NOTES:

1. EXISTING CONDITIONS AND SOIL TESTING INFORMATION WERE OBTAINED FROM A PLAN ENTITLED 'PROPOSED CONDO 6-BEDROOM SEWAGE DISPOSAL SYSTEM, LIP PROGRAM, 19 BULETTE ROAD, ACTON, MASSACHUSETTS" PREPARED BY ANDREW P. MARTINO, P.E., CIVIL ENGINEERING, WINDHAM, NH, DATED MARCH 22, 2006, AS REVISED MAY 17, 2006.
2. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
3. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN THE DESIGN PLANS PRIOR TO THE START OF CONSTRUCTION.
4. ALL DISTURBED AREAS NOT RECEIVING IMPROVEMENTS SHALL BE LOAMED AND SEEDED.
5. ALL CONSTRUCTION AND CONSTRUCTION ACTIVITIES SHALL CONFORM TO STATE AND LOCAL REQUIREMENTS. INCLUDING BUT NOT LIMITED TO THE TOWN OF ACTON, THE COMMONWEALTH OF MASSACHUSETTS AND ANY OTHER AGENCIES HAVING JURISDICTION.
6. INSPECTION PORT SHALL CONSIST OF A PERFORATED 4-INCH PIPE PLACED VERTICALLY DOWN INTO THE STONE TO THE NATURALLY OCCURRING SOIL OR SAND FILL BELOW THE STONE. THE PIPE SHALL BE CAPPED AT GRADE AND BE CONSTRUCTED OF MATERIALS TO WITHSTAND H-20 LOADING.
7. CONSTRUCTION BENCHMARK SHALL BE SET BY DESIGN ENGINEER WITHIN 50-75' FROM SYSTEM PRIOR TO CONSTRUCTION.
8. SEWER LINES SHALL BE INSTALLED A MINIMUM OF 18" BELOW WATER SUPPLY LINES. WHEREVER SEWER LINES CROSS WATER SUPPLY LINES, BOTH SERVICES SHALL BE CONSTRUCTED OF CLASS 150 PRESSURE PIPE AND SHALL BE PRESSURE TESTED TO ENSURE WATERTIGHTNESS.
9. PRIOR TO APPLYING FOR A CERTIFICATE OF COMPLIANCE, THE PROPOSED PROPERTY LINE IS TO BE APPROVED BY UNDER THE CHAPER 40B APPLICATION AND RECORED IN THE MIDDLESEX SOUTH REGISTRY OF DEEDS.

DEEP OBSERVATION HOLE LOG

DEEP HOLE NO.: 404-1 DATE: MARCH 9, 2004 GRD EL.: 201.40± PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

DEPTH FROM SURFACE (IN.)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES, BOULDERS, CONSISTENCY, % GRAVEL)
0-12	A	SANDY LOAM	10YR 3/2	NONE	MASS, FRI, 0% GRAVEL
12-27	FILL	–	–	–	–
24-40	B	LOAMY SAND	10YR 5/6	NONE	MASS, FRI, 0% GRAVEL
24-40	C_1	LOAMY SAND	10YR 6/4	62"	GRAN, FRI, 25% GRAVEL
100-120	C_2	SANDY LOAM	2.5YR 5/3		FIRM IN PLACE

MEAN ANNUAL HIGH GROUND WATER ESTIMATED TO BE AT EL= 198.07, WEEPING AT EL=193.07, NO REFUSAL

DEEP OBSERVATION HOLE LOG

DEEP HOLE NO.: 404-2 DATE: MARCH 9, 2004 GRD EL.: 195.20± PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

DEPTH FROM SURFACE (IN.)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES, BOULDERS, CONSISTENCY, % GRAVEL)
0-6	A	SANDY LOAM	10YR 3/2	NONE	MASS, FRI, 0% GRAVEL
6-8	B	LOAMY SAND	10YR 5/6	NONE	MASS, FRI, 0% GRAVEL
8-120	C	SANDY LOAM	10YR 5/3	12"	FIRM, 25% GRAVEL WITH COBBLES

MEAN ANNUAL HIGH GROUND WATER ESTIMATED TO BE AT EL= 194.20, STANDING WATER AT EL=185.0, NO REFUSAL

DEEP OBSERVATION HOLE LOG

DEEP HOLE NO.: 404-3 DATE: MARCH 9, 2004 GRD EL.: 200.40± PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

DEPTH FROM SURFACE (IN.)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES, BOULDERS, CONSISTENCY, % GRAVEL)
0-24	A	SANDY LOAM	10YR 3/2	NONE	MASS, FRI, 0% GRAVEL
24-32	B	LOAMY SAND	10YR 5/6	NONE	MASS, FRI, 0% GRAVEL
32-82	C_1	LOAMY SAND	10YR 6/4	40"	LOOSE, GRAN, 30% GRAVEL
82-124	C_2	SANDY LOAM	2.5YR 5/3		FIRM, 25% GRAVEL WITH COBBLES

MEAN ANNUAL HIGH GROUND WATER ESTIMATED TO BE AT EL= 197.07

DEEP OBSERVATION HOLE LOG

DEEP HOLE NO.: 404-4 DATE: MARCH 9, 2004 GRD EL.: 195.20± PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

DEPTH FROM SURFACE (IN.)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES, BOULDERS, CONSISTENCY, % GRAVEL)
0-12	A	SANDY LOAM	10YR 3/2	NONE	MASS, FRI, 0% GRAVEL
12-18	B	LOAMY SAND	10YR 5/6	NONE	MASS, FRI, 0% GRAVEL
18-113	C	SANDY LOAM	10YR 6/4	28"	LOOSE, GRAN, 30% GRAVEL

MEAN ANNUAL HIGH GROUND WATER ESTIMATED TO BE AT EL= 190.83, WEEPING AT EL=188.33, STANDING WATER AT EL=186.50, NO REFUSAL

DEEP OBSERVATION HOLE LOG

DEEP HOLE NO.: 404-5 DATE: MARCH 9, 2004 GRD EL.: 200.00± PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

DEPTH FROM SURFACE (IN.)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES, BOULDERS, CONSISTENCY, % GRAVEL)
0-6	A	SANDY LOAM	10YR 3/2	NONE	MASS, FRI, 0% GRAVEL
6-38	FILL	–	–	38"	–
38-120	C	SANDY LOAM	10YR 6/4		FIRM, 25% GRAVEL WITH COBBLES

MEAN ANNUAL HIGH GROUND WATER ESTIMATED TO BE AT EL= 196.83, WEEPING AT EL=190.83, STANDING WATER AT EL=190.00, NO REFUSAL

DEEP OBSERVATION HOLE LOG

DEEP HOLE NO.: 404-6 DATE: MARCH 9, 2004 GRD EL.: 199.40± PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

DEPTH FROM SURFACE (IN.)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER (STRUCTURE, STONES, BOULDERS, CONSISTENCY, % GRAVEL)
0-6	A	SANDY LOAM	10YR 3/2	NONE	MASS, FRI, 0% GRAVEL
6-8	B	LOAMY SAND	10YR 5/6	NONE	MASS, FRI, 0% GRAVEL
8-60	FILL	–	–	–	–
60-108	C	SANDY LOAM	2.5YR 5/3	60"	FIRM, 25% GRAVEL WITH COBBLES

MEAN ANNUAL HIGH GROUND WATER ESTIMATED TO BE AT EL= 194.20, NO WEEPING, NO STANDING WATER, NO REFUSAL.

PERCOLATION TEST LOG

PERFORMED BY: ANDREW P. MARTINO, P.E. WITNESSED BY: BRENT REAGOR, R.S., ACTON BOH

PERC TEST NUMBER	DATE	DEPTH FROM SURFACE (INCHES)	RATE
A	3/09/2004	48"	DIS. DUE TO WET SOIL
B	3/09/2004	52"	3 MPI
C	3/09/2004	53"	DIS. DUE TO WET SOIL
D	3/09/2004	46"	DIS. DUE TO WET SOIL
E	3/10/2004	47"	23 MPI

ASSESSORS REFERENCE:

AM: D2 PR: 5

PLOT PLAN

SCALE: 1" = 100'

NO	DATE	REVISIONS
1	07/23/2009	B.O.H. SUBMISSION
2	09/14/2009	B.O.H. SUBMISSION
3	10/01/2009	B.O.H. COMMENTS
4	11/17/2009	B.O.H. COMMENTS

SEAL

COMMONWEALTH OF MASSACHUSETTS DANIEL R. CAMPBELL CIVIL No. 46245 REGISTERED PROFESSIONAL ENGINEER 11/17/09

DATE: JULY 21, 2009
DRAWN: NF / DRC
SCALE: 1"= 20'

LILLIAN ROAD
COMPREHESIVE PERMIT APPLICATION

19 BULETTE ROAD
ACTON, MASSACHUSETTS

LEVEL DESIGN GROUP
CIVIL ENGINEERING / LAND SURVEYING
60 MANMAR DRIVE
UNIT12
PLAINVILLE, MA 02762
TEL. (508) 695-2221 FAX. (508) 695-2219

SSDS DESIGN & PLAN

S-1.0

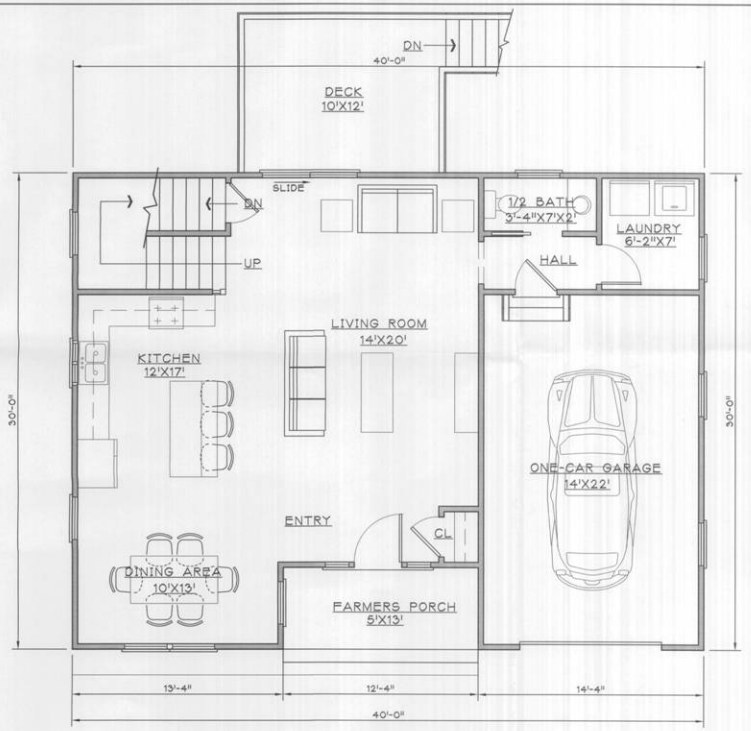
SHEET 1 OF 3

0' 10' 20' 40'

1158.00

3 A-1 FRONT ELEVATION
SCALE: 1/4"=1'-0"

2 A-1 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"



1 A-1 FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"

PITT CONSTRUCTION CORPORATION
19 BULETTE ROAD
ACTON, MA 01720

PROP. FLOOR PLANS & EXT. ELEV.

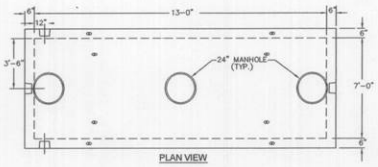
REVISIONS:
10-12-09 PER OWNERS COMMENTS

ISSUED FOR PERMITTING	
ISSUED FOR PRICING	
ISSUED FOR CONSTRUCTION	
DATE:	09-06-09
SCALE:	AS NOTED
DRAWN BY:	CAD
JOB NO.:	----

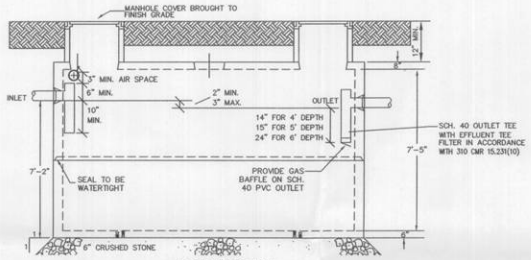
DRAWING NO:
A-1

NOTES:

1. SEPTIC TANK TO WITHSTAND H-20 LOADING.
2. ALL PIPE CONNECTIONS AND CONCRETE CONSTRUCTION TO BE WATERTIGHT.
3. INLET AND OUTLET TEES SHALL HAVE A MIN. 6" SEPERATION, AND TANK SHALL HAVE A MIN 3" WIDTH. INSIDE LENGTH TO WIDTH RATION SHALL BE NO LESS THEN 1.5 TO 1.
4. IN ACCORDANCE WITH 310CMR15.224 TANK SHALL BE TWO COMPARTMENT TANK WITH FIRST COMPARTMENT SIZED FOR HYDRAULIC DETENTION OF 48 HRS AND THE SECOND COMPARTMENT FOR 24 HRS.
5. COMPARTMENT 1 – 2640+ GALLONS
   COMPARTMENT 2 – 1320+ GALLONS



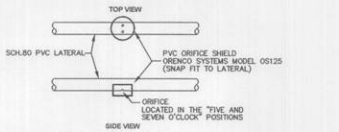
PLAN VIEW



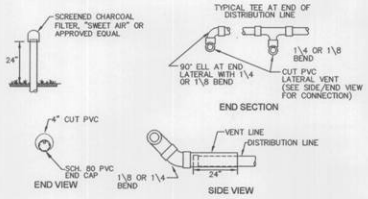
CROSS SECTION VIEW

4,000 GALLON 2-COMPARTMENT PRECAST CONCRETE SEPTIC TANK

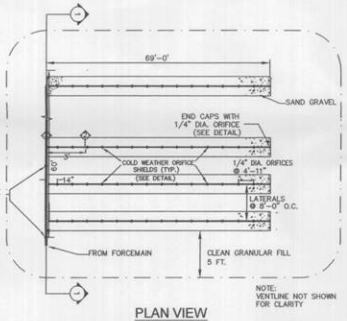
NOT TO SCALE
H-20 LOADING
CONFORMS WITH 310 CMR 15.223, 15.224, 15.226, 15.227



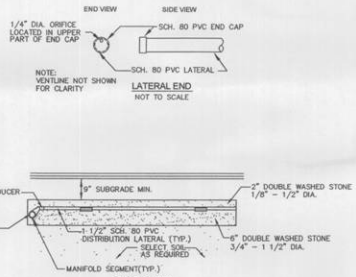
COLD WEATHER ORIFICE SHIELD
NOT TO SCALE



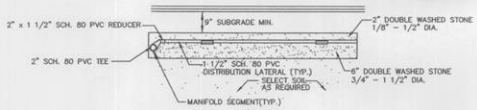
LATERAL VENTING
NOT TO SCALE



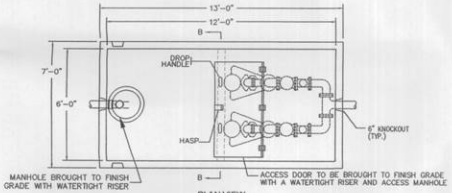
PLAN VIEW
NOT TO SCALE



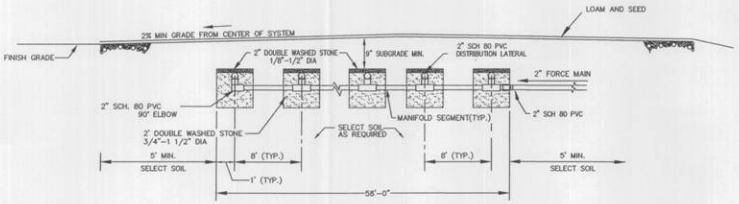
LATERAL END
NOT TO SCALE



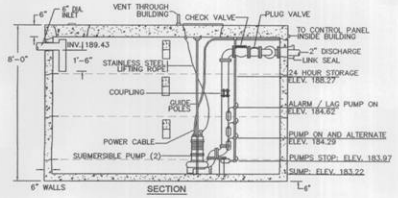
SECTION 2-2
NOT TO SCALE



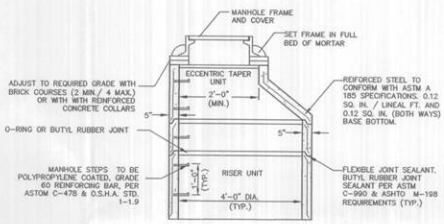
PLAN VIEW



SECTION 1-1, SOIL ABSORPTION AREA LAYOUT
NOT TO SCALE



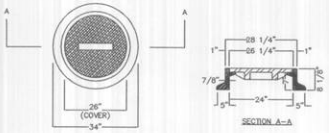
3,000 GALLON PRECAST CONCRETE PUMP CHAMBER WITH SUBMERSIBLE PUMPS
H-20 LOADING
NOT TO SCALE



NOTES:

1. CONCRETE = 4,000 PSI MIN.
2. STEEL REINFORCEMENT TO MEET OR EXCEED H-20 LOADING REQUIREMENTS.
3. WATER PROOFING TO BE TWO COATS OF HEAVY BODIED TAR EMULSION.

PRECAST CONCRETE RISER SECTIONS
NOT TO SCALE



NOTES:

1. STANDARD COVER MIN. WEIGHT 200 LBS.
2. TYPE-A FRAME MIN. WEIGHT 265 LBS. MATERIAL-CAST IRON
3. STAMPED TO READ SEWER' FOR SEWER MANHOLE INSTALLATION

STANDARD MANHOLE FRAME & COVER
NOT TO SCALE

NO	DATE	REVISIONS
1	07/23/2009	B.O.H. SUBMISSION
2	09/14/2009	B.O.H. SUBMISSION
3	10/01/2009	B.O.H. COMMENTS
4	11/17/2009	B.O.H. COMMENTS

SEAL

COMMONWEALTH OF MASSACHUSETTS
DANIEL R. CAMPBELL
CIVIL
NO. 46946
REGISTERED PROFESSIONAL ENGINEER

DATE:	JULY 21, 2009
DRAWN:	NF / DRC
SCALE:	AS SHOWN

LILLIAN ROAD
COMPREHESIVE PERMIT APPLICATION

19 BULETTE ROAD
ACTON, MASSACHUSETTS

LEVEL DESIGN GROUP
CIVIL ENGINEERING / LAND SURVEYING
60 MANMAR DRIVE
UNIT12
PLAINVILLE, MA 02762
TEL. (508) 695-2221 FAX. (508) 695-2219

SSDS DETAILS

S-3.0

SHEET 3 OF 3

1158.00

DESIGN ANALYSIS

DESIGN FLOW:
RESIDENTIAL – 12 BEDROOMS
@ 110/BEDROOM = 1,320 GPD

PRIMARY LEACHING FACILITY DESIGN:

DESIGN PERCOLATION RATE = 23 MIN/IN
SOIL TEXTURAL CLASS: CLASS II
EFFLUENT LOADING RATE: 0.40 GPD/SF
EFFECTIVE LEACHING AREA REQUIRED:
1,320 GPD/0.40 GPD/SF = 3,300 S.F.

EFFECTIVE LEACHING AREA PROVIDED:
8 LEACHING TRENCHES: 69'L x 2' W x 2' D
3,312 S.F. PROVIDED

SEPTIC TANK REQUIREMENTS:
FIRST COMPARTMENT – 48HRS DETENTION
200% x 1,320 GPD = 2,640 GAL
SECOND COMPARTMENT – 24HRS DETENTION
100% x 1,320 GPD = 1,320 GAL
TOTAL:
2,460 GALLON + 1,320 GALLONS = 3,960 GALLONS

USE 4,000 GALLON TANK

RESERVE LEACHING FACILITY DESIGN:

DESIGN PERCOLATION RATE = 15 MIN/IN
SOIL TEXTURAL CLASS: CLASS II
EFFLUENT LOADING RATE: 0.40 GPD/SF
EFFECTIVE LEACHING AREA REQUIRED:
1,320 GPD/0.40 GPD/SF = 3,300 S.F.

EFFECTIVE LEACHING AREA PROVIDED:
8 LEACHING TRENCHES: 69'L x 2' W x 2' D
3,312 S.F. PROVIDED

TABLE OF INVERTS

DESCRIPTION	PIPE SIZE	TOP	INVERT	BOTTOM	AS–BUILT
SEPTIC TANK (IN)	6"		190.14		
SEPTIC TANK (OUT)	6"		189.89		
PUMP CHAMBER (IN)	6"		189.43		
PUMP CHAMBER (OUT)	2"		189.35		
MANIFOLD	2"		203.57		
LATERALS	2"		204.07		
TRENCHES		204.41	338.48	202.07	
			338.19		

CONSTRUCTION RECORD

DESCRIPTION	AS–BUILT
MANIFOLD	
LATERAL 1	
LATERAL 2	
LATERAL 3	
LATERAL 4	
LATERAL 5	
LATERAL 6	
LATERAL 7	
LATERAL 8	

PUMPING SYSTEM SPECIFICATIONS

OPERATING CONDITIONS

EACH PUMP SHALL HAVE A CAPACITY OF 60 GPM WITH A DYNAMIC STATIC HEAD OF 34 FT. PUMPS SHALL HAVE A 6" IMPELLER WITH 2" DISCHARGE CAPABLE OF PASSING 1 1/4" SOLIDS OR APPROVED EQUAL. PUMPS SHALL OPERATE AT 3450 RPM.

PUMP CHAMBER

PUMP CHAMBER SHALL BE PRECAST REINFORCED STRUCTURE ABLE TO WITHSTAND H–20 LOADING. THE OUTSIDE OF THE CHAMBER SHALL BE WATERPROOFED WITH TWO COATS OF TAR BASED EPOXY PAINT OR APPROVED EQUAL. CONSTRUCTION JOINTS AND OPENINGS SHALL BE SEALED WITH A HYDRAULIC CEMENT OR OTHERWISE MADE WATERTIGHT. O–RING GASKETS SHALL BE INSTALLED BETWEEN PRECAST CONCRETE SECTIONS. PUMP MOUNTING PLATES SHALL BE BOLTED TO STEEL PLATES FASTENED TO THE BOTTOM OF THE CHAMBER.

PIPING

THE DISCHARGE PIPING FROM THE PUMPS SHALL BE 2", MOUNTED IN THE CHAMBER AND JOINED BY FLANGED CONNECTIONS TO THE PIPING, VALVES AND FITTINGS WITHIN THE SYSTEM.

WHERE THE PIPING PASSES THROUGH THE WALL OF THE CHAMBER, A FLEXIBLE LINK–TYPE SEAL WITHIN AN INTEGRAL SLEEVE SHALL BE FURNISHED TO PROVIDE A GAS AND WATERTIGHT SEAL. FITTINGS IN THE CHAMBER SHALL INCLUDE A GATE VALVE AND SWING CHECK VALVE FOR THE PUMPS.

CHAMBER LEVEL CONTROLS

THE LEVEL CONTROL SYSTEM SHALL BE THE AIR BUBBLER TYPE, CONTAINING AIR BUBBLER PIPING WHICH EXTENDS INTO THE WET WELL. A PRESSURE SENSOR CONTAINED WITHIN THE ELECTRONIC PRESSURE SWITCH SHALL SENSE THE AIR PRESSURE IN THIS PIPING TO PROVIDE WET WELL LEVEL SIGNALS FOR THE REMAINDER OF THE LEVEL CONTROL SYSTEM

OPERATION OF SYSTEM

UPON LIQUID LEVEL RISE IN THE PUMP CHAMBER, THE LOWEST LEVEL 'SWITCH' WILL ENERGIZE, AND THEN THE NEXT LEVEL 'SWITCH' WILL ENERGIZE, STARTING THE DUTY PUMP. THE DUTY PUMP WILL OPERATE UNTIL THE LOWEST LEVEL 'SWITCH' IS DE–ENERGIZED.

SHOULD THE LIQUID LEVEL CONTINUE TO RISE ONCE THE FIRST PUMP IS OPERATING, THE ALARM (OR THIRD) 'SWITCH' WILL BE ENERGIZED, CAUSING THE VISUAL AND AUDIBLE ALARMS AND THE ALTERNATE PUMP TO OPERATE UNTIL THE LOWEST LEVEL 'SWITCH' IS DE–ENERGIZED.

ALARM

ALARM SHALL BE SUPPLIED WITH BOTH VISUAL AND AUDIBLE ALARMS WITH A SEPARATE POWER SUPPLY FROM THE PUMPS. VISUAL AND AUDIBLE ALARMS SHALL BE INSTALLED WITHIN THE BUILDING CONTROL ROOM AND ON THE SIDE OF THE BUILDING ADJACENT TO THE PUMP CHAMBER.

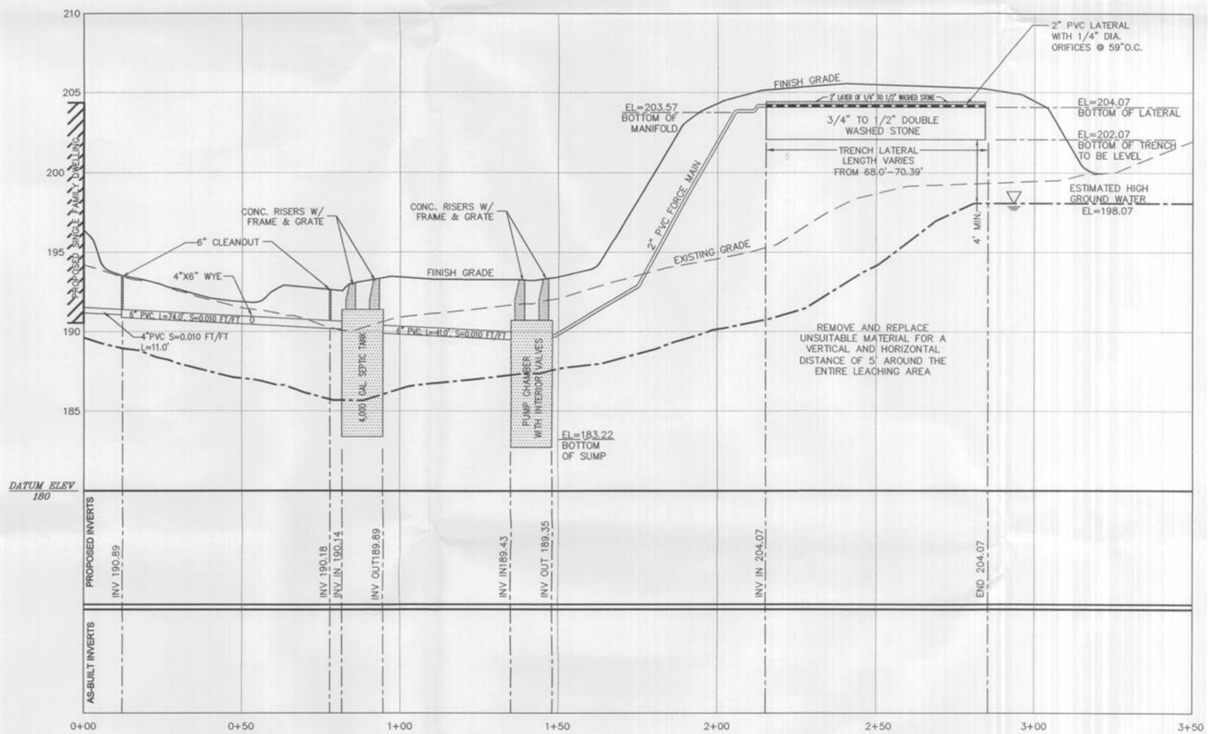
AN ALARM SILENCER BUTTON SHALL BE PROVIDED TO SILENCE THE AUDIBLE ALARM WHILE THE VISUAL ALARM STAYS LIT.

GENERAL NOTES:

1. THESE PLANS AND SPECIFICATIONS ARE INTENDED TO BE EXPLANATORY OF THE WORK TO BE DONE AND OF EACH OTHER, BUT SHOULD ANY OMISSIONS, ERRORS OR DISCREPANCIES APPEAR THEY SHALL BE SUBJECT TO CORRECTION AND INTERPRETATION BY THE DESIGN ENGINEER.
2. ALL CONSTRUCTION AND CONSTRUCTION ACTIVITIES SHALL CONFORM TO STATE AND LOCAL REQUIREMENTS. INCLUDING BUT NOT LIMITED TO THE TOWN ACTON, COMMONWEALTH OF MASSACHUSETTS AND OSHA.
3. ALTERNATIVE MANUFACTURERS FOR MATERIALS SHOWN ON THESE PLANS MAY BE USED ONLY UPON WRITTEN APPROVAL BY THE DESIGN ENGINEER. ALTERNATE MANUFACTURERS WILL NOT BE APPROVED IF THE USE OF THEIR EQUIPMENT REQUIRES DESIGN CHANGES.
4. IF ANY PART OF THIS DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER AND THE APPROVING AGENCIES SHALL BE NOTIFIED IN WRITING AND THEIR APPROVAL OBTAINED PRIOR TO CONSTRUCTION.
5. NO RAINWATER LEADER OR ANY DRAIN OTHER THAN SANITARY SEWAGE LINES SHALL DISCHARGE OR BE CONNECTED TO THE SANITARY SYSTEM. NO INDUSTRIAL WASTE SHALL BE DISCHARGED INTO THE SANITARY SYSTEM.
6. THE INSTALLER SHALL CONTACT THE ACTON BOARD OF HEALTH PRIOR TO THE START OF CONSTRUCTION AND CONFORM TO ALL INSPECTION REQUIREMENTS OF THE ACTON BOARD OF HEALTH BEFORE, DURING AND AFTER CONSTRUCTION.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SEE THAT ALL PERMITS AND APPROVALS ARE OBTAINED. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY CODES IN THE CONSTRUCTION OF THIS SUBSURFACE SEWAGE DISPOSAL SYSTEM.
8. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. NOTIFY "DIG–SAFE" AT 1–888–344–7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.
9. NO WATER SUPPLY LINES ARE TO BE CONSTRUCTED WITHIN 10 FEET OF THE LEACHING AREA OR SEPTIC TANK.
10. GRAVITY SEWER PIPING BELOW GRADE SHALL BE PVC PIPE, SCH. 40 OR SDR 35 AT A MINIMUM. JOINTS SHALL BE PUSH–ON BELL & SPIGOT WITH A RUBBER GASKET AND CONFORMING TO ASTM STANDARDS FOR THIS PIPE.
12. PIPE CONNECTIONS AT INLET AND OUTLET OF SEPTIC TANKS AND PUMP CHAMBERS SHALL BE GROUTED WITH HYDRAULIC CEMENT GROUT FOR WATERTIGHTNESS.
13. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE DESIGN ENGINEER IMMEDIATELY IF CONDITIONS ENCOUNTERED DIFFER FROM THOSE SHOWN.
14. DEEP OBSERVATION HOLES AND PERCOLATION TESTS PERFORMED BY ANDREW P. MARTINO, P.E. AND WITNESSED BY MR. BRENT REAGOR, R.S., OF THE ACTON BOARD OF HEALTH.
15. SEPTIC TANK AND PUMP CHAMBER SHALL BE CONSTRUCTED TO WITHSTAND H–20 LOADING.
16. THE SYSTEM AS DESIGNED IS NOT DESIGNED FOR USE OF GARBAGE GRINDERS.
17. THE SEWER LINE SHALL BE CONSTRUCTED OF SIX (6) INCH DIAMETER SCH 40 PVC OR SDR 35. PIPING SHALL BE WATERTIGHT AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A CLEANOUT SHALL BE REQUIRED AT CHANGES OF LINE AND/OR GRADE.
18. DISTRIBUTION LATERALS SHALL BE CONSTRUCTED OF CONSTRUCTED OF 1.25 INCH DIAMETER SCH 80 PVC. DISTRIBUTION LINES OUTSIDE THE LEACHING AREA SHALL BE UNPERFORATED WITH WATERTIGHT CONNECTIONS AND JOINTS. DISTRIBUTION LINE ENDS SHALL BE VENTED.
19. THE BOTTOM OF THE SOIL ABSORPTION SYSTEM SHALL BE A EXCAVATED TO A LEVEL GRADE AND SCARIFIED. IF THE REMOVAL OF STONES OR BOULDERS IS REQUIRED, CREATING LOCALIZED DEPRESSIONS, FILLING TO GRADE WITH EXCAVATED SOIL IS NOT ACCEPTABLE.
20. LEACHING AGGREGATE SHALL BE DOUBLE–WASHED STONE, FREE OF IRON, FINES, AND DUST IN PLACE.
21. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
22. THE SOIL PLACED AS BACKFILL OVER THE SYSTEM SHALL BE A MINIMUM OF NINE (9) INCHES, EXCLUDING TOPSOIL, PLACED IN LIFTS AND SUFFICIENTLY COMPACTED TO PREVENT DEPRESSIONS DUE TO SETTLING WHICH MAY INTERCEPT OR COLLECT SURFACE WATER RUNOFF ABOVE THE SYSTEM. BACKFILL MUST BE CLEAN AND FREE OF STONES AND BOULDERS GREATER THAN SIX (6) INCHES IN SIZE.
23. CONSTRUCTION BENCHMARK SHALL BE SET BY DESIGN ENGINEER WITHIN 50–75' FROM SYSTEM PRIOR TO CONSTRUCTION.
24. SEWER LINES SHALL BE INSTALLED A MINIMUM OF 18" BELOW WATER SUPPLY LINES. WHEREVER SEWER LINES CROSS WATER SUPPLY LINES, BOTH SERVICES SHALL BE CONSTRUCTED OF CLASS 150 PRESSURE PIPE AND SHALL BE PRESSURE TESTED TO ENSURE WATERTIGHTNESS.

DOSING NOTES:

1. PUMPS CHAMBER SHALL BE A 3,000 GALLON PRECAST, REINFORCED CONCRETE SEPTIC TANK MADE WATERTIGHT, DESIGNED FOR H–20 LOADING.
2. A 24 IN MANHOLE RISER EQUIPPED WITH A MEDIUM–DUTY CAST IRON FRAME AND COVER SHALL BE PROVIDED. COVER SHALL EXTEND UP 2 INCHES ABOVE FINISHED GRADE.
3. PUMPS SHALL BE CAPABLE OF PASSING 1–1/4" SOLIDS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
4. INSTALLER SHALL DETERMINE THE POWER AVAILABLE PRIOR TO ORDERING THE PUMP. THE PUMPS AND ALARM ARE TO BE INSTALLED ON SEPARATE CIRCUITS.
5. PUMPS SHALL HAVE A MINIMUM OF 0.5 HORSEPOWER AND SHALL BE CAPABLE OF PUMPING 60 GPM AGAINST A TDH OF 33 FEET. USE A MYRES ME50 OR APPROVED EQUAL.
6. PUMPS AND CONTROL FLOATS SHALL BE READILY VISIBLE AND REMOVABLE FROM THE MANHOLE. PUMP AND ALARM SHALL BE CONTROLLED BY MERCURY FLOAT SWITCHES. THERE SHALL BE NO SPLICES OR JUNCTION BOXES WITHIN THE PUMP CHAMBER. ALL ELECTRICAL WORK SHALL CONFORM WITH APPLICABLE CODES.
7. PIPING FROM THE PUMP TO 1 FOOT OUTSIDE THE CHAMBER SHALL BE SOLVENT WELDED SCH 80 PVC. PIPING SHALL BE SECURED AGAINST MOVEMENT AND SHIELDED FROM ABRASION.
8. A BALL TYPE CHECKVALVE, INSTALLED VERTICALLY WITHIN THE CHAMBER, SHALL BE PROVIDED. DRILL TWO 1/8 INCH DIAMETER HOLES IN THE CHAMBER PIPING, ON THE DISCHARGE SIDE OF THE CHECKVALVE, TO ALLOW DRAINING OF THE FORCEMAIN.
9. UPON LIQUID LEVEL RISE IN THE PUMP CHAMBER, THE LOWEST LEVEL "SWITCH" WILL ENERGIZE, AND THEN THE NEXT LEVEL "SWITCH" WILL BE ENERGIZE ACTIVATING THE ALARM. THE ALARM WILL REMAIN ACTIVE UNTIL THE UNTIL THE LOWEST LEVEL "SWITCH" IS DE–ENERGIZED.



SEWAGE DISPOSAL SYSTEM PROFILE
TRENCH No: PRIMARY 1
1" = 20' H, 1" = 4' V

ASSESSORS REFERENCE:

AM: D2 PR 5

NO	DATE	REVISIONS
1	07/23/2009	B.O.H. SUBMISSION
2	09/14/2009	B.O.H. SUBMISSION
3	10/01/2009	B.O.H. COMMENTS
4	11/17/2009	B.O.H. COMMENTS

SEAL

DATE:	JULY 21, 2009
DRAWN:	NF / DRC
SCALE:	1"= 20'

LILLIAN ROAD
COMPREHESIVE PERMIT APPLICATION

19 BULETTE ROAD
ACTON, MASSACHUSETTS

LEVEL DESIGN GROUP
CIVIL ENGINEERING / LAND SURVEYING
60 MANMAR DRIVE
UNIT12
PLAINVILLE, MA 02762
TEL. (508) 695-2221 FAX. (508) 695-2219

SSDS PROFILE

S-2.0
SHEET 2 OF 3

0' 10' 20' 40'

1158.00