

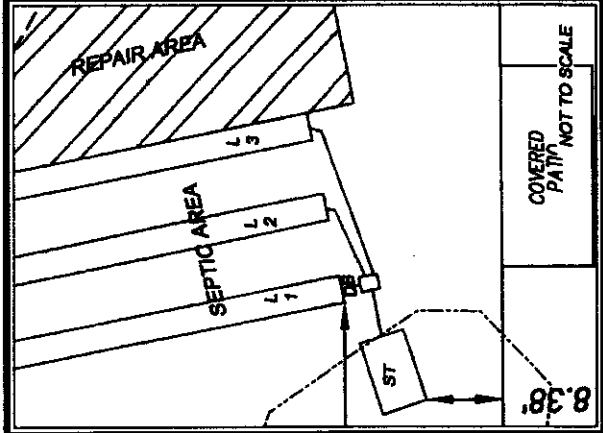
1316-Campbell Drive, New Bern, NC 28562
 P.O. Box 1305, New Bern, NC 28562
 WWW.THOMASENGINEERING.PA.COM
 OFF: 252.637.1727 FAX: 252.638.2448

THOMAS ENGINEERING, PA
 est. 1983
 civil engineering • land development • project management

RECORD DRAWINGS
SITE PLAN
 WILLIAMS GROVE PHASE III
 LOT 166
 SINGLE FAMILY RESIDENCE
 ONSITE WASTEWATER SYSTEM
 BAILEY TOWNSHIP HARRIS COUNTY NORTH CAROLINA
 CHRYSE
 ASHLEY WATSON, LLC
 14410 WILSON ROAD
 GARNER, NORTH CAROLINA 27838
 SCALE: 1" = 40'
 PROJECT: R 2002_008
 DATE: 08/16/2007
 SHEET: 3 OF 10

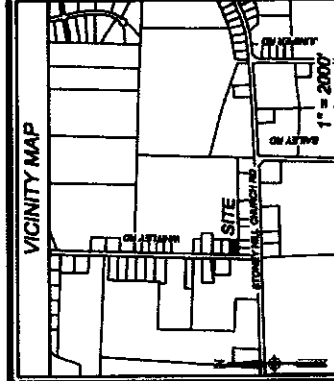
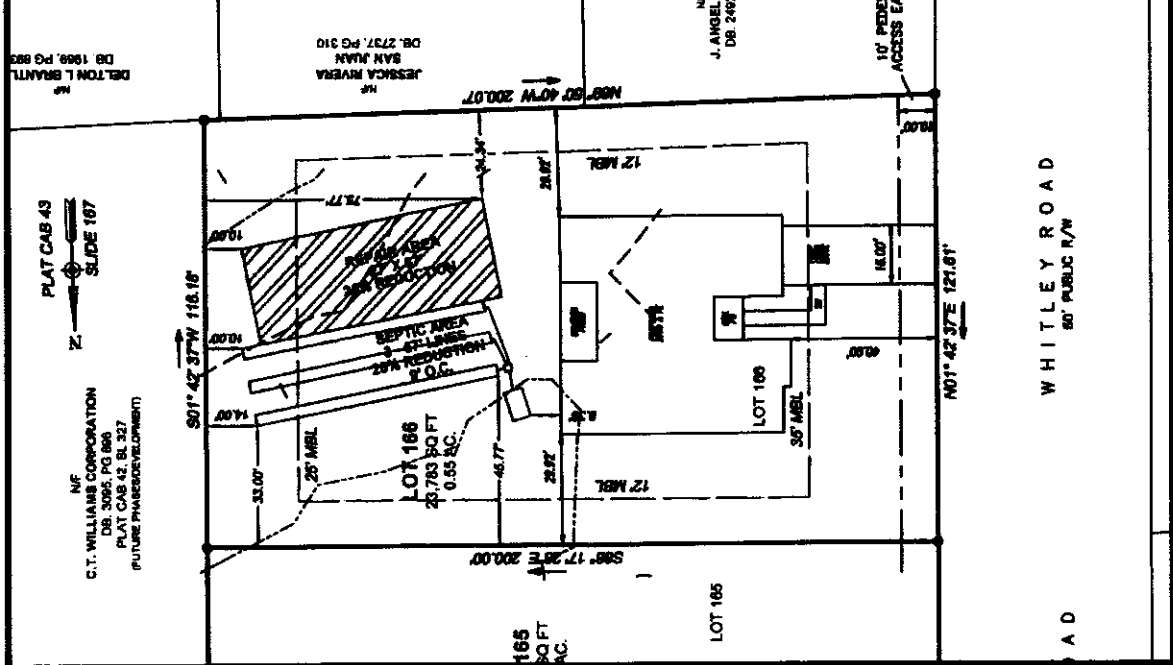
| SYMBOL | DESCRIPTION |
|--------|-------------------------|
| ▲ | Temporary Encumbrance |
| --- | Minimum Backsiphon Line |
| --- | Sanitary Line |
| --- | 2" Supply Line |
| --- | Major Contour Line |
| --- | Minor Contour Line |
| --- | Minimum Building Line |
| --- | Building After Corner |
| □ | BOC |
| □ | Transformer |
| □ | TR |
| □ | Shedded Service |
| □ | LP |
| □ | Light Pole |
| □ | Water Meter |
| BT/PT | Recept Tank / Pump Tank |
| DB | Checkvalve Box |
| LP | Recept Line |
| ---- | Right of Way |

COMMENTS & NOTES BY THOMAS ENGINEERING, P.A.
 ALL RIGHTS RESERVED. THESE DRAWINGS ARE THE PROPERTY OF THOMAS ENGINEERING, P.A. ANY REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IN ANY FORM OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM THOMAS ENGINEERING, P.A. IS STRICTLY PROHIBITED. THESE DRAWINGS ARE LIMITED TO PHOTOGRAPHY, MICROFILM AND RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THOMAS ENGINEERING, P.A.



THOMAS ENGINEERING P.A.
 SEAL
 C-438
 NORTH CAROLINA
 1983

NORTH CAROLINA PROFESSIONAL SEAL
 10147
 JOHN G. WATSON
 CIVIL ENGINEER



- SITE NOTES AND DATA**
1. PARCEL ID #: 341676
 2. PARCEL ADDRESS: WHITLEY RD BAILEY, NC 27607
 3. EASEMENTS:
 4. MINIMUM BUILDING SETBACKS AREA AS SHOWN.
 5. MAP REFERENCE: SUBDIVISION WILLIAMS GROVE PHASE III PLATMAP BOOK 43, PAGES: 167-168
 6. THE PROPERTY DEPICTED HEREON IS AN EXISTING PARCEL AS DESCRIBED IN THE REFERENCED DEED (DB 3178-431) AND/OR FILED PLAT.
 7. MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 372027M001, PANEL NO. 2794 DATED 11-03-04, LOT 166 IS NOT LOCATED IN A FLOOD ZONE (ZONE X). THIS REPORT IN NO WAY SUPERSEDES THE ABOVE REFERENCED F.I.R.M. ELEVATION DATUM: NAVD 83
 8. WATER SERVICE PROVIDED BY TOWN OF BAILEY, NC.
 9. SEWER SERVICE PROVIDED BY INDIVIDUAL SEPTIC SYSTEM.
 10. AFTER INSTALLATION THE SITE SHOULD BE LANDSCAPED TO SHED SURFACE WATER. ANY ALTERATIONS TO THE SITE MAY IMPACT SOIL CONDITIONS.

811
 Know what's below.
 Call before you dig.

SCALE 1" = 40'
GRAPHIC SCALE

NOTE: THIS SCALE APPLIES FOR 8.5" X 14" SHEETS ONLY.

OPERATION AND MAINTENANCE

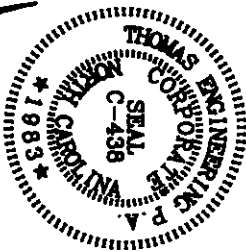
1. THE PURPOSE OF THE OPERATION AND MAINTENANCE PLAN IS TO ENSURE THAT THE SYSTEM IS PROPERLY FUNCTIONING, TO MAXIMIZE SYSTEM RELIABILITY, AND TO ENSURE THAT THE SYSTEM MEETS ITS EXPECTED SERVICE LIFE AND DOES NOT REQUIRE UNNECESSARY AND EXCESSIVE REPAIRS. THIS SECTION INCLUDES INFORMATION ON PREVENTATIVE MAINTENANCE PROCEDURES AND INCLUDES A MAINTENANCE SCHEDULE FOR THE DESCRIBED TANKS.
2. THE SYSTEM SHALL BE OPERATED IN ACCORDANCE WITH THE LAWS (ARTICLE 11 CHAPTER 180A OF THE GENERAL STATUTES OF NORTH CAROLINA) AND RULE (NORTH CAROLINA ADMINISTRATIVE CODE 18A, 18A, 1800) FOR SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
3. THE ISSUANCE OF THE AUTHORIZATION TO OPERATE THIS SYSTEM INDICATED ONLY THAT THE SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH STATE REGULATIONS AND IN NO WAY SHOULD BE TAKEN AS A GUARANTEE THAT THE SYSTEM WILL FUNCTION SATISFACTORILY FOR ANY GIVEN LENGTH OF TIME.
4. THE SYSTEM MUST BE OPERATED AND MAINTAINED IN A MANNER WHICH WILL NOT CREATE A PUBLIC HEALTH HAZARD OR INHIBITANCE BY DISCHARGING TO THE GROUND SURFACE, SURFACE WATERS, OR GROUND WATERS AT ANY TIME DURING THE OPERATION OF THE SYSTEM.
5. THE OWNER OF THE SYSTEM SHALL KEEP THE PUMPING SYSTEM IN THE FACILITY IN GOOD REPAIR AND ELIMINATE LEAKS, DRIPS, OR EXCESS FLOWS AS THEY ARE FOUND.
6. ADEQUATE MEASURES SHALL BE TAKEN TO DIVERT STORM WATER OR ANY STANDING WATER FROM THE DISPOSAL FIELD AREA.
7. THE OWNER/OPERATOR SHALL REPORT AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 48 HOURS, TO THE COUNTY ENVIRONMENTAL HEALTH SECTION UPON FINDING THE SYSTEM IS MALFUNCTIONING (I.E. THE BURSTING OR BACK-UP OF EFFLUENT, OR THE DISCHARGING OF EFFLUENT DIRECTLY INTO THE GROUND WATER OR SURFACE WATERS) OR WHEN REPAIRS ARE NEEDED.
8. KNOW WHERE ALL COMPONENTS OF THE SYSTEM ARE, SUCH AS CLEAN OUTS, SEPTIC TANK, DISTRIBUTION BOXES, SOL, ABSORPTION AREA, AND REPAIR AREA.
9. DOMESTIC WASTE SHALL ONLY BE PUT INTO THE SYSTEM. TRASH ITEMS THAT SHOULD NOT GO INTO THE SYSTEM ARE CIGARETTE BUTTS, KITTY LITTER, HYGIENE PRODUCTS, TISSUES AND WIPES, FLUSHABLE WIPES, SANITARY NAPKINS, COTTON SWABS, COFFEE GROUND, DISPOSABLE DIAPERS, AND LEFT OVER MEDICINES. KITCHEN WASTE THAT SHOULD NOT GO INTO THE SYSTEM ARE COOKING OILS AND GROUND UP SOLIDS FROM A GARBAGE DISPOSAL. RESTRICT USE OF THE GARBAGE DISPOSAL WHENEVER IT ADDS SOLIDS TO THE SYSTEM. OTHER ITEMS THAT ARE HARMFUL TO THE SYSTEM ARE CHEMICALS, SUCH AS SOLVENTS, OILS, PAINTS, THINNERS, DISINFECTANTS, PESTICIDES, POISONS, AND OTHER SUBSTANCES.
10. IT IS RECOMMENDED THAT THE SEPTIC TANK SHALL BE CHECKED ANNUALLY AND PUMPED OUT AS NEEDED. WHEN THE BUILDUP OF SOLIDS IN THE TANK ARE 25-30% OF THE TANK VOLUME, THE TANK SHOULD BE PUMPED. GENERALLY, EVERY THREE TO FIVE YEARS, THE SEPTIC TANK MUST BE PUMPED TO REMOVE SLUDGE AND SOLID. A CONTRACTED PROFESSIONAL MUST BE HIRED TO CONDUCT THIS WORK. ALL SEWAGE SOLIDS GENERATED BY THE SEPTIC TANK WILL BE TRANSPORTED TO A PERMITTED TREATMENT FACILITY. THERE IS A POTENTIAL FOR ODORS WHEN SLUDGE IS PUMPED AND HAULED, AS ODORS ESCAPE FROM THE ACCESS PORTS THAT ARE OPENED DURING MAINTENANCE. AFTER THE TANK HAS BEEN PUMPED OUT, FILL THE TANK BACK UP WITH WATER TO ELIMINATE THE POSSIBILITY OF THE TANK FLOATING OUT OF THE GROUND. DO NOT ADD SEPTIC TANK ADDITIVES SUCH AS RID-X AND ROOT KILLER TO THE SYSTEM.
11. THE SEPTIC TANK HAS AN EFFLUENT SCREEN THAT NEEDS TO BE CHECKED PERIODICALLY FOR CLOGGING, WHICH IF CLOGGED COULD CAUSE EFFLUENT TO BACK UP INTO THE HOUSE. THE SCREEN CAN BE ASSESSED THROUGH THE RISER ON THE OUTLET END OF THE TANK, LIFTED OUT, AND WASHED OFF DIRECTLY INTO THE TANK.
12. IN THE AREA OF THE DISPOSAL FIELD AND REPAIR AREA, MAINTAIN A GRASS COVER OVER THE AREA THAT WILL HELP EVAPORATE EFFLUENT AND RECYCLE NUTRIENTS, AS WELL AS PREVENT SOIL EROSION. DO NOT ALLOW TREES TO GROW IN THESE AREAS.
13. REDIRECT ROOF RUNOFF (GUTTERS AND DOWNSPOUTS) AWAY FROM THE DISPOSAL FIELD AND REPAIR AREAS.
14. AVOID DRIVING ON THE SYSTEM AREA, INCLUDING THE SEPTIC TANK, DISPOSAL AREA, AND REPAIR AREA.
15. THE DISPOSAL AREA AND THE DESIGNATED REPAIR AREA (WHICH SHALL BE RESERVED FOR THE INSTALLATION OF AN ADDITIONAL DISPOSAL AREA) SHALL NOT BE COVERED WITH STRUCTURES OR IMPERVIOUS MATERIALS, INCLUDING ASPHALT, CONCRETE, OR GRAVEL.
16. THE DISPOSAL FIELD DOES NOT HAVE UNLIMITED CAPACITY. WITH ONGOING SYSTEM, WATER CONSERVATION IS A MUST AND THE LIFE OF THE SYSTEM DEPENDS ON THIS. CHECK FOR AND FIX LEAKS PROMPTLY.

OWNER
ADAM HOWARD, LLC
14015 HAWK TO WOOD
DANFORTH, NORTH CAROLINA 27839

SEPTIC TANK
P. HENNING
1511 HENNING
MCH-LEWIS, NORTH CAROLINA 28764

PROFESSIONAL ENGINEER
THOMAS ENGINEERING, PA
JOHN G. THOMAS
P.O. BOX 599
NEW BERN, NORTH CAROLINA 28582

1316-B Commerce Drive, New Bern, NC 28582
P.O. Box 1308, New Bern, NC 28583
www.ThomasEngineeringPA.com
Office: 252.637.2727 Fax: 252.636.2448



RECORD DRAWINGS

OPERATION & MAINTENANCE
WILLIAMS GROVE PHASE III
LOT 166
SINGLE FAMILY RESIDENCE
ONSITE WASTEWATER SYSTEM

| | | |
|----------------|---------------|-----------------|
| DATE: 07/15/15 | SCALE: N.T.S. | PROJECT: 15-008 |
| DATE: 07/15/15 | SCALE: N.T.S. | PROJECT: 15-008 |
| DATE: 07/15/15 | SCALE: N.T.S. | PROJECT: 15-008 |

THOMAS ENGINEERING, PA © 1983
civil engineering-land development-project management

DESIGN CALCULATIONS

1. Daily Wastewater Flow (Domestic): (15A NCAC 18A .1949(a))

a. Single Family Dwelling Unit (4 bedroom):
(240 gpd/unit + 2 bedrooms x 120 gpd/bedroom) 480 gpd

2. System Components

- a. 1 - 1000 gallon septic tank with effluent filter
- b. 3 - 70 ft 25% Reduction Lines (Infiltrator Chamber) (including end caps)

3. Septic Tank (15 A NCAC 18A .1952(b))

- a. Design liquid capacity: minimum liquid capacity = 1000 gallons
- b. Tank Buoyancy Check

Weight of tank per manufacturer: 7,400 lbs
 Weight of soil over tank (minimum .5' cover): = 2,300 lbs
 (40 sf tank surface x 0.5 ft cover x 115 lbs/cf soil)
 Total weight = 9,700 lbs

Weight of water displaced: [(2 ft)(40 sf)](62.4 lbs/cf) = 4,992 lbs

The tank weighs more than the displaced water, therefore the tank will not float under the assumed conditions.

4. Initial Subsurface System (per attached Pittman Soil Report)

System Type: 25% Reduction lines "Infiltrator" Chamber septic system per On-site Water Protection Branch, Environmental Health Section Accepted Wastewater System Approved Number: AWWMS 2005-01-R5.

- a. System Classification: Type II (15A NCAC 18A .1981).
- b. Long Term Loading Rate (LTAR): 0.8 gpd/sf
- c. Total computed trench bottom area: 480 gpd / 0.8 gpd/sf LTAR = 800 sf
- d. Required linear footage for Infiltrator: 800 sf/4 = 200 lf (where 4 is the equivalency factor for the Infiltrator) (3 lines @ 70 ft including end caps).
- e. Trench Bottom Depth: 24 in.

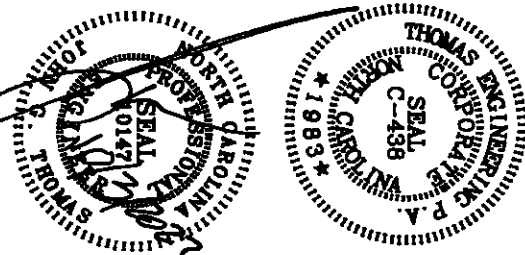
5. Repair Area System

- a. System Type: 3 - 70 ft (including end caps) @ 25% Reduction Lines
- b. System Classification: Type II (15A NCAC 18A .1981).
- c. Long Term Loading Rate (LTAR): 0.8 gpd/sf
- d. Trench Bottom Depth: 24 in.

OWNER
 ADAMS POWER PAK, LLC
 740 US HWY 78 WEST
 GARDNER, NORTH CAROLINA 27848

SOIL SCIENTIST
 R. HATWOOD PITTMAN, II
 1077-1 GARDNER FARM ROAD
 NORTH CAROLINA, NORTH CAROLINA 28774

PROFESSIONAL ENGINEER
 THOMAS ENGINEERING PA
 JOHN G. THOMAS
 P.O. BOX 1208
 NEWBERRY, NORTH CAROLINA 28588



RECORD DRAWINGS

DESIGN CALCULATIONS

WILLIAMS GROVE PHASE III
 LOT 186
 SINGLE FAMILY RESIDENCE
 ONSITE WASTEWATER SYSTEM

OWNER
 ADAMS POWER PAK, LLC
 740 US HWY 78 WEST
 GARDNER, NORTH CAROLINA 27848

DATE: 07/20/2005
SCALE: N.T.S.
PROJECT #: 0522-009
SHEET: 8 of 10

1316-B Coonetta Drive, New Bern, NC 28562
 P.O. Box 1309, New Bern, NC 28563
 www.ThomasEngineeringPA.com
 Office: 252.637.2727 Fax: 252.636.2448

