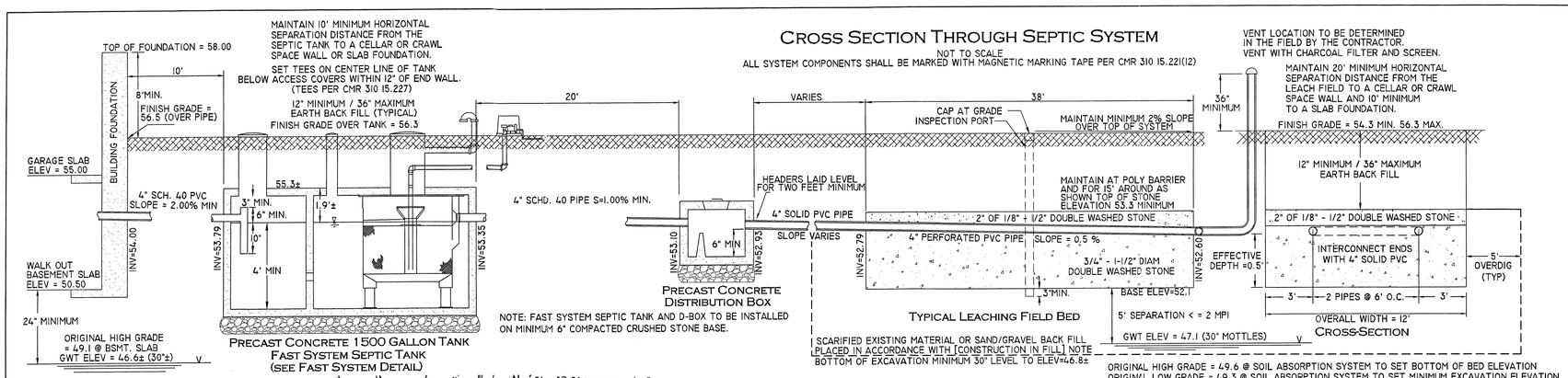
Cross Section Through Septic System

NOT TO SCALE

ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE PER CMR 310 15.221(12)



Precast Concrete 1500 Gallon Tank Fast System Septic Tank (see Fast System Detail)

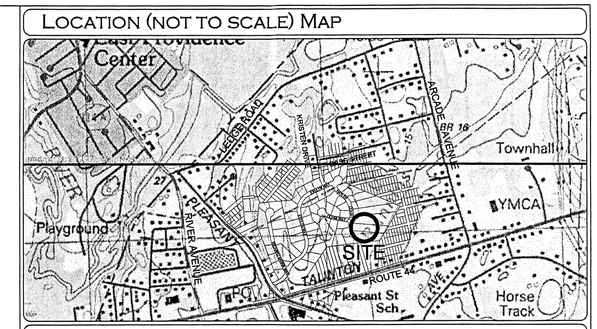
Precast Concrete Distribution Box

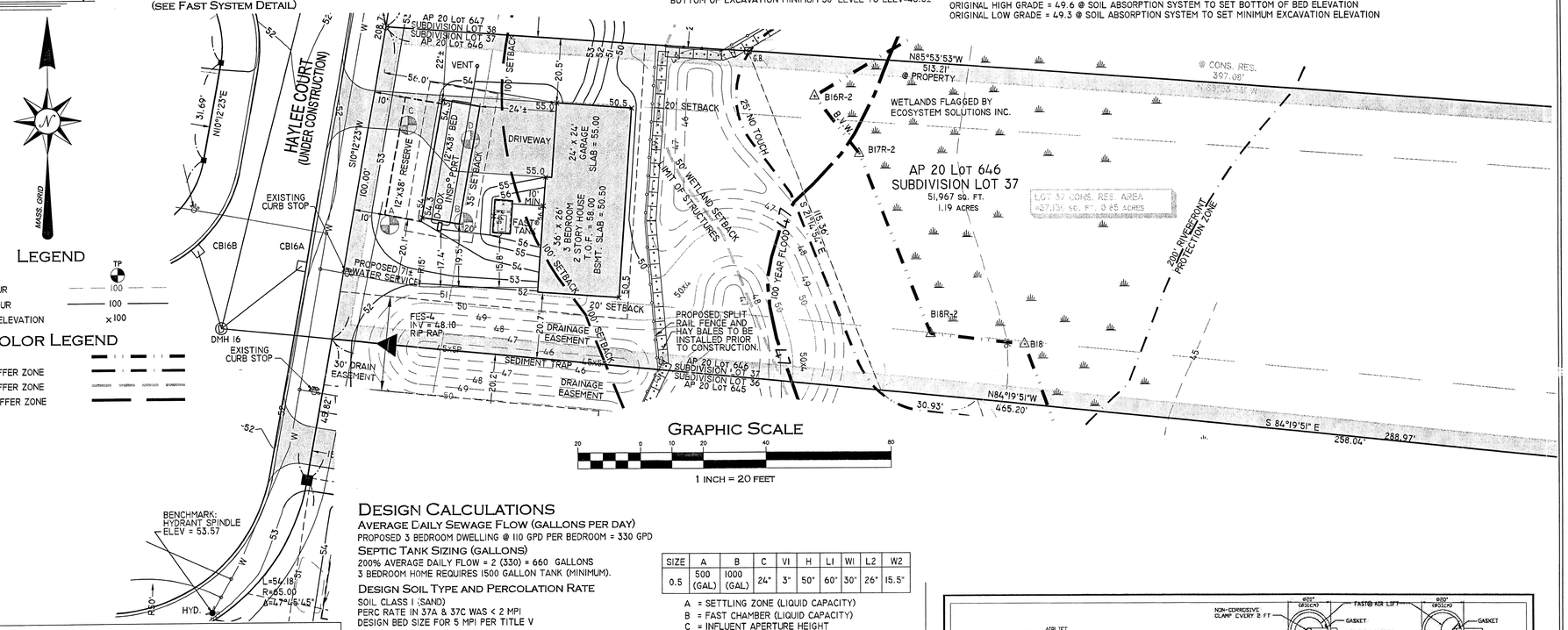
NOTE: FAST SYSTEM SEPTIC TANK AND D-BOX TO BE INSTALLED ON MINIMUM 6" COMPACTED CRUSHED STONE BASE.

Typical Leaching Field Bed

Cross-Section

Location (not to scale) Map





Legend

SOIL TEST PIT	TP
ORIGINAL CONTOUR	100
PROPOSED CONTOUR	100
PROPOSED SPOT ELEVATION	×100

Color Legend

- WETLANDS LINE
- 25' WETLAND BUFFER ZONE
- 50' WETLAND BUFFER ZONE
- 100' WETLAND BUFFER ZONE

Graphic Scale

20 0 10 20 40 80

1 inch = 20 feet

Design Calculations

Average Daily Sewage Flow (gallons per day)

PROPOSED 3 BEDROOM DWELLING @ 110 GPD PER BEDROOM = 330 GPD

Septic Tank Sizing (gallons)

200% AVERAGE DAILY FLOW = 2 (330) = 660 GALLONS
3 BEDROOM HOME REQUIRES 1500 GALLON TANK (MINIMUM).

Design Soil Type and Percolation Rate

SOIL CLASS I (SAND)
PERC RATE IN 37A & 37C WAS < 2 MPI
DESIGN BED SIZE FOR 5 MPI PER TITLE V

Required Minimum Leaching Area

REQUIRED AREA = 330 GPD / 0.74 GPD / SF = 446 SF MINIMUM
LEACHING FIELD BED: 12' x 38' = 456 SF
RESERVE AREA: 12' x 38' = 456 SF

SIZE	A	B	C	VI	H	LI	WI	L2	W2
0.5	500 (GAL)	1000 (GAL)	24"	3"	50"	60"	30"	26"	15.5"

A = SETTLING ZONE (LIQUID CAPACITY)
B = FAST CHAMBER (LIQUID CAPACITY)
C = INFLUENT APERTURE HEIGHT
VI = VENT SIZE (MINIMUM)
H = FAST HEIGHT
LI = FAST LENGTH (TOTAL)
L2 = FAST LENGTH FROM BACK TO AIR LIFT
WI = FAST WIDTH (TOTAL)
W2 = FAST WIDTH TO AIR LIFT

DEEP OBSERVATION HOLE 37A

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
0-4"	Ao	SL	10 YR 3/2	-	ORGANIC
4-24"	B	LS	10 YR 5/6	-	-
24-120"	C	F-MS	2.5 Y 6/3&2	40" 7.5 YR 5/8	STRATIFIED

OBSERVED GROUND WATER: 66" STANDING, 60" WEEPING
ESTIMATED HIGH GROUND WATER: 40"
PERC. RATE @ 52" = < 2 MPI
DATE: 7-19-07
BY: M. FARIA
WITNESS: H. CHENEVERT

DEEP OBSERVATION HOLE 37B

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
0-4"	Ao	SL	10 YR 3/2	-	ORGANIC
4-24"	B	LS	10 YR 5/4	-	-
24-120"	C	F-MS	2.5 YR 6/3&2	40" 7.5 YR 5/8	STRATIFIED

OBSERVED GROUND WATER: 66" STANDING, 60" WEEPING
ESTIMATED HIGH GROUND WATER: 40"
NO PERC. TEST PERFORMED
DATE: 7-19-07
BY: M. FARIA
WITNESS: H. CHENEVERT

DEEP OBSERVATION HOLE 37C

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
0-4"	Ao	SL	10 YR 3/1	-	ORGANIC
4-24"	B	LS	10 YR 5/8	-	-
24-120"	C	F-MS	2.5 Y 6/3&2	36" 7.5 YR 5/8	STRATIFIED

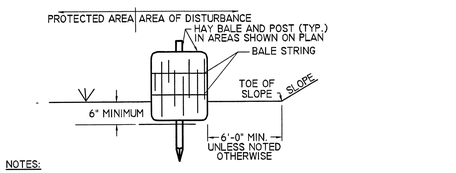
OBSERVED GROUND WATER: 66" STANDING, 60" WEEPING
ESTIMATED HIGH GROUND WATER: 36"
PERC. RATE @ 38" = < 2 MPI
DATE: 7-19-07
BY: M. FARIA
WITNESS: H. CHENEVERT

DEEP OBSERVATION HOLE 37D

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
0-12"	Ao	SL	10 YR 3/1	-	ORGANIC
12-24"	B	LS	10 YR 5/8	-	-
24-120"	C	F-MS	2.5 Y 6/3&2	30" 7.5 YR 5/8	STRATIFIED

OBSERVED GROUND WATER: 36" STANDING, 36" WEEPING
ESTIMATED HIGH GROUND WATER: 30"
NO PERC. TEST PERFORMED
DATE: 7-19-07
BY: M. FARIA
WITNESS: H. CHENEVERT

Soil Evaluation & Perc Results

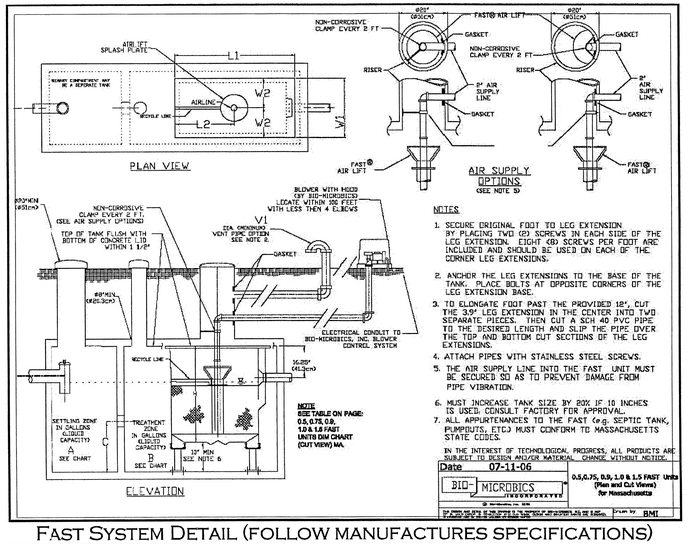


NOTES:

1. HAY BALES ARE TO BE PLACED WITHIN A 6" MINIMUM TRENCH PRIOR TO CONSTRUCTION.
2. THOROUGHLY COMPACT EXCAVATED SOILS BACK INTO THE TRENCH AFTER INSTALLATION OF EROSION CONTROL DEVICES.
3. BALE STRING SHALL BE LAID PARALLEL TO THE GROUND SURFACE.
4. EACH BALE TO BE SECURELY STAKED INTO THE GROUND WITH (2) 1"x1"x3' OAK BEAN POLE.
5. CONTRACTOR IS RESPONSIBLE TO MAINTAIN INTEGRITY OF HAY BALE LINE FOR DURATION OF CONSTRUCTION.
6. EROSION CONTROLS TO REMAIN UNTIL SOIL CONDITIONS STABILIZE.
7. LOOSE HAY TO BE SPREAD ON AREAS OF EXPOSED LOAM & SEED UNTIL GERMINATION AND STABILATION OCCURS.

Hay Bale Detail

(NOT TO SCALE)



NOTES:

1. SECURE ORIGINAL FOOT TO LEG EXTENSION BY PLACING TWO (2) SCREWS IN EACH SIDE OF THE LEG EXTENSION. EIGHT (8) SCREWS PER FOOT ARE INCLUDED AND SHOULD BE USED ON EACH OF THE CORNER LEG EXTENSIONS.
2. ANCHOR THE LEG EXTENSIONS TO THE BASE OF THE TANK. PLACE BOLTS AT OPPOSITE CORNERS OF THE LEG EXTENSION BASE.
3. TO ELONGATE FOOT PAST THE PROVIDED 12", CUT THE 3.9" LEG EXTENSION IN THE CENTER INTO TWO SEPARATE PIECES. THEN CUT A SCH 40 PVC PIPE TO THE DESIRED LENGTH AND SLIP THE PIPE OVER THE TOP AND BOTTOM CUT SECTIONS OF THE LEG EXTENSIONS.
4. ATTACH PIPES WITH STAINLESS STEEL SCREWS.
5. THE AIR SUPPLY LINE INTO THE FAST UNIT MUST BE SECURED SO AS TO PREVENT DAMAGE FROM PIPE VIBRATION.
6. MUST INCREASE TANK SIZE BY 20% IF 10 INCHES IS USED. CONSULT FACTORY FOR APPROVAL.
7. ALL APPURTENANCES TO THE FAST (e.g. SEPTIC TANK, PUMPOUTS, ETC.) MUST CONFORM TO MASSACHUSETTS STATE CODES.

IN THE INTEREST OF TECHNOLOGICAL PROGRESS, ALL PRODUCTS ARE SUBJECT TO DESIGN AND/OR MATERIAL CHANGE WITHOUT NOTICE.

Fast System Detail (follow manufactures specifications)

Notes & Specifications

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF 310 CMR 15 (TITLE V) OF THE COMMONWEALTH OF MASSACHUSETTS AND THOSE OF THE TOWN BOARD OF HEALTH.

THE REQUIRED INSPECTION SCHEDULE DURING THE PROCESS OF CONSTRUCTION SHALL BE ARRANGED BY THE CONTRACTOR WITH THE BOARD OF HEALTH & DESIGN ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

1500 GALLON FAST SYSTEM SEPTIC TANK AND DISTRIBUTION BOX SHALL BE STANDARD DUTY DESIGN AS MANUFACTURED BY ROTONDO & SONS, INC. OR APPROVED EQUAL.

ALL PIPING SHALL BE 4" DIA. SCHD. 40 NSF PVC, WITH ALL JOINTS SEALED WATERTIGHT.

ALL STONE SHALL BE DOUBLE WASHED AND FREE OF IRONS, CLAY OR FINES AND SHALL BE SATISFACTORY TO THE TOWN BOARD OF HEALTH.

THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE A GARBAGE DISPOSAL OR OTHER HIGH WATER USE UNITS.

THE PROPOSED SEPTIC SYSTEM IS NOT LOCATED WITHIN THE CONE OF INFLUENCE OF ANY MUNICIPAL WELL NOR ARE THERE ANY PRIVATE WELLS LOCATED WITHIN 100 FEET (RADIAL) OF THE PROPOSED SYSTEM.

EXCAVATE ALL TOP, SUB AND ANY OTHER SOILS ENCOUNTERED DOWN TO THE BOTTOM OF EXCAVATION (SEE CROSS SECTION) AND FOR A HORIZONTAL DISTANCE OF 5' ON ALL SIDES OF THE PROPOSED SYSTEM. BACK FILL TO TOP OF STONE ELEVATION WITH SELECT ON SITE OR IMPORTED SOIL MATERIAL CONSISTING OF CLEAN GRANULAR SAND, FREE OF ORGANIC MATTER OR OTHER DELETERIOUS SUBSTANCES AND MEETING THE SIEVE SIZE REQUIREMENTS OF 310 CMR 15.255(3) & (5) [CONSTRUCTION IN FILL].

ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON NGVD 29.

CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO THE CONTINUATION OF CONSTRUCTION.

WATER TABLE FLUCTUATES ANNUALLY, NO WARRANTEE OF A DRY BASEMENT IS EXPRESSED OR IMPLIED.

THE PROPOSED WORK DOES NOT LIE IN A CRITICAL FLOOD HAZARD ZONE.

THE LOT DOES NOT LIE IN AN OVERLAY DISTRICT FOR GROUNDWATER AQUIFER PROTECTION.

THE SITE IS UNDER CONSTRUCTION, DUE TO THE POSSIBILITY OF THE BENCHMARK CHANGING DURING CONSTRUCTION, THE CONTRACTOR IS TO VERIFY THE BENCHMARK WITH THE SURVEYOR PRIOR TO CONSTRUCTION.

MAINTAIN 15' MINIMUM SEPARATION FROM WATER SERVICE TO PROPOSED SEPTIC COMPONENTS.

HOUSE DIMENSIONS, ELEVATION AND LOCATION ARE APPROXIMATE AND SUBJECT TO CHANGE, CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.

THE LOT LIES IN A R-I ZONING DISTRICT.
FRONT YARD SETBACK: 35'
SIDE YARD SETBACK: 15' + 5'/STORY
REAR YARD SETBACK: 25'

REFERENCE: DEFINITIVE SUBDIVISION PLAN FOR FALL RIVER AVENUE DEVELOPMENT PARTNERS, LLC, "BANNA ESTATES" TAUNTON AVENUE/PLEASANT STREET, SEEKONK, MA. DATED; AUGUST 2, 2007, REVISED; MAY 27, 2008. BY INSITE ENGINEERING SERVICES, LLC. AND "NOTICE OF INTENT PLAN OF BANNA ESTATES" REVISED: MAY 12, 2008.

TIE INTO PROPOSED CONTOURS AND ELEVATIONS AS SHOWN IN THE ABOVE REFERENCE.

I CERTIFY THAT THE PROPOSED WATER SERVICE SHOWN ON THIS PLAN IS IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE SEEKONK WATER DISTRICT. THE CONTRACTOR IS TO COORDINATE THE WATER SERVICE TIE IN WITH THE WATER AUTHORITY AND INSTALL THE WATER SERVICE WITH MAGNETIC MARKING TAPE ABOVE THE ENTIRE LENGTH OF THE WATER SERVICE.

REFER TO CONSERVATION FILINGS FOR WORK WITHIN WETLAND BUFFER.

OWNER OF RECORD: FALL RIVER AVENUE DEVELOPMENT PARTNERS, LLC
C/O STEVEN NAJAS
111 MILES AVENUE
EAST PROVIDENCE, RI 02914

WETLAND LINES ESTABLISHED AND APPROVED UNDER THE ORDER OF RESOURCE AREA DELINEATION SE 69-613.

THE SPLIT RAIL FENCE WILL SERVE AS THE LIMIT OF LAWN AND FUTURE YARD ACTIVITIES AND SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION.

PROPOSED SEPTIC TANK TO BE INSTALLED IS A MICROFAST 0.5 DENITRIFICATION SYSTEM BY BIO-MICROBICS INC.

THE 25-FOOT BUFFER ZONE DELINEATES THE LIMITS OF DISTURBANCE AND ALL FUTURE ACTIVITIES.

THE 50-FOOT WETLAND BUFFER DELINEATES THE LIMITS OF ALL STRUCTURES AS STATED WITHIN THE TOWN OF SEEKONK CONSERVATION COMMISSION REGULATIONS AMENDED MARCH, 2003.

69-722

RECEIVED OCT 04 2011 SEEKONK CONSERVATION COMMISSION

Septic System Design and NOI Plan

"BANNA ESTATES"
#14 Haylee Court, Seekonk, MA. 02771
AP 20 Lot 646 (Subdivision Lot 37)

Applicant: Kevin Almeida, Almeida Construction, Corp.
#6 Brayton Woods Drive, Rehoboth, MA 02769

Job #	Scale:	Design By:	Date:
06-050-37	1"=20'	MSF	September 26, 2011

Revised:

Professional Seal

INSITE Engineering Services, LLC
Professional Engineers and Land Surveyors
Insite Professional Complex, Suite 1
1539 Fall River Avenue
Seekonk, MA 02771
Phone: (508) 336-4500
Fax: (508) 336-4558

Sheet 1 of 1