State of North Carolina
Department of Environment
and Natural Resources
Division of Environmental Health
On-Site Wastewater Section

Michael F. Easley, Governor
William G. Ross, Jr., Secretary
Linda C. Sewall, Director
William C. Jeter, Chief

NCDENR
NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

December 2, 2002

Mr. Gary McNeely
Iredell County Health Department
318 Turnersburg Highway
Statesville, NC 28625
(704)878-5300, Fax: (704)664-9737

Subject: Conditional Approval of Adjusted Daily Design Flow
McConnell Dental Office
Iredell County
Project Number 02-45

Dear Mr. McNeely:

In November, we were forwarded information on the Waterless Vacuum Dentistry practice of Steve Collins to support a flow reduction request from Mr. McConnell. The original submission was misplaced, and on November 26, 2002 we were e-mailed information from the applicant. On November 27, 2002, we were faxed information from your office. Our office apologizes for the delay in reviewing the submittal.

Based upon my experience with these types of evaluations and based upon the water records, I will conditionally approve a daily design flowrate of 225 gallons per day. This approval is conditional upon:

1. No x-ray fixer, developer, or rinse water is disposed to the septic system,
2. A scrap trap is installed prior to the Ramvac to catch particulate amalgam (and any attached mercury), and
3. The waste removed by the scrap trap is disposed in accordance with the Division of Solid Waste regulations.

ON-SITE WASTEWATER SECTION
1642 Mail Service Center, Raleigh, North Carolina 27699-1642
Telephone 919-715-3270 FAX 919-715-3227 E-mail: joe_pearce@ncmail.net

Also due to the potential for contamination with non-domestic waste, the following conditions related to groundwater quality protection must be included in the operation permit:

1. Groundwater quality monitoring, as deemed necessary by the Division, shall be provided.
2. The COMPLIANCE BOUNDARY for the disposal system is specified by regulations in 15A NCAC 2L, Groundwater Classifications and Standards. The Compliance Boundary is for the disposal system individually permitted after December 31, 1983 is established at either (1) 250 feet from the waste disposal area, or (2) 50 feet within the property boundary, whichever is closest to the waste disposal area. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to immediate remediation action in addition to the penalty provisions applicable under General Statute 143-215.6A(a)(1).
3. In accordance with 15A NCAC 2L, a REVIEW BOUNDARY is established around the disposal systems midway between the Compliance Boundary and the perimeter of the waste disposal area. Any exceedance of standards at the Review Boundary shall require remediation action on the part of the permittee.

Please feel free to contact me if you have any questions pertaining to this letter **and if I may be of assistance during your final inspection of the installation of this system.** I may be reached at the address and phone/fax numbers listed on this letter.

Sincerely,

Joseph Pearce, Environmental Engineer II

cc: Mark McConnell by e-mail
Joe Lynn, RSS
Gene Young, RSS

9/20/2002

RE: Locating dental office in existing business office at 118 Kendra Drive, Mooresville, NC.

Currently using RAMVAC waterless vacuum system:

Dr. Steve Collins
14 N. Ashe Street
P.O. Box 307
Newton, NC 28658
(828) 464-1732

Comparison of Existing Dental Office with New Proposal

	Dr. Collins Office (existing practice)	New Office at 118 Kendra Drive
Approx. SF of office	3000	2400
Total Staff (including Doctor)	7	3
# bath rooms	3	2
Number of Treatment rooms	6	4
Hours of operation	8 am – 5 pm	8 am- 5 pm
Approx patients/day	28-35	8-10

Data from City of Newton Billing History printed 9/16/02 (see History for varification)

Date of service	Working days 4 days /week Mon- Thurs.	Usage (Gallons)	Average Daily Usage (GPD)
7/6/01-8/10/01	20	2600	130
8/10/01-9/10/01	16	3000	188
9/10/01-10/4/01	15	2800	187
10/4/01-11/5/01	17	2300	135
11/5/01-12/4/01	17	2600	153
12/4/01-1/7/02	19	2000	105
1/7/02-2/6/02	18	2500	139
2/6/02-3/6/02	16	2100	131
3/6/02-4/3/02	16	2800	175
4/3/02-5/6/02	18	3100	172
5/6/02-6/6/02	19	3100	163
6/6/02-7/2/02	14	2200	157
7/2/02-8/6/02	20	3800	190
8/6/02-9/5/02	18	2900	161

Office has 200 gallon outdoor fishpond in front that requires periodic filling and plants in front that get watered.				
	Meter # 99830636			
	Day	Date	Meter Reading Gallons	Usage (Gallons)
1	Sunday	9/22/2002	121077	
2	Monday	9/23/2002	121223	146
3	Tuesday	9/24/2002	121361	138
4	Wednesday	9/25/2002	121483	122
5	Thursday	9/26/2002	121641	158
6	Friday	9/27/2002	121646	5
7	Saturday	9/28/2002	121646	0
8	Sunday	9/29/2002	121646	0
9	Monday	9/30/2002	121659	13
10	Tuesday	10/1/2002	121663	4
11	Wednesday	10/2/2002	121668	5
12	Thursday	10/3/2002	121677	9
13	Friday	10/4/2002	121811	134
14	Saturday	10/5/2002	121811	0
15	Sunday	10/6/2002	121811	0
16	Monday	10/7/2002	121963	152
17	Tuesday	10/8/2002	122095	132
18	Wednesday	10/9/2002	122221	126
19	Thursday	10/10/2002	122370	149
20	Friday	10/11/2002	122374	4
21	Saturday	10/12/2002	122374	0
22	Sunday	10/13/2002	122374	0
23	Monday	10/14/2002	122490	116
24	Tuesday	10/15/2002	122640	150
25	Wednesday	10/16/2002	122740	100
26	Thursday	10/17/2002	122890	150
27	Friday	10/18/2002	122895	5
28	Saturday	10/19/2002	122895	0
29	Sunday	10/20/2002	122895	0
30	Monday	10/21/2002	123050	155
31	Tuesday	10/22/2002	123180	130
32	Wednesday	10/23/2002	123240	60
33	Thursday	10/24/2002	123380	140
34	Friday	10/25/2002	123470	90
35	Saturday	10/26/2002	123470	0
36	Sunday	10/27/2002	123470	0
				2393

Office closed for vacation Just Janitor & Irrigation man.

16001010.00 97 STEPHEN R COLLINGS DDS PA ACTIVE CYCLE 10 START DATE 04/17/2000
14 N ASHE AVE

TRANSACTION	DATE	SERVICE	RATE	READING	MTR/CHK NO	DESCRIPTION	AMOUNT	REFER	USAGE	BALANCE
READING	07/06/2001	EL COMM IN		24.0000	02901924	CITY READING		021099		
BILLING	07/10/2001	EL COMM IN	E53		02901924		410.66		5000	410.66
BILLING	07/10/2001	WATER IN	WC1		99830636		14.20		24	424.86
BILLING	07/10/2001	SEWER IN	SC1				16.35		24	441.21
BILLING	07/10/2001	CA CO LF FEE	T21				4.70		0	445.91
BILLING	07/10/2001	EL COMM IN	D53				.00		24.0000	445.91
BILLING	07/10/2001	SALES TAX					12.32		0	458.23
PAYMENT	07/30/2001				020312	CHECK/MAIL	458.23	051089		.00
READING	08/03/2001	WATER IN		846	99830636	CITY READING		019097		
READING	08/03/2001	EL COMM IN		1868	02901924	CITY READING		019098		
READING	08/03/2001	EL COMM IN		23.2000	02901924	CITY READING		019099		
BILLING	08/10/2001	EL COMM IN	E53		02901924		412.73		5040	412.73
BILLING	08/10/2001	WATER IN	WC1		99830636		14.20		26	426.93
BILLING	08/10/2001	SEWER IN	SC1				16.35		26	443.28
BILLING	08/10/2001	CA CO LF FEE	T21				4.70		0	447.98
BILLING	08/10/2001	EL COMM IN	D53				.00		23.0000	447.98
BILLING	08/10/2001	SALES TAX					12.38		0	460.36
PAYMENT	08/28/2001				020364	CHECK/MAIL	460.36	053074		.00
READING	09/05/2001	WATER IN		876	99830636	CITY READING		019095		
READING	09/05/2001	EL COMM IN		2018	02901924	CITY READING		019096		
READING	09/05/2001	EL COMM IN		23.2000	02901924	CITY READING		019097		
BILLING	09/10/2001	EL COMM IN	E53		02901924		462.48		6000	462.48
BILLING	09/10/2001	WATER IN	WC1		99830636		14.20		30	476.68
BILLING	09/10/2001	SEWER IN	SC1				16.35		30	493.03
BILLING	09/10/2001	CA CO LF FEE	T21				4.70		0	497.73
BILLING	09/10/2001	EL COMM IN	D53				.00		23.0000	497.73
BILLING	09/10/2001	SALES TAX					13.87		0	511.60
PAYMENT	09/28/2001				020588	CHECK/MAIL	511.60	062062		.00
READING	10/04/2001	WATER IN		904	99830636	CITY READING		020101		
READING	10/04/2001	EL COMM IN		2134	02901924	CITY READING		020102		
READING	10/04/2001	EL COMM IN		20.8000	02901924	CITY READING		020103		
BILLING	10/10/2001	EL COMM IN	E53		02901924		392.01		4640	392.01
BILLING	10/10/2001	WATER IN	WC1		99830636		14.20		28	406.21
BILLING	10/10/2001	SEWER IN	SC1				16.35		28	422.56
BILLING	10/10/2001	CA CO LF FEE	T21				4.70		0	427.26
BILLING	10/10/2001	EL COMM IN	D53				.00		21.0000	427.26
BILLING	10/10/2001	SALES TAX					11.76		0	439.02
PAYMENT	10/25/2001				020651	CHECK/MAIL	445.61	061046		6.59-
READING	11/05/2001	WATER IN		927	99830636	CITY READING		016101		
READING	11/05/2001	EL COMM IN		2219	02901924	CITY READING		016102		
READING	11/05/2001	EL COMM IN		21.6000	02901924	CITY READING		016103		
BILLING	11/10/2001	EL COMM IN	E53		02901924		327.76		3400	321.17
BILLING	11/10/2001	WATER IN	WC1		99830636		14.20		23	335.37
BILLING	11/10/2001	SEWER IN	SC1				16.35		23	351.72
BILLING	11/10/2001	CA CO LF FEE	T21				4.70		0	356.42
BILLING	11/10/2001	EL COMM IN	D53				.00		22.0000	356.42
BILLING	11/10/2001	SALES TAX					9.83		0	366.25
PAYMENT	11/23/2001				020682	CHECK/MAIL	366.25	051005		.00
READING	12/04/2001	WATER IN		953	99830636	CITY READING		019100		
READING	12/04/2001	EL COMM IN		2302	02901924	CITY READING		019101		
READING	12/04/2001	EL COMM IN		18.0000	02901924	CITY READING		019102		
BILLING	12/10/2001	EL COMM IN	E53		02901924		323.61		3320	323.61
BILLING	12/10/2001	WATER IN	WC1		99830636		14.20		26	337.81

16001010.00 97 STEPHEN R COLLINGS DDS PA ACTIVE CYCLE 10 START DATE 04/17/2000
14 N ASHE AVE

TRANSACTION	DATE	SERVICE	RATE	READING	MTR/CHK NO	DESCRIPTION	AMOUNT	REFER	USAGE	BALANCE
BILLING	12/10/2001	SEWER IN	SC1				16.35		26	354.16
BILLING	12/10/2001	CA CO LF FEE	T21				4.70		0	358.86
BILLING	12/10/2001	EL COMM IN	D53				.00		18.0000	358.86
BILLING	12/10/2001	SALES TAX					9.71		0	368.57
PAYMENT	12/21/2001				020752	CHECK/MAIL	368.57	050020		.00
READING	01/07/2002	WATER IN		973	99830636	CITY READING		019098		
READING	01/07/2002	EL COMM IN		2392	02901924	CITY READING		019099		
READING	01/07/2002	EL COMM IN		16.0000	02901924	CITY READING		019100		
BILLING	01/10/2002	EL COMM IN	E53		02901924					
BILLING	01/10/2002	WATER IN	WC1		99830636		338.12		3600	338.12
BILLING	01/10/2002	SEWER IN	SC1				14.20		20	352.32
BILLING	01/10/2002	CA CO LF FEE	T21				16.35		20	368.67
BILLING	01/10/2002	EL COMM IN	D53				4.70		0	373.37
BILLING	01/10/2002	SALES TAX					.00		16.0000	373.37
PAYMENT	01/30/2002						10.14		0	383.51
READING	02/06/2002	WATER IN			020802	CHECK/MAIL	383.51	060041		.00
READING	02/06/2002	EL COMM IN		998	99830636	CITY READING		035095		
READING	02/06/2002	EL COMM IN		2481	02901924	CITY READING		035096		
BILLING	02/10/2002	EL COMM IN	E53	18.0000	02901924	CITY READING		035097		
BILLING	02/10/2002	WATER IN	WC1		02901924					
BILLING	02/10/2002	SEWER IN	SC1		99830636		336.05		3560	336.05
BILLING	02/10/2002	CA CO LF FEE	T21				14.20		25	350.25
BILLING	02/10/2002	EL COMM IN	D53				16.35		25	366.60
BILLING	02/10/2002	SALES TAX					4.70		0	371.30
PAYMENT	02/22/2002						.00		18.0000	371.30
READING	03/06/2002	WATER IN			020829	CHECK COUNTER	10.08		0	381.38
READING	03/06/2002	EL COMM IN		1019	99830636	CITY READING	381.38	044136		.00
READING	03/06/2002	EL COMM IN		2560	02901924	CITY READING		019098		
BILLING	03/10/2002	EL COMM IN	E53	16.8000	02901924	CITY READING		019099		
BILLING	03/10/2002	WATER IN	WC1		02901924			019100		
BILLING	03/10/2002	SEWER IN	SC1		99830636		315.32		3160	315.32
BILLING	03/10/2002	CA CO LF FEE	T21				14.20		21	329.52
BILLING	03/10/2002	EL COMM IN	D53				16.35		21	345.87
BILLING	03/10/2002	SALES TAX					4.70		0	350.57
PAYMENT	04/01/2002						.00		17.0000	350.57
READING	04/03/2002	WATER IN			021039	CHECK/MAIL	9.46		0	360.03
READING	04/03/2002	EL COMM IN		1047	99830636	CITY READING	360.03	002179		.00
READING	04/03/2002	EL COMM IN		2638	02901924	CITY READING		019095		
BILLING	04/10/2002	EL COMM IN	E53	18.8000	02901924	CITY READING		019096		
BILLING	04/10/2002	WATER IN	WC1		02901924			019097		
BILLING	04/10/2002	SEWER IN	SC1		99830636		313.25		3120	313.25
BILLING	04/10/2002	CA CO LF FEE	T21				14.20		28	327.45
BILLING	04/10/2002	EL COMM IN	D53				16.35		28	343.80
BILLING	04/10/2002	SALES TAX					4.70		0	348.50
PAYMENT	04/24/2002						.00		19.0000	348.50
READING	05/06/2002	WATER IN			021093	CHECK/MAIL	9.40		0	357.90
READING	05/06/2002	EL COMM IN		1078	99830636	CITY READING	357.90	056064		.00
READING	05/06/2002	EL COMM IN		2741	02901924	CITY READING		019097		
BILLING	05/10/2002	EL COMM IN	E53	20.8000	02901924	CITY READING		019098		
BILLING	05/10/2002	WATER IN	WC1		02901924			019099		
BILLING	05/10/2002	SEWER IN	SC1		99830636		365.06		4120	365.06
BILLING	05/10/2002	CA CO LF FEE	T21				14.38		31	379.44
BILLING	05/10/2002	EL COMM IN	D53				16.65		31	396.09
							4.70		0	400.79
							.00		21.0000	400.79

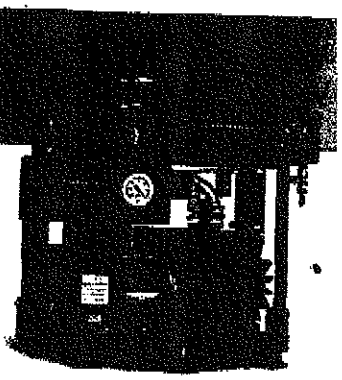
16001010.00 97 STEPHEN R COLLINGS DDS PA ACTIVE CYCLE 10 START DATE 04/17/2000
14 N ASHE AVE

TRANSACTION	DATE	SERVICE	RATE	READING	MTR/CHK NO	DESCRIPTION	AMOUNT	REFER	USAGE	BALANCE
BILLING	05/10/2002	SALES TAX					10.95			
PAYMENT	05/23/2002				021132	CHECK/MAIL	411.74	050061	0	411.74
READING	06/06/2002	WATER IN		1109	99830636	CITY READING		019096		.00
READING	06/06/2002	EL COMM IN		2845	02901924	CITY READING		019097		
READING	06/06/2002	EL COMM IN		21.2000	02901924	CITY READING		019098		
BILLING	06/10/2002	EL COMM IN	E53		02901924		367.14		4160	367.14
BILLING	06/10/2002	WATER IN	WC1		99830636		14.38		31	381.52
BILLING	06/10/2002	SEWER IN	SC1				16.65		31	398.17
BILLING	06/10/2002	CA CO LF FEE	T21				4.70		0	402.87
BILLING	06/10/2002	EL COMM IN	D53				.00		21.0000	402.87
BILLING	06/10/2002	SALES TAX					11.01		0	413.88
PAYMENT	06/27/2002				021239	CHECK/MAIL	413.88	062050		.00
READING	07/02/2002	WATER IN		1131	99830636	CITY READING		019092		
READING	07/02/2002	EL COMM IN		2942	02901924	CITY READING		019093		
READING	07/02/2002	EL COMM IN		21.6000	02901924	CITY READING		019094		
BILLING	07/10/2002	EL COMM IN	E53		02901924		358.81		3880	358.81
BILLING	07/10/2002	WATER IN	WC1		99830636		14.20		22	373.01
BILLING	07/10/2002	SEWER IN	SC1				16.35		22	389.36
BILLING	07/10/2002	CA CO LF FEE	T21				4.70		0	394.06
BILLING	07/10/2002	EL COMM IN	D53				.00		22.0000	394.06
BILLING	07/10/2002	SALES TAX					10.76		0	404.82
PAYMENT	07/26/2002				021300	CHECK/MAIL	404.82	058082		.00
READING	08/06/2002	WATER IN		1169	99830636	CITY READING		019098		
READING	08/06/2002	EL COMM IN		3101	02901924	CITY READING		019099		
READING	08/06/2002	EL COMM IN		23.6000	02901924	CITY READING		019100		
BILLING	08/10/2002	EL COMM IN	E53		02901924		489.56		6360	489.56
BILLING	08/10/2002	WATER IN	WC1		99830636		15.60		38	505.16
BILLING	08/10/2002	SEWER IN	SC1				18.71		38	523.87
BILLING	08/10/2002	CA CO LF FEE	T21				4.70		0	528.57
BILLING	08/10/2002	EL COMM IN	D53				.00		24.0000	528.57
BILLING	08/10/2002	SALES TAX					14.69		0	543.26
PAYMENT	08/22/2002				021347	CHECK/MAIL	543.26	051022		.00
READING	09/05/2002	WATER IN		1198	99830636	CITY READING		019096		
READING	09/05/2002	EL COMM IN		3228	02901924	CITY READING		019097		
READING	09/05/2002	EL COMM IN		24.4000	02901924	CITY READING		019098		
BILLING	09/10/2002	EL COMM IN	E53		02901924		422.07		5080	422.07
BILLING	09/10/2002	WATER IN	WC1		99830636		14.20		29	436.27
BILLING	09/10/2002	SEWER IN	SC1				16.35		29	452.62
BILLING	09/10/2002	CA CO LF FEE	T21				4.70		0	457.32
BILLING	09/10/2002	EL COMM IN	D53				.00		24.0000	457.32
BILLING	09/10/2002	SALES TAX					12.66		0	469.98

RECORDS READ 1 RECORDS PROCESSED 305

RAMVAC

Bulldog QT™



Bulldog QT Power Unit

All the power you'll ever need.

Just pick the Bulldog or Bulldog Combo that's right* for you.

*These recommendations are conservative. Oversizing is wasteful. To allow for future needs, select an upgradable model rather than oversize. More specific sizing may be required by: additional vacuum devices such as nitrous oxide scavengers, vacuum sinks and cuspidors; substandard piping; overhead piping, uncommon user standards and/or uncommon vacuum uses. Check the RAMVAC pocket catalog, website or call for our complete line-up of power units, tanks and options.

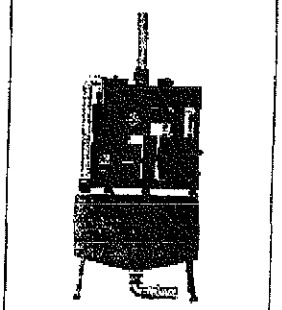
Bulldog QT Combos Bulldog QT Combos include the Bulldog QT Power Unit and Tank most appropriate for typical applications.

PRODUCT	PRODUCT NUMBER	APPLICATIONS** (typical)	UPGRADEABLE	POWER UNIT	TANK SIZE
Bulldog QT Combo 1	809.001	One doctor and staff working in 6 rooms or less	Yes	Bulldog QT 1	15 gallon
Bulldog QT Combo 2	809.002	Two doctors and staff working in 6 rooms or less	Yes	Bulldog QT 2	15 gallon
Bulldog QT Combo 3	809.003	Three doctors and staff working in 8 rooms or less	No	Bulldog QT 3	90 gallon

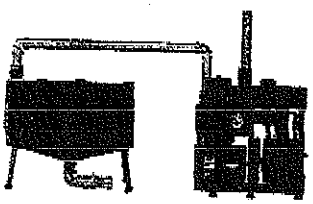
**Other applications may be served by custom systems. Check the RAMVAC Pocket Catalog, website or call for our complete line-up of power units, tanks and options.

Bulldog QT Combo 1 & 2

Common configurations shown below. Many more possible. Please see Pre-Installation Guide.



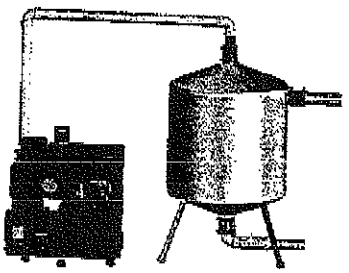
Bulldog QT Combo 1 or 2
Power Unit stacked on 15 gallon box tank
25" W x 17" D x 45" H
640mm x 430mm x 1150mm



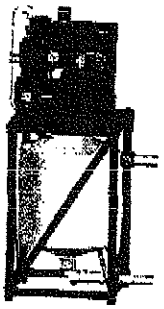
Bulldog QT Combo 1 or 2
Power Unit along side 15 gallon tank
48" W x 17" D x 25" H
1220mm x 430mm x 640mm

Bulldog QT Combo 3

Common configurations shown below. Many more possible. Please see Pre-Installation Guide.



Bulldog QT Combo 3
Power Unit along side 90 gallon tank
44" W x 22" D x 47" H
1120mm x 560mm x 1200mm



Bulldog QT Combo 3
Power Unit shown with optional stand
24" W x 24" D x 64" H
610mm x 610mm x 1630mm

- Power for demanding operators.
- Exclusive 10 year no-fail, no-wear-out pump warranty.
- Performance proven for more than 27 years.
- No messy strainers to clean.
- Once a year maintenance.
- Works with widest range of piping.
- UL Listed, FDA registered, complies with NFPA 99c.
- 100% water-free.
- Combo 1 or 2 with power unit stacked on box tank fits typical twin water pump floor space.

EXCLUSIVELY FROM

RAMVAC

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