

- c) Is there a pending NPDES application on file with EPA for this discharge? yes ☐ no ☒
 If yes, date of submittal: _____ and permit number, if available _____

7. Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water.
Map attached? ☒

B. Discharge Information (attach additional sheets as needed):

1. Name of receiving water into which discharge will occur: Concord River
 Freshwater ☒ Marine Water ☐
 State Water Quality Classification Class B
 Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.) River

2. Attach a line drawing or flow schematic showing water flow through the facility including sources of intake water, operations contributing to flow, treatment units, outfalls, and receiving water(s). **Line drawing or flow diagram attached?** ☒

3. Describe the discharge activities for which the owner/applicant is seeking coverage (e.g., building cooling, process line cooling, etc.) Rendering plant heat exchanger cooling

4. Number of Outfalls 1 Latitude and Longitude to the nearest second for each Outfall. See EPA's siting tool at http://www.epa.gov/tri/reporting/siting_tool. Attach additional pages if necessary.

Outfall # 1	Latitude <u>42°36'26"</u>	Longitude <u>71°17'42"</u>
Outfall #	Latitude _____	Longitude _____
Outfall #	Latitude _____	Longitude _____

5. For each Outfall provide the following discharge information:

Outfall # 1
 a) Maximum Daily Flow 0.0039 MGD Average Monthly Flow 0.0031 MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
 b) Maximum Daily Temperature 80 °F Average Monthly Temperature 55 °F
 c) Maximum Monthly pH 8.3 s.u. Minimum Monthly pH 6.5 s.u.
 d) Outfall's discharge is: continuous ☒ intermittent ☐ seasonal ☐

Outfall # _____
 a) Maximum Daily Flow _____ MGD Average Monthly Flow _____ MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
 b) Maximum Daily Temperature _____ °F Average Monthly Temperature _____ °F
 c) Maximum Monthly pH _____ s.u. Minimum Monthly pH _____ s.u.
 d) Outfall's discharge is: continuous ☐ intermittent ☐ seasonal ☐

Outfall # _____
 a) Maximum Daily Flow _____ MGD Average Monthly Flow _____ MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
 b) Maximum Daily Temperature _____ °F Average Monthly Temperature _____ °F
 c) Maximum Monthly pH _____ s.u. Minimum Monthly pH _____ s.u.
 d) Outfall's discharge is: continuous ☐ intermittent ☐ seasonal ☐

6. Is the source of the NCCW potable water? yes ☐ no ☒

If yes, EPA will calculate a Total Residual Chlorine effluent limit for your facility.

7. Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 10.4 MGD
Attach any calculation sheets used to support stream flow and/or dilution calculations.

8. For facilities that discharge to Massachusetts surface waters:

a) Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment B of the General Permit. Calculation attached? ☒

b) Does the discharge occur in an Area of Critical Environmental Concern (ACEC)? yes ☐ no ☒

If yes, provide the name of ACEC _____

Note: See Part 3.4 and Appendix 1 of the General Permit for more information on ACEC.

C. Chemical Additives

1. Are any non-toxic neutralization and/or dechlorination chemicals used in the discharge(s)? yes ☐ no ☒

2. If yes, attach a listing of each chemical used. Include the chemical name and manufacturer; maximum and average daily quantity used on a monthly basis, as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for typically acceptable aquatic organism).

3. Was the listing submitted with the facility's 2008 NCCWGP NOI? yes ☐ no ☐

D. NCCW Source Water Information

1. State the source of the NCCW (e.g., municipal water supply, private well, surface water withdrawal, etc.).

Source surface water withdrawal Name of Source Water Concord River

2. Is the source water registered/permitted under MA Water Management Act or NHDES User Registration Rule (ENV WQ 2202)? yes ☐ no ☒ If yes, registration number _____

3. If the source water is groundwater (non-municipal well water), see Appendix 9 of the General Permit and submit effluent (and receiving water hardness) test results, as required in Part 5.4 of the General Permit.

Test results attached? ☐

4. Does the facility use both a primary and backup source of NCCW? yes ☐ no ☒ If yes, attach information that identifies and explains the primary and backup sources of NCCW and how often the backup supply was used in the past three years.

E. Best Technology Available for Cooling Water Intake Structures (CWISs)

If the facility's discharge is covered by this General Permit and the facility **withdraws non-contact cooling water from a surface water**, you are subject to the BTA requirements at Part 4.2 of the General Permit.

1. Are you subject to the BTA requirements of the General Permit? yes ☒ no ☐

a) If no, explain _____ and skip to F.

b) If yes, was the facility-specific BTA description submitted with the facility's 2008 NCCW GP NOI?
yes ☒ no ☐

c) If yes, does that description accurately describe the facility current operations and practices? yes ☒ no ☐

2. If the facility is subject to the General Permit's BTA requirements and is requesting coverage under the NCCWGP for the first time, or if you answered "No" to question E.1.c. above, attach the facility-specific BTA description as required in Part 4.2 of the General Permit. For additional information and guidance, see Section IV of the Fact Sheet.

Include in your description:

- Measures to meet the General Permit Part 4.3.a general BTA requirements, including documentation that describes the facility's monitoring program for impinged fish and/or invertebrate; or the required alternative monitoring plan frequency and/or protocol.
- A characterization of the source water body's aquatic life habitat in the vicinity of each CWIS during the seasons when the CWIS may be in use.
- The attributes of the current CWIS.
- The design measures of the CWIS.
- The operation measures of the CWIS.
- The historical occurrence of impinged fish for the past five years.
- If applicable, a demonstration that the facility's intake rate is commensurate with a closed-cycle recirculation system.
- Other components to reduce impingement and/or entrainment of aquatic life.

3. Provide the following information for each CWIS to support your attached facility-specific BTA description:

- The design capacity of the of the CWIS 0.022 MGD
- Maximum monthly average intake of the CWIS during the previous five years 0.00279 MGD
- The month in which this flow reported in 3.b. occurred June 2011
- The maximum through-screen design intake velocity 0.07 feet/second (fps)

4. For facilities where the CWIS is located on a freshwater river or stream, provide the following information:

- The source water's annual mean flow in MGD as available from USGS or other appropriate source 423 MGD
- The design intake flow as a % of the source water's annual mean flow 0.005 %
Attach calculations if equal to or less than 5% of annual mean flow.
- The source water's 7Q10 10.4 MGD
- The design intake flow as a percent of the source water's 7Q10 0.21 %

5. Provide a map showing the location of each cooling water intake structure; NCCW Outfall(s) and CWIS features referred to in the BTA description. **Map attached?** ☒

F. Endangered Species Act Eligibility Information

Using the instructions in Appendix 2 of the NCCW GP, which of the following criteria apply to your facility? USFWS

Criteria: A ☒ B ☐ C ☐

1. If you selected USFWS criteria B, has consultation with the U.S. Fish and Wildlife Service been completed?

yes ☐ no ☐

2. If consultation with US Fish & Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received?

yes ☐ no ☐

3. Attach documentation of ESA eligibility for USFWS as required at Part 3.4 and Appendix 2 of the General Permit.

Documentation attached? x

4. Please indicate if your facility **directly intakes water for non-contact cooling** from any of the following waterbodies:

- ☐ Merrimack River
- ☐ Connecticut River
- ☐ Piscataqua River
- ☐ Taunton River

EPA will consult with the National Marine Fisheries Service on cooling water intakes covered under this permit in areas (in the above waterbodies) of the endangered Shortnose Sturgeon and Atlantic Sturgeon.

G. National Historic Properties Act Eligibility

1. Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? yes ☐ no ☒

2. Have any State or Tribal Historic Preservation Officers been consulted in this determination? yes ☐ no ☒
If yes, attach the results of the consultation(s).

3. Which of the three National Historic Preservation Act scenarios listed in Appendix 3, Section C have you met?
☒ 1 ☐ 2 ☐ 3

H. Supplemental Information

Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

I. Signature Requirements

The NOI must be signed by the operator in accordance with the signatory requirements of 40 CFR § 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product (other than heat) or finished product; (4) if the discharge of noncontact cooling water subsequently mixes with other wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for noncontact cooling water; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Craig R Williams

Date

November 14, 2014Printed Name and Title Craig Williams, Plant Manager

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.



SOURCE: USGS QUADRANGLE MAP;
BILLERICA, MASSACHUSETTS

figure 1

NON-CONTACT COOLING WATER NOTICE OF INTENT
BAKER COMMODITIES
134 BILLERICA AVENUE
North Billerica, Massachusetts



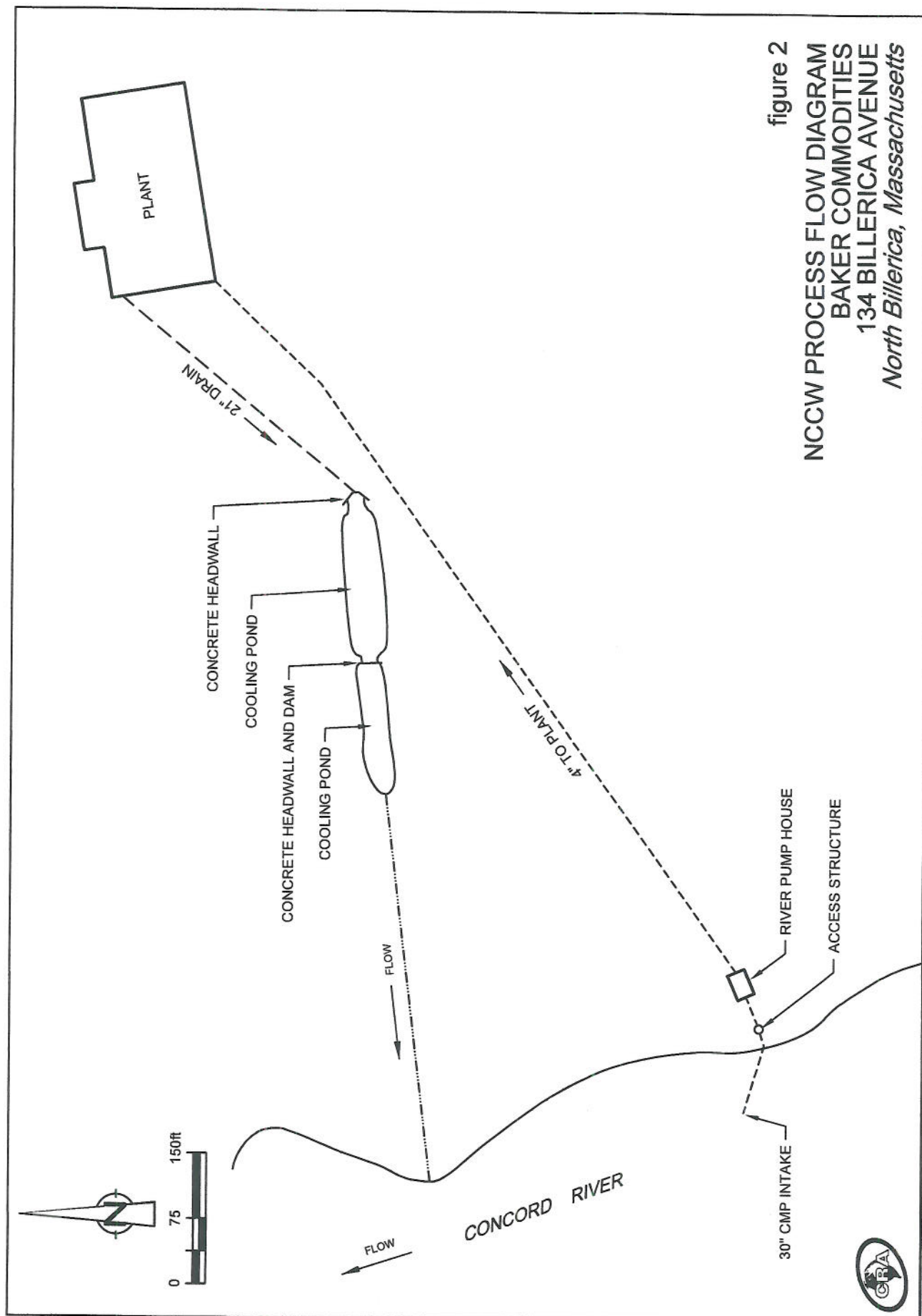


figure 2
 NCCW PROCESS FLOW DIAGRAM
 BAKER COMMODITIES
 134 BILLERICA AVENUE
 North Billerica, Massachusetts



Attachment A

Water Data Report 2013

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MA

MERRIMACK RIVER BASIN
CONCORD RIVER SUBBASIN

LOCATION.--Lat 42°38'12", long 71°18'09" referenced to North American Datum of 1927, Middlesex County, MA, Hydrologic Unit 01070005, on right bank 300 ft downstream from Rogers Street Bridge at Lowell, 0.3 mi downstream from River Meadow Brook, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--400 mi² of which 93 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge: October 1936 to current year. October, November 1936, monthly discharge only, published in WSP 1301. Water-quality records: water years 1953, 1967-74.

REVISED RECORDS.--WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 67.41 ft above National Geodetic Vertical Datum of 1929.

COOPERATION.--Massachusetts Department of Conservation and Recreation, Office of Water Resources.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Low flow regulated by mills upstream. Daily discharge includes undiverted water from 93 mi² in basins of Sudbury River and Lake Cochituate. Prior to December 1961, diversion upstream for use by city of Lowell.

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	184	1,090	222	1,120	590	1,390	1,260	465	648	1,110	419	87
2	176	1,160	226	1,030	676	1,570	1,220	420	605	1,100	449	122
3	178	1,140	230	953	675	1,700	1,190	363	575	936	441	172
4	183	1,040	231	890	646	1,740	1,170	340	533	870	440	190
5	187	923	247	818	607	1,730	1,100	314	496	784	413	183
6	179	816	254	750	572	1,700	1,020	298	455	689	329	168
7	159	706	257	685	535	1,680	977	289	454	600	281	151
8	153	639	266	631	500	1,690	910	282	948	520	227	128
9	144	610	288	585	e304	1,690	856	313	1,160	449	247	115
10	136	569	343	561	e507	1,650	822	384	1,380	394	329	105
11	150	528	387	551	464	1,640	803	448	1,710	361	399	97
12	146	487	413	552	493	1,670	805	473	1,910	331	435	108
13	144	446	408	556	534	1,800	844	469	2,010	319	415	266
14	155	419	388	586	566	1,900	877	448	2,290	319	371	276
15	155	415	348	617	592	1,980	895	421	2,440	323	321	309
16	165	416	300	647	608	2,000	892	394	2,540	321	243	298
17	180	403	288	664	e560	1,970	864	352	2,580	291	206	257
18	191	370	389	663	e571	1,920	826	327	2,530	250	186	209
19	207	329	512	666	565	1,880	799	287	2,440	222	138	166
20	325	313	605	652	591	1,850	795	266	2,340	190	130	137
21	377	317	681	629	604	1,780	762	246	2,250	129	130	120
22	370	322	741	594	612	1,710	739	270	2,150	141	114	136
23	336	321	772	546	609	1,620	697	302	2,020	263	99	134
24	297	310	769	506	636	1,560	676	371	1,850	383	95	137
25	261	284	741	423	681	1,500	662	423	1,680	463	89	128
26	247	256	699	380	715	1,470	637	521	1,500	675	87	114
27	307	236	845	333	867	1,440	603	553	1,330	651	81	104
28	357	232	1,010	310	1,180	1,400	572	541	1,220	577	80	96
29	452	235	1,100	304	---	1,360	536	532	1,120	559	79	92
30	759	228	1,170	334	---	1,320	503	583	1,040	554	82	87
31	936	---	1,150	490	---	1,290	---	604	---	475	94	---
Total	8,196	15,560	16,280	19,026	17,060	51,600	25,312	12,299	46,204	15,249	7,449	4,692
Mean	264	519	525	614	609	1,665	844	397	1,540	492	240	156
Max	936	1,160	1,170	1,120	1,180	2,000	1,260	604	2,580	1,110	449	309
Min	136	228	222	304	304	1,290	503	246	454	129	79	87
Cfsm	0.86	1.69	1.71	2.00	1.98	5.42	2.75	1.29	5.02	1.60	0.78	0.51
In.	0.99	1.89	1.97	2.31	2.07	6.25	3.07	1.49	5.60	1.85	0.90	0.57

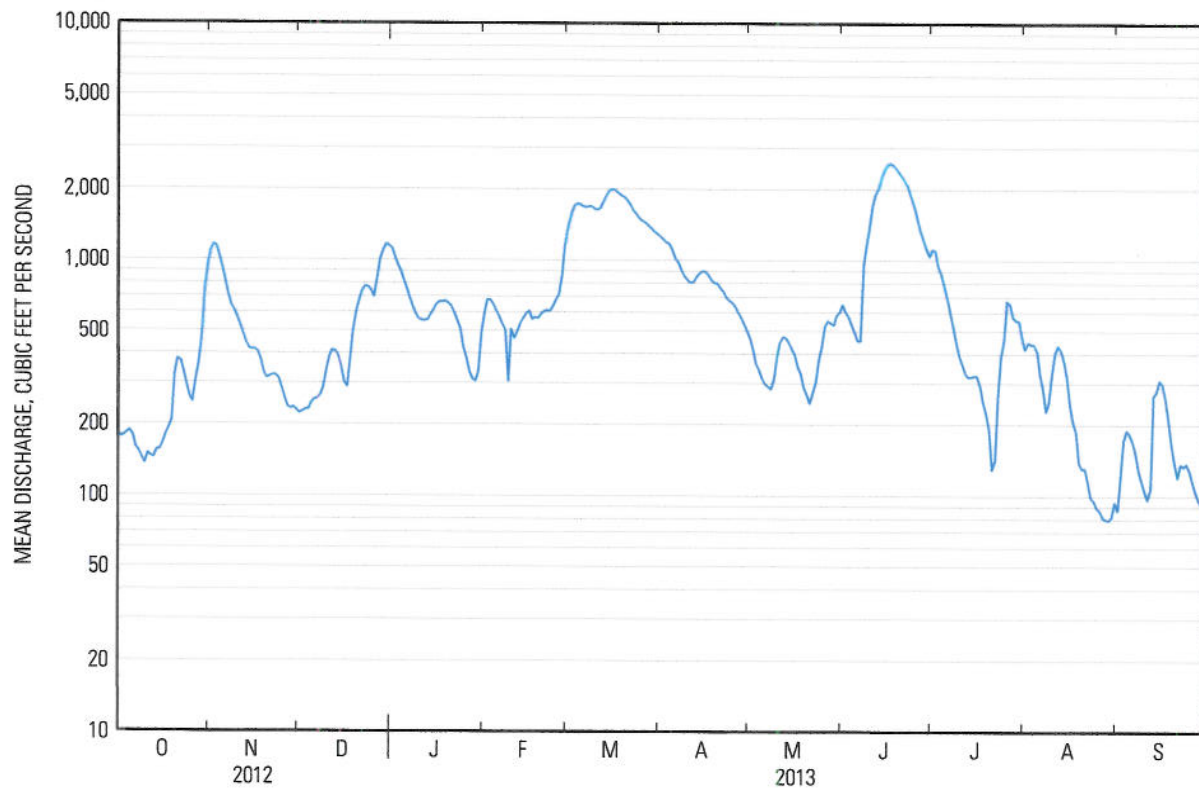
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	354	548	745	751	865	1,299	1,336	833	570	291	247	246
Max	1,460	1,866	1,853	1,996	2,061	3,514	3,149	1,923	2,502	1,512	1,403	1,694
(WY)	(2006)	(1956)	(1997)	(1979)	(2008)	(2010)	(1987)	(2006)	(1982)	(1938)	(1955)	(1954)
Min	38.3	86.3	133	150	230	479	377	283	116	50.0	33.1	25.4
(WY)	(1942)	(2002)	(1966)	(1981)	(1980)	(1989)	(1966)	(1941)	(1964)	(1949)	(1966)	(1957)

01099500 CONCORD RIVER BELOW RIVER MEADOW BROOK AT LOWELL, MA—Continued

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1937 - 2013	
Annual total	177,436		238,927			
Annual mean	485		655		673	
Highest annual mean					1,121	2006
Lowest annual mean					242	1966
Highest daily mean	1,310	Jan 30	2,580	Jun 17	5,590	Mar 18, 2010
Lowest daily mean	74	Jul 16	79	Aug 29	4.0	Sep 29, 1957
Annual seven-day minimum	81	Sep 12	84	Aug 26	16	Sep 26, 1957
Maximum peak flow			2,650	Jun 17	5,840	Mar 17, 2010
Maximum peak stage			7.56	Jun 17	9.74	Mar 17, 2010
Instantaneous low flow			45	Jul 21		
Annual runoff (cfs)	1.58		2.13		2.19	
Annual runoff (inches)	21.50		28.95		29.77	
10 percent exceeds	916		1,590		1,430	
50 percent exceeds	406		496		501	
90 percent exceeds	108		145		102	



Attachment B

Calculations

**Attachment B
Calculations**

**Baker Commodities Inc.
134 Billerica Ave.
N.Billerica, MA 01862**

MAG250026

Part B, 8a

Surface Water Temperature Rise

$$\Delta T_r = m_p / m_r \times \Delta T_p$$

m_p = MGD of effluent

m_r = MGD of river

T_r = change in river temp

T_p = change in temperature, effluent - influent

$$\Delta T_r = (0.022 \text{ MGD} / 10.4 \text{ MGD}) \times (80F - 57.5F) = \boxed{0.48} \text{ degrees F}$$

Part E, 4

CWIS Calculations

	ft3/sec (from USGS)	ft3/min	ft3/hour	ft3/day	gal/day	MGD
A) Source Water Annual Mean Flow	655	39300	2358000	56592000	423308160	423.30816

B) Design Intake Flow as % of Annual mean Flow

Design Flow (GPD)	Annual Mean Flow (GPD)	Percentage
21600	423308160	0.005%

	ft3/sec (from USGS)	ft3/min	ft3/hour	ft3/day	gal/day	MGD
C) Source Water's 7Q10	16.1	966	57960	1391040	10404979.2	10.40

D) Design Intake Flow as Percent of 7Q10

Design Flow (GPD)	Design Flow (MGD)	Source 7Q10 (MGD)	Percentage
21600	0.0216	10.4049792	0.21%

Attachment C

USFWS Criteria Documentation



U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
<http://www.fws.gov/newengland>

Project Name:

Baker Commodities



U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:



Project Counties:

Middlesex, MA

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-71.2895162 42.6087561, -71.2925261 42.6085138, -71.2975043 42.6075662, -71.2993068 42.6124935, -71.2906379 42.613441, -71.2895162 42.6087561)))

Project Type:

Water Withdrawal / Depletion



Trust Resources List

Endangered Species Act Species List ([USFWS Endangered Species Program](#)).

There are no listed species found within the vicinity of your project.

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#)).

There are no refuges found within the vicinity of your project.

FWS Migratory Birds ([USFWS Migratory Bird Program](#)).

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: <http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.



Trust Resources List

Migratory birds of concern that may be affected by your project:

There are 15 birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to [the ECOS Help Desk](#).

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American Oystercatcher (<i>Haematopus palliatus</i>)	Yes	species info	Breeding
American bittern (<i>Botaurus lentiginosus</i>)	Yes	species info	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	species info	Year-round
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	Yes	species info	Breeding
Blue-winged Warbler (<i>Vermivora pinus</i>)	Yes	species info	Breeding
Canada Warbler (<i>Wilsonia canadensis</i>)	Yes	species info	Breeding
Least Bittern (<i>Ixobrychus exilis</i>)	Yes	species info	Breeding
Peregrine Falcon (<i>Falco peregrinus</i>)	Yes	species info	Breeding
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	Yes	species info	Breeding
Prairie Warbler (<i>Dendroica discolor</i>)	Yes	species info	Breeding
Purple Sandpiper (<i>Calidris maritima</i>)	Yes	species info	Wintering
Short-eared Owl (<i>Asio flammeus</i>)	Yes	species info	Wintering
Snowy Egret (<i>Egretta thula</i>)	Yes	species info	Breeding



Trust Resources List

Wood Thrush (<i>Hylocichla mustelina</i>)	Yes	species info	Breeding
Worm eating Warbler (<i>Helmitheros vermivorum</i>)	Yes	species info	Breeding

NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

Data Limitations, Exclusions and Precautions

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and



Trust Resources List

nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

The following wetland types intersect your project area in one or more locations:

Wetland Types	NWI Classification Code	Total Acres
Freshwater Emergent Wetland	PEM1/5C	7.8844
Freshwater Emergent Wetland	PEM1/FO1E	3.4962
Freshwater Forested/Shrub Wetland	PFO1/SS1C	31.6838
Freshwater Forested/Shrub Wetland	PFO1/SS1E	26.1201
Freshwater Forested/Shrub Wetland	PFO1C	30.5078
Freshwater Forested/Shrub Wetland	PFO1A	13.9102
Riverine	R2UBH	837.2046