DESIGN SPECIFICATIONS - PRESSURE DOSE SEPTIC SYSTEM
Carolina Tractor
U.S. Hwy 70 East
Iredell County, NC
August 11, 1995

Daily design waste flow:	540 gpd
Septic tank size:	1,500 gal. (2 compartment)
Pumping tank size:	1,500 gal.
Effluent loading rate:	0.3 gpd/sf
Total absorption areas:	1800 sf active; 1800 sf repair
Total linear feet and diameter of laterals:	600 ft. of 1¼" dia. PVC in 4" corrugated sleeve
Total length and diameter of force main:	170 lf - 2" dia. Schedule 40
Number and length of laterals:	12 laterals at 50'
Manifold placement:	Center of field
Hole size:	5/32"
Hole spacing:	Varies, see chart
Total number of holes:	~~78~~ 99
Flow rate through the system:	35.7 gpm
Elevation head (pump to end of manifold):	6.0'
Pressure head:	2.0'
Friction head:	3.0'
Total head:	~~11.2'~~ 15
Pump requirements:	~~35.7 gpm at 11.2'~~ 15'; use Myers ME-33, ⅓ hp, 3450 rpm, 230v, 1 phase, 60 Hz effluent pump
Dosing volume:	275 gal.
Depth of water pumped per dose:	15.0"
Pump run per dose:	7.7 min.
Check valve:	no
Syphon break hole:	yes

JOB NUMBER: 95-06-11
PROJECT:CAROLINA TRACTOR US HWY 70 EAST - DATE: 08/11/95 - CALCULATED BY: DLM - CHECKED BY: BKB

12 LINES AT 50 LF EACH - MANIFOLD PLACEMENT: END

LATERAL	LENGTH	ELEV.	REL. PRES. HEAD	ORIFICE DIA. (FEET)	GPM/ ORIFICE	DIST. FROM MANIFOLD TO FIRST ORIFICE	ORIFICE SPACING (INCHES)	DIST. LAST HOLE TO END OF LATERAL	NO. OF HOLES	GPM/ LINE	GPM/ FOOT OF LINE	% OF FLOW REDUCTION
A1	50	100.0	2.0	0.0130208	0.41	30.0	60.0	30.0	10	4.07	0.0814	0.00
A2	50	99.6	2.4	0.0130208	0.45	60.0	60.0	60.0	9	4.01	0.0802	1.43
A3	50	99.4	2.6	0.0130208	0.46	36.0	66.0	36.0	9	4.18	0.0835	-2.55
A4	50	99.2	2.8	0.0130208	0.48	69.0	66.0	69.0	8	3.85	0.0770	5.64
A5	50	98.9	3.1	0.0130208	0.51	27.0	78.0	27.0	8	4.05	0.0811	0.40
A6	50	98.6	3.4	0.0130208	0.53	66.0	78.0	66.0	7	3.71	0.0743	9.57
B1	50	98.3	2.0	0.0130208	0.41	21.0	62.0	21.0	10	4.07	0.0814	0.00
B2	50	98.0	2.3	0.0130208	0.44	36.0	66.0	36.0	9	3.93	0.0786	3.61
B3	50	97.6	2.7	0.0130208	0.47	69.0	66.0	69.0	8	3.78	0.0757	7.58
B4	50	97.4	2.9	0.0130208	0.49	27.0	78.0	27.0	8	3.92	0.0784	3.81
B5	50	97.0	3.3	0.0130208	0.52	66.0	78.0	66.0	7	3.66	0.0732	11.21
B6	50	96.8	3.5	0.0130208	0.54	45.0	102.0	45.0	6	3.23	0.0646	25.99
TOTALS:	600.0 LF								~~78.0~~ HOLES 99	~~35.7~~ GPM 46.46		

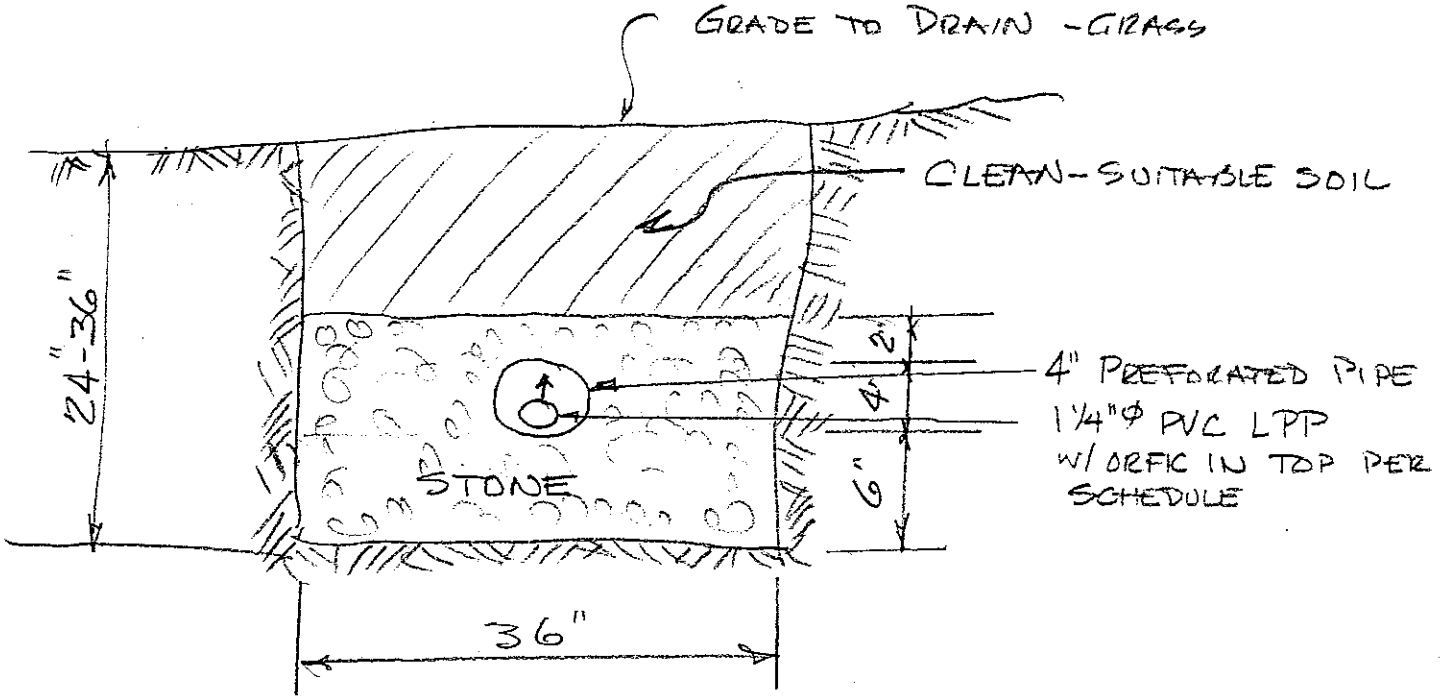
FORCE MAIN AND PUMP SIZING DATA:

PUMP TANK INVERT: 94.0
HIGH POINT IN SUPPLY LINE: 100.0
SYSTEM HEAD @ HIGH POINT: 2.0
TOTAL STATIC HEAD: 8.0 FEET

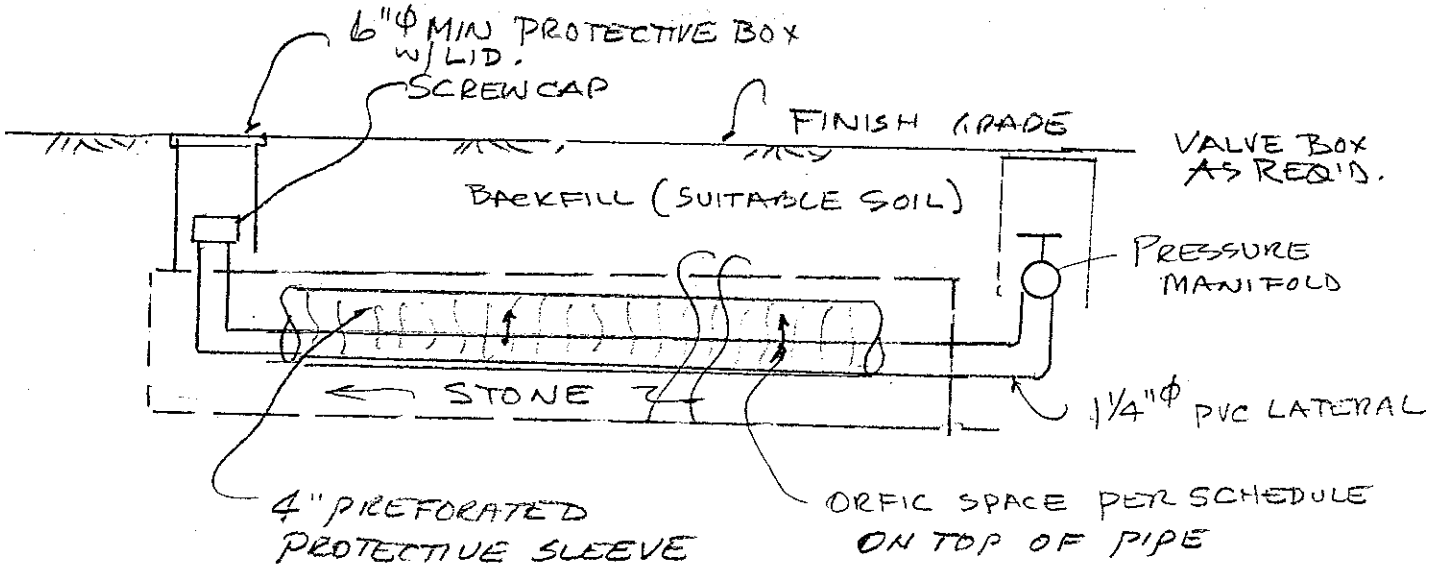
DESIGN FLOW: 35.7 GPM
FORCE MAIN LENGTH: 120.0 FEET
FORCE MAIN SUPPLY SIZE: 2.0 INCH SCH 40 PVC
ACTUAL ID OF FORCE MAIN: 2.149 INCHES
FRICTION LOSSES: 3.0 FEET
FORCE MAIN VELOCITY: 3.16 FEET PER SECOND

MINIMUM PUMP REQUIREMENTS: 35.7 GPM AT 11.0 FEET TDH

DOSE VOLUME RANGE: 261.2 GAL. MIN. 293.8 GAL. MAX.
TRY USING A DOSE OF: 275.0 GALLONS
RESULTING PUMP RUN TIME: 7.7 MINUTES
DOSING DEPTH: 15.0 INCHES



SECTION THRU LATERAL TRENCH NTS



LATERAL PROFILE NTS