. PARKING LAYOUT 2 KL 4/6/22 REV. PER BOARD & BETA

08/20/21 21123 SHEET 10 OF 10