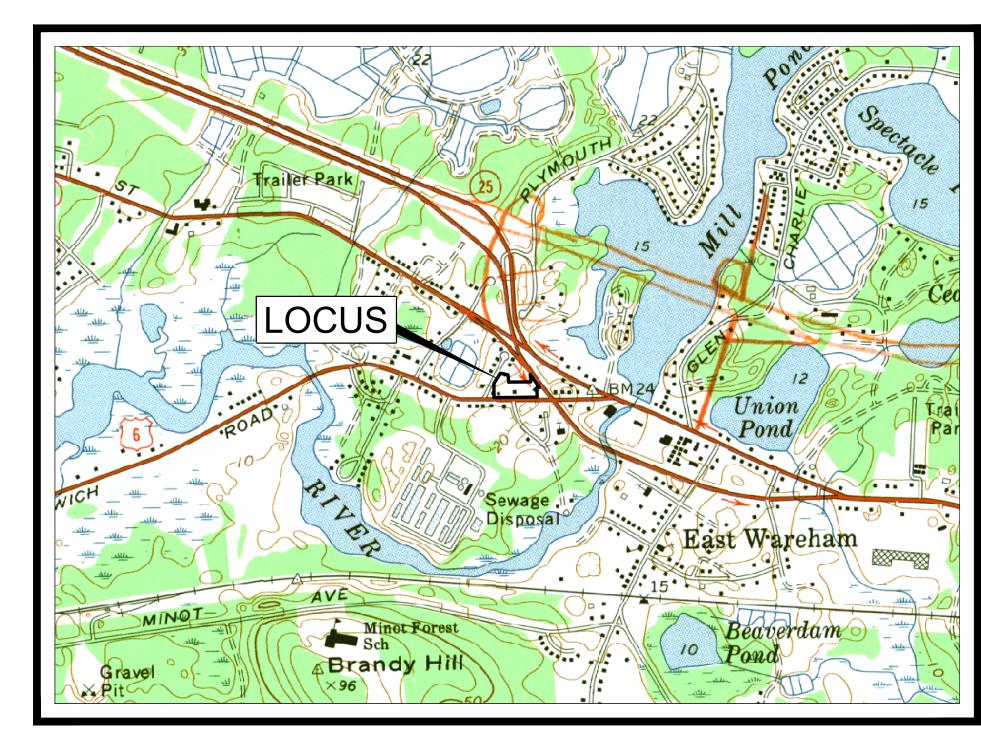
CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6) WAREHAM, MASSACHUSETTS

DATE: MAY 25, 2021 REV 4 DATE: DECEMBER 2, 2021

LIST OF DRAWINGS

SHEET NO.	TITLE
1 OF 11	COVER SHEET
2 OF 12	EXISTING CONDITIONS & SITE PREF
3 OF 12	LAYOUT PLAN
4 OF 12	GRADING & CURB TIE PLAN
5 OF 12	DRAINAGE PLAN
6 OF 12	UTILITIES PLAN
7 OF 12	LANDSCAPE PLAN
8 OF 12	LIGHTING PLAN
9 OF 12	EMERGENCY ACCESS PLAN
9 OF 12	DETAILS
10 OF 12	DETAILS
11 OF 12	DETAILS



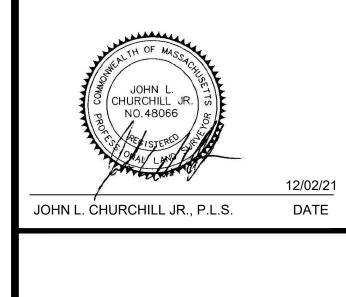
LOCUS MAP SCALE 1" = 1000'

LOCUS

AERIAL MAP SCALE 1" = 500'

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	CONCRETE BOUND	⊡
UP #CD	UTILITY POLE	D
	CATCH BASIN	
D	DRAIN MANHOLE	(D)
——— D ————————————————————————————————	DRAIN LINE	—— D ——— D ———
——RD ———RD ——	ROOF DRAIN	——RD ——RD —
W W	WATER LINE	v
₩V M	WATER GATE	₩\ [\]
	HYDRANT	₩ .
——— E/T/C ———	UNDERGROUND ELEC. UTILITIES	—— E/T/C ——
——————————————————————————————————————	OVERHEAD ELEC. UTILITIES	——
———— GAS ————	UNDERGROUND GAS UTILITIES	——— GAS ———
11	CONTOUR	
x11.0	SPOT GRADE	11x0
S	SEWER MANHOLE	S
	SEWER PIPE	ss
FMFM	SEWER FORCE MAIN	——FM——FM—
—X—X—X—X—X—X—	FENCE	—x—x—x—x—x—x—





CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6)

WAREHAM,
MASSACHUSETTS

(PLYMOUTH COUNTY)

COVER SHEET

REVISIONS:

 No.
 DATE
 DESC.

 4
 12/02/21
 Sidewalks; Generator

 3
 10/25/21
 WFD Comments

 2
 10/11/21
 Consultant Comments #2

 1
 8/10/21
 Consultant Comments

PREPARED FOR:

F.C.MANNIX P.O. BOX 85 BOSTON, MA 02113

PREPARED BY:

JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538 508-273-0377

DATE: MAY 25, 2021

CALC./DESIGN: BJW

DRAWN: BJW

CHECK: JLC

JOB NO: 435

SHEET 1 OF 12

APPLICANT & OWNER:

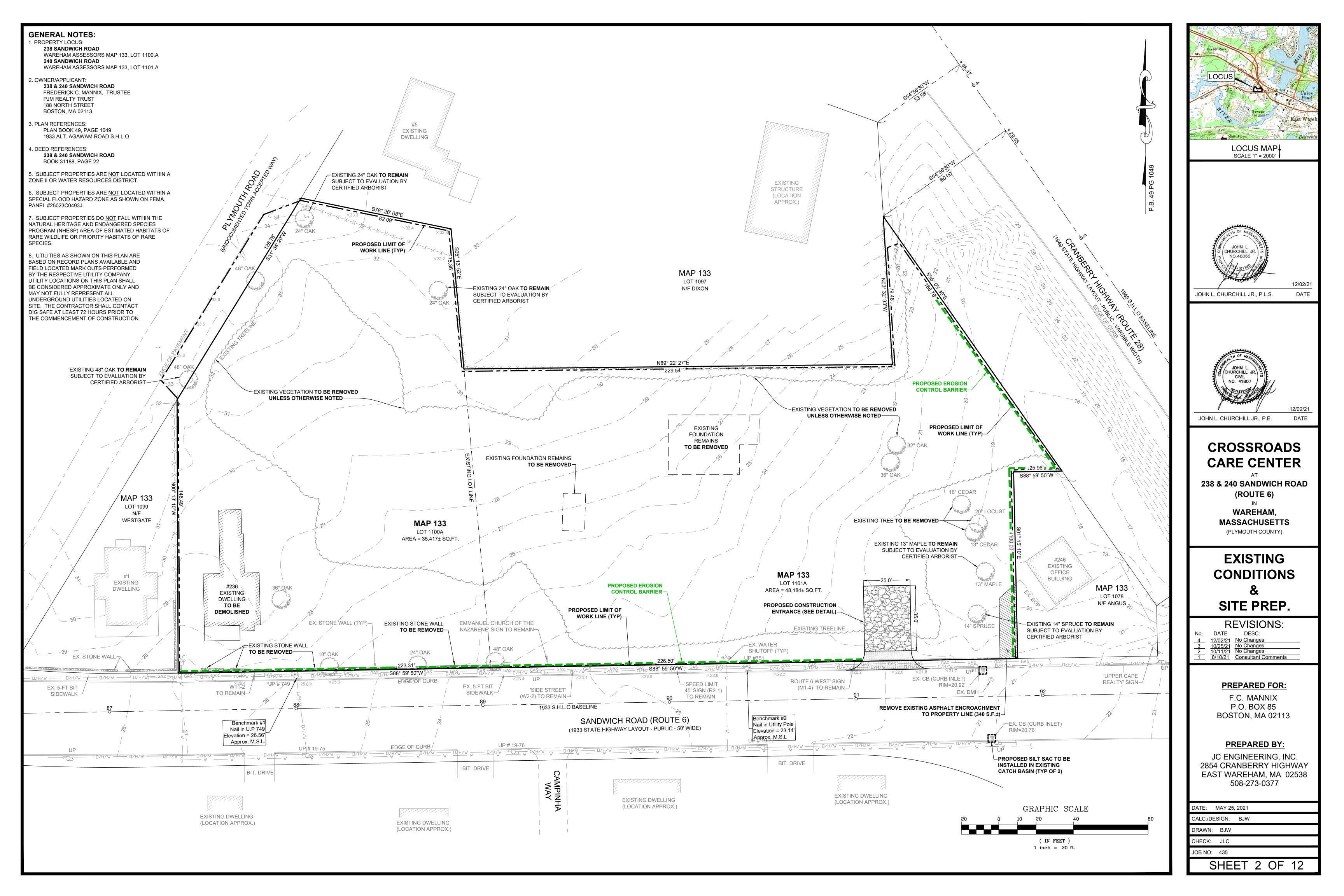
F.C. MANNIX P.O. BOX 85 BOSTON, MA 02113

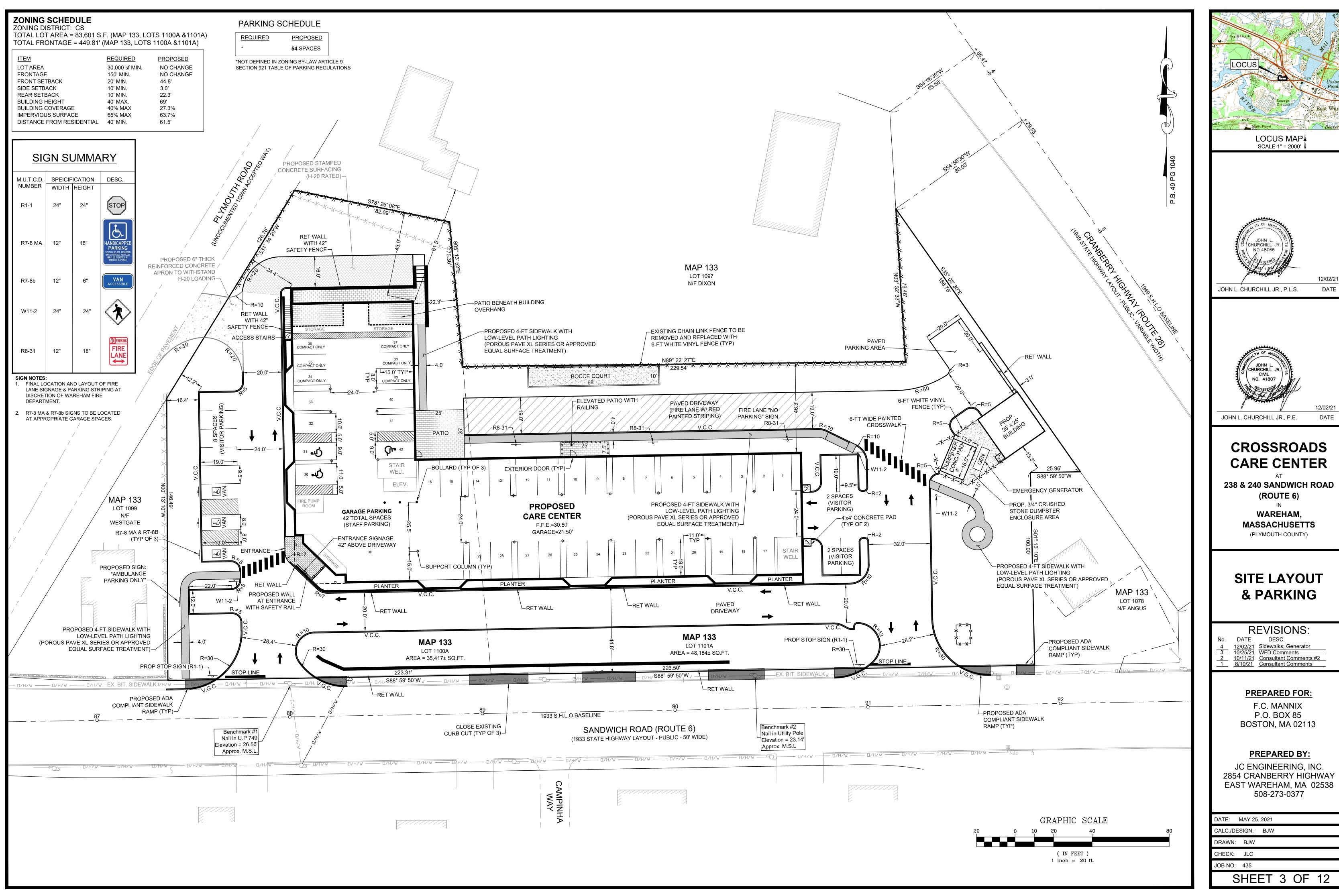
ENGINEERING & SURVEYING BY:

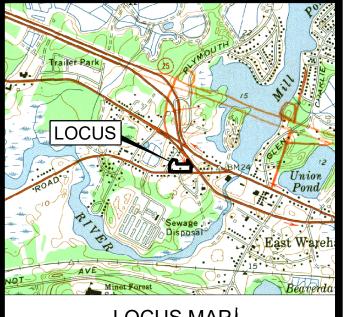
JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538

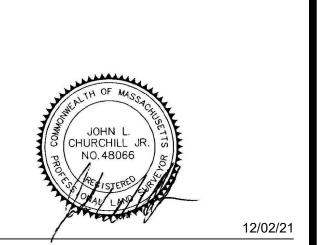
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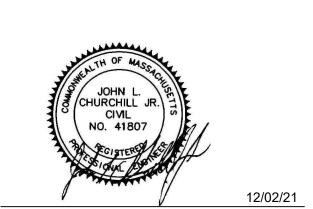
EA FULLER ASSOCIATES LANDSCAPE ARCHITECTURE PO BOX 48 NORTH CARVER, MA 02355

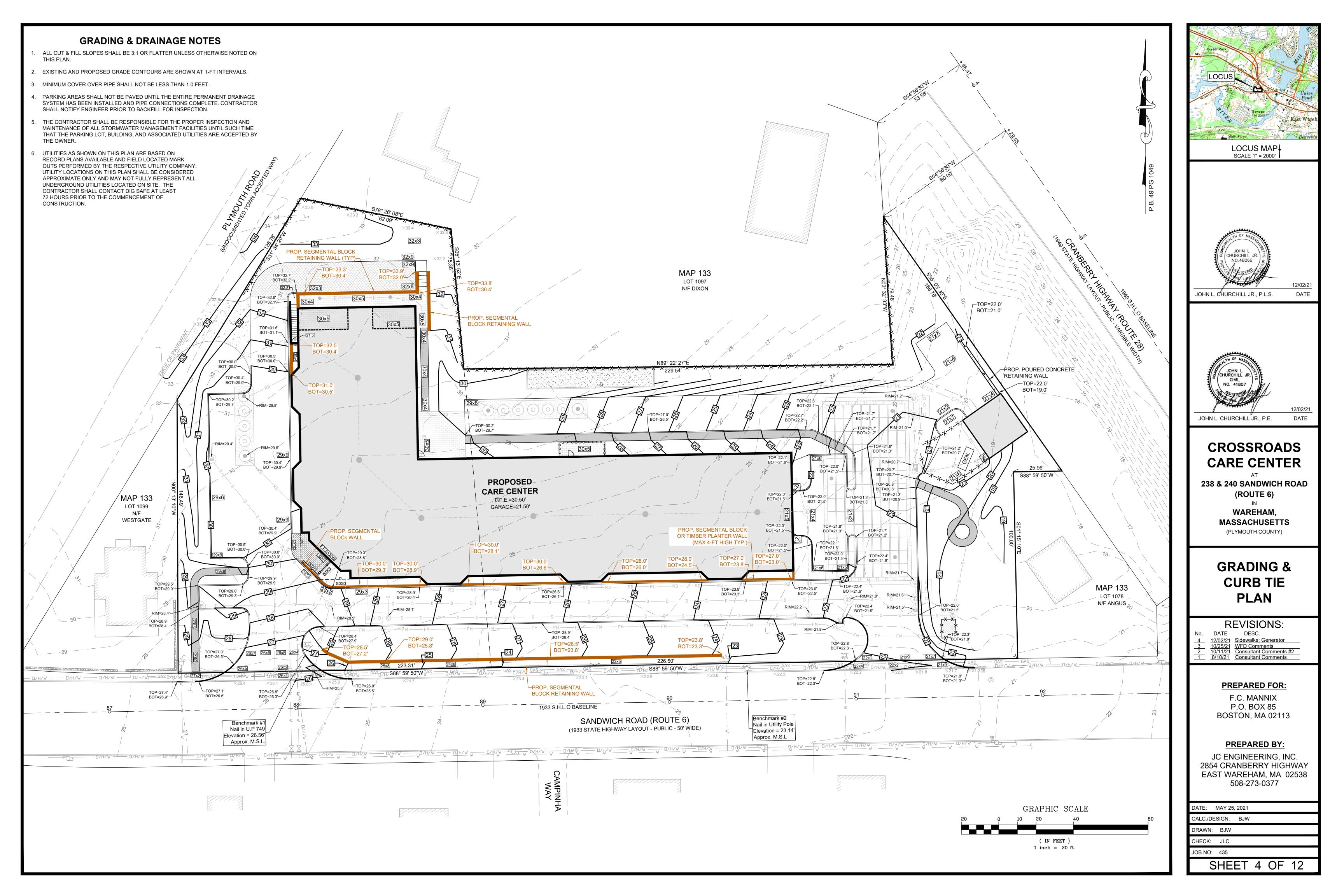


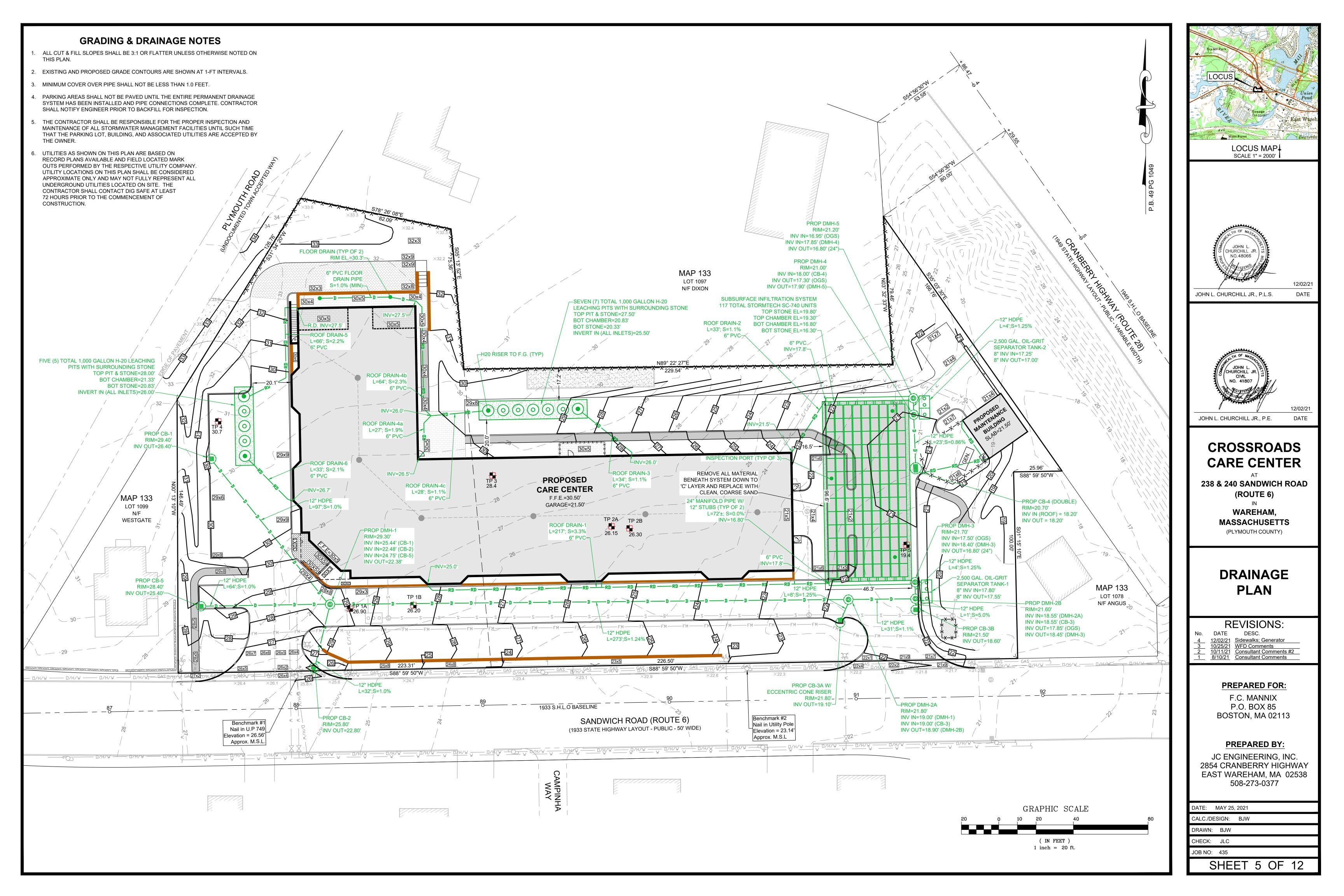


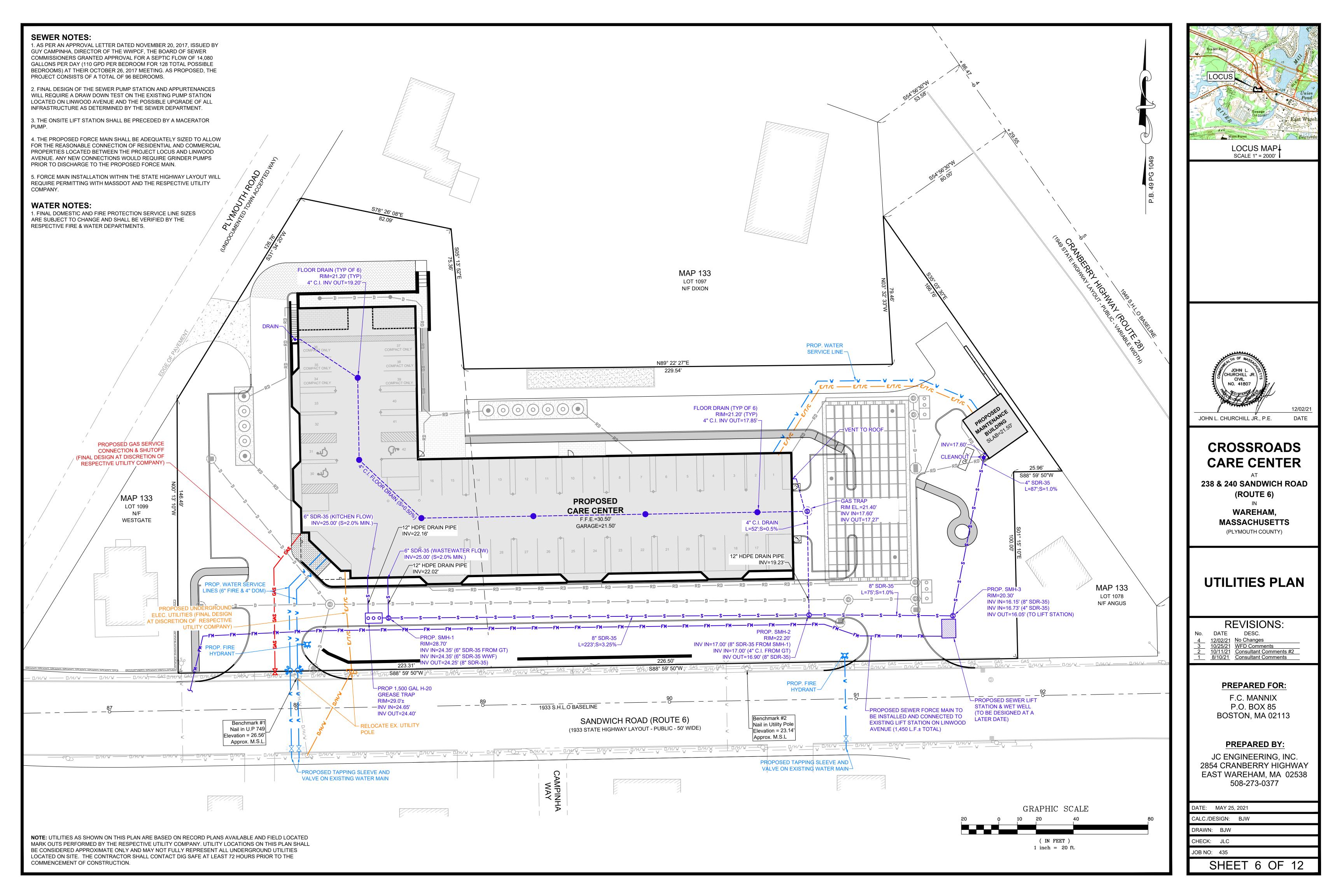


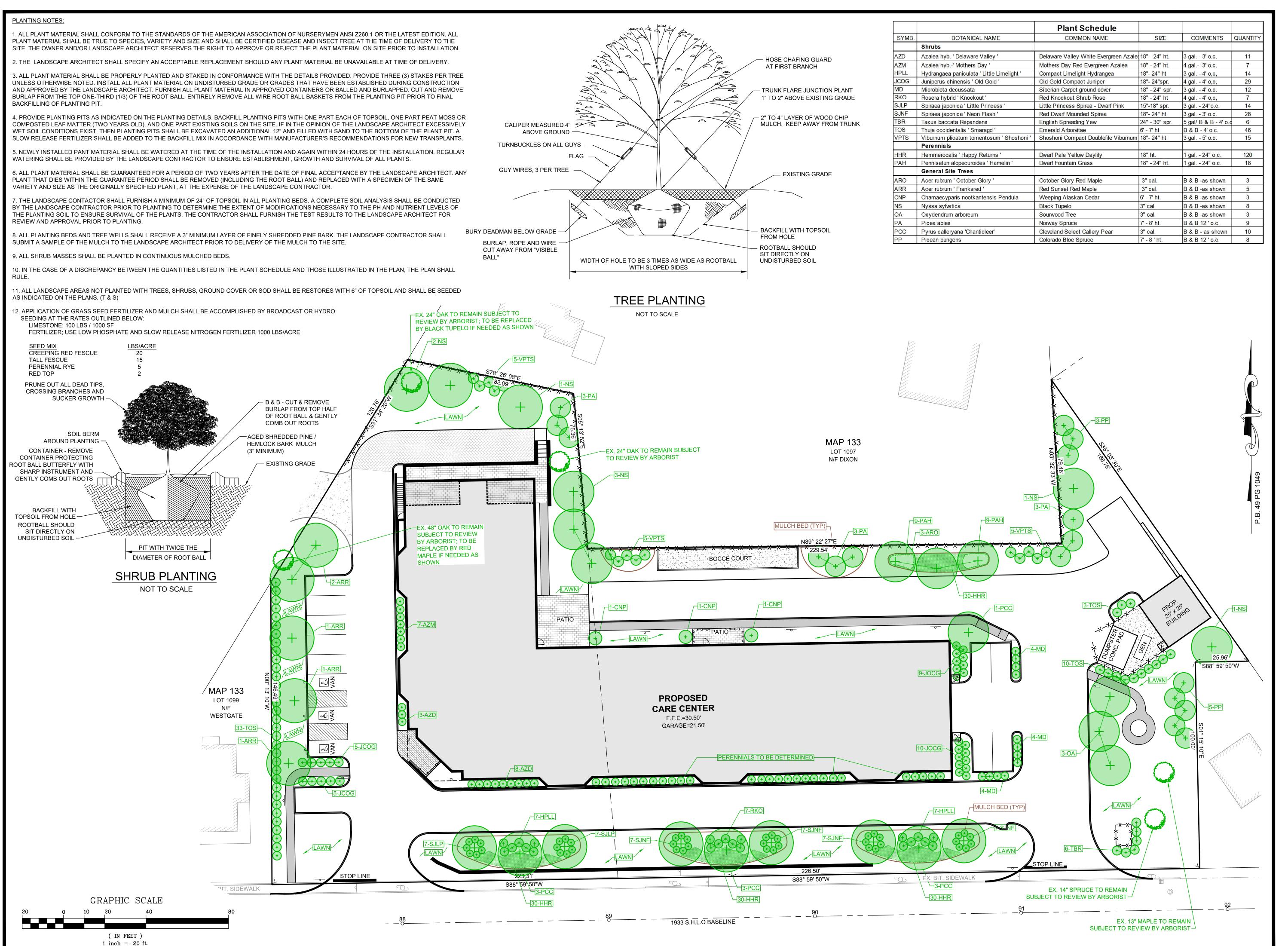


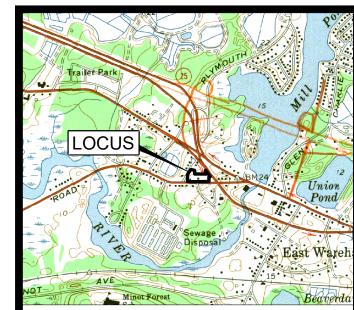












LOCUS MAP

EDWARD A. FULLER, R.L.A.

CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6)

DATE

WAREHAM,
MASSACHUSETTS
(PLYMOUTH COUNTY)

LANDSCAPE PLAN

REVISIONS:

DATE DESC.

| 12/02/21 | Sidewalks; Generator | 10/25/21 | No Changes | No Changes | No Changes | Consultant Comments |

PREPARED FOR:

F.C. MANNIX P.O. BOX 85 BOSTON, MA 02113

PREPARED BY:

EA FULLER ASSOCIATES LANDSCAPE ARCHITECTURE PO BOX 48 NORTH CARVER, MA 02355

DATE: MAY 25, 2021

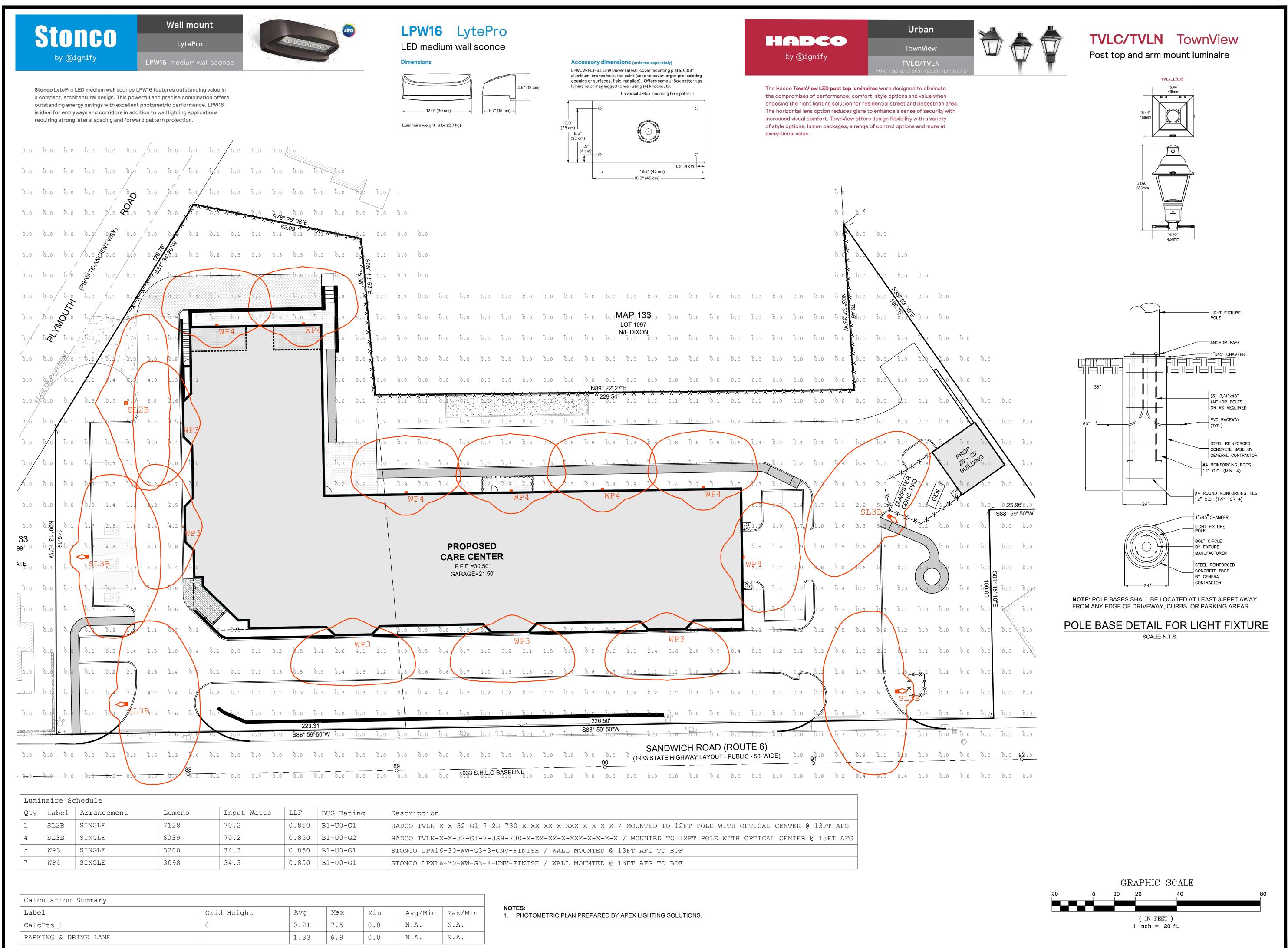
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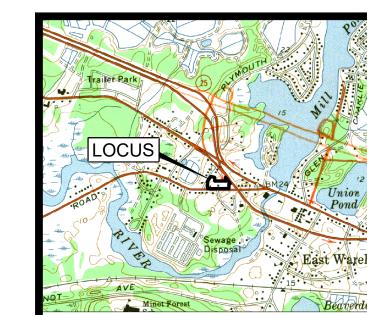
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CHECK: JLC

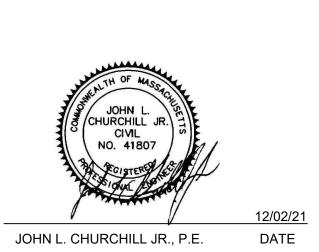
JOB NO: 435

SHEET 7 OF 12





SCALE 1" = 2000'



CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6)

WAREHAM,
MASSACHUSETTS
(PLYMOUTH COUNTY)

LIGHTING PLAN

REVISIONS: DATE DESC.

10. DATE DESC.

4 12/02/21 No Changes
3 10/25/21 No Changes
2 10/11/21 No Changes
No Changes
Consultant Comments

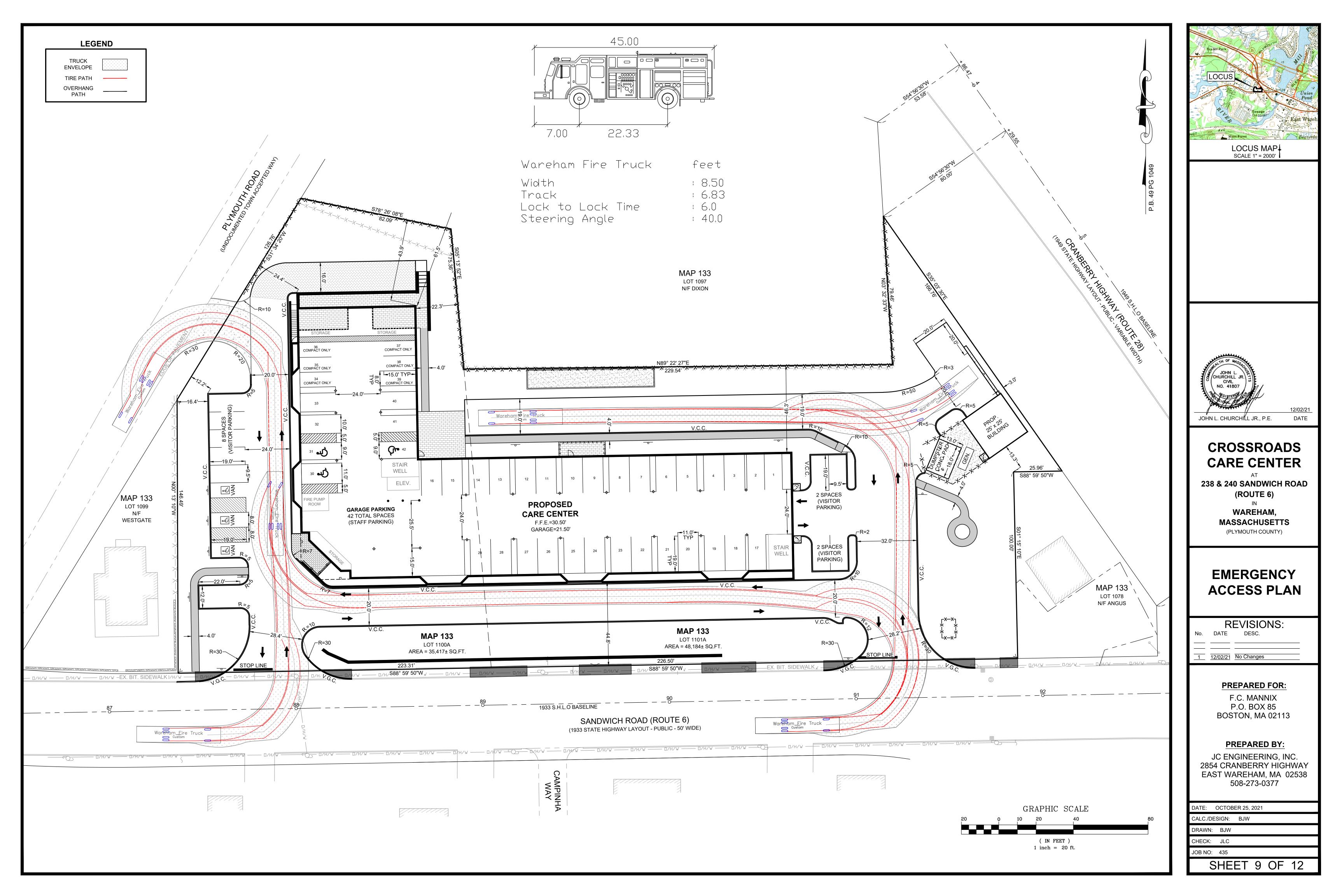
PREPARED FOR:

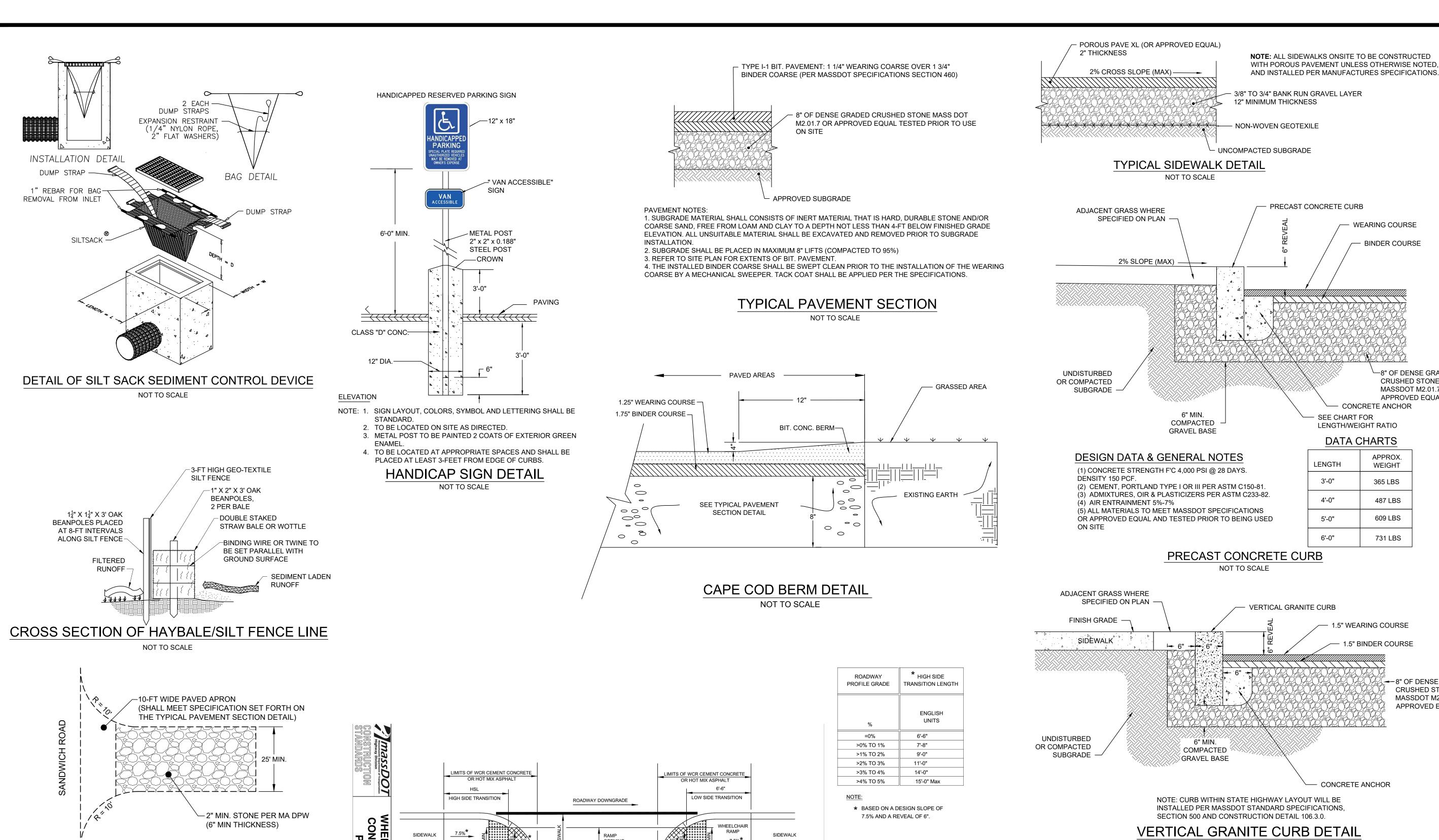
F.C. MANNIX P.O. BOX 85 BOSTON, MA 02113

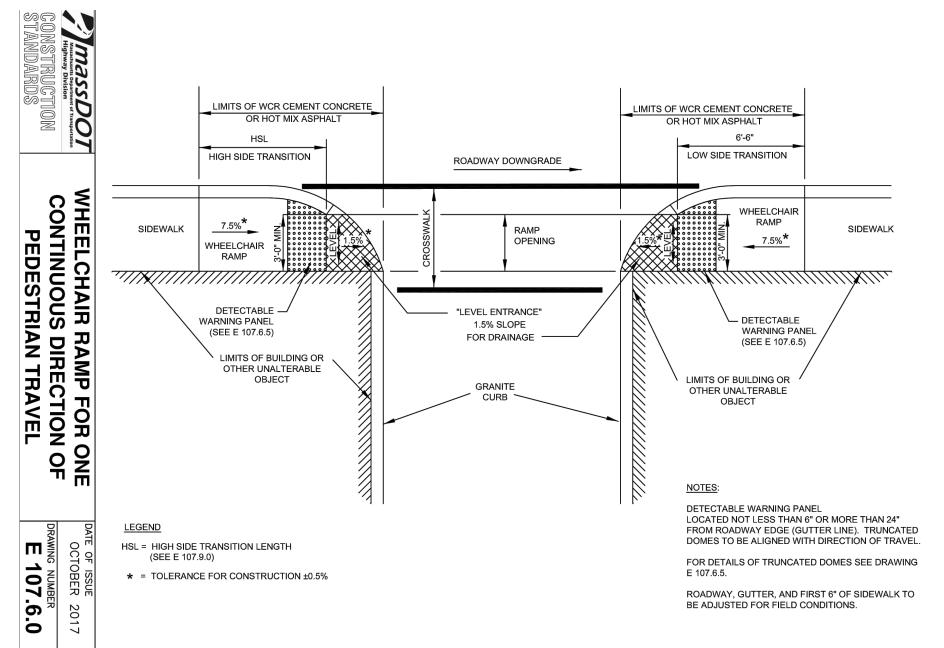
PREPARED BY:

JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538 508-273-0377

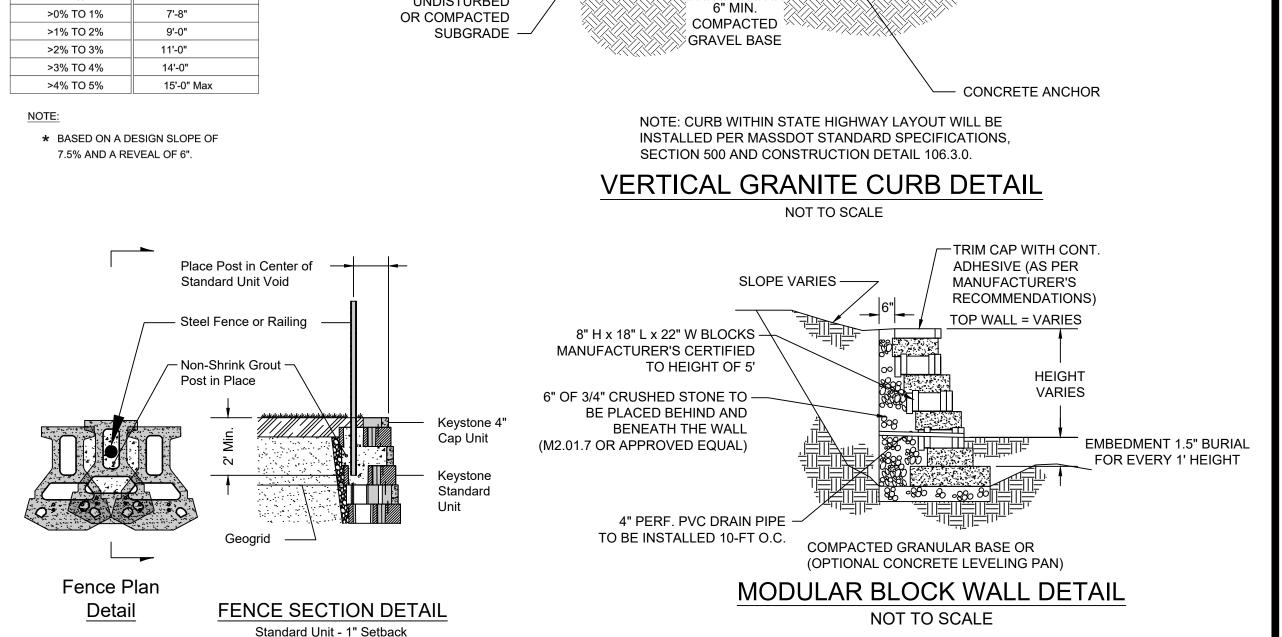
SHEET 8 OF 12	
JOB NO: 435	
CHECK: JLC	
DRAWN: BJW	
CALC./DESIGN: BJW	
DATE: MAY 25, 2021	





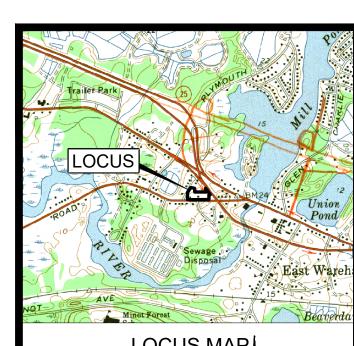






WALL & RAILING NOTES:

1. FINAL WALL DESIGN AND STYLE TO BE DETERMINED BY OWNER/LANDSCAPE ARCHITECT/GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. 2. WALLS IN EXCESS OF 4 FEET IN HEIGHT AND THOSE THAT REQUIRE THE PLACEMENT OF A SAFETY RAILING SHALL BE SUBJECT TO THE APPROVAL OF THE BUILDING INSPECTOR.



LOCUS MAP SCALE 1" = 2000'

WEARING COURSE

- BINDER COURSE

-8" OF DENSE GRADED

MASSDOT M2.01.7 OR

CRUSHED STONE

APPROVED EQUAL

CONCRETE ANCHOR

APPROX.

WEIGHT

365 LBS

487 LBS

609 LBS

731 LBS

- 1.5" WEARING COURSE

1.5" BINDER COURSE

8" OF DENSE GRADED

APPROVED EQUAL

CRUSHED STONE MASSDOT M2.01.7 OR

SEE CHART FOR

LENGTH

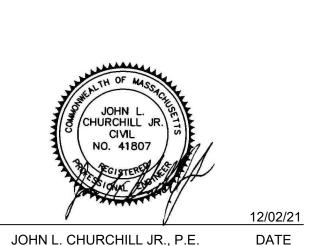
3'-0"

4'-0"

5'-0"

LENGTH/WEIGHT RATIO

DATA CHARTS



CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6)

> WAREHAM, **MASSACHUSETTS** (PLYMOUTH COUNTY)

DETAIL SHEET

REVISIONS: DESC.

Sidewalk Detail Added No Changes Consultant Comments #2 10/11/21 Consultant Comments #2 8/10/21 Consultant Comments

PREPARED FOR:

F.C. MANNIX P.O. BOX 85 BOSTON, MA 02113

PREPARED BY:

JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538 508-273-0377

S	HEET	10	OF	12
JOB NO:	435			
CHECK:	JLC			
DRAWN:	BJW			
CALC./DE	SIGN: BJV	V		
DATE:	MAY 25, 2021			

TYPICAL STRIPING DETAIL NOT TO SCALE

(1) STRIPING SHALL BE 4" WIDE STRAIGHT LINES OF WHITE TRAFFIC

(2) DIMENSIONS AS SHOWN APPLY ONLY TO OUTDOOR SURFACE

PAINT, TO BE INSTALLED AS SHOWN ON LAYOUT AND PARKING PLAN.

TEMPORARY CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

EDGE OF PAVEMENT

9.5' (TYP)

4" (TYP) ────

NOTES:

PARKING AREAS ONLY.

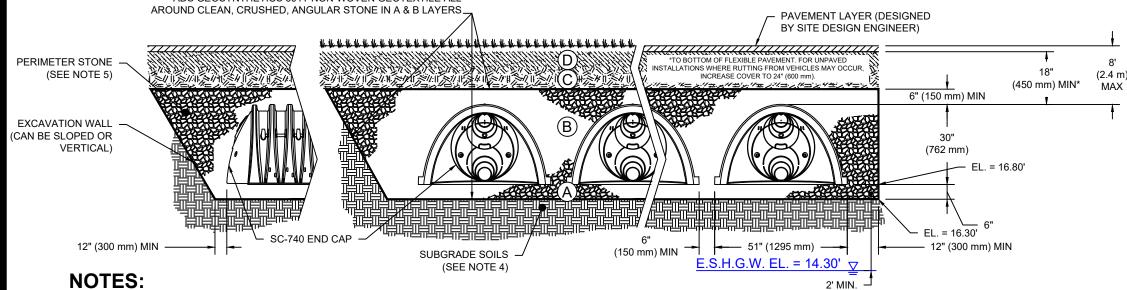
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
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.
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}

PLEASE NOTE: 1. 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 DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL



1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".

2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION

3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.

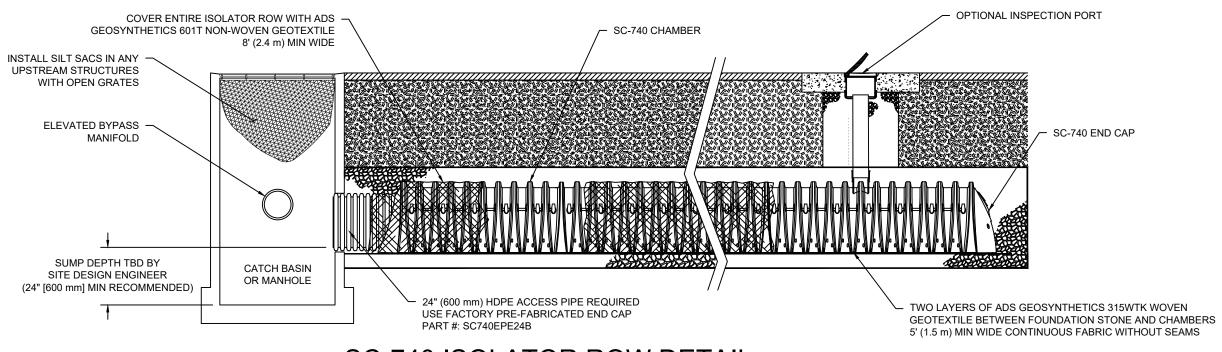
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.

5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS

6. 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.

SC-740 CROSS SECTION DETAIL

NOT TO SCALE



SC-740 ISOLATOR ROW DETAIL

NOT TO SCALE

CONCRETE COLLAR → 18" (450 mm) MIN WIDTH PAVEMENT CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS 2" (300 mm) NYLOPLAST INLINE DRAIN BODY W/SOLID HINGED COVER OR GRATE PART# 2712AG6IP* SOLID COVER: 1299CGC* GRATE: 1299CGS CONCRETE SLAB 8" (200 mm) MIN THICKNESS FLEXSTORM CATCH IT -PART# 6212NYFX SC-740 CHAMBER WITH USE OF OPEN GRATE 6" (150 mm) INSERTA TEE PART# 6P26FBSTIP* INSERTA TEE TO BE CENTERED ON CORRUGATION CREST THE PART# 2712AG6IPKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

INSPECTION PORT DETAIL

NOT TO SCALE

STORMTECH CHAMBER SPECIFICATIONS CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310

- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS 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.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER **COLLECTION CHAMBERS"**
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
- A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR FOUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE
- b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
- STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- 8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING

STORMTECH INSPECTION & MAINTENANCE

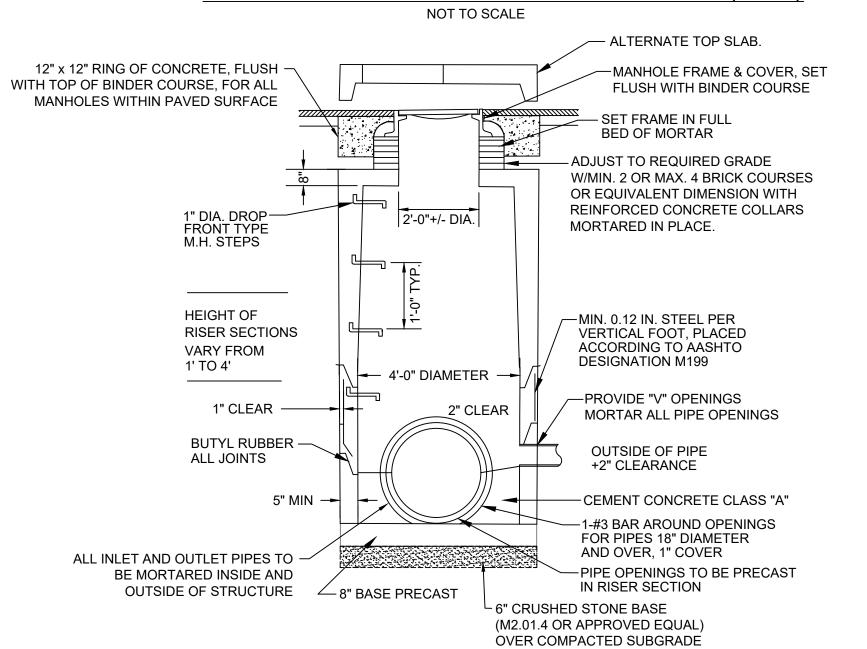
INSPECT ISOLATOR ROW FOR SEDIMENT A. INSPECTION PORTS (IF PRESENT)

- 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 A.4. LOWER A CAMERA INTO ISOLATOR ROW 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.
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW 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
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN C. 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

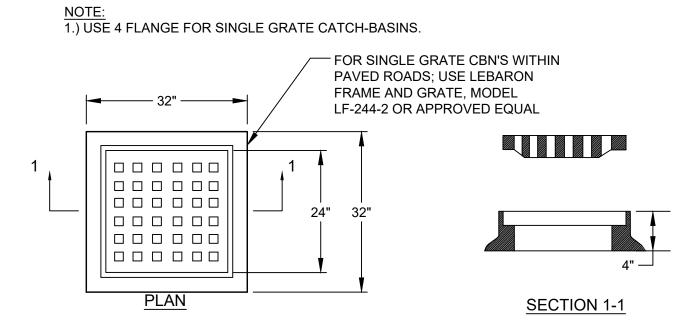
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SMH COVERS SHALL HAVE THE WORD "SEWER" EMBOSSED ON IT AND THE WORD "DRAIN" FOR DMH'S LEBARON FRAME AND COVER. (COVER) MODEL LK-110 OR APPROVED EQUAL SECTION A-A

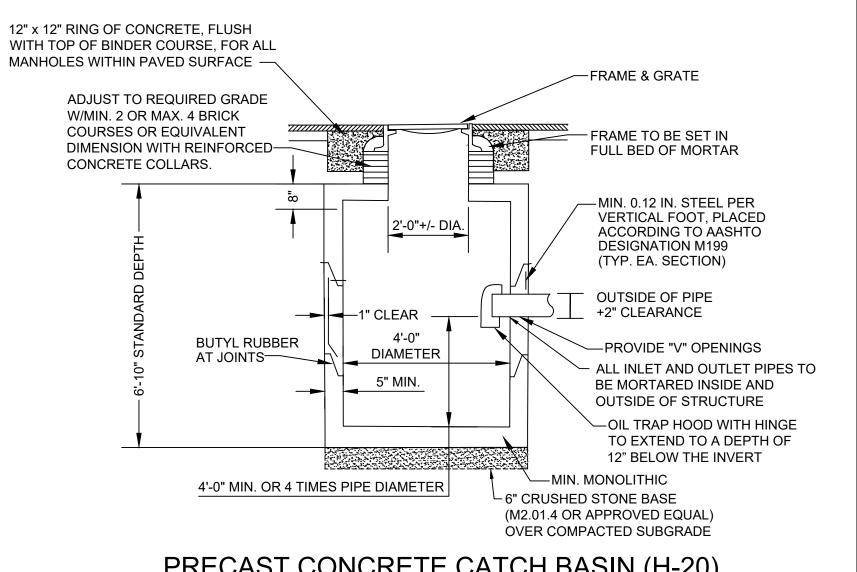
STANDARD MANHOLE FRAME & COVER (H-20)



PRECAST DRAIN MANHOLE(H-20) NOT TO SCALE

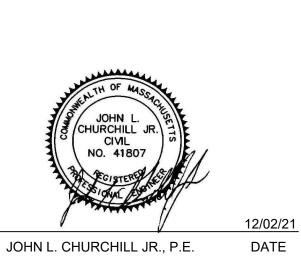


CATCH BASIN FRAME & GRATE (H-20) NOT TO SCALE



LOCUS

LOCUS MAP. SCALE 1" = 2000'



CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6)

> WAREHAM, **MASSACHUSETTS** (PLYMOUTH COUNTY)

> > **DETAIL** SHEET

REVISIONS: DESC.

No Changes No Changes Consultant Comments #2 8/10/21 Consultant Comments

PREPARED FOR:

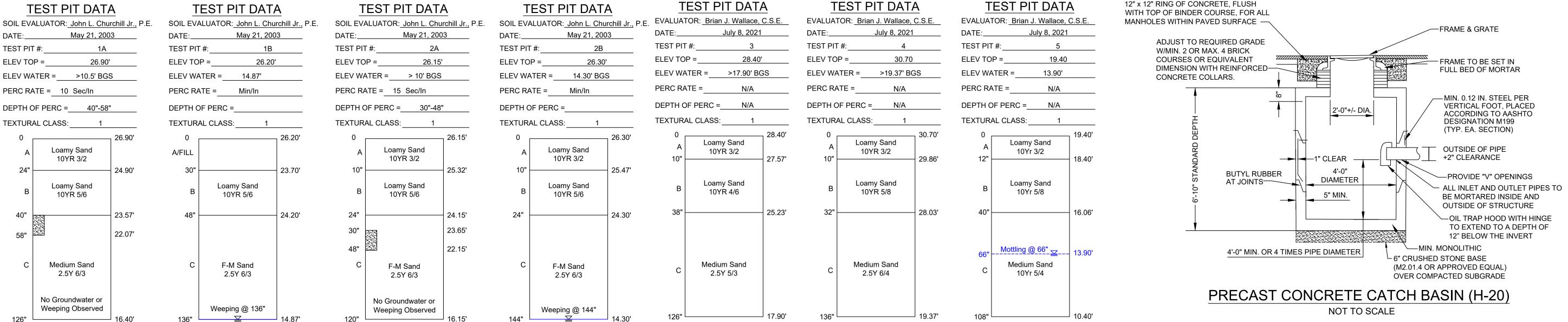
F.C. MANNIX P.O. BOX 85 BOSTON, MA 02113

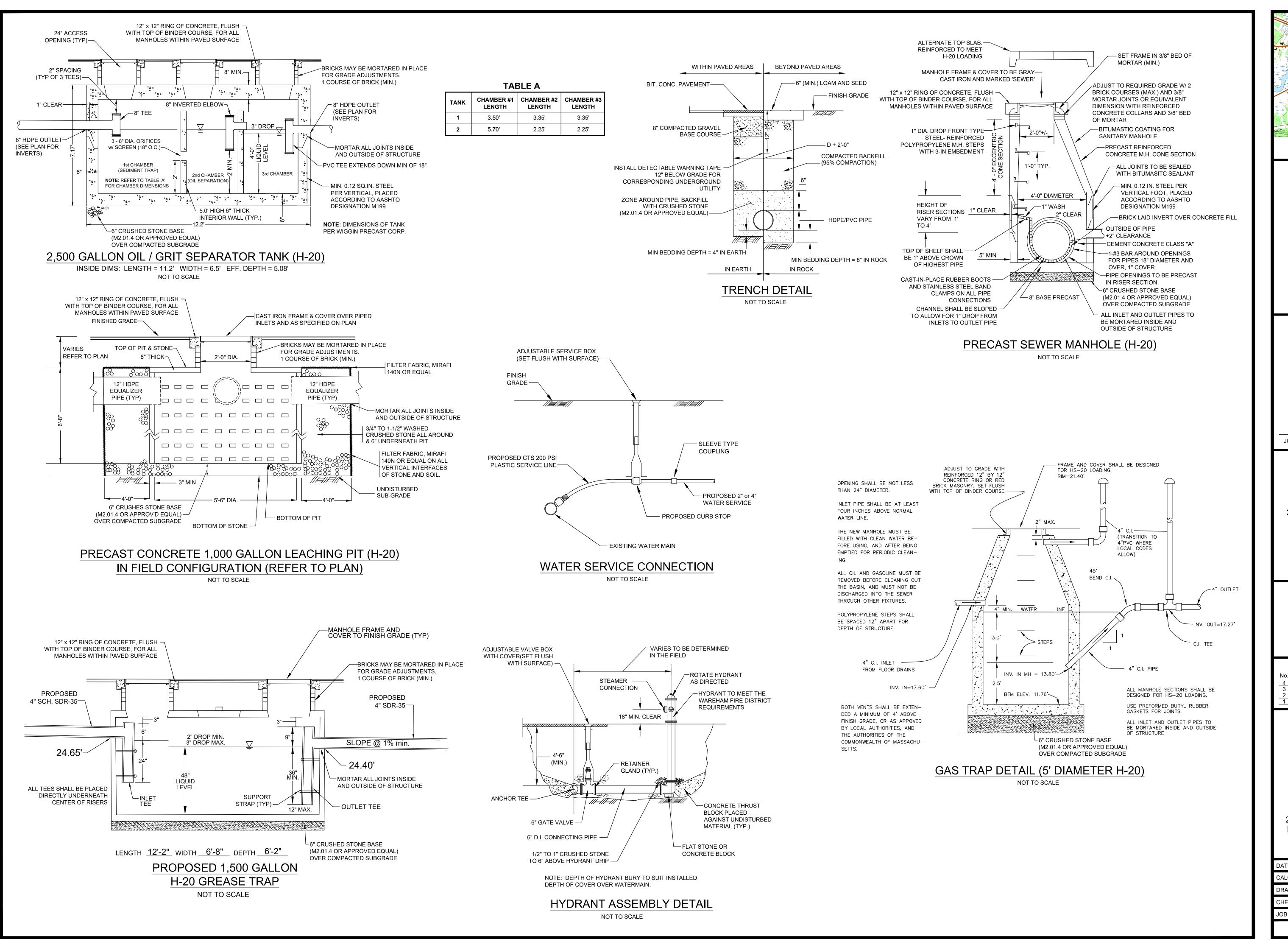
PREPARED BY:

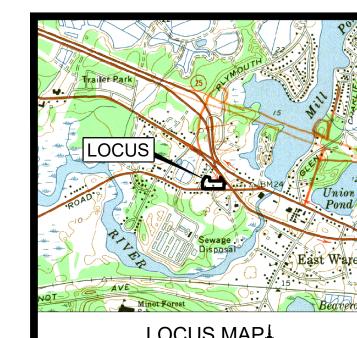
JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538 508-273-0377

DATE: MAY 25, 2021 CALC./DESIGN: BJW DRAWN: BJW CHECK: JLC JOB NO: 435

SHEET 11 OF 12







LOCUS MAP SCALE 1" = 2000'

JOHN L. CHURCHILL JR., P.E. DATE

CROSSROADS CARE CENTER

238 & 240 SANDWICH ROAD (ROUTE 6)

WAREHAM,
MASSACHUSETTS
(PLYMOUTH COUNTY)

DETAIL SHEET

REVISIONS:

 No.
 DATE
 DESC.

 4
 12/02/21
 No Changes

 3
 10/25/21
 No Changes

 2
 10/11/21
 Consultant Comments #2

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 8/10/21
 Consultant Comments

PREPARED FOR:

F.C. MANNIX P.O. BOX 85 BOSTON, MA 02113

PREPARED BY:

JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538 508-273-0377

DATE: MAY 25, 2021

CALC./DESIGN: BJW

DRAWN: BJW

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SHEET 12 OF 12