


12/26/2007

duponbj

Groundwater and Wastewater Services File Imaging Project

May 2007

*Barcode Font = IDAutomationHC39M*

# CERTIFICATE OF COMPLETION/OPERATION PERMIT

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 1943B DATE: 6/17/97

TC: 223-171-01 ☐ L ☐ CRT

SERIAL Nº 17185

Had not finished ditch to be filled in or set D Boxes or Flow Dividers THD 6/17

Name of Owner The Bissell Company

Address of Property 9550 BALLENTYNE DRIVE

**Inspection Data:**

Tank Material PVC

Total Length of Drainfield 400

Number of Lines 10 @ 40

Cover Depth 18-24"

Water Supply Source N/A

Distance to Water Source —

Excavation Inspected 6/17/97

Tank(s) Inspected 6/17/97

Wash Line Inspected —

High Water Alarm Inspected —

PLOT

Design 1500 ST, 1200 SQ FT, 25% REDUCTION SYSTEM CTR# Bobby McCraver

The undersigned has inspected the Septic Tank System described above, and certifies it has been

☐ installed or constructed ☐ altered or repaired

☑ in accordance with the permit issued ☐ as detailed in the plot above

and meets the provisions of 15A NCAC 18A. 1900, "Laws And Rules For Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. This issuance of this

☐ Certificate of Completion ☑ Operation Permit

does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1990 in addition to those listed below under "COMMENTS." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

**Notice:** Disturbance of the designated repair area may result in the suspension/revocation of this permit.

COMMENTS: Type III - Bath House Facility

Lori Huggins Bunn, R.S.

Environmental Health Specialist

Mecklenburg County services are available without regard to ethnic origin, sex, or disability.

FEE: 100.00 chk # 5588

DATE: 5/29/97 gc

# INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM APPLICATION FOR IMPROVEMENT PERMIT FOR COMMERCIAL/INDUSTRIAL SITE

1 1 CRT

TYPE APPLICATION: ___ NEW SYSTEM ___ EXPANSION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

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

FILE #: 1743B

PROJECT TRACKING #:

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 223-171-01

STREET ADDRESS: 9550 Ballantyne Commons Pkwy

LOT NUMBER: — Ballantyne Commons

___ COMMERICAL ___ INDUSTRIAL

DESCRIBE TYPE OF BUSINESS:
Bathroom M/F for private public play
Specific Usage of Facility: golf course

NUMBER OF EMPLOYEES: ~80 players/day PER SHIFT: 0 0 0

TOWNSHIP (CHECK ONE):

___ 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
✓ 4 PINEVILLE
___ 5 MATTHEWS
___ 6 HUNTERSVILLE
___ 7 MINT HILL

HOW WILL WATER BE USED IN THE FACILITY:

✓ TOILETS/URINALS
✓ HANDSINK
___ SHOWERS
___ FLOOR DRAINS

OTHER, PLEASE DESCRIBE: None

TYPE OF WASTEWATER:

✓ SEWAGE
___ INDUSTRIAL PROCESS WASTE WATER

**An IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change.**

IF EXPANSION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED ADDITION:

WATER SUPPLY (CHECK ONE): ___ COMMUNITY (C) ✓ MUNICIPAL (M) ___ PRIVATE WELL (P) ___ SHARED WELL (S) ___ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

| | | | |
|---|---|---|---|
| BURIED CABLES, LANDFILLS, STUMPHOLES | ___ YES ✓ NO | WELL SPRINGS OR WATERLINES | ___ YES ✓ NO |
| EXISTING WASTE WATER SYSTEMS | ___ YES ✓ NO | DESIGNATED WETLANDS | ___ YES ✓ NO |
| EASEMENTS OR RIGHT-OF-WAYS | ___ YES ✓ NO | | |

BUILDING PLANS TO INCLUDE ALL PLUMBING, FLOOR DRAINS AND ALL SOURCES OF WASTEWATER DISCHARGE AND GRADING PLANS MAY BE REQUIRED DURING THE EVALUATION STAGE.

PROPERTY OWNER:

NAME: (LAST) The Bissell Co. (FIRST) (MI)

ADDRESS: 2115 Rexford Rd

CITY: Char STATE: NC ZIP: 28

DAYTIME PHONE: ( ) 544-7660

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) Cato, Nelson (FIRST) (MI)

DAYTIME PHONE: ( ) Same

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? '96

THE UNDERSIGNED, OWNER, OR LEGAL AGENT FOR THE OWNER, OF THE PROPERTY DESCRIBED ABOVE AS THE "JOB LOCATION" HAS READ THE FOREGOING APPLICATION, ACKNOWLEDGES THAT THE CONTENTS OF SAME ARE TRUE, AND AUTHORIZES AGENTS OF THE MECKLENBURG COUNTY HEALTH DEPARTMENT TO ENTER ONTO THE PROPERTY FOR THE PURPOSE OF PROCESSING THIS REQUEST.

SIGNED: Tony L Jarvis, CPSS DATE: 5/29/97

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

FEE: _____ **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: _____ **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: ~~1943-B~~ 6-11-97 PERMIT NO: 1943-B
PARCEL NO: 223-171-01
JOB LOCATION ADDRESS: 9550 Ballantyne Commons Parkway
PROPERTY OWNER: The Bissell Co.
BUILDING CONTRACTOR: _____
SUBDIVISION NAME: _____
AUTHORIZATION ISSUED BY: Kelly Randall DATE: 6/19/97
DEHNR AUTHORIZED AGENT

## AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. 1943-B, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: install in accordance w/ plan on file

## OWNER CERTIFICATION

I CERTIFY THAT THERE HAVE BEEN NO ALTERATIONS IN SITE OR SOIL CONDITIONS OR MODIFICATIONS TO FACILITY, WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS FROM THOSE SPECIFIED IN THE ORIGINAL APPLICATION OR ASSOCIATED IMPROVEMENT PERMIT UNLESS AUTHORIZED IN WRITING BY THE MECKLENBURG COUNTY HEALTH DEPARTMENT. I ALSO UNDERSTAND THAT ANY SUCH ALTERATIONS, MODIFICATIONS, OR FALSE INFORMATION ARE GROUNDS FOR REVOCATION OF PERMITS AND AUTHORIZATION TO CONSTRUCT.

X Tommy Taylor, CPSS Agent 6/11/97
SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE

Permit Number 1943-B

# CONDITIONS OF IMPROVEMENT PERMIT

Tax Number: 223-171-01

The IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be NO grading, filling or disturbance of the soil in the area of the septic tank system or repair area.

CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is NOT transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.

Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

| | | | | |
|---|---|---|---|---|
| Basement | ___ Yes | ✓ No | ___ Partial Basement | |
| Type Primary Wastewater System<br>Type (circle one):<br>I II (III) IV V VI | ___ Conventional<br>___ Prefabricated, permeable block panel system<br>___ Shallow Placed Conventional | ___ Low Pressure Pipe<br>___ Large Diameter Pipe<br>___ Fill<br>___ Other | ✓ Innovative or Experimental:<br>___ IWWS-93-1<br>___ IWWS-93-2<br>___ IWWS-94-1 | |
| .3 Long-term acceptance rate | 480 Max gallons/day wastewater flow | 1520 Absorption Area (sq ft) | 9 Trench spacing (min. on centers) | |
| No Serviced by private well | 1500 Gallon septic tank | 400 Total trench length (ft) | 24" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions) | |
| N/A Bedrooms in residence | N/A Gallon pump tank | N/A Depth of stone | | |
| Any surface waters present: No. Type: | | Minimum separation distance: | | |
| Site modifications required: | | | | |
| Additional Conditions: #NS full in accordance w/ Plan on file | | | | |

| | | | | |
|---|---|---|---|---|
| Repair Area System Type<br>Type (circle one):<br>I II (III) IV V VI | ___ Conventional<br>___ Prefabricated, permeable block panel system<br>___ Shallow Placed Conventional | ___ Low Pressure Pipe<br>___ Large Diameter Pipe<br>___ Fill<br>___ Other | ✓ Innovative or Experimental:<br>___ IWWS-93-1<br>___ IWWS-93-2<br>___ IWWS-94-1 | |
| 1520 Absorption Area (Sq ft)<br>400 Total Trench Length (Ft) | N/A Depth of Stone Trench | 9 Trench spacing (min. on centers) | 24" Maximum Trench Depth | |
| For existing system, enter the year originally installed: | | | | |

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. This approval is granted in accordance with the provisions of Laws and Rules For Sewage, Treatment and Disposal in effect at the time of issuance of the permit and is subject to the following provisions:

- No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.
- This Improvement permit is transferable.

6-11-97
DEHNR Authorized Agent Date

Owner/Agent Signature Date 6/11/97

MECKLENBURG COUNTY
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR.
SUITE 211
700 N. TRYON ST.
CHARLOTTE, N.C. 28202.
(704) 336-5102

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL, HEALTH,
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

TCJ CONSULTING

# SITE / SOIL EVALUATION

JOB: Ballantyne Resorts PHONE: DATE: 3/6/95 6/11/97

LOCATION: PIN: COUNTY: PROPERTY SIZE:

PROPOSED FACILITY: WATER SUPPLY: On-Site Well__ Community__ Public__ EVALUATION: Auger Boring__ Pit__ Cut__

WEATHER: ANTECEDENT MOISTURE: SURFACE WATER:

access drive from field Cut - below field Auger Bore 6/6/97

| FACTORS | 200' PROFILE 1 | 100' PROFILE 2 | PROFILE 3 | PROFILE |
|---|---|---|---|---|
| LANDSCAPE POSITION-% | ← LS → | ← LS → | LS beside mine[illegible] | |
| HORIZON I DEPTH | 0-10 | 0-60 | 0-48 | |
| Color - Munsell | 10yr | 10yr | 10yr | |
| Texture | l/c to sicl | l/c to sicl | l/c to sicl | |
| Structure | sm mod SAB | s-m-c-m-f SAB | m-f SAB | |
| Consistence | friable sp to ss sp | friable sp to ss sp | friable sp to ss sp | |
| | | | [illegible] Hayward Denbrook pipeline 1/1 | |
| Boundary | | | | |
| HORIZON DEPTH II | | | | |
| Color - Munsell | | | | |
| Texture | | | | |
| Mottles | | | | |
| Structure | | | | |
| Consistence | | | | |
| | | | | |
| | | | | |
| Boundary | | | | |
| HORIZON III DEPTH | | | | |
| Color - Munsell | | | | |
| Texture | | | | |
| Mottles | | | | |
| Structure | | | | |
| Consistence | | | | |
| | | | | |
| | | | | |
| Boundary | | | | |
| HORIZON IV DEPTH | | | | |
| Color - Munsell | | | | |
| Texture | | | | |
| Mottles | | | | |
| Structure | | | | |
| Consistence | | | | |
| | | | | |
| | | | | |
| Boundary | | | | |
| SOIL WETNESS | NA | NA | NA | |
| RESTRICTIVE HORIZON | NA | NA | NA | |
| SAPROLITE | NA >60 | NA >60 | NA >48 | |
| LTAR | 0.3 | 0.3 | 0.3 | |
| CLASSIFICATION | ps | ps | ps | |
| | | | | |
| | | | | |

## LEGEND

**LANDSCAPE POSITION**
R - Ridge
S - Shoulder
L - Linear slope
S - Foot slope
N - Nose slope
H - Head slope
Cc - Concave slope
Cv - Convex slope
T - Terrace
P - Flood Plain

**TEXTURE**
s - sand
ls - loamy sand
sl - sandy loam
l - loam
si - silt
sil - silt loam
sicl - silty clay loam
cl - clay loam
scl - sandy clay loam
sc - sandy clay
sic - silty clay
c - clay

**CONSISTENCE**
MOIST / WET

WET
Ns - non-sticky
Ss - slightly sticky
S - sticky
Vs - very sticky

Np - non-plastic
Sp - slightly plastic
P - plastic
Vp - very plastic

MOIST
vfr - very friable
fr - friable
fi - firm
vfi - very firm
efi - extremely firm

**STRUCTURE**
sg - single grain
m - massive
cr - crumb
gr - granular
sab - subangular blocky
ab - angular blocky
pl - platy
pr - prismatic

FEE: 100 CK # 5 88

DATE: 5/29/97 gc

# INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM
## APPLICATION FOR IMPROVEMENT PERMIT FOR COMMERCIAL/INDUSTRIAL SITE

[redacted]

1 CRT

TYPE APPLICATION: ___ NEW SYSTEM ___ EXPANSION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON SITE WASTEWATER SECTION

COPY

FILE #: 1743B

PROJECT TRACKING #:

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 223-171-01

STREET ADDRESS: 9550 Ballantyne Commons Way

LOT NUMBER: — Ballantyne Commons

___ COMMERICAL ___ INDUSTRIAL

DESCRIBE TYPE OF BUSINESS:
Bathroom M/F for private public play
Square footage of facility: golf course

NUMBER OF EMPLOYEES: ~80/employee/day PER SHIFT: 0 0 0

HOW WILL WATER BE USED IN THE FACILITY:

- ✓ TOILETS/URINALS
- ✓ HANDSINK
- ___ SHOWERS
- ___ FLOOR DRAINS

OTHER, PLEASE DESCRIBE: None

TYPE OF WASTEWATER:
- ✓ SEWAGE
- ___ INDUSTRIAL PROCESS WASTE WATER

TOWNSHIP (CHECK ONE):

| | |
|---|---|
| ___ 0 MECKLENBURG | ___ 4 PINEVILLE |
| ___ 1 CHARLOTTE | ___ 5 MATTHEWS |
| ___ 2 DAVIDSON | ___ 6 HUNTERSVILLE |
| ___ 3 CORNELIUS | ___ 7 MINT HILL |

**An IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change.**

IF EXPANSION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED ADDITION:

WATER SUPPLY (CHECK ONE): ___ COMMUNITY (C) ✓ MUNICIPAL (M) ___ PRIVATE WELL (P) ___ SHARED WELL (S) ___ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

| | | | |
|---|---|---|---|
| BURIED CABLES, LANDFILLS, STUMPHOLES | ___ YES ✓ NO | WELL SPRINGS OR WATERLINES | ___ YES ✓ NO |
| EXISTING WASTE WATER SYSTEMS | ___ YES ✓ NO | DESIGNATED WETLANDS | ___ YES ✓ NO |
| EASEMENTS OR RIGHT-OF-WAYS | ___ YES ✓ NO | | |

BUILDING PLANS TO INCLUDE ALL PLUMBING, FLOOR DRAINS AND ALL SOURCES OF WASTEWATER DISCHARGE AND GRADING PLANS MAY BE REQUIRED DURING THE EVALUATION STAGE.

| PROPERTY OWNER: | LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE: |
|---|---|
| NAME: (LAST) The Bissell Co. (FIRST) (MI) | NAME: (LAST) Kato, Nelson (FIRST) (MI) |
| ADDRESS: 2115 Rexford Rd | DAYTIME PHONE: ( ) Same |
| CITY: Clmt STATE: NC ZIP: 28 | |
| DAYTIME PHONE: ( ) 544-7660 | |

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 96

THE UNDERSIGNED, OWNER, OR LEGAL AGENT FOR THE OWNER, OF THE PROPERTY DESCRIBED ABOVE AS THE "JOB LOCATION" HAS READ THE FOREGOING APPLICATION, ACKNOWLEDGES THAT THE CONTENTS OF SAME ARE TRUE, AND AUTHORIZES AGENTS OF THE MECKLENBURG COUNTY HEALTH DEPARTMENT TO ENTER ONTO THE PROPERTY FOR THE PURPOSE OF PROCESSING THIS REQUEST.

SIGNED: Tony C. Parker, CPSS DATE: 5/29/97

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

DATE 5/29/97

TO: CHARLOTTE-MECKLENBURG BUILDING STANDARDS
PERMIT ISSUING SECTION

FROM: MECKLENBURG COUNTY ENGINEERING

JURISDICTION Meck

223-171-01
PARCEL NUMBER

9550 Ballantyne Commons Pl
ASSIGNED STREET ADDRESS (ADDRESS OF RECORD)

EXISTING STREET ADDRESS (IF DIFFERENT FROM ASSIGNED)

NA
PROJECT NAME (IF APPLICABLE)

**THE ABOVE DESCRIBED LOCATION HAS BEEN CHECKED CONCERNING:**

| | | |
|---|---|---|
| **1. SUBDIVISION REGULATIONS** | **APPROVED** | **NOT APPROVED** |
| **2. FLOODWAY REGULATIONS** | **APPROVED** | **NOT APPROVED** |
| **3. WATERSHED PROTECTION** | **APPROVED** | **NOT APPROVED** |
| **4. COMMERCIAL DRAINAGE PLAN** | **APPROVED** | **NOT APPROVED** |
| **5. PUBLIC UTILITY EASEMENT** | **PRESENT** | **NOT PRESENT** |
| **6. PROPERTY FRONTS ON THOROUGHFARE** | **YES** | **NO** |
| **7. DRIVEWAY PERMIT REQUIRED** | **YES** | **NO** |
| **8. DOES PROJECT CONFLICT WITH ROAD PROJECT?** | **YES** | **NO** |

**REMARKS:** New Const

NOTE: THIS FORM MUST BE TURNED IN AT THE CASHIERS OFFICE WHEN PAYING PERMIT FEE. CERTIFICATE OF OCCUPANCY WILL NOT BE GRANTED UNTIL TRANSPORTATION DIVISION GRANTS FINAL APPROVAL ON DRIVEWAY(S).

ALL OTHER FORMS OBSOLETE

☐ NEW ADDRESS

SIGNED: Paul

REVISED 1/91

# GRAVITY INFILTRATOR CHAMBERED TYPE SYSTEM PLAN FOR BALLANTYNE GOLF COURSE COMFORT STATION MECKLENBURG COUNTY - NORTH CAROLIN A

by
Toney C. Jacobs & Associates, Inc.
Consulting Soil Scientists
168 Broadbill Drive
Mooresville, N. C. 28115

April 28, 1997

File # 1943B

Submitted to: Mr. Kelly Randall, R. S.
Mecklenburg County Health Dept.
Charlotte, N. C.

The Bissell Company
Attn: Mr. Nelson Cato, Greens Supt.
2115 Rexford Road
Charlotte, N. C. 28211~~5~~

Paul G. Penninger

Toney C. Jacobs, CPSS

Ballantyne Golf Course Comfort Station

## GRAVITY INFILTRATOR CHAMBERED TYPE SYSTEM

### Design Considerations

The proposed system is for a comfort station between golf holes 15 and 16 at Ballantyne Golf Course. The comfort station will consist of a men's and women's restroom. The proposed comfort station and system location are shown on Figures 1 and 2. Soils will be evaluated by Mr. Bill Marlin of the Mecklenburg County Health Department. System layout was by Toney C. Jacobs & Associates, Inc. Lines are flagged in the field as shown on the system schematic (Fig. 3). Field layout supersedes all drawings.

Design flow was set at 480 gpd. The proposed Infiltrator chambered system will require 400 linear feet of line at an LTAR of 0.3 gal/ft²/d. The system will be gravity dosed. There is 100% repair for the system upslope of the initial system and downslope of the comfort station (Fig. 3).

### Location

The comfort station is located between the 15th green and the 16th tee at Ballantyne Golf Course.

### Reference

*Laws and Rules for Ground Absorption Sewage Disposal Systems 15A NCAC 18A. 1900,* NCDEHNR-DEH.

### Recommendation

Four hundred(400) lineal feet of Infiltrator chambered lines using gravity distribution.

### Ownership Responsibility

Conservation measures should be undertaken in plumbing fixture specifications to minimize the volume of wastewater entering the disposal system, including, but not limited to the following precautions:

(a) Provide water conserving plumbing fixtures within the facility. Waterclosets must be 1.6 gal. flush (per code). Lavatories should also have restrictions or be of low volume design.

(b) Monitor and maintain the system as necessary for proper operation. An Operation Permit will not require a maintenance contract to be filed with the Mecklenburg County Health Department for the system.

System must be properly installed by a *qualified* and *competent* contractor following the requirements of the Mecklenburg County Department of Environmental Health, DEH, the N.C. Building Code, Plumbing Code, and the Electrical Code. This plan,

as any, is a guide to a minimum standard, but cannot take the place of experience and common sense.

Components of System

1. Two compartment septic tank - 1500 gal.
2. Flow Dividers
3. D-boxes
4. Speed lever
5. Supply pipe
6. Infiltrator type chambers in ground absorption trenches, 3 feet wide, level end to end.

Construction Sequence

1. Lines have been flagged as noted on drawing and in specifications.

2. Clear the area of all organic material with minimum soil disturbance (do not grade). Backfill any low areas with clean clay loam to natural compaction and look. There are two gullies noted on the schematic that are to be cleaned and filled. This should be done carefully under dry conditions to prevent damage to septic areas.

3. Install trenches per cited reference material and this plan.

4. Carefully backfill distribution trenches to grade with clay loam to clay material which is carefully placed and compacted.

5. The installation contractor shall stabilize the area of construction by planting with Kentucky 31 tall Fescue and other grass and mulching. Area to be limed and fertilized with 0.5 tons lime, 75 units of N, 150 units P, and 100 units of K per disturbed acre.

6. The septic tank shall consist of an approved 1500 gallon capacity reinforced, precast watertight, concrete tank with full baffle and shall have easy access to each chamber from ground level for inspection. The first chamber of the septic tank shall consist of 2/3 to 3/4 of the volume of the total tank and the baffle shall contain a horizontal opening across the tank at about midway . Locate the septic tank at such height as to provide approximately 8" of cover soil over top of the tank.

7. Final Landscaping: After the system is installed, the absorption field should be reshaped to shed rainwater and be free of low areas to insure that the system will not be overloaded with excess rainwater and run-on.

Concluding Note:

This plan was done to facilitate permitting by the Mecklenburg County Health Department by an agent of the owner. Any additions, or additional requirement(s), or deletions to enhance design or workability which will facilitate a permit are welcomed and may be made by note on this plan without returning entire design. The designer realizes that a plan with as many details as this can be changed and/or improved upon. The installer must realize that this is an exact plan and must be installed with exacting measurements. Should the installer desire a change, it must be approved by the health department in writing. If there are questions, please give me a call.

## Design Specifications

Ballantyne comfort station

| | |
|---|---|
| Daily design flow: | 480 gpd. |
| Septic tank size; | 1500 gal. (2 compartments) |
| Effluent loading rate: | 0.3 gpd/sf |
| Number and length of trenches: | 10 @ 40' Infiltrator chambers |

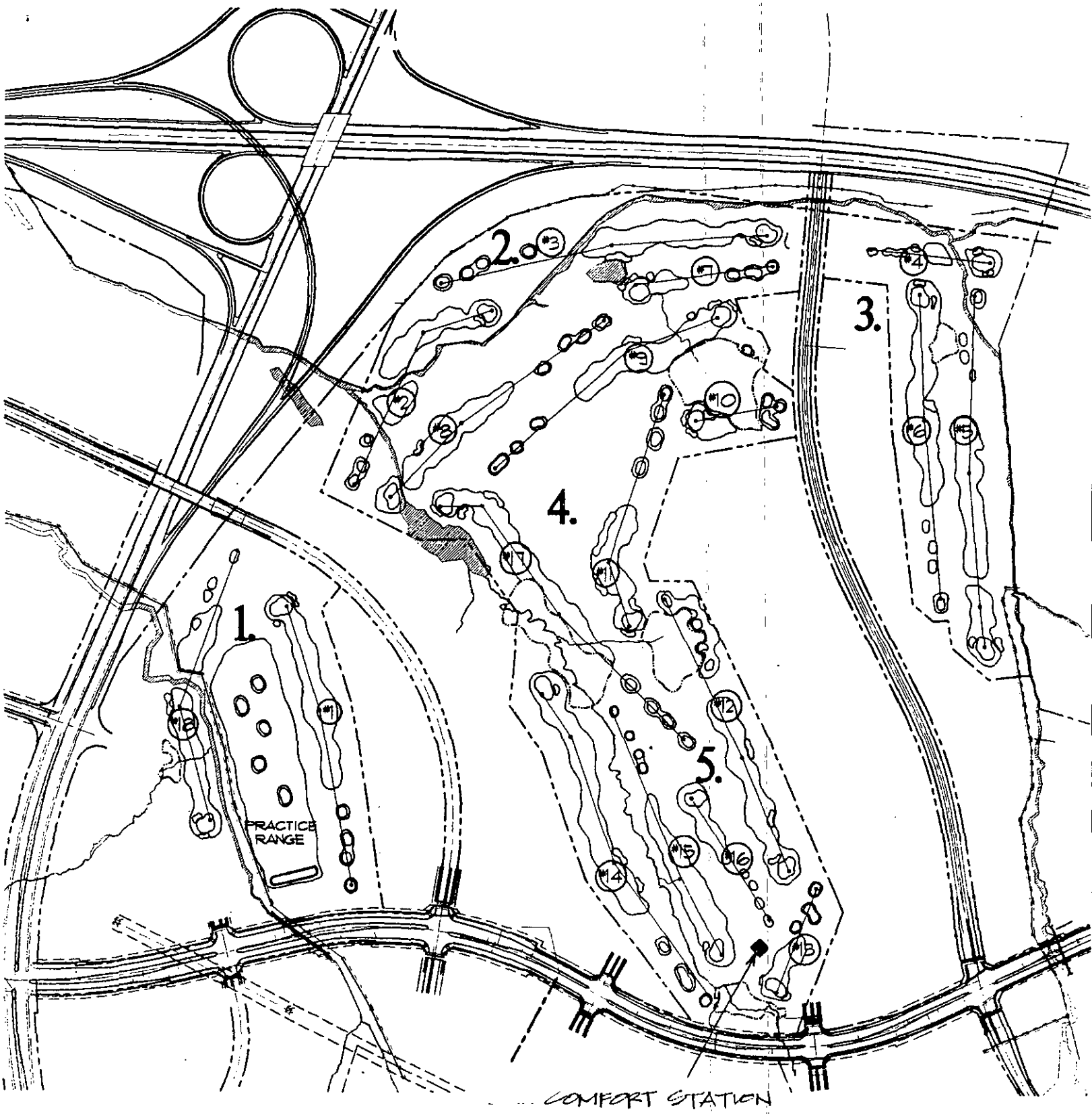



Figure 1 BALLANTYNE GOLF COURSE

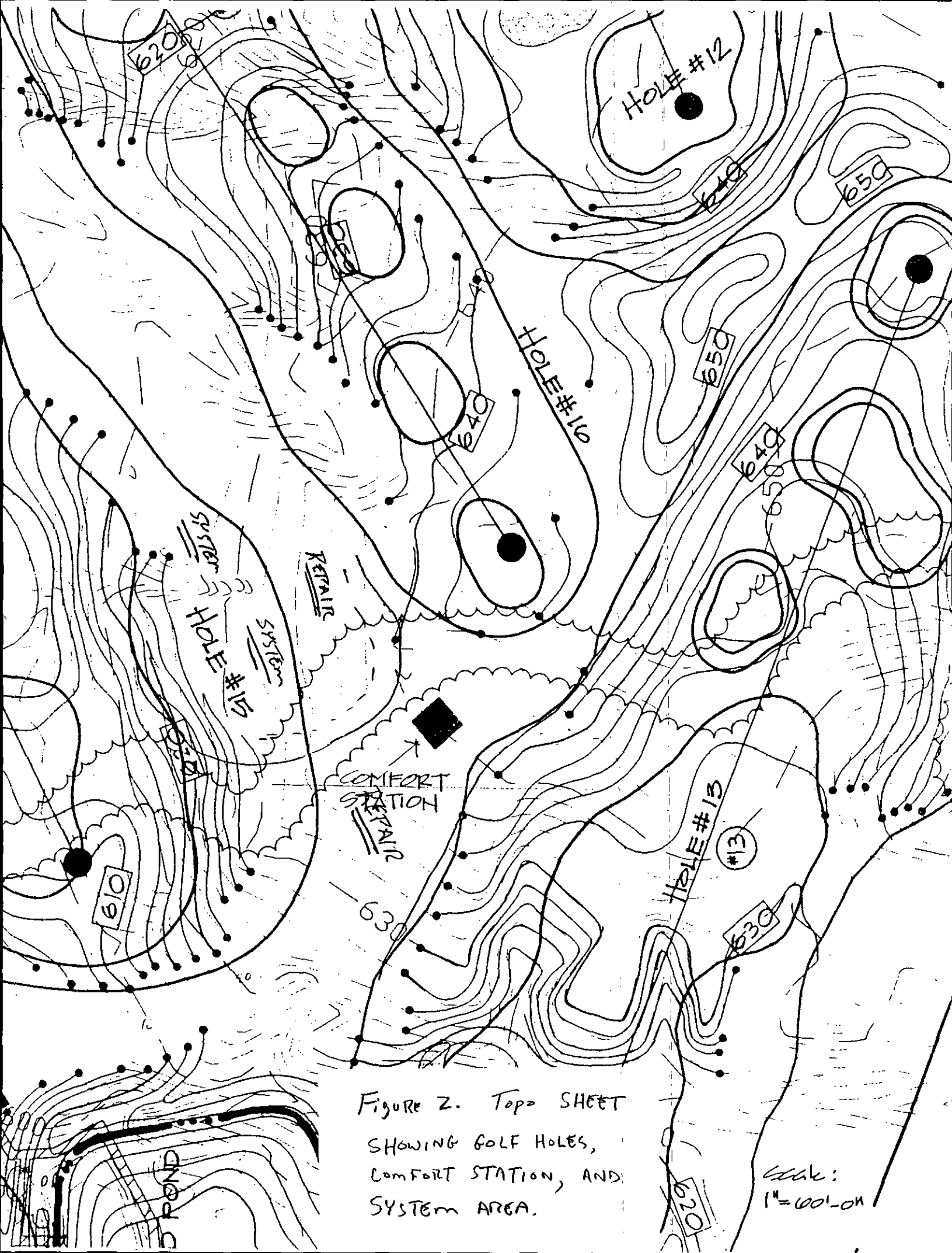
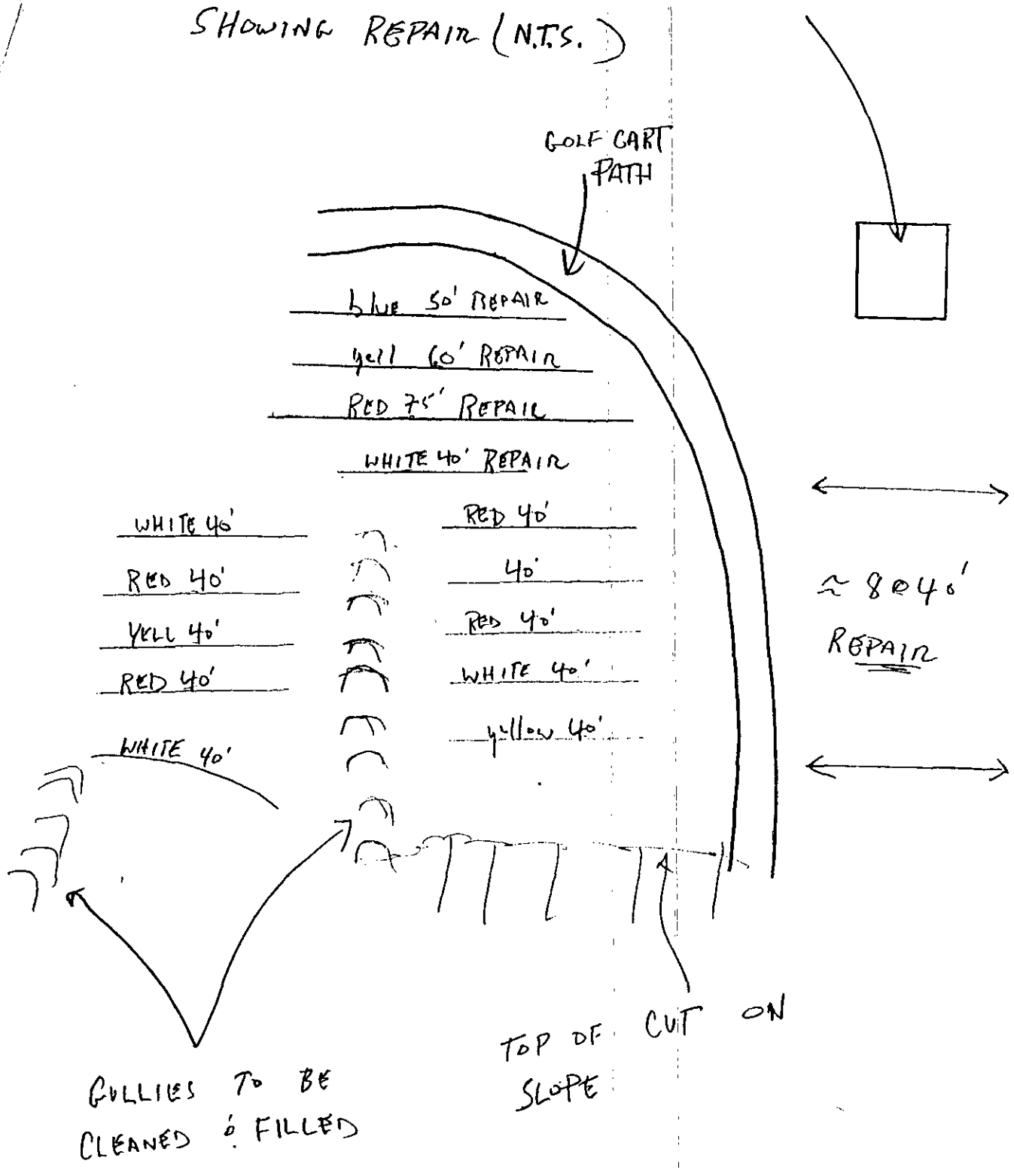



FIGURE 2. TOPO SHEET SHOWING GOLF HOLES, COMFORT STATION, AND SYSTEM AREA.

COPY

FIGURE 4. SYSTEM SCHEMATIC SHOWING REPAIR (N.T.S.)



# FIGURE 3. SYSTEM SCHEMATIC (N.T.S.)

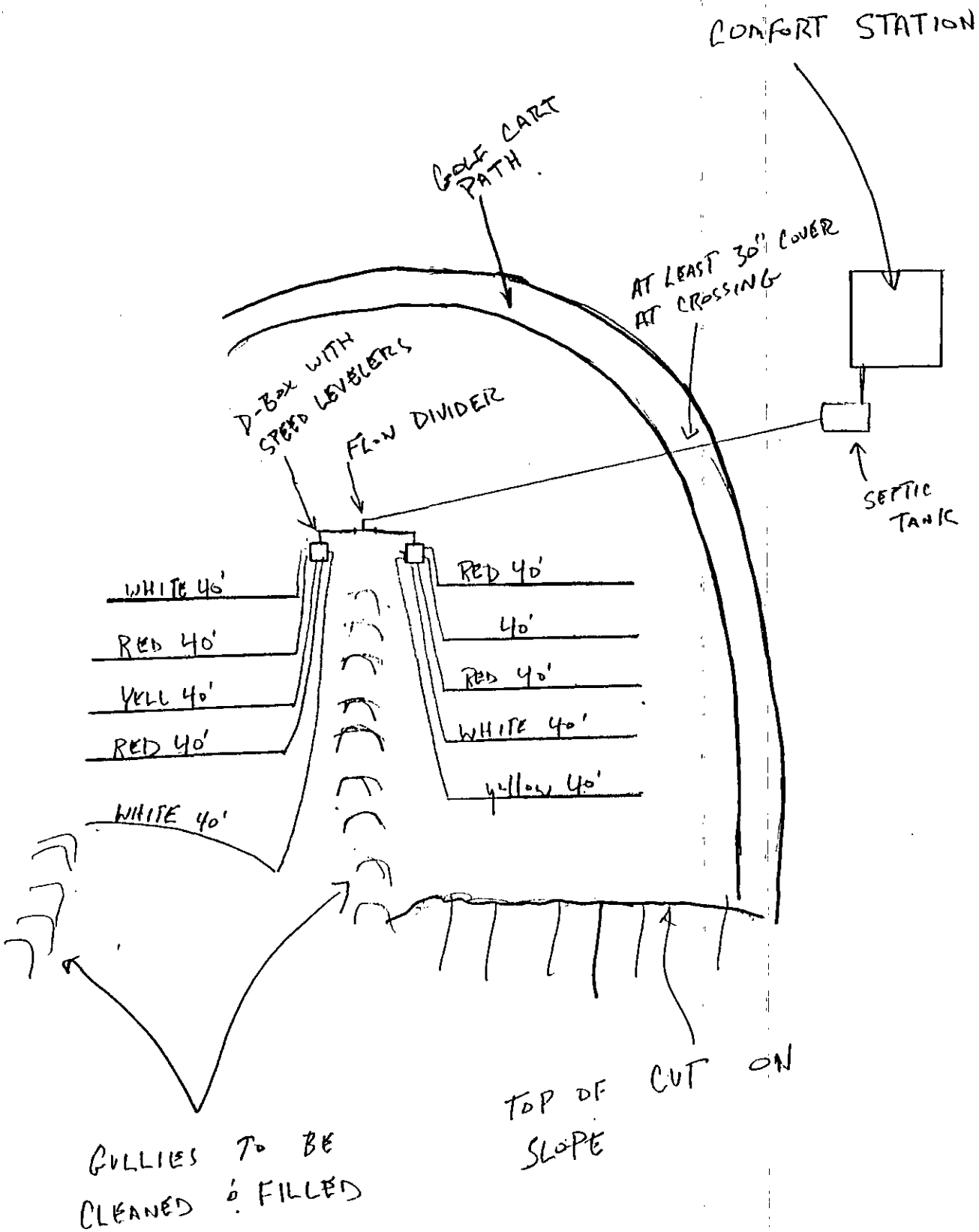
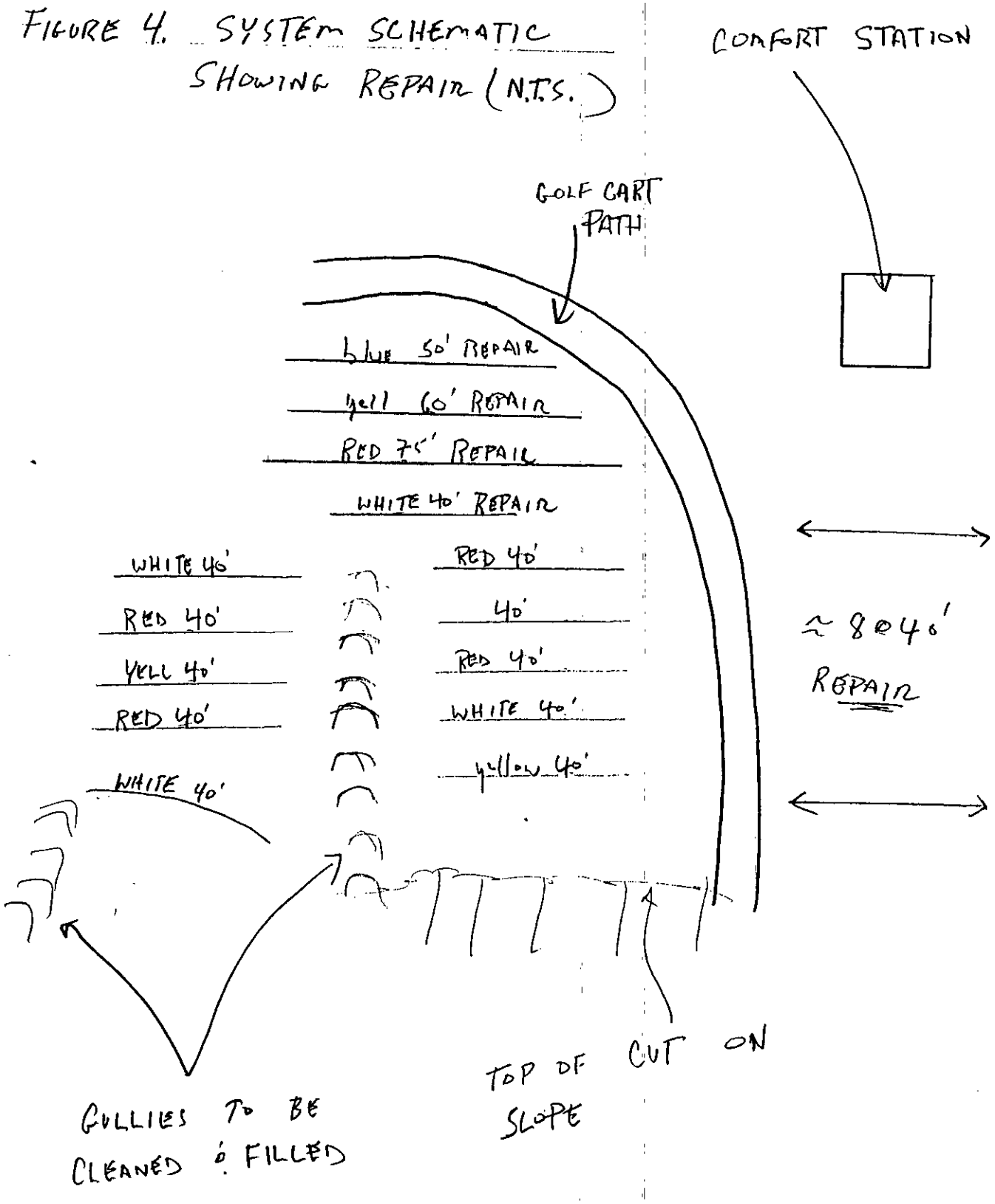
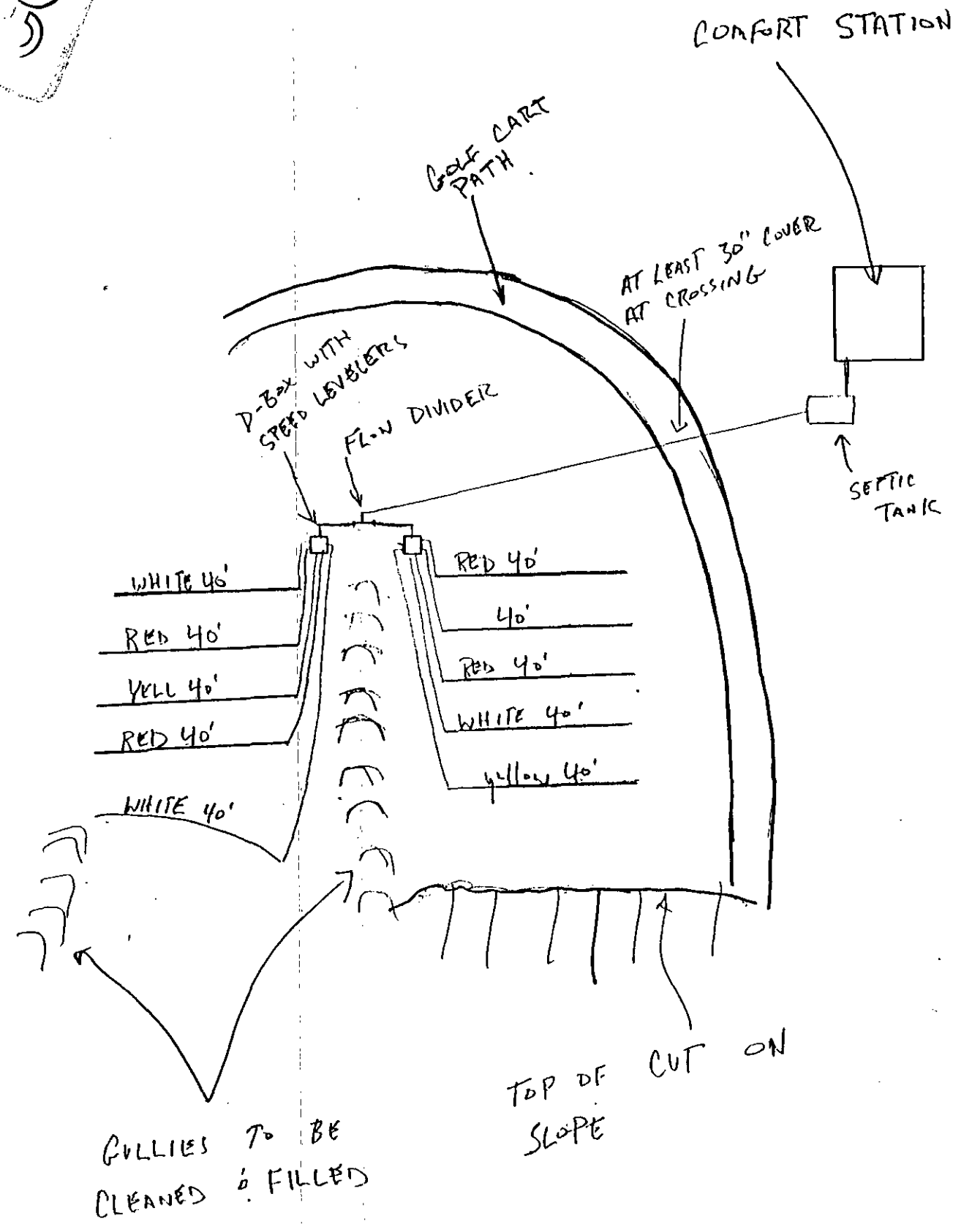


FIGURE 4. SYSTEM SCHEMATIC SHOWING REPAIR (N.T.S.)



COPY

# FIGURE 3. SYSTEM SCHEMATIC (N.T.S.)



COPY

# GRAVITY INFILTRATOR CHAMBERED TYPE SYSTEM PLAN

# FOR BALLANTYNE GOLF COURSE COMFORT STATION

# MECKLENBURG COUNTY - NORTH CAROLIN A

by
Toney C. Jacobs & Associates, Inc.
Consulting Soil Scientists
168 Broadbill Drive
Mooresville, N. C. 28115

April 28, 1997

File # 1943B

Submitted to: Mr. Kelly Randall, R. S.
Mecklenburg County Health Dept.
Charlotte, N. C.

The Bissell Company
Attn: Mr. Nelson Cato, Greens Supt.
2115 Rexford Road
Charlotte, N. C. 28211~~5~~

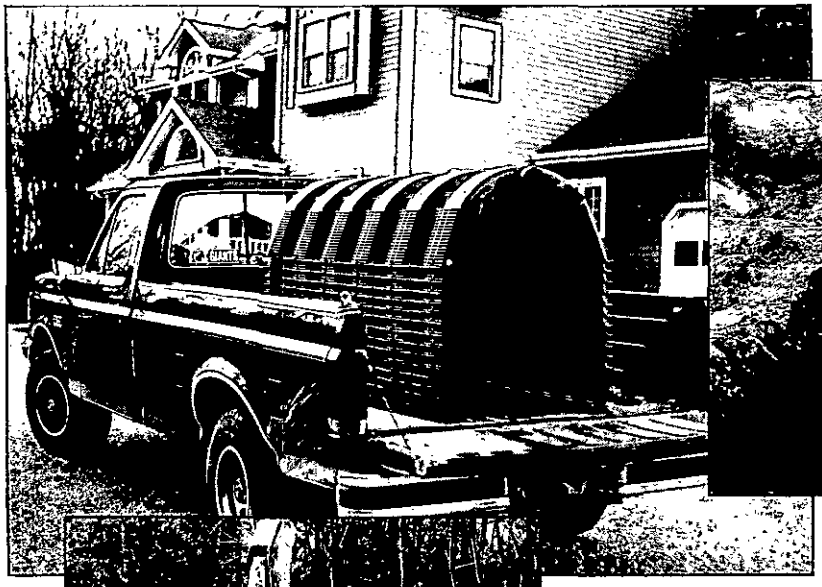
Paul G. Penninger

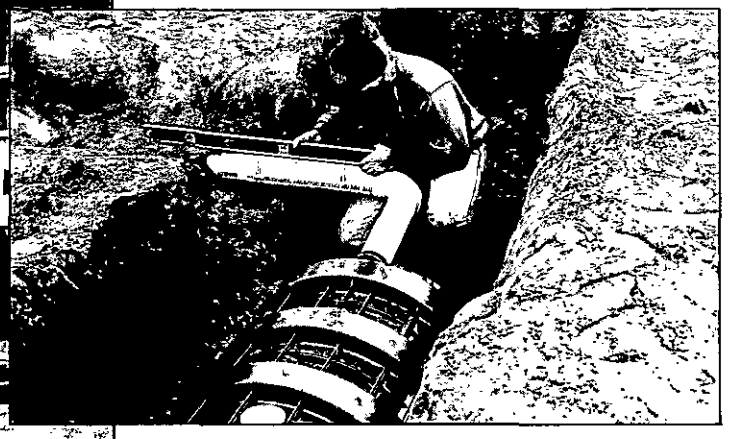
Toney C. Jacobs, CPSS

INFILTRATOR®
SYSTEMS INC

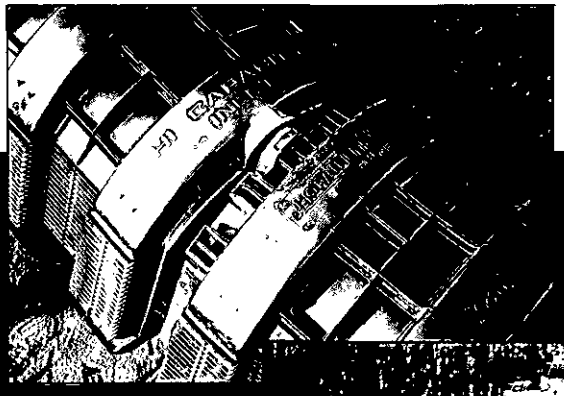
THE
**INFILTRATOR®** Chamber
Leach Field System

# Engineered for Excellence





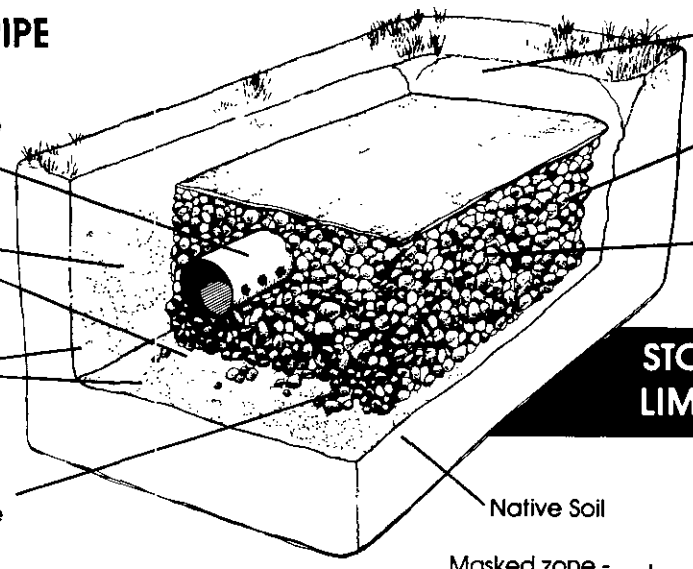




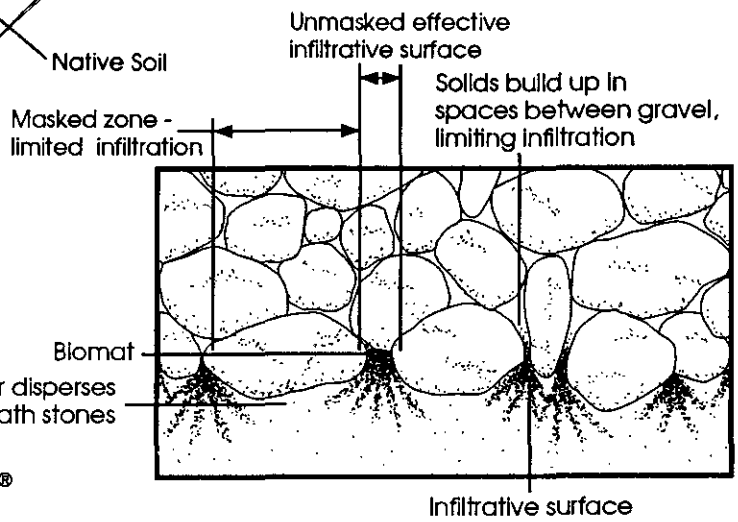


# COMPARE THE ADVANTAGES - CHOOSE THE INFILTRATOR®

## GRAVEL AND PIPE



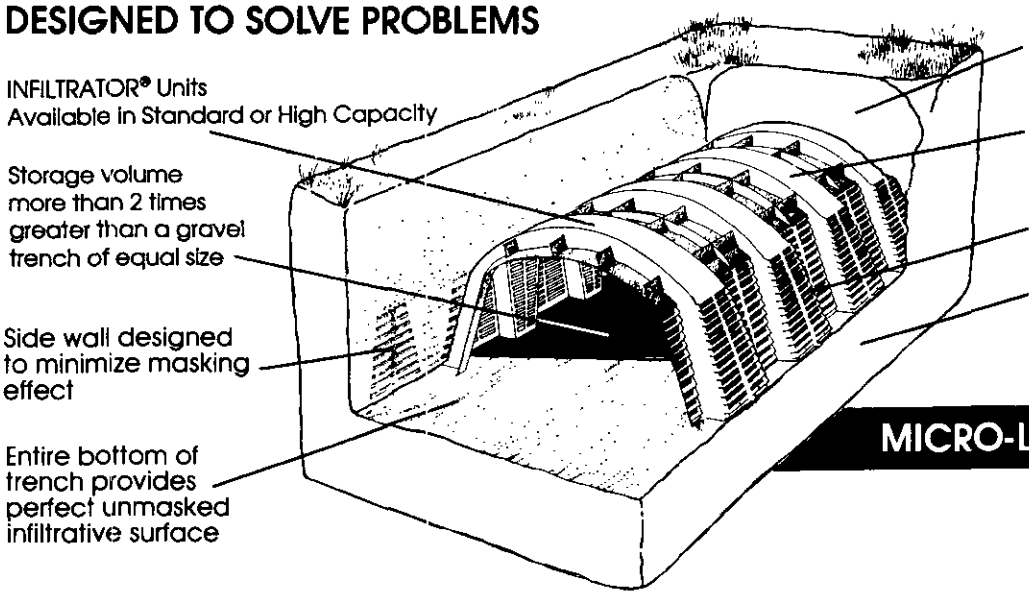

## STONE MASKING- LIMITS INFILTRATIVE CAPACITY



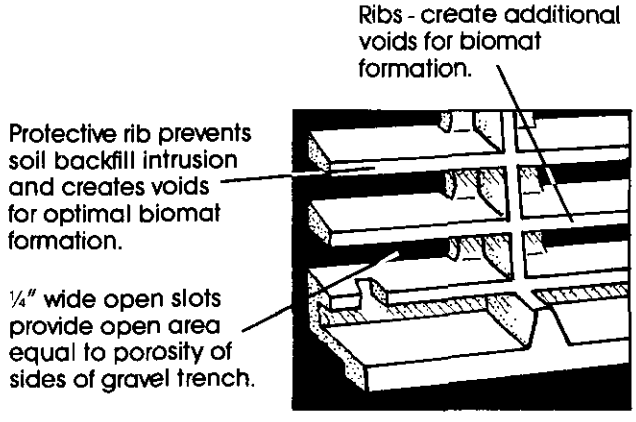

## PROBLEMS WITH GRAVEL:

- Reduces infiltration rate 50% to 60% according to experts
- Handling and waste
- Site damage
- Cost

## THERE IS A BETTER WAY ... THE INFILTRATOR® DESIGNED TO SOLVE PROBLEMS

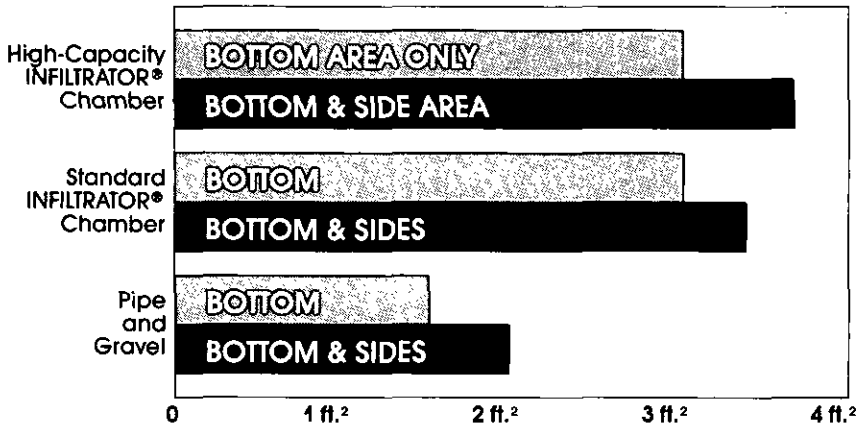



## MICRO-LEACHING CHAMBERS®




| SPECIFICATIONS | STANDARD INFILTRATOR® | HIGH CAPACITY INFILTRATOR® |
|---|---|---|
| SIZE | 3' x 6.25' x 1' | 3' x 6.25' x 1.33' |
| WEIGHT | 25 lbs. | 30 lbs. |
| STORAGE | 10.3ft.³ (77 gal.) | 16.3 ft.³ (122 gal.) |

# COMPARE THE UNMASKED INFILTRATIVE AREA




Documented research has clearly demonstrated that the INFILTRATOR® chamber provides an optimum infiltrative surface for leaching systems. Many states have already recognized this and granted system size reductions accordingly.

The graph shows that INFILTRATOR® chambers have twice the effective infiltrative surface area per linear foot. This is based on a 36" wide trench with 6" of gravel below the pipe assuming 50% gravel masking, compared to Standard and High Capacity INFILTRATOR® chambers with 50% masking for INFILTRATOR® sidewall, and no bottom masking.



# INSTALLATION WAS NEVER EASIER!

1. Excavate 3' wide trenches and prepare infiltrative surface.
2. Screw the end plates in place and slip INFILTRATOR® units together to form desired trench length.
3. Run inlet pipe thru inlet end plate (pipe does not extend the entire length of the system), and backfill with native material (18" depth for H-20 and 12" for H-10).

(Detailed instructions available.)

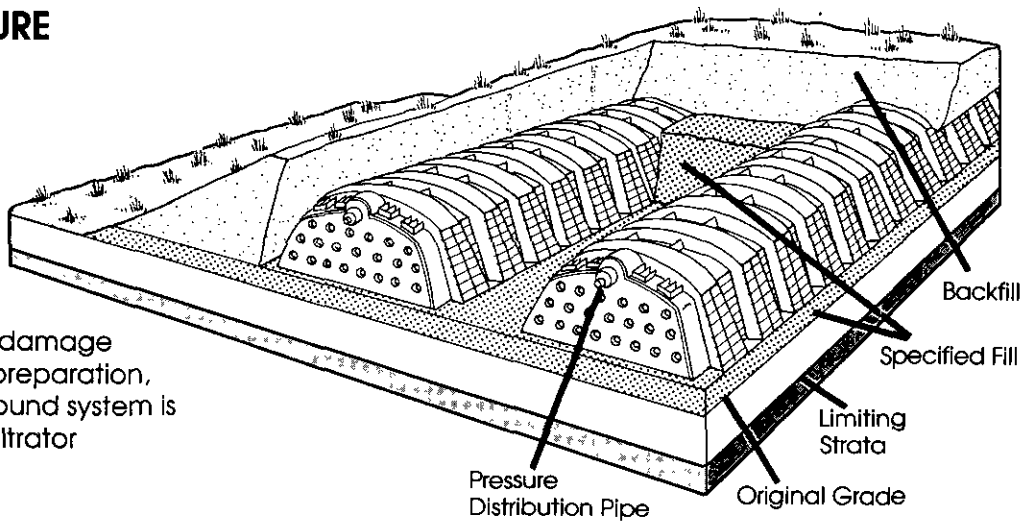
# ALTERNATIVE INSTALLATIONS

## INFILTRATOR® CHAMBERS ARE GREAT FOR MOUNDS AND PRESSURE DISTRIBUTION TOO!

### MOUNDS

INFILTRATORS ® can easily replace the gravel in mound or fill systems, in either a trench or bed configuration.

Installation is much easier with no damage to the infiltrative surface. The site preparation, design and construction of the mound system is prescribed by state code, and Infiltrator Systems' installation instructions.




### PRESSURE DISTRIBUTION

INFILTRATOR ® chambers are easily adapted to pressure distribution. Simply suspend a predrilled pressure pipe in the top of the units with simple, foolproof plastic pipe hangers. Supplemental installation instructions are available for complete details.

# INFILTRATORS® ARE ENGINEERED AND TESTED FOR INCREDIBLE STRENGTH

INFILTRATOR® chambers are molded from a high density polyethelene and are impervious to all components of wastewater. They have been structurally tested by a Registered Professional Engineer and are available with an AASHTO rating of H-10 (16,000 lbs./axle with 12" of compacted cover) or H-20 (32,000 lbs./axle with 18" of cover).

# THE INFILTRATOR® SYSTEM HAS ADVANTAGES FOR EVERYONE

- A high performance, state-of-the-art system.
- Double the unmasked soil interface area compared to *gravel systems.*
- Complete system delivered in one pickup truck.
- Fast & easy installation.
- Reduced labor & machine costs.
- Eliminates compaction, shadow effect and mess caused from gravel.
- Easy inspection.
- Structurally strong, H-10 and H-20 load ratings.
- Approved by U.S. Department of Housing and Urban Development — Federal Housing Authority.
- Complete technical back-up information is available.

# STORMWATER MANAGEMENT- THE INFILTRATOR® ADVANTAGE

The INFILTRATOR® is a complete systems approach to stormwater management that gives the engineer tremendous design freedom to meet the needs of the individual site. The engineer can use units combined with stone for shallow or deep systems that meet any requirement for storage and treatment, require no heavy equipment except a backhoe for installation, and are highly cost effective. A detailed stormwater brochure is available upon request. **For more information, call INFILTRATOR Systems or your local distributor.**



**LIMITED WARRANTY**

(a) The structural integrity of each *INFILTRATOR® unit, when installed in accordance* with manufacturer's instructions, is warranted to the original purchaser against defective materials and workmanship for one year from date of manufacture. Should a defect appear within the warranty period, purchaser must inform Infiltrator Systems Inc. of the defect within fifteen (15) days. Infiltrator Systems will supply a replacement unit. Infiltrator Systems' liability specifically excludes the cost of removal and/or installation of the units.

(b) THE WARRANTY IN SUBPARAGRAPH (a) IS EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, INCLUDING LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE INCURRED BY BUYER. SPECIFICALLY EXCLUDED FROM WARRANTY COVERAGE ARE: DAMAGE TO THE UNITS DUE TO ORDINARY WEAR AND TEAR; ALTERATION, ACCIDENT, MISUSE, ABUSE OR NEGLECT OF THE UNITS; THE UNITS BEING SUBJECTED TO STRESSES GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS; THE PLACEMENT BY BUYER OF IMPROPER MATERIALS INTO BUYER'S SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY.

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE BUYER, THE UNITS OR ANY THIRD PARTY RESULTING FROM ITS INSTALLATION OR SHIPMENT. BUYER SHALL BE SOLELY RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES AND REGULATIONS.

(c) NO REPRESENTATIVE OF THE COMPANY HAS THE AUTHORITY TO CHANGE THIS WARRANTY IN ANY MANNER WHATSOEVER, OR TO EXTEND THIS WARRANTY. NO WARRANTY APPLIES TO ANY PARTY OTHER THAN TO THE ORIGINAL BUYER.

Distributed by

INFILTRATOR® SYSTEMS INC

Leading the way in septic and stormwater chamber systems

**4 Business Park Drive ■ Old Saybrook, CT 06475 ■ 203•388•6639 ■ 800•221•4436 ■ FAX 203•388•6810**

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