

TABLE 3

BUILDING INSPECTION AND DYED-WATER TRACING RESULTS
WELLINGTON BROOK & WINN'S BROOK TRIBUTARY AREAS
BELMONT, MASSACHUSETTS

Address		Sub-Catchment Area	No. of Tests Conducted	Date	Dye Test Entry	Sewer Connection Contamination Source	Dye Discharge		Sump Pumps	Sump Pump Discharge	Other Pipes	Comments
No.	Street						% Sewer	% Storm Drain				
30	Bow Road	8-1	3	10/24/2017	Basement Toilet, Basement Sink, First Floor Sink		Inconclusive	Inconclusive	1	Two (2) sumps pumps. Both do not appear to tie into sewer stack.	None	Could not see dye in either SMH or DMH across from house. Moved to SMH at Bow/School intersection and believed to see traces of dye (rapid flows due to pipe slope). Flow was also diluted by incoming flow from Lincoln street. No dye seen in DMH at Bow/School intersection after 35 minute wait.
38	Bow Road	8-1	1	11/6/2017	Basement Sink		100	0	1	Unsure of connectivity.		Spoke with homeowner, who is also a civil engineer. Has all runoff leaded to dry well in abck yard. No trace of dye in drain manhole.
41	Bow Road	8-1	1	10/24/2017	Basement Sink		100	0	0	N/A	None	Dye was seen 100% in SMH at Bow/Lincoln intersection. No dye seen in DMH after 15 minute wait.
44	Bow Road	8-1	3	12/1/2017	Basement Sink; Basement Toilet; 1st Floor Sink		100	0	1	Believed to be sewer. No rising outlet - see photo.	None	Completely finished basement- no stacks seen. Conducted 3 tests, No trace of dye was seen in the DMH at Bow/Lincoln.
51	Bow Road	8-1	1	10/24/2017	Basement Sink		100	0	0	N/A	Open Cleanout	Open cleanout in basement floor. Dye was seen 100% in SMH at Bow/Lincoln intersection rapidly after test. No dye seen in DMH at Bow/Lincoln intersection for 10-15 minutes after test was conducted.
53	Bow Road	8-1	1	11/6/2017	Basement Sink		100	0	1	Ground		Only could see trace amounts in dye depsite 7 minutes between dye entry and SMH opening. No trace of dye seen in DMH after 30 minute wait.
150	Common Street	8-2	1	11/15/2017	Basement Sink		100	0		Ground		New sewer stack - all branches (ex: upstairs bedroom) labeled. Observed manholes on Orchard St by school. Bright dye seen in SMH after 10 minutes.
9	Bretfwood Road	8-5	1	11/21/2017	Basement Sink		100	0	1	Ground		Dye in SMH (Homer @ Bretfwood) seen after 8 minutes. No trace seen in DMH (Homer @ Bretfwood)
12	Bretfwood Road	8-5	2	12/1/2017	Basement Sink; 1st Floor Sink	Indirect	80	20	0	N/A	Small trench drain by basement door.	2 Sewer stacks were seen - outlet from basement sink does not visually tie in to stack. May tie in under slab? Dye was relatively strong in DMH at Bretfwood/Pierce. House ties in to sewer on Homer Road. See photos.
17	Bretfwood Road	8-5	1	11/3/2017	Basement Sink		100	0	1	Ground		3 sewer stacks that all merge together. Can visually see the mortar patch in basement slab (recently redone). Took 20 minutes to see dye at Bretfwood/Pierce intersection. No trace seen after 35 minute wait.
22	Bretfwood Road	8-5	1	11/21/2017	Basement Sink		100	0		N/A		Dye seen in SMH (Pierce @ Bretfwood) aftern 20 minutes.
25	Bretfwood Road	8-5	1	11/3/2017	Basement Sink		100	0	1	Possibly sewer - see photo.		One sewer stack seen. Sump Pump may tie into the sewer service line. 100% Dye seen in the SMH after 20 minute wait. No dye seen in DMH after 35 minutes.
28	Bretfwood Road	8-5	1	11/15/2017	Basement Toilet		100	0	UNK	Did not check.		Took roughly 35 minutes to see dye in SMH at Pierce/Bretfwood intersection. No trace in DMH after 50 minutes.
31	Bretfwood Road	8-5	1	11/10/2017	Basement Sink		100	0	1	Ground Surface		Dye seen in SMH after 23 minutes; no trace seen in DMH.
36	Bretfwood Road	8-5	1	11/3/2017	Basement Sink		100	0	0	N/A		Dye seen in SMH after 10 minute wait. No trace seen in the DMH.
37	Bretfwood Road	8-5	1	11/13/2017	Basement Sink		100	0	2	Unknown		Dye seen in SMH after 12 minutes. No trace seen in the DMH.
43	Bretfwood Road	8-5	1	11/10/2017	1st Floor Toilet		100	0	0	N/A		Dye seen in SMH after 23 minutes. No trace seen in DMH.
48	Bretfwood Road	8-5										Appt scheduled Thurs 12/7 @ 8:00 ; No acess obtained.
51	Bretfwood Road	8-5	1	11/21/2017	Basement Sink		Inconclusive	Inconclusive	1	Ground		Observed DMH & SMH at Pierce@Bretfwood for an hour; no dye seen. SMH appears to have slight blockage at inlet - see photo.
57	Bretfwood Road	8-5	2	11/6/2017	Basement Sink, First Floor Sink		100	0	1	Ground		Dye bright in SMH. Did not see any trace of dye in the DMH after a 30 minute wait.
63	Bretfwood Road	8-5	1	11/21/2017	Basement Sink		100	0	0	N/A		Saw dye in SMH (Bretfwood @ Hastings) after 10 min. Believed to have seen a trace while in field, but photos do not confirm.
69	Bretfwood Road	8-5	1	11/28/2017	Basement Sink		Inconclusive	Inconclusive	0	N/A		Did not see dye in Manholes by Hastings after 30 minute wait. Property owner mentioned the sewer service pipe was going to be fixed (see photos). This may have effected the result.
10	Homer Road	8-5	0	10/24/2017	Not Conducted		Not tested	Not tested	1	One (1) sump pump seen. Does not connect to sewer stack.	None	Visually apparent that house ties into Homer Road sewer (not Pierce Road sewer) based on sewer stack positioning.
22	Homer Road	8-5	2	10/13/2017	Basement Sink and First Floor Toilet		100	0	2	One (1) sump to sewer; One (1) to back yard dry well	Yes - Perimeter french drain to sump pumps	Dye tested all identifiable stacks / sources; finished basement; sewer to Homer Rd
8	Pierce Road	8-5	2		Basement Sink and First Floor Toilet		100	0	0	N/A		Dye seen in SMH after 10 minutes; no trace in DMH after 30 minutes.
11	Pierce Road	8-5	1	10/19/2017	Basement Sink	Indirect	90	10	0	N/A	Basement Drain (Connects to sewer stack)	Sump pit with drain to sewer stack. Traces of dye visible in Drain Manhole. Appears to be an indirect connection.
14	Pierce Road	8-5	1	11/15/2017	Basement Sink		100	0	0	N/A		Bright dye seen in SMH at Pierce/Bretfwood intersection after 6 minutes. No trace in DMH after 30 minutes.
17	Pierce Road	8-5	3	12/1//17	Basement Sink; 1st Floor Sink; 1st Floor Toilet		100	0	1	Sump pump is not hooked up yet. Pit is installed.	Yes - drain pit and outlet. Unsure of connectivity.	Conducted 3 tests. No trace was seen in DMH at Bretfwood/Pierce after a 30+ minute wait.
22	Pierce Road	8-5	3	12/6/2017	Basement Sink; First Floor Toilet; Upstairs Toilet		100	0	1	Ground (Front Yard)		Two sewer stacks in basement. No trace of dye seen in the DMH after 30 minutes.
28	Pierce Road	8-5	1	11/6/2017	Basement Sink		100	0	0	N/A	French drain around property	Dye bright green in SMH. Did not see any trace of dye in the DMH after a 30 minute wait.
112 - 114	Bartlett Ave	8-6	1	11/17/2017	First Floor Toilet		100	0	0	N/A	Cleanout for sewer stack in a pit.	Dye was seen in SMH at Bartlett/Jonathan intersection. No trace seen in DMH by park after 30 minute wait.
117	Bartlett Ave	8-6	1	11/17/2017	Basement Sink		100	0	1	Connects to sewer stack (homeowner says its never used)		Dye seen in SMH at Bartlett/Jonathan intersection after 10 minutes; no trace in DMH after 30 minute wait.
116 - 118	Bartlett Ave	8-6	1	11/20/2017	1st Floor Toilet		100	0	0	N/A		Dye dropped in at 10:05. Observed SMH at Bartlett/Jonathan at 10:18, 10:32; no trace. Observed again at 10:50 and finally saw a trace in the SMH. No trace seen in DMH by park.
121 - 123	Bartlett Ave	8-6	1	11/17/2017	Basement Sink		100	0	1	Ground	Drain Pipe leaving basement 6" above floor slab.	House connects to sewer on King Street. Checked SMH at King/Banks and saw dye.
3 - 5	Jonathan Street	8-6										Dye Test to be conducted. Visit to property to be made on 11/15.
115 - 121	Maple Street	8-6	1	11/8/2017	First Floor Toilet (upstairs - #121)		100	0	2	Ground		Conducted test at #121 (upstairs) toilet. No dye seen at DMH for 20 minutes after test. Saw dye in SMH at Maple / Bartlett intersection.
37	Hoitt Road	10-2	1	10/24/2017	Basement Sink, First Floor Toilet (2 Toilets)	Indirect	80	20	0	N/A	2 stack pipes seen in separate rooms in basement. Could not verify conenctivity to other plumbing.	Performed dye test on sink, then on two separate toilets . Constant stream of dye in SMH at Waterhouse/Hoitt intersection. Constant trace of dye in DMH (somewhat faint) at Waterhouse/Hoitt intersection approx 20 minutes after dye tests had been performed. Appears to be a indirect connection.
43	Hoitt Road	10-2	1	10/14/2017	First Floor Toilet		100	0	1	Cleanout Pit	Could not confirm; Cleanout pit inaccessible	Sump pit under carpet by stairs. Inaccessible. Confirmed 2nd 2" pipe connected to 4" sewer stack by flushing sound test.
49	Hoitt Road	10-2	1	10/18/2017	Basement Sink, First Floor Toilet		100	0	0	N/A	None - Could not find a cleanout.	Strong stream of dye in the Waterhouse/Hoitt intersection approximately 10 minutes after tests had been conducted. Waited another 15 minutes for dye in DMH at Waterhouse/Hoitt intersection, but no traces.
52	Hoitt Road	10-2	1	11/17/2017	Basement Sink		100	0	0	N/A		Dye was seen about 15 minutes in SMH after it was poured in basement sink. No trace seen in DMH after 30 minutes.
55	Hoitt Road	10-2	1	10/20/2017	Basement Toilet		100	0	0	N/A	Basement is finished; Could not locate any structures	Could not locate anything visible. Sewer stack is in a wall, but the cleanout is accessible. No traces of dye seen in DMH.
76	Hoitt Road	10-2	1	10/18/2017	First Floor Toilet		100	0	1	One (1) sump pump connecting to sewer stack.	None	Discovered during dye test that the DMH across from #55 was bone dry. This manhole was apparently also bone dry during the 2008 investigations. Should have inspected this MH previously before conducting dye test.
54	Waterhouse Rd	10-2	1	10/14/2017	First Floor Bathroom Toilet, Basement Sump Sink		100	0	1	Backyard buried drywells with perimeter french drain (new)	Perimeter French Drain	Sump pump pit new. Chronic roof problems in service, according to homeowner.