ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

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**Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 4 bedroom single family residence on Lot #5 THE ORCHARDS Subdivision, Iredell County, North Carolina.**

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**August 7, 2006**
**Project No. 01-1195**
**Design By: Rollans Soil and Environmental Services**

# Gravity 25% Reduction
# FOR WASTEWATER TREATMENT

**Owner:** THE ORCHARDS LLC

**Address:** 227 Hideaway Lane
Mooresville, NC 28117
**Phone:** 704-201-6465
**County:** Iredell
**Location:** THE ORCHARDS SUBDIVISION Lot #5

**Source of Wastewater Flow:** 4 Bedroom Single Family Residence
**Estimated Daily Wastewater Production:** 480 gpd
**System Flow:** NA

## Design Specifications

**Drainfield Size:** 400
**Loading Rate:** 0.3
**Depth of Gravel in Trench:** NA (25% reduction )
**Gravel Size:** NA (25% reduction )
**Trench Depth:** 36 in.
**Trench Width:** 36 in.
**Septic Tank Size:** 1000
**Pump Tank Size:** NA

**Estimated Supply Line Length:** 5
**Supply Line Diameter:** 3 in. SCH 40 PVC
**Supply Line Volume:** 0.87
**Dosing Volume:** NA
**Supply Manifold:** Drop Boxes
**Supply Manifold Length:** NA
**Supply Manifold Volume:** N/A

**Recommended Float Controls:** NA

**Recommended Control Panel:** NA

**Pressure Head:** NA
**Friction Head:** NA
**Elevation Head:** NA
**Total Dynamic Head:** NA

**Threaded Union:** NA
**Gate Valves:** NA
NA
**Check Valves:** NA
**Anti-Siphon Hole:** NA
**Additional Comments:** Soil suitability was performed by Rollans Soil & Environmental Services.

# THE ORCHARDS SUBDIVISION Lot #5

| | |
|---|---|
| **DESIGN FLOW:** | 480 |
| **SOIL APPLICATION RATE:** | 0.3 |
| **TOTAL AREA TRENCH BOTTOM:** | 1200 |
| **TOTAL LATERAL LENGTH:** | 400 |
| **NUMBER OF FIELDS:** | 1 |
| **LATERAL LENGTH REQUIRED PER FIELD:** | 400 |
| **SUPPLY LINE LENGTH:** | 5 |
| **TOTAL DYNAMIC HEAD:** | NA |
| **MANIFOLD SIZE:** | NA |
| **DOSING VOLUME:** | NA |
| **PUMP TANK DRAW DOWN*:** | NA |
| **SEPTIC TANK SIZE:** | 1000 |
| **PUMP TANK SIZE:** | NA |

# THE ORCHARDS LOT 5

Project #: 01-1152

LAYOUT FOR 4 BEDROOM HOME

August 7, 2006

| LINE # | FLAG COLOR | BS | HI | FS | ELEVATION | FLAGGED LINE LENGTH | DESIGN LINE LENGTH |
|---|---|---|---|---|---|---|---|
| TBM | | N/A | | | 100.00 | | |
| TANK | | N/A | N/A | | | | |
| HOUSE | | N/A | N/A | | | | |
| INSTR. 1 | | | N/A | | | | |
| 1 | ORANGE | | | N/A | N/A | 48 | 48 |
| *2* | ***BLUE*** | | | ***N/A*** | ***N/A*** | ***100*** | ***100*** |
| *3* | ***RED*** | | | ***N/A*** | ***N/A*** | ***100*** | ***100*** |
| *4* | ***PINK*** | | | ***N/A*** | ***N/A*** | ***100*** | ***100*** |
| *5* | ***ORANGE*** | | | ***N/A*** | ***N/A*** | ***100*** | ***100*** |
| 6 | BLUE | | | N/A | N/A | 100 | 100 |
| 7 | RED | | | N/A | N/A | 100 | 100 |
| 8 | PINK | | | N/A | N/A | 100 | 100 |
| | | | | | **Total** | **748** | **748** |

| | LINE LENGTH | LTAR GPD/FT$^2$ | SYSTEM TYPE | SOIL LTAR GPD/FT$^2$ | TRENCH SYSTEM | DISTRIBUTION |
|---|---|---|---|---|---|---|
| ** System* | ***400*** | ***0.30*** | ***ACCEPT.*** | *0.30* | ***25% RED.*** | **GRAVITY** |
| Repair | 348 | 0.30 | *MOD.* | 0.30 | PPBPS | **DISTRIBUTION** LOW PRESSURE |

**Notes:**

** TBM NOT REQUIRED

**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings