

Bureau of Environmental Health
 8930 Stanford Boulevard, Columbia, MD 21045
 Main: 410-313-2640 | Fax: 410-313-2648
 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 2/5/15 **ONSITE SEWAGE DISPOSAL SYSTEM** P 555736

INSTALLATION APPROVAL DATE: _____ **PERMIT** A _____
CONSTRUCTION

PROPERTY ADDRESS: 735 Woodbine Crossing

SUBDIVISION: Woodbine Crossing LOT: 7 TAX ID: _____

CONTRACTOR: WTC Contractors EMAIL: _____

CONTRACTOR ADDRESS: 3033 Salem Bottom Road, Westminster, MD 21157 PHONE: 410-458-7024

PROPERTY OWNER: Catonsville Homes EMAIL: _____

OWNER ADDRESS: 11175 Stratfield Boulevard, Marriottsville, MD 21104 PHONE: 410-442-2211

Norweco Singulair
 BAT UNIT MODEL: 500TNT PUMP SIZE: _____ PUMP TANK CAPACITY: 600GPD

DISTRIBUTION SYSTEM: GRAVITY LOW PRESSURE DOSED NUMBER OF BEDROOMS: _____

| | | |
|-----------|--|---|
| TRENCHES: | LINEAR FEET REQUIRED: <u>105'</u> | INLET DEPTH: <u>SEE BAT PLAN</u> |
| | TRENCH WIDTH: <u>3'</u> | MAXIMUM BOTTOM DEPTH: <u>8'</u> |
| | MINIMUM SPACE BETWEEN TRENCHES: <u>SEE BAT PLAN</u> | EFFECTIVE AREA BEGINNING DEPTH: <u>4'</u> |
| LOCATION: | PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION. | |
| NOTES: | Install BAT system per plan. | |

ISSUED BY: Jeff Williams ISSUE DATE: 2/5/15 EXPIRATION DATE: 2/5/16

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.
 PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.
 CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

NOT TO SCALE

ROAD NAME

TRENCH/DRAINFIELD DATA
WIDTH INLET BOTTOM

NUMBER OF TRENCHES _____
TOTAL LENGTH _____
ABSORPTION AREA _____
DISTRIBUTION BOX LEVEL _____
DISTRIBUTION BOX BAFFLE _____
DISTRIBUTION BOX PORT _____

SEPTIC TANK DATA

SEPTIC TANK I LEVEL _____
MANUFACTURER _____
CAPACITY _____ GAL
SEAM LOC _____
TANK LID DEPTH _____
BAFFLES _____
BAFFLE FILTER _____
MANHOLE LOC _____
6" PORT LOC _____
WATERTIGHT TEST _____
SLOTTED _____
DATE ON LID _____

PUMP/SEPTIC TANK LEVEL _____
MANUFACTURER _____
CAPACITY _____ GAL
SEAM LOC _____
TANK LID DEPTH _____
BAFFLES _____
BAFFLE FILTER _____
MANHOLE LOC _____
6" PORT LOC _____
WATERTIGHT TEST _____
SLOTTED _____
DATE ON LID _____

PRE-CONSTRUCTION:

INSTALLATION:

FINAL INSPECTOR _____, DATE OF APPROVAL _____

NOTES:

- 1) FOUNDATION AND FOOTINGS ARE IN PLACE AS SHOWN HEREON.
- 2) BUILDING TIES ARE ±0.5' UNLESS OTHERWISE NOTED.
- 3) TOP OF WALL = 664.4

LOT 15
SECTION 1
PATAPSCO OVERLOOK
PLAT # 6718

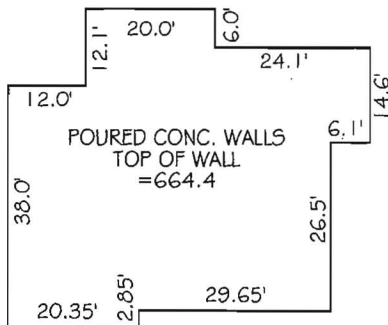
LOT 14
SECTION 1
PATAPSCO OVERLOOK
PLAT # 6718

LOT 6
WOODBINE
CROSSING
PLAT No. 20055

LOT 7
49,757 SQ. FT.
OR 1.1423 AC. ±

LOT 8
WOODBINE
CROSSING
PLAT No. 20055

WOODBINE CROSSING ROAD
50' RW



HOUSE DETAIL
SCALE: 1" = 30'

*Wall Check
okay - H.O.*

PROFESSIONAL CERTIFICATION:

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3097, EXPIRATION DATE JULY 26, 2015, IN ACCORDANCE WITH COMAR 09.03.06.3.

Thomas L. Frazier, Jr.
12/23/14

For VanMar Associates, Inc. Date
Thomas L. Frazier, Jr., P.E., Land Surveyor

WALL CHECK DRAWING

LOT 7
WOODBINE CROSSING

PLAT No. 20055

735 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1" = 50' DECEMBER, 2014

I CERTIFY THIS PLAT TO BE CORRECT AND IS THE RESULT OF AN ACTUAL FIELD SURVEY, BASED ON DATA FOUND AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, AS REFERENCED HEREON.



VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners

310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 549-2751
© Copyright, Latest Date Shown

REFERENCE

PLAT NO. 20055

JOB NO.

B4-5416

Sequence of Construction

The sequence of construction, at a minimum, must include the following:

- Request for a pre-construction meeting with the appropriate enforcement authority;
- Clearing and grubbing as necessary for the installation of perimeter controls;
- Construction and stabilization of perimeter controls;
- Remaining clearing and grubbing within installed perimeter controls;
- Road grading;
- Grading for the remainder of the site;
- Utility installation and connections to existing structures;
- Construction of buildings, roads, and other construction;
- Final grading, landscaping, and stabilization;
- Installation of stormwater management measures;
- Approval of the appropriate enforcement authority prior to removal of sediment controls; and
- Removal of controls and stabilization of areas that are disturbed by removal of sediment controls.

Note: Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.

HOWARD SOIL CONSRVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.
4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
5. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

6. Site Analysis:

| | | |
|------------------------------------|------------|----------|
| Total Area of Site | <u>1.1</u> | Acres |
| Area Disturbed | <u>0.5</u> | Acres |
| Area to be roofed or paved | <u>—</u> | Acres |
| Area to be vegetatively stabilized | <u>—</u> | Acres |
| Total Cut | <u>—</u> | Cu. Yds. |
| Total Fill | <u>—</u> | Cu. Yds. |
| Offsite waste/borrow are location | <u>—</u> | |

7. Any sediment control practice that is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
9. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
10. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each workday, whichever is shorter.
11. Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.
12. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

B-4-5 STANDARDS AND SPECIFICATIONS

FOR

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

1. General Use

- a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
- b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
- c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
- d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary .

2. Turfgrass Mixtures

- a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
- b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where

rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

- iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
- iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

Notes:

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15
(Hardiness Zones: 7a, 7b)

- d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

| Hardiness Zone (from Figure B.3): _____ Seed Mixture (from Table B.3): _____ | | | | | Fertilizer Rate (10-20-20) | | | Lime Rate |
|---|---------|--------------------------|---------------|----------------|---|--------------------------------|--------------------------------|----------------------------------|
| No. | Species | Application Rate (lb/ac) | Seeding Dates | Seeding Depths | N | P ₂ O ₅ | K ₂ O | |
| | | | | ¼- ½ in | 45 pounds per acre (1.0 lb/ 1000 sf) | 90 lb/ac (2 lb/ 1000 sf) | 90 lb/ac (2 lb/ 1000 sf) | 2 tons/ac (90 lb/ 1000 sf) |
| | | | | ¼- ½ in | | | | |
| | | | | ¼- ½ in | | | | |

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications

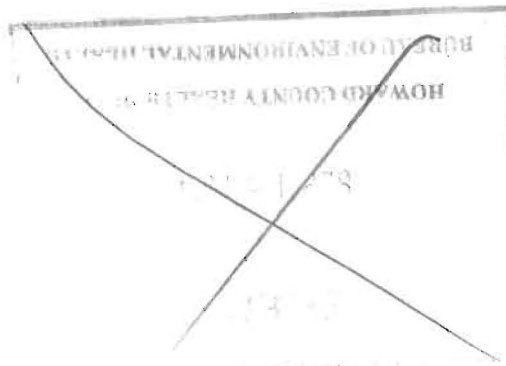
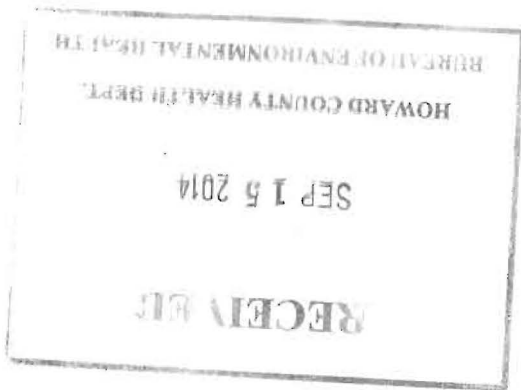
- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
- b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
- c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation

- a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
- d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

3. Sod Maintenance

- a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
- b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
- c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.



B-4-4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

| Hardiness Zone (from Figure B.3): _____ Seed Mixture (from Table B.1): _____ | | | | | Fertilizer Rate (10-20-20) | Lime Rate |
|---|---------|-----------------------------|------------------|-------------------|----------------------------------|------------------------------|
| No. | Species | Application Rate (lb/ac) | Seeding Dates | Seeding Depths | | |
| | | | | | 436 lb/ac (10 lb/1000 sf) | 2 tons/ac (90 lb/1000 sf) |
| | | | | | | |
| | | | | | | |
| | | | | | | |

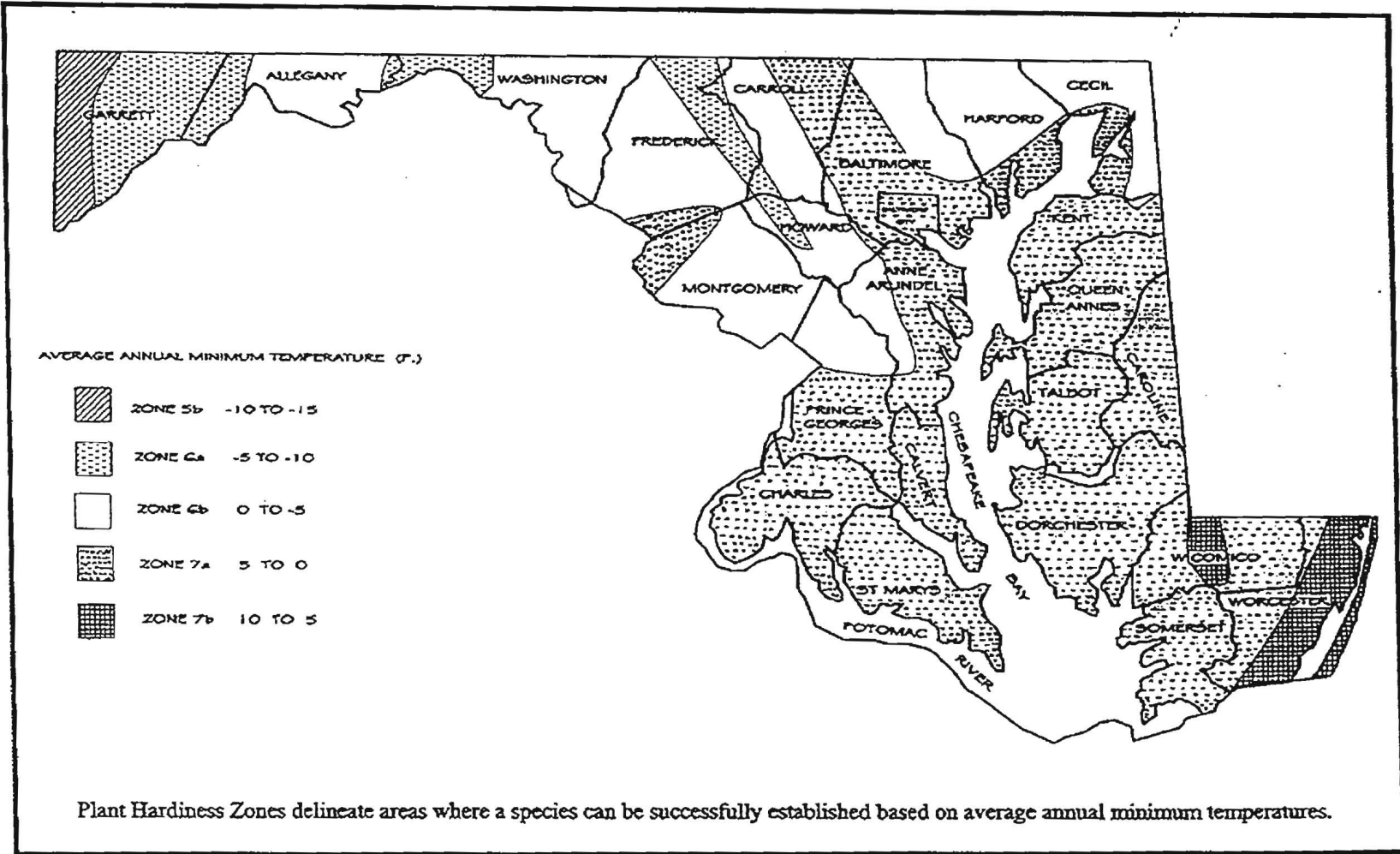


Figure B.3: U.S.D.A. Plant Hardiness Zones

Table B.1: Temporary Seeding for Site Stabilization

| Plant Species | Seeding Rate ^{1/} | | Seeding Depth ^{2/} (inches) | Recommended Seeding Dates by Plant Hardiness Zone ^{3/} | | |
|---|----------------------------|-------------------------|---|---|----------------------------------|------------------------------------|
| | lb/ac | lb/1000 ft ² | | 5b and 6a | 6b | 7a and 7b |
| Cool-Season Grasses | | | | | | |
| Annual Ryegrass (<i>Lolium perenne</i> ssp. <i>multiflorum</i>) | 40 | 1.0 | 0.5 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Barley (<i>Hordeum vulgare</i>) | 96 | 2.2 | 1.0 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Oats (<i>Avena sativa</i>) | 72 | 1.7 | 1.0 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Wheat (<i>Triticum aestivum</i>) | 120 | 2.8 | 1.0 | Mar 15 to May 31; Aug 1 to Sep 30 | Mar 1 to May 15; Aug 1 to Oct 15 | Feb 15 to Apr 30; Aug 15 to Nov 30 |
| Cereal Rye (<i>Secale cereale</i>) | 112 | 2.8 | 1.0 | Mar 15 to May 31; Aug 1 to Oct 31 | Mar 1 to May 15; Aug 1 to Nov 15 | Feb 15 to Apr 30; Aug 15 to Dec 15 |
| Warm-Season Grasses | | | | | | |
| Foxtail Millet (<i>Setaria italica</i>) | 30 | 0.7 | 0.5 | Jun 1 to Jul 31 | May 16 to Jul 31 | May 1 to Aug 14 |
| Pearl Millet (<i>Pennisetum glaucum</i>) | 20 | 0.5 | 0.5 | Jun 1 to Jul 31 | May 16 to Jul 31 | May 1 to Aug 14 |

NOTES:

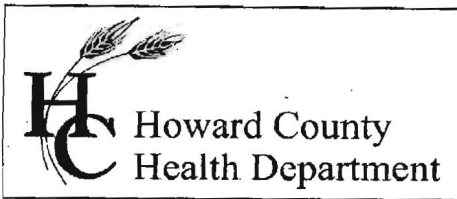
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For sandy soils, plant seeds at twice the depth listed above.

3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.



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Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 2/5/15 **ONSITE SEWAGE DISPOSAL SYSTEM** P 555736

INSTALLATION
 APPROVAL DATE: 7/24/15 SEC **PERMIT** A _____
CONSTRUCTION

PROPERTY ADDRESS: 735 Woodbine Crossing

SUBDIVISION: Woodbine Crossing LOT: 7 TAX ID: _____

CONTRACTOR: WTC Contractors EMAIL: _____

CONTRACTOR ADDRESS: 3033 Salem Bottom Road, Westminster, MD 21157 PHONE: 410-458-7024

PROPERTY OWNER: Catonsville Homes EMAIL: _____

OWNER ADDRESS: 11175 Stratfield Boulevard, Marriottsville, MD 21104 PHONE: 410-442-2211

BAT UNIT MODEL: Norweco Singulair 500TNT PUMP SIZE: _____ PUMP TANK CAPACITY: 600GPD

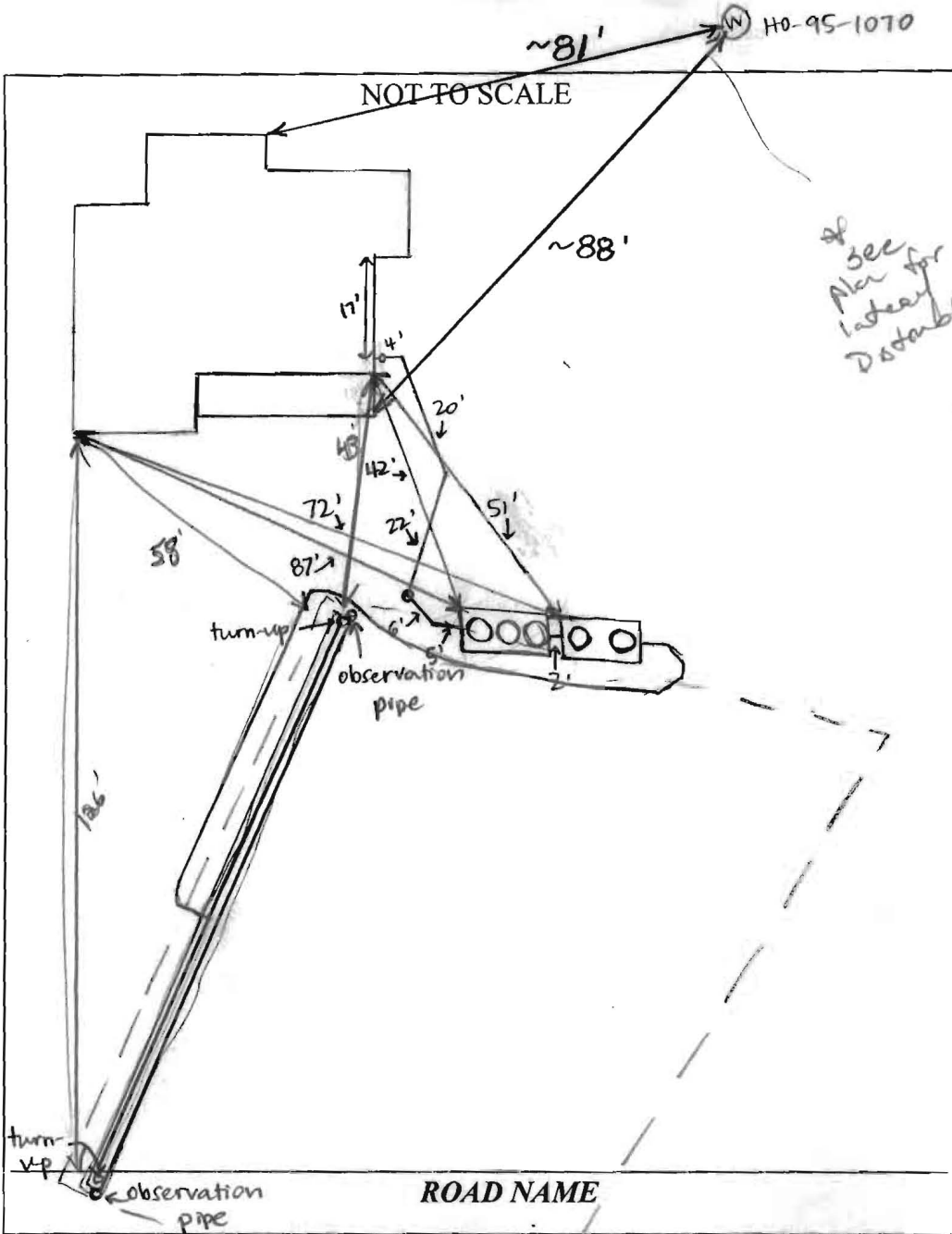
DISTRIBUTION SYSTEM: GRAVITY LOW PRESSURE DOSED NUMBER OF BEDROOMS: _____

| | | |
|-----------|--|---|
| TRENCHES: | LINEAR FEET REQUIRED: <u>105'</u> | INLET DEPTH: <u>SEE BAT PLAN</u> |
| | TRENCH WIDTH: <u>3'</u> | MAXIMUM BOTTOM DEPTH: <u>8'</u> |
| | MINIMUM SPACE BETWEEN TRENCHES: <u>SEE BAT PLAN</u> | EFFECTIVE AREA BEGINNING DEPTH: <u>4'</u> |
| LOCATION: | PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION. | |
| NOTES: | Install BAT system per plan. | |

ISSUED BY: Jeff Williams ISSUE DATE: 2/5/15 EXPIRATION DATE: 2/5/16

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
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**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.
 PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.
 CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**



| TRENCH/DRAINFIELD DATA | | |
|-------------------------|-------|-----------------|
| WIDTH | INLET | BOTTOM |
| 3 | 4 | 8 |
| NUMBER OF TRENCHES | | 2 |
| TOTAL LENGTH | | 105' |
| ABSORPTION AREA | | 210' + SIDEWALL |
| DISTRIBUTION BOX LEVEL | | NA |
| DISTRIBUTION BOX BAFFLE | | NA |
| DISTRIBUTION BOX PORT | | NA |

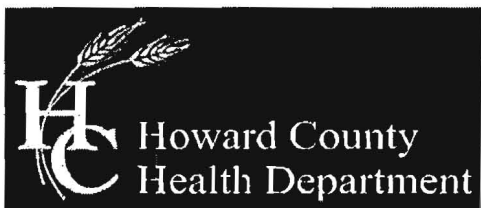
| SEPTIC TANK DATA | |
|---------------------|-----------------------|
| SEPTIC TANK I LEVEL | YES |
| MANUFACTURER | BACKRIVER |
| CAPACITY | 1300 GAL |
| SEAM LOC | TOP |
| TANK LID DEPTH | 1-2' |
| BAFFLES | NONE |
| BAFFLE FILTER | NO |
| MANHOLE LOC | FRONT, MID, REAR |
| 6" PORT LOC | NONE |
| WATERTIGHT TEST | NO |
| SLOTTED | NO |
| DATE ON LID | (3/26/15 not stamped) |

| | |
|------------------------|--------------|
| PUMP/SEPTIC TANK LEVEL | YES |
| MANUFACTURER | BACKRIVER |
| CAPACITY | 1250 GAL |
| SEAM LOC | TOP |
| TANK LID DEPTH | 1' |
| BAFFLES | NO |
| BAFFLE FILTER | NO |
| MANHOLE LOC | FRONT + REAR |
| 6" PORT LOC | NONE |
| WATERTIGHT TEST | NO |
| SLOTTED | NO |
| DATE ON LID | 2/24/15 |

PRE-CONSTRUCTION:
 3/31/2015 Trench layout done. Trenches staked. Set tanks as shown on BAT plan. Keep tanks 100' from well. Laterals need to be inspected before put in trench. Can use 1 1/2" laterals. Use 1/2 HP pump. (B)

INSTALLATION: 4/16/15 Tank and pump tank installed. Matt Seckle from Norweco to guide Shorty w/ WTC through first install. House connection made and pipe to tank mostly laid. Tanks are over 100' from well. (SC) 4/17/15 F.M. ran to laterals. Waited on site until tanks dug & stored. Over saw lateral fabrication. Looks good. Water drilled per plan. Told contractor scheduled inspection needed on tanks. Pump to be set on 4" block. (RW) 4/17/15 BAT startup certification received. (SC) 7/24/15 Pump + alarm w/ WTC + superintendent from Catonsville Homes. Alarm works, on separate circuit from pump. With ball valve fully open, head measured 43" at lateral closer to house, 46" at lateral farther from house. Closed valve 1/8 turn and head measures 24" at each turnup. Norweco aerator also working. (SC)

FINAL INSPECTOR S. Collins DATE OF APPROVAL 7/24/15



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

000100

**OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 28 day of May, 2014, among LDG, Inc., hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

12
6
2

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 735 Woodbine Crossing, Woodbine, MD 21797 (Lot 7), in the 04 Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 1988 Folio 258.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
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Back River Pre-Cast, LLC

PO BOX 329
Glyndon, MD 21071
Phone # 410-833-3394
Fax # 410-833-4116

Letter of Certification

This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 735 Woodbine Crossing Rd., Mt. Airy, MD 21771 was installed on April 16, 2015 according to the manufacture's specifications.

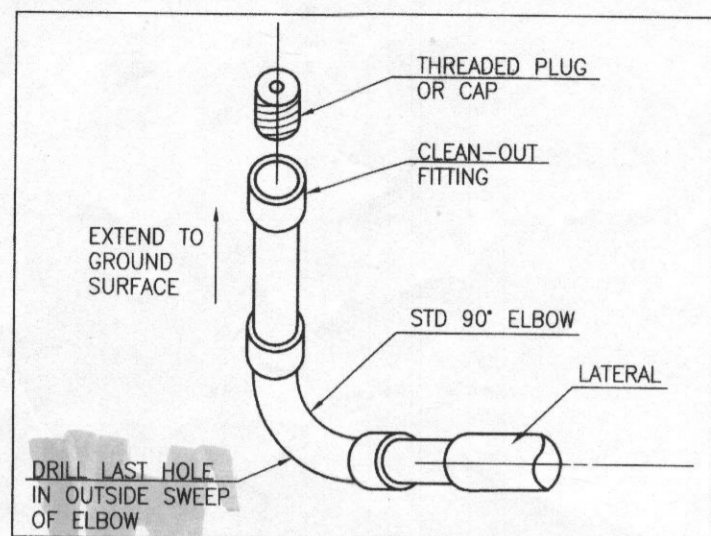
Installer: Walter Coon

Property Owner: Catonsville Homes

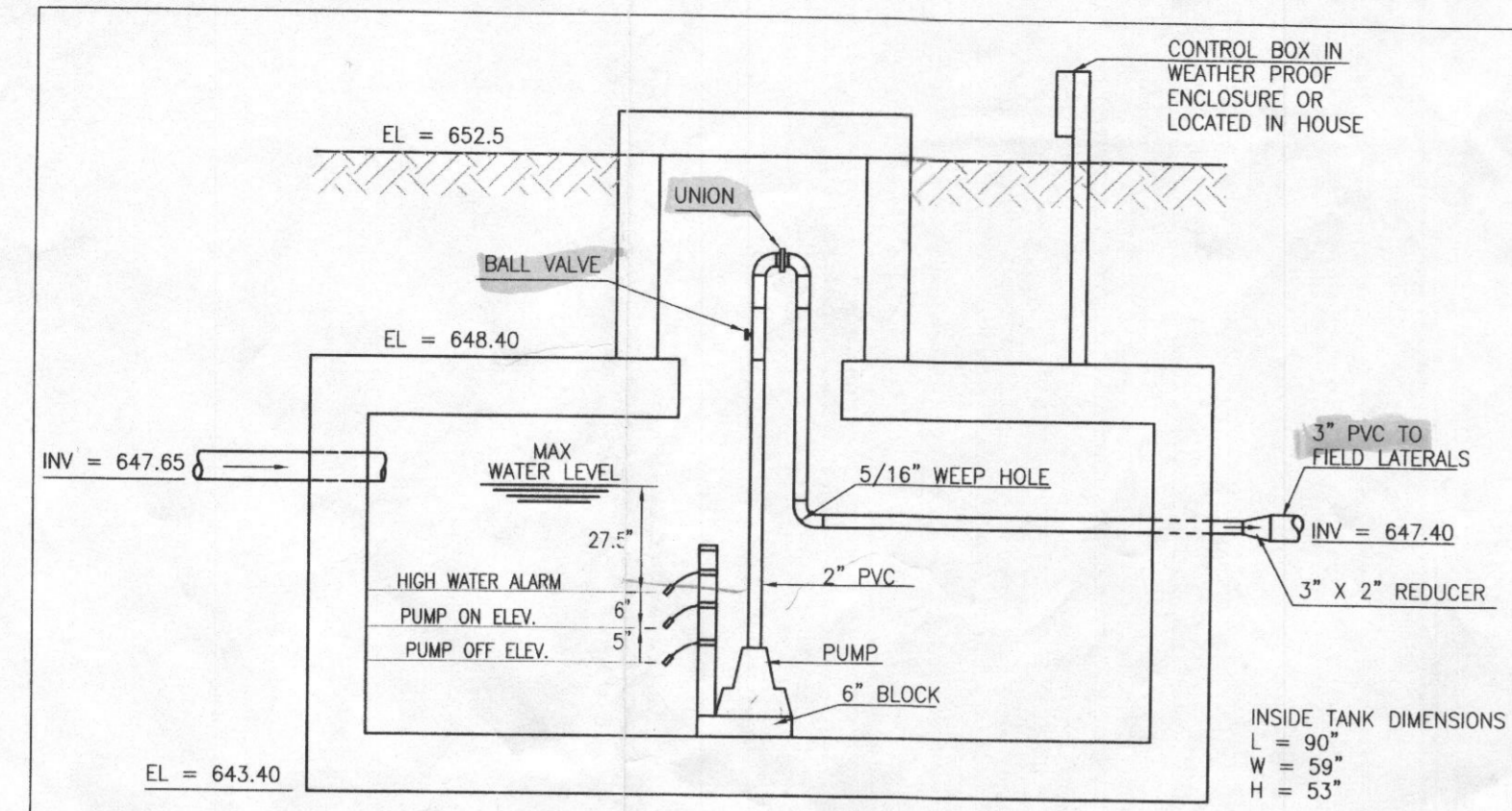


MATTHEW GECKLE

Vice-President



LATERAL END TURN-UP
USE ON LATERAL FARTHEST FROM PUMP AND ON LATERAL DIAGONALLY ACROSS BED NOT TO SCALE



TOP SEAM 1250 CAL. PUMP CHAMBER
NOT TO SCALE

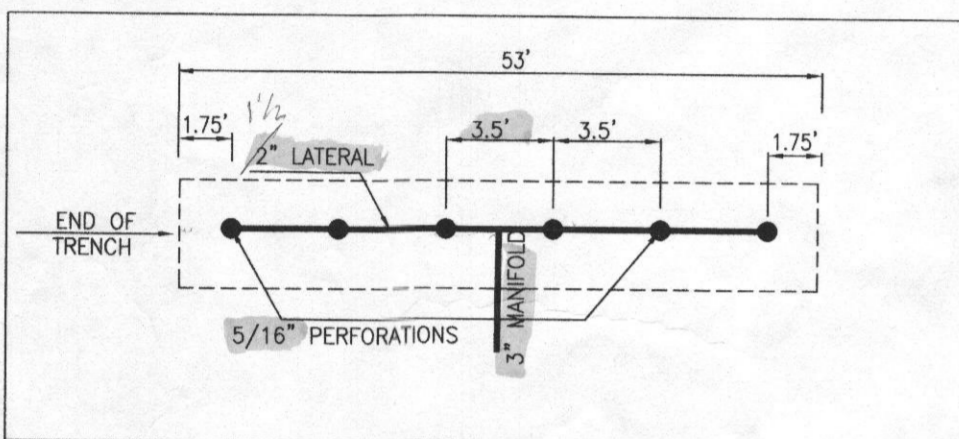
LOW PRESSURED DOSE SYSTEM SPECIFICATIONS

1. ALL PIPING TO BE SCHEDULE 40 PVC OF SIZES SHOWN.
2. A SUBMERSIBLE PUMP TO REMOVE 24.5 GPM AGAINST 9.6 TDH TO BE PROVIDED. PUMP TO BE A GOULDS MODEL 3885-WE-03, OR EQUAL.
3. A TEST OF THE PUMP SYSTEM AND DISTRIBUTION PIPING IS REQUIRED PRIOR TO COVERING THE SYSTEM.
4. THE HIGH WATER ALARM IS TO BE ON A SEPARATE CIRCUIT ALARM TO BE LOCATED IN THE HOUSE.

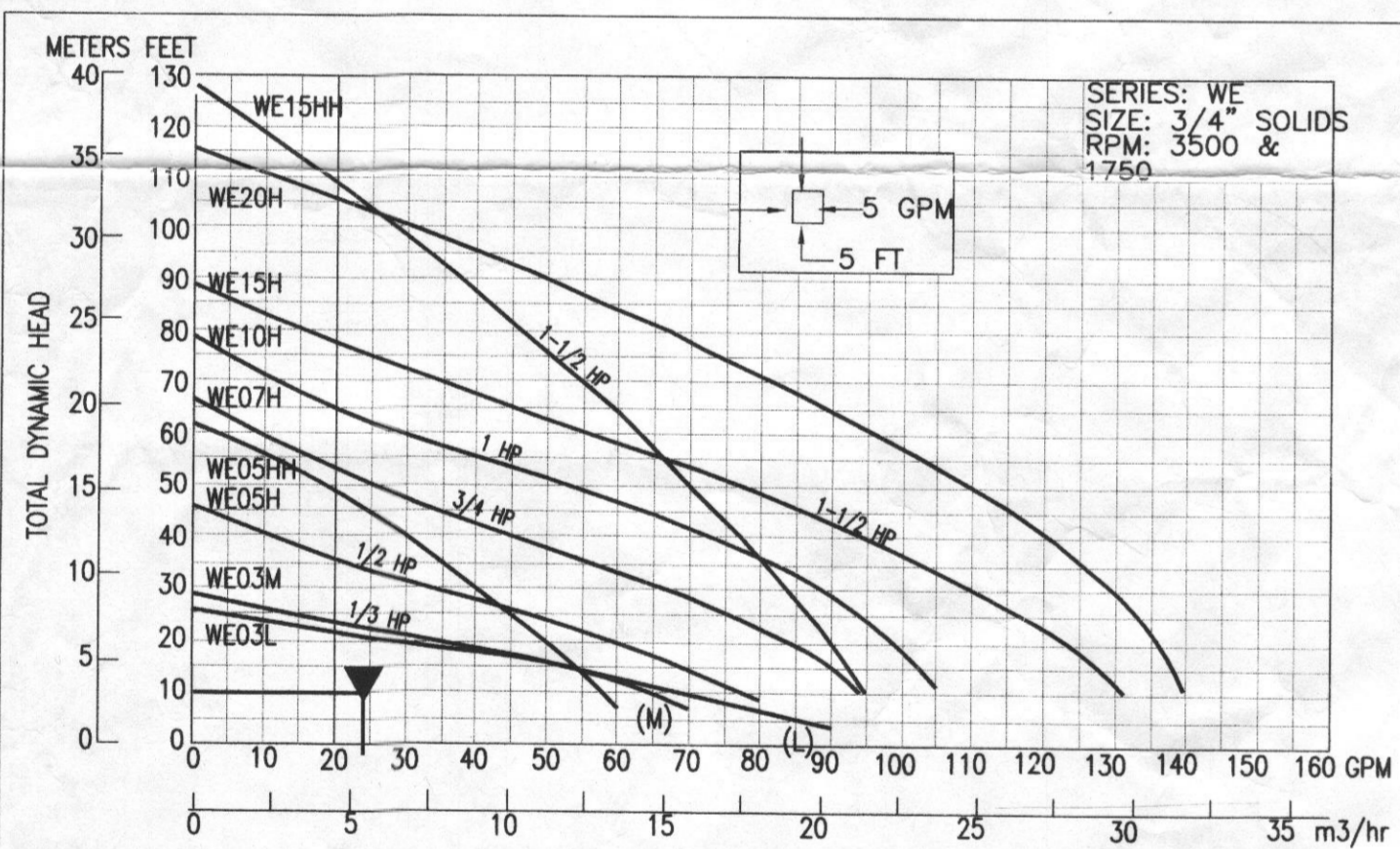
LOW PRESSURED DOSE SYSTEM DESIGN CRITERIA

1. DOSE VOLUME: 100 GALLONS (1 BEDROOM)
2. PUMP RATE: 15 PERFORATIONS @ 0.63 GPD = 24.5 GPM
3. TOTAL DESIGN HEAD (TDH) = 9.6 FEET.

| TOTAL DESIGN HEAD (TDH) COMPUTATION | |
|-------------------------------------|-------------|
| STATIC HEAD (651-644.4) | 6.6' |
| FRICTION HEAD | 0.94' |
| PIPE 0.58x(109+54)/100 | |
| FITTINGS -90°x1x15' = 15' | |
| -45°x6' = 36' | |
| DISCONNECT = 3' | |
| DISTAL END | 2' |
| TOTAL DESIGN HEAD (TDH) | 9.6' |

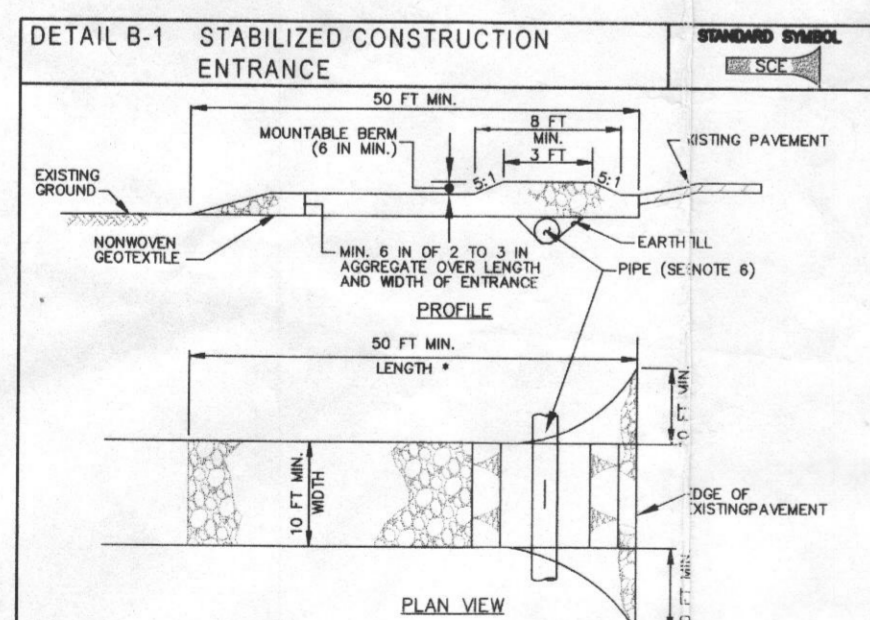
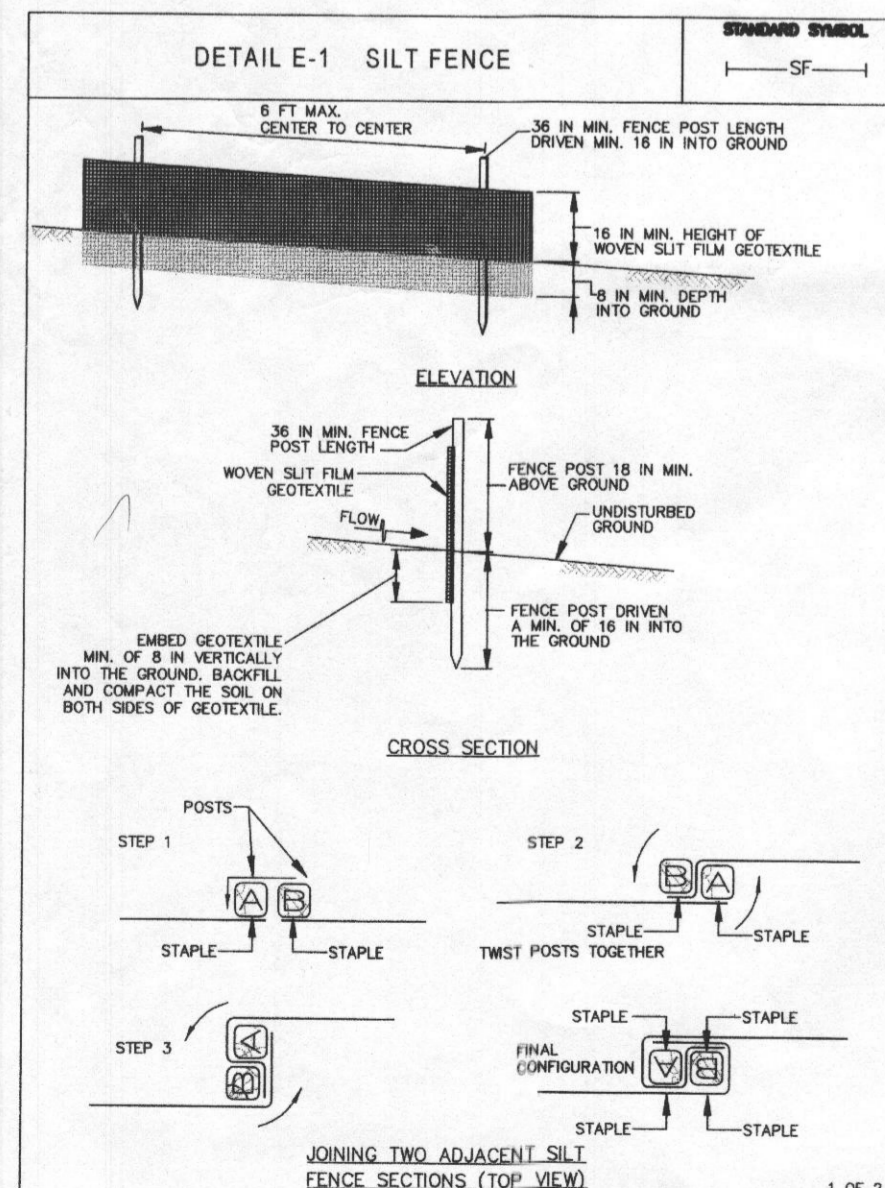


LATERAL DETAIL
NOT TO SCALE

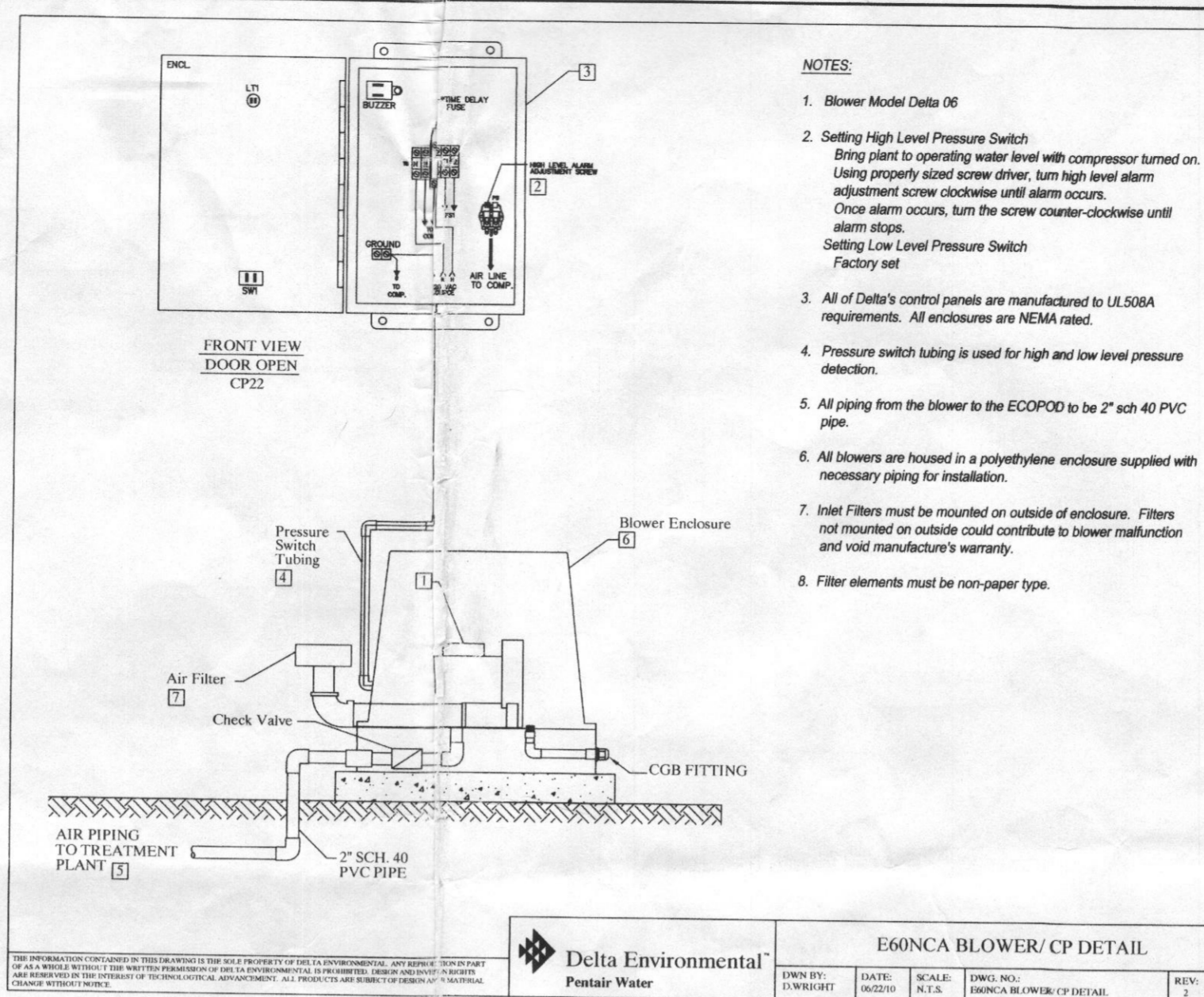


HYDRAULIC GRAPH

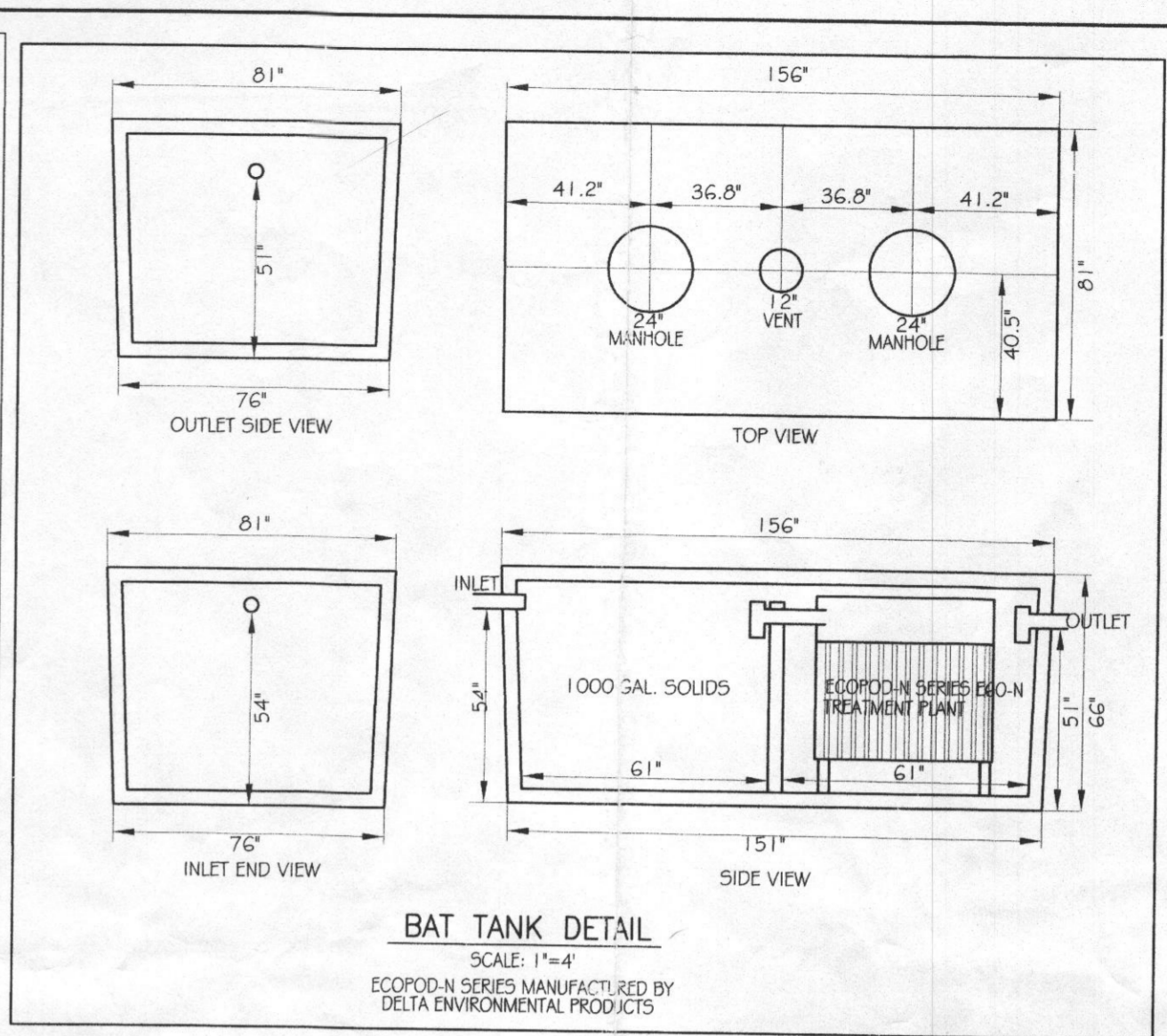
| LATERAL CHART | |
|---------------|--|
| SERIES: WE | |
| SIZE: 3/4\"/> | |



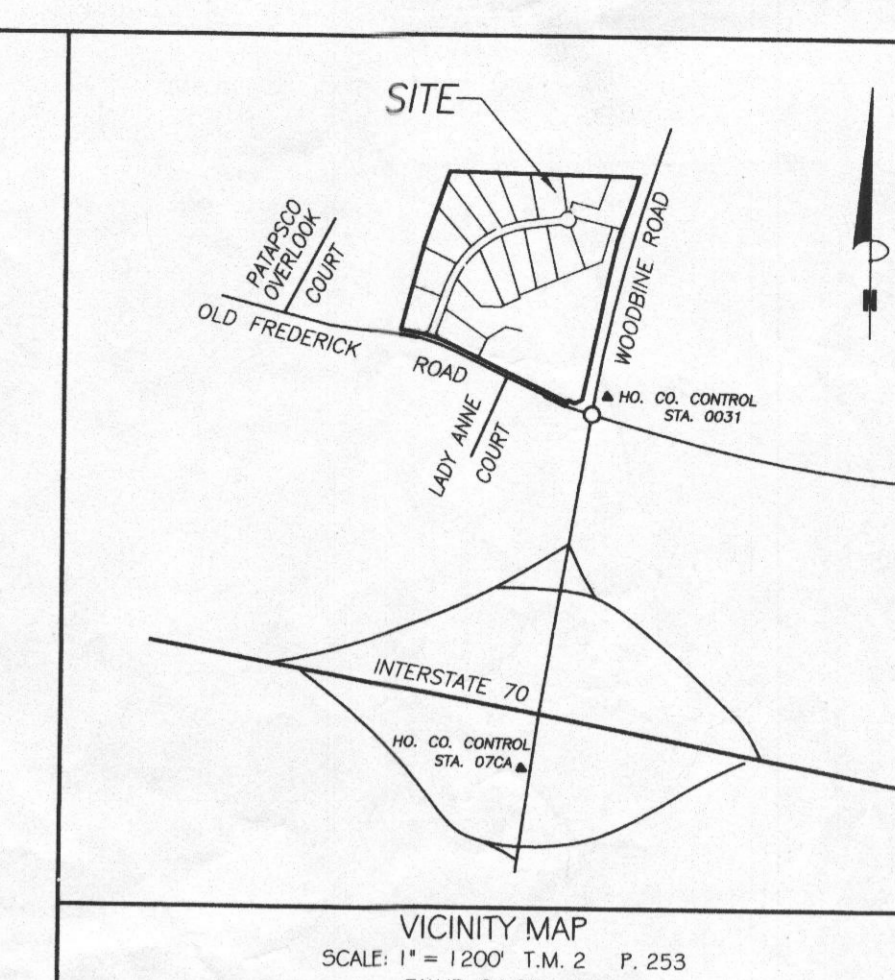
- CONSTRUCTION SPECIFICATIONS**
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROX PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 10 FEET (10 FEET FOR SINGLE RESIDENCE LOTS) USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SOE BY A MOUNTABLE BERM WITH 6\"/>



- NOTES:**
1. Blower Model Delta 60
 2. Setting High Level Pressure Switch
Bring start to operating water level with compressor turned on. Using properly sized screw driver, turn high level alarm adjustment screw clockwise until alarm occurs. Once alarm occurs, turn the screw counter-clockwise until alarm stops.
Setting Low Level Pressure Switch
Factory set
 3. All of Delta's control panels are manufactured to UL508A requirements. All enclosures are NEMA rated.
 4. Pressure switch tubing is used for high and low level pressure detection.
 5. All piping from the blower to the ECOPOD to be 2\"/>



BAT TANK DETAIL
SCALE: 1\"/>



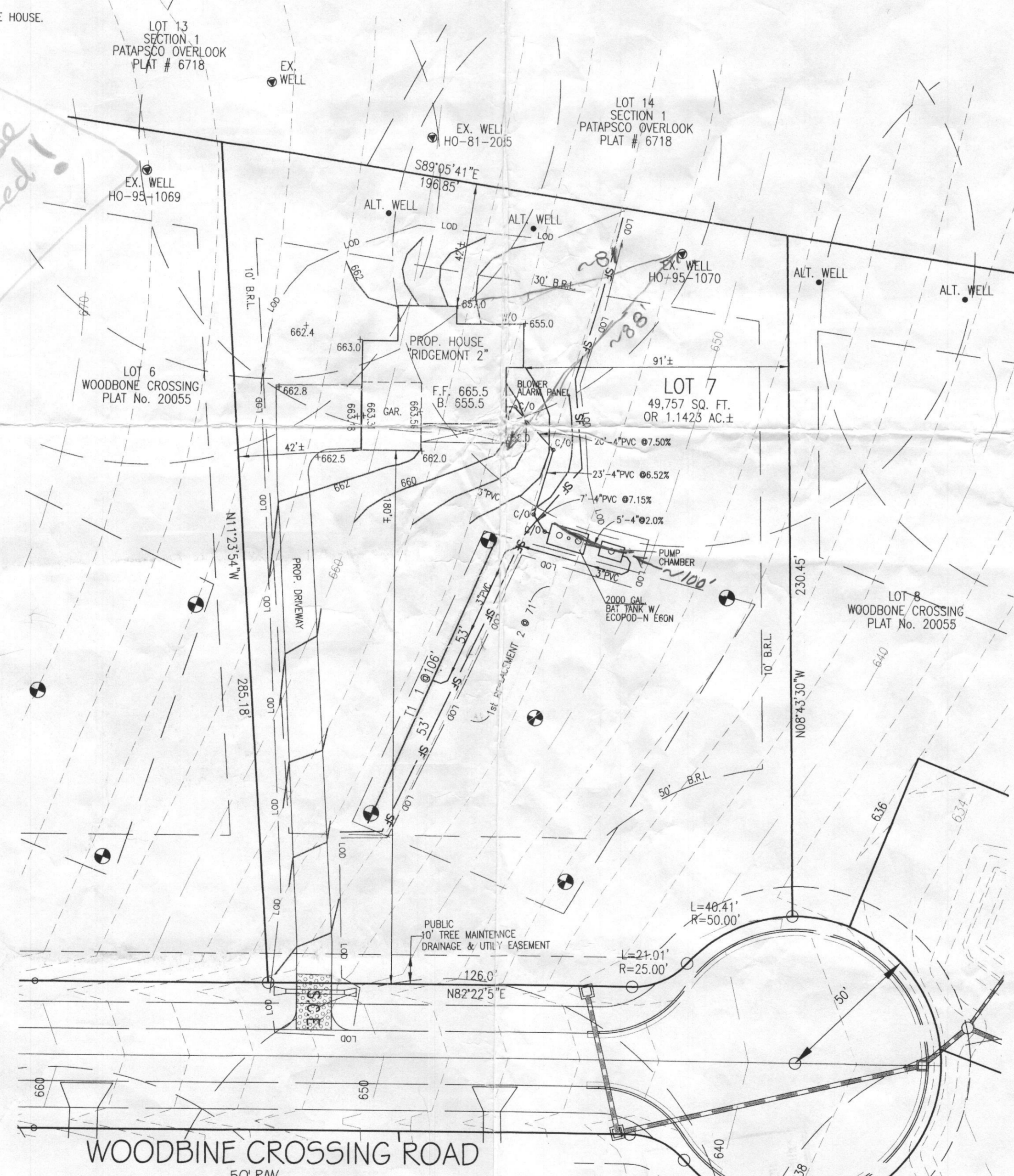
VICINITY MAP
SCALE: 1\"/>

- GENERAL NOTES:**
1. TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREIN TAKEN FROM COPYRIGHTED GIS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD80.
 2. THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
 3. ZONING DISTRICT: RC-DEO
 4. LIMIT OF DISTURBANCE (LOD) = 19,750 SQ.FT.
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 6. STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING WOODBINE CROSSING STORM WATER MANAGEMENT FACILITIES.

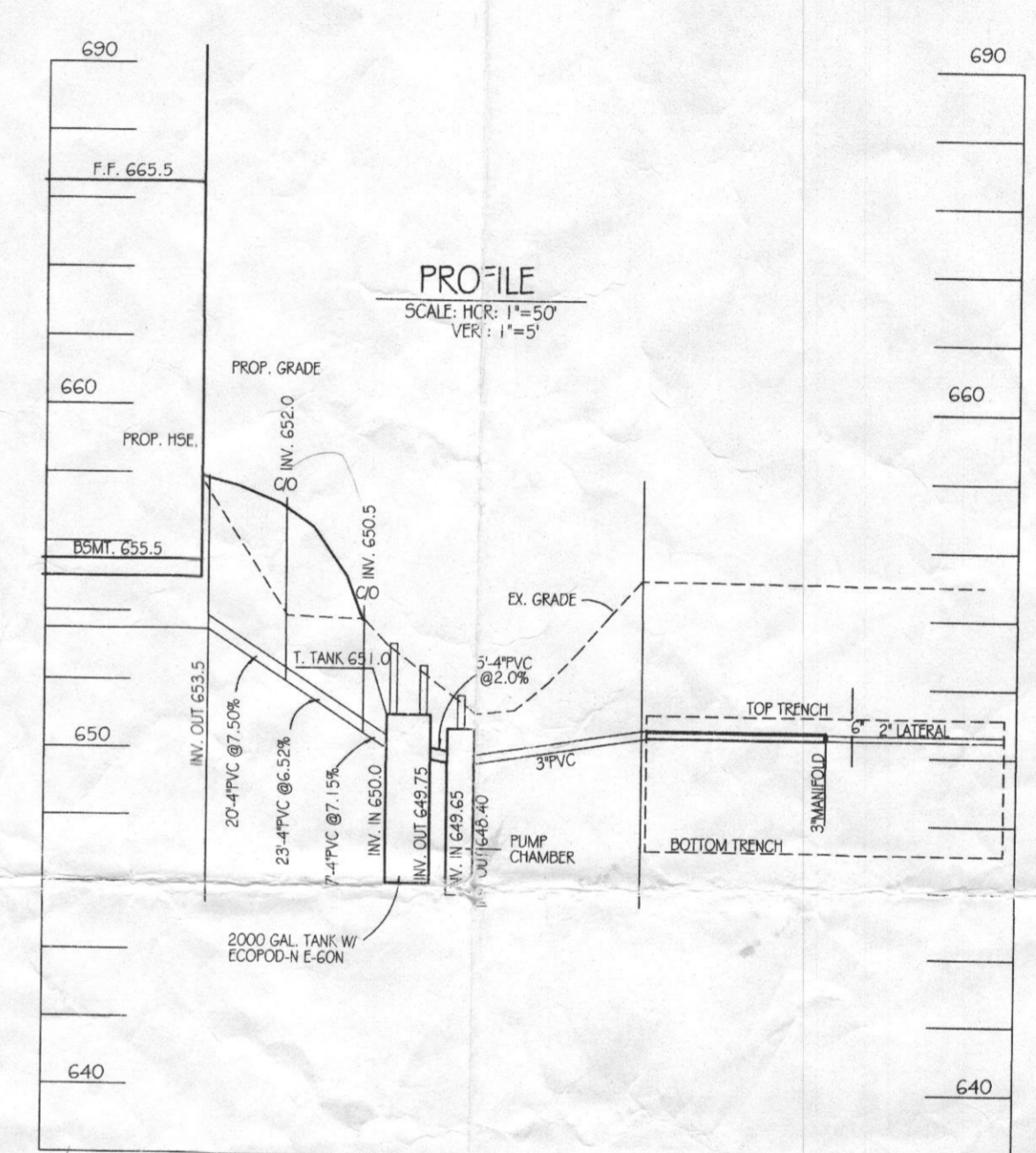
- SEPTIC SYSTEM TRENCH DESIGN:**
- INITIAL NUMBER OF BEDROOMS = 4
APPLICATION RATE = 0.6 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.6 GPD/sq.ft. = 750 sq.ft.
750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
250 LF TRENCH X 0.42 REDUCTION CREDIT = 105 LF TRENCH
TRENCH 1 (T1) EX. GRD=655.0 - INV. TRENCH=651.0 - B. TRENCH=647.0

- 1st REPLACEMENT**
- APPLICATION RATE = 0.6 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.6 GPD/sq.ft. = 1000 sq.ft.
1000 sq.ft. / 3 ft. WIDE TRENCH = 334 LF TRENCH
334 LF TRENCH X 0.42 REDUCTION CREDIT = 141 LF TRENCH

- BAT SITE PLAN NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
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 9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF INSTALLATION.



WOODBINE CROSSING ROAD
50' RW

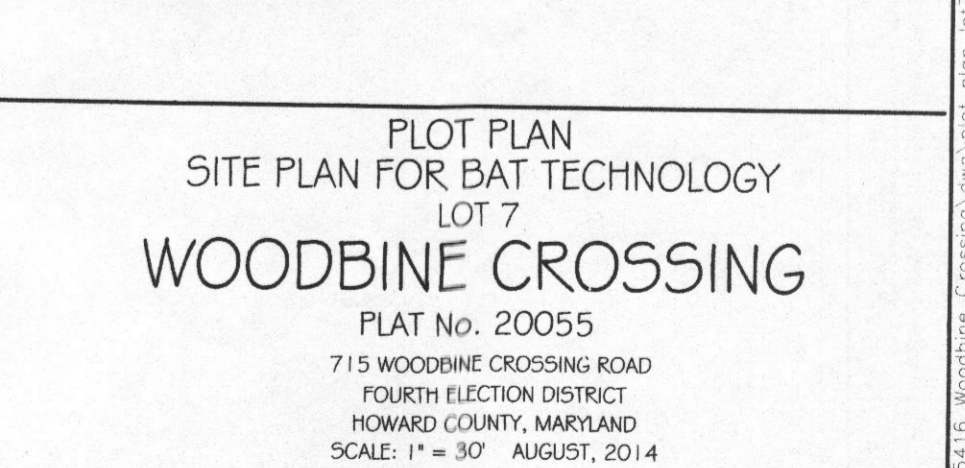
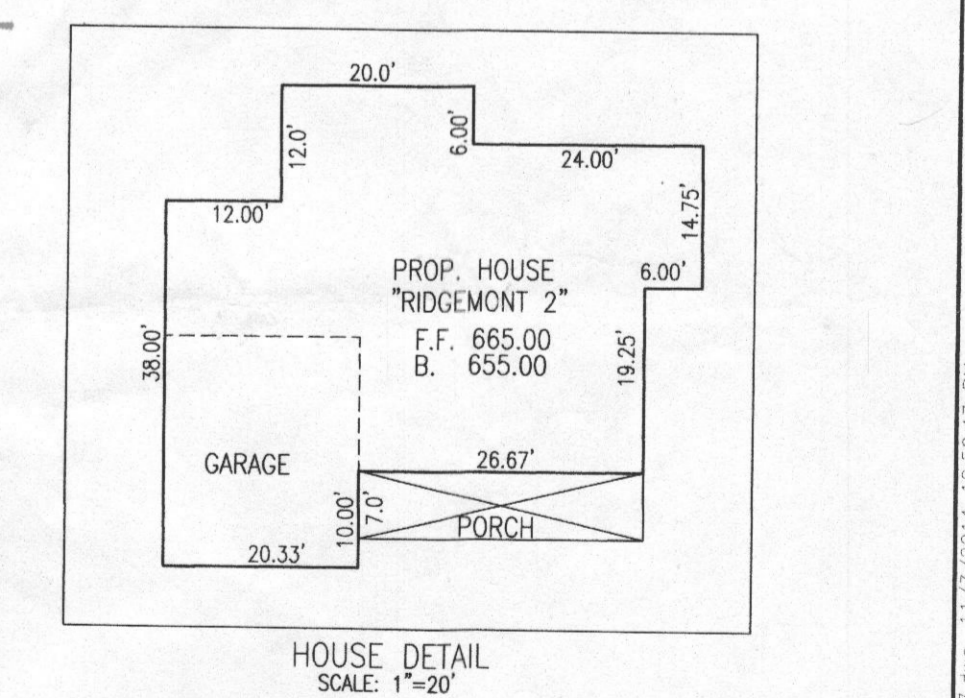


PROFILE
SCALE: HORIZ: 1\"/>

Approved Septic System Plan
Howard County Health Department
Signature: [Signature]
Date: 11/3/14
Succeeded 3/18/15 R new BAT

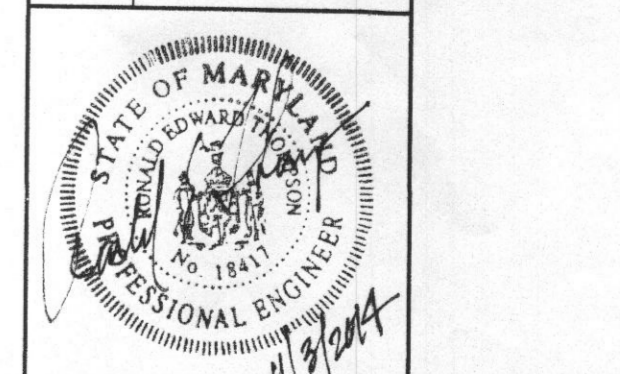
OWNER:
LDG INC.
LEE PLAZA, SUITE 200
860 GEORGIA AVENUE
SILVER SPRING, MD. 20910
301-585-7000

DEVELOPER:
CATONSVILLE HOMES
1175 STRATFIELD CT.
MARRIOTTSVILLE, MD. 21104
410-442-2211

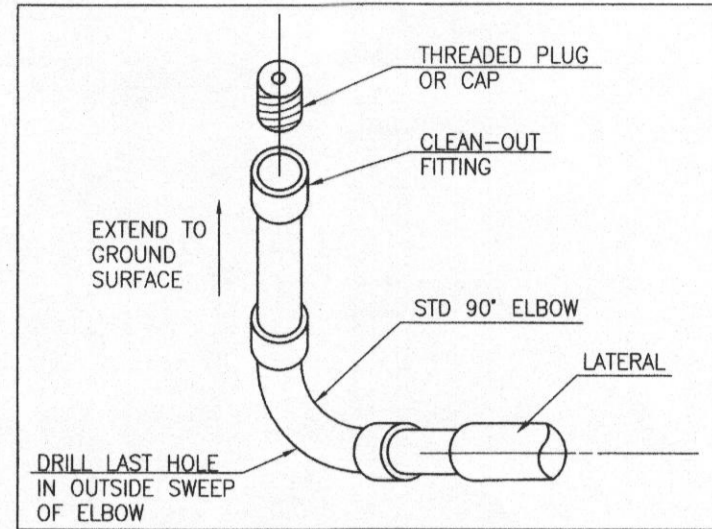


PLOT PLAN
SITE PLAN FOR BAT TECHNOLOGY
LOT 7
WOODBINE CROSSING
PLAT No. 20055
715 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1\"/>

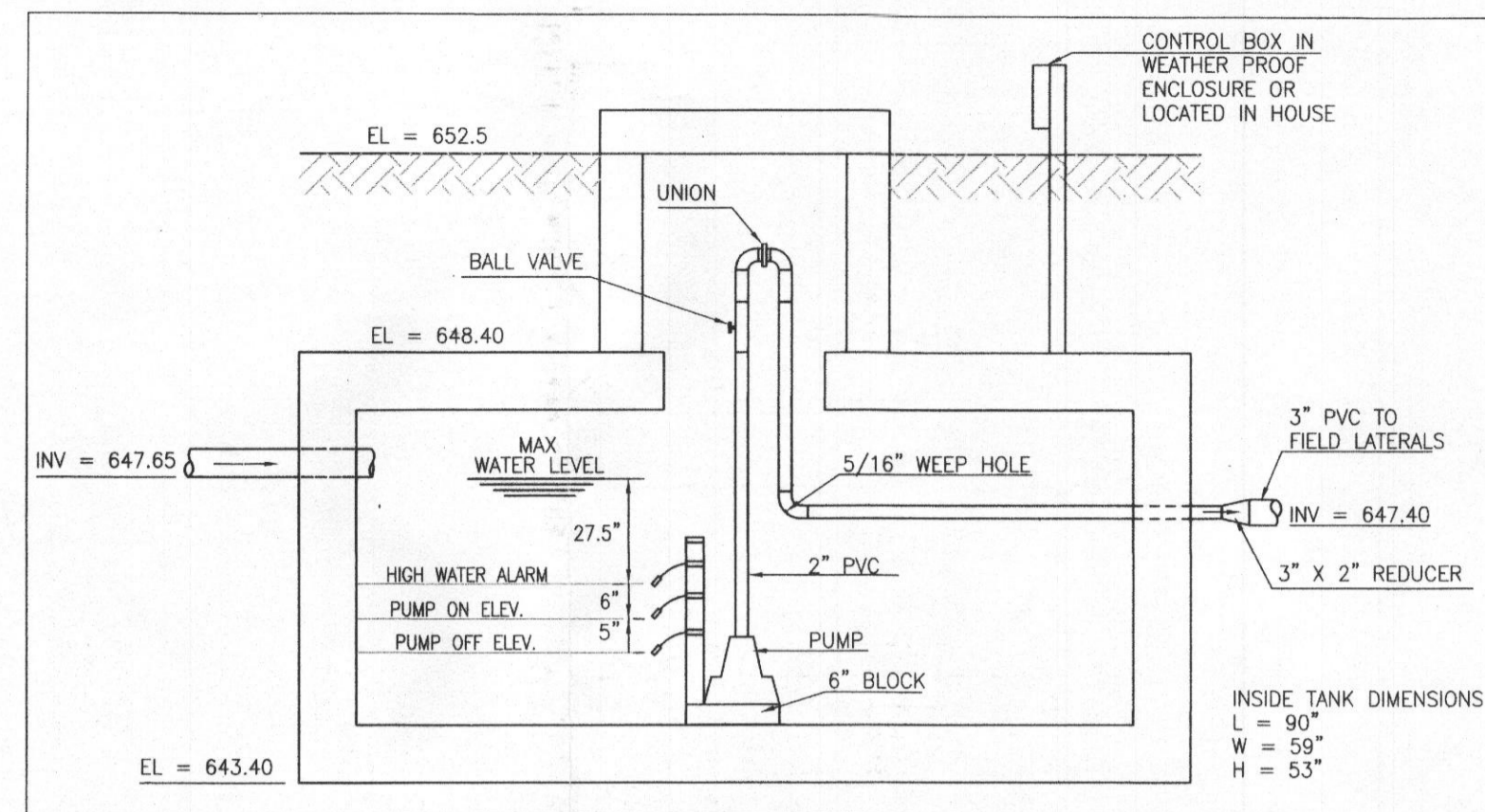
PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 2-18-15.



VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 549-2751
Fax (301) 831-5603 ©Copyright, Latest Date Shown



LATERAL END TURN-UP
USE ON LATERAL FARTHEST FROM PUMP AND ON LATERAL DIAGONALLY ACROSS BED NOT TO SCALE



TOP SEAM 1250 GAL. PUMP CHAMBER
NOT TO SCALE

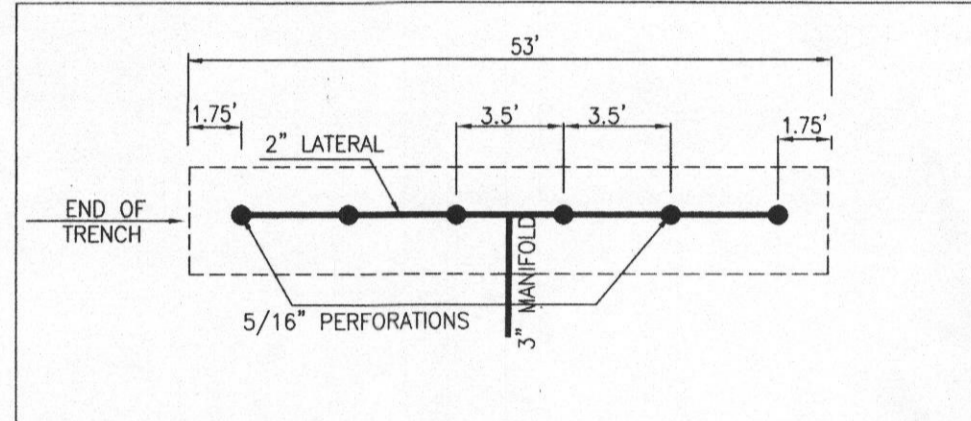
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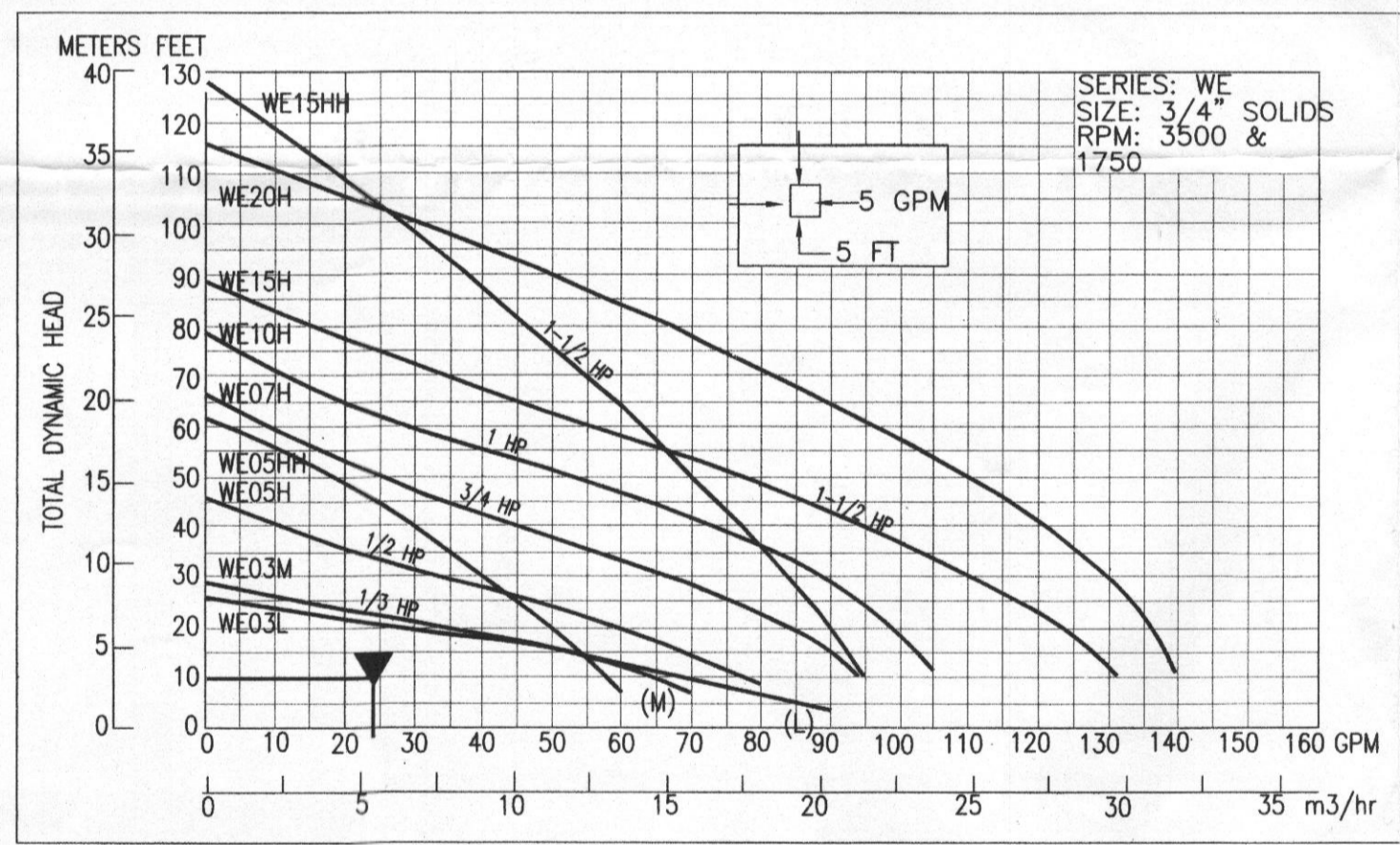
LOW PRESSURED DOSE SYSTEM DESIGN CRITERIA

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2. PUMP RATE: 15 PERFORMANCES @ 1.63 GPM = 24.5 GPM
3. TOTAL DESIGN HEAD (TDH) = 9.6 FEET.

| TOTAL DESIGN HEAD (TDH) COMPUTATION | |
|--|-------------|
| STATIC HEAD (651-644.4) | 6.6' |
| FRICITION HEAD PIPE 0.58(109'x.54')/100 FITTINGS -90°x1x1.5' = 15' -45°x6x6' = 36' DISCONNECT = 3' | 0.94' |
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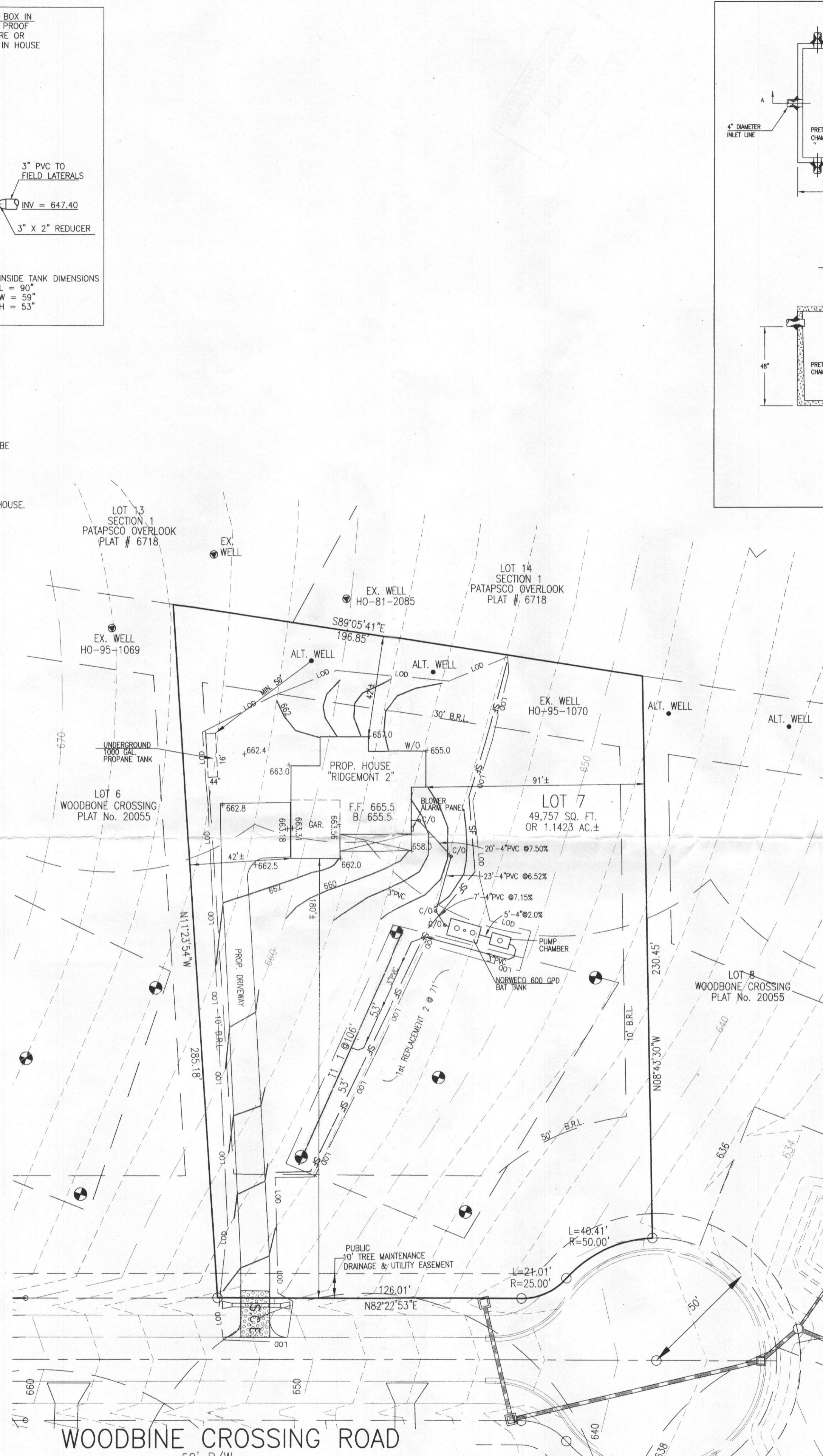


LATERAL DETAIL
NOT TO SCALE

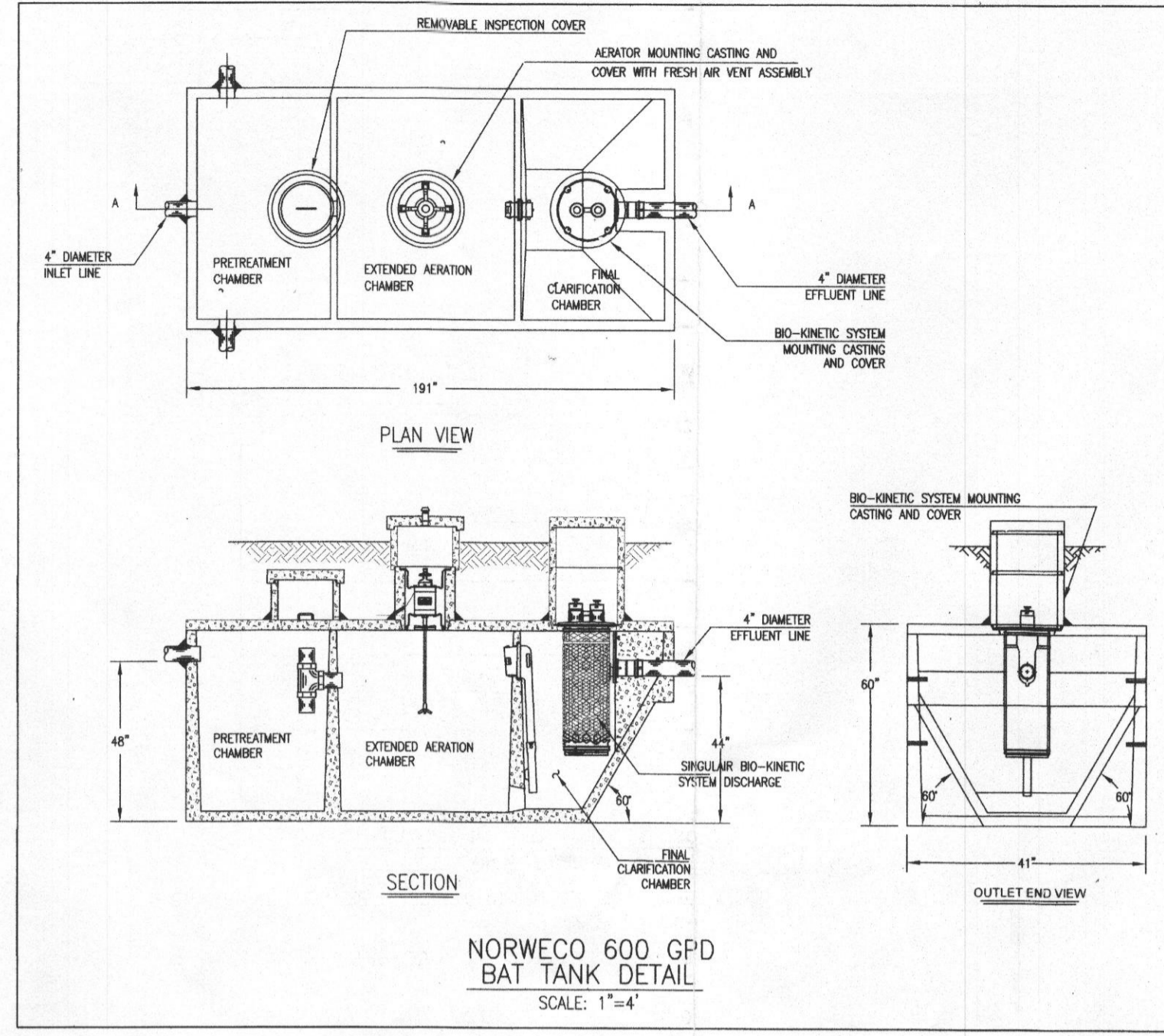


HYDRAULIC GRAPH

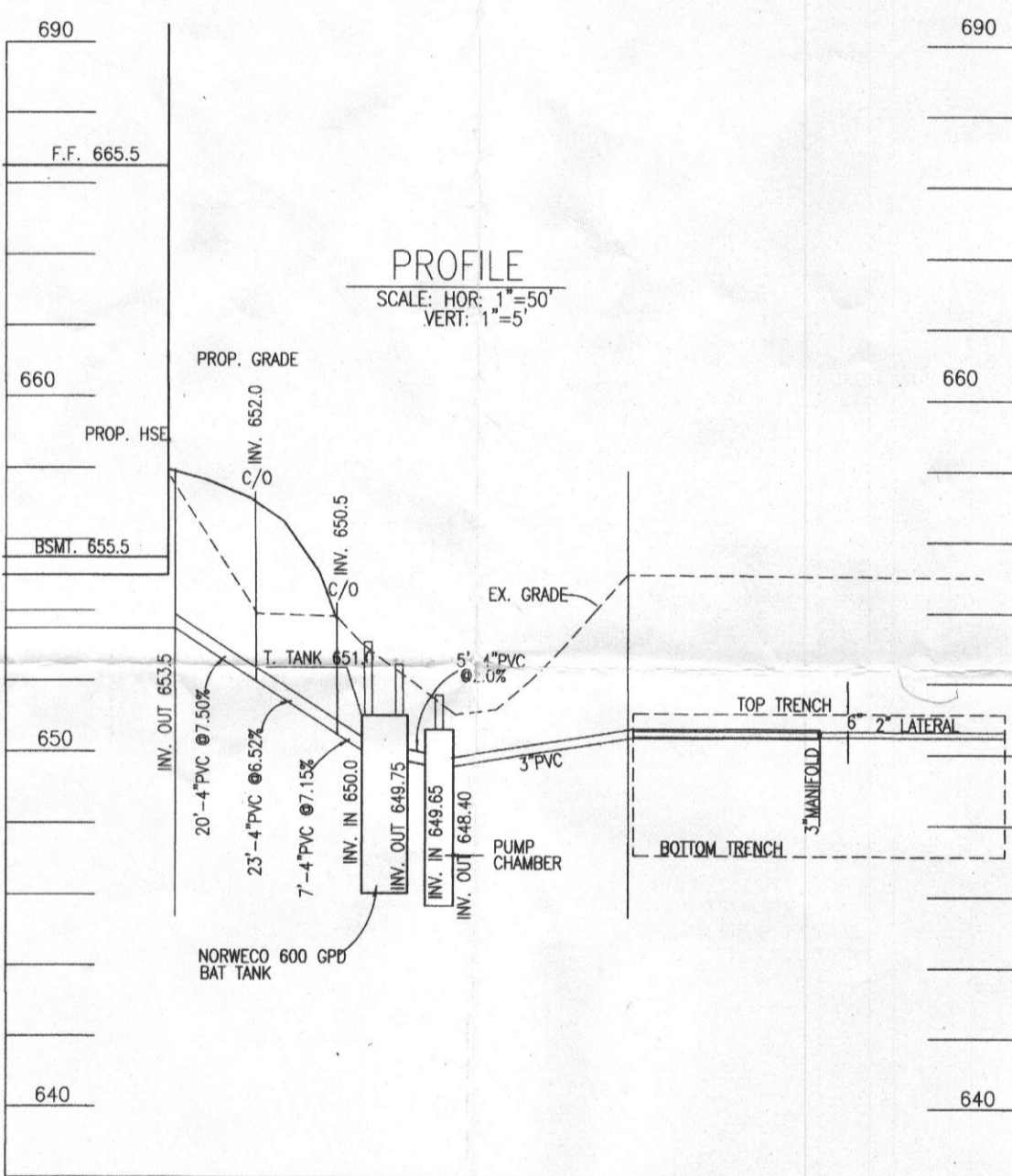
| LATERAL CHART | |
|----------------------|---------|
| LATERAL LENGTH | =51.25' |
| LATERAL PERFORATIONS | =15 |
| PERFORATION SPACING | =3.5' |
| LATERAL SIZE | =2" |



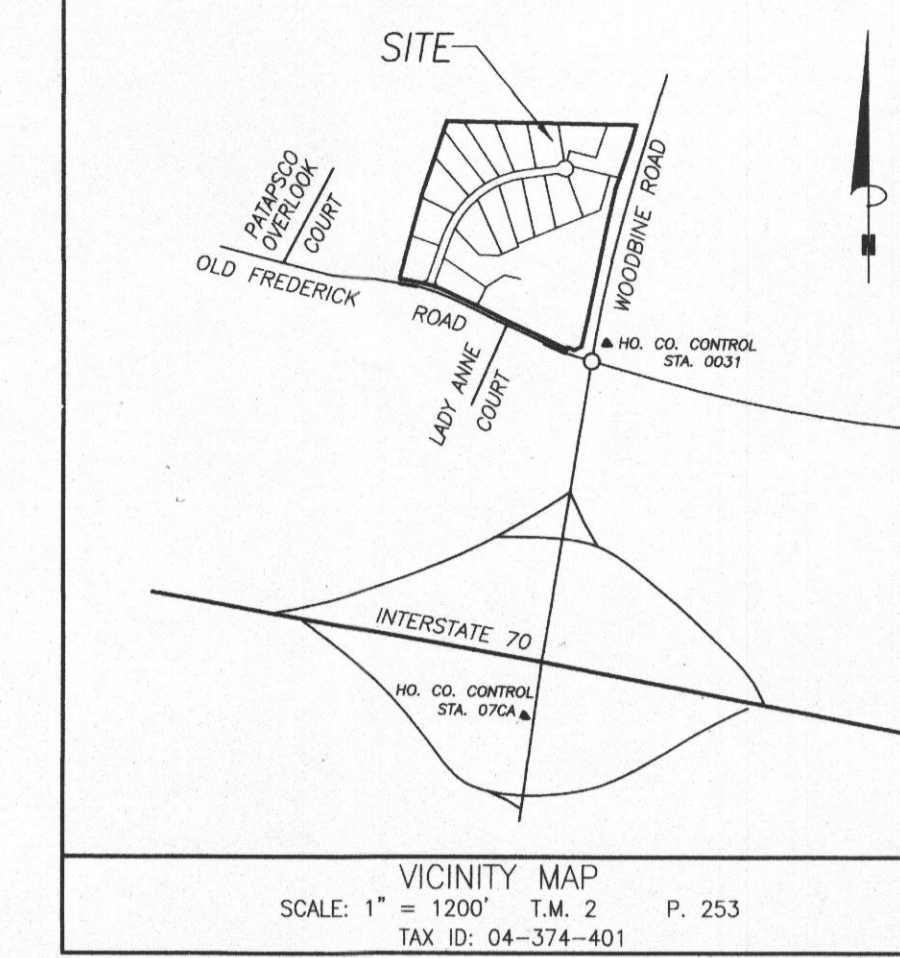
WOODBINE CROSSING ROAD
50' R/W



NORWECO 600 GPD BAT TANK DETAIL
SCALE: 1"=4'



PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



VICINITY MAP
SCALE: 1" = 1200' T.M. 2
TAX ID: 04-374-401

GENERAL NOTES:

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SEPTIC SYSTEM TRENCH DESIGN

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APPLICATION RATE = 0.8 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD / sq.ft.
600 GPD / 0.8 GPD/sq.ft. = 750 sq.ft.
750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
250 LF TRENCH X 0.42 REDUCTION CREDIT = 105 LF TRENCH
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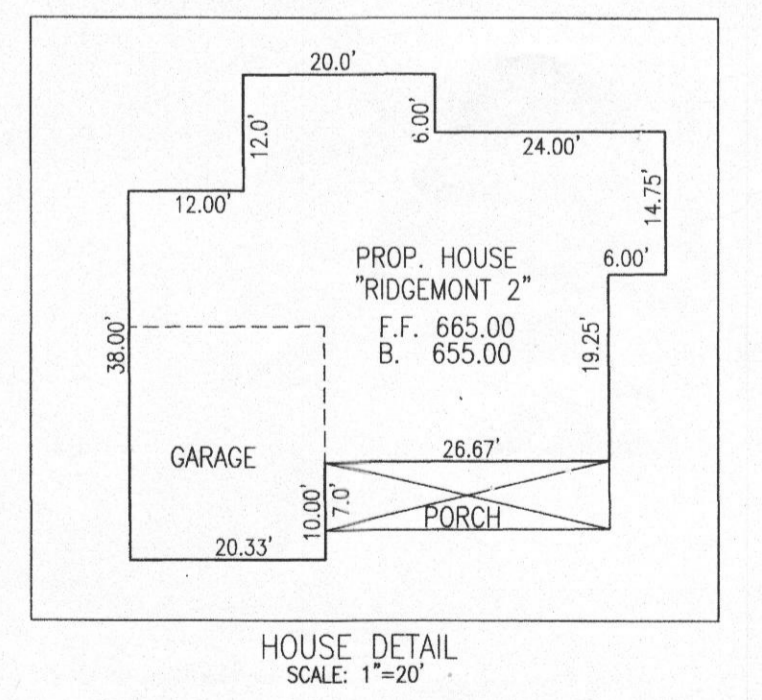
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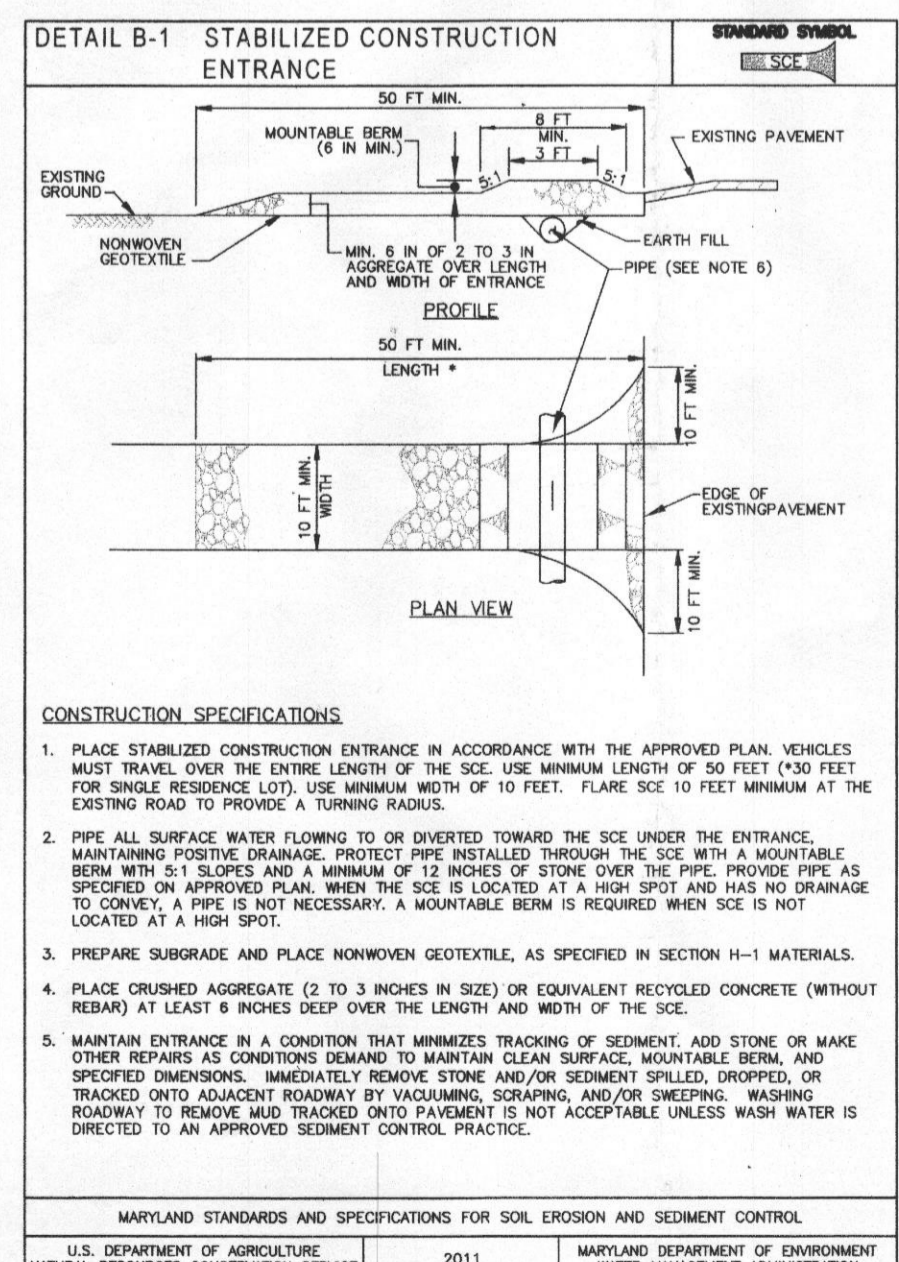
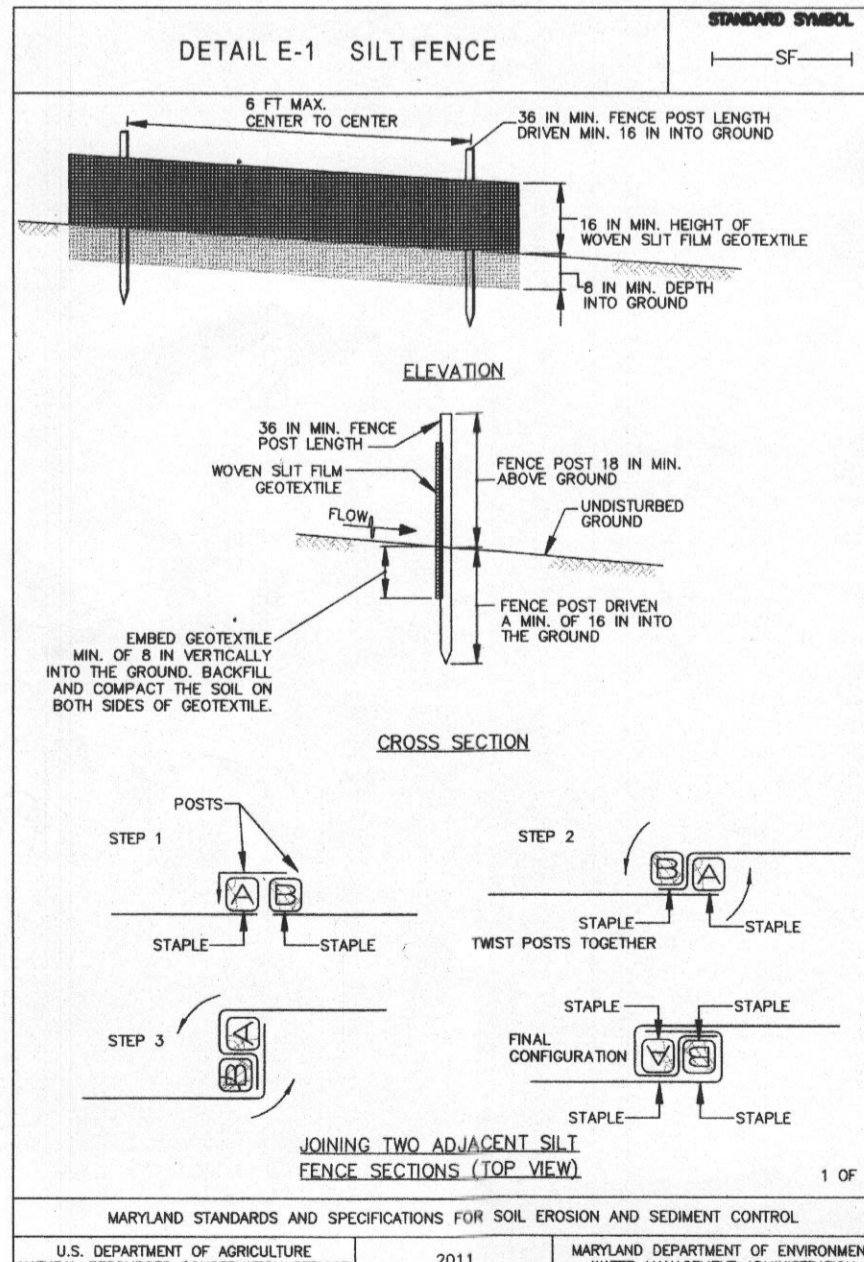
Approved Septic System Plan
Howard County Health Department
Signature 3/18/15
Signature Date
changed Escaped to Norweco

OWNER:
LDG INC.
LEE PLAZA, SUITE 200
8601 GEORGIA AVENUE
SILVER SPRING, MD 20910
301-585-7000

DEVELOPER:
CATONVILLE HOMES
11175 STRATFIELD CT.
MARRIOTTVILLE, MD 21104
410-442-2211

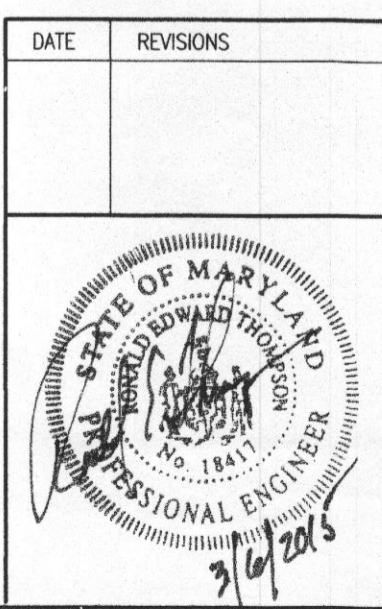


HOUSE DETAIL
SCALE: 1"=20'



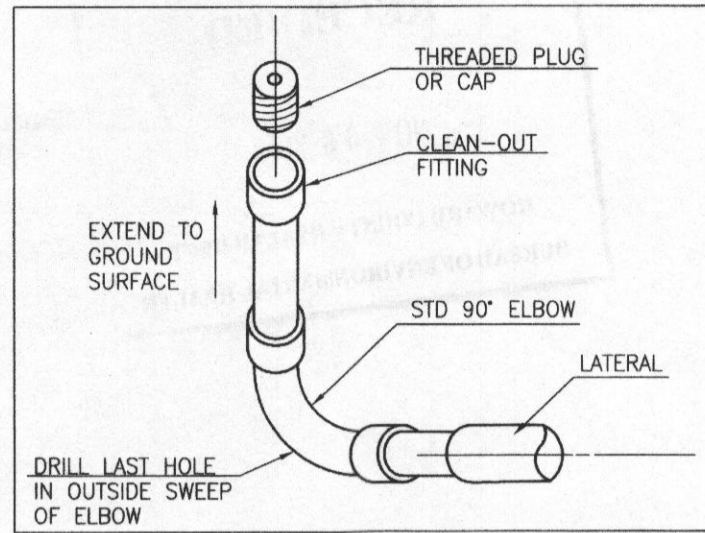
- CONSTRUCTION SPECIFICATIONS**
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 2. PIPE ALL SURFACE WATER FLOWING TO OR OVER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 6" SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
 3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 4. PLACE GRUNDED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT AND STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR SURFACE. MOUNTABLE BERM AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCOPING, AND/OR SHREDDING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18412, Expiration Date: 9-18-15.



PLOT PLAN
SITE PLAN FOR BAT TECHNOLOGY
LOT 7
WOODBINE CROSSING
PLAT No. 20055
715 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' AUGUST, 2014

VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 549-2751
Fax (301) 831-5603 ©Copyright, Latest Date Shown



LATERAL END TURN-UP
USE ON LATERAL FARTHEST FROM PUMP AND ON LATERAL DIAGONALLY ACROSS BED NOT TO SCALE



TOP SEAM 1250 GAL. PUMP CHAMBER
NOT TO SCALE

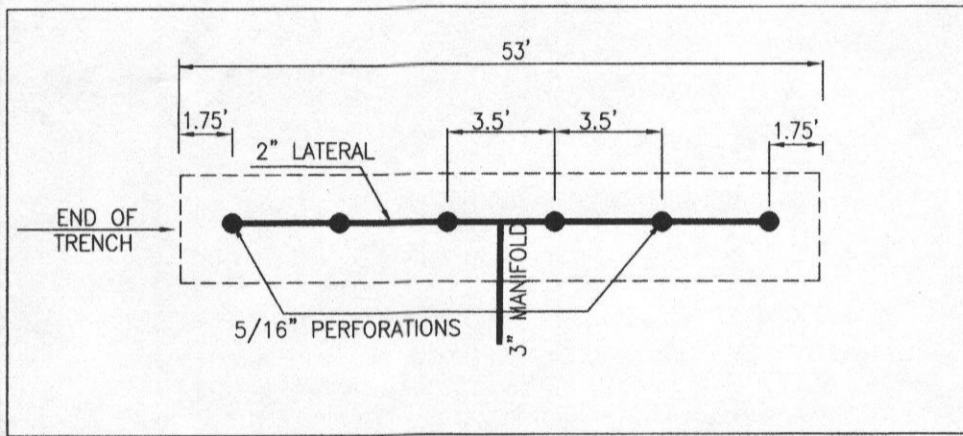
LOW PRESSURED DOSE SYSTEM SPECIFICATIONS

- ALL PIPING TO BE SCHEDULE 40 PVC OF SIZES SHOWN.
- A SUBMERSIBLE PUMP TO REMOVE 24.5 GPM AGAINST 9.6 TDH TO BE PROVIDED. PUMP TO BE A GOULDS MODEL 3885-WE-03L OR EQUAL.
- A TEST OF THE PUMP SYSTEM AND DISTRIBUTION PIPING IS REQUIRED PRIOR TO COVERING THE SYSTEM.
- THE HIGH WATER ALARM IS TO BE ON A SEPARATE CIRCUIT ALARM TO BE LOCATED IN THE HOUSE.

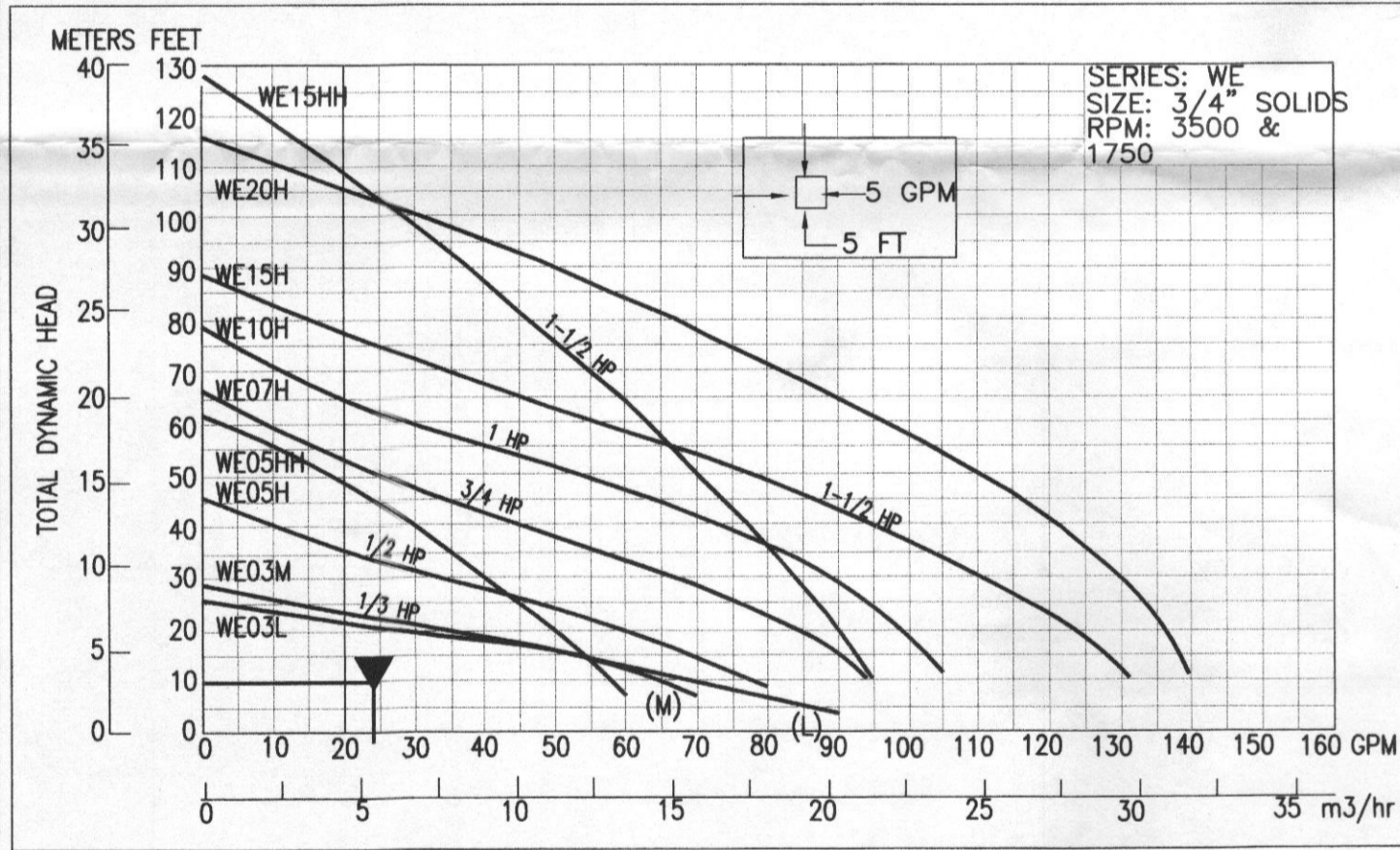
LOW PRESSURED DOSE SYSTEM DESIGN CRITERIA

- DOSE VOLUME: 100 GALLONS (4 BEDROOM)
- PUMP RATE: 15 PERFORATIONS @ 1.63 GPM = 24.5 GPM
- TOTAL DESIGN HEAD (TDH) = 9.6 FEET.

| TOTAL DESIGN HEAD (TDH) COMPUTATION | |
|---|-------------|
| STATIC HEAD (651-644.4) | 6.6' |
| PIPE FRICTION HEAD $0.584(100' \times 1.54')/100$ | 0.94' |
| FITTINGS $-90^\circ \times 1 \times 1.5' = 15'$ $-45^\circ \times 6 \times 6' = 36'$ DISCONNECT = 3' | |
| DISTAL END | 2' |
| TOTAL DESIGN HEAD (TDH) | 9.6' |

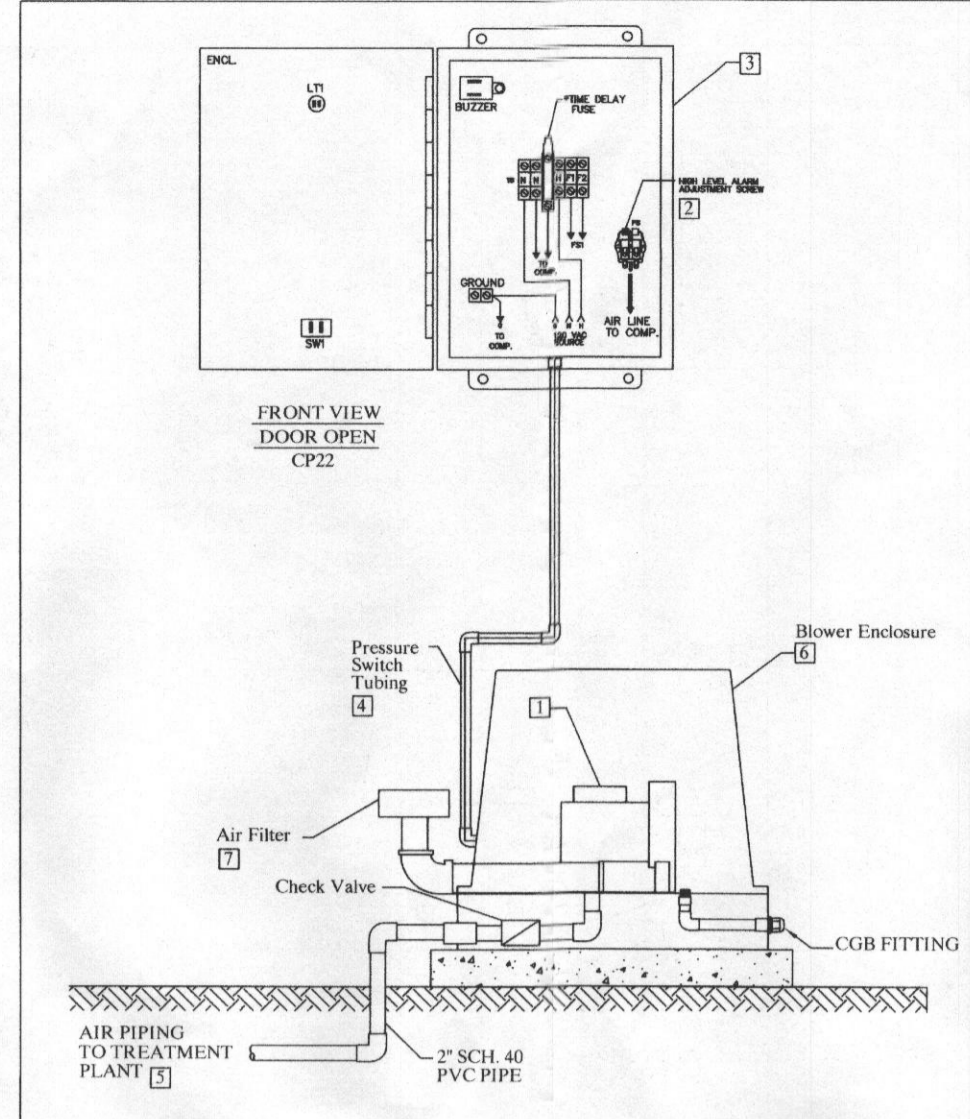


LATERAL DETAIL
NOT TO SCALE



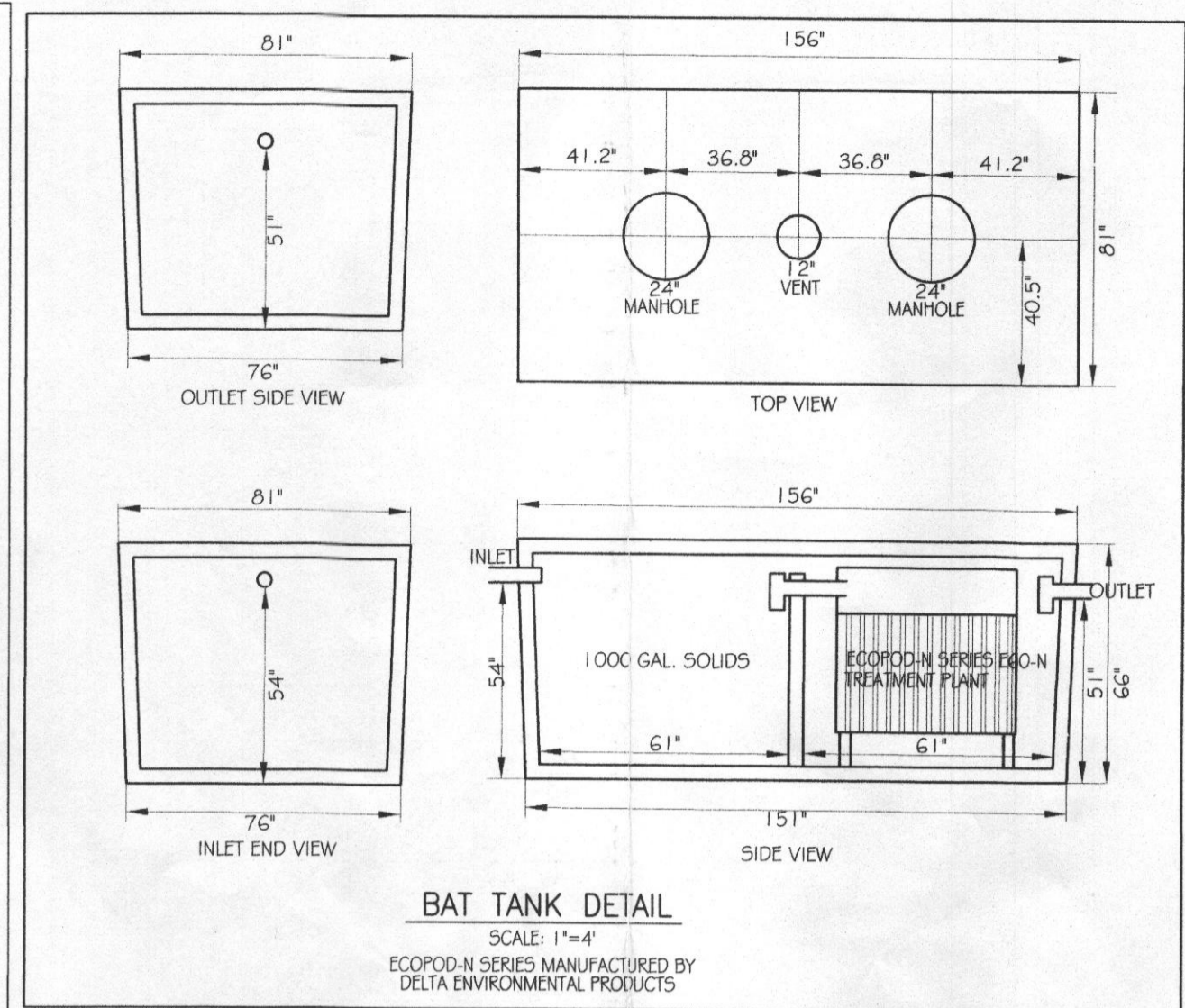
HYDRAULIC GRAPH

| LATERAL CHART | |
|----------------------|----------|
| LATERAL LENGTH | = 51.25' |
| LATERAL PERFORATIONS | = 15 |
| PERFORATION SPACING | = 3.5' |
| LATERAL SIZE | = 2" |

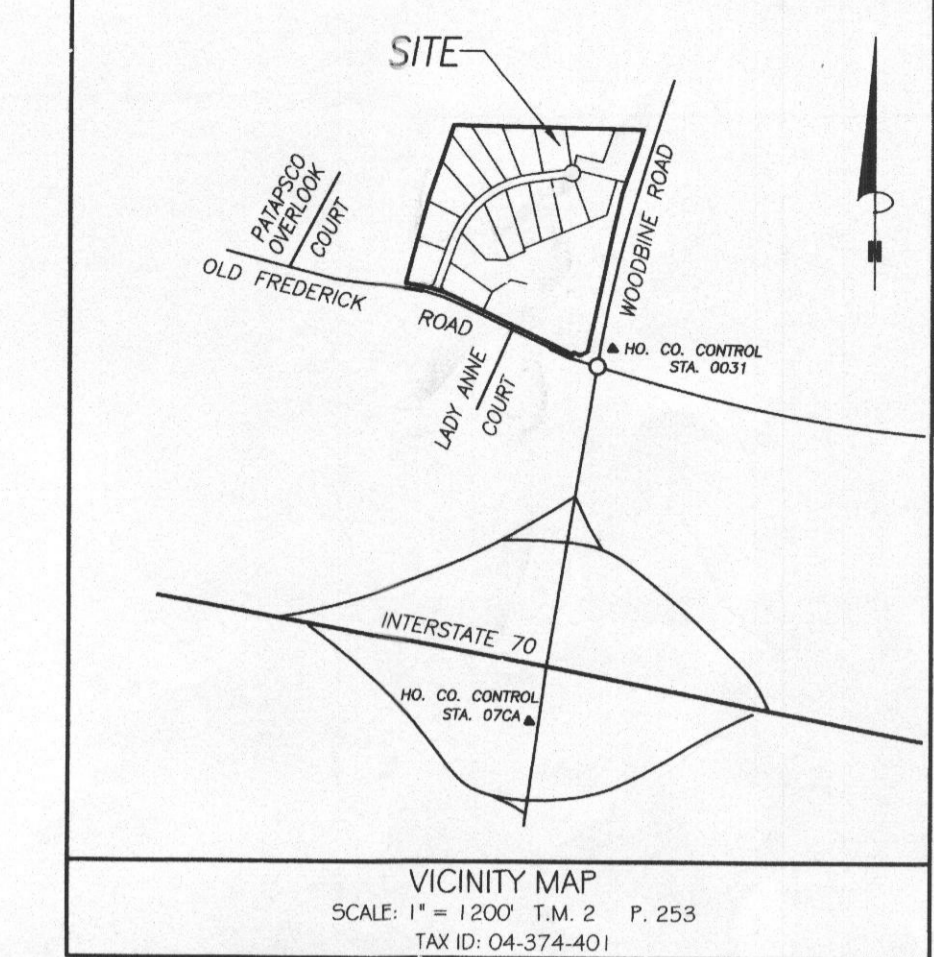


NOTES:

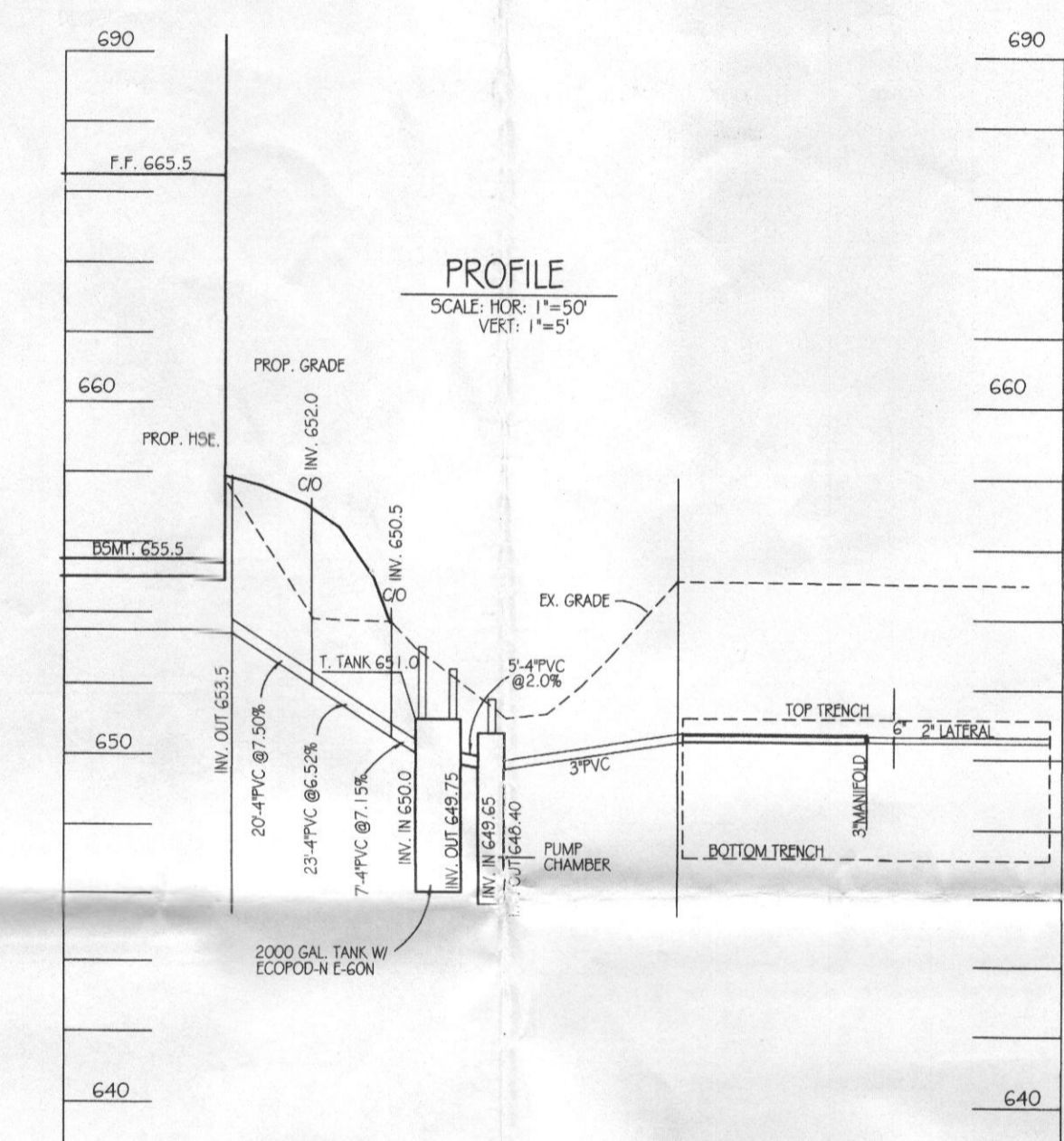
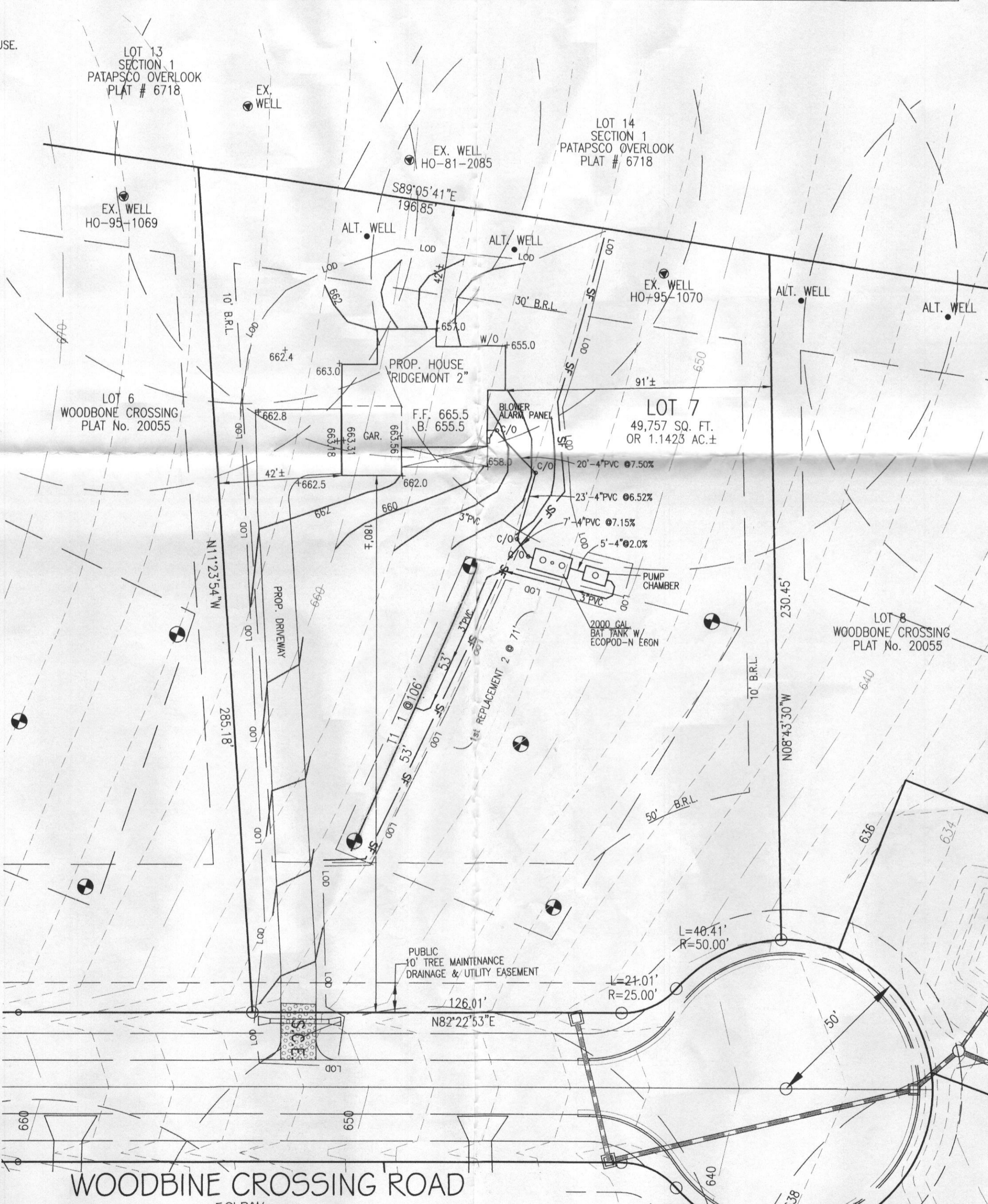
- Blower Model Delta 06
- Setting High Level Pressure Switch: Bring plant to operating water level with compressor turned on. Using properly sized screw driver, turn high level alarm adjustment screw clockwise until alarm occurs. Once alarm occurs, turn the screw counter-clockwise until alarm stops. Setting Low Level Pressure Switch: Factory set.
- All of Delta's control panels are manufactured to UL508A requirements. All enclosures are NEMA rated.
- Pressure switch tubing is used for high and low level pressure detection.
- All piping from the blower to the ECOPOD to be 2" sch 40 PVC pipe.
- All blowers are housed in a polyethylene enclosure supplied with necessary piping for installation.
- Inlet Filters must be mounted on outside of enclosure. Filters not mounted on outside could contribute to blower malfunction and void manufacturer's warranty.
- Filter elements must be non-paper type.



BAT TANK DETAIL
SCALE: 1"=4'
ECOPOD-N SERIES MANUFACTURED BY DELTA ENVIRONMENTAL PRODUCTS



- GENERAL NOTES:**
- TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED GIS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVDOD.
 - THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
 - ZONING DISTRICT: RC-DEO
 - LIMIT OF DISTURBANCE (LOD) = 19,750 SQ.FT.
 - THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
 - STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING WOODBINE CROSSING STORM WATER MANAGEMENT FACILITIES.



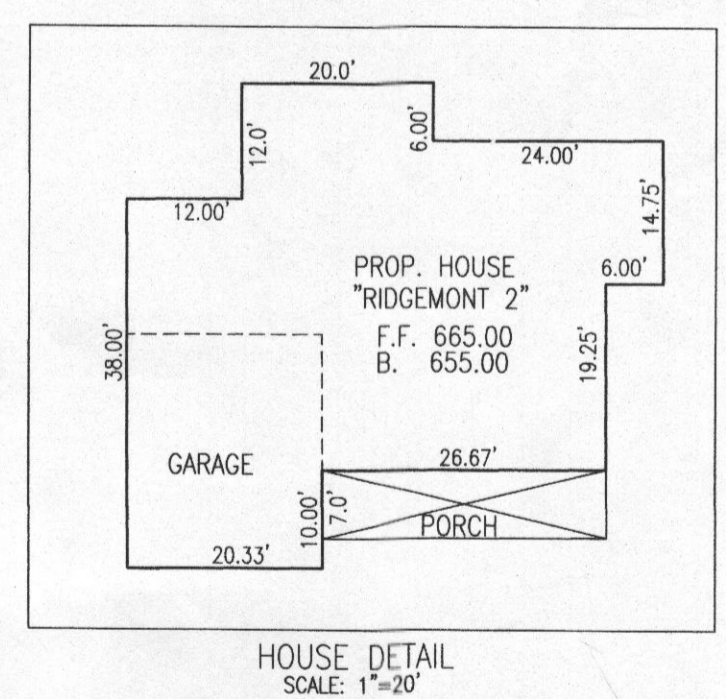
- SEPTIC SYSTEM TRENCH DESIGN:**
- INITIAL NUMBER OF BEDROOMS = 4
 - APPLICATION RATE = 0.8 GPD / sq. ft.
 - DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
 - 600 GPD / 0.8 GPD/sq. ft. = 750 sq. ft.
 - 750 sq. ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
 - 250 LF TRENCH X 0.42 REDUCTION CREDIT = 105 LF TRENCH
 - TRENCH 1 (T1) EX. GRD=655.0 INV. TRENCH=651.0 -B. TRENCH=647.0
- 1st REPLACEMENT
- APPLICATION RATE = 0.6 GPD / sq. ft.
 - DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
 - 600 GPD / 0.6 GPD/sq. ft. = 1000 sq. ft.
 - 1000 sq. ft. / 3 ft. WIDE TRENCH = 334 LF TRENCH
 - 334 LF TRENCH X 0.42 REDUCTION CREDIT = 141 LF TRENCH

- BAT SITE PLAN NOTES:**
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 - MAXIMUM COVER OVER THE BAT PER MANUFACTURER'S SPECIFICATION IS 3 FEET.
 - THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURER'S SPECIFICATIONS.
 - THE BAT SHALL BE OPERATED AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
 - WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND TYPE OF BAT INSTALLED.
 - ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 - AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
 - THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF INSTALLATION.

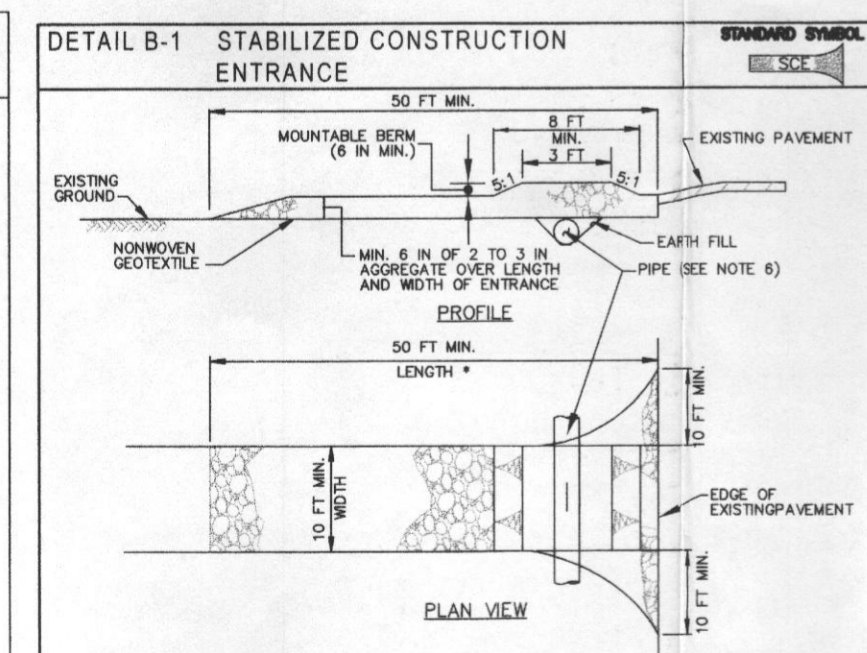
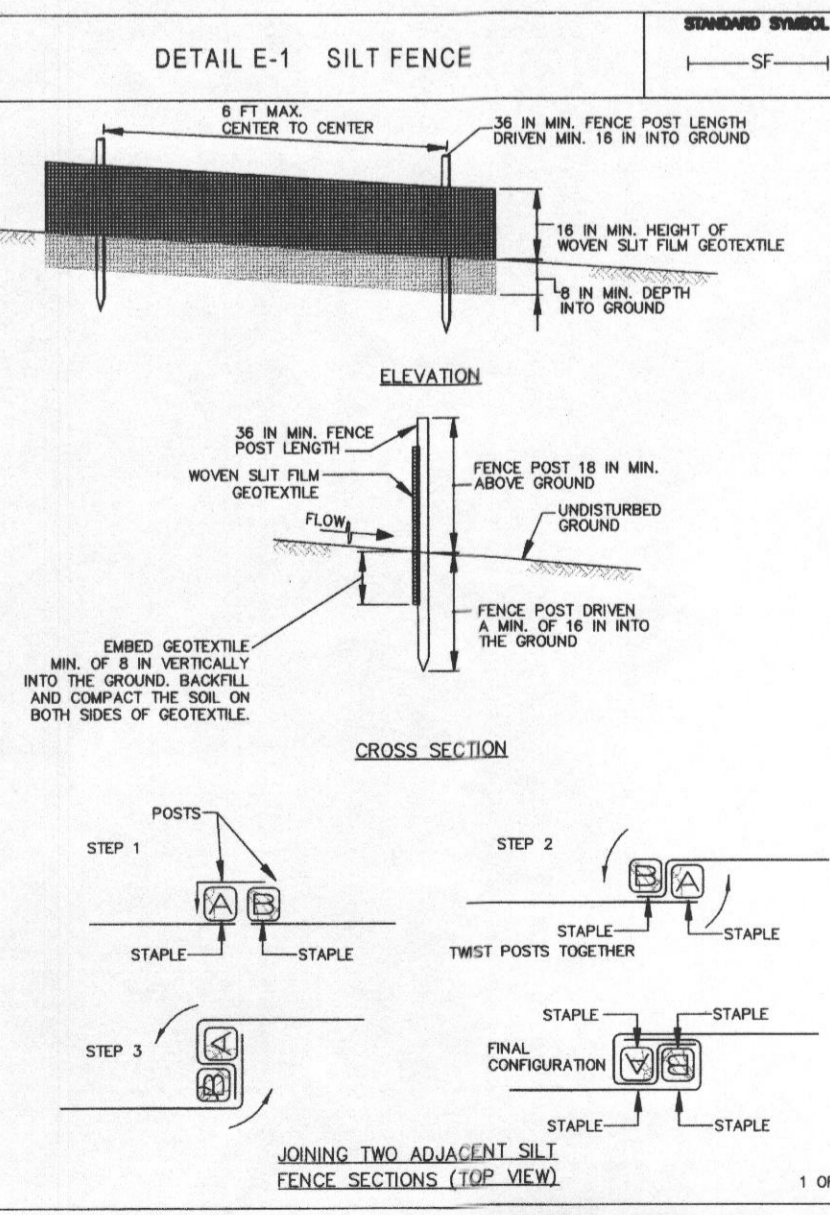
Approved Septic System Plan
Howard County Health Department
Signature: [Signature] Date: 11/13/14

OWNER:
LDG INC
LEE PLAZA, SUITE 200
8601 GEORGIA AVENUE
SILVER SPRING, MD 20910
301-565-7000

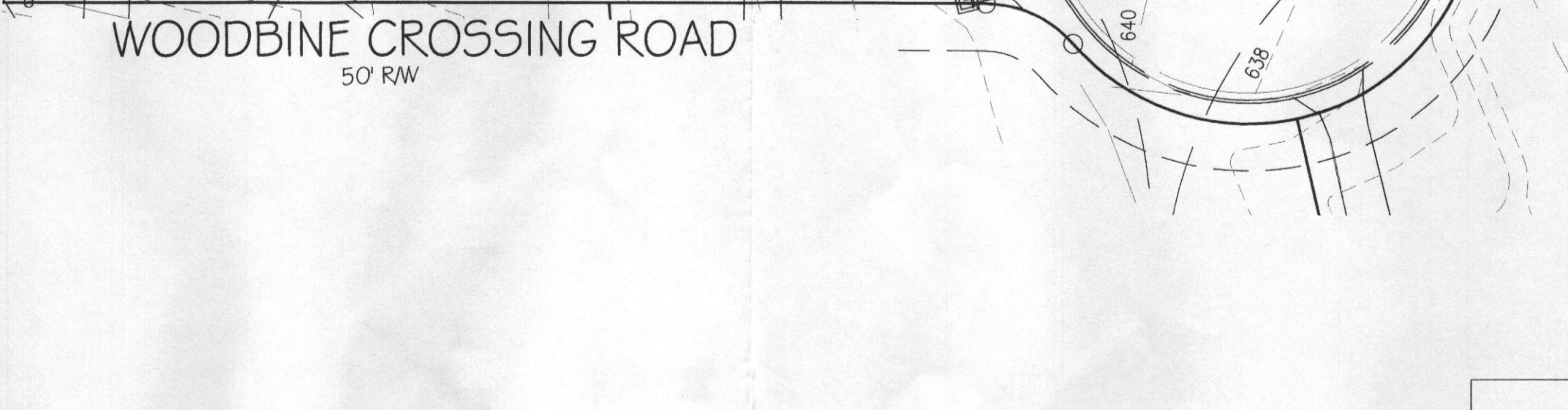
DEVELOPER:
CATONSVILLE HOMES
11175 STRATFIELD CT.
MARRIOTTVILLE, MD. 21104
410-442-2211



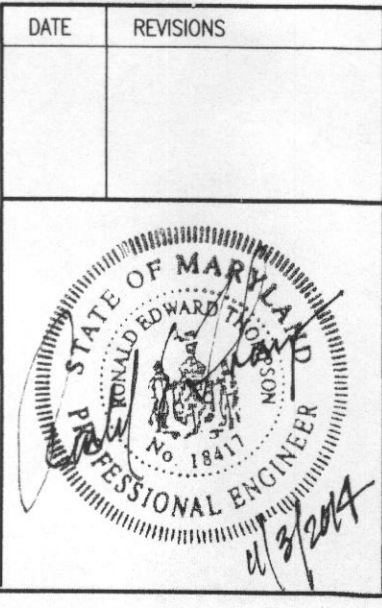
HOUSE DETAIL
SCALE: 1"=20'



- CONSTRUCTION SPECIFICATIONS**
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTRANCE LENGTH OF THE SIZE. USE MINIMUM LENGTH OF 50 FEET (50 FEET FOR SINGLE RESIDENCE (2)) USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE IS FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 - PIPE ALL SURFACE W/TO FLOWING TO OR DIVERTED TOWARD THE SIDE USING THE ENTRANCE. MAINTAINING PROPER DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIZE WITH A MOUNTABLE BERM WITH 3:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIZE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
 - PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 - PLACE GRANULES AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT FIBER) AT LEAST 6 INCHES DEEP OVER THE SIZE.
 - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BERM AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SLOTTED, DRIPPED, OR TRACKED ONTO ADJACENT ROADWAY BY TRUCKING, SCRAPING, AND/OR BEEPING. REPAIRING ROADWAY TO REMOVE AND TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE. WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

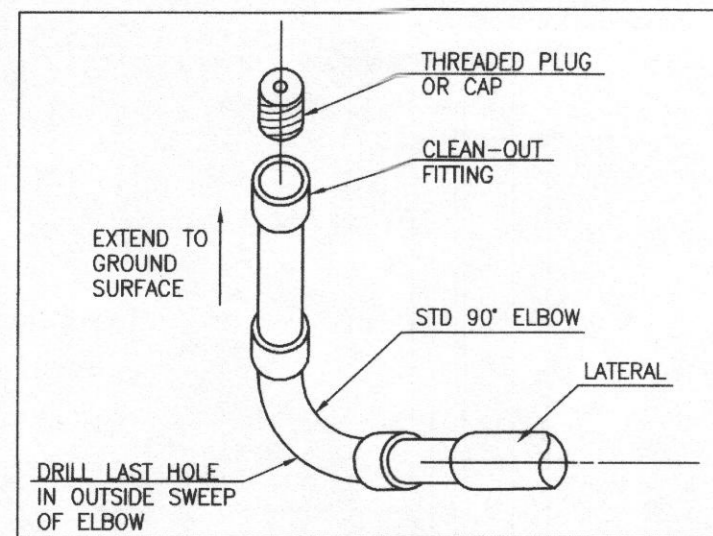


PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 9-18-15.

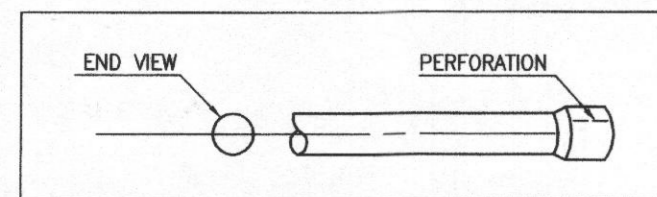


PLOT PLAN
SITE PLAN FOR BAT TECHNOLOGY
LOT 7
WOODBINE CROSSING
PLAT No. 20055
715 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' AUGUST, 2014

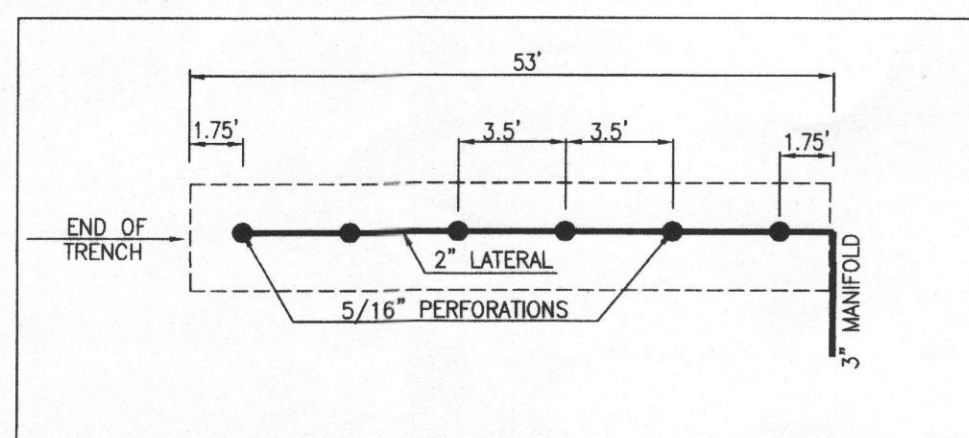
VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 549-2751
vanmar.com Fax (301) 831-5603 ©Copyright, Latest Date Shown



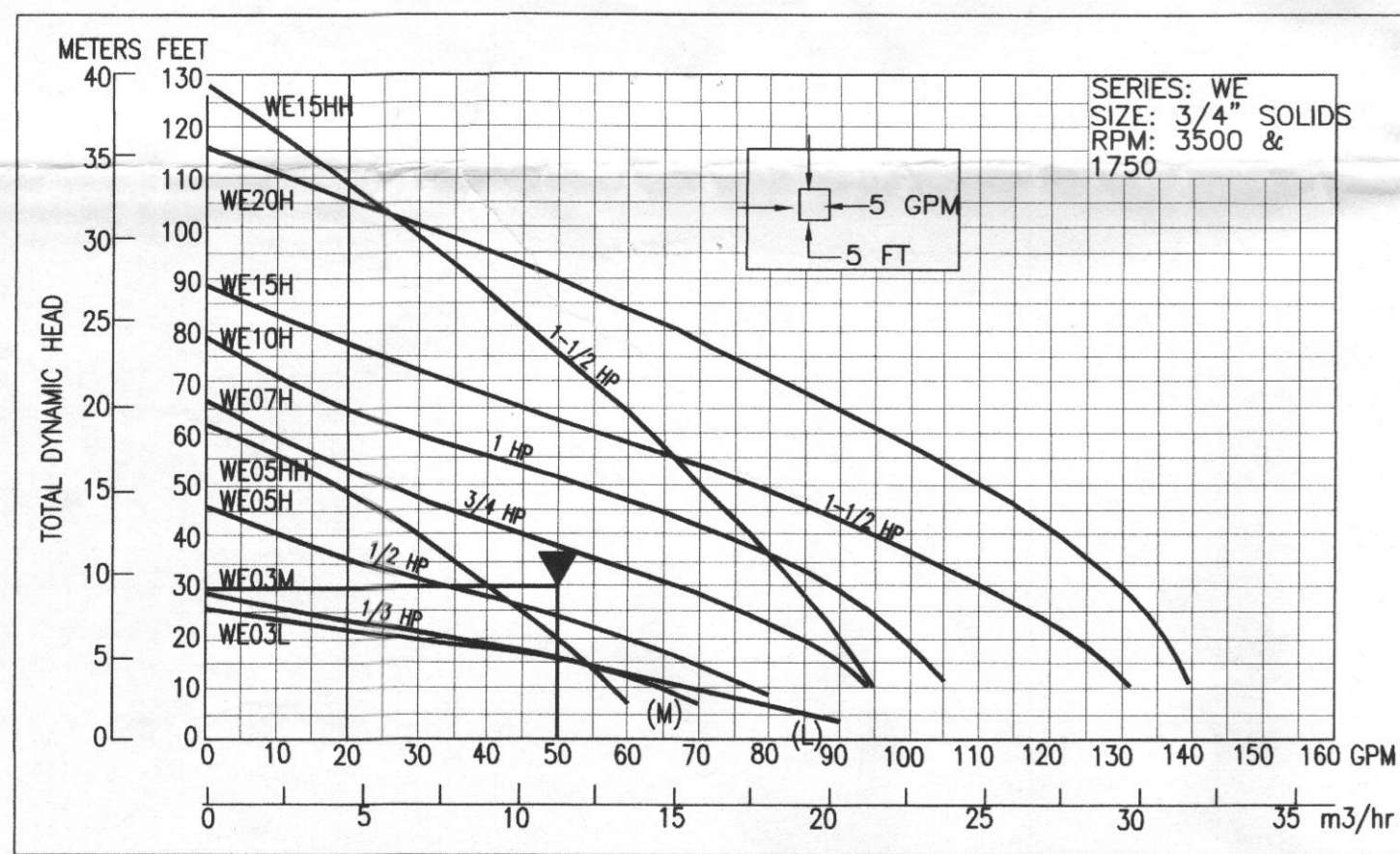
LATERAL END TURN-UP
USE ON LATERAL FARTHEST FROM PUMP AND ON LATERAL DIAGONALLY ACROSS BED NOT TO SCALE



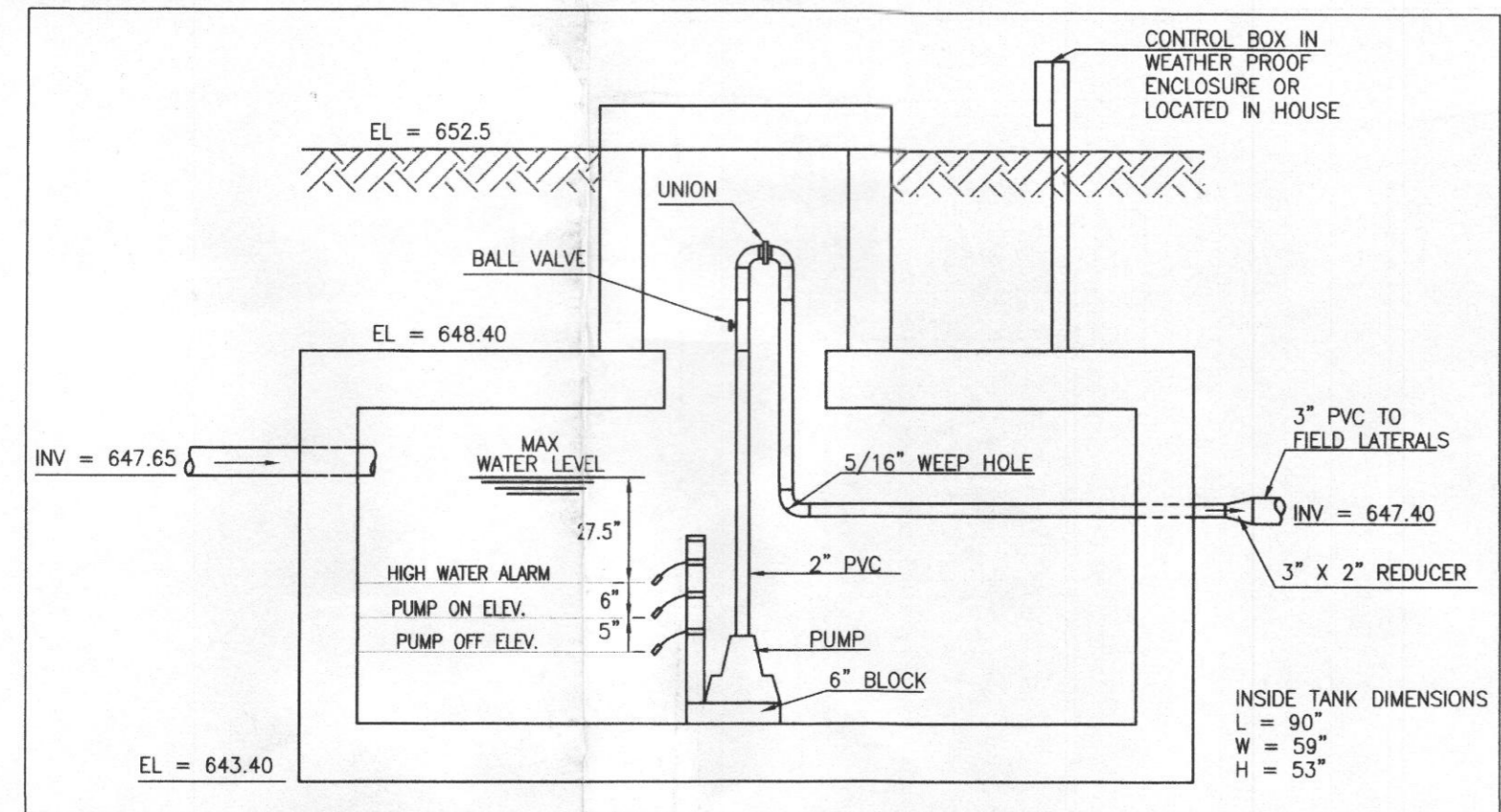
LATERAL END CAP
USE ON LATERALS NOT EQUIPPED WITH TURN-UP NOT TO SCALE



LATERAL DETAIL
NOT TO SCALE



HYDRAULIC GRAPH



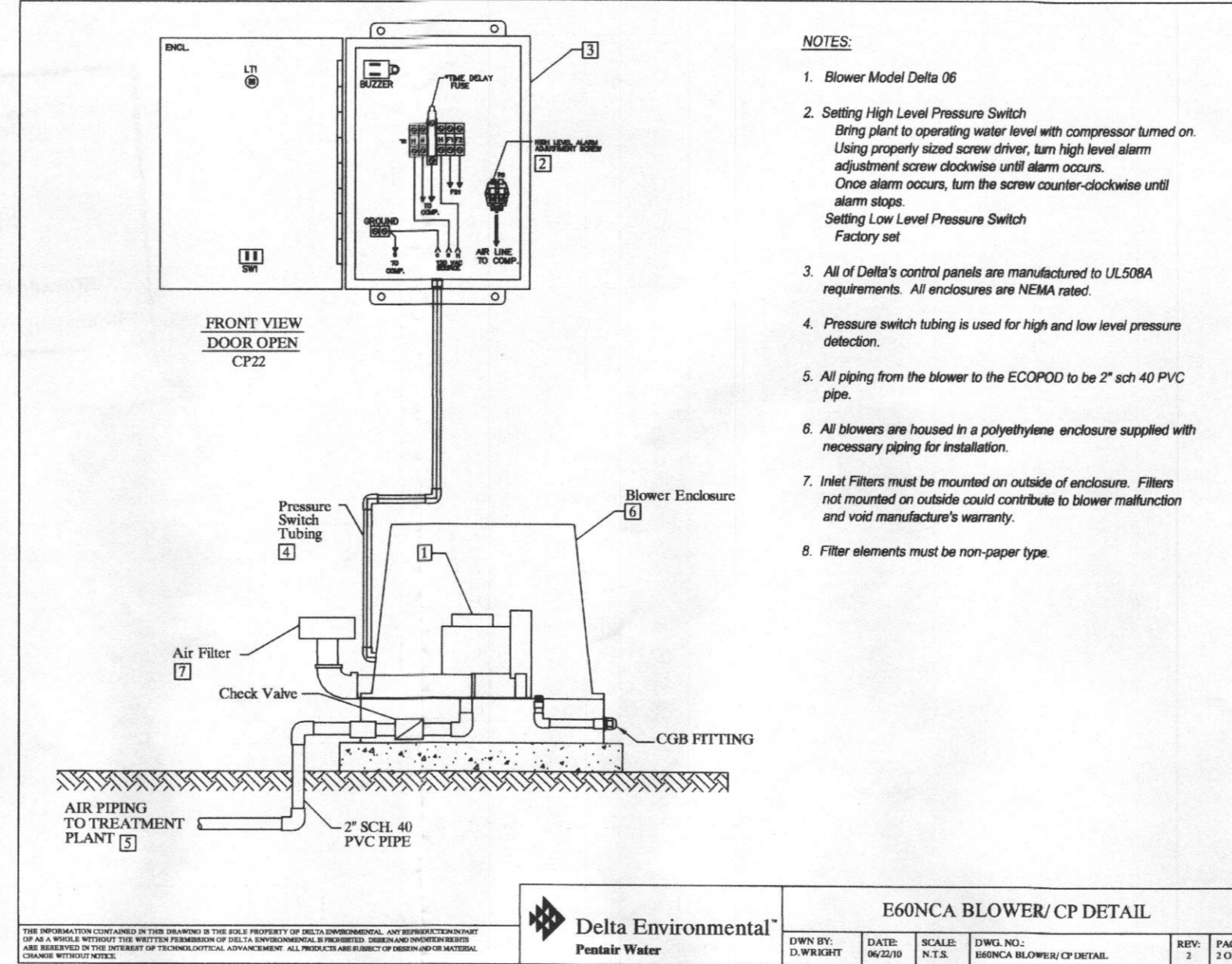
TOP SEAM 1250 GAL. PUMP CHAMBER
NOT TO SCALE

LOW PRESSURED DOSE SYSTEM SPECIFICATIONS

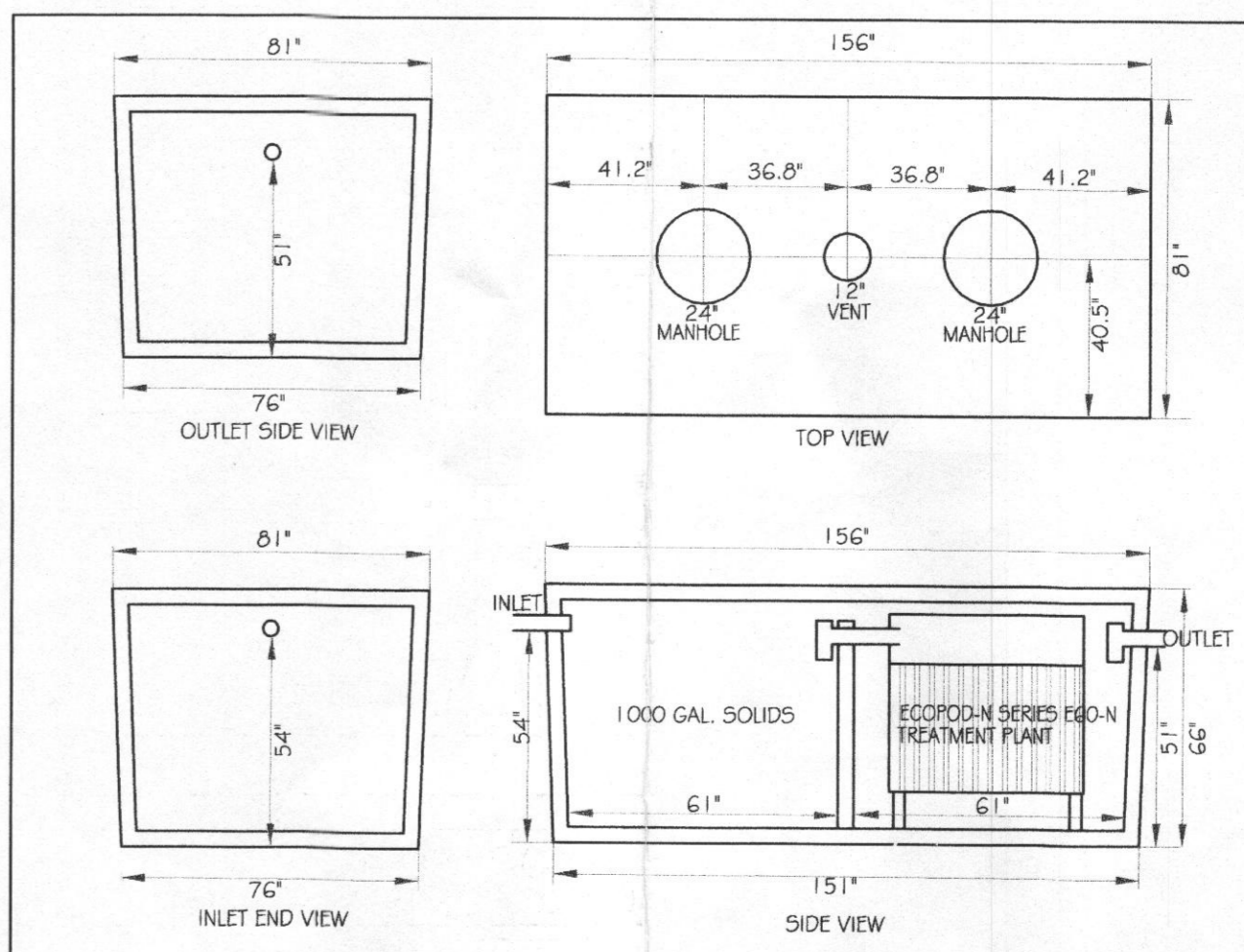
1. ALL PIPING TO BE SCHEDULE 40 PVC OF SIZES SHOWN.
2. A SUBMERSIBLE PUMP TO REMOVE 50 GPM AGAINST 29 TDH TO BE PROVIDED. PUMP TO BE A GOULDS MODEL 3885-WE-07H OR EQUAL.
3. A TEST OF THE PUMP SYSTEM AND DISTRIBUTION PIPING IS REQUIRED PRIOR TO COVERING THE SYSTEM.
4. THE HIGH WATER ALARM IS TO BE ON A SEPARATE CIRCUIT ALARM TO BE LOCATED IN THE HOUSE.

LOW PRESSURED DOSE SYSTEM DESIGN CRITERIA

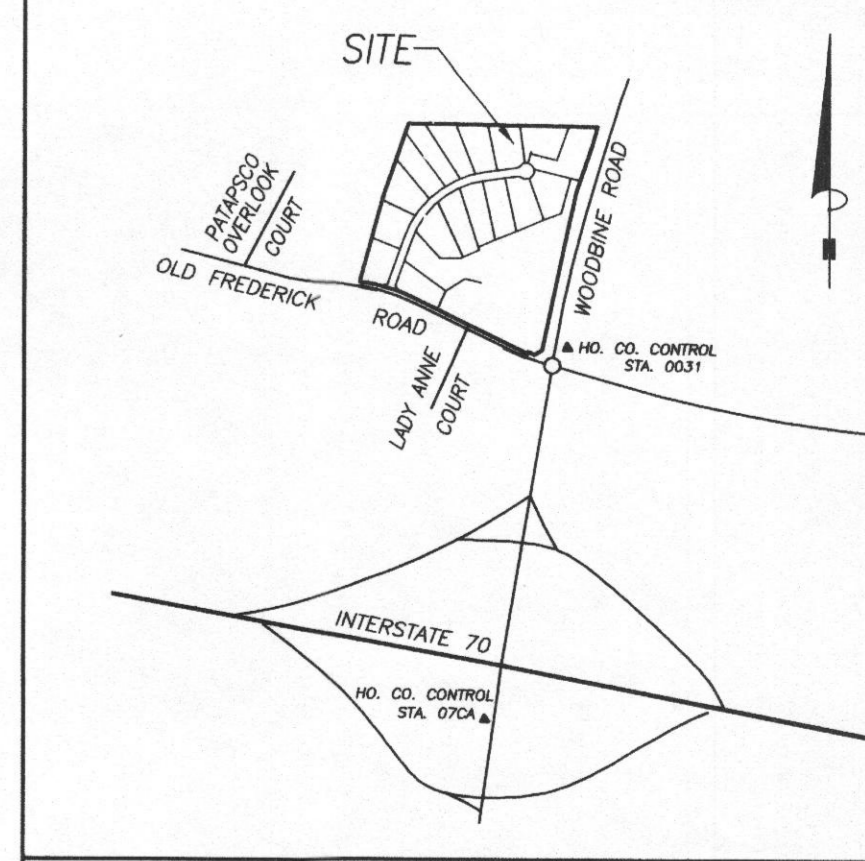
1. DOSE VOLUME: 100 GALLONS (4 BEDROOM)
2. PUMP RATE: 30 PERFORATIONS @ 1.63 GPM = 49.4 GPM
3. TOTAL DESIGN HEAD (TDH) = 32.1 FEET.



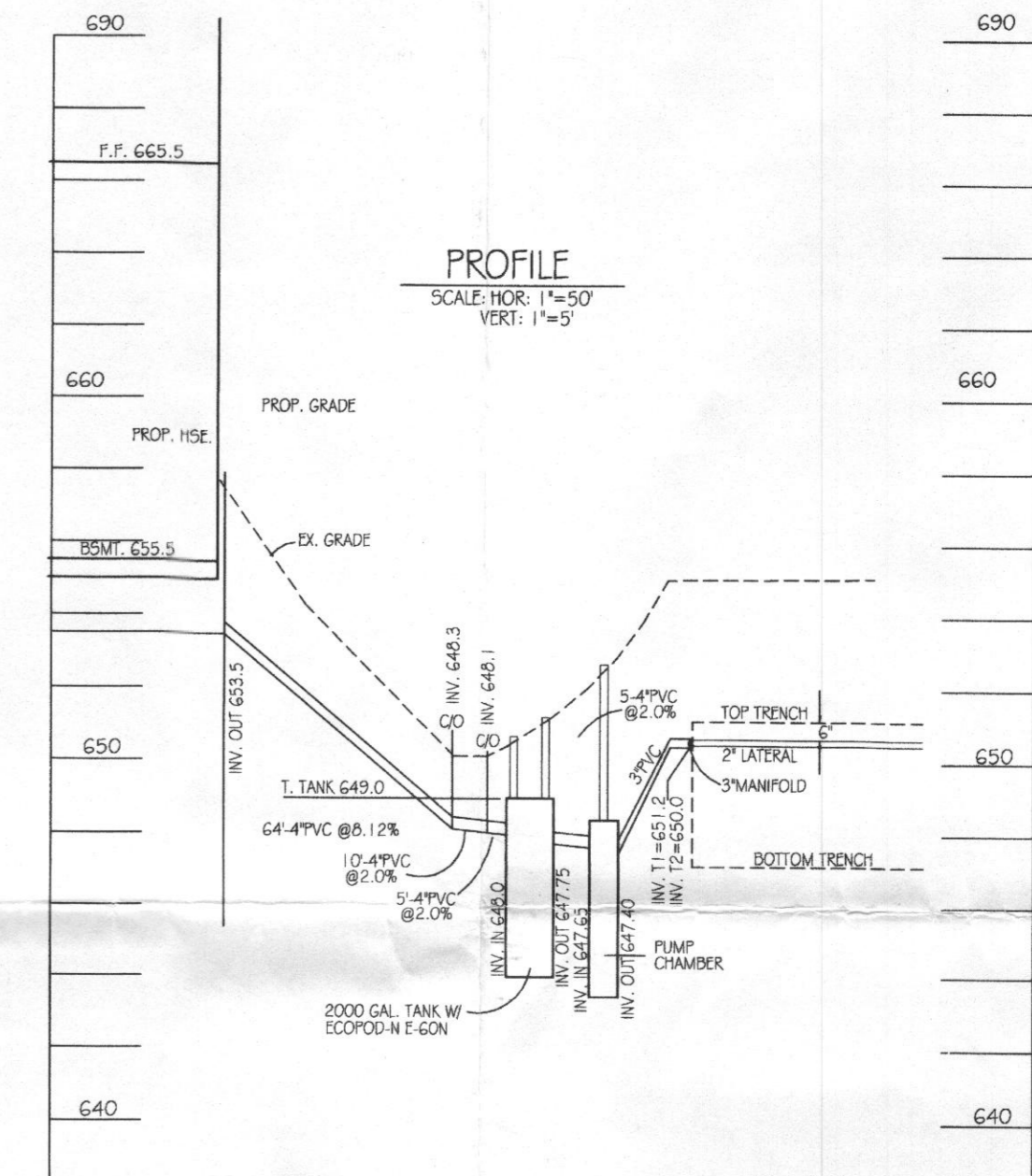
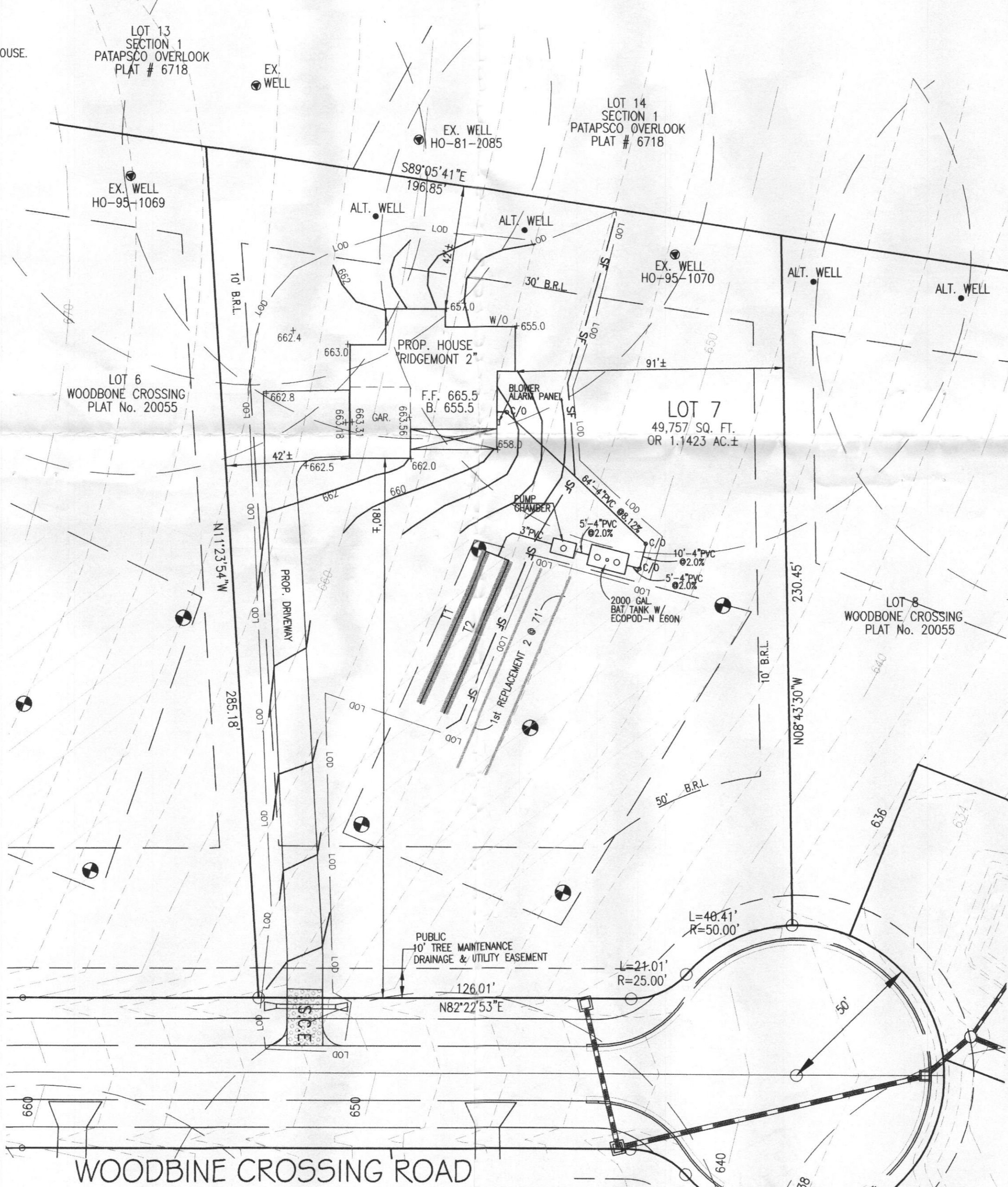
E60NCA BLOWER/CP DETAIL
SCALE: 1"=4'



BAT TANK DETAIL
SCALE: 1"=4'



- GENERAL NOTES:**
1. TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED G.S. DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD86.
 2. THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
 3. ZONING DISTRICT: RC-DEO
 4. LIMIT OF DISTURBANCE (LOD) = 19,750 SQ.FT.
 5. THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
 6. STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING WOODBINE CROSSING STORM WATER MANAGEMENT FACILITIES.



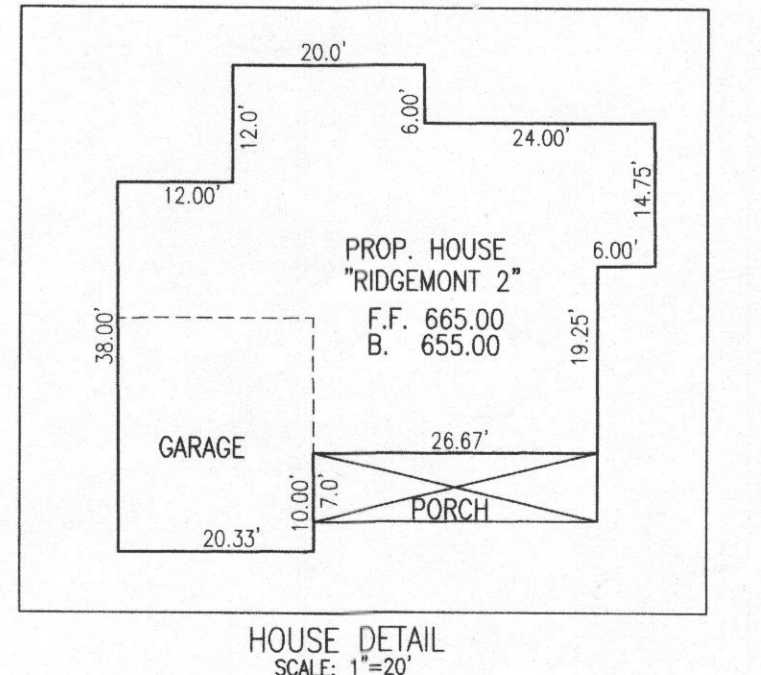
- SEPTIC SYSTEM TRENCH DESIGN:**
- INITIAL NUMBER OF BEDROOMS = 4
APPLICATION RATE = 0.8 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.8 GPD/sq.ft. = 750 sq.ft.
750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
250 LF TRENCH X 0.42 REDUCTION CREDIT = 105 LF TRENCH
TRENCH 1 (T1) EX. GRD=655.2 - INV. TRENCH=651.2 - B. TRENCH=647.2
TRENCH 2 (T2) EX. GRD=654.0 - INV. TRENCH=650.0 - B. TRENCH=646.0
- 1st REPLACEMENT APPLICATION RATE = 0.6 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.6 GPD/sq.ft. = 1000 sq.ft.
1000 sq.ft. / 3 ft. WIDE TRENCH = 334 LF TRENCH
334 LF TRENCH X 0.42 REDUCTION CREDIT = 141 LF TRENCH

- BAT SITE PLAN NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 2. MAXIMUM COVER OVER THE BAT PER MANUFACTURERS SPECIFICATION IS 3 FEET.
 3. THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURERS SPECIFICATIONS.
 4. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
 5. THE BAT SHALL BE OPERATED AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
 6. WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND TYPE OF BAT INSTALLED.
 7. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 8. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
 9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF INSTALLATION.

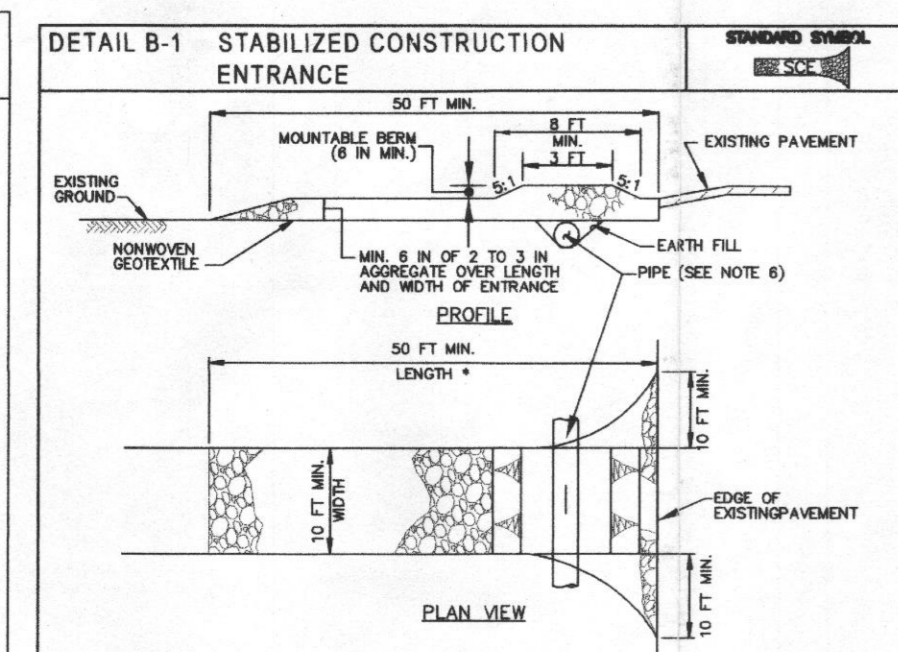
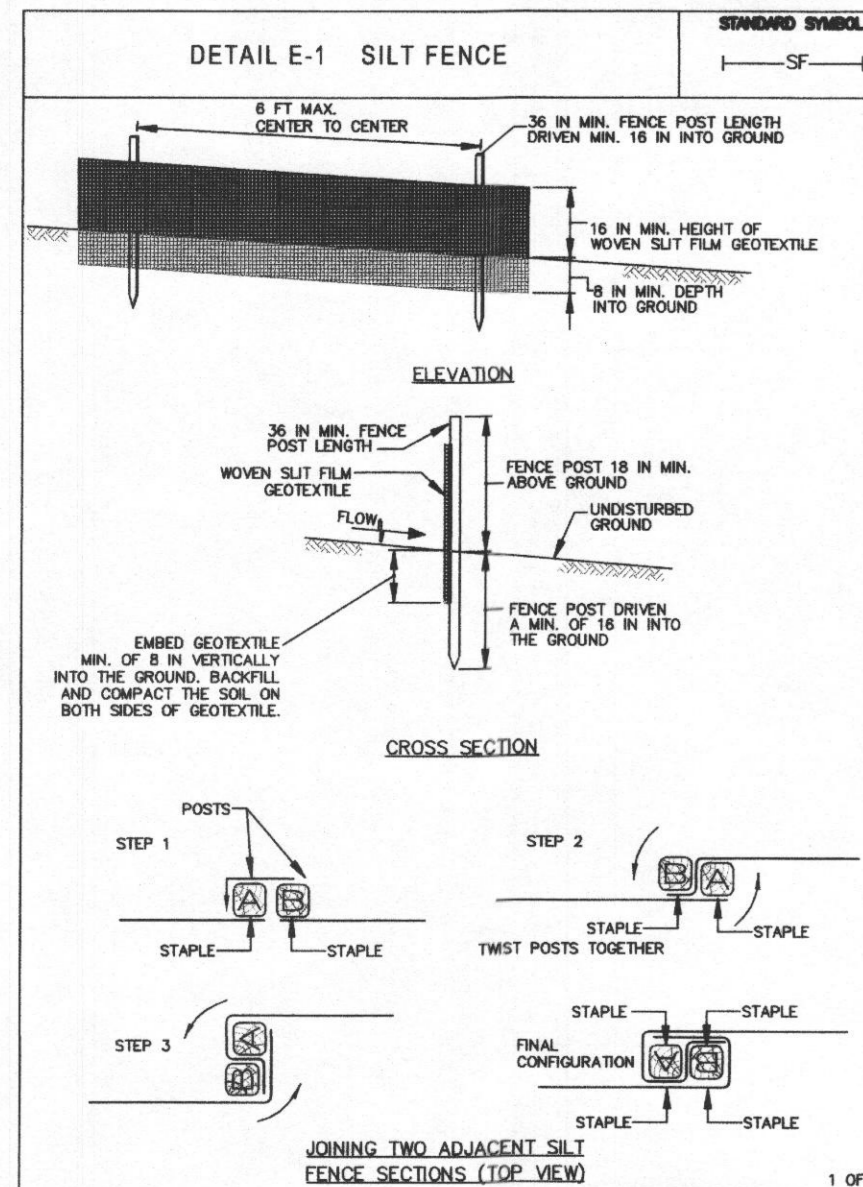
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY DISTRICT SOIL CONSERVATION DISTRICT
Approved: *[Signature]*
Howard SCD 9/14/14

OWNER:
LDG INC.
LEE PLAZA, SUITE 200
6001 GEORGIA AVENUE
SILVER SPRING, MD. 20910
301-585-7000

DEVELOPER:
CATONVILLE HOMES
11775 STRATFIELD CT.
MARRIOTTVILLE, MD. 21104
410-442-2211



HOUSE DETAIL
SCALE: 1"=20'

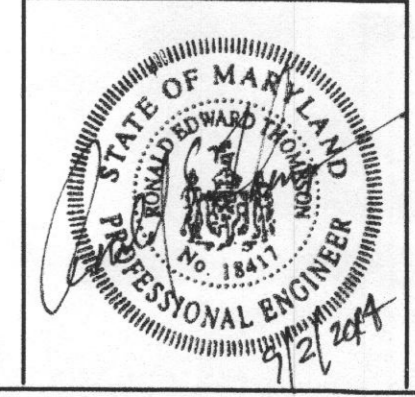


- CONSTRUCTION SPECIFICATIONS**
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SIZE. USE MINIMUM LENGTHS OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. PLANE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SIZE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIZE WITH A MOUNTABLE BERM WITH 3:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIZE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CATCH, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
 3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 4. PLACE CURBED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 4 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SIZE.
 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SLOPED ENTRANCE. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLS, DROPPED, OR TRAPPED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED INTO PAVEMENT IS NOT ACCEPTABLE UNLESS MUD WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

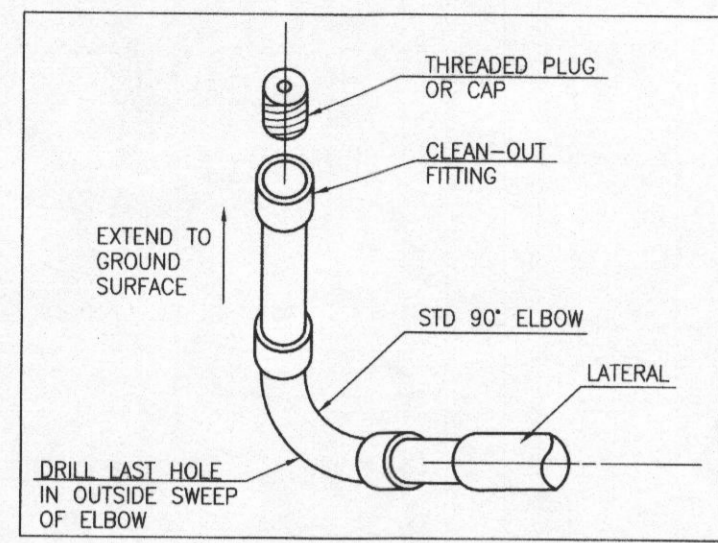
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT
NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT
NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

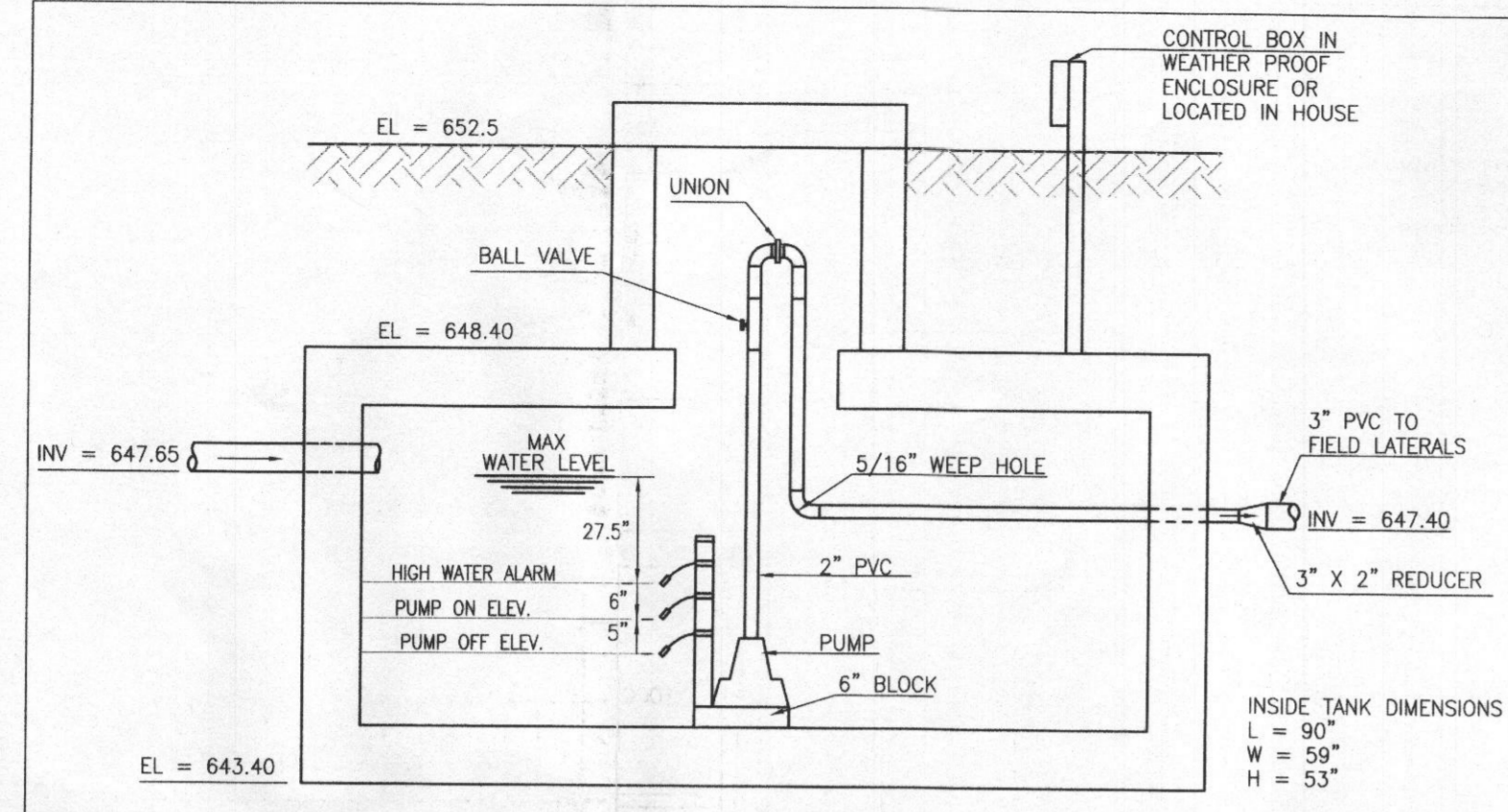
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 9-18-15.



VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 549-2751
Fax (301) 831-5603 ©Copyright, Latest Date Shown



LATERAL END TURN-UP
USE ON LATERAL FARTHEST FROM PUMP AND ON LATERAL DIAGONALLY ACROSS BED NOT TO SCALE



TOP SEAM 1250 GAL. PUMP CHAMBER
NOT TO SCALE

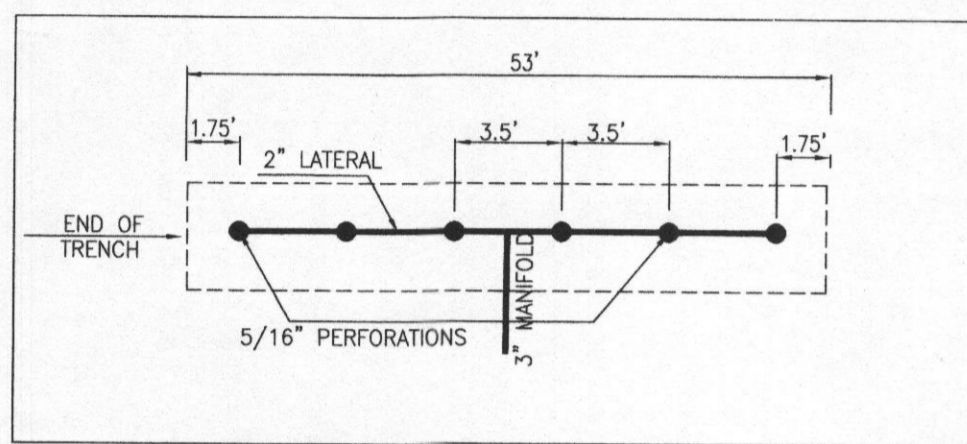
LOW PRESSURED DOSE SYSTEM SPECIFICATIONS

- ALL PIPING TO BE SCHEDULE 40 PVC OF SIZES SHOWN.
- A SUBMERSIBLE PUMP TO REMOVE 24.5 GPM AGAINST 9.6 TDH TO BE PROVIDED. PUMP TO BE A GOULDS MODEL 3885-WE-03L OR EQUAL.
- A TEST OF THE PUMP SYSTEM AND DISTRIBUTION PIPING IS REQUIRED PRIOR TO COVERING THE SYSTEM.
- THE HIGH WATER ALARM IS TO BE ON A SEPARATE CIRCUIT ALARM TO BE LOCATED IN THE HOUSE.

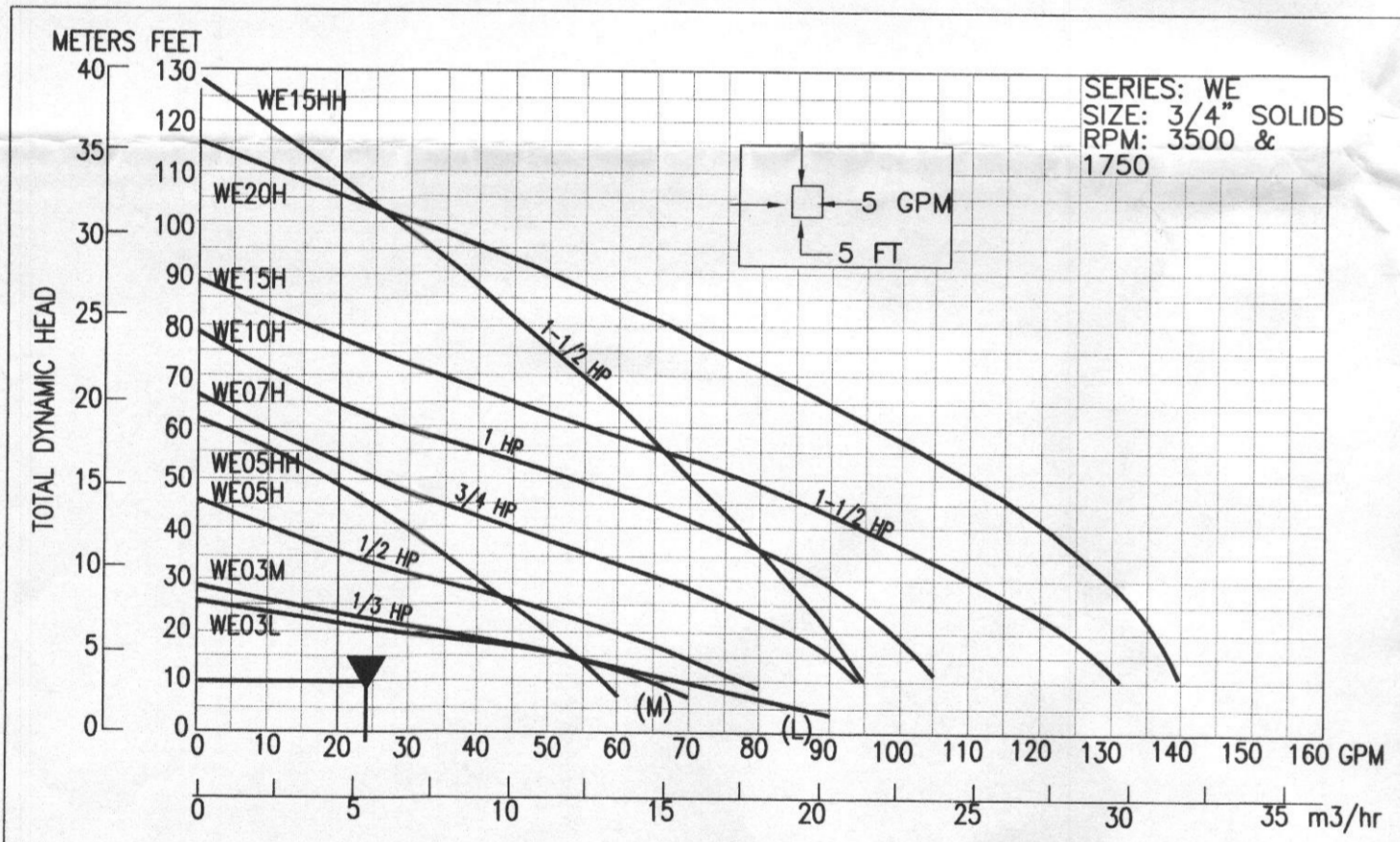
LOW PRESSURED DOSE SYSTEM DESIGN CRITERIA

- DOSE VOLUME: 100 GALLONS (4 BEDROOM)
- PUMP RATE: 15 PERFORATIONS @ 1.63 GPM = 24.5 GPM
- TOTAL DESIGN HEAD (TDH) = 9.6 FEET.

| TOTAL DESIGN HEAD (TDH) COMPUTATION | |
|-------------------------------------|-------------|
| STATIC HEAD (651-644.4) | 6.6' |
| FRICTION HEAD | 0.94' |
| PIPE 0.58(109+54)/100 | |
| FITTINGS -90°x1x15' = 15' | |
| 45°x6x6' = 36' | |
| DISCONNECT = 3' | |
| DISTAL END | 2' |
| TOTAL DESIGN HEAD (TDH) | 9.6' |

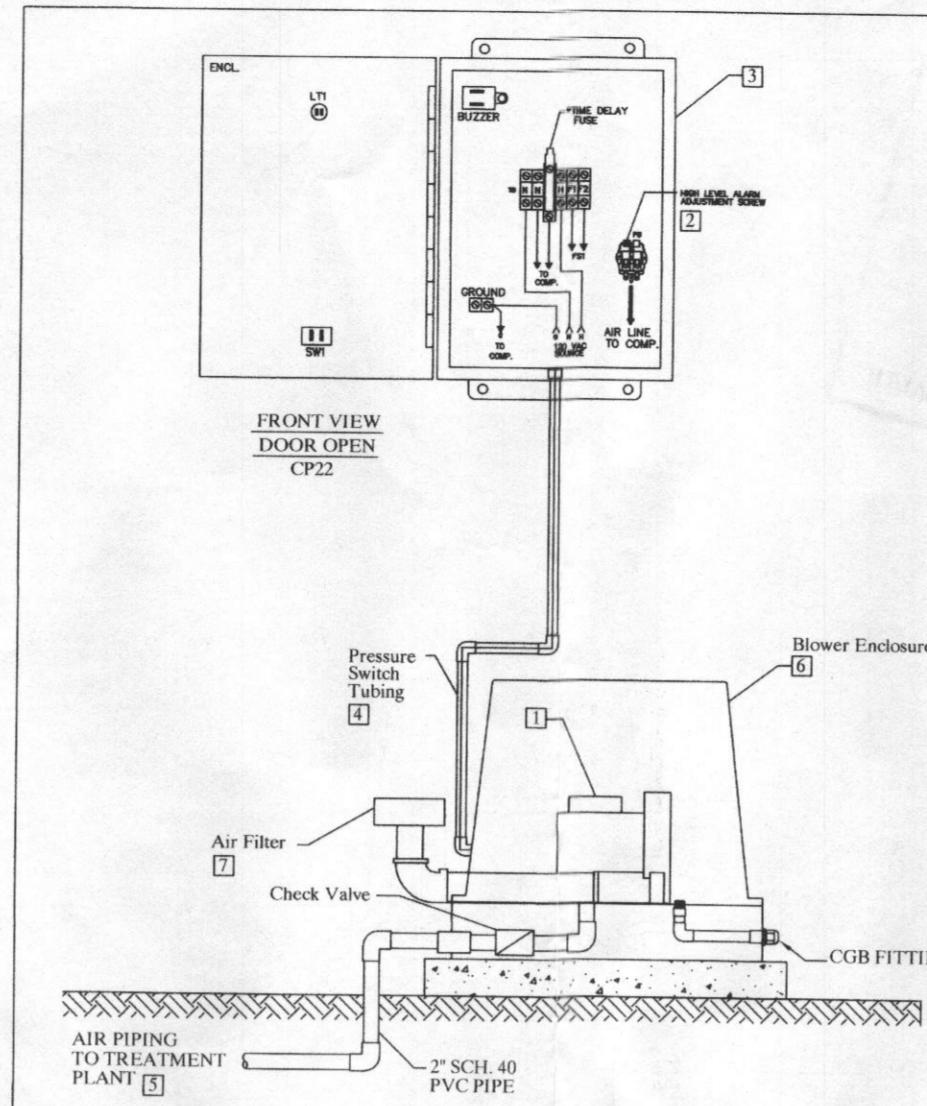


LATERAL DETAIL
NOT TO SCALE



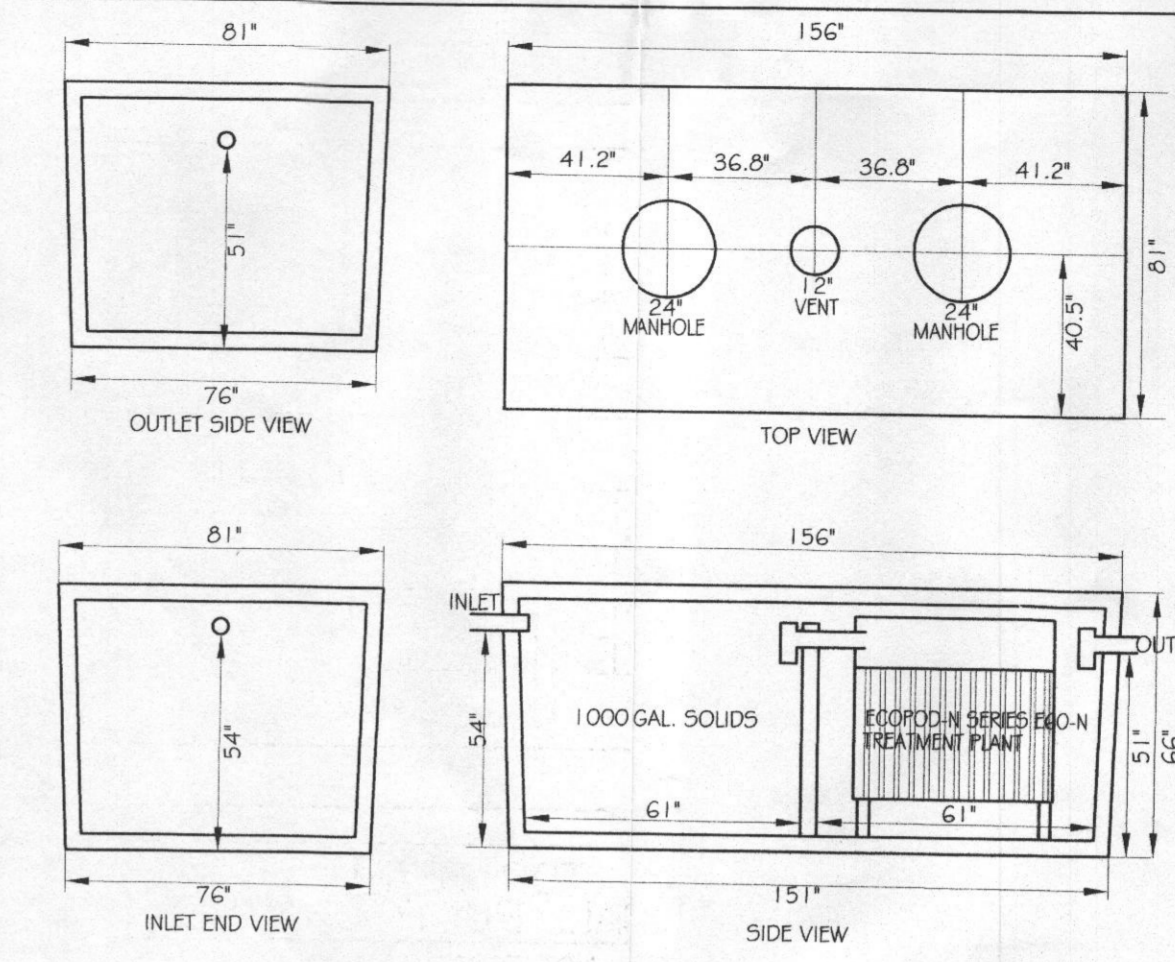
HYDRAULIC GRAPH

| LATERAL CHART | |
|----------------------|----------|
| LATERAL LENGTH | = 51.25' |
| LATERAL PERFORATIONS | = 15 |
| PERFORATION SPACING | = 3.5' |
| LATERAL SIZE | = 2" |



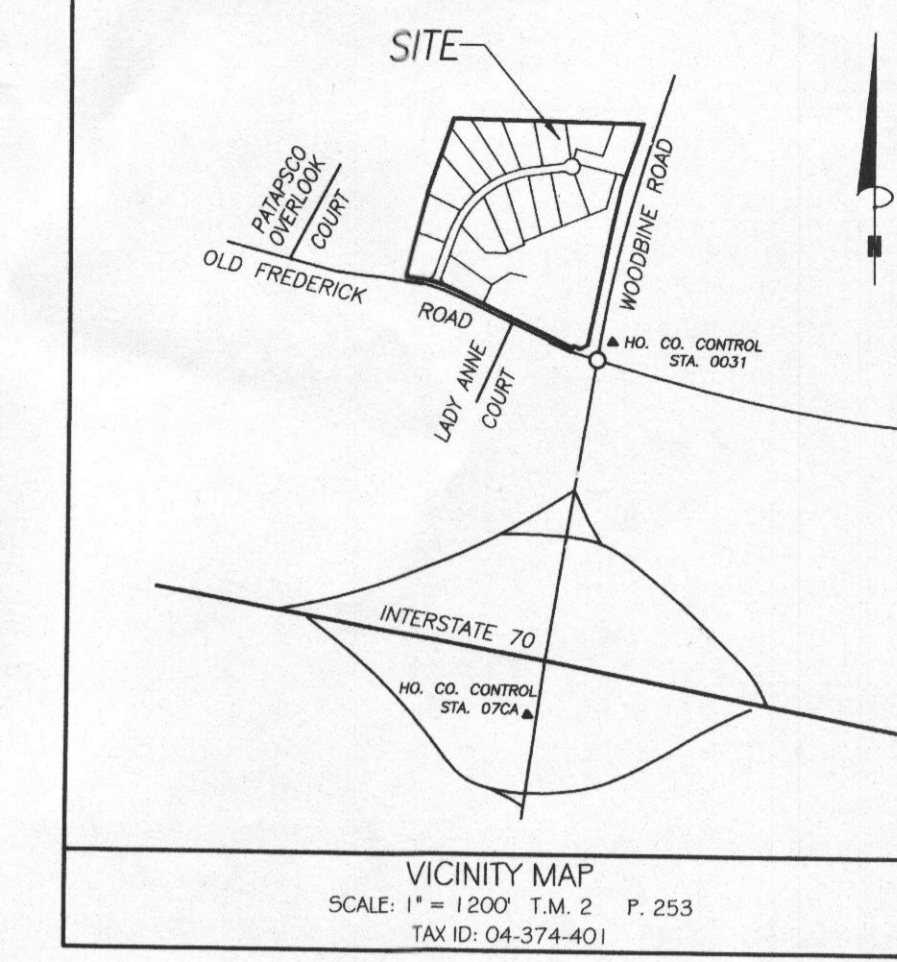
- NOTES:**
- Blower Model Delta 60
 - Setting High Level Pressure Switch: Bring plant to operating water level with compressor turned on. Using properly sized screw driver, turn high level alarm adjustment screw clockwise until alarm occurs. Once alarm occurs, turn the screw counter-clockwise until alarm stops. Setting Low Level Pressure Switch: Factory set.
 - All of Delta's control panels are manufactured to UL508A requirements. All enclosures are NEMA rated.
 - Pressure switch tubing is used for high and low level pressure detection.
 - All piping from the blower to the ECOPOD to be 2" sch 40 PVC pipe.
 - All blowers are housed in a polyethylene enclosure supplied with necessary piping for installation.
 - Inlet Filters must be mounted on outside of enclosure. Filters not mounted on outside could contribute to blower malfunction and void manufacturer's warranty.
 - Filter elements must be non-paper type.

Delta Environmental 60NCA BLOWER/CP DETAIL



BAT TANK DETAIL

SCALE: 1" = 1'-0"
ECOPOD SERIES MANUFACTURED BY DELTA ENVIRONMENTAL PRODUCTS



VICINITY MAP
SCALE: 1" = 1200' T.M. 2 P. 253
TAX ID: 04-374-401

GENERAL NOTES:

- TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED GDS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD83.
- THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
- ZONING DISTRICT: RC-DEO
- LIMIT OF DISTURBANCE (LOD) = 19,750 SQ.FT.
- THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.
- STORM WATER MANAGEMENT FOR THIS LOT IS PROVIDED BY EXISTING WOODBINE CROSSING STORM WATER MANAGEMENT FACILITIES.

SEPTIC SYSTEM TRENCH DESIGN:

INITIAL NUMBER OF BEDROOMS = 4
APPLICATION RATE = 0.8 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.8 GPD/sq.ft. = 750 sq.ft.
750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH
250 LF TRENCH X 0.42 REDUCTION CREDIT = 105 LF TRENCH
TRENCH 1 (T1) EX. GRD=655.0 -INV. TRENCH=651.0 -B. TRENCH=647.0

1st REPLACEMENT
APPLICATION RATE = 0.6 GPD / sq.ft.
DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
600 GPD / 0.6 GPD/sq.ft. = 1000 sq.ft.
1000 sq.ft. / 3 ft. WIDE TRENCH = 334 LF TRENCH
334 LF TRENCH X 0.42 REDUCTION CREDIT = 141 LF TRENCH

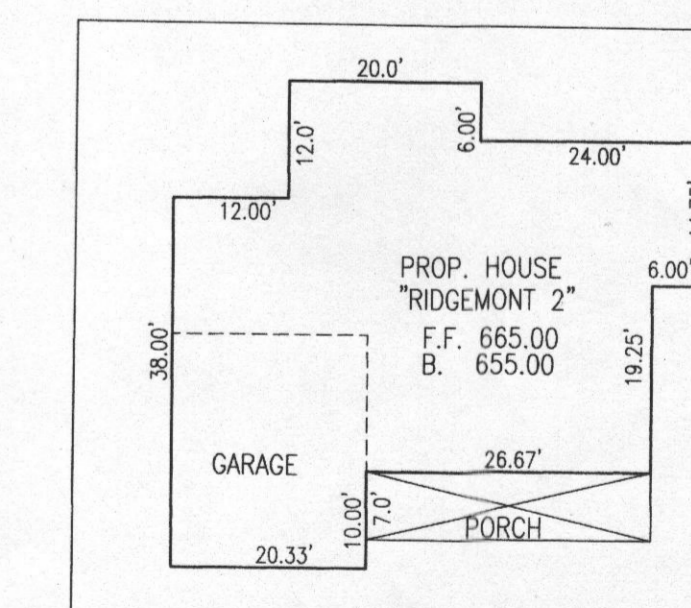
BAT SITE PLAN NOTES:

- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- MAXIMUM COVER OVER THE BAT PER MANUFACTURER SPECIFICATION IS 3 FEET.
- THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURER'S SPECIFICATIONS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF INSTALLATION.

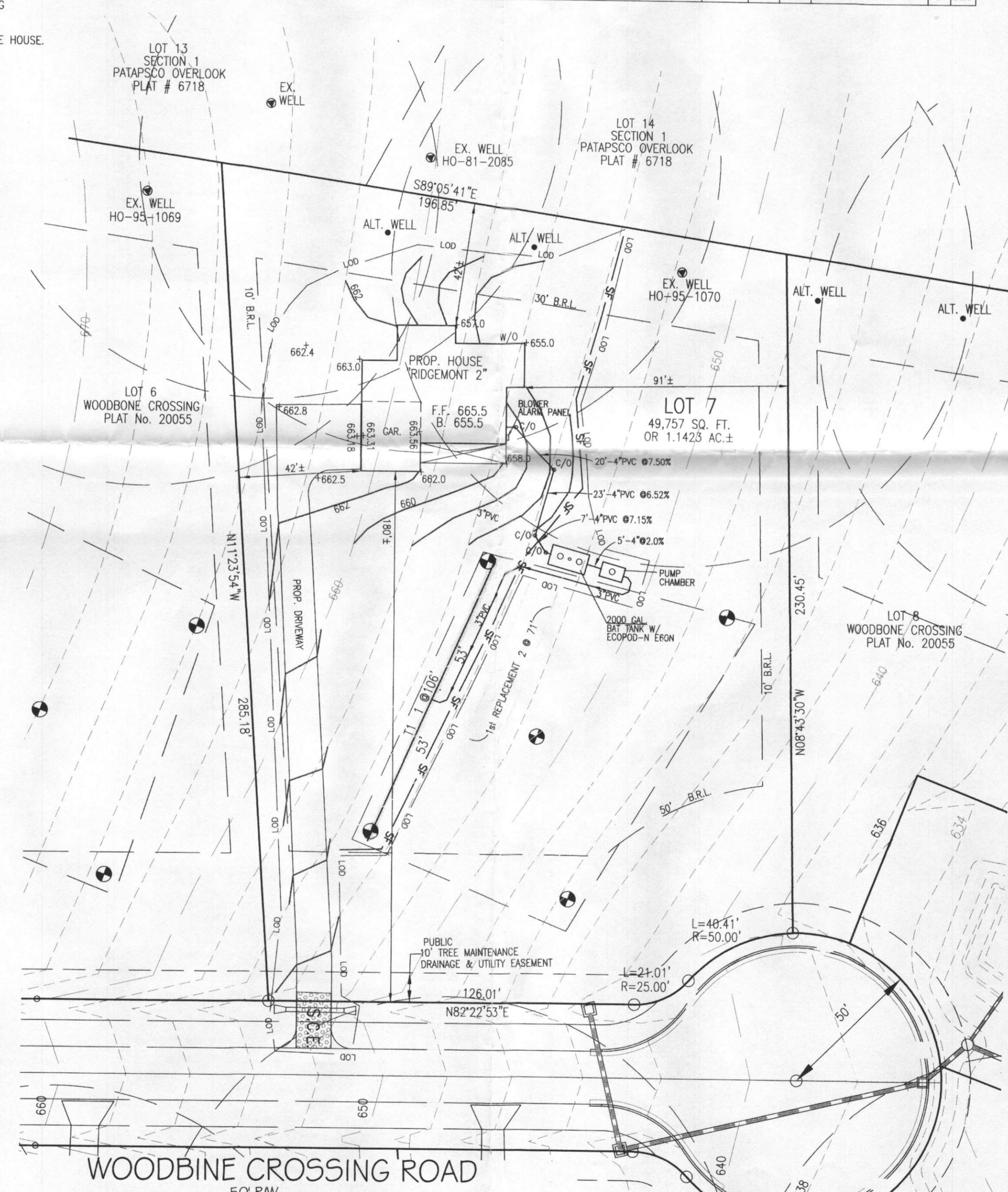
Approved Septic System Plan
Howard County Health Department
Signature: [Signature] Date: 11/3/14

OWNER:
LDG INC.
LEE PLAZA SUITE 200
8601 GEORGIA AVENUE
SILVER SPRING, MD, 20910
301-565-7000

DEVELOPER:
CATONSVILLE HOMES
11175 STRATFIELD CT.
MARRIOTTVILLE, MD, 21104
410-442-2211

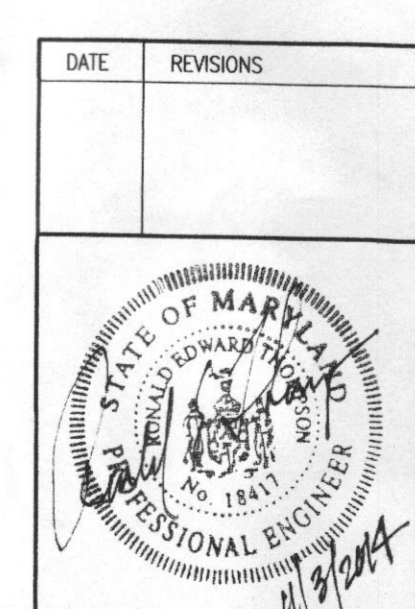


HOUSE DETAIL
SCALE: 1" = 20'



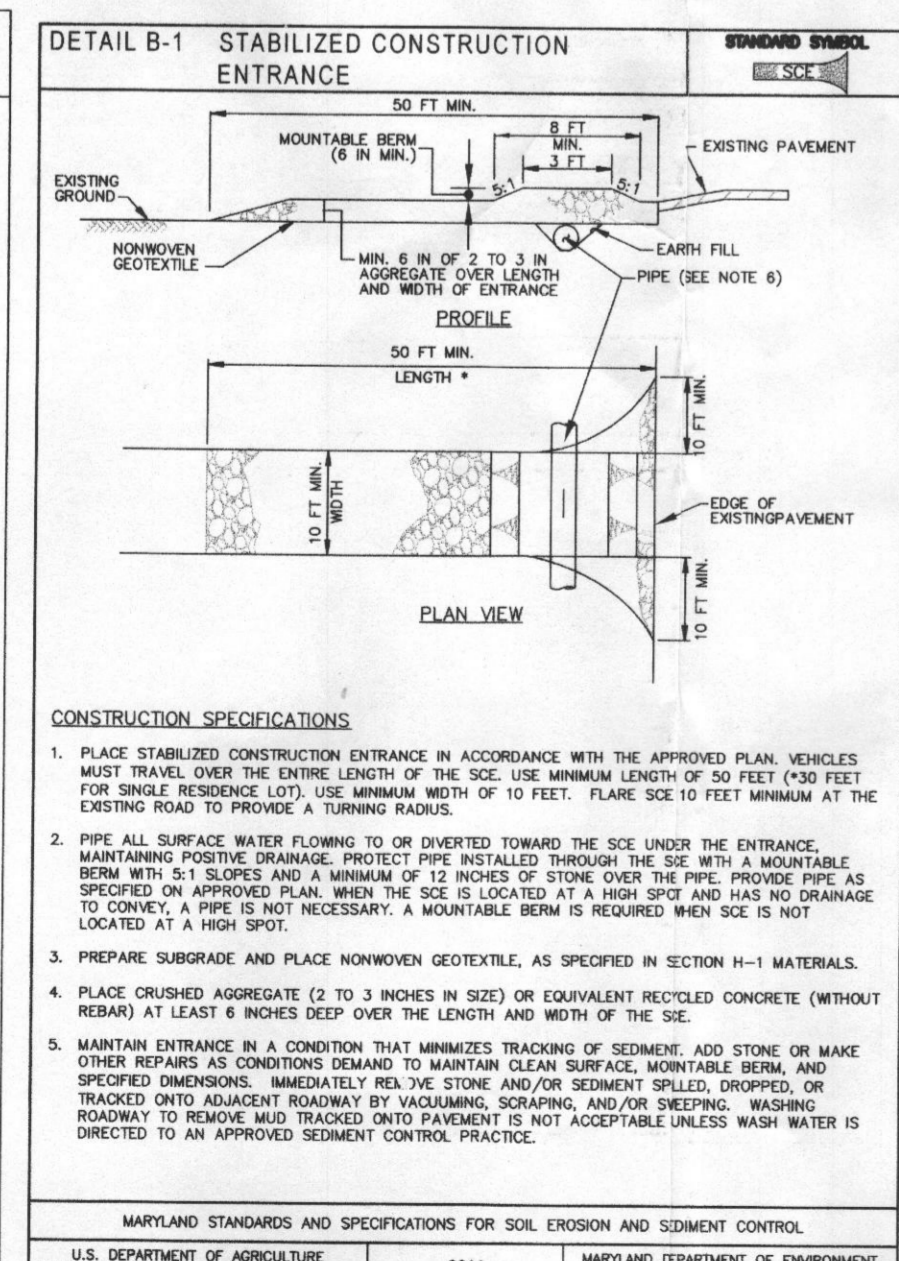
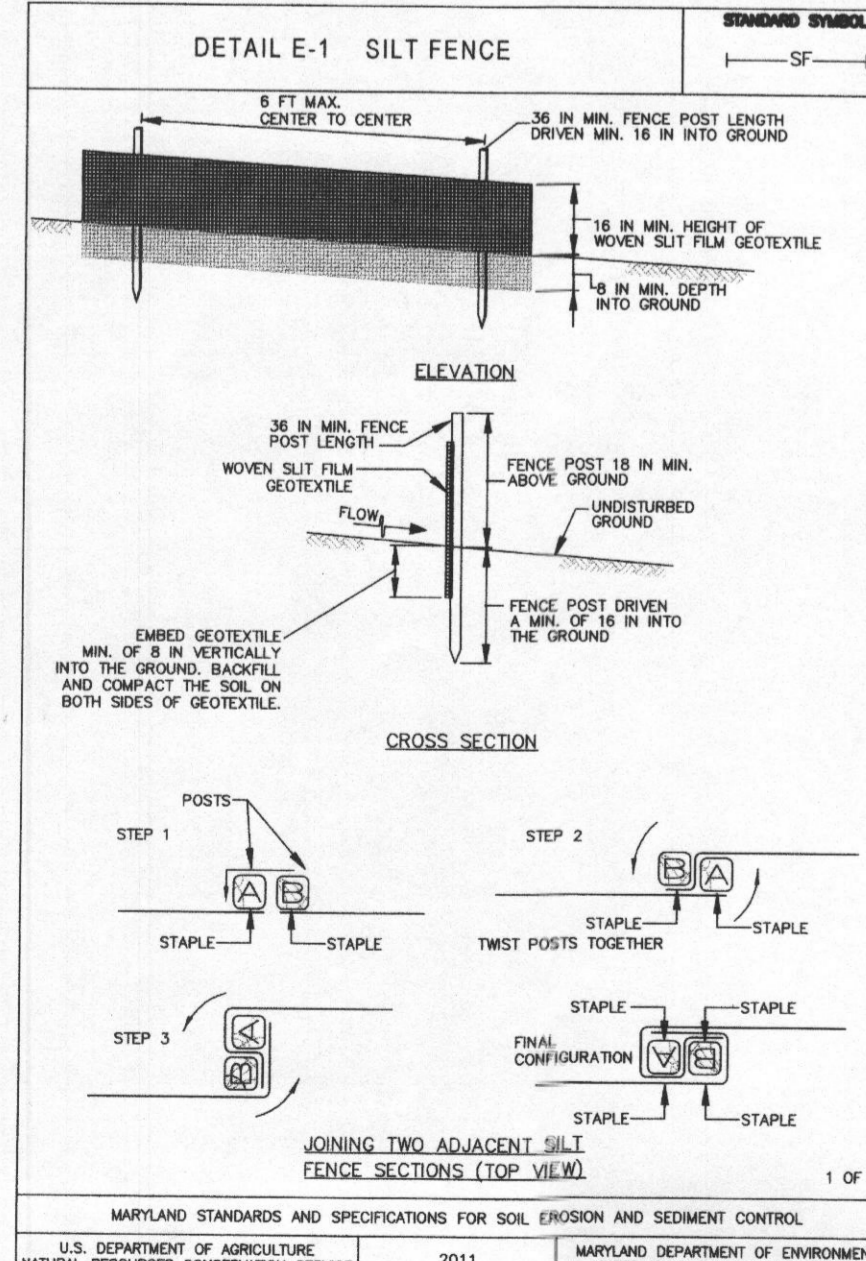
WOODBINE CROSSING ROAD
50' RW

PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 9-18-15.



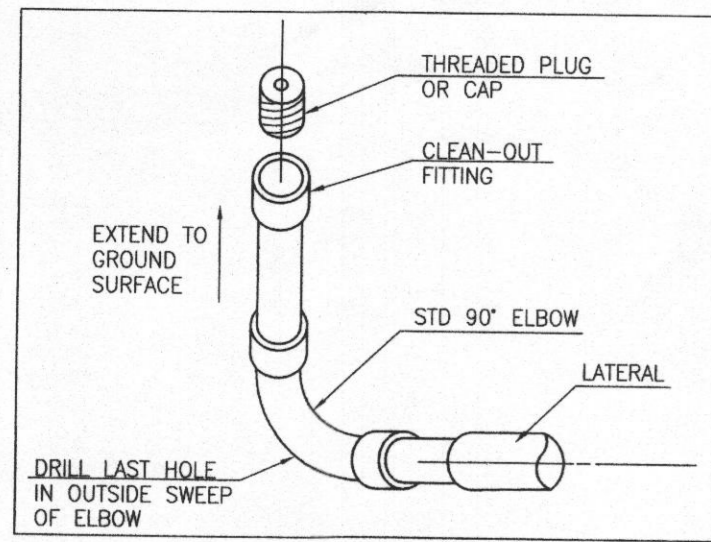
PLOT PLAN
SITE PLAN FOR BAT TECHNOLOGY
LOT 7
WOODBINE CROSSING
PLAT No. 20055
715 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' AUGUST, 2014

VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 829-2890 (301) 831-5015 (410) 549-2751
Fax (301) 831-5603 ©Copyright, Latest Date Shown

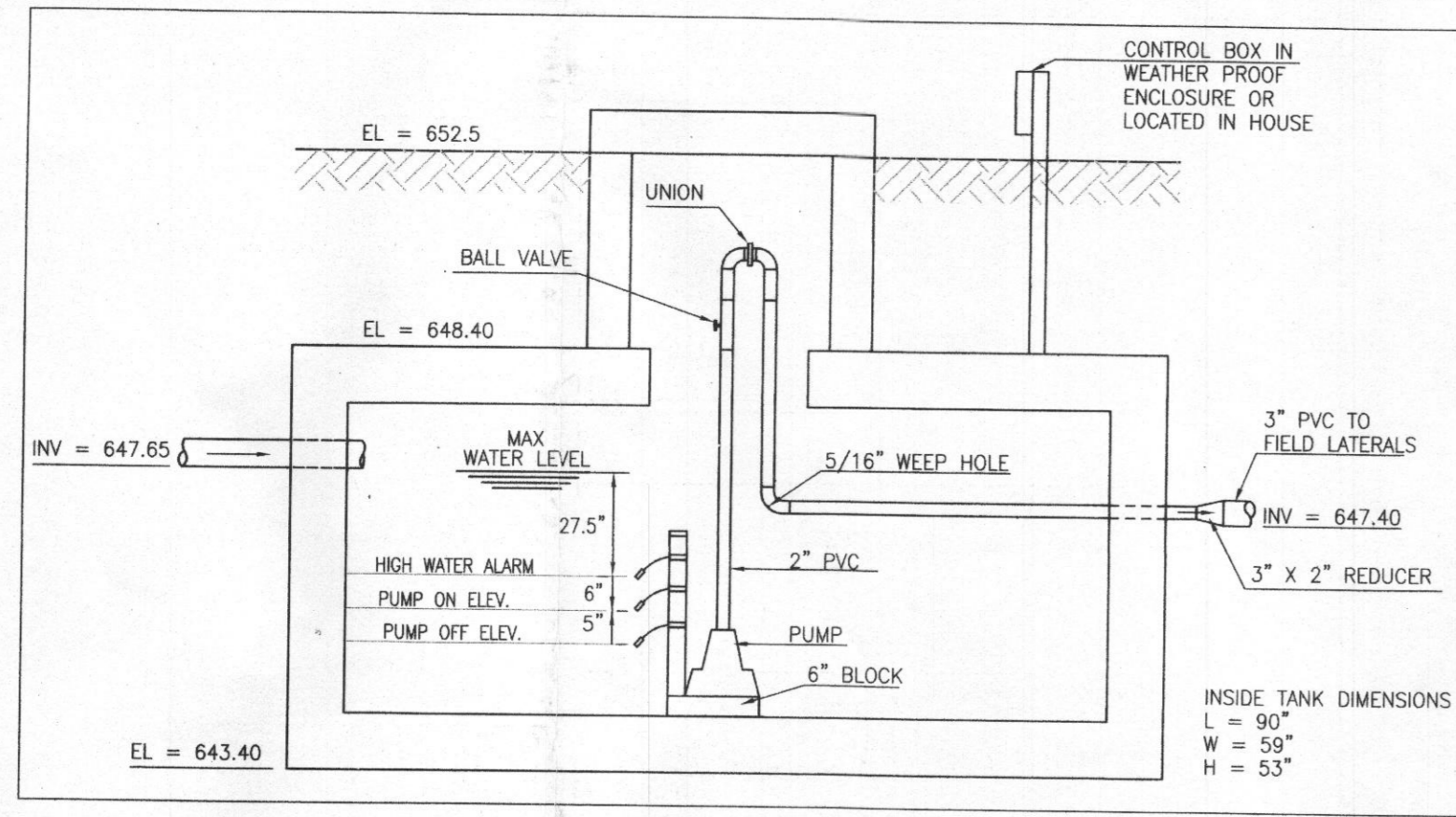


MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
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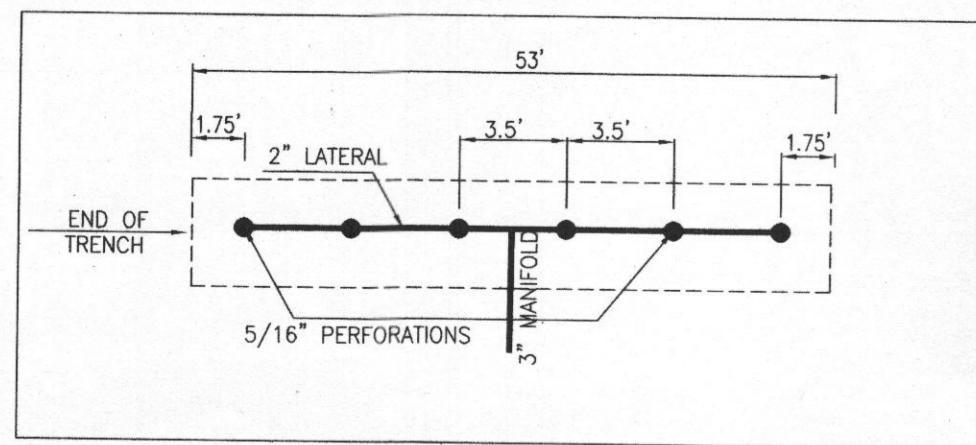
TOP SEAM 1250 GAL. PUMP CHAMBER
NOT TO SCALE

LOW PRESSURED DOSE SYSTEM SPECIFICATIONS

1. ALL PIPING TO BE SCHEDULE 40 PVC OF SIZES SHOWN.
2. A SUBMERSIBLE PUMP TO REMOVE 24.5 GPM AGAINST 9.6 TDH TO BE PROVIDED. PUMP TO BE A GOULDS MODEL 3885-WE-03L OR EQUAL.
3. A TEST OF THE PUMP SYSTEM AND DISTRIBUTION PIPING IS REQUIRED PRIOR TO COVERING THE SYSTEM.
4. THE HIGH WATER ALARM IS TO BE ON A SEPARATE CIRCUIT ALARM TO BE LOCATED IN THE HOUSE.

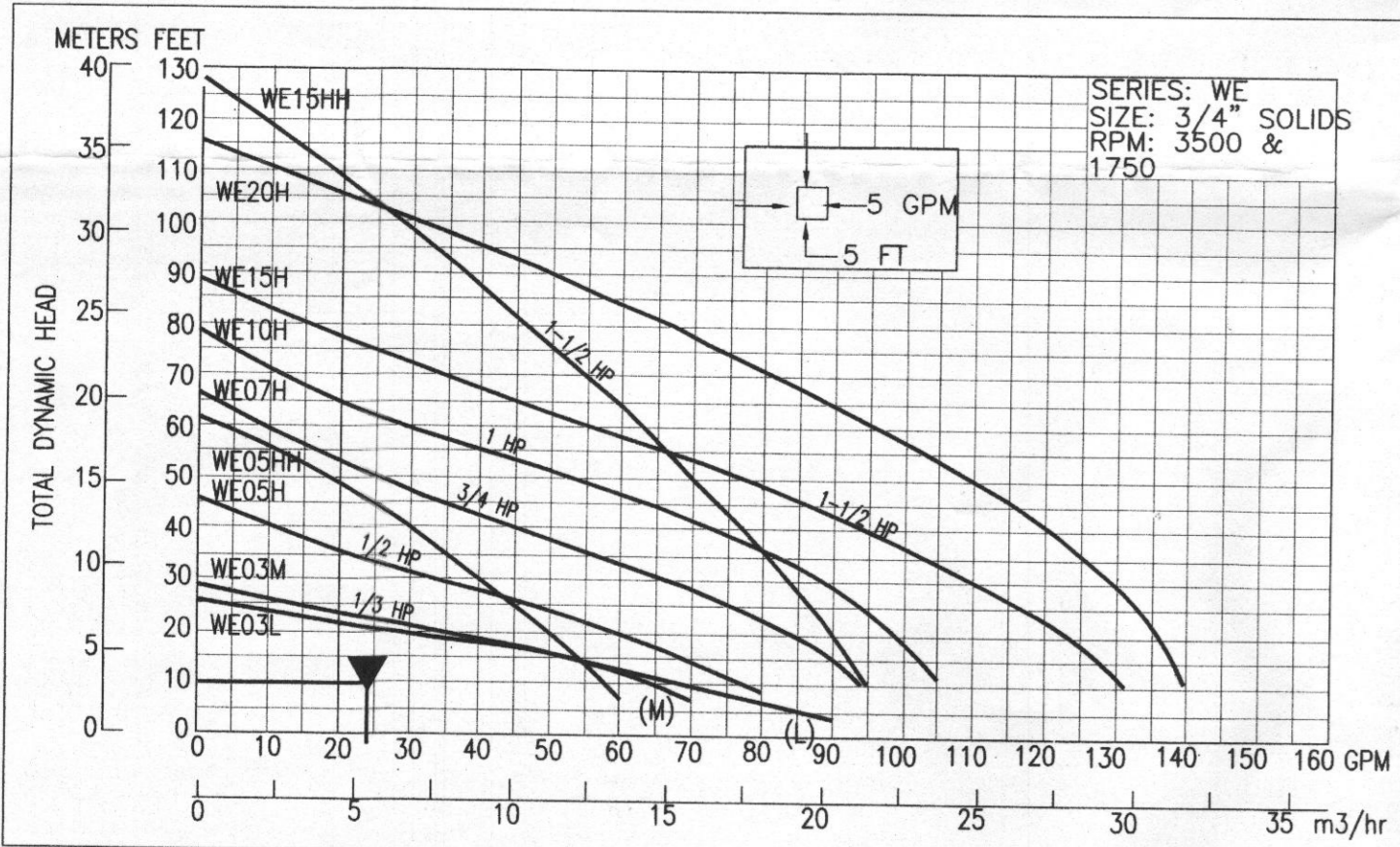
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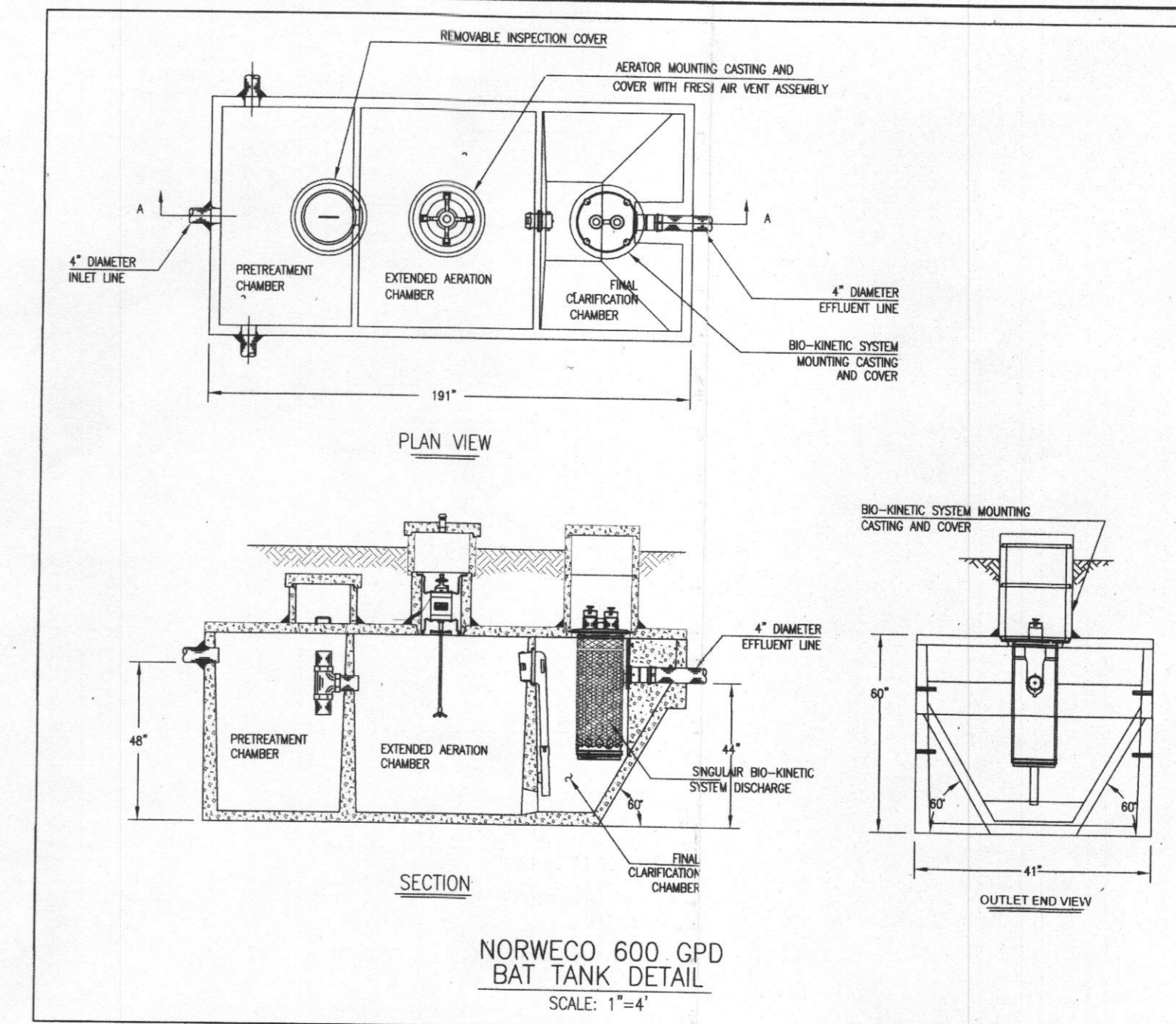
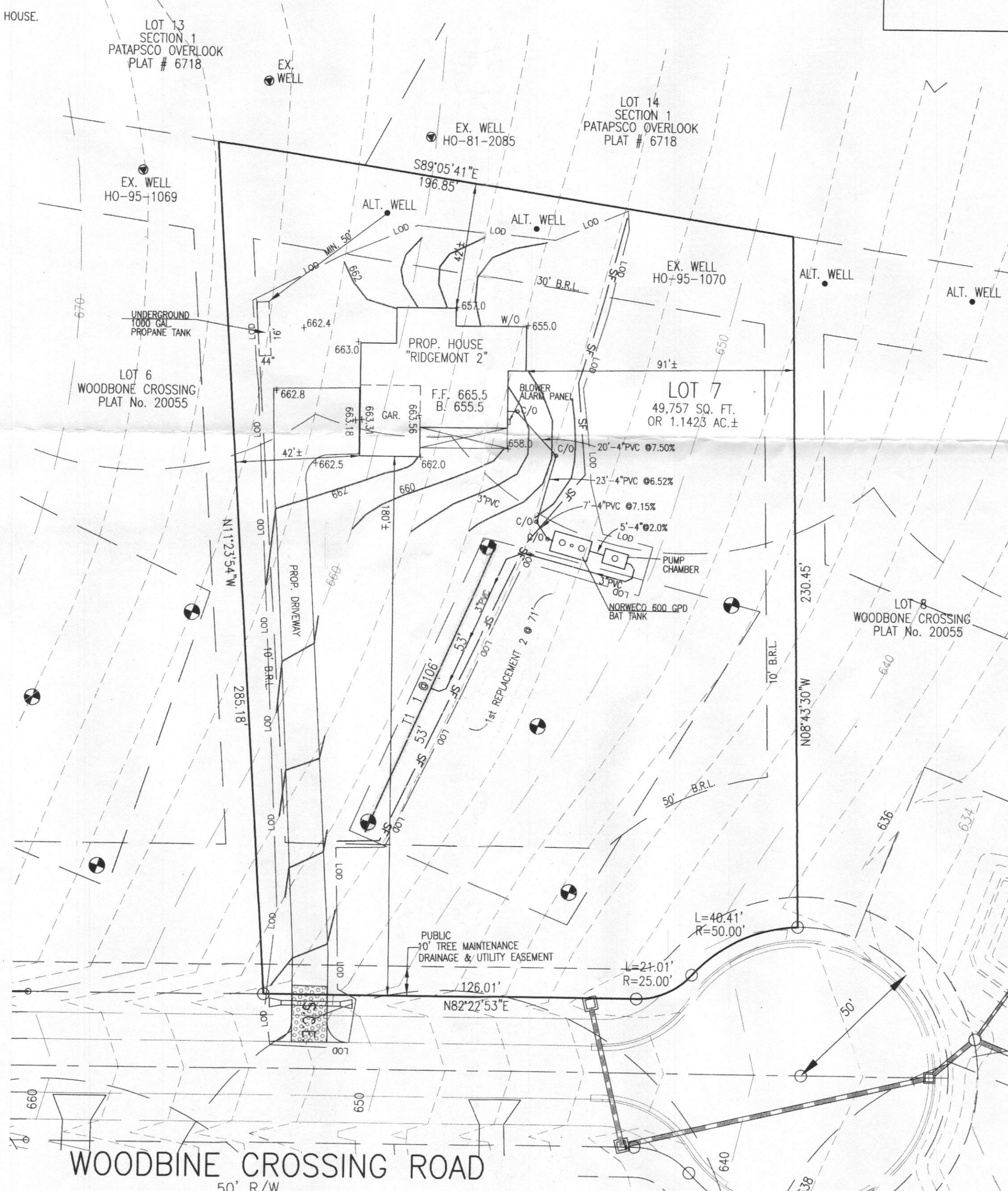
LATERAL DETAIL
NOT TO SCALE

| TOTAL DESIGN HEAD (TDH) COMPUTATION | |
|--|-------------|
| STATIC HEAD (651-644) | 6.6' |
| FRICITION HEAD | |
| PIPE $0.58 \times (109' + 54') / 100$ | 0.94' |
| PIPE FITTINGS $30' \times 1.15' = 15'$ | |
| 45' x 6' = 36' | |
| DISCONNECT = 3' | |
| DISTAL END | 2' |
| TOTAL DESIGN HEAD (TDH) | 9.6' |

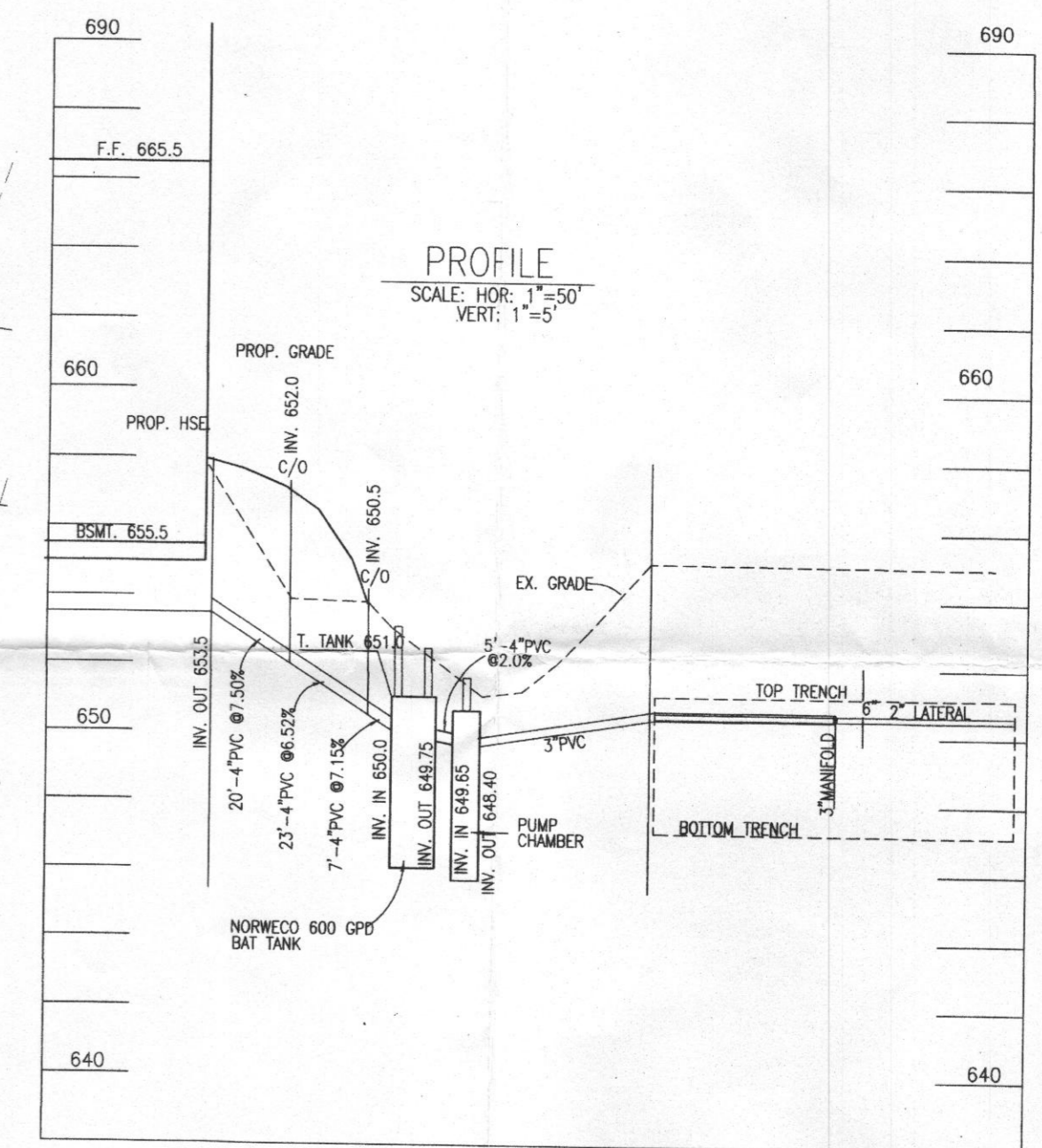


HYDRAULIC GRAPH

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|----------------------|----------|
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| LATERAL PERFORATIONS | = 15 |
| PERFORATION SPACING | = 3.5' |
| LATERAL SIZE | = 2" |



NORWECO 600 GPD BAT TANK DETAIL
SCALE: 1"=4"



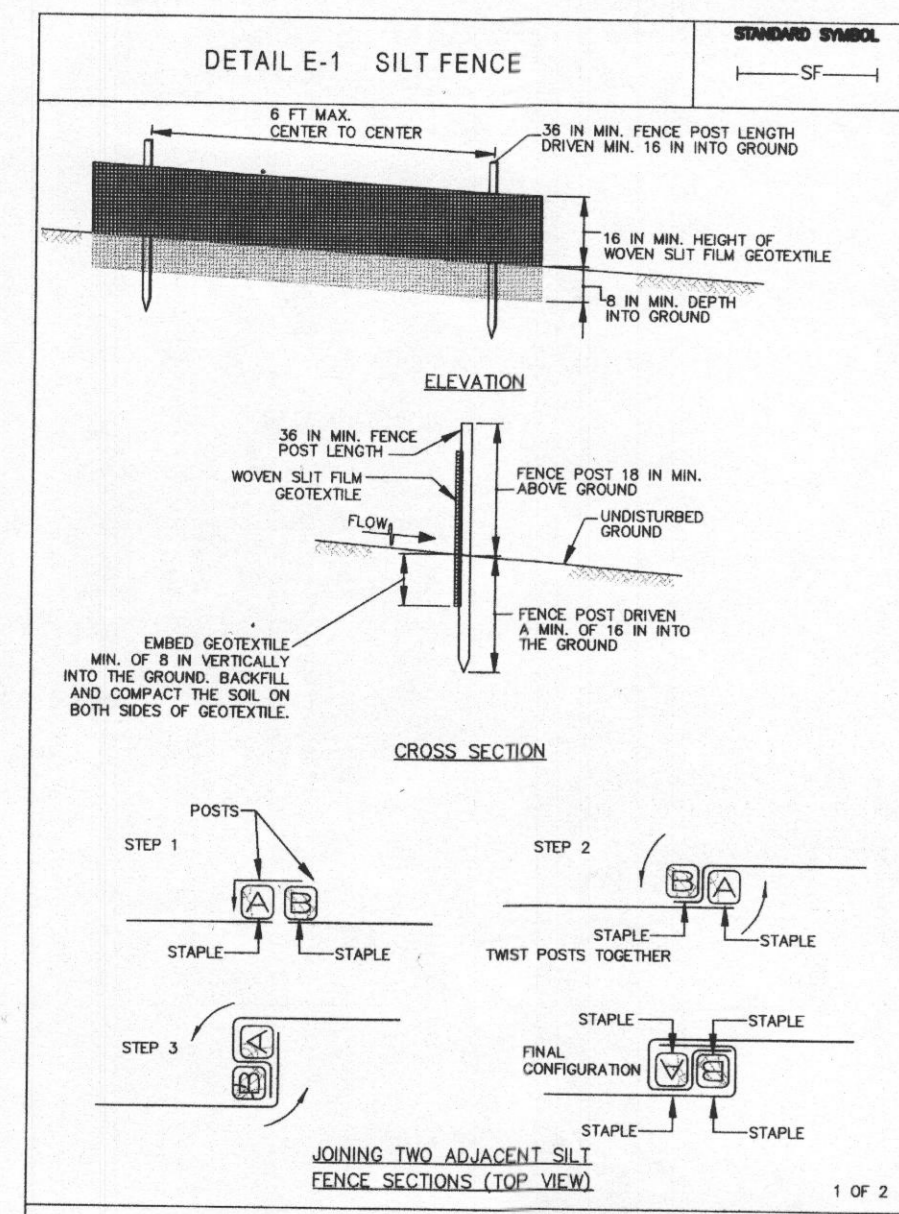
PROFILE
SCALE: HOR. 1"=50' VERT. 1"=5'

SEPTIC SYSTEM TRENCH DESIGN

- | | |
|---|--------------------|
| INITIAL NUMBER OF BEDROOMS | = 4 |
| APPLICATION RATE | = 0.8 GPD / sq.ft. |
| DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD | |
| 600 GPD / 0.6 GPD/sq.ft. | = 750 sq.ft. |
| 750 sq.ft. / 3 ft. WIDE TRENCH = 250 LF TRENCH | |
| 250 LF TRENCH X 0.42 REDUCTION CREDIT = 105 LF TRENCH | |
| TRENCH 1 (T1) EX. GRD=655.0 - INV. TRENCH=651.0 - B. TRENCH=644.0 | |

- 1st REPLACEMENT
- | | |
|---|--------------------|
| APPLICATION RATE | = 0.6 GPD / sq.ft. |
| DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD | |
| 600 GPD / 0.6 GPD/sq.ft. | = 1000 sq.ft. |
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 7. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICAL.
 8. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
 9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF INSTALLATION.



DETAIL E-1 SILT FENCE
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

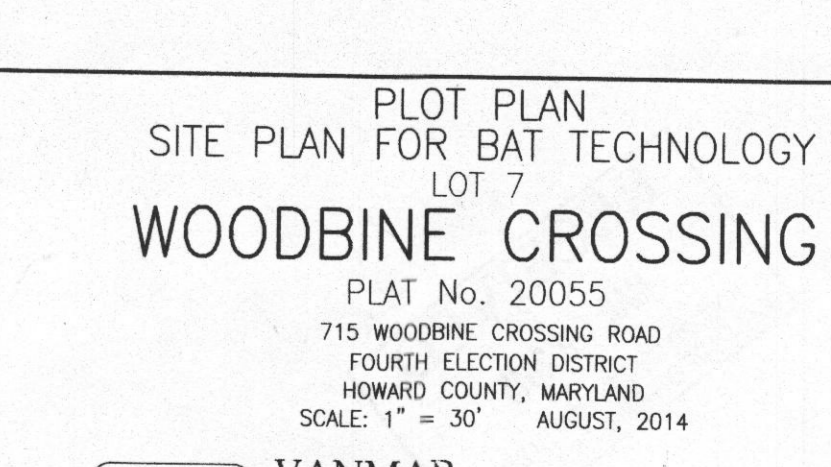
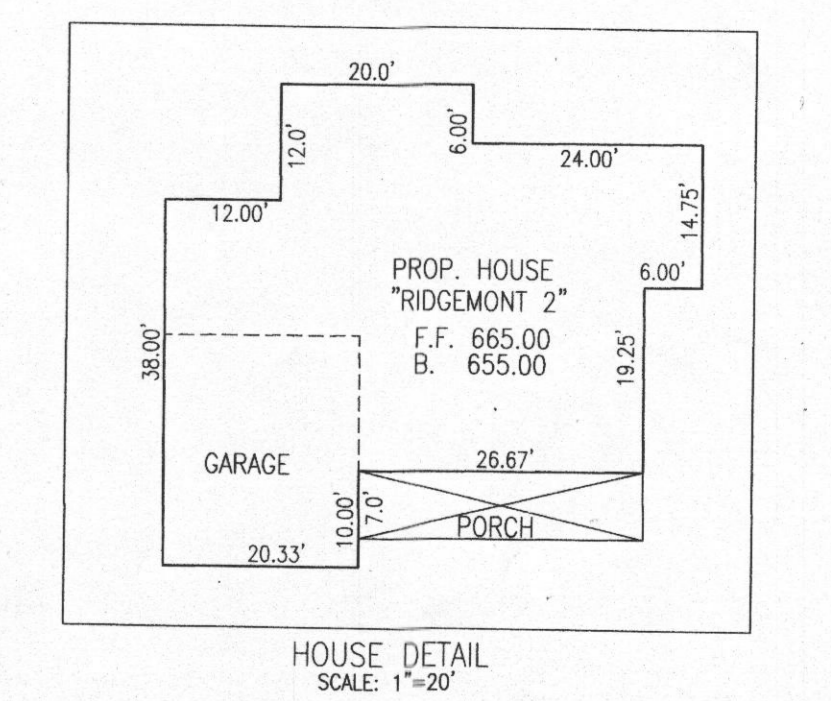
- CONSTRUCTION SPECIFICATIONS**
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SIZE. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOTS). USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 2. PIPE ALL SURFACE WATER FLOWING TO BE DIVERTED TOWARD THE SIDE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIZE WITH A MOUNTABLE BEAM WITH 1/2" SLIPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIZE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
 3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SIZE.
 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MAINTAIN BEAM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT, GRUBBED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY WADING, SCRAPING, AND/OR SWEEPING. WADING, TRACKING TO REMOVE AND TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

Approved Septic System Plan
Howard County Health Department
Signature: *Chasred Coop to Norweco*
Date: 8/18/15

OWNER:
LDG INC.
LEE PLAZA, SUITE 200
8601 GEORGIA AVENUE
SILVER SPRING, MD 20910
301-585-7000

DEVELOPER:
CATONVILLE HOMES
11175 STRATFIELD CT.
MARRIOTTVILLE, MD 21104
410-442-2211



HOUSE DETAIL
SCALE: 1"=20'

PLOT PLAN
SITE PLAN FOR BAT TECHNOLOGY
LOT 7
WOODBINE CROSSING
PLAT No. 20055
715 WOODBINE CROSSING ROAD
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' AUGUST, 2014

DATE REVISIONS

PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 18417, Expiration Date: 9-18-15.

VANMAR ASSOCIATES, INC.
Engineers Surveyors Planners
310 South Main Street Mount Airy, Maryland 21771
(301) 828-2890 (301) 831-5015 (410) 549-2751
Fax (301) 831-5603 ©Copyright, Latest Date Shown