

**FEDERAL ENERGY  
REGULATORY COMMISSION**

**DECLARATION OF INTENTION  
FOR THE:**

**WARREN ENERGY INDEPENDENCE  
HYDROELECTRIC PROJECT**

**WARREN, CONNECTICUT**

**APPLICANT: Mr. Howard Rosenfeld  
10 Town Hill Road  
Warren, CT 06754**

**September 17, 2010**

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**DECLARATION OF INTENTION  
FOR THE:**

**WARREN ENERGY INDEPENDENCE  
HYDROELECTRIC PROJECT**

**TOWN OF WARREN, CONNECTICUT**

**DECLARATION OF INTENTION**

The location of the project:

State: Connecticut  
County: Litchfield  
Nears Town, etc.: Town of Warren  
River/Body of Water: Sucker Brook, a.k.a. Lake Waramaug Brook

The exact name and address of the applicant is:

Mr. Howard Rosenfeld  
10 Town Hill Road  
Warren, CT 06754  
Phone: 860-868-8087  
E-mail: [xmotifs@gmail.com](mailto:xmotifs@gmail.com)

**PROJECT DESCRIPTION**

The PROJECT will consist of: (1) an existing masonry dam with the approximate dimensions to 80 feet in length, 4 feet wide and 5 feet high F; (2) a sluice gate structure to be located at the left abutment; feeding into (3) a penstock with an diameter of 18-inches and an approximate length of 535 feet; (4) an existing mill building constructed of stone masonry with a square foot-print of approximately 22 by 22 feet and a height of approximately 25 feet; housing (5) a new turbine/generator unit operating with a maximum hydraulic capacity of 5 cfs, with a net head of 40 feet and a maximum capacity of 10 kW; transmitting (7) electrical power connected to a bank of on-site batteries for use on site without the project being connected to the local power grid. *See David Noland*, 130 FERC ¶ 62,267, Par. 5, March 26, 2010 (Order Ruling On Declaration Of Intention And Finding Licensing Not Required). *See, also John Werner*, 126 FERC ¶

62,018 (Order Ruling On Declaration Of Intention And Finding Licensing Not Required)(residence connected to a battery bank) and *Green Valleys Association*, 123 FERC ¶ 62,234 (Order Ruling On Declaration Of Intention And Finding Licensing Not Required)(residence/estate house connected to hydro plant).

The battery bank is shown on the attached documents as part of the existing mill building/barn.

The exact name and business address of the individual(s) authorized by the Petitioner to act as an agent in this application is:

Paul V. Nolan  
5515 North 17th Street  
Arlington, VA 22205-2722

Telephone: (703) 534-5509  
Fax: (703) 538-5257  
E-Mail: pvnvn@aol.com

All communications and correspondence should be directed to Mr. Nolan. Mr. Nolan is the designee for service.

There is no existing powerhouse. The proposed powerhouse will be located on the Petitioner's property.

The address and contact information of the local electric utility company is:

The Connecticut Light and Power Company  
Distributed Resources  
P.O. Box 1409  
Hartford, CT 06143-1409  
Phone: 866-324-2437

## **JURISDICTIONAL ANALYSIS**

1. Navigability of the stream, including current and historical uses.

The stream is not navigable. For example, the stream is not capable of carrying commercial or recreational craft, *e.g.*, canoes, kayaks, or the floatation of logs, shingle bolts, etc.

The stream at the project site was used to power a water wheel for a grist mill located on the Petitioner's property. The wheel is no longer in existence and the remaining portions of the mill house are now part of a barn. *See* attached drawings – existing mill/barn, which will house a bank of batteries.

The current use of the stream is not known other than for passive recreation, *e.g.*, enjoyment of having a stream run through the Petitioner's property.

The stream is also referred to as Lake Waramaug Brook as it feeds into Waramaug Lake. Waramaug Lake is located in Litchfield Country Connecticut within the Towns of Washington, Kent, and Warren. Although a natural lake, the surface elevation of Lake Waramaug has been permanently raised by a concrete and masonry dam. Lake Waramaug is feed by Lake Waramaug Brook, also known as Sucker Brook, a number of small streams, and groundwater that percolates up through the lake bottom. Overflow from Lake Waramaug drains toward the south into the East Aspetuck River. The Aspetuck River Flows into the Housatonic River near the Town of New Milford, CT.

2. The proposed project site is privately owned by Petitioner.
3. The proposed project will not use surplus water or waterpower from a Government Dam.
4. The proposed project will not affect Interstate Commerce. *See David Noland*, 130 FERC ¶ 62,267, Par. 5, March 26, 2010 (Order Ruling On Declaration Of Intention And Finding Licensing Not Required). The propose project's generator will not be connected to the grid.
5. The local power company is CL&P (The Connecticut Light and Power Company).

#### **PROFILE OF THE RIVER AND DURATION CURVE AND HYDROGRAPH**

*See Attached Documents*

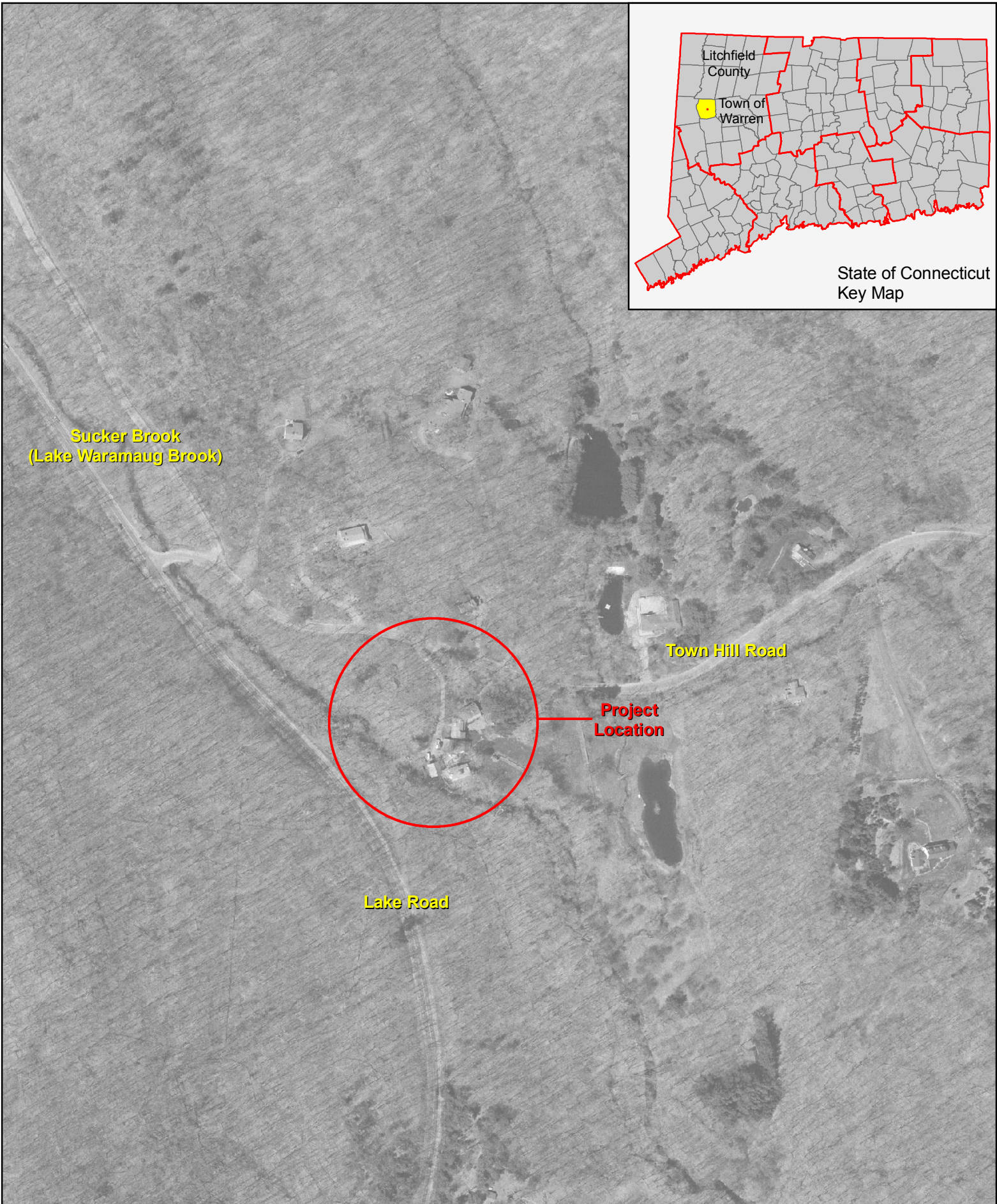
Respectfully submitted this 17<sup>th</sup> day of September 2010.

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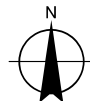
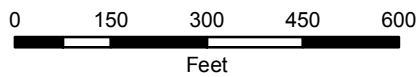
Paul V. Nolan

5515 North 17<sup>th</sup> Street  
Arlington, VA 2205-2722

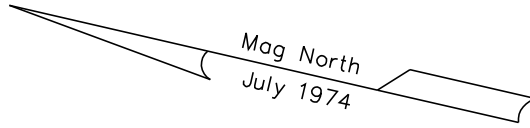
Telephone: (703) 534-5509  
Fax: (703) 538-5257  
E-Mail: pvnvvn@aol.com



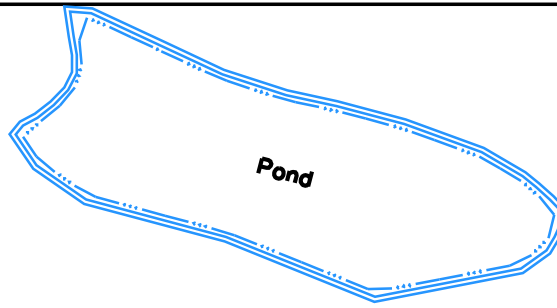
Project Location Map



Source: University of Connecticut  
Map and Geographic  
Information Center



PROPERTY LINE



PROPOSED TURBINE TO BE INSTALLED IN EXISTING MILL WHEEL HOUSE  
CAPACITY: 5 cfs  
NET HEAD: 40 Ft  
GENERATOR CAPACITY: 10 Kw

EXISTING RESIDENCE

EXISTING MILL and battery house

EXISTING BARN/OFFICE

LAKE WARAMAUG BROOK  
APPROXIMATE FLOW: 10 cfs

PROPOSED PENSTOCK:  
18" DIAMETER PVC SCHEDULE 40 PIPE

EXISTING OPEN CHANNEL SLUICE TO BE RECONSTRUCTED TO ACCEPT CLOSED PENSTOCK  
APPROXIMATE LENGTH = 510 FEET

EXISTING MASONRY DAM  
80' (L)x4'(W)x5'(H)

Proposed Sluice Intake

EXISTING STONE MASONRY WHEEL HOUSE

PROPOSED TRANSMISSION INTERCONNECTION POINT

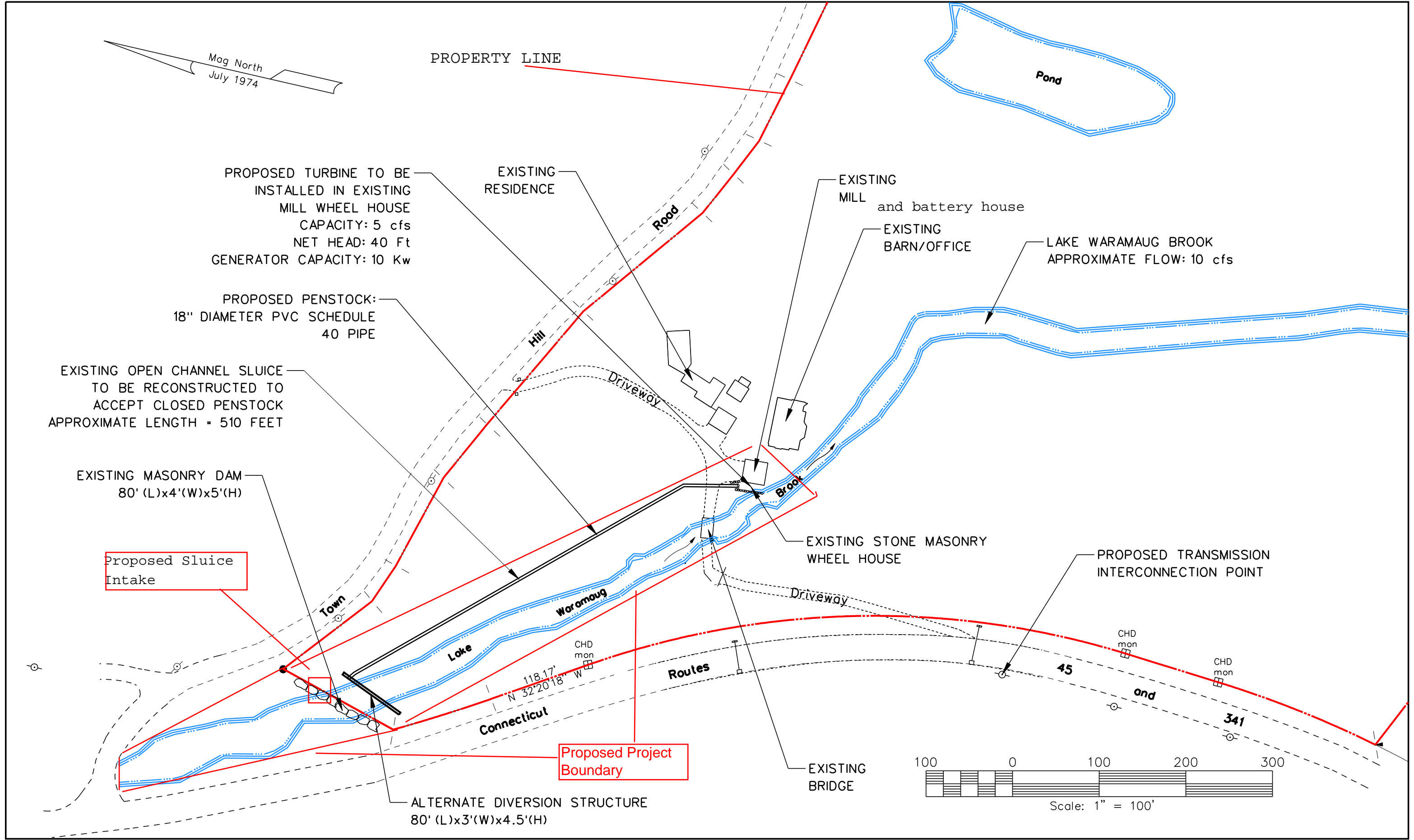
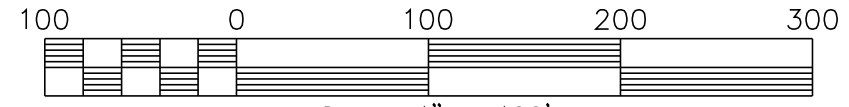
118.17'  
N 32°20'18" W  
Connecticut

Proposed Project Boundary

ALTERNATE DIVERSION STRUCTURE  
80' (L)x3'(W)x4.5'(H)

Routes

EXISTING BRIDGE



Estimated Average Annual Flow Duration

At Lake Waramaug Dam, Washington, CT

Sheet No. 1 of 4

Date 11-24-'09

Computed J. LAVIGNE

Checked

JOB NO.

SQUARES  
N. SCALE

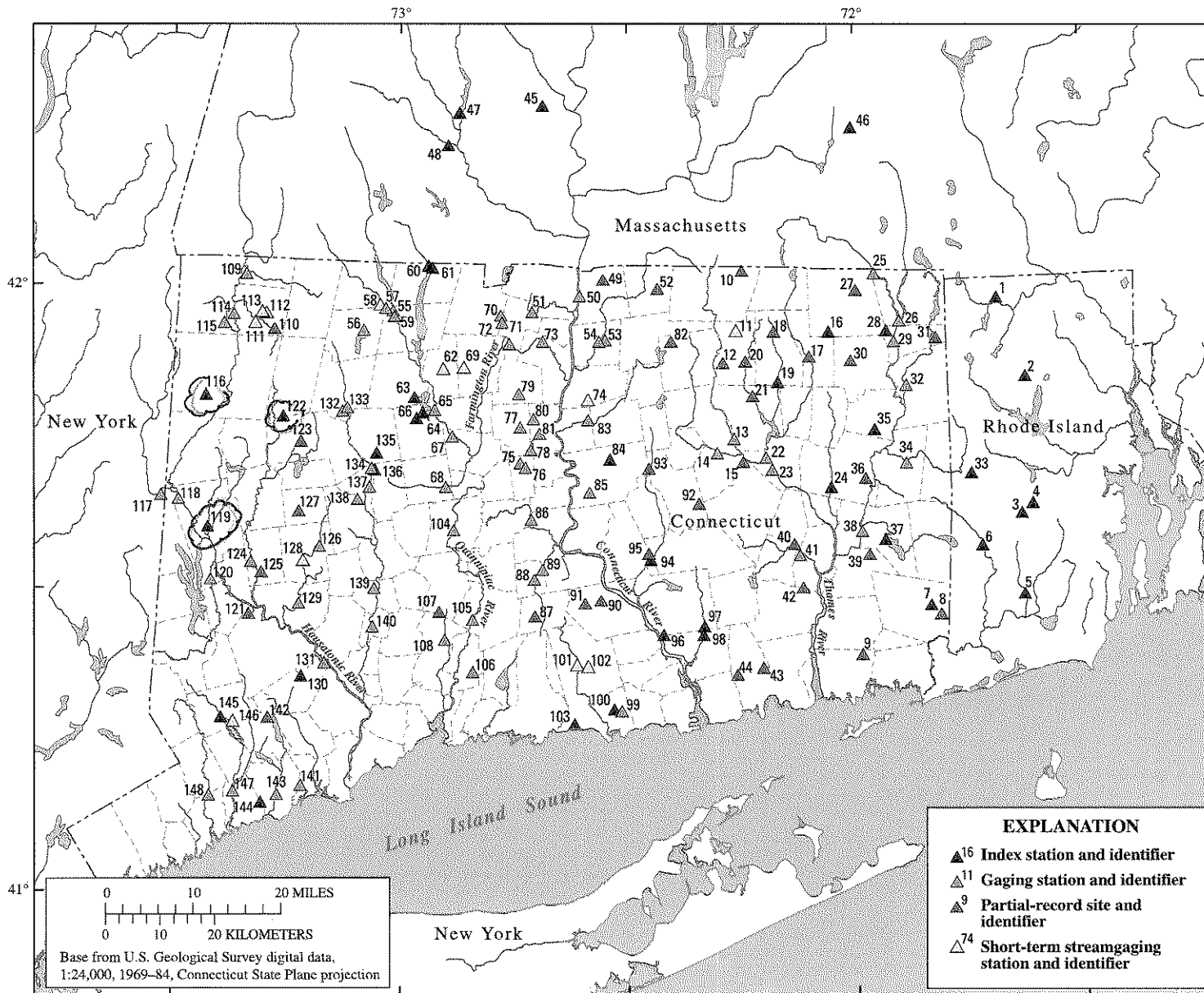
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

DURATION (%)	GAGE #116		GAGE #119		GAGE #122		DAM SITE 8-30
	DA=3.5sm	@ 14.3sm	DA=23.8sm	@ 14.3sm	DA=9.24	@ 14.3sm	AVE.
95	0.07cfs	0.29cfs	2.20cfs	1.32	1.2cfs	1.9	1.2cfs
90	0.19	0.78	3.00	1.8	2.10	3.3	2.0
85	0.35	1.4	4.00	2.4	3.00	4.6	2.8
80	0.59	2.4	5.30	3.2	3.70	5.7	3.8
75	0.96	3.9	7.10	4.3	4.40	6.8	5.0
70	1.40	5.7	9.70	5.8	5.40	8.4	6.6
60	2.60	11.0	16.0	9.6	8.00	12.0	11.0
50	3.80	16.0	21.0	13.0	12.0	19.0	16.0
40	5.50	22.0	29.0	17.0	17.0	26.0	22.0
30	7.80	32.0	38.0	23.0	24.0	37.0	31.0
25	9.20	38.0	44.0	26.0	27.0	42.0	35.0
20	11.0	45.0	53.0	32.0	32.0	50.0	42.0
10	17.0	69.0	79.0	47.0	45.0	70.0	62.0
5	24.0	98.0	152	71.0	60.0	93.0	94.0

Notes:

1. Duration is the per cent of time flow is equaled or exceeded in a year.
2. Estimated average annual flow in cubic feet per second (cfs) at Lake Waramaug Dam.

Source: Ahearn, E.A., "Flow Durations, Low-Flow Frequencies, and Monthly Median Flows For Selected Streams in Connecticut Through 2005"; U.S. Geological Survey Scientific Investigations Report 2007-5270, 2008.



**Figure 1.** Locations of all streamgaging stations and partial-record sites used to estimate flow durations, low-flow frequencies, and monthly median flows for selected streams in Connecticut through 2005. Reference numbers shown above are used to describe the stations in tables 1-9.

Streamflow Statistics at Stations with Continuous Record of 10 Years or More

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S. LAVINNE



**Table 1.** Descriptions of streamgaging stations with 10 or more years of continuous record in Connecticut used to compute flow durations, low-flow frequencies, and monthly median flow statistics.—Continued[USGS, U.S. Geological Survey; mi<sup>2</sup>, square miles; **bold** indicates Index Station]

Map reference number (fig. 1)	USGS station number	Latitude (decimal degrees)	Longitude (decimal degrees)	River name	Town	Years of record	Period of record	Drainage area (mi <sup>2</sup> )
106	01196580	41.3687	-72.8415	Muddy River	North Haven	11	Sep 1962–Sep 1973	18
108	01196620	41.4209	-72.9029	Mill River	Hamden	29	Oct 1968–Sep 1970, Oct 1978–Sep 2005	24.5
109	01198500	42.0240	-73.3418	Blackberry River	North Canaan	22	Oct 1949–Oct 1971	45.9
114	01199000	41.9573	-73.3693	Housatonic River	Salisbury	93	Oct 1912–Sep 2005	634
115	01199050	41.9423	-73.3910	Salmon Creek	Salisbury	44	Oct 1961–Sep 2005	29.4
<b>116</b>	<b>01199200</b>	<b>41.8243</b>	<b>-73.4301</b>	<b>Guinea Brook</b>	<b>Sharon</b>	<b>21</b>	<b>Aug 1960–Oct 1981</b>	<b>3.5</b>
117	01200000	41.6589	-73.5289	Tennile River	Wingdale, New York	72	Oct 1929–Sep 1987, Oct 1991–Sep 2005	203
118	01200500	41.6531	-73.4898	Housatonic River	New Milford	65	Oct 1940–Sep 2005	996
<b>119</b>	<b>01201190</b>	<b>41.6079</b>	<b>-73.4246</b>	<b>West Aspetuck River</b>	<b>New Milford</b>	<b>10</b>	<b>Oct 1962–Sep 1972</b>	<b>23.8</b>
120	01201500	41.5201	-73.4182	Still River	New Milford	35	Oct 1931–Sep 1966	67.5
<b>122</b>	<b>01201930</b>	<b>41.7895</b>	<b>-73.2590</b>	<b>Marshepaug River</b>	<b>Goshen</b>	<b>14</b>	<b>Oct 1967–Oct 1981</b>	<b>9.24</b>
124	01203000	41.7233	-73.2936	Shepaug River	Roxbury	41	Oct 1930–Sep 1971	132
126	01203600	41.5757	-73.1787	Nonnewaug River	Woodbury	19	Oct 1962–Sep 1976, Oct 1978–Sep 1979, Aug 2000–Sep 2000, Oct 2001–Sep 2005	17.7
129	01204000	41.4807	-73.2246	Pomperaug River	Southbury	73	Oct 1932–Sep 2005	75.1
<b>130</b>	<b>01204800</b>	<b>41.3629</b>	<b>-73.2184</b>	<b>Copper Mill Brook</b>	<b>Monroe</b>	<b>18</b>	<b>Oct 1958–Oct 1976</b>	<b>2.45</b>
131	01205500	41.3840	-73.1676	Housatonic River	Oxford	77	Oct 1928–Sep 2005	1,544
132	01205600	41.8009	-73.1234	West Brook Naugatuck River	Torrington	40	Oct 1956–Sep 1992, Oct 1993–Apr 1997	33.8
133	01205700	41.8034	-73.1179	East Branch Naugatuck River	Torrington	41	Oct 1956–Apr 1997	13.6
134	01206000	41.7043	-73.0643	Naugatuck River	Thomaston	29	Oct 1930–Sep 1959	71
<b>135</b>	<b>01206400</b>	<b>41.7295</b>	<b>-73.0532</b>	<b>Leadmine Brook</b>	<b>Harwinton</b>	<b>13</b>	<b>Oct 1960–Oct 1973</b>	<b>19.6</b>
<b>136</b>	<b>01206500</b>	<b>41.7018</b>	<b>-73.0573</b>	<b>Leadmine Brook</b>	<b>Thomaston</b>	<b>29</b>	<b>Oct 1930–Sep 1959</b>	<b>24.3</b>
137	01206900	41.6737	-73.0696	Naugatuck River	Thomaston	45	Oct 1960–Sep 2005	99.8
138	01208013	41.6537	-73.0948	Branch Brook	Watertown	15	Oct 1974–Oct 1989, Apr 1993–May 1993	20.8
139	01208420	41.5059	-73.0582	Hop Brook	Naugatuck	20	Oct 1969–Oct 1989	16.3
140	01208500	41.4423	-73.0626	Naugatuck River	Beacon Falls	83	Oct 1918–Sep 1924, Oct 1928–Sep 2005	260
141	01208873	41.1798	-73.2190	Rooster River	Trumbull	28	Apr 1977–Sep 2005	10.6
143	01208925	41.1657	-73.2704	Mill River	Fairfield	33	Oct 1972–Sep 2005	28.6
<b>144</b>	<b>01208950</b>	<b>41.1529</b>	<b>-73.3059</b>	<b>Sasco Brook</b>	<b>Fairfield</b>	<b>41</b>	<b>Oct 1964–Sep 2005</b>	<b>7.38</b>
<b>145</b>	<b>01208990</b>	<b>41.2945</b>	<b>-73.3951</b>	<b>Saugatuck River</b>	<b>Redding</b>	<b>41</b>	<b>Oct 1964–Sep 2005</b>	<b>21</b>
147	01209500	41.1709	-73.3662	Saugatuck River	Westport	35	Oct 1932–Sep 1967	79.8
148	01209700	41.1637	-73.4193	Norwalk River	Wilton	43	Sep 1962–Sep 2005	30

Source: Ahearn, E.A., "Flow Durations, Low-Flow Frequencies, and Monthly Median Flows For Selected Streams in Connecticut Through 2005": U.S. Geological Survey Scientific Investigations Report 2007-5270, 2008.

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ST. LAWRENCE

**Table 2.** Flow-duration statistics for 91 streamgaging stations with 10 or more years of continuous record in Connecticut.—Continued

[Statistics based on data through water year 2005; USGS, U.S. Geological Survey; mi<sup>2</sup>, square miles; **bold** indicates Index Station]

Map reference number (fig. 1)	USGS station number	River name	Years of record	Drainage area (mi <sup>2</sup> )	Streamflow equaled or exceeded at indicated percentage of time, in cubic feet per second																	1
					99	98	97	95	90	85	80	75	70	60	50	40	30	25	20	10	5	
106	01196580	Muddy River	11	18	1.20	1.50	1.60	2.00	2.60	3.20	4.00	5.20	6.20	9.00	13.0	19.0	26.0	31.0	38.0	62.0	97.0	211
108	01196620	Mill River	29	24.5	2.30	3.20	3.70	4.40	6.30	7.80	9.40	12.0	14.0	20.0	29.0	38.0	48.2	56.0	65.0	98.0	147	354
109	01198500	Blackberry River	22	45.9	3.50	4.40	5.00	6.10	8.74	11.0	14.0	18.0	22.0	30.0	40.0	52.4	71.0	83.0	101	160	241	555
114	01199000	Housatonic River	93	634	117	139	152	177	230	277	323	373	429	560	732	939	1,210	1,400	1,620	2,390	3,220	5,340
115	01199050	Salmon Creek	44	29.4	4.00	4.70	5.30	6.30	8.70	11.0	14.0	16.0	19.0	25.0	32.0	41.0	53.0	61.0	70.0	101	141	283
<b>116</b>	<b>01199200</b>	<b>Guinea Brook</b>	<b>21</b>	<b>3.5</b>	<b>0.00</b>	<b>0.01</b>	<b>0.04</b>	<b>0.07</b>	<b>0.19</b>	<b>0.35</b>	<b>0.59</b>	<b>0.96</b>	<b>1.40</b>	<b>2.60</b>	<b>3.80</b>	<b>5.50</b>	<b>7.80</b>	<b>9.20</b>	<b>11.0</b>	<b>17.0</b>	<b>24.0</b>	<b>46.0</b>
117	01200000	Tennile River	72	203	4.30	5.60	6.30	7.80	11.0	15.0	21.0	28.0	36.0	52.0	73.0	100	133	155	183	283	400	785
118	01200500	Housatonic River	65	996	173	201	221	257	331	409	492	580	676	896	1,160	1,480	1,910	2,190	2,530	3,670	4,940	8,240
<b>119</b>	<b>01201190</b>	<b>West Aspetuck River</b>	<b>10</b>	<b>23.8</b>	<b>0.95</b>	<b>1.30</b>	<b>1.60</b>	<b>2.20</b>	<b>3.00</b>	<b>4.00</b>	<b>5.30</b>	<b>7.10</b>	<b>9.70</b>	<b>16.0</b>	<b>21.0</b>	<b>29.0</b>	<b>38.0</b>	<b>44.0</b>	<b>53.0</b>	<b>79.0</b>	<b>152</b>	<b>204</b>
120	01201500	Still River	35	67.5	16.0	18.0	19.0	21.0	26.0	30.0	34.0	40.0	45.0	59.0	75.0	96.0	123	140	164	250	348	600
<b>122</b>	<b>01201930</b>	<b>Marshepaug River</b>	<b>14</b>	<b>9.24</b>	<b>0.45</b>	<b>0.68</b>	<b>0.80</b>	<b>1.20</b>	<b>2.10</b>	<b>3.00</b>	<b>3.70</b>	<b>4.40</b>	<b>5.40</b>	<b>8.00</b>	<b>12.0</b>	<b>17.0</b>	<b>24.0</b>	<b>27.0</b>	<b>32.0</b>	<b>45.0</b>	<b>60.0</b>	<b>125</b>
124	01203000	Shepaug River	41	132	7.30	8.60	9.70	12.0	17.0	24.0	32.0	42.0	56.0	90.0	135	189	257	300	354	530	725	1,360
126	01203600	Nonewaug River	19	17.7	0.80	1.00	1.20	1.60	2.70	3.50	4.40	5.40	7.00	11.5	16	23	30	35	42.0	65.0	99.0	238
129	01204000	Pomperaug River	73	75.1	7.40	8.72	9.80	12.0	16.0	21.0	26.0	33.0	40.0	59.0	80.0	106	139	159	185	275	398	850
130	01204800	Copper Mill Brook	18	2.45	0.10	0.14	0.17	0.21	0.35	0.53	0.70	0.90	1.20	1.90	2.80	3.80	4.90	5.70	6.80	11.0	16.0	37.2
131	01205500	Housatonic River	77	1,544	63.0	75.5	87.0	108	240	440	625	800	974	1,390	1,870	2,450	3,180	3,630	4,140	5,900	7,400	12,700
132	01205600	West Branch Naugatuck River	40	33.8	2.10	2.90	3.50	4.20	6.00	7.70	10.0	13.0	16.0	24.0	32.0	43.0	58.0	69.0	84.0	138	211	471
133	01205700	East Branch Naugatuck River	41	13.6	1.80	2.10	2.30	2.60	3.40	4.40	5.50	6.70	8.20	11.0	15.0	19.0	25.0	29.0	35.0	55.0	88.0	182
134	01206000	Naugatuck River	29	71	16.0	17.0	18.0	20.0	24.0	27.0	30.0	34.0	39.0	54.0	76.0	103	139	161	195	310	470	1,020
135	01206400	Leadmine Brook	13	19.6	0.60	0.84	1.00	1.30	2.30	3.70	6.00	8.80	12.0	19.0	23.0	30.0	38.0	45.0	52.0	81.0	116	247
136	01206500	Leadmine Brook	29	24.3	0.60	0.80	0.90	1.30	2.30	3.60	5.50	7.70	10.0	16.0	25.0	35.0	47.0	56.0	67.0	110	167	358
137	01206900	Naugatuck River	45	99.8	13.0	15.0	17.0	19.0	26.0	33.0	40.0	50.0	61.0	86.0	114	149	193	224	267	435	676	1,570
138	01208013	Branch Brook	15	20.8	0.41	0.55	0.74	1.50	3.60	5.30	7.00	8.30	9.80	13.0	17.0	23.0	32.0	37.0	43.0	67.0	109	383
139	01208420	Hop Brook	20	16.3	0.85	1.10	1.30	1.80	3.10	4.60	6.10	7.60	9.40	14.0	20.0	26.0	33.0	37.0	44.0	70.0	116	280
140	01208500	Naugatuck River	83	260	64.0	72.0	77.0	86.0	105	121	139	160	186	246	321	416	538	624	724	1,110	1,630	3,090
141	01208873	Rooster River	28	10.6	1.10	1.40	1.50	1.80	2.60	3.20	3.90	4.60	5.50	7.30	9.40	12.0	14.0	16.0	19.0	30.0	49.0	135
143	01208925	Mill River	33	28.6	1.30	1.80	2.00	2.60	4.10	5.50	7.10	8.90	11.0	15.0	21.0	28.0	38.0	45.0	53.6	85.0	121	273
144	01208950	Sasco Brook	41	7.38	0.09	0.16	0.23	0.36	0.75	1.20	1.80	2.60	3.40	5.40	7.90	11.0	14.0	16.0	19.0	29.0	44.0	100
145	01208990	Saugatuck River	41	21	0.35	0.62	0.89	1.30	2.60	4.10	6.20	8.50	11.0	18.0	25.0	34.0	44.0	50.0	60.0	92.0	129	258
147	01209500	Saugatuck River	35	79.8	2.60	4.56	5.80	7.10	9.60	12.0	14.0	18.0	21.0	34.0	53.0	127	155	190	296	416	808	
148	01209700	Norwalk River	43	30	1.80	2.40	2.90	3.70	5.40	7.30	9.60	12.0	16.0	23.0	33.0	44.0	59.0	69.0	82.0	125	178	392

Source: Ahearn, E.A., "Flow Durations, Low-Flow Frequencies, and Monthly Median Flows For Selected Streams in Connecticut Through 2005": U.S. Geological Survey Scientific Investigations Report 2007-5270, 2008.

5/17/09  
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Table 2