

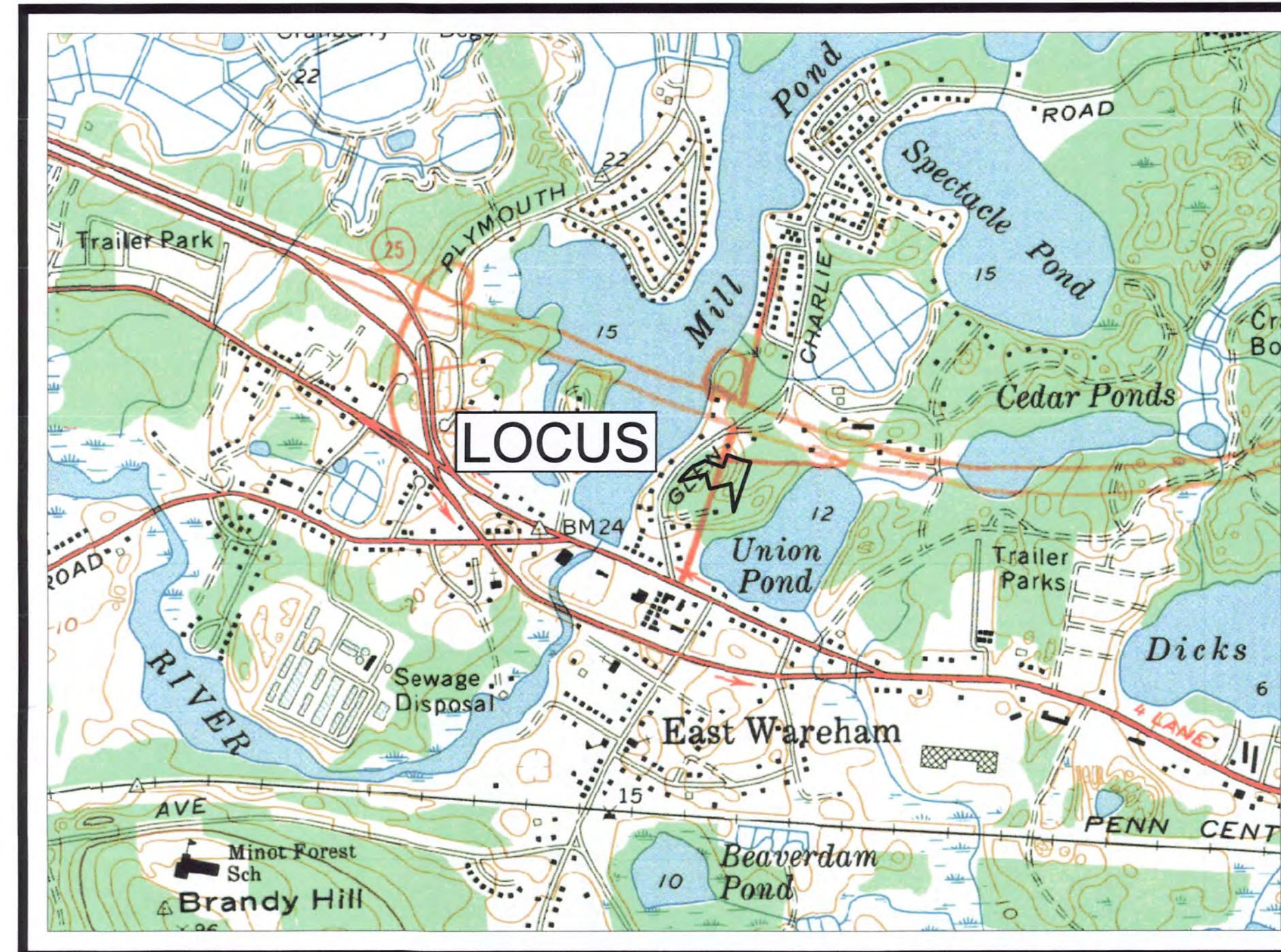
# PROPOSED SITE PLAN

AT  
**21 OLD GLEN CHARLIE ROAD**  
 E. WAREHAM, MASSACHUSETTS

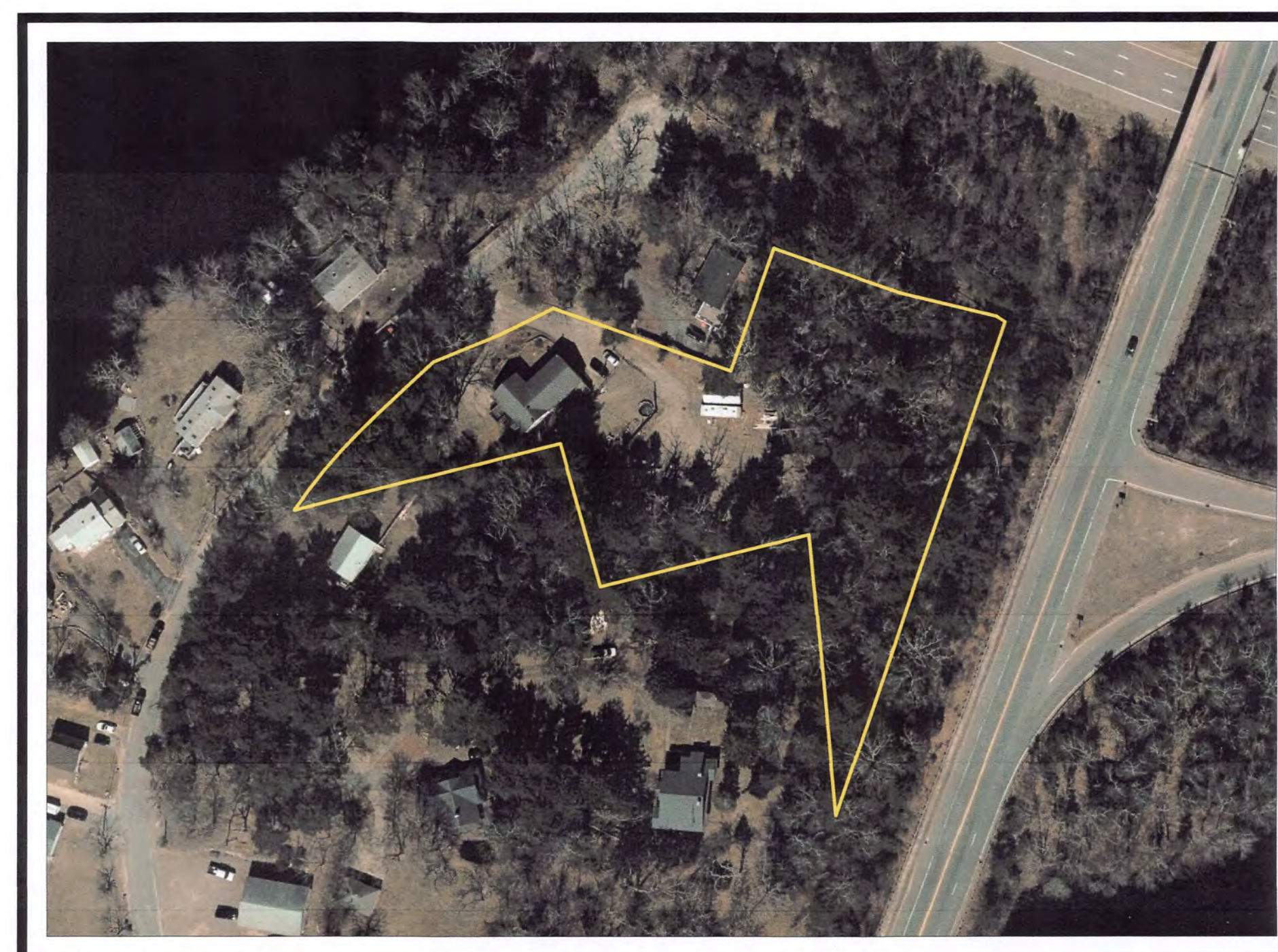
DATE: FEBRUARY 2, 2022

## LIST OF DRAWINGS

SHEET NO.	TITLE
1 OF 5	EXISTING CONDITIONS
2 OF 5	PROPOSED LAYOUT
3 OF 5	GRADING AND DRAINAGE
4 OF 5	DETAIL SHEET
5 OF 5	SEPTIC SYSTEM DESIGN



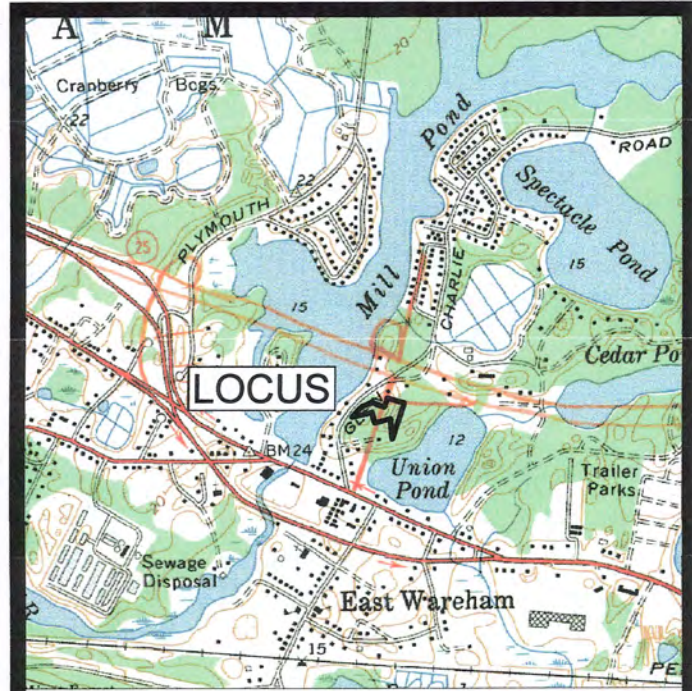
U.S.G.S. MAP  
 SCALE 1" = 1000'



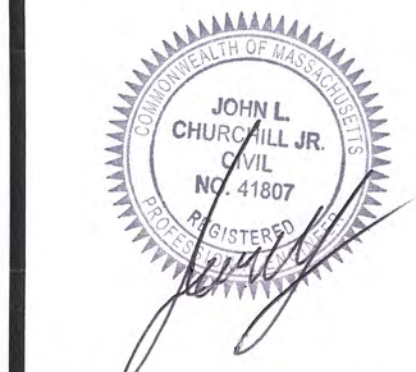
AERIAL MAP  
 SCALE 1" = 100'

## LEGEND

PROPOSED WATERLINE SERVICE	
EXISTING WATERLINE SERVICE	
PROPOSED UNDERGROUND UTILITIES	
PROPOSED OVERHEAD UTILITIES	
EXISTING OVERHEAD UTILITIES	
PROPOSED GAS PIPE	
EXISTING GAS PIPE	
PROPOSED DRAINAGE PIPE	
PROPOSED SPOT GRADE	
EXISTING SPOT GRADE	97x5
PROPOSED CATCH BASIN	
EXISTING CATCH BASIN	
PROPOSED CONTOUR	
EXISTING CONTOUR	30
EXISTING UTILITY POLE	
PROPOSED UTILITY POLE	



LOCUS MAP  
 SCALE 1" = 2000'



JOHN L. CHURCHILL, JR., P.E. DATE 2/2/22



JOHN L. CHURCHILL, JR., P.L.S. DATE 2/2/22

**PROPOSED  
 SITE PLAN**  
 AT  
**21 OLD GLEN  
 CHARLIE ROAD**  
 IN  
**EAST WAREHAM  
 MASSACHUSETTS**  
 (PLYMOUTH COUNTY)

## COVERSHEET

### REVISIONS:

No.	DATE	DESC.
1	2/2/22	ZONING COMMENTS

PREPARED FOR:  
 R.J. MOTTO, INC.  
 P.O. BOX 150  
 BUZZARDS BAY, MA 02532

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

DATE: JANUARY 3, 2022

FIELD: BM/JF

CALC./DESIGN: BMB

DRAWN: BMB

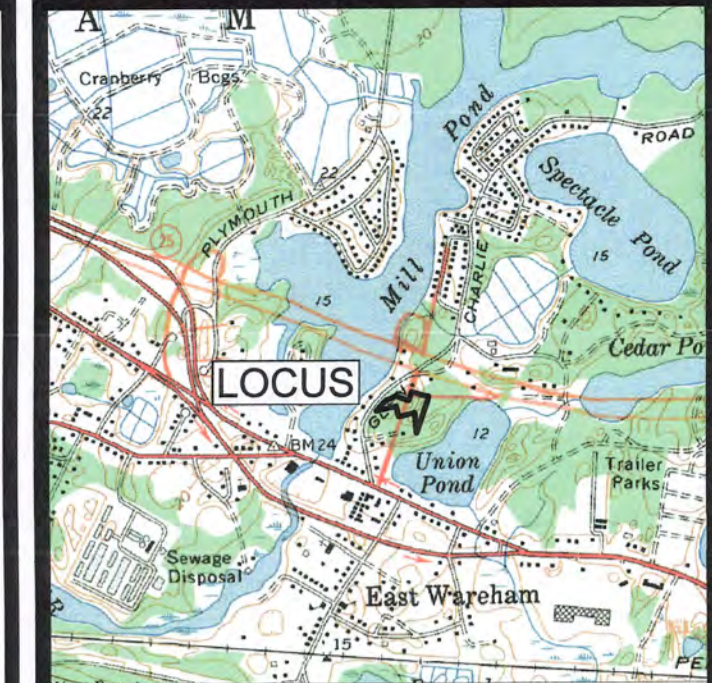
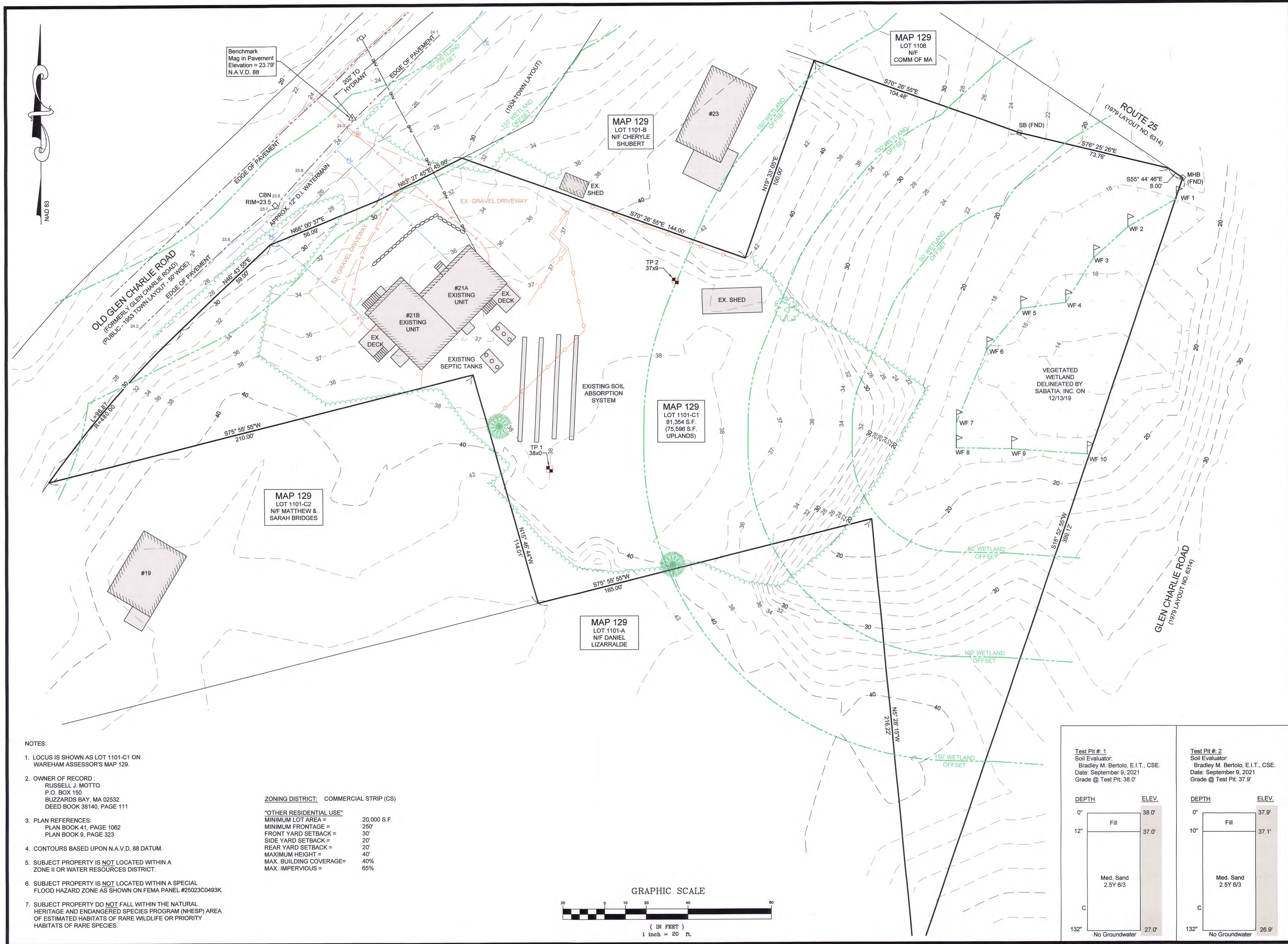
CHECK: JLC

JOB NO: 4872

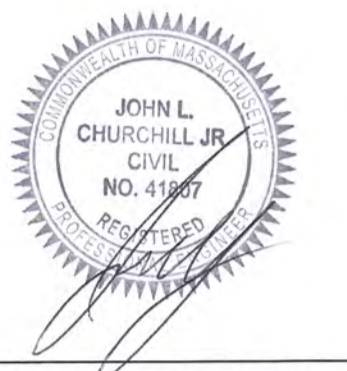
OWNER:  
 RUSSELL J. MOTTO  
 P.O. BOX 150  
 BUZZARDS BAY, MA 02532

APPLICANT:  
 R.J. MOTTO, INC.  
 P.O. BOX 150  
 BUZZARDS BAY, MA 02532

ENGINEER / SURVEYOR:  
 JC ENGINEERING, INC.  
 2854 CRANBERRY HIGHWAY  
 EAST WAREHAM, MA 02538



LOCUST MAP  
SCALE 1" = 2000'



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



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

**PROPOSED SITE PLAN**  
AT  
**21 OLD GLEN CHARLIE ROAD**  
IN  
**EAST WAREHAM MASSACHUSETTS**  
(PLYMOUTH COUNTY)

**EXISTING CONDITIONS**

**REVISIONS:**

No.	DATE	DESC.
1	2/2/22	ZONING COMMENTS

PREPARED FOR:  
**R.J. MOTTO, INC.**  
P.O. BOX 150  
BUZZARDS BAY, MA 02532

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

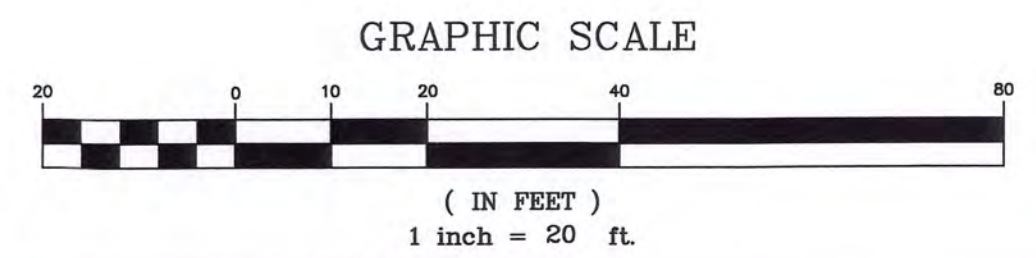
DATE:	JANUARY 3, 2022
FIELD:	BM/JF
CALC./DESIGN:	BMB
DRAWN:	BMB
CHECK:	JLC
JOB NO.:	4872

- NOTES:**
- LOCUS IS SHOWN AS LOT 1101-C1 ON WAREHAM ASSESSOR'S MAP 129.
  - OWNER OF RECORD:  
RUSSELL J. MOTTO  
P.O. BOX 150  
BUZZARDS BAY, MA 02532  
DEED BOOK 38140, PAGE 111
  - PLAN REFERENCES:  
PLAN BOOK 41, PAGE 1062  
PLAN BOOK 9, PAGE 323
  - CONTOURS BASED UPON N.A.V.D. 88 DATUM.
  - SUBJECT PROPERTY IS NOT LOCATED WITHIN A ZONE II OR WATER RESOURCES DISTRICT.
  - SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE AS SHOWN ON FEMA PANEL #25023C0493K.
  - SUBJECT PROPERTY DO NOT FALL WITHIN THE NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM (NHESP) AREA OF ESTIMATED HABITATS OF RARE WILDLIFE OR PRIORITY HABITATS OF RARE SPECIES.

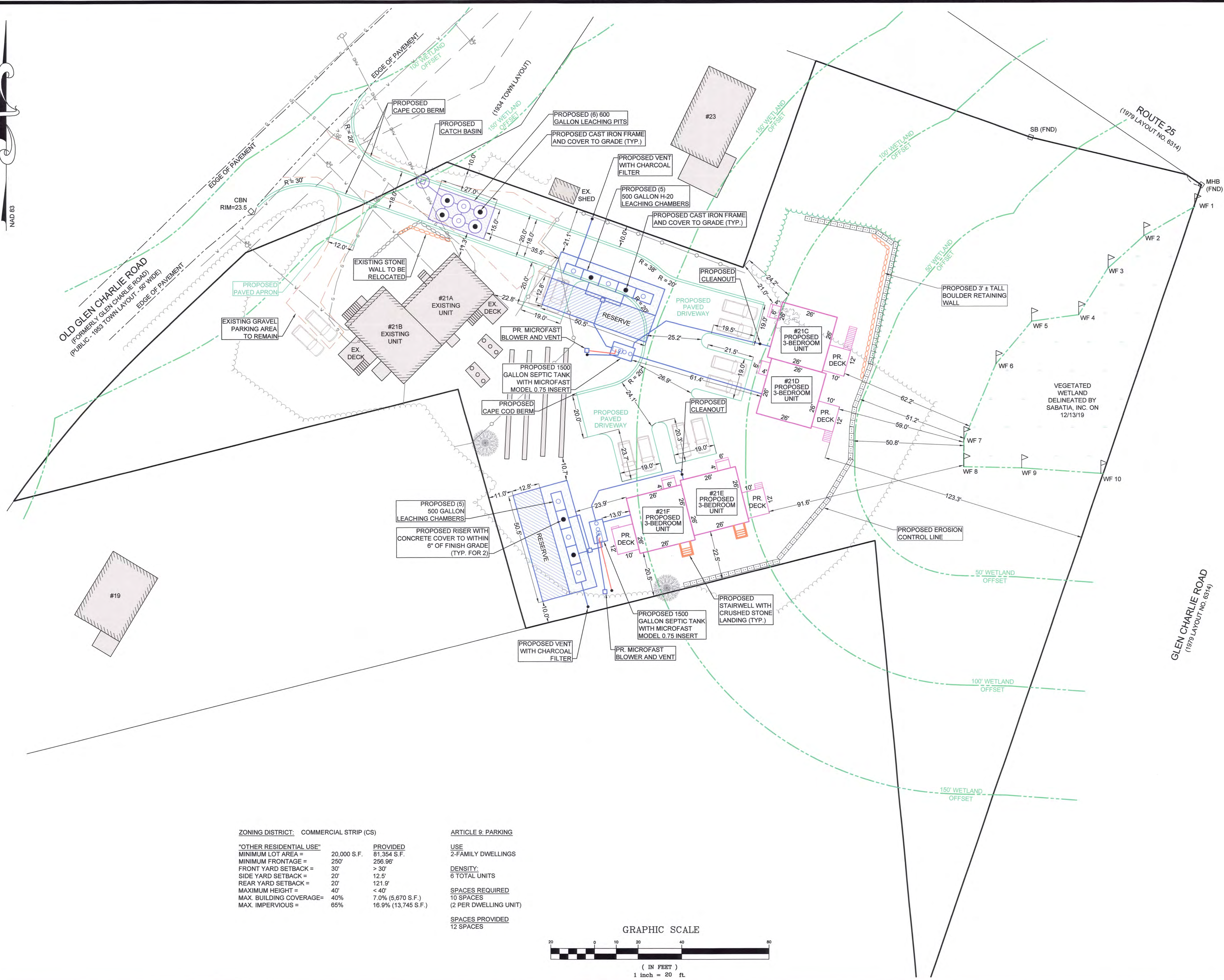
**ZONING DISTRICT:** COMMERCIAL STRIP (CS)

**"OTHER RESIDENTIAL USE"**

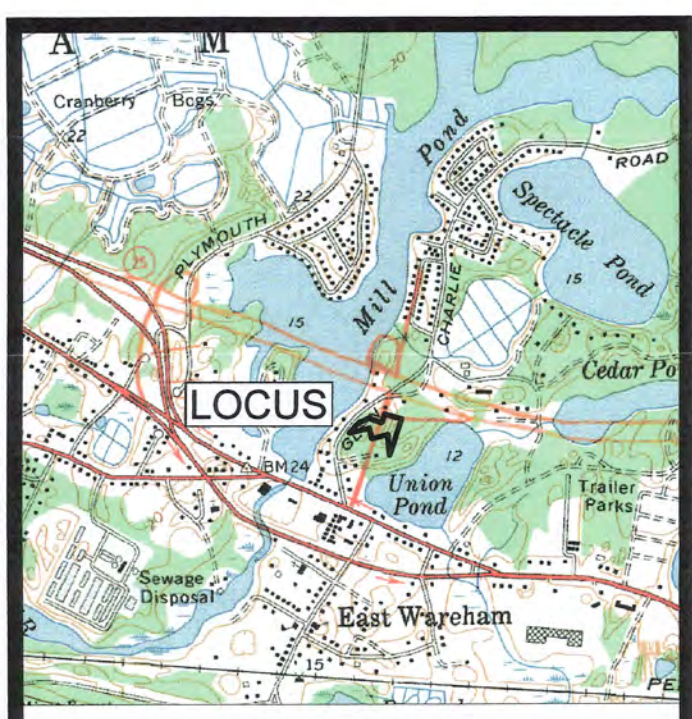
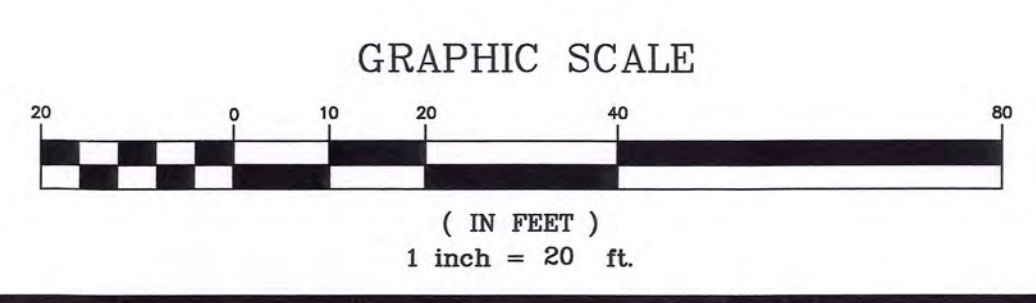
MINIMUM LOT AREA =	20,000 S.F.
MINIMUM FRONTAGE =	250'
FRONT YARD SETBACK =	30'
SIDE YARD SETBACK =	20'
REAR YARD SETBACK =	20'
MAXIMUM HEIGHT =	40'
MAX. BUILDING COVERAGE =	40%
MAX. IMPERVIOUS =	65%



Test Pit #. 1		Test Pit #. 2	
Soil Evaluator: Bradley M. Bertolo, E.I.T., CSE.		Soil Evaluator: Bradley M. Bertolo, E.I.T., CSE.	
Date: September 9, 2021		Date: September 9, 2021	
Grade @ Test Pit: 38.0'		Grade @ Test Pit: 37.9'	
DEPTH	ELEV.	DEPTH	ELEV.
0"	38.0'	0"	37.9'
12"	37.0'	10"	37.1'
	Med. Sand 2.5Y 6/3		Med. Sand 2.5Y 6/3
132"	No Groundwater	132"	No Groundwater



<b>ZONING DISTRICT:</b> COMMERCIAL STRIP (CS)		<b>ARTICLE 9: PARKING</b>	
<b>"OTHER RESIDENTIAL USE"</b>	<b>PROVIDED</b>	<b>USE</b>	
MINIMUM LOT AREA = 20,000 S.F.	81,354 S.F.	2-FAMILY DWELLINGS	
MINIMUM FRONTAGE = 250'	256.96'	<b>DENSITY:</b>	
FRONT YARD SETBACK = 30'	> 30'	6 TOTAL UNITS	
SIDE YARD SETBACK = 20'	12.5'	<b>SPACES REQUIRED</b>	
REAR YARD SETBACK = 20'	121.9'	10 SPACES	
MAXIMUM HEIGHT = 40'	< 40'	(2 PER DWELLING UNIT)	
MAX. BUILDING COVERAGE = 40%	7.0% (5,670 S.F.)	<b>SPACES PROVIDED</b>	
MAX. IMPERVIOUS = 65%	16.9% (13,745 S.F.)	12 SPACES	



**LOCUST MAP**  
SCALE 1" = 2000'

JOHN L. CHURCHILL, JR., P.E.      DATE: 2/2/22

JOHN L. CHURCHILL, JR., P.L.S.      DATE: 2/2/22

**PROPOSED SITE PLAN**  
AT  
**21 OLD GLEN CHARLIE ROAD**  
IN  
**EAST WAREHAM MASSACHUSETTS**  
(PLYMOUTH COUNTY)

**PROPOSED LAYOUT**

**REVISIONS:**

No.	DATE	DESC.
1	2/2/22	ZONING COMMENTS

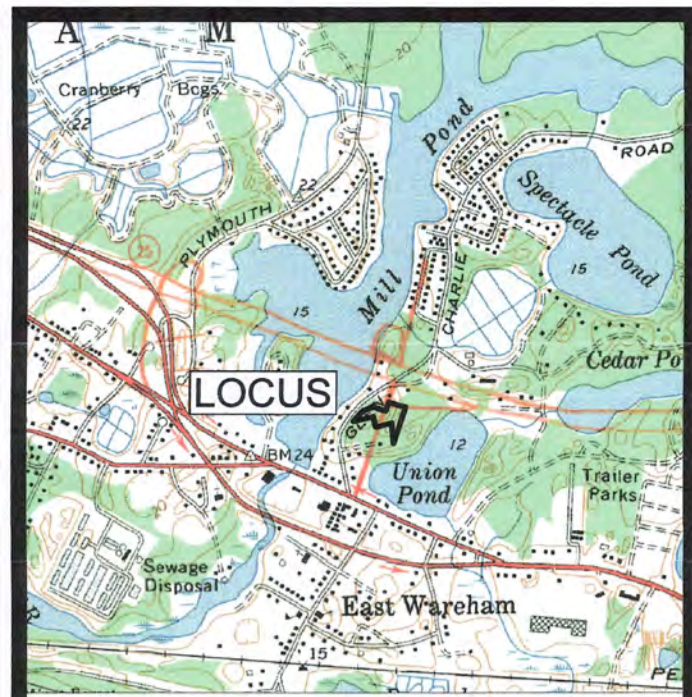
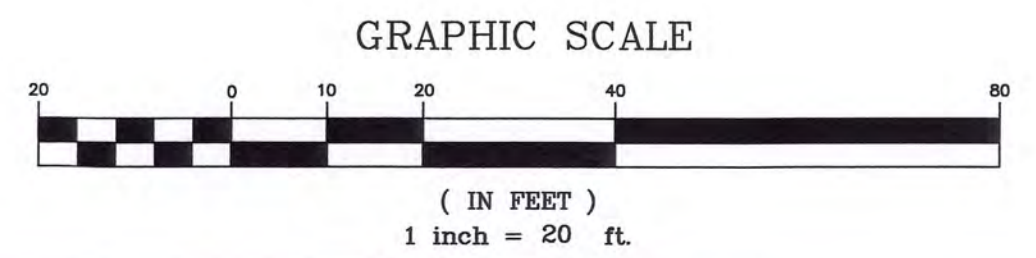
PREPARED FOR:  
**R.J. MOTTO, INC.**  
P.O. BOX 150  
BUZZARDS BAY, MA 02532

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

DATE:	JANUARY 3, 2022
FIELD:	BM/JF
CALC./DESIGN:	BMB
DRAWN:	BMB
CHECK:	JLC
JOB NO:	4872



Benchmark  
Mag in Pavement  
Elevation = 23.79'  
N.A.V.D. 88



LOCUS MAP  
SCALE 1" = 2000'

JOHN L. CHURCHILL, JR.  
CIVIL  
NO. 4167  
DATE  
2/2/22

**PROPOSED  
SITE PLAN**  
AT  
**21 OLD GLEN  
CHARLIE ROAD**  
IN  
**EAST WAREHAM  
MASSACHUSETTS**  
(PLYMOUTH COUNTY)

**GRADING AND  
DRAINAGE**

**REVISIONS:**

No.	DATE	DESC.
1	2/2/22	ZONING COMMENTS

PREPARED FOR:

R.J. MOTTO, INC.  
P.O. BOX 150  
BUZZARDS BAY, MA 02532

ENGINEERING BY:

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

DATE: JANUARY 3, 2022

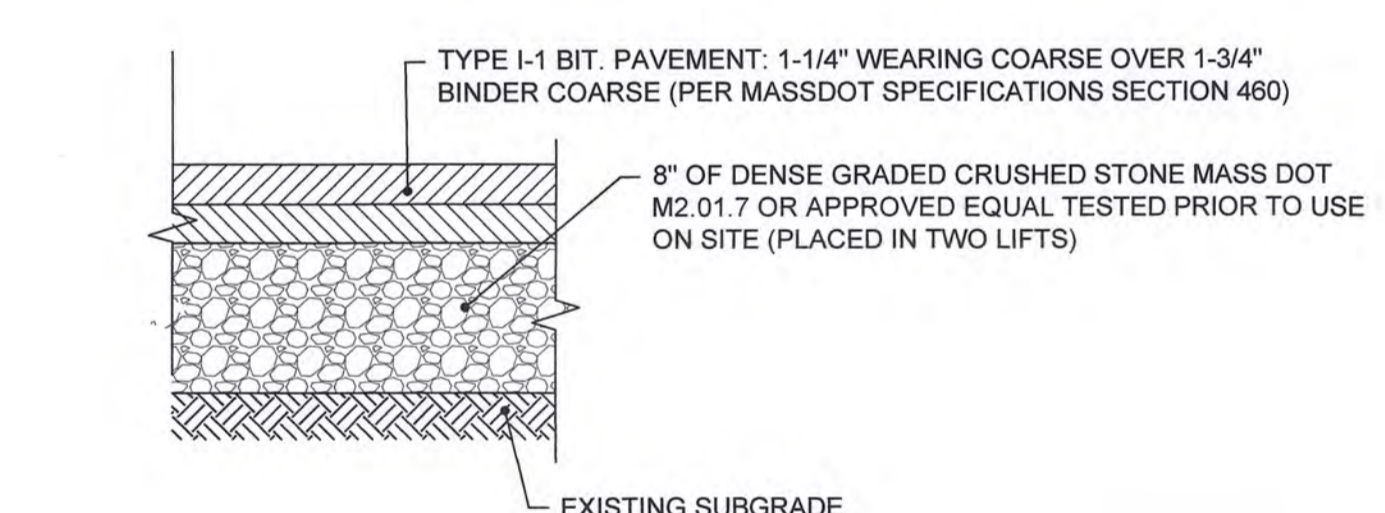
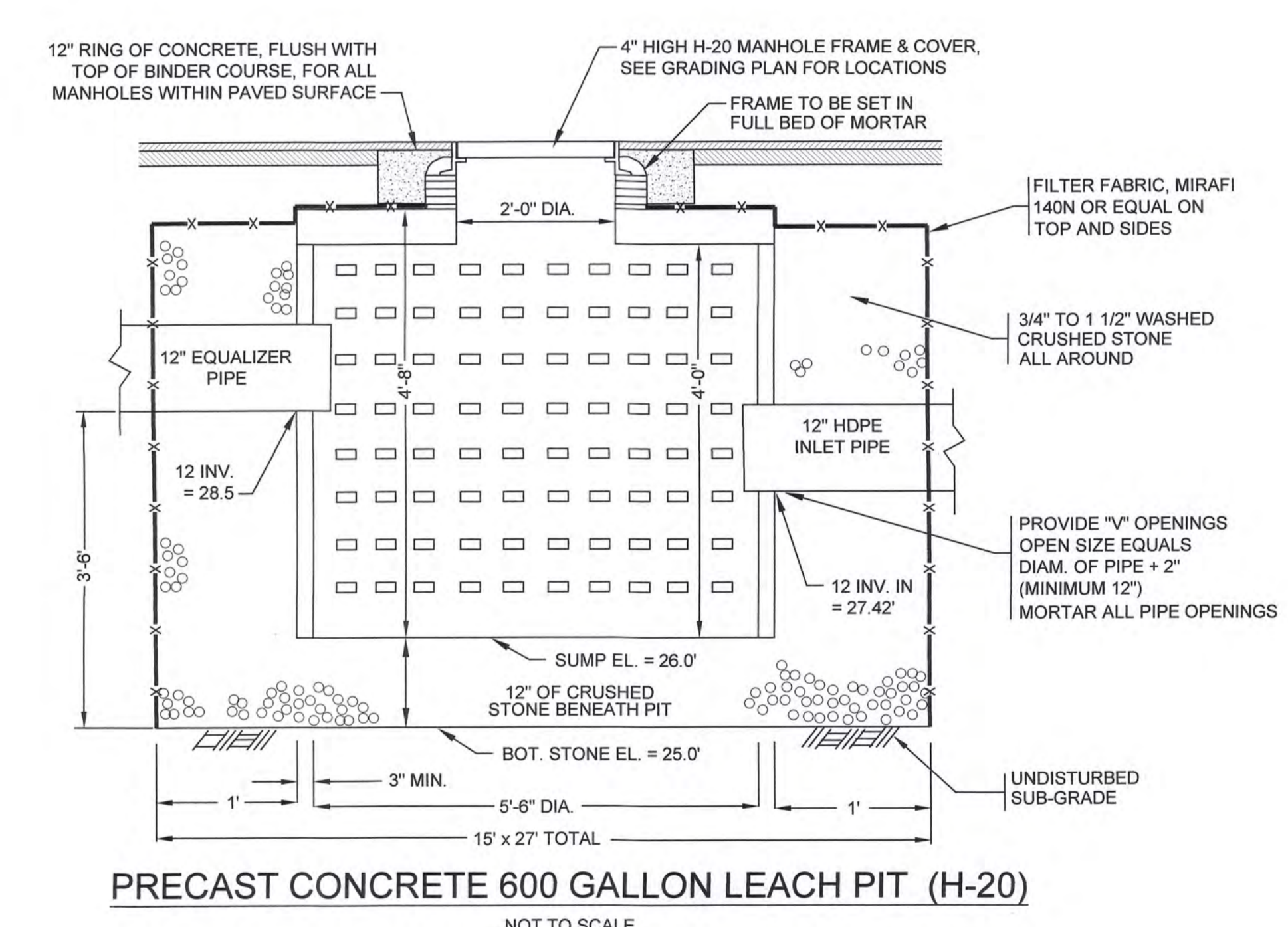
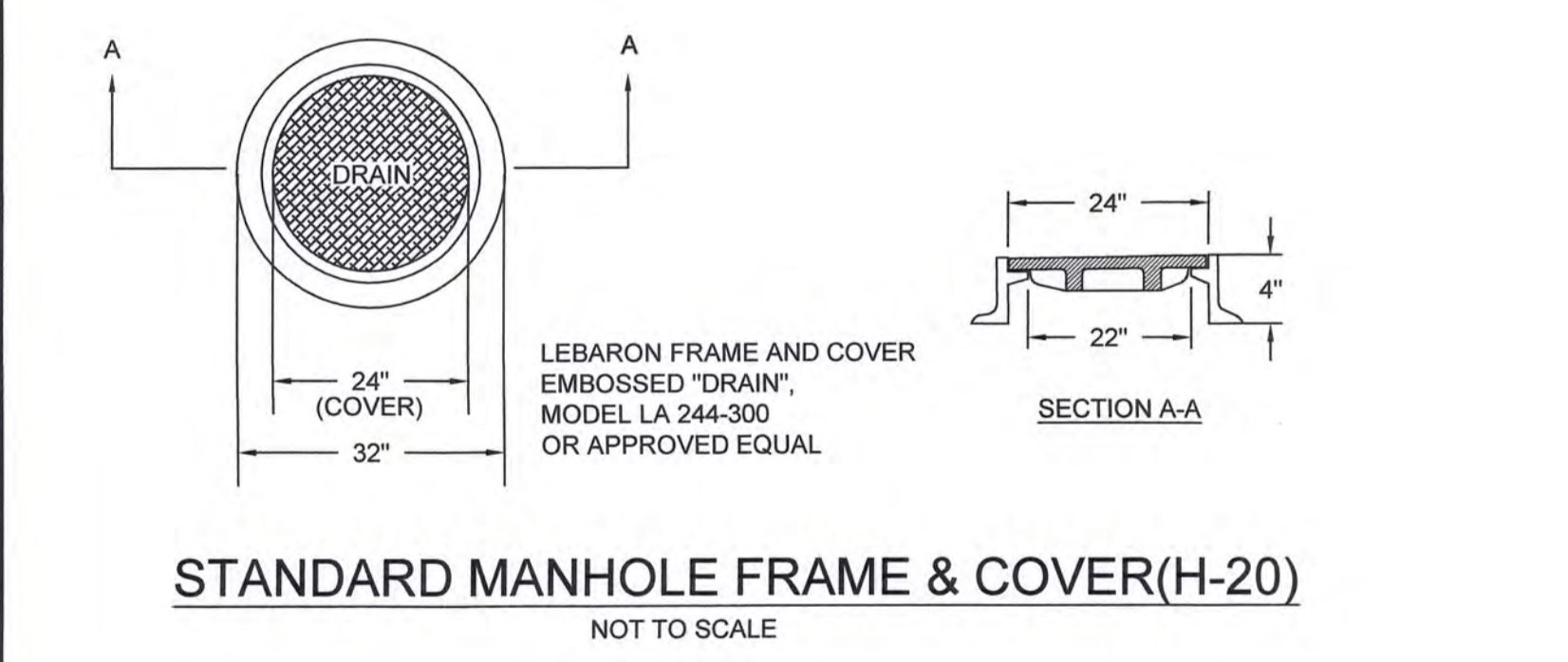
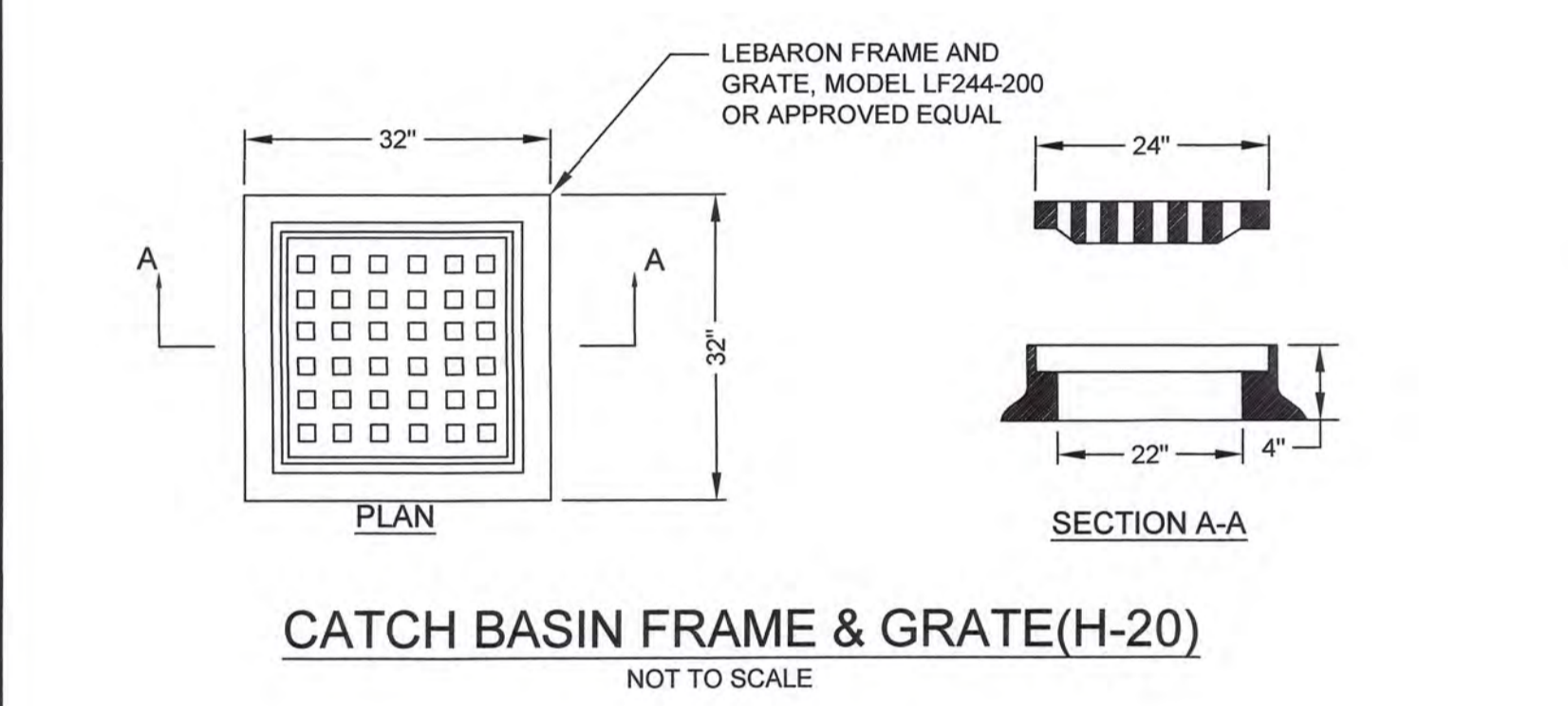
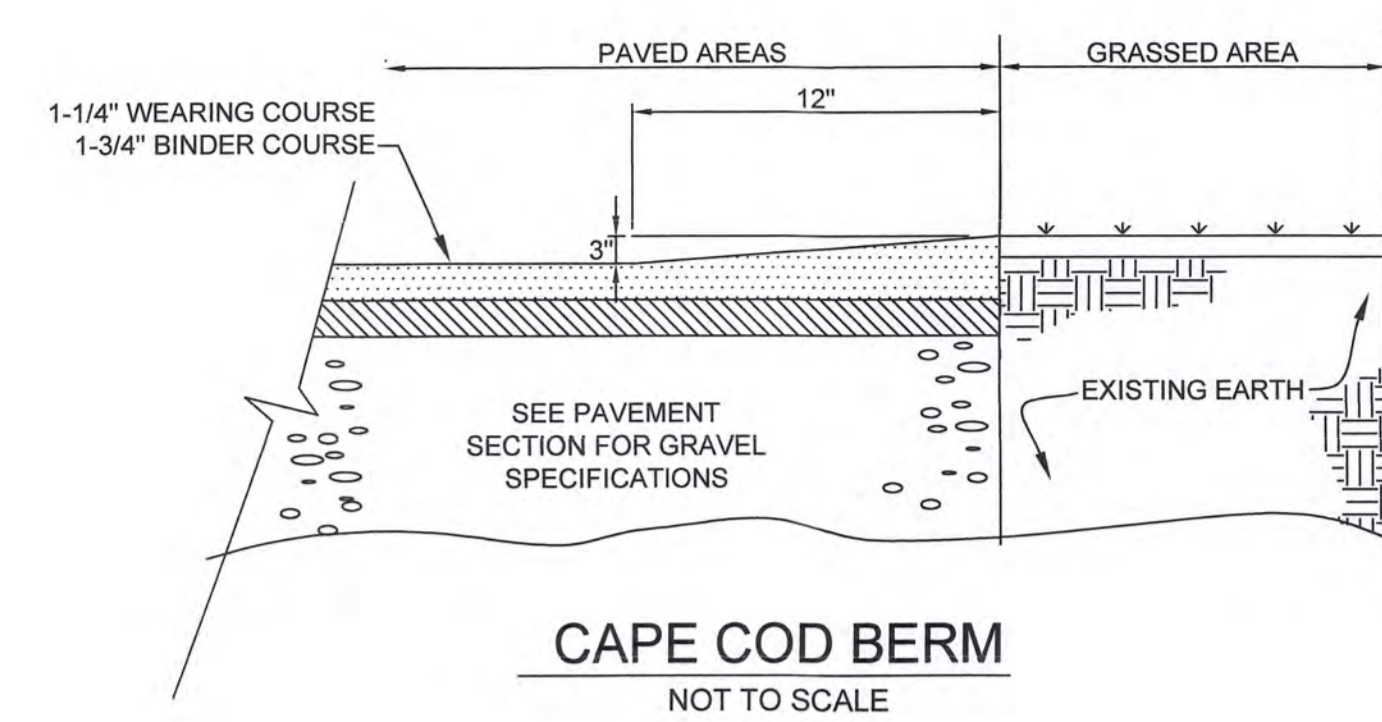
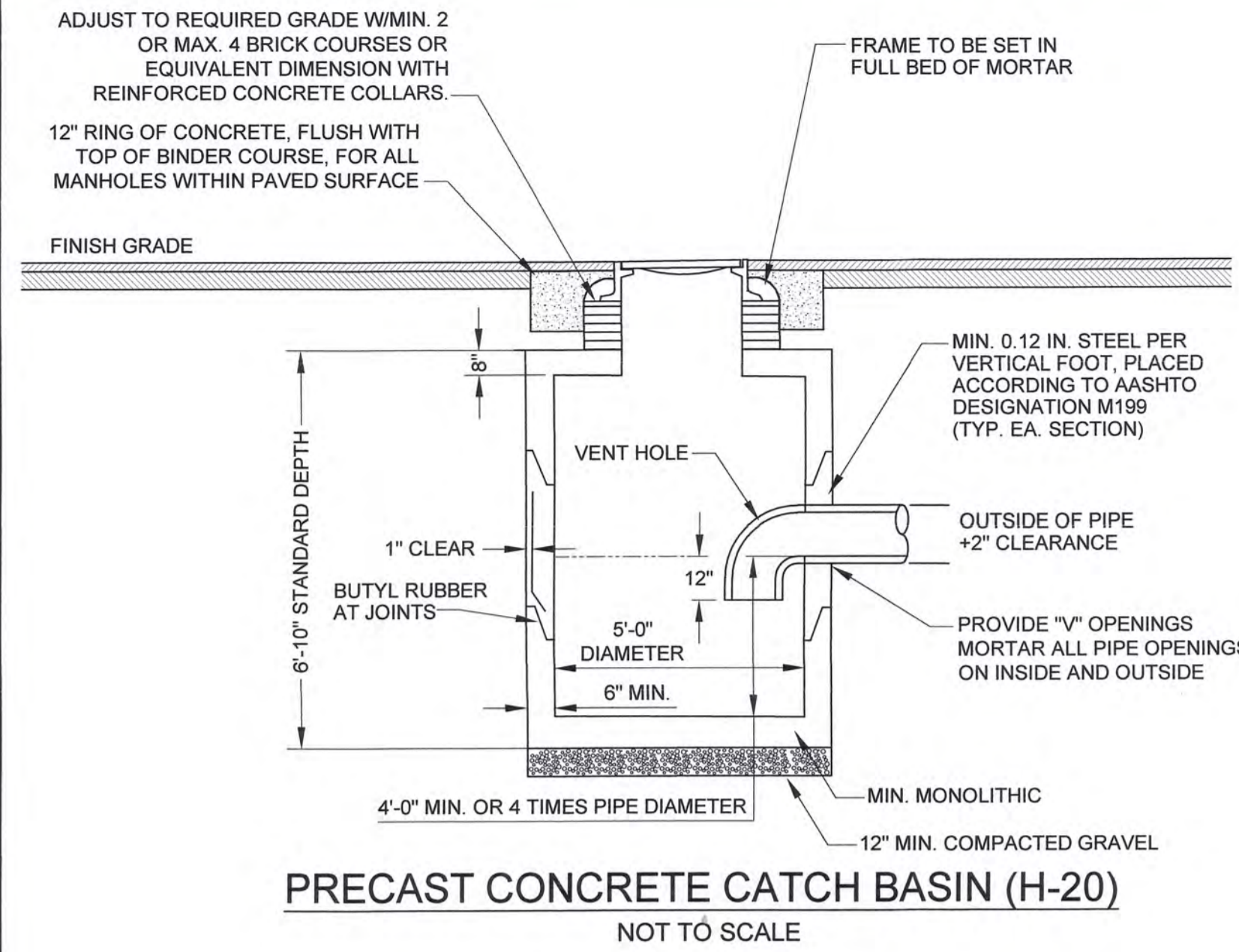
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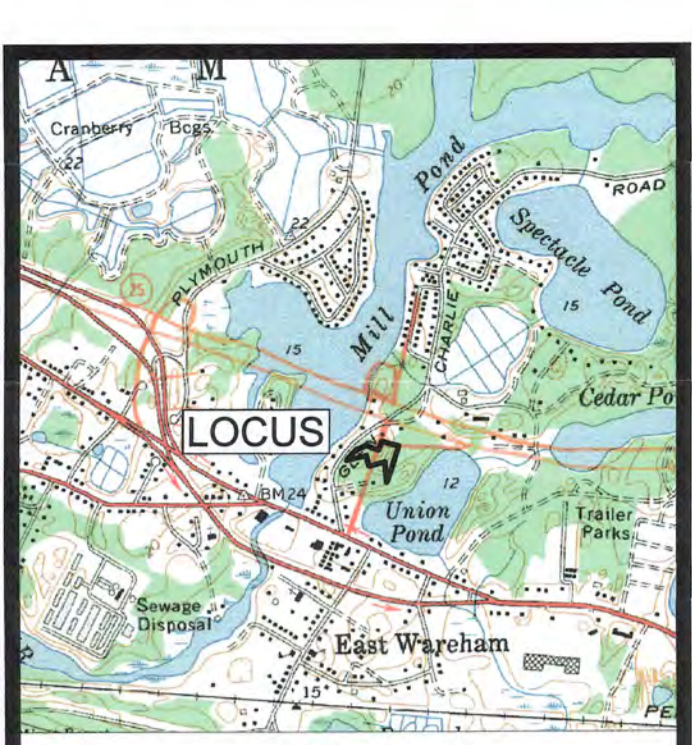
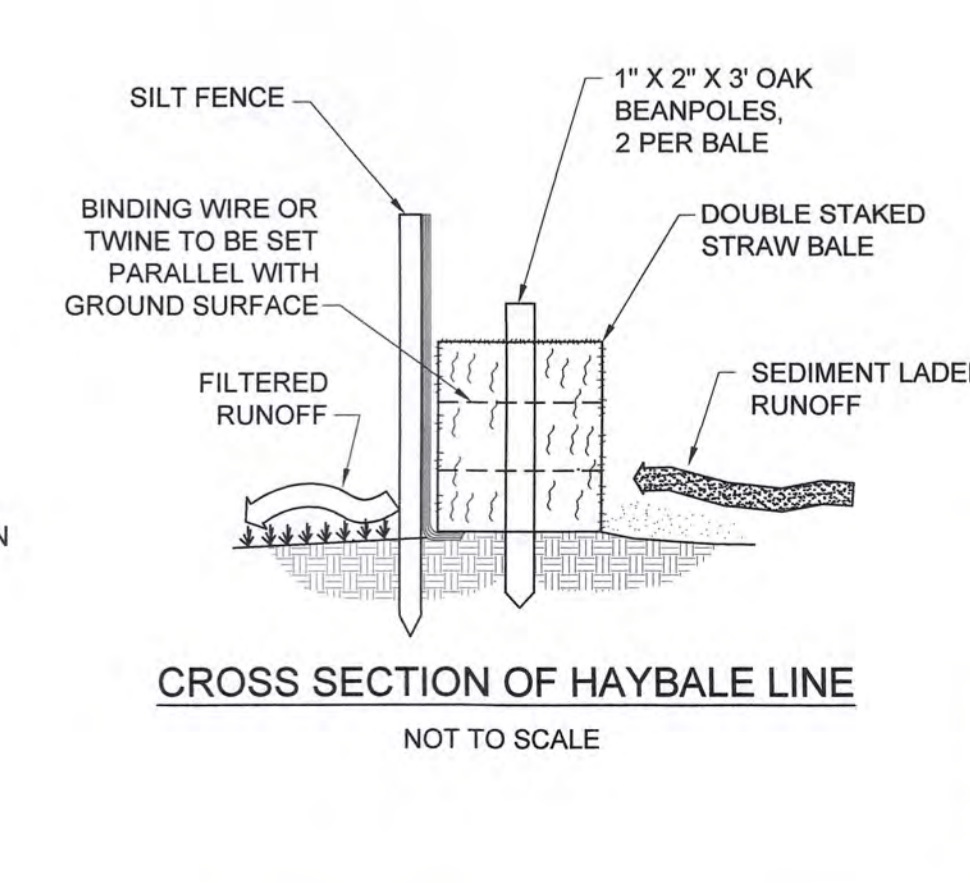
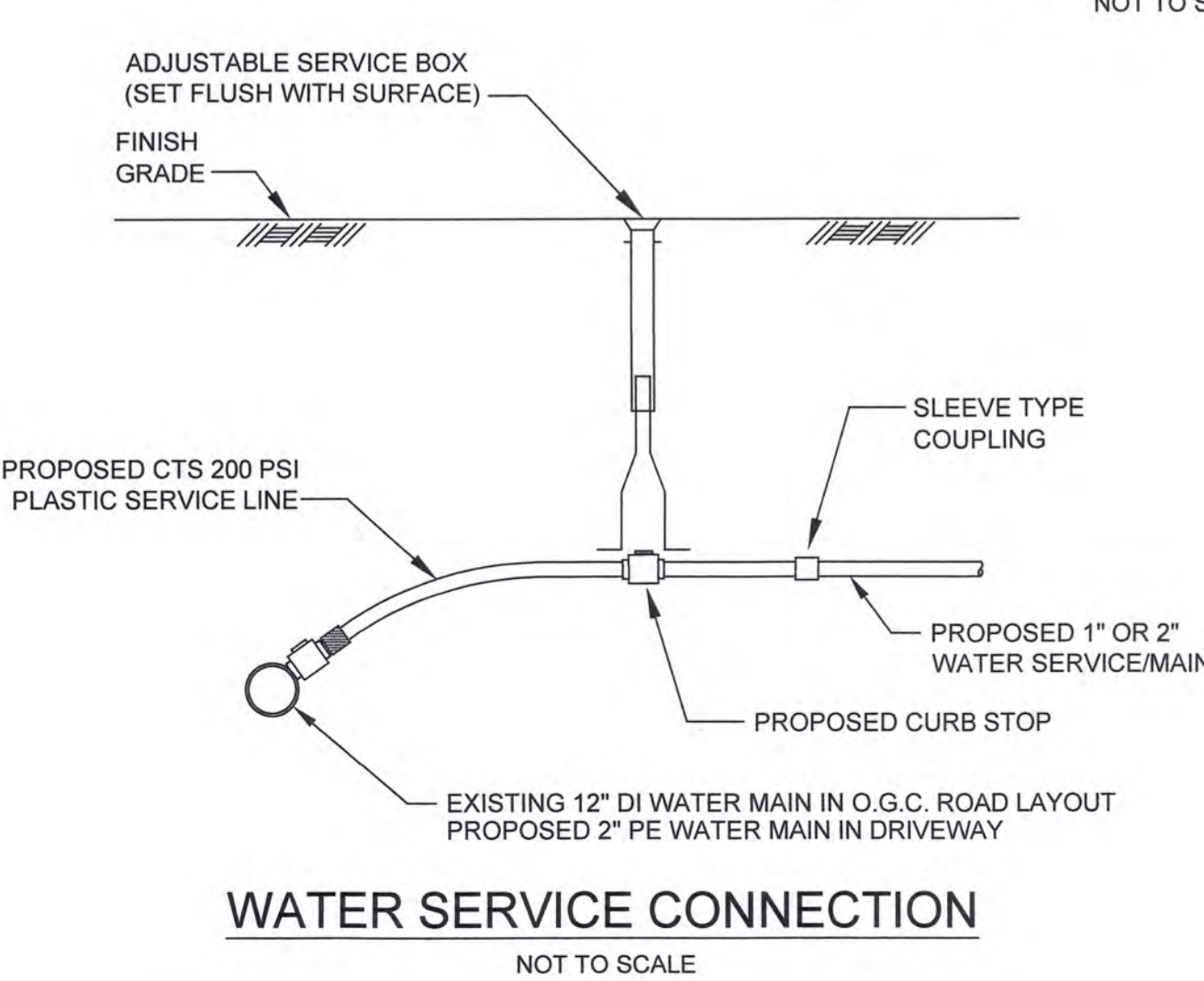
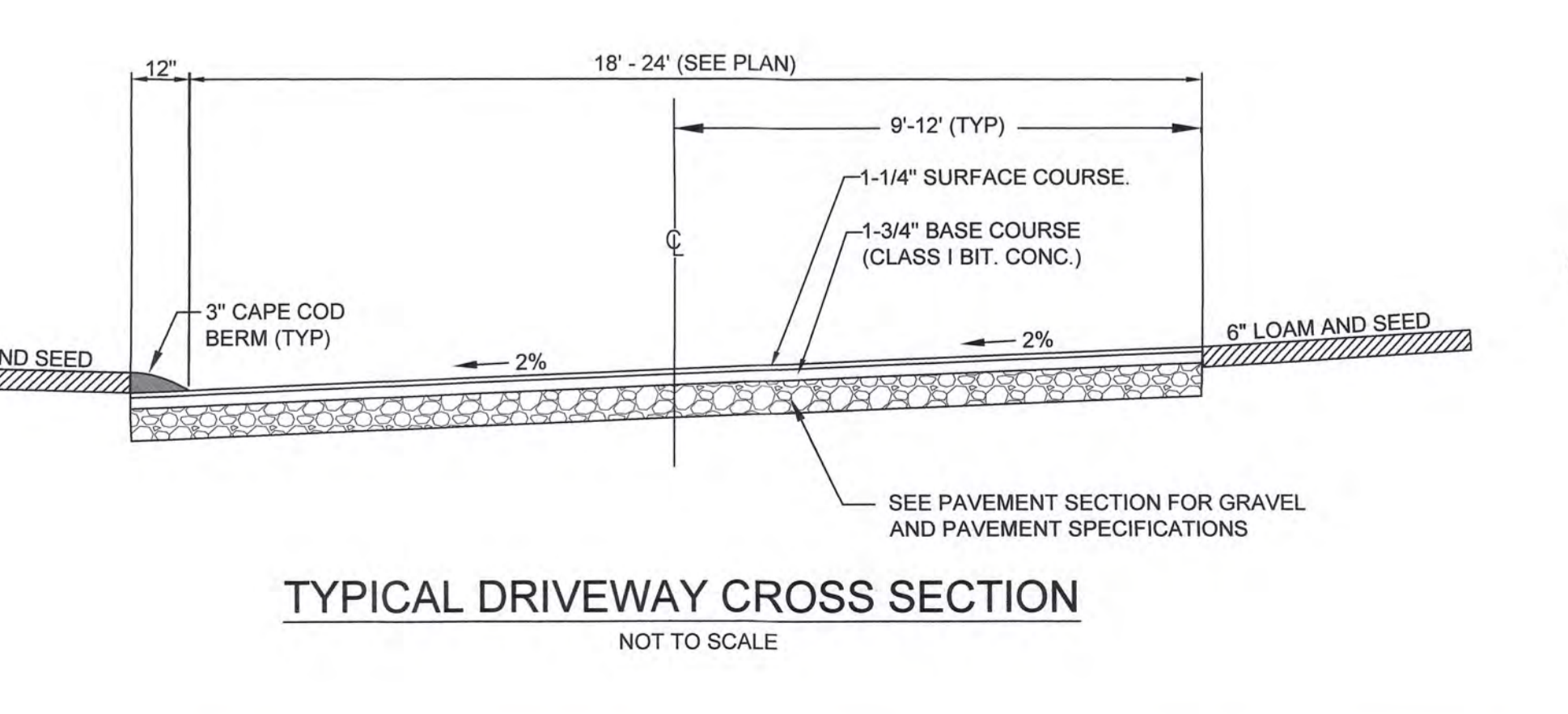
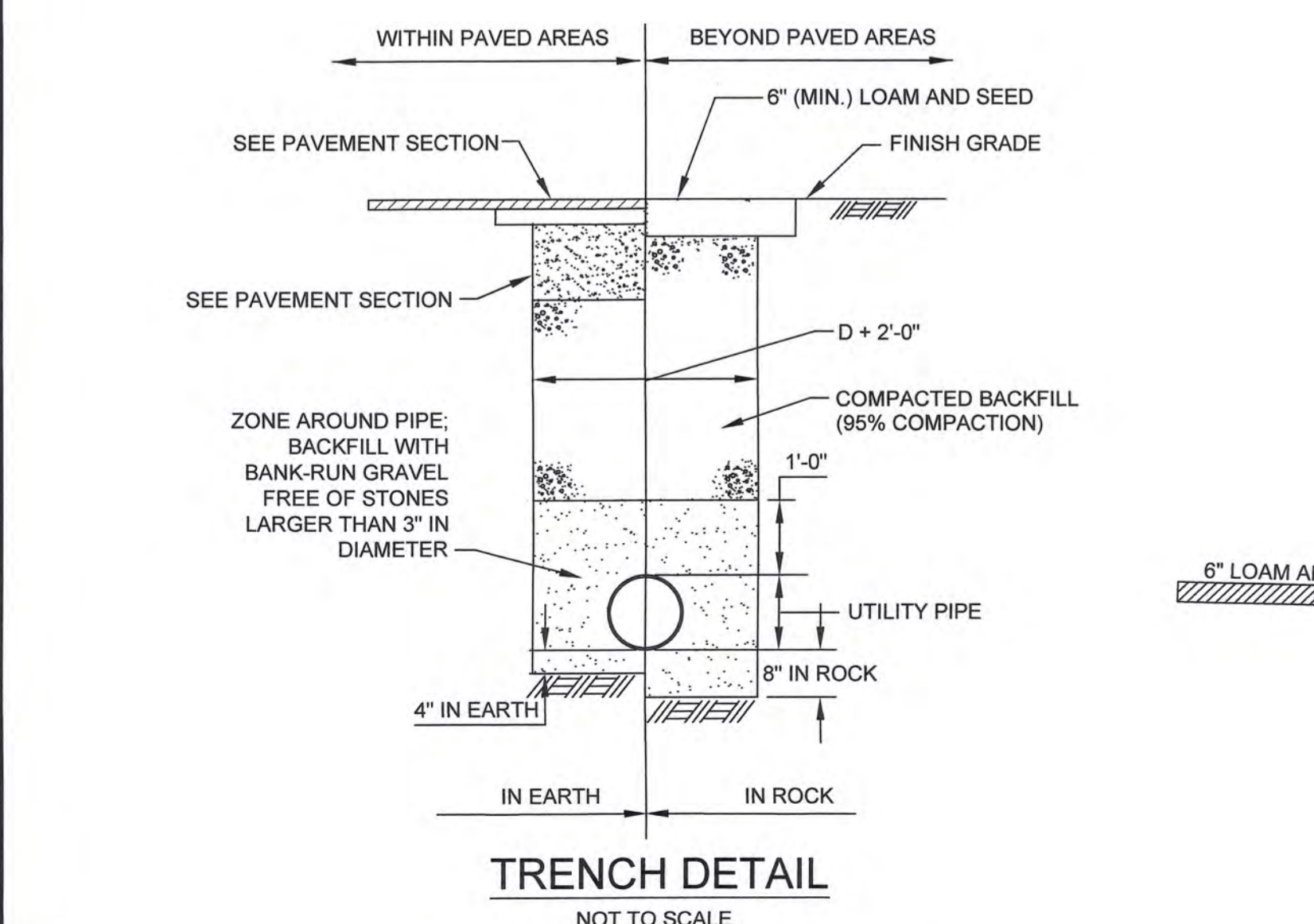
DRAWN: BMB

CHECK: JLC

JOB NO: 4872



- PAVEMENT NOTES:
1. SUBGRADE MATERIAL SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND/OR COARSE SAND, FREE FROM LOAM AND CLAY TO A DEPTH NOT LESS THAN 4-FT BELOW FINISHED GRADE ELEVATION. ALL UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REMOVED PRIOR TO SUBGRADE INSTALLATION.
  2. SUBGRADE SHALL BE PLACED IN MAXIMUM 4" LIFTS (COMPACTED TO 95%)
  3. REFER TO SITE PLAN FOR EXTENTS OF BIT. PAVEMENT
  4. THE INSTALLED BINDER COURSE SHALL BE SWEEP CLEAN PRIOR TO THE INSTALLATION OF THE WEARING COURSE BY A MECHANICAL SWEEPER. TACK COAT SHALL BE APPLIED PER THE SPECIFICATIONS.



**LOCUS MAP**  
SCALE 1" = 2000'

JOHN L. CHURCHILL, JR.  
CIVIL ENGINEER  
NO. 1807  
MASS. REG. ENG. 10000  
2/2/22

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

**PROPOSED SITE PLAN**  
AT  
**21 OLD GLEN CHARLIE ROAD**  
IN  
**EAST WAREHAM MASSACHUSETTS**  
(PLYMOUTH COUNTY)

**DETAIL SHEET**

**REVISIONS:**

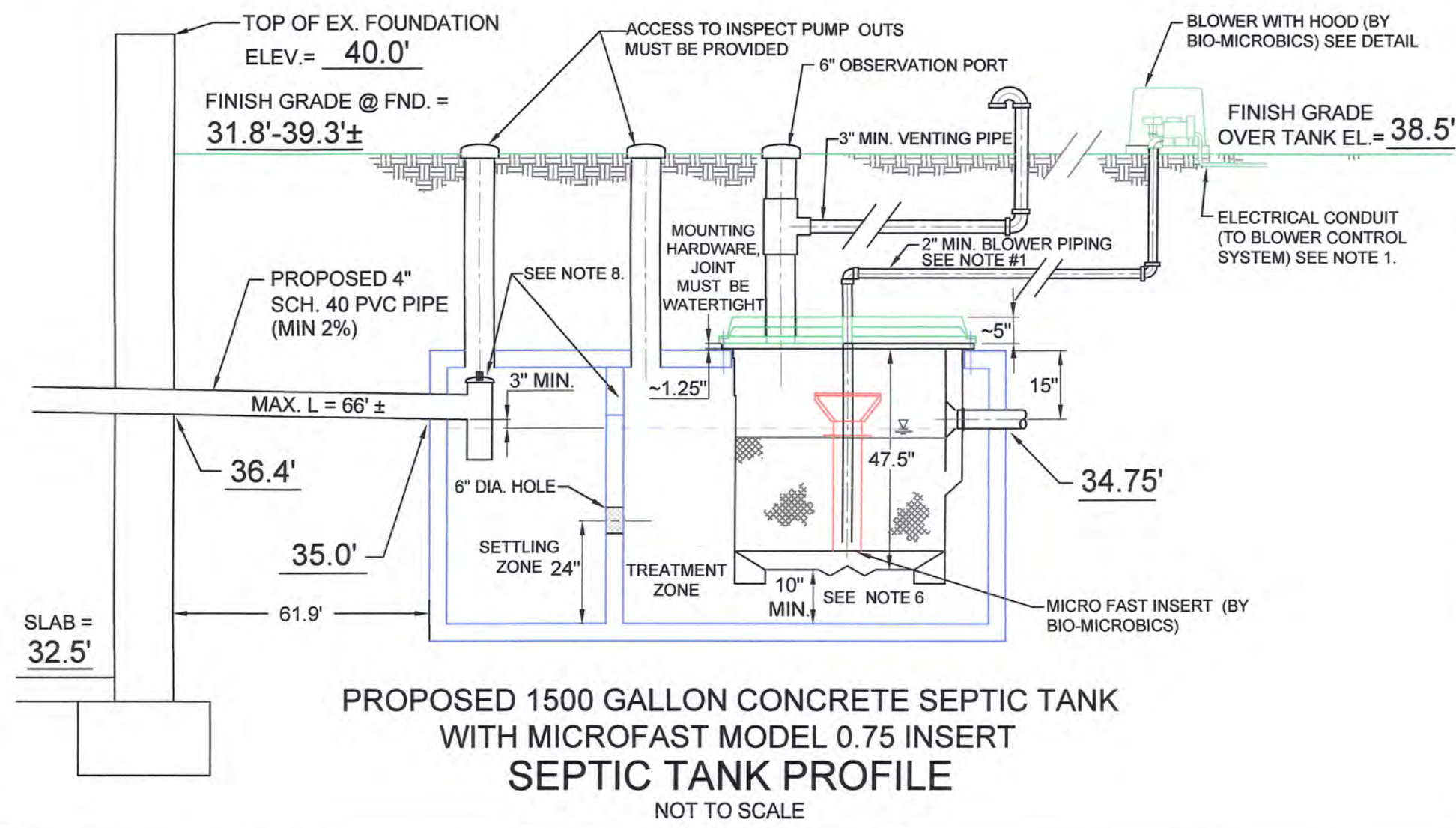
No.	DATE	DESC.
1	2/2/22	ZONING COMMENTS

PREPARED FOR:  
R.J. MOTTO, INC.  
P.O. BOX 150  
BUZZARDS BAY, MA 02532

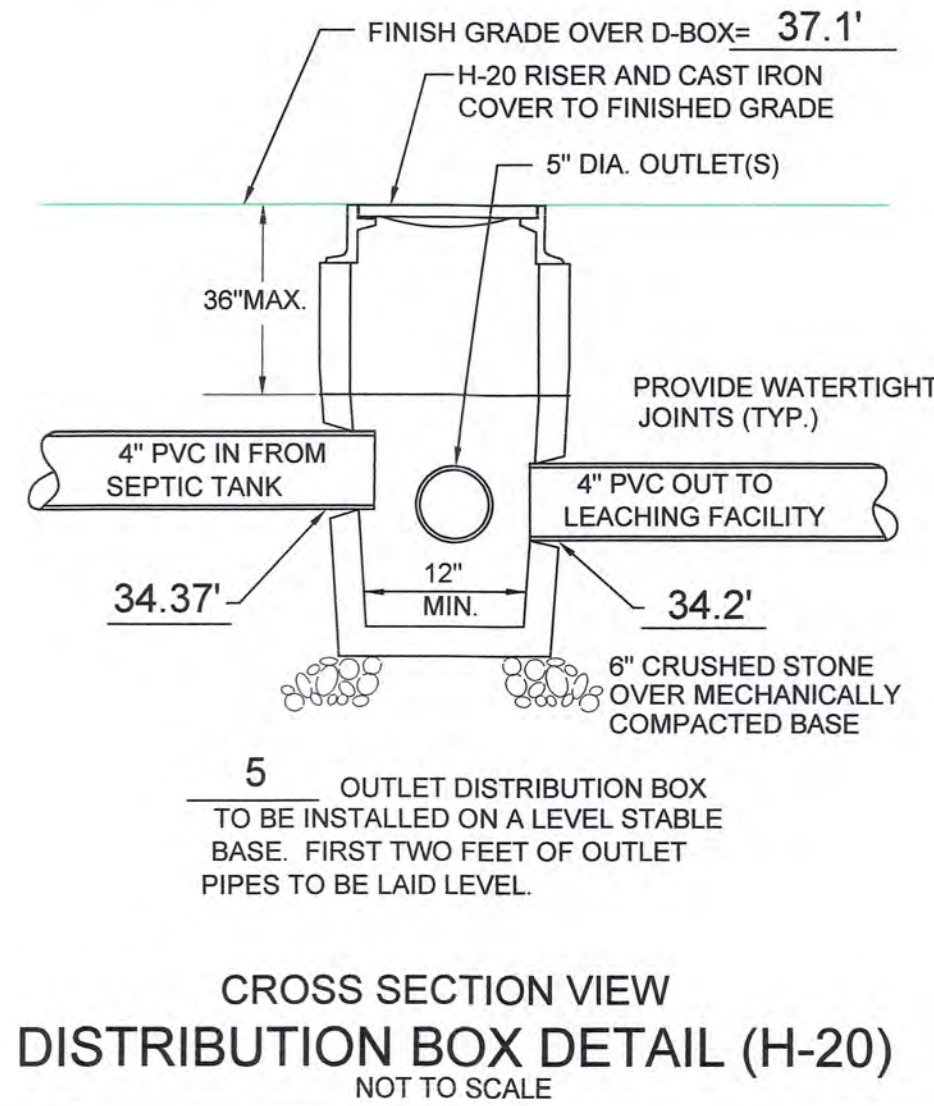
ENGINEERING BY:  
JC ENGINEERING, INC.  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538  
508-273-0377

DATE:	JANUARY 3, 2022
FIELD:	BM/JF
CALC./DESIGN:	BMB
DRAWN:	BMB
CHECK:	JLC
JOB NO:	4872

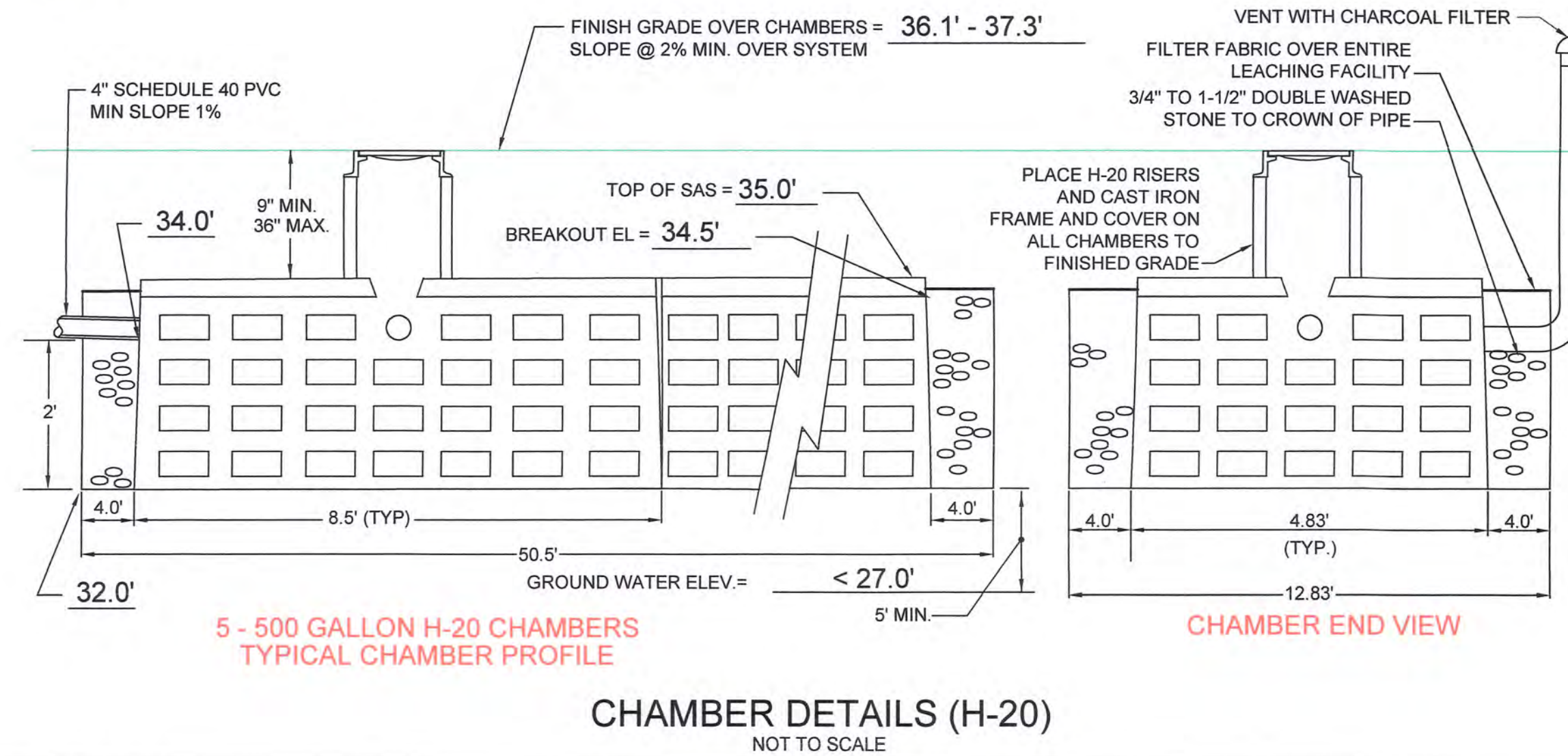
UNITS 21C & 21D



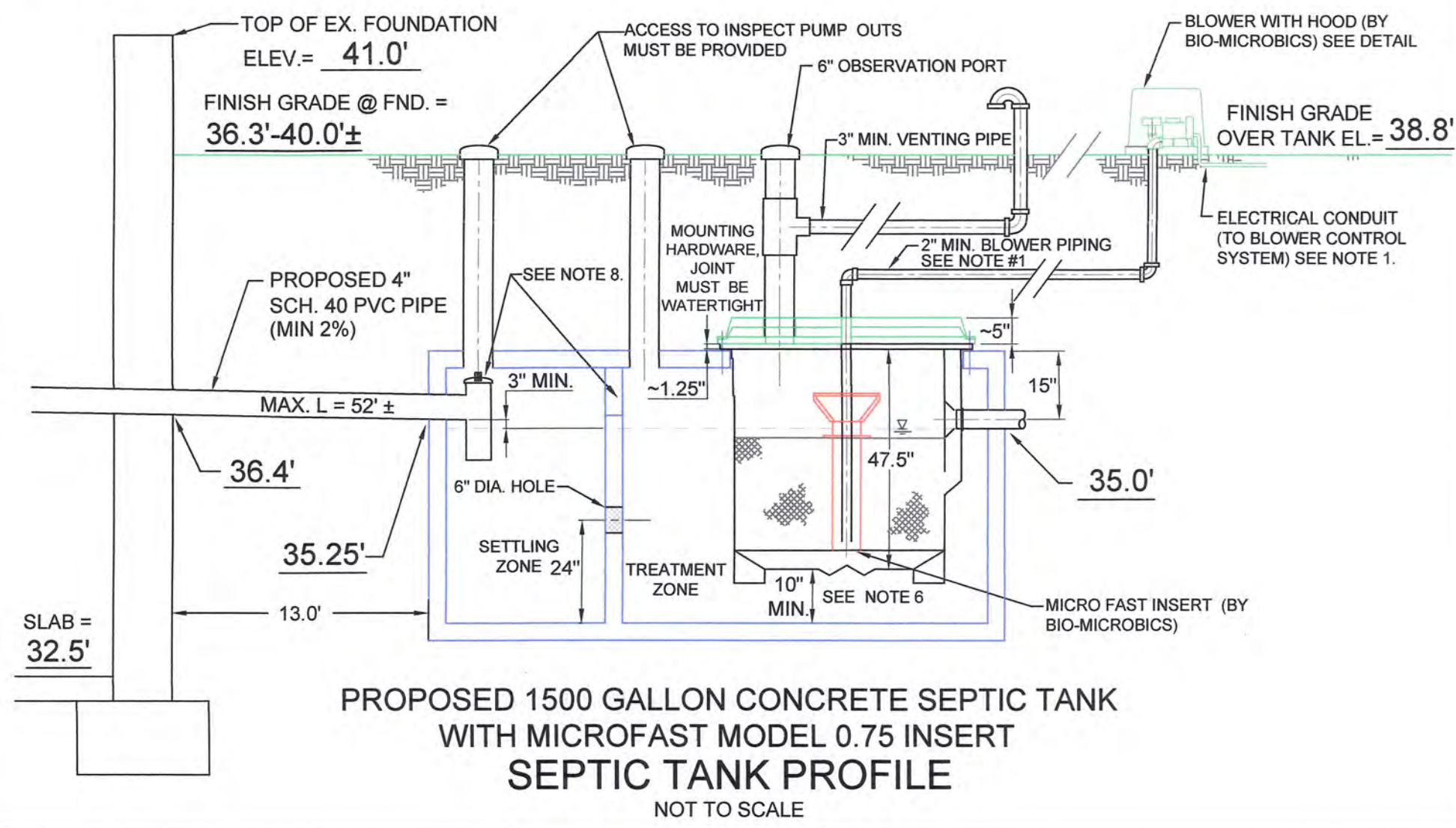
UNITS 21C & 21D



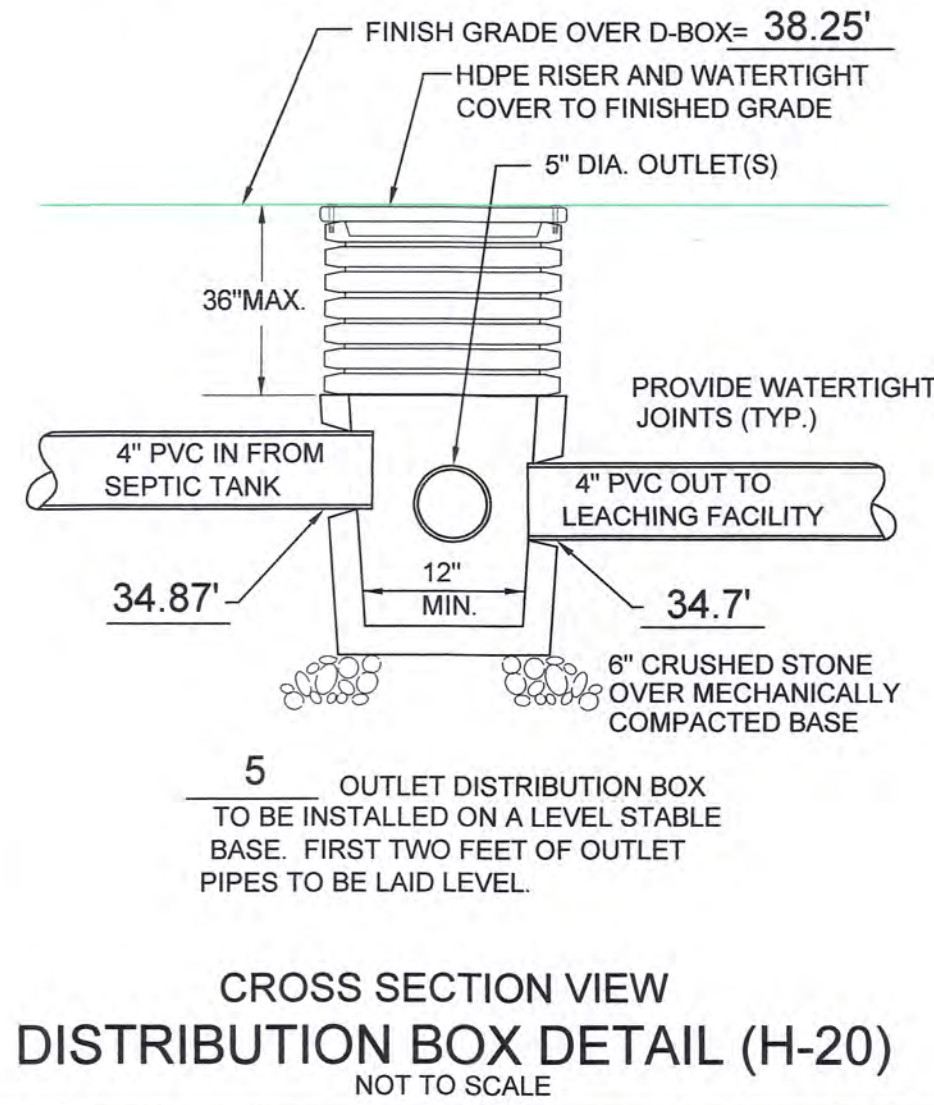
UNITS 21C & 21D



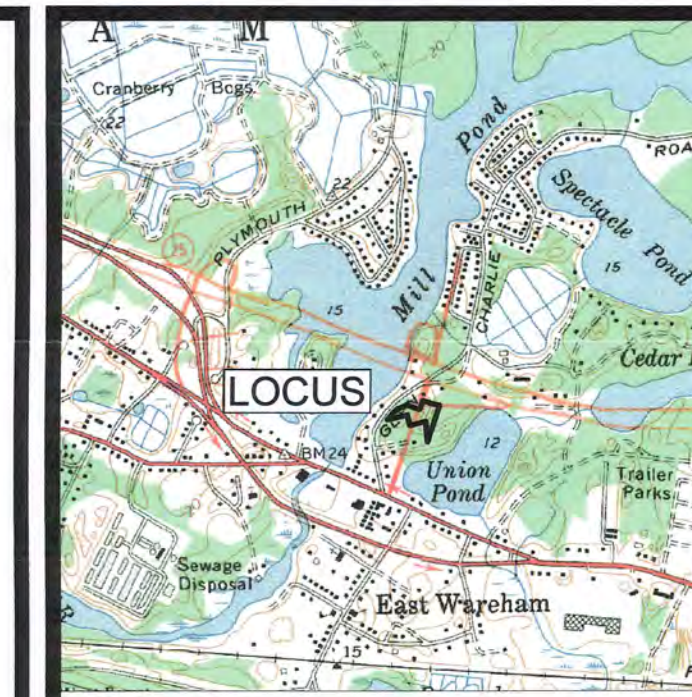
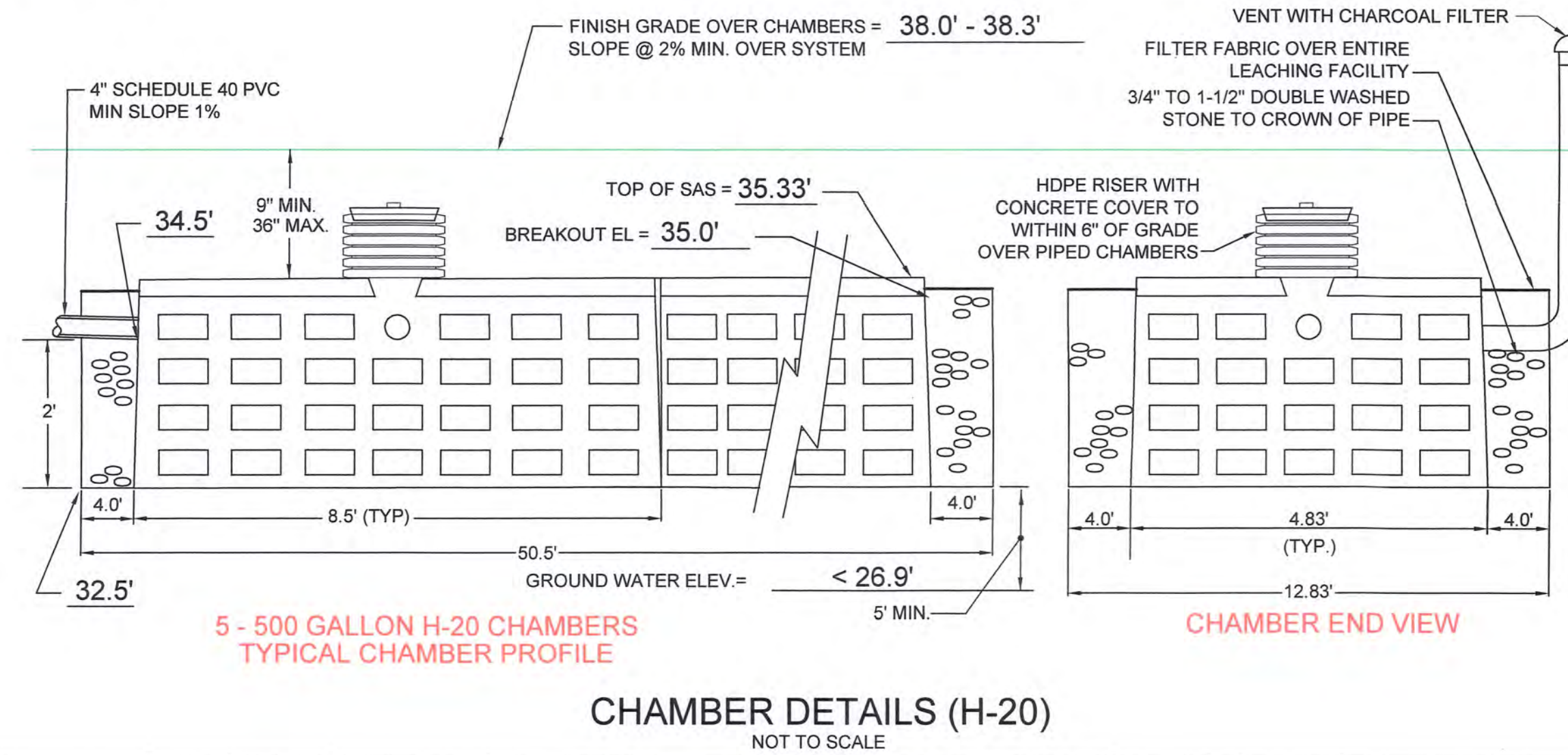
UNITS 21E & 21F



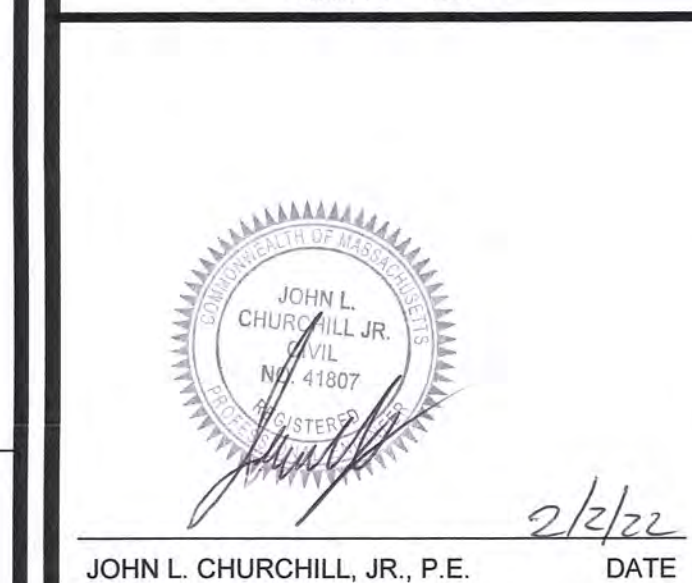
UNITS 21E & 21F



UNITS 21E & 21F



LOCUS MAP  
SCALE 1" = 2000'



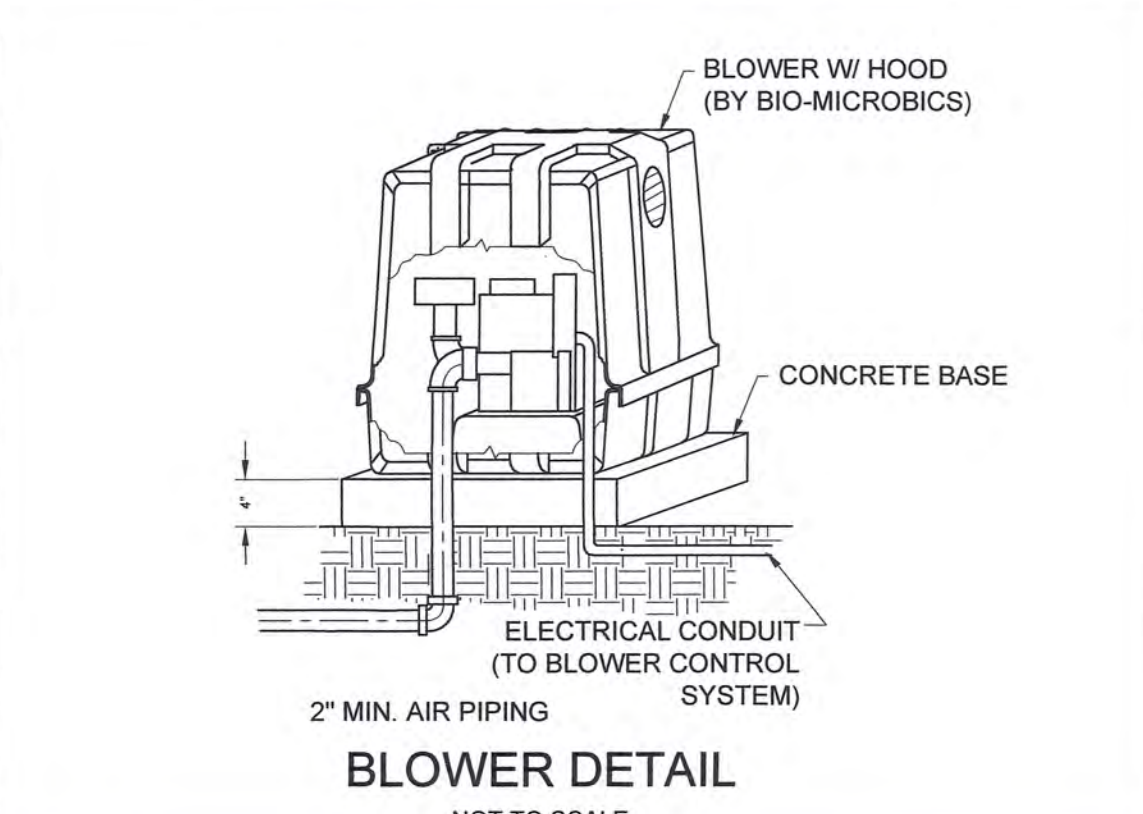
JOHN L. CHURCHILL, JR., P.E. DATE

MIRCROFAST NOTES

- AIRLINE PIPING TO FAST® MAY NOT EXCEED 100 FT TOTAL LENGTH AND HAVE A MAXIMUM OF 4 ELBOWS IN THE PIPING SYSTEM. FOR DISTANCES GREATER THAN 100 FT [30M] CONSULT FACTORY. BLOWER MUST BE LOCATED ABOVE FLOOD LEVELS ON A CONCRETE BASE 26" X 20" X 2" MIN.
- VENT TO DESIRED LOCATION AND COVER OPENING WITH A VENT GRATE WITH AT LEAST 7 SQ. IN. OPEN SURFACE AREA. SECURE WITH STAINLESS STEEL SCREWS. VENT PIPING MUST NOT ALLOW CONDENSATE BUILD UP OR CREATE BACK PRESSURE. VENT MUST BE ABOVE FINISHED GRADE OR HIGHER.
- ALL APPURTENANCES TO FAST® (E.G. TANKS, ACCESS PORTS, ELECTRICAL, ETC.) MUST CONFORM TO ALL APPLICABLE COUNTRY, STATE, PROVINCE, AND LOCAL PLUMBING AND ELECTRICAL CODES. PUMP OUT ACCESS SHALL BE ADEQUATE TO THOROUGHLY CLEAN OUT BOTH ZONES.
- ALL INSPECTION, VIEWING AND PUMP OUT PORTS MUST BE SECURED TO PREVENT ACCIDENTAL OR UNAUTHORIZED ACCESS.
- TANK, PIPING, CONDUIT, ETC. ARE PROVIDED BY OTHERS. BLOWER CONTROL SYSTEM BY BIO-MICROBICS, INC. SEE INSTALLATION MANUAL.
- IF LESS THAN THE SPECIFIED MINIMUMS ARE CONSIDERED NECESSARY, CONSULT FACTORY FOR GUIDANCE.
- ALL PIPING AND ANCILLARY EQUIPMENT INSTALLED AFTER FAST MUST NOT IMPEDE OR RESTRICT FREE FLOW OF EFFLUENT.
- THE TANK(S) SHALL BE DESIGNED TO PREVENT AIR PASSAGE BETWEEN THE SETTLING ZONE/TANK AND THE TREATMENT ZONE AND PREVENTING AN AIR LOCK. EXAMPLES INCLUDE A BAFFLE WALL SEALED TO THE LID OR TREATMENT ZONE INLET LINE WITH A PIPE CAP. CONSULT FACTORY FOR GUIDANCE.
- INSTALLATIONS USING A FAST® SYSTEM LID ARE CAPABLE OF WITHSTANDING AASHTO H-10 EQUIVALENT LOADS. ANY INSTALLATION IN WHICH A FAST LID IS BURIED DEEPER THAN 3 FEET, OR WHERE ADDITIONAL LOADING CONDITIONS MAY OCCUR, A PROFESSIONAL ENGINEER SHOULD BE CONSULTED. FAST® WITH FEET OPTION SHOULD BE CONSIDERED. REFER TO INSTALLATION MANUAL FOR MORE DETAILS.
- SPECIALIZED TREATMENT LEVELS MAY REQUIRE SPECIFIC FEATURES TO BE INCORPORATED INTO THE DESIGN. CONSULT FACTORY FOR GUIDANCE.

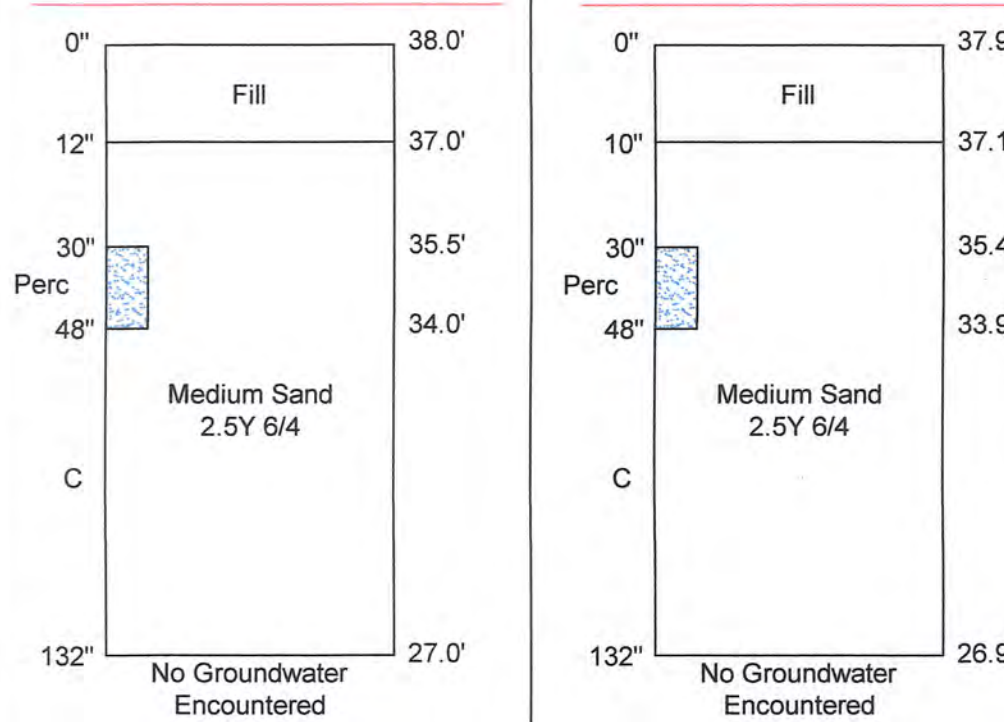
LEGEND

- 50 EXISTING CONTOURS
- 50 PROPOSED CONTOURS
- PROPOSED 1" OR 2" WATERLINE
- DHV PROPOSED OVERHEAD UTILITIES
- PROPOSED SLEEVED WATERLINE
- G PROPOSED GASLINE
- TEST PIT LOCATION
- PROPOSED 1500 GALLON SEPTIC TANK W/ INTERNAL MOUNT MICROFAST 0.75 INSERT
- PROPOSED 4" SOLID SCHEDULE 40 PVC PIPE
- PROPOSED DISTRIBUTION BOX (H-20)
- PROPOSED 500 GALLON LEACHING CHAMBER (H-20)



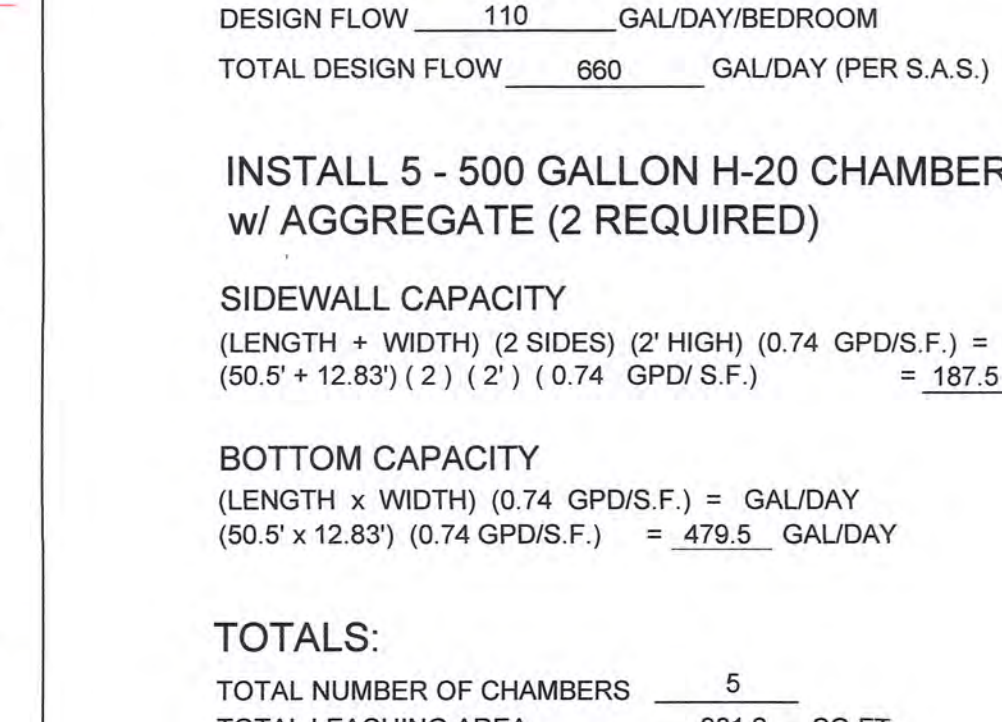
TEST PIT DATA

INSPECTOR: Robert Ethier  
SOIL EVALUATOR: Bradley M. Bertolo  
DATE: September 9, 2021  
TEST PIT #: 1  
ELEV TOP = 38.0'  
ELEV WATER = < 28.0'  
PERC RATE = < 2 MIN/IN  
DEPTH OF PERC = 30"-48"  
TEXTURAL CLASS: 1



TEST PIT DATA

INSPECTOR: Robert Ethier  
SOIL EVALUATOR: Bradley M. Bertolo  
DATE: September 9, 2021  
TEST PIT #: 2  
ELEV TOP = 37.9'  
ELEV WATER = < 27.9'  
PERC RATE = < 2 MIN/IN  
DEPTH OF PERC = 30"-48"  
TEXTURAL CLASS: 1



DESIGN DATA

SEPTIC TANK (2 REQUIRED)  
NUMBER OF BEDROOMS (DESIGN) 6 (3 PER UNIT)  
DESIGN FLOW 110 GAL/DAY/BEDROOM  
TOTAL DESIGN FLOW 660 GAL/DAY  
DESIGN FLOW x 200 % = 1,320 GAL/DAY  
USE PROPOSED 1,500 GALLON SEPTIC TANK W/ MICROFAST INSERT (PER UNIT)

SOIL ABSORPTION SYSTEM (2 REQUIRED)  
NUMBER OF BEDROOMS (DESIGN) 6 (3 PER UNIT)  
DESIGN FLOW 110 GAL/DAY/BEDROOM  
TOTAL DESIGN FLOW 660 GAL/DAY (PER S.A.S.)

INSTALL 5 - 500 GALLON H-20 CHAMBERS w/ AGGREGATE (2 REQUIRED)

SIDEWALL CAPACITY  
(LENGTH x WIDTH) (2 SIDES) (2' HIGH) (0.74 GPD/S.F.) = GAL/DAY  
(50.5' x 12.83') (2) (2') (0.74 GPD/S.F.) = 187.5 GAL/DAY

BOTTOM CAPACITY  
(LENGTH x WIDTH) (0.74 GPD/S.F.) = GAL/DAY  
(50.5' x 12.83') (0.74 GPD/S.F.) = 479.5 GAL/DAY

TOTALS:  
TOTAL NUMBER OF CHAMBERS 5  
TOTAL LEACHING AREA 901.2 SQ.FT.  
TOTAL LEACHING CAPACITY 667 GAL/DAY

GENERAL NOTES

- UNLESS OTHERWISE NOTED, ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH TITLE 5 OF THE STATE ENVIRONMENTAL CODE AND ANY APPLICABLE LOCAL RULES.
- ANY CHANGES TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND THE DESIGN ENGINEER.
- 4" SCHEDULE 40 PVC PIPE WITH WATER TIGHT JOINTS SHALL BE USED IN DISPOSAL SYSTEM UNLESS OTHERWISE NOTED.
- TO PREVENT BREAKOUT, THE PROPOSED FINISH GRADE SHALL NOT BE LESS THAN ELEVATION = 34.5' / 35.0' FOR A DISTANCE OF 15' AROUND THE PERIMETER OF THE SAS. UNLESS A 40 MIL GEOMEMBRANE LINER IS PLACE AT LEAST FIVE FEET FROM S.A.S. AND THE TOP OF THE LINER IS NOT LESS THAN THE BREAKOUT ELEVATION.
- SLOPE ALL SOLID PIPE AT 1.0% MINIMUM.
- THIS SYSTEM IS NOT DESIGNED FOR A GARBAGE DISPOSAL.
- LOCAL BOARD OF HEALTH AND DESIGN ENGINEER TO BE NOTIFIED PRIOR TO BACK FILLING WHEN SYSTEM IS NEARLY COMPLETE AND READY FOR INSPECTION. SYSTEM IS NOT TO BE BACK FILLED WITHOUT FIRST OBTAINING APPROVAL FROM BOARD OF HEALTH AND DESIGN ENGINEER.
- ELEVATIONS BASED ON ACTUAL DATUM OF 23.79' OBTAINED FROM A MAG NAIL SET IN THE PAVEMENT AS SHOWN ON PLAN.
- CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION THROUGH DIG-SAFE AT LEAST 72 HOURS PRIOR TO COMMENCING WORK ON SITE AT 1-888-DIG-SAFE AND ANY OTHER APPLICABLE AGENCIES. REPORT ANY DISCREPANCIES TO THE DESIGN ENGINEER.
- ALL JOINTS WHERE PIPE ENTERS AND EXITS CONCRETE STRUCTURES SHALL BE MADE WATERTIGHT.
- NO DETERMINATION HAS BEEN MADE AS TO COMPLIANCE WITH DEEDED OR ZONING REGULATIONS. OWNER/APPLICANT IS TO OBTAIN SUCH DETERMINATION FROM APPROPRIATE AUTHORITY.
- ALL SEPTIC SYSTEM COMPONENTS SHALL WITHSTAND H-10 LOADING UNLESS LOCATED UNDER PAVEMENT, DRIVES OR TRAVELED WAYS IN WHICH CASE THEY SHALL WITHSTAND H-20 LOADING.
- DOUBLE WASHED CRUSHED STONE SHALL BE FREE OF ALL DIRT, DUST AND FINES.
- WHERE REQUIRED, CONTRACTOR SHALL REMOVE ALL LOAM, SUBSOIL AND UNSUITABLE MATERIAL IN AREA BENEATH AND FOR 5 FT. ON ALL SIDES OF LEACHING FACILITY. REPLACE ALL UNSUITABLE MATERIAL WITH CLEAN COARSE SAND FREE FROM CLAY, FINES OR OTHER UNSUITABLE MATERIAL IN ACCORDANCE WITH 310 CMR 15.255(3).
- CONTRACTOR SHALL NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES FOUND IN SITE CONDITIONS FROM THOSE SHOWN PRIOR TO CONTINUATION OF WORK.

PROPOSED SITE PLAN  
AT  
21 OLD GLEN CHARLIE ROAD  
IN  
EAST WAREHAM MASSACHUSETTS  
(PLYMOUTH COUNTY)

SEPTIC SYSTEM DESIGN

REVISIONS:

No.	DATE	DESC.
1	2/2/22	ZONING COMMENTS

PREPARED FOR:  
R.J. MOTTO, INC.  
P.O. BOX 150  
BUZZARDS BAY, MA 02532

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

DATE:	JANUARY 3, 2022
FIELD:	BM/JF
CALC./DESIGN:	BMB
DRAWN:	BMB
CHECK:	JLC
JOB NO.:	4872