Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner: IREDELL GROUP

Address: 109-C Williamson Road
Mooresville, NC 28115

Phone: 704-663-4050

County: Iredell

Location: Walden Ridge Subdivision Lot #58

Source of Wastewater Flow: 4 Bedroom Single Family Residence

Estimated Daily Wastewater Production: 480 gpd

System Flow: NA

Design Specifications

Drainfield Size: 480

Loading Rate: 0.25

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: 10

Supply Line Diameter: 3 in. SCH 40 PVC

Supply Line Volume: 1.74

Dosing Volume: NA

Supply Manifold: DROP BOX

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.

WALDEN RIDGE SUBDIVISION LOT 58

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.25
TOTAL AREA TRENCH BOTTOM:	1440
TOTAL LATERAL LENGTH:	480
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	600
SUPPLY LINE LENGTH:	10
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	NA

WALDEN RIDGE LOT #58

Project #: 01-1069

LAYOUT FOR 4 BEDROOM HOME

March 23, 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***	***120***	***120***
2	***BLUE***			***N/A***	***N/A***	***120***	***120***
3	***RED***			***N/A***	***N/A***	***120***	***120***
4	***PINK***			***N/A***	***N/A***	***120***	***120***
5	ORANGE			N/A	N/A	190	190
6	BLUE			N/A	N/A	192	192
7	RED			N/A	N/A	169	169
					Total	**1031**	**1031**

* System	LINE LENGTH	LTAR GPD/FT²	SYSTEM TYPE	SOIL LTAR GPD/FT²	TRENCH SYSTEM	DISTRIBUTION
	480	*0.25*	*ACCEPT.*	*0.25*	*25% RED.*	**GRAVITY**
Repair	551	0.25	*MOD.*	0.25	PPBPS	**DISTRIBUTION** GRAVITY DISTRIBUTION

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

CALCULATIONS

Location WALDEN RIDGE SUBDIVISION

Project Number 01-1069

Lot No: Lot 58

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.25 $^{gal}/_{ft^2\ day}$

25% RED.? (YES OR NO) YES

Supply Line Length 10 ft.

Supply Line Volume 1.74 gal.

Required Feet of Line 600 ft.
Amount of Line from Layout 480 ft.

Gallons per Minute NA $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Lateral Line Volume 313.44 gal.

Dosing Volume NA gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down NA *Generic Draw Down of 21 gal.per in.*

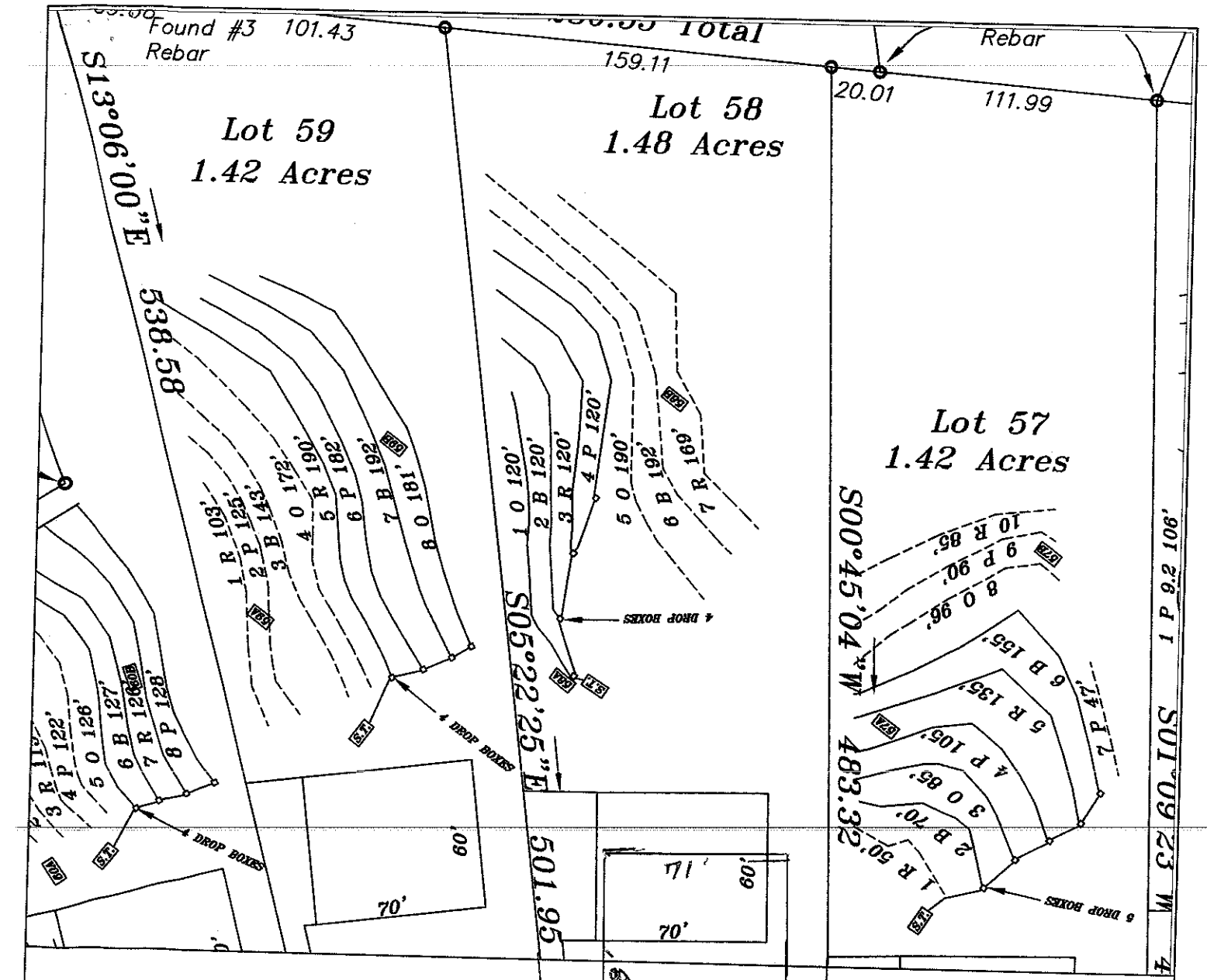
Pump Run Time NA minutes

Elevation Head NA ft.
Pressure Head NA ft.
Friction Factor NA ft./100 ft. *(From the interpolater.)*
Friction Head NA ft.

Total Dynamic Head (+15%) NA ft.

FRICTION FACTOR
INTERPOLATER
2" SCH 40 PVC

GPM	f
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42



ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX (704) 278-0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746-5046
EMAIL: ROLLANSFORTCI@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: REDELL GROUP LLC/WALDEN RIDGE SUBDIVISION

LOCATION/DATE: TEETER ROAD, REDELL COUNTY, NORTH CAROLINA, DECEMBER 2005

JOB # : 01-1069
FILE: C:\JOBS\01-1069
PROJECT MGR.: CBF
FIELD WORK: CBF AND AP
DRAWN BY: CBF AND AP

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Sheet ___ of ___
PROPERTY ID #: ___
COUNTY: Iredell

OWNER: IREDELL GROUP
ADDRESS: 109-C WILLIAMSON ROAD MOORESVILLE
PROPOSED FACILITY: RES
LOCATION OF SITE: Walden Ridge Lot 58
PROPOSED DESIGN FLOW (.1949): 480
APPLICATION DATE 3/06
DATE EVALUATED: 3/06
PROPERTY SIZE: ___ AC
PROPERTY RECORDED: Y
WATER SUPPLY: X Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☐ Auger Boring X Pit ☐ Cut
TYPE OF WASTEWATER: X Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
58A	LSS 10-15%	0-8	B SCL Gr	SS,SP,Fr SExP	N/A	56"	N/A	N/A	PS
		8-42	R C ABk	S,P,Fr SExP	few YB mottles				
		42-56	RCL MFSBk	SS,SP,Fr SExP					
58B	LSS 5-10%	0-7	B SCL WSBk	SS,SP,Fr		58"	N/A	N/A	PS .275 spd/ft²
		7-34	R C MFABk/SBk	S,P,Fr	Common YB mottles, few CM mottles				
		34-58	RCL WSBk	SS,SP,Fr Common YB mottles					
2	N 8½%	0-5	WGR ebrn scl fr SSSP						.2-.225 spd/ft²
		5-41	SBK red C	fr SP SExP					
		41-50	ABK red C	fr SP SExP few yellowish, few ch 2/3					.25 < 41"
	DW/HS	0-17	WGR & Red SC	FR SSSP SExP					.15-.2 poor to U LS pos
		17-53	WGR & red brn C	FR SP SExP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
ailable Space (.1945)	1800 ft²	1653 ft²
tem Type(s)	25% Red	DRIPS
LTAR	.2	.2

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: ROLLANS SOIL & ENVIRONMENTAL SERVICES
OTHER(S) PRESENT:
MENTS: