



5/20/10
Received

May 18, 2010

Diane Marino-Eiler
Director
Real Estate Investments

US Environmental Protection Agency
NCCW GP Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

**RE: NCCW General Permit Application
Exeter Mill Apartments
Exeter, New Hampshire**

Dear Permit Reviewer:

The Exeter Mill Apartments (the Facility) in Exeter, New Hampshire is submitting the attached Notice of Intent (NOI) for a Non-Contact Cooling Water (NCCW) General Permit associated with our Facility's use of surface water from the Exeter River for our closed-loop, non-contact cooling water, which provides air conditioning to 134 units of our 161 unit multi-family apartment complex. The NOI is accompanied by a number of exhibits, which support the information presented in the NCCW General Permit application.

The Exeter Mill site dates back to the 1830's when the original mill building was constructed, using river water to move a water wheel which powered spinning looms for the manufacturing of fine cotton. The use of river water for cooling purposes dates back to 1955 when the first air conditioning system was installed in the main mill building. Manufacturing ceased in the mill complex in the early 1980's, until the site was redeveloped into apartments in 1987. The current Facility continues to use river water for non-contact cooling, emergency fire suppression and irrigation.

In anticipation of submitting the NOI, the Facility installed a flow meter in late-August 2009, which recorded cooling water flow until the cooling system was shut down for the season in late-September 2009. The average daily river water usage for the period recorded was approximately 200,000 gallons per day.

The Facility is submitting the enclosed NOI and NCCW General Permit application while at the same time evaluating alternatives to once-through cooling. We request the opportunity to continue use of the current NCCW system to provide air conditioning to our residents during the 2010 cooling season while recording site-specific data for each day that the NCCW system operates (see Exhibit K for a list of proposed monitoring parameters). We propose to

739-EMA-DL-20100507-Ltr to EPA



US EPA Region One
NCCW GP – CMU
May 13, 2010
Page 2

report this information monthly to the US EPA Region One office and to the NH Department of Environmental Services Water Division (to Mr. Jeffrey Andrews, PE) during the 2010 cooling water season. We believe the data will be useful in defining actual river water usage and temperature ranges of incoming river water and discharged river water.

We appreciate your review and comment of the attached Notice of Intent (NOI) for a Non-Contact Cooling Water (NCCW) General Permit associated with our Facility's use of surface water from the Exeter River for our closed-loop, non-contact cooling water.

Please do not hesitate to contact me or our engineer who supported the preparation of the attached documents, Mr. Joseph M. Ducharme, Jr., PE, of CMA Engineers, Inc. at 603.627.0708.

Sincerely,

GUARDIAN LIFE INSURANCE COMPANY, INC.

Ms. Diane Marino-Eiler
Asset Manager

Attachments

cc: Mr. Jeffery Andrews, PE, NH DES
Mr. John O'Connor, The Dolben Company
Ms. Tracy Montgomery, On-Site Property Manager
Mr. Joseph M. Ducharme, Jr., PE, CMA Engineers, Inc.

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT A
Apr-10

APPENDIX 5

Suggested Form for Notice of Intent (NOI) for the Noncontact Cooling Water General Permit
1. General facility information. Please provide the following information about the facility.

a) Name of facility: Exeter Mill Apartments		Type of Business: Multi-Family Apartment Complex
Facility Location Address : 10 Chestnut Street Exeter, NH 03833	Facility SIC codes: NAICS 531110	Facility Mailing Address (if not location address) (same)
longitude: -70d 56' 43.9" latitude: 42d 58' 56.6"		Email address of owner: dmarino@glic.com
b) Name of facility owner: Guardian Life Insurance Co.	Owner is (check one): 1. Federal _____ 2. State _____ 3. Tribal _____ 4. Private ☒ 5. Other _____ (Describe)	
Owner's Tel #: (212) 598-8274 Owner's Fax #: (212) 919-2149		
Address of owner (if different from facility address) 7 Hanover Square, 20-C New York, NY 10004-2616		
Legal name of Operator, if not owner: The Dolben Company		
Operator Contact Name: Mr. John M. O'Connor		
Operator Tel Number: (781) 404-4200		Fax Number: (781) 376-4252
Operator's email: joconnor@dolben.com		
Operator Address (if different from owner) 150 Presidential Way, Suite 220, Woburn, MA 01801		
d) Attach topographic map indicating the locations of the facility and the receiving water; all NCCW discharge points; upstream and downstream monitoring points. Map attached? ☒		
e) Check Yes or No for the following:		
1. Has a prior NPDES permit been granted for the discharge? Yes _____ No ☒ If Yes, Permit Number: _____		
2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes _____ No ☒ (CWI/discharge dates to 1955)		
3. Is the facility covered by an individual NPDES permit? Yes _____ No ☒ If Yes, Permit Number _____		
4. Is there a pending application on file with EPA for this discharge? Yes _____ No ☒ If Yes, date of submittal: _____		

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT A
Apr-10

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: Squamscott River
State Water Quality Classification: Class B Freshwater Marine Water: Yes

b) Describe the discharge activities for which the owner/applicant is seeking coverage: Discharge of non-contact cooling water used for air conditioning system at multi-family apartment complex

c) FOR MASSACHUSETTS FACILITIES ONLY: Engineering Calculations: Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment A of the General Permit. Check if attached:

d) Number of outfalls 1

For each outfall:

e) What is the maximum daily and average monthly flow of the discharge? Note that EPA will use the flow reported here as the facility's permitted effluent flow limit. Max Daily Flow 1,000,000 GPD Average Flow 420,000 GPD

f) What is the maximum daily and average monthly temperature of the discharge (in degrees F)? Max Temp. unkn. Average Temp. unkn.

g) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH river Min pH river

h) FOR MASSACHUSETTS FACILITIES ONLY: Is the source water of the NCCW potable water? Yes No If Yes, EPA will calculate the Total Residual Chlorine limit for facilities located in Massachusetts.

i) Is the discharge continuous? Yes No ✓ If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) B
If (P), number of days or months per year of the discharge -- and the specific months of discharge May through September ;
If (I), number of days/year there is a discharge <150 d/yr

j) Latitude and longitude of each discharge within 100 feet: outfall 1: long. -70 56' 44.5" lat. 42 58' 56.7"; outfall 2: long. lat. ;
outfall 3: long. lat. (See http://www.epa.gov/tri/report/siting_tool)

k) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 1.95 (per NHDES) cfs
Please attach any calculation sheets used to support stream flow and dilution calculations. See General Permit Attachment B for equations and additional information.

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

Areas of Critical Environmental Concern (ACEC): Does the discharge occur in an ACEC? Yes No
If yes, provide the name of the ACEC:

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT A
Apr-10

3. NCCW Source Water Information. Please provide information about the NCCW source water, using separate sheets as necessary:

a) Indicate source of the NCCW (i.e., municipal water supply, private well, surface water withdrawal, groundwater): Source: <u>surface water</u> Name of Source Water: <u>Exeter River</u> Is the source registered/permited under MA Water Management Act or NHDES Water User Registration Rule (Env Wq 2202)? Yes ☒ No ☐ If yes, registration number: <u>208-67-S01</u>	b) If source water is surface water: i) Is it a freshwater river or stream? Yes ☒ No ☐ ii) Is it a lake? ☐ reservoir? ☐ iii) Is it tidal river? ☐ estuary? ☐ ocean? ☐ c) Is the source water groundwater? Yes ☐ No ☐ If yes, see Appendix 8 and submit effluent and surface water test results, as required in Part 5.4 of the General Permit. d) Does the facility use both a primary and backup source of noncontact cooling water? Yes ☐ No ☒ If yes, attach information that identifies and explains the primary and backup sources of noncontact cooling water for and how often the backup supply was used in last three years.
--	--

4. Best Technology Available for CWIS

Are you subject to BTA requirements at Part 4.2 of the General Permit? (Facility's discharge is covered by this General Permit and the facility withdraws noncontact cooling water from surface source water). Yes ☒ No ☐ If No, explain:

If YES, attach the facility-specific BTA description as required in Part 4.3 of the General Permit. For additional information and guidance, see Questions 13-23 of the NCCW Fact Sheet, posted at <http://www.epa.gov/region1/mpdes/nccw.pdf>. Provide a map showing the location of each CWIS intake structure; NCCW outfall(s) and any CWIS feature referred to in the BTA description.

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
- Design measures of the CWIS
- Operation measures of the CWIS
- 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

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT A
Apr-10

4. BTA FOR CWIS CONTINUED:

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

Design capacity of the of the CWIS 1.0 MGD
Maximum monthly average intake of the CWIS during the previous five years unkn. MGD Month in which this flow occurred unkn.
Maximum through-screen design intake velocity 1.42 feet/second (fps)

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

The source water's annual mean flow 202.4 cubic feet/second (cfs) as available from USGS or other appropriate source
The design intake flow as a % of the source water's annual mean flow 0.77% Attach calculations if equal to or less than 5% of annual mean flow.
The source water's 7Q10 ^{1.95} cfs. See Attachment B of the General Permit for more information on 7Q10 determinations.
The design intake flow as a percent of the source water's 7Q10 51%

5. Contaminant Information

If applicable, attach a listing of all non-toxic pH neutralization and/or dechlorination chemicals used, including chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the NCCW discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for aquatic organism(s)).

6. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix 2, Part C, Step 4, of the General Permit. In addition, respond to the following questions.

- a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes No ✓
b) Has any consultation with the federal services been completed? Yes ✓ No
c) Is consultation underway? Yes ✓ No
d) What were the results of the consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service (check one):
a "no jeopardy" opinion or written concurrence ✓ on a finding that the discharges are not likely to adversely affect any endangered species or
e) Which of the five eligibility criteria listed in Appendix 2, Section B (A,B,C,D or E) have you met? A
f) Attach a copy of the most current federal listing of endangered and threatened species from the USF&W web site listed in Appendices 2, 2.1 and 4

7. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

- a) 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
b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes ✓ or No If yes, attach the results of the consultation(s).
c) Which of the three National Historic Preservation Act requirements listed in Appendix 3, Section C (1,2 or 3) have you met? 2

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT A
Apr-10

8. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

9. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 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.

Facility Name: Exeter Mill Apartments

Operator signature:

Owner

Title:

The Guardian Life Insurance Company of America

Date:

5/18/10

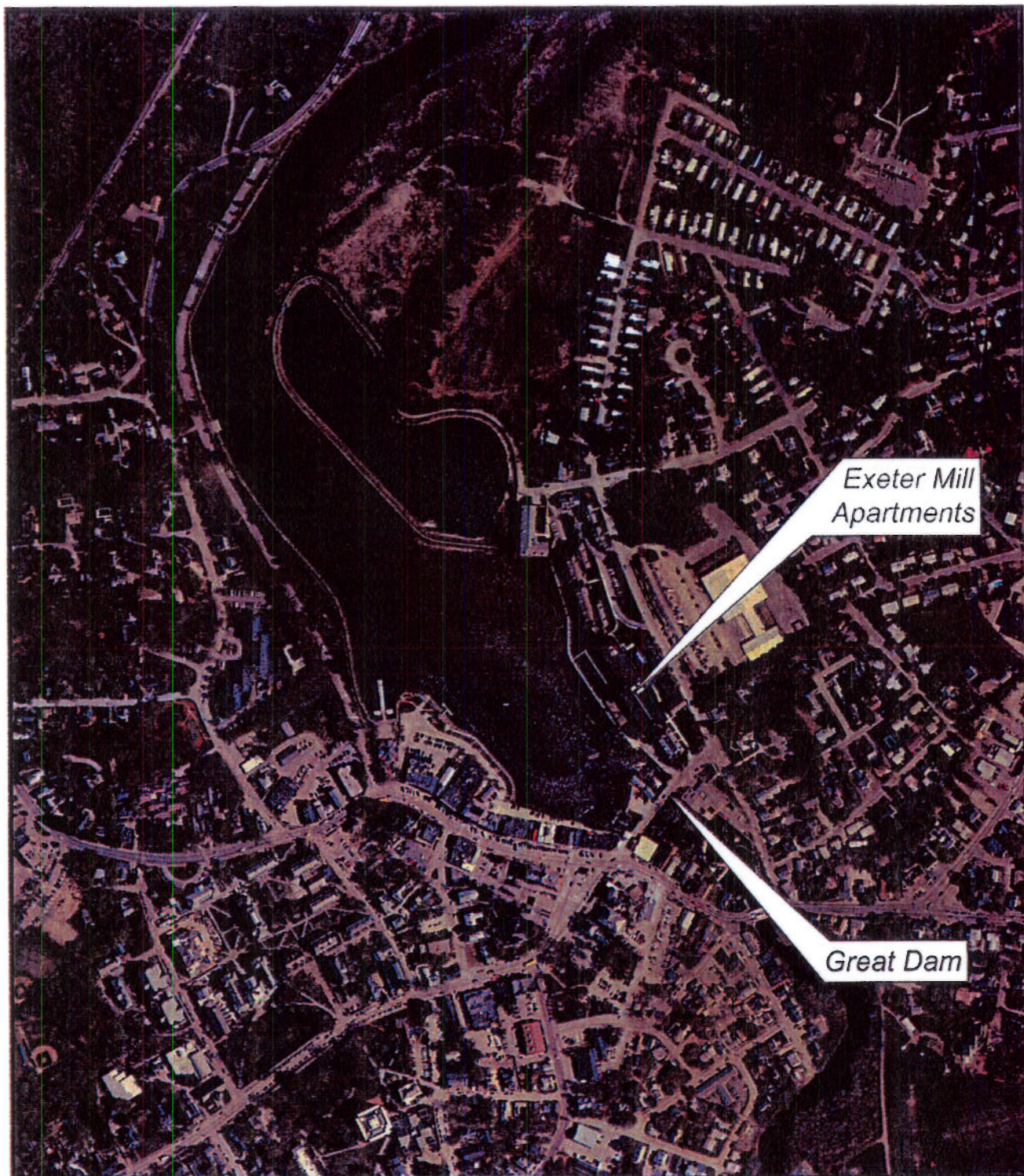
DIANE MARINO-EILER

Director

Real Estate Investments

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.



CMA ENGINEERS

Civil, Environmental, Engineering

35 Bow Street
Portsmouth, New Hampshire
03801-3319

Phone: 603/431-5196
Fax: 603/431-5375

E-mail: info@cmaengineers.com

Langer Place
55 South Commercial Street
Manchester, NH 03101

Phone: 603/627-0708
Fax: 603/627-0746

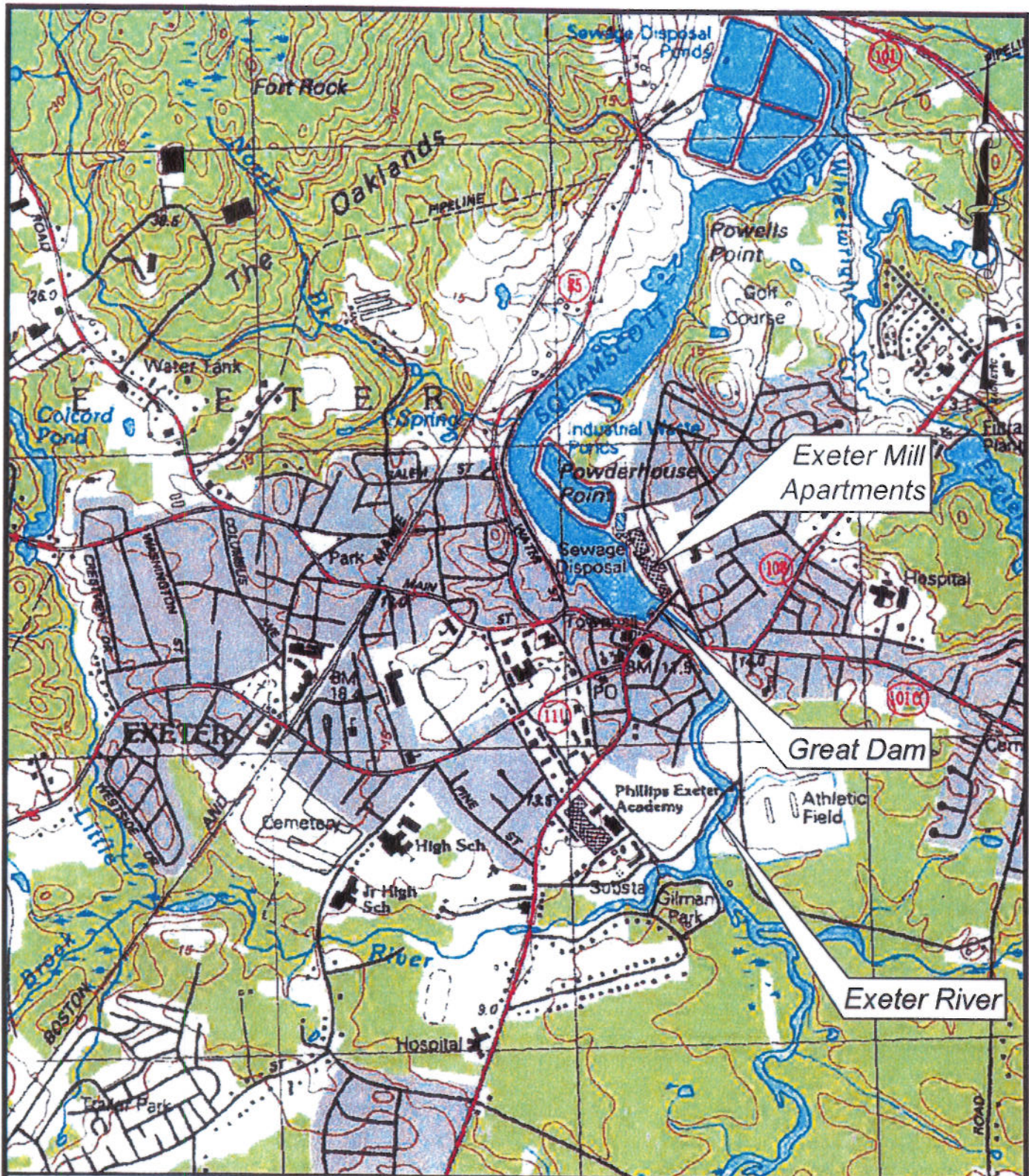
Exeter Mill Apartments
Exeter, New Hampshire
Non-Contact Cooling Water Permit

Project Locus

Scale: 1 in = 500 ft

Drawing File: 0303A0004-0000.dwg, 11/01/2009, 11:01:00, 11/01/2009, 11:01:00

EXHIBIT B
Apr-10



CMA
ENGINEERS

CIVIL/ENVIRONMENTAL ENGINEERS

35 Bow Street
Portsmouth, New Hampshire
03801-3819

Phone: 603/431-6196
Fax: 603/431-5376

E-mail: info@cmaengineers.com

Langer Place
55 South Commercial Street
Manchester, NH 03101

Phone: 603/627-0708
Fax: 603/627-0746

Exeter Mill Apartments
Exeter, New Hampshire
Non-Contact Cooling Water Permit

Project Locus

Scale: 1 in = 1500 ft

Section 4 - Supplemental Information on the Cooling Water Intake Structure (CWIS)

1. Attributes of the Current CWIS:
 - a. Square Intake Screen with small openings
 - b. Original Intake Pipe was 30"-diameter (pre-apartment complex)
 - c. Current Intake Pipe is 8" diameter
2. Design Measures to Limit Impingement
 - a. Location of Intake is at far edge of spillway, more than 75-ft from fish passage
3. Operational Measures to Limit Impingement
 - a. In 2010, visual monitoring of the intake screen will be done three times per week.
4. Fish Habitat is fresh water fish (upstream) and tidal species (downstream).
5. The Facility is evaluating alternatives to once-through cooling
6. Monitor, and Document Return of Impinged Fish to the River
 - a. see Exhibit K for proposed list of monitoring parameters

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT E
Apr-10

Section 4 - Cooling Water Intake Velocity Calculations

1) Site Conditions

Intake location dates back to original mill operations from the early 1830's
Intake screen reportedly 3-ft square
Screen openings reportedly "too small" for fish or other aquatic animals to pass through
Old penstock pipe indicated on historic plans as 30-inch diameter
Current intake pipe at non-contact cooling loop measures 8-inch diameter
Intake screen opening size and orientation of openings not confirmed.

2) Calculate intake velocity for two scenarios: 30" intake pipe at screen and 8" intake pipe at screen.

$$Q = V * A \quad \text{where, } Q = \text{flow (cfs)}$$

$$V = \text{velocity (fps)}$$

$$A = \text{area (sf)}$$

Q varies with demand on air conditioning system
V varies with flow rate, Q
A is fixed at intake screen

30" Pipe $A = (3.14/4)*(30/12)^2$
= 4.91 square feet
3.93 assumes only 80% clear opening available

8" Pipe $A = (3.14/4)*(8/12)^2$
= 0.35 square feet
0.28 assumes only 80% clear opening available

gal/cf	min	hr		V =	Q / A	
7.48	60	24				
Q	Q	Q	30" Pipe	V	8" Pipe	V
gpd	gpm	cfs	sf	fps	sf	fps
144,000	100	0.2228	3.93	0.057	0.28	0.203
288,000	200	0.4456	3.93	0.113	0.28	0.406
420,000	292	0.6499	3.93	0.165	0.28	0.593
432,000	300	0.6684	3.93	0.170	0.28	0.610
576,000	400	0.8913	3.93	0.227	0.28	0.813
720,000	500	1.1141	3.93	0.284	0.28	1.016
864,000	600	1.3369	3.93	0.340	0.28	1.219
1,000,000	700	1.5597	3.93	0.397	0.28	1.422

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT F
Apr-10

Section 4 - Source Water Annual Mean Flow

From USGS Surface-Water Annual Statics for Nation
USGS Station 01073587 Exeter River at Haigh Road, near Brentwood, NH

Water Year Annual Mean Flow

	cfs
1997	141.7
1998	123.4
1999	67.2
2000	104.6
2001	93.6
2002	46.4
2003	90.3
2004	106.4
2005	133.6
2006	221.4
2007	147.4
2008	144.2
2009	159.3
Mean	121.5

Area Trasposition method

$$Q_{\text{exeter}} = Q_{\text{brentwood}} * (A_{\text{exeter}} / A_{\text{brentwood}}) - Q_{\text{use}}$$

Q_{exeter} = Flow at Exeter Dam

$Q_{\text{brentwood}}$ = Flow at USGS stream-gaging station

A_{exeter} = Drainage area at Exeter Dam

$A_{\text{brentwood}}$ = Drainage area at USGS stream-gaging station

$Q_{\text{brentwood}}$ = 121.5 cfs, mean annual flow
 A_{exeter} = 106.92 sq miles, (source: Great Bay nutrient study)
 $A_{\text{brentwood}}$ = 63.5 sq miles, (source: Great Bay nutrient study)
 Q_{use} = 1.38 mgd, consumptive use (source: DES - Jeff Andrews)
2.14 cfs

Q_{exeter} = 202.4 cfs, mean annual flow at dam

Ratio of Design Intake Flow as a percentage of annual mean flow:

DIF = 1.5597 cfs

Ratio = 0.77 percent

Section 4 - Empirical Calculations for Discharge Water Temperature

Dilution Factor

$$\text{Dilution Factor} = \frac{Q_d}{Q_r \times 1.55} \times 0.9$$

Q_d 1.95 cfs Estimated 7Q10 low flow for receiving water at the Facility's outfall
 Q_r 1 mgd Facility's maximum design flow

$$DF = 1.13$$

Temperature Calculations

$$Q_{\text{disht}} = C_p m_p \Delta T_p$$

$$Q_{\text{river}} = C_p m_r \Delta T_r$$

$$C_p m_p \Delta T_p = C_p m_r \Delta T_r$$

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

where

Q_{disht} = heat load discharged from Facility (btu)

C_p = heat capacity of water = 1.0 °F x btu/lb

m_p = mass of effluent, lbs (gal. or cubic feet per second if volume is used)

ΔT_p = change in temperature, effluent - influent, °F

m_r = mass of river, lbs (gal. or cubic feet per second if volume is used)

ΔT_r = change in river temperature, °F

Assumes all of the heat rejected by the facility is absorbed by the river, $Q_{\text{disht}} = Q_{\text{river}}$, so $\Delta T_r = Q_{\text{disht}} / C_p m_r$

Building Name	No. of Apts.	Est. Cooling Load	Est. Cooling Load
1. Chestnut Street Bldg.	3	6 tons	81000 btu/hr
2. Chestnut St. North	32	64 tons	864000
3. Stringbridge South	13	26 tons	351000
4. Chestnu Street	80	460 tons	2160000
5. Power House	6	12 tons	162000
6. Office Area	--	12 tons	162000
		Total	3780000

$$Q_{\text{disht}} = 3780000 \text{ btu/hr}$$

$$m_{\text{river}} = \begin{matrix} 1.95 \text{ cfs} & 7\text{Q10 flow} \\ 1.26 \text{ mgd} \end{matrix}$$

$$\Delta T_r = 3.60 \text{ °F with cooling system operating 10-hours per day (source: EMA mechanical contractor)}$$

At maximum cooling rate (3,420,000 btu/hr) if system operated 24-hours per day:

Q	Q	ΔT_p	ΔT_r
gpm	cfs	°F	°F
100	0.2228	75.54	8.63
200	0.4456	37.77	8.63
300	0.6684	25.18	8.63
400	0.8913	18.88	8.63
500	1.1141	15.11	8.63
600	1.3369	12.59	8.63
700	1.5597	10.79	8.63



Ads by Google

In a chilled-water system the air conditioner cools water down to 40 - 45°F (4 - 7°C). The chilled water is distributed throughout the building in a piping system and connected to air condition cooling units wherever needed.

Total Heat Removed

The total heat removed by air condition chilled-water installation can be expressed as

$$h = 500 q \Delta t \quad (1)$$

where

h = total heat removed (Btu/h)

q = water flow rate (gal/min)

Δt = temperature difference (°F)

Apr-10



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>



January 4, 2010

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN NEW HAMPSHIRE**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Eaton, Madison Wolfboro, Brookfield and Wakefield
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzy, Keene and Surry
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Weare
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Danbury, Epsom, Warner and Allenstown
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Small whorled Pogonia	Threatened	Forests	Northwood, Nottingham, and Epping
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon and Walpole
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont

-Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.

-Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.

-There is no federally-designated Critical Habitat in New Hampshire.

7/31/2008

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT H

Apr-10

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street, Concord, NH 03301-3570

DHR Use Only	
R&C #	1790
Log In Date	3/1/10
Response Date	3/8/10
Sent Date	3/10/10

Request for Project Review by the
New Hampshire Division of Historical Resources

- ☐ This Project is funded by the American Recovery and Reinvestment Act of 2009
☒ This is a new submittal ☐ This is additional information relating to DHR Review #:

GENERAL PROJECT INFORMATION

Project Title **Exeter Mill Apartments**
Project Location **10 Chestnut Street, Exeter, NH**
Tax Map & Lot # **Map 64 Lot 51**
NH State Plane - Feet Geographic Coordinates: Easting **1177135** Northing **176886** WGS84 datum
(see RPR Manual and R&C FAQ's for help accessing this data)
Lead Federal Agency **USEPA**
(Agency providing funds, licenses, or permits)
Permit or Job Reference #
State Agency and Contact (if applicable) **NHDES, Jeff Andrews**
Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name **The Guardian Life Insurance Company of America**
Street Address **7 Hanover Square 20-C** Phone Number **(212) 598-8274**
City **New York** State **NY** Zip **10004-2616** Email

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company **Britt Audet/CMA Engineers, Inc.**
Street Address **55 S. Commercial Street** Phone Number **603-627-0708**
City **Manchester** State **NH** Zip **03101** Email **baudet@cmaengineers.com**

Please refer to the Request for Project Review manual for direction on completing this form. Submit one copy of this project review form for each project for which review is requested. Include a self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, the Division of Historical Resources (DHR) may require additional information to complete our review. All items and supporting documentation submitted with a review request, including photographs and publications, must be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process, please visit our website at: <http://www.nh.gov/nhdhr/review> or contact the R&C Specialist at 603.271.3558.

PROJECT BOUNDARIES AND DESCRIPTION

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

REQUIRED

- ☒ Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) *indicating the defined project boundary.*
- ☒ Attach a detailed written description of the proposed project. Include: (1) a narrative description of the proposed project; (2) site plan; (3) photos and description of the proposed work if the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures; and (4) a photocopy of the relevant portion of a soils map (if accessible) for ground-disturbing projects.

Architecture

N/A

Are there any buildings or structures within the project area? ☐ Yes ☐ No

If yes, submit all of the following information:

Approximate age(s):

- ☐ Photographs of *each* building located within the project area along with a photo key. Include streetscape images if applicable. (Digital photographs are accepted. All photographs must be clear, crisp and focused)
- ☐ DHR file review conducted on

Please note that as part of the review process, the DHR may request an architectural survey or other additional information.

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☐ Yes ☒ No

If yes, submit all of the following information:

- ☐ Project specific map and/or preliminary site plan that fully describes the project boundaries and areas of proposed excavation.
- ☐ Description of current and previous land use and disturbances.
- ☐ Any available information concerning known or suspected archaeological resources within the project area.

Please note that as part of the review process, the DHR may request an archaeological survey or other additional information.

DHR COMMENT

This Space for Division of Historical Resources Use Only

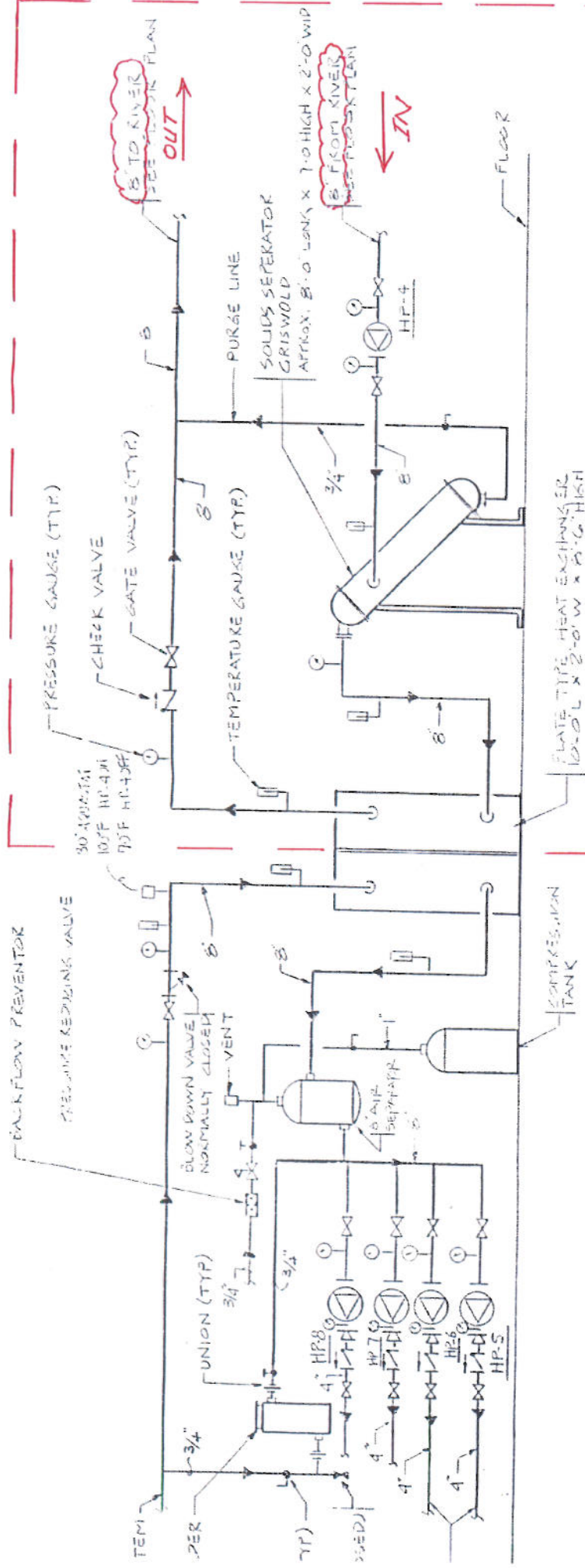
- ☒ No Potential to cause Effects ☐ Additional information is needed in order to complete our review
- ☐ No Adverse Effect ☐ No Historic Properties Affected ☐ Adverse Effect

Comments: _____

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized Signature: Wade Ray Wilson DSHPO

Date: 3/8/2010



NON-CONTACT COOLING LOOP

CONDENSER WATER COOLING SYSTEM DIAGRAM

LIO SCALE

Facility History

The origin of the current Exeter Mill Apartments dates back more than 180 years to the founding of the Exeter Manufacturing Company in 1827. Construction of the 350-ft long, 3 story high main mill building began in 1828 and was opened for production starting in 1830. Water from the Exeter River was diverted to a water wheel used to operate looms in the cotton cloth manufacturing process. The mill produced some of the finest cotton in the United States for more than a century until phasing out cotton stitching and weaving during the mid-1950's in favor of glass weaving and finishing.

In 1955 air conditioners were installed on the upper floors of the mill, marking the beginning of water withdrawal for cooling purposes at the main mill building. The mill ownership changed hands twice from the mid-1960's through 1981 when the Nike Corporation bought the mill to produce simulated suede for its growing sneaker business. Two years later, Nike shut down the mill until the Arbor Company purchased the property and renovated the mill buildings into apartments in 1987. The use of the remaining mill buildings as apartments continues today.

Exeter Mill Apartments
Non-Contact Cooling Water General Permit Application

EXHIBIT K
Apr-10

Month _____ 2010 Monthly Monitoring Parameters

Intake Water			NCCW Discharge		
pH	Temp	Flow	pH	Temp	Flow
3 per wk	daily	daily	3 per wk	daily	daily

Intake Screen Monitoring

3 times per week: once in the morning; once mid-day and once late afternoon
record findings; remove impinged fish to River away from intake