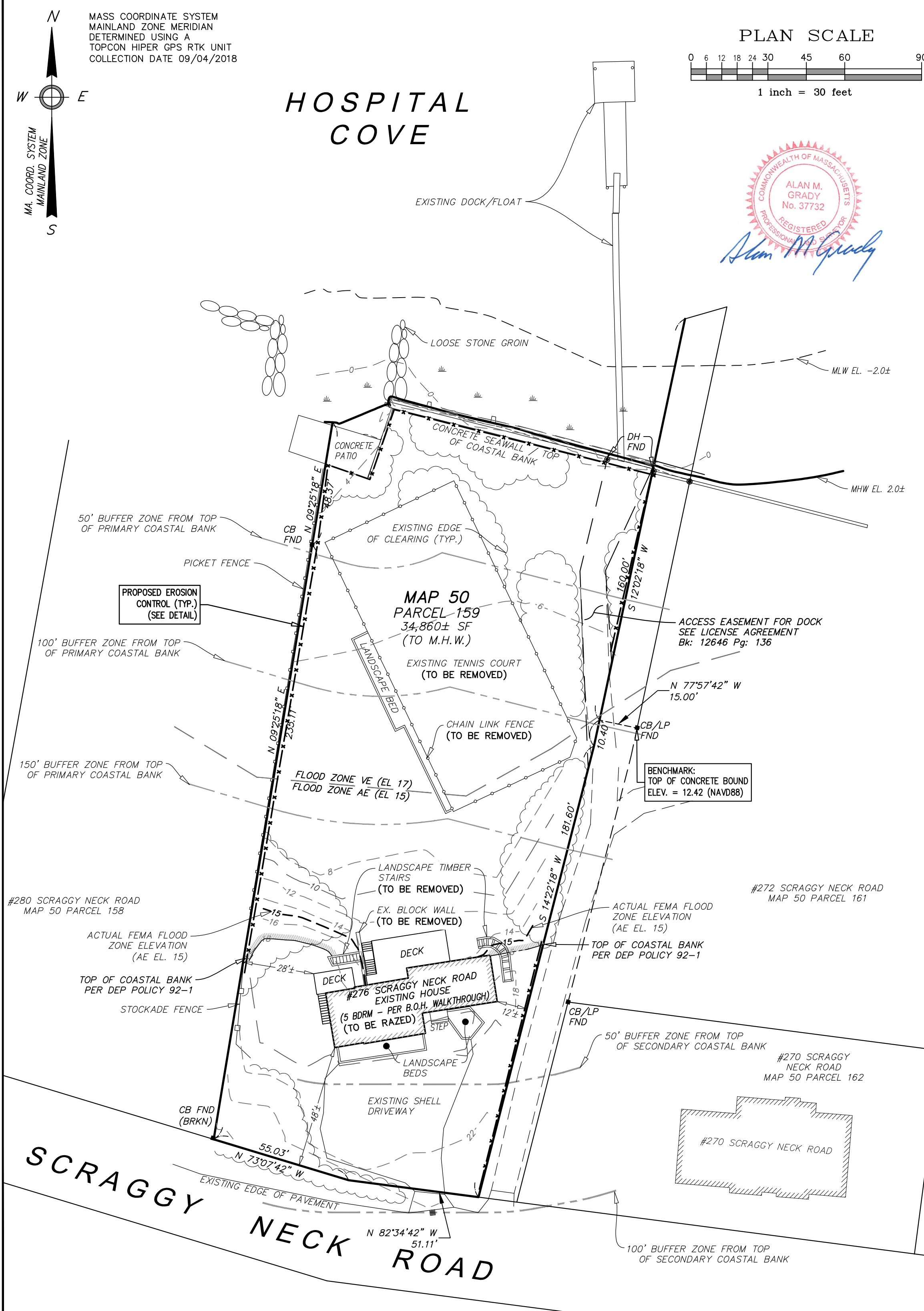
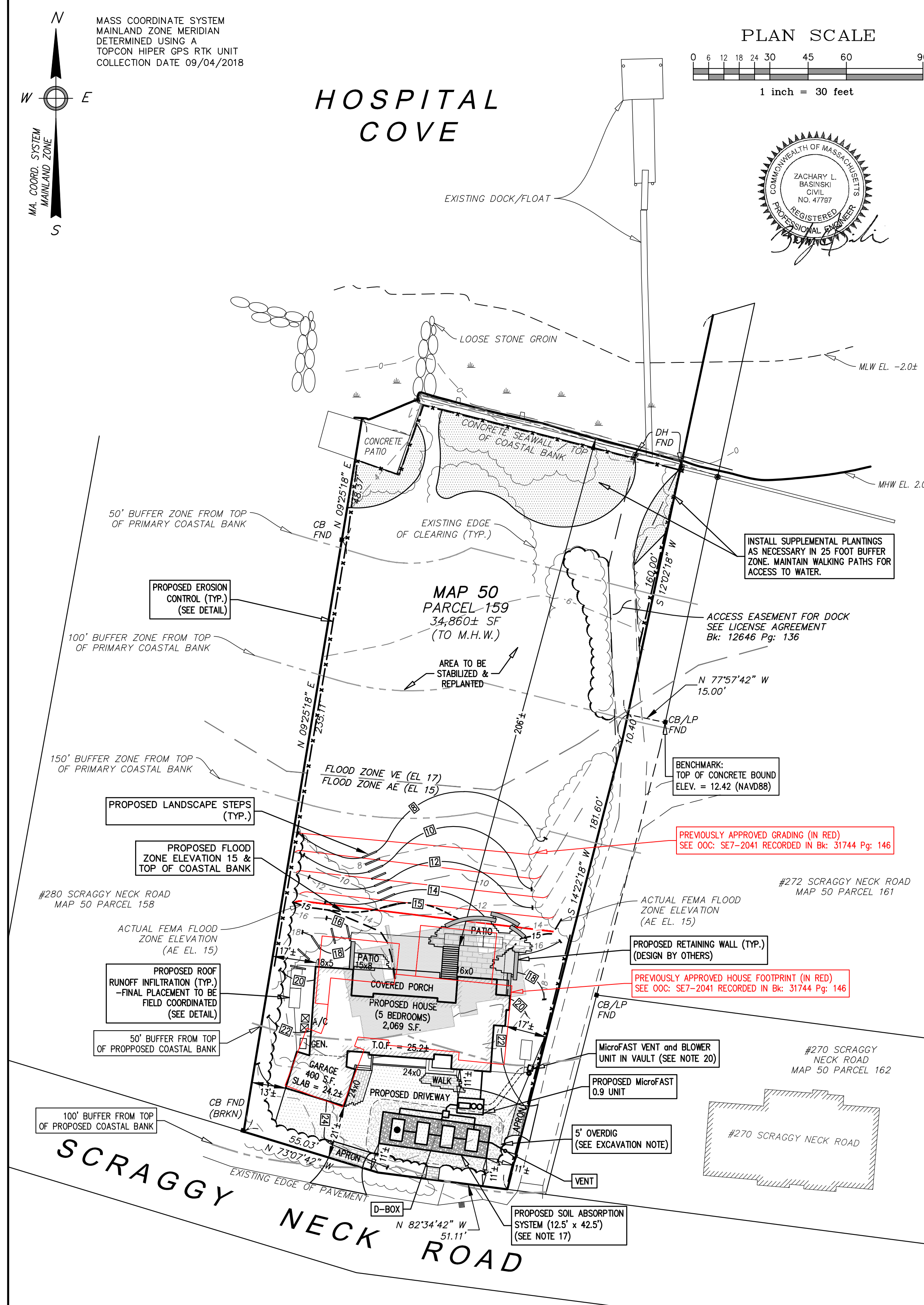


EXISTING CONDITIONS (SCALE 1" = 30')



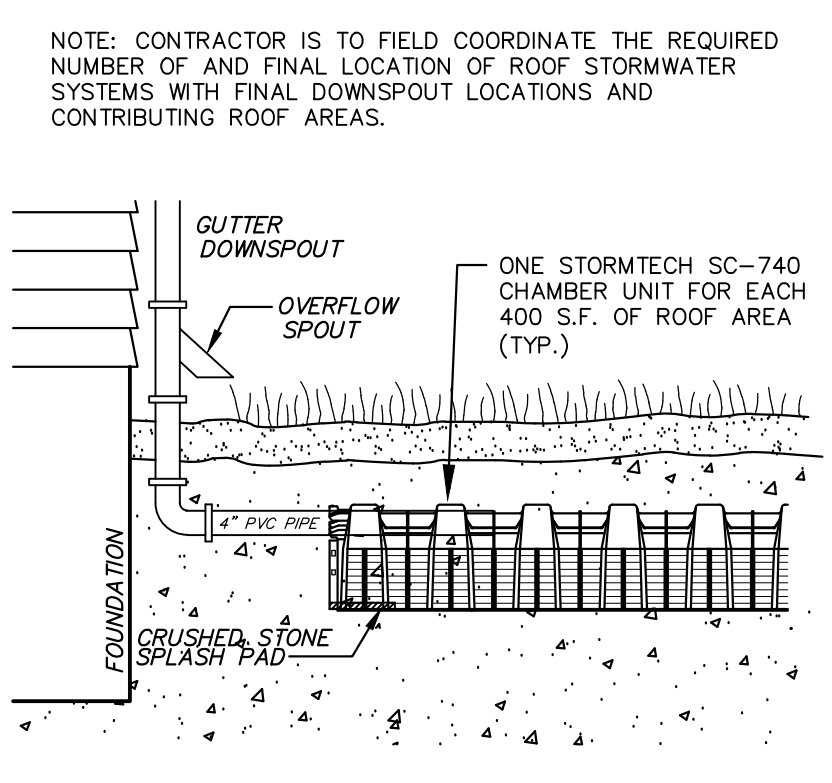
PROPOSED CONDITIONS (SCALE 1" = 30')



EXCAVATION NOTE

THIS SYSTEM REQUIRES THE EXCAVATION OF ALL UNSUITABLE SOIL WITHIN 5' OF THE SOIL ABSORPTION SYSTEM. SOIL SHALL BE EXCAVATED TO THE EXISTING SAND LAYER (APPROX. 42"). ENGINEER TO CONFIRM SOIL DEPTH PRIOR TO INSTALLATION. THE EXCAVATION SHALL BE INSPECTED BY THE DESIGN ENGINEER PRIOR TO BACKFILLING. SOIL IS TO BE REPLACED WITH SAND CONFORMING TO 310 CMR SECTION 15.255, CONSTRUCTION IN FILL. CONTRACTOR IS RESPONSIBLE TO PROVIDE ENGINEER WITH SAND SAMPLE FOR SIEVE ANALYSIS.

ROOF RUNOFF STORMWATER SYSTEM (NOT TO SCALE)



SOIL LOGS

TP NO.	1	TP NO.	2
GRD. EL.	20.8	GRD. EL.	23.0
GW. EL. NONE TO 11.3		GW. EL. NONE TO 13.5	
0	0/A SANDY LOAM	0	HTM
12"	B LOAM 10YR 6/8	24"	0/A SANDY LOAM
42"	C MED-COARSE SAND 10YR 6/4	36"	B LOAM 10YR 6/8
114"	NO WATER	60"	C MED-COARSE SAND 10YR 6/4
		114"	NO WATER

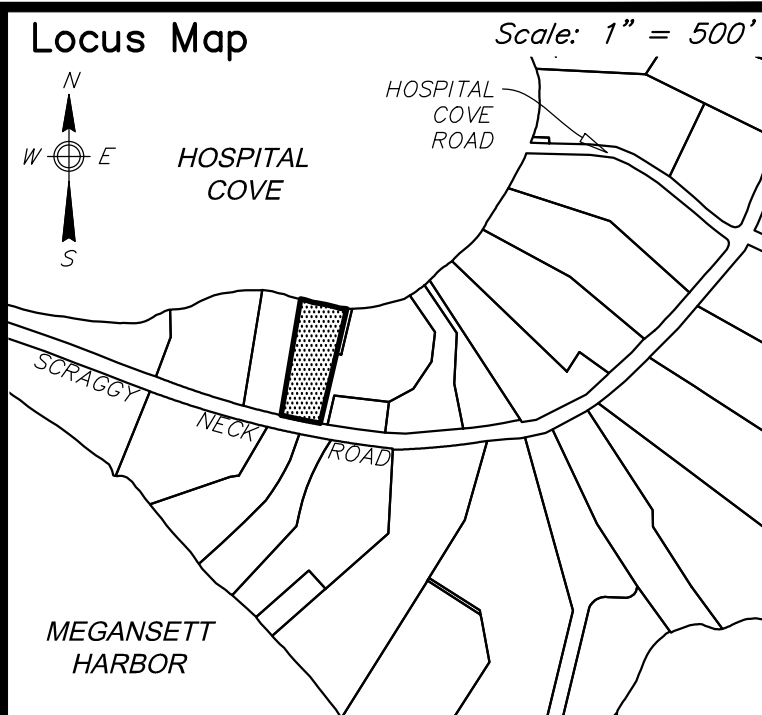
DATE PERFORMED: NOVEMBER 21, 2017
 SOIL EVALUATOR: JACK LANDERS-CAULEY, P.E.
 WITNESSED BY: TERRI GUARINO
 PERC. RATE: <2 MINUTES/INCH
 SOIL CLASS: CLASS I
 MAX. GROUND WATER ELEV.: NONE TO 11.3
 METHOD OF DETERMINATION: NO WEEPING NO MOTTLES

DESIGN CALCULATIONS

SOIL TEXTURAL CLASS:	CLASS I
PERC. RATE:	<2 MINUTES/INCH
NO. OF BEDROOMS:	5
DESIGN FLOW REQUIRED:	550 GPD
SEPTIC TANK REQUIRED:	1500 GALLONS
SEPTIC TANK PROVIDED:	Microfast 0.9 UNIT

LEACHING SYSTEM:
 (4) 500 GALLON CONCRETE LEACHING CHAMBERS IN A (12.5') WIDE x (42.5') LONG x (2') DEEP STONE BED

EFFECTIVE LEACHING:
 12.5' WIDE x 42' LONG x 2' DEEP
 BOTTOM AREA = 531 S.F. TOTAL = 751 S.F.
 SIDEWALL AREA = 220 S.F.
 LOADING RATE = 0.74 GPD/SF
 FLOW PROVIDED: 555 GPD > 550 GPD



Notes

- BENCHMARK: ELEVATION = 12.42 (NAVD88) TOP OF CONCRETE BOUND
- ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO TITLE 5 AND THE TOWN OF BOURNE BOARD OF HEALTH REGULATIONS.
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
- NO FIELD MODIFICATION TO THE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND BOARD OF HEALTH.
- ALL JOINTS AND COVERS TO BE WATERTIGHT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES.
- A CERTIFICATE OF COMPLIANCE MUST BE OBTAINED PRIOR TO BACKFILLING SYSTEM.
- OWNER/APPLICANT: JOHN C. DAWLEY, SARALA P. DAWLEY, 24 BLACK BIRCH LANE, CONCORD, MA 01742
- DEED REFERENCE: Deed Bk:31082 Pg:299
- PLAN REFERENCE: Plan Bk:240 Pg:47
- THE DESIGN IS INTENDED TO MEET TITLE 5 AND OTHER APPLICABLE REQUIREMENTS. THIS PLAN DOES NOT GUARANTEE THAT THE SYSTEM WILL BE INSTALLED AS DESIGNED, NOR DOES THIS PLAN GUARANTEE THE OPERATION OF THE SYSTEM.
- THIS SYSTEM IS NOT DESIGNED NOR INTENDED FOR USE WITH A GARBAGE GRINDER.
- THE SYSTEM OWNER SHALL BE RESPONSIBLE TO PUMP THE SEPTIC TANK AT LEAST ONCE EVERY THREE YEARS.
- LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA.
- LOCUS DOES FALL WITHIN A NHESP PRIORITY HABITAT OF RARE SPECIES BUT DOES NOT FALL WITHIN A NHESP ESTIMATED HABITAT OF RARE WILDLIFE.
- LOCUS PARTIALLY FALLS WITHIN SPECIAL FLOOD HAZARD ZONES "VE" (EL = 17) & "AE" (EL = 15) PER FEMA FIRM PANEL 25001C-0492-J, EFFECTIVE DATE 7/16/2014.

ZONING REQUIREMENTS

NON-CONFORMING PRE-EXISTING			
ZONE-R-40	REQUIRED	EXISTING	PROPOSED
LOT AREA:	40,000 s.f.	34,860± s.f.	34,860± s.f.
FRONT YARD:	20'	48'	21'
SIDE/REAR YARD:	12'	12'±/196'±	13'±/209'±
MAX. LOT COVERAGE:	20%	24.4%	8.7%
	(6,972 s.f. max.)	(8,509 s.f.)	(3,115 s.f.)
BUILDING HEIGHT:	35'	<35'	33.4'
GROSS FLOOR AREA:	20%	7.7%	16.9%
	(6,972 s.f. max.)	(1,088 s.f.)	(2,877 s.f.)

Notes:
 (a) SEE TABLE 2456 FOR NON-CONFORMING LOTS IN BOURNE ZONING BY LAWS.
 (b) AVERAGE EXISTING GRADE LINE CALCULATE AS EL. 17.6
 (c) GROSS FLOOR AREA CALCULATIONS PROVIDED BY UNION STUDIO ARCHITECTURE AND DESIGN.

Prepared By:

 49 HERRING POND ROAD BUZZARDS BAY, MA 02532
 19 OLD SOUTH ROAD NANUCKET, MA 02554
 (tel) 508.833.0070 (tel) 508.325.0044
 (fax) 508.833.2282 www.brackeneng.com

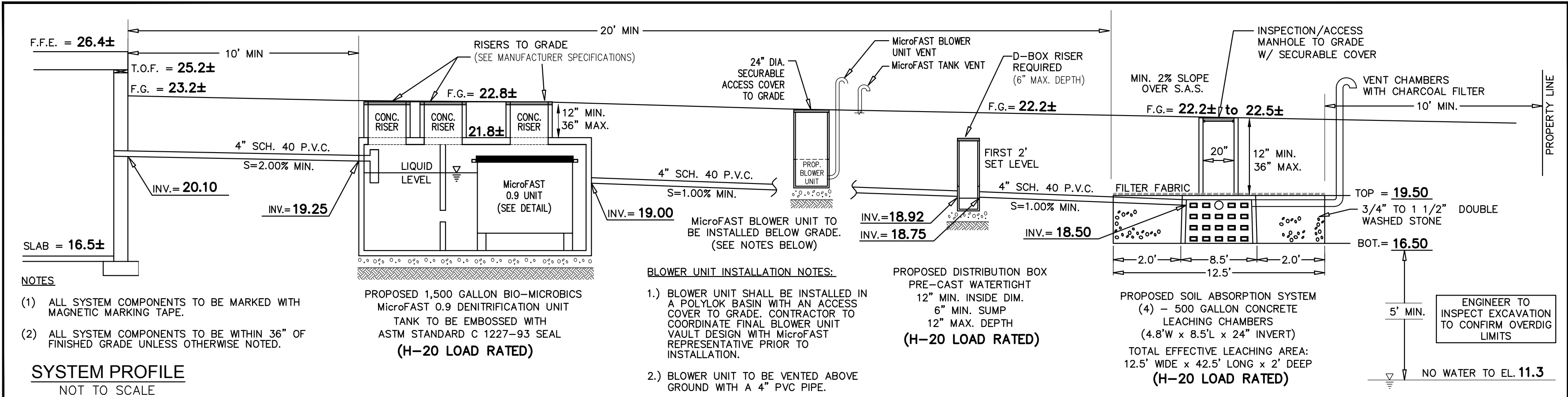
PROPOSED SITE PLAN IN BOURNE, MASSACHUSETTS
 Prepared For:
JOHN DAWLEY
 276 SCRAGGY NECK ROAD
 MAP 50.0 PARCEL 159

No.	Date	Revision Description	By
3	11/5/19	REVISE HOUSE LAYOUT & GRADING	RED
2	1/2/19	ADD MICROFAST 0.9 UNIT	RED
1	11/13/18	ADD 25' BUFFER, DOCK	BCM

Date: OCTOBER 16, 2018 Drawn: RED/BE Checked: ZLB/AMG Sheet: 1 of 2

ADDITIONAL NOTES

- CONTRACTOR TO REFER TO ALL MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS FOR INSTALLATION OF THE MicroFAST 0.9 UNIT.
- THE RECORD PROPERTY OWNER IS TO FILE A NOTICE OF DEED RESTRICTION AT THE BARNSTABLE COUNTY REGISTRY OF DEEDS PRIOR TO THE INSTALLATION OF THE SYSTEM, INDICATING THE USE OF AN INNOVATIVE/ALTERNATIVE SEPTIC SYSTEM ON THE PROPERTY.
- HOMEOWNER IS TO ESTABLISH AN OPERATION & MAINTENANCE PLAN WITH A COMPANY CERTIFIED SYSTEM OPERATOR FOR THE MicroFAST. ALL SYSTEM TESTING, MONITORING & REPORTING IS TO BE CONDUCTED IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) GENERAL USE PERMITS.
- CONTRACTOR TO COORDINATE PLACEMENT OF ALL ALARM PANELS AND THE MicroFAST BLOWER UNIT WITH THE HOMEOWNER & SYSTEM MANUFACTURERS PRIOR TO INSTALLATION.
- CONTRACTOR TO CONDUCT BORINGS BELOW THE PROPOSED FOUNDATION FOOTPRINT TO CONFIRM THE EXISTING PARENT MATERIAL CLASSIFICATION. FINAL BORING DEPTH TO BE DETERMINED.
- ALL PLACED FILL TO BE COMPACTED TO AT LEAST 95% STANDARD LABORATORY MAXIMUM DRY DENSITY.
- PROJECT REQUIRES THE INSTALLATION OF A SUB-SLAB UNDER-DRAIN SYSTEM CONNECTED TO A 1/2 HP (MIN.) SUMP PUMP. SUMP PUMP IS TO DISCHARGE ABOVE THE B.F.F. AT A RATE 4x GREATER THAN THE ANTICIPATED SEEPAGE RATE. BACKUP POWER SUPPLY TO THE SUMP PUMP IS TO BE PROVIDED.



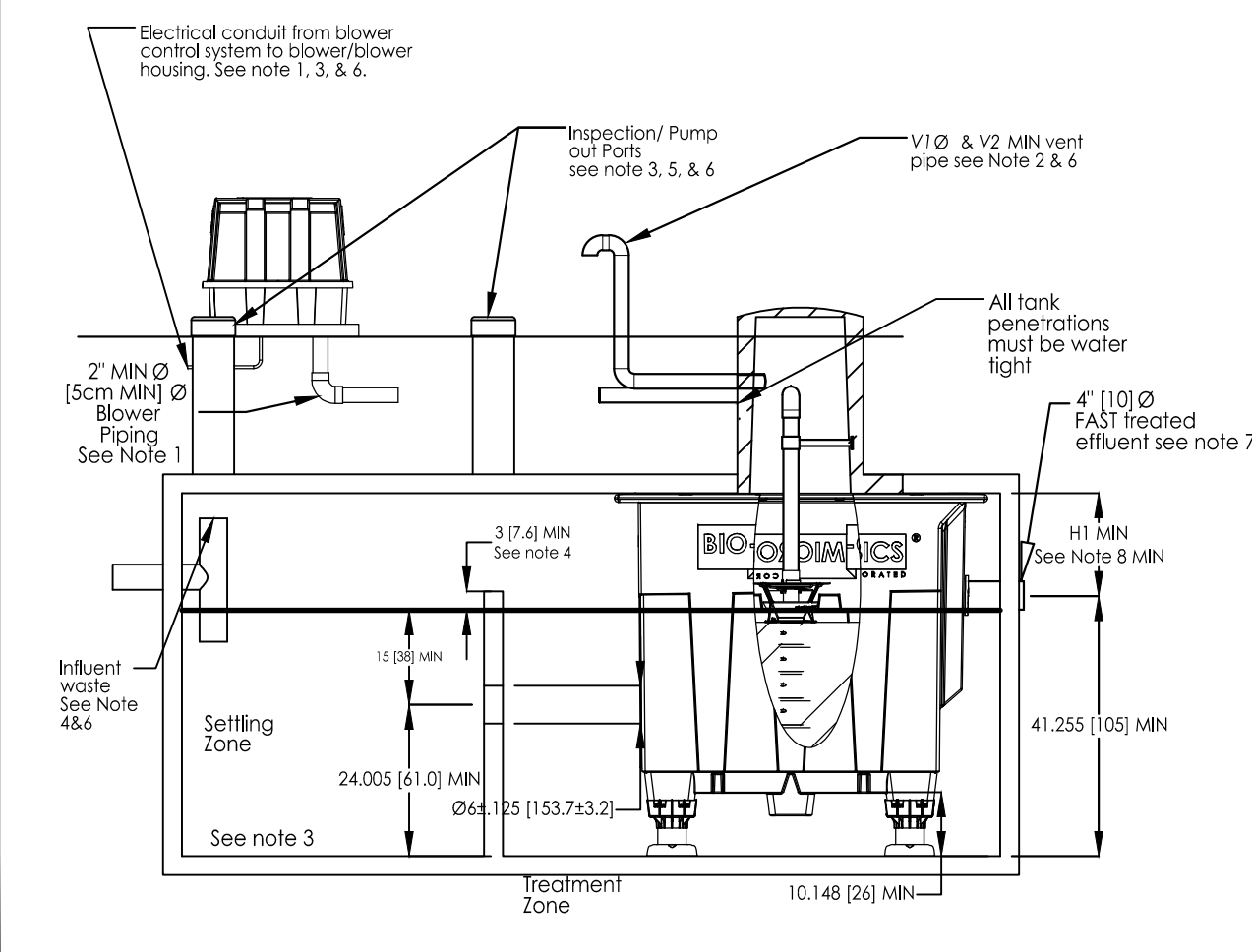
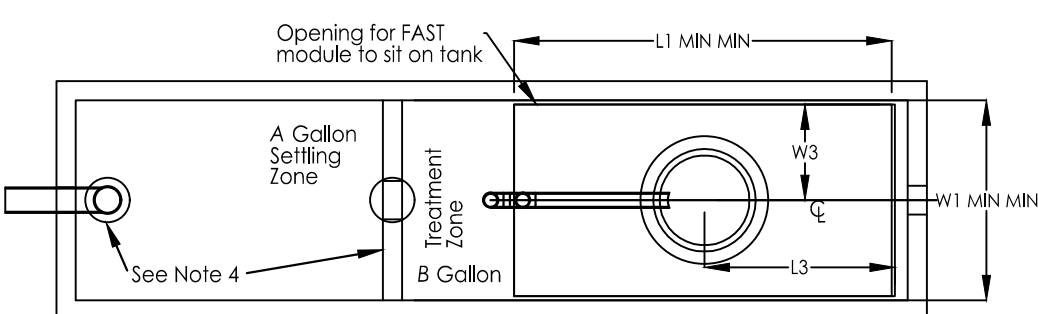
SYSTEM PROFILE
 NOT TO SCALE

MicroFAST 0.9 UNIT (INTERNAL MOUNT)



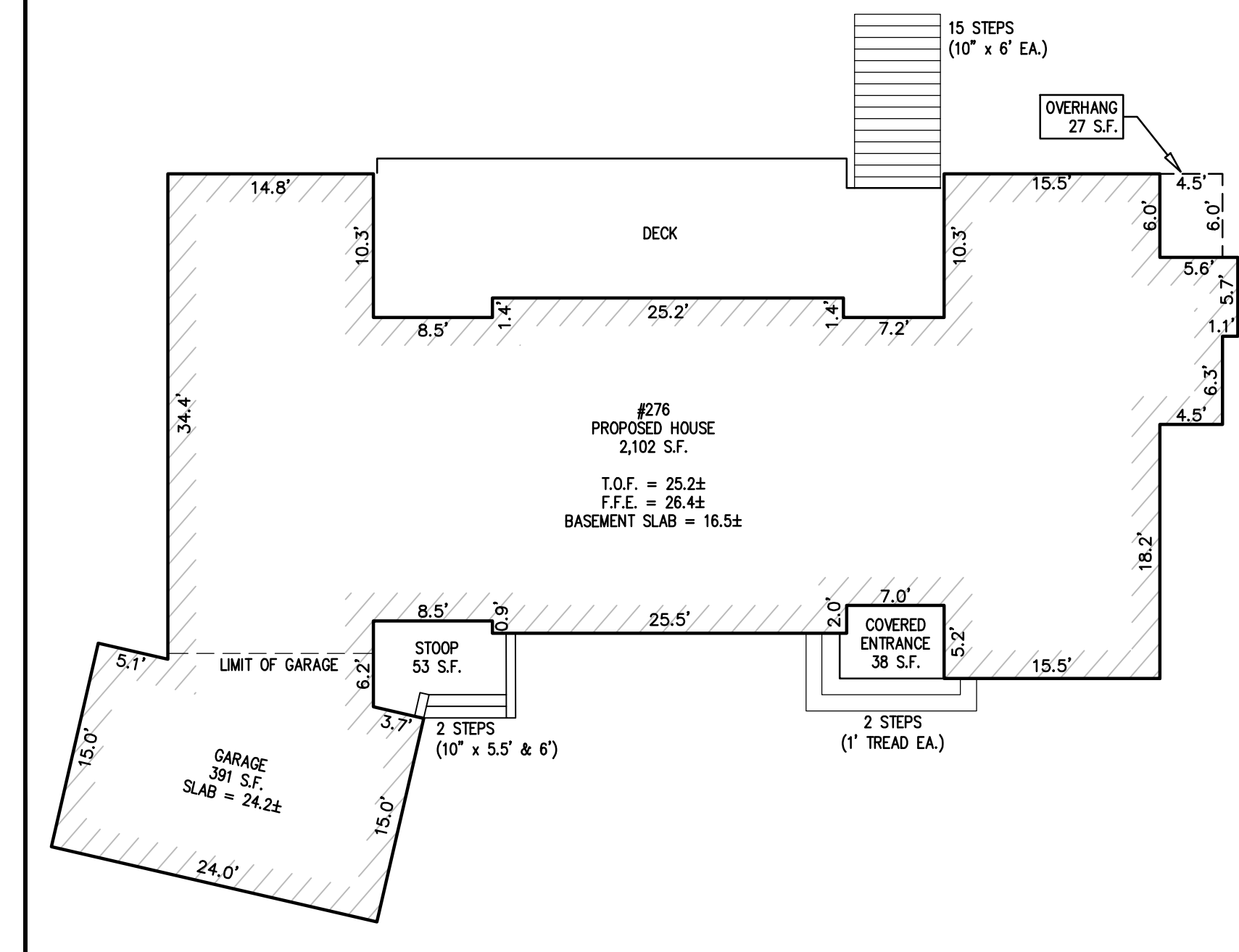
MicroFAST Notes:

1. Blower piping to FAST® may not exceed 100FT [30.5m] total length and use a maximum of 4 elbows. For distances greater than 100FT [30.5m] – consult factory. Blower must be located above flood/standing water levels on a concrete base 24" X 18" X 2" [61X45.7X5cm] minimum.
2. Vent to be located above finish grade or higher to avoid infiltration. Cap with vent grate w/at least 7.1 sq in. [45.8 sq cm] open surface area. Secure with stainless steel screws or Run vent to desired location and cover opening with vent grate w/at least 7.1sq in. [45.8 sq cm] of open surface area. Secure with stainless steel screws. Vent piping must not allow excess moisture build up or back pressure.
3. All appurtenances to FAST® (e.g. tank pump outs, etc.) must conform to all country, state, province, and local plumbing and electrical codes. The blower control system is provided by Bio-Microbics, Inc.
4. Either the influent pipe tee shall be fitted with a pipe cap or the baffle separating the two zones shall be extended to the top of the tank. If choosing to use the pipe cap, then the baffle shall be at least 3"[8cm] higher than the water level as shown on the drawing.
5. All inspection, viewing and pump out parts must be secured to prevent accidental or unauthorized access.
6. Tank, anchors, piping, conduit, blower housing pad and vents are provided by others.
7. All piping and ancillary equipment installed after FAST® must not impede or restrict free flow of effluent.
8. No more than 4 FT [1.2 m] of fill may be placed over unit lid. Unit may stand inside tank. MicroFAST® 0.50 with feet. Refer to installation manual for more details.



PROPOSED HOUSE DETAIL

SCALE: 1"=10'



Prepared By:



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PROPOSED SITE PLAN IN BOURNE, MASSACHUSETTS

Prepared For:
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MAP 50.0 PARCEL 159

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