OMB Number: 4040-0004
Expiration Date: 12/31/2022

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: Completed by Grants.gov upon submission.

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier: BF

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: City of Franklin NH

* b. Employer/Taxpayer Identification Number (EIN/TIN): 02-60000292

* c. UEI: PSYYABB65ZE5

d. Address:

* Street1: 316 Central Street
Street2:
* City: Franklin
County/Parish:
* State: NH: New Hampshire
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 03235-1774

e. Organizational Unit:

Department Name: City Manager's office

Division Name: City Manager

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Seth
Middle Name:
* Last Name: Creighton
Suffix:

Title: City Planner

Organizational Affiliation: Planning and Zoning Office

* Telephone Number: 603-934-2341
Fax Number:

* Email: screighton@franklinnh.org

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Environmental Protection Agency

11. Catalog of Federal Domestic Assistance Number:

66.818

CFDA Title:

Brownfields Multipurpose, Assessment, Revolving Loan Fund, and Cleanup Cooperative Agreements

*** 12. Funding Opportunity Number:**

EPA-I-OLEM-OBLR-22-09

* Title:

FY23 Guidelines for Brownfields Cleanup Grants

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

City of Franklin NH Cleanup Grant Program

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: NH 2 | * b. Program/Project: NH 2

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 10/01/2023 | * b. End Date: 09/30/2027

18. Estimated Funding ($):

* a. Federal	1,923,850.00
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	1,923,850.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☒ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☐ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: | * First Name: Judie

Middle Name:

* Last Name: Milner

Suffix:

* Title: City Manager

* Telephone Number: 603-934-3900 | Fax Number:

* Email: citymgr@franklinnh.org

* Signature of Authorized Representative: Completed by Grants.gov upon submission. | * Date Signed: Completed by Grants.gov upon submission.

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2025

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Brownfields Multipurpose/ Assessment/RLF/ Cleanup Grants	66.818	$	$	$ 1,923,850.00	$	$ 1,923,850.00
2.						
3.						
4.						
5. Totals		$	$	$ 1,923,850.00	$	$ 1,923,850.00

Standard Form 424A (Rev. 7- 97)
Prescribed by OMB (Circular A -102) Page 1

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)	(4)	Total (5)
	Brownfields Multipurpose/ Assessment/RLF/ Cleanup Grants	N/A	N/A	N/A	
a. Personnel	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00
b. Fringe Benefits	0.00	0.00	0.00	0.00	0.00
c. Travel	3,500.00	0.00	0.00	0.00	3,500.00
d. Equipment	0.00	0.00	0.00	0.00	0.00
e. Supplies	0.00	0.00	0.00	0.00	0.00
f. Contractual	1,920,350.00	0.00	0.00	0.00	1,920,350.00
g. Construction	0.00	0.00	0.00	0.00	0.00
h. Other	0.00	0.00	0.00	0.00	0.00
i. Total Direct Charges (sum of 6a-6h)	1,923,850.00	0.00	0.00	0.00	$ 1,923,850.00
j. Indirect Charges					$
k. TOTALS (sum of 6i and 6j)	$ 1,923,850.00	$ 0.00	$ 0.00	$ 0.00	$ 1,923,850.00
7. Program Income	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00

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Prescribed by OMB (Circular A -102) Page 1A

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. Brownfields Multipurpose/Assessment/RLF/Cleanup Grants	$ 0.00	$ 0.00	$ 0.00	$ 0.00
9.				
10.				
11.				
12. TOTAL (sum of lines 8-11)	$ 0.00	$ 0.00	$ 0.00	$ 0.00

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 25,000.00	$ 6,250.00	$ 6,250.00	$ 6,250.00	$ 6,250.00
14. Non-Federal	$				
15. TOTAL (sum of lines 13 and 14)	$ 25,000.00	$ 6,250.00	$ 6,250.00	$ 6,250.00	$ 6,250.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16. Brownfields Multipurpose/Assessment/RLF/Cleanup Grants	$ 0.00	$ 0.00	$ 0.00	$ 0.00
17.				
18.				
19.				
20. TOTAL (sum of lines 16 - 19)	$ 0.00	$ 0.00	$ 0.00	$ 0.00

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges: 1,923,850

22. Indirect Charges: 0.00

23. Remarks:

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note: Read Instructions before completing form.

I. A. Applicant/Recipient (Name, Address, City, State, Zip Code)

Name: City of Franklin

Address: 316 Central Street

City: Franklin

State: NH: New Hampshire Zip Code: 03235

B. Unique Entity Identifier (UEI): PSYYABB65ZE5

C. Applicant/Recipient Point of Contact

Name: Seth Creighton

Phone: 603-934-2341

Email: screighton@franklinnh.org

Title: Director of Planning & Special Projects

II. Is the applicant currently receiving EPA Assistance? ☐ Yes ☒ No

III. List all pending civil rights lawsuits and administrative complaints filed under federal law against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

Not Applicable

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that alleged discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective actions taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

Not Applicable

V. List all civil rights compliance reviews of the applicant/recipient conducted under federal nondiscrimination laws by any federal agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3))

Not Applicable

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.

☐ Yes ☒ No

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).

☐ Yes ☐ No

b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable by persons with disabilities, explain how a regulatory exception (40 C.F.R. 7.70) applies.

VII. Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex, age, or disability in its program or activities? (40 C.F.R 5.140 and 7.95) ☒ Yes ☐ No

a. Do the methods of notice accommodate those with impaired vision or hearing? ☒ Yes ☐ No

b. Is the notice posted in a prominent place in the applicant's/recipient's website, in the offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications? ☒ Yes ☐ No

c. Does the notice identify a designated civil rights coordinator? ☒ Yes ☐ No

VIII. Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or disability status of the population it serves? (40 C.F.R. 7.85(a)) ☐ Yes ☒ No

IX. Does the applicant/recipient have a policy/procedure for providing meaningful access to services for persons with limited English proficiency? (Title VI, 40 C.F.R. Part 7, *Lau v Nichols* 414 U.S. (1974)) ☒ Yes ☐ No

X. If the applicant is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator.

Judie Milner, City Manager, 316 Central Street, Franklin, NH 03235 citymgr@franklinnh.org; fax 603-934-7413, office # 603-934-3900

XI. If the applicant is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or applicant's/ recipient's website address for, or a copy of, the procedures.

City Website: franklin.org; click on Charter and Codes in the Citizen Action Center on main page; Click on Charter and Codes; search for 347-47, and then jump to Section 347-47, Appeals Process

For the Applicant/Recipient

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official	B. Title of Authorized Official	C. Date
Completed by Grants.gov upon submission.	City Manager	Completed by Grants.gov upon submission.

For the U.S. Environmental Protection Agency

I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preaward compliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisions of 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statures and EPA regulations.

A. *Signature of Authorized EPA Official	B. Title of Authorized Official	C. Date

Instructions for EPA FORM 4700-4 (Rev. 04/2021)

General. Recipients of Federal financial assistance from the U.S. Environmental Protection Agency must comply with the following statutes and regulations.
Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment). Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities. Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities. The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission. Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution. 40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972. 40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973.

Items "Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Recipient" means any State or its political subdivision, any instrumentality of a State or its political subdivision, any public or private agency, institution, organizations, or other entity, or any person to which Federal financial assistance is extended directly or through another recipient, including any successor, assignee, or transferee of a recipient, but excluding the ultimate beneficiary of the assistance. 40 C.F.R. §§ 5.105, 7.25. "Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by 40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed. "Civil rights compliance review" means: any federal agency-initiated investigation of a particular aspect of the applicant's and/or recipient's programs or activities to determine compliance with the federal non-discrimination laws. Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission. If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable." In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification.

EPA KEY CONTACTS FORM

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Authorized Representative: *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

Name: Prefix: | First Name: Judie | Middle Name:
Last Name: Milner | Suffix:
Title: City Manager
Complete Address:
Street1: 316 Central Street
Street2:
City: Franklin | State: NH: New Hampshire
Zip / Postal Code: 03235-1774 | Country: USA: UNITED STATES
Phone Number: 603-934-3900 | **Fax Number:** 603-934-7413
E-mail Address: citymgr@franklinnh.org

Payee: *Individual authorized to accept payments.*

Name: Prefix: | First Name: Esaundra | Middle Name:
Last Name: Gaudette | Suffix:
Title: Finance Director
Complete Address:
Street1: 316 Central Street
Street2:
City: Franklin | State: NH: New Hampshire
Zip / Postal Code: 03235 | Country: USA: UNITED STATES
Phone Number: 603-934-3900 ext 256 | **Fax Number:** 603-934-7413
E-mail Address: egaudette@franklinnh.org

Administrative Contact: *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

Name: Prefix: | First Name: Seth | Middle Name:
Last Name: Creighton | Suffix:
Title: Director of Planning and Special Projects
Complete Address:
Street1: 316 Central Street
Street2:
City: Franklin | State: NH: New Hampshire
Zip / Postal Code: 03235 | Country: USA: UNITED STATES
Phone Number: 603-934-2341 | **Fax Number:** 603-934-7413
E-mail Address: screighton@franklinnh.org

EPA KEY CONTACTS FORM

Project Manager: *Individual responsible for the technical completion of the proposed work.*

Name: **Prefix:** | **First Name:** Seth | **Middle Name:**

Last Name: Creighton | **Suffix:**

Title: Director of Planning and Special Projects

Complete Address:

Street1: 316 Central Street

Street2:

City: Franklin | **State:** NH: New Hampshire

Zip / Postal Code: 03235 | **Country:** USA: UNITED STATES

Phone Number: 603-934-2341 | **Fax Number:** 603-934-7413

E-mail Address: screighton@franklinnh.org

Project Narrative File(s)

*** Mandatory Project Narrative File Filename:** Franklin NH EPA Cleanup App Attachments.pdf

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

City of Franklin, New Hampshire EPA Brownfields Cleanup Grant Application
Application Submission Table of Contents

In compliance with the EPA Guidelines for the submission of the Cleanup Grant, below is a list of the attached documents contained in the application package.

Note: The required forms are submitted separately through Grants.gov

1) Narrative Information Sheet (2 pages)

2) Narrative Responses to the Ranking Criteria (10 pages)

3) Responses to the Threshold Criteria for Cleanup Grant

   a) Critical excerpts of the February 2018 Targeted Brownfields Assessment / Remedial Action Plan [Remedial Action Contract No. EP-S1-06-03; EPA Task Order No. 0108-SI-BZ-0100.]. As discussed in Section 8 of the Threshold Criteria narrative, the Assessment report and the RAP were discussed in a noticed public meeting. This document constitutes an equivalent to an Analysis of Brownfield Clean up Alternatives [ABCA]. The TBA report and the associated Remedial Action Plan were submitted to NH Department of Environmental Services and the regional EPA office.
   b) A copy of the page from the 11/2/22 edition of the Laconia Daily Sun which contained the required legal notice. Also attached is a screen shot of the Home Page of the City's website showing the tab for all the documents provided to the public for the 11/14/22 public meeting.
   c) A summary of the notes from the 11/14/22 public meeting.
   d) Outline of the public Questions / comments and the responses of the City to the comments. [Note: For easier review of these two items, they have been combined into one document]
   e) A copy of the sign-in sheet from the public meeting.

4) State Letter of Acknowledgement and Support

CITY OF FRANKLIN, NEW HAMPSHIRE

"The Three Rivers City"

316 Central Street
Franklin, NH 03235

(603) 934-3900
fax: (603) 934-7413

City of Franklin Brownfields Grant Application for Cleanup Funding November, 2022
Narrative Information Sheet

1. **Applicant Information:** City of Franklin; 316 Central Street, Franklin, New Hampshire 03235

2. **Funding Requested**:
   a. Grant type: Single Site Cleanup
   b. Federal Funds Requested: $1,923,850

3. **Location:**
   a. City of Franklin
   b. Merrimack County
   c. State of New Hampshire

4. **Property Information:** The property is commonly referred to as the Ferrari Mill Site, as the Ferrari family was the last owner before purchase by the City. Stanley Tool Works was the last company who performed any manufacturing on the site. The property contains two buildings; the former mill has an address of 93 Memorial Street; the former Armory building has an address of 119 Memorial Street.

5. **Contacts:**
   a. Project Director: Seth Creighton, Director of Planning & Zoning; Special Projects Coordinator; 603-339-2341; screighton@franklinnh.org; City Hall, 316 Central Street, Franklin, NH 03235.
   b. Chief Executive Officer: Judie Milner, City Manager; 603-339-9300 [ext. 2] citymgr@franklinnh.org; 316 Central Street, Franklin, NH.

6. **Population:** According to the US Census Bureau, Quick Facts for Franklin, NH, the population estimate for July 1, 2021, is 8,828 persons.

7. **Other Factors:** The Table for Other Factors is found on page 2.

8. **Releasing Copies of Applications:**
   There are no confidential items included in the application package. This item is not applicable.

7. Other Factors for Narrative Information Sheet

Other Factors	Page #
Community population is 10,000 or less.	1 of the Criteria Narrative
The applicant is, or will assist, a federally recognized Indian tribe or United States territory.	NA
The proposed brownfield site(s) is impacted by mine-scarred land	NA
Secured firm leveraging commitment ties directly to the project and will facilitate completion of the remediation/reuse; secured resource is identified in the Narrative and substantiated in the attached documentation. Note: As mentioned in the Criteria Narrative, no documentation has been issued by the NH DES for the grant award to assist in the demolition and remediation of the contamination. The DES Brownfields Coordinator called the City to inform them that the application was approved.	3 of the Criteria Narrative
The proposed site(s) is adjacent to a body of water (i.e., the border of the proposed site(s) is contiguous or partially contiguous to the body of water, or would be contiguous or partially contiguous with a body of water but for a street, road, or other public thoroughfare separating them).	1 of the Criteria Narrative
The proposed site(s) is in a federally designated flood plain.	2 of the Criteria Narrative
The reuse of the proposed cleanup site(s) will facilitate renewable energy from wind, solar, or geothermal energy.	NA
The reuse of the proposed cleanup site(s) will incorporate energy efficiency measures	3 of the Criteria Narrative
The reuse strategy or project reuse of the proposed site(s) considers climate adaptation and/or mitigation measures	2 of the Criteria Narrative
The target area(s) is located within a community in which a coal-fired power plant has recently closed (2012 or later) or is closing	NA

City of Franklin, New Hampshire EPA Brownfields Cleanup Grant Application
Application Submission Table of Contents

In compliance with the EPA Guidelines for the submission of the Cleanup Grant, below is a list of the attached documents contained in the application package.

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   e) A copy of the sign-in sheet from the public meeting.

4) State Letter of Acknowledgement and Support

Narrative Responses to Ranking Criteria

Criteria 1 Project Area Description and Plans for Revitalization

1.a Target Area and Brownfields:

1.a.i Overview of Brownfield Challenges and Description of the Target Area: The core downtown area of the City of Franklin, a community of 8,828 in rural New Hampshire, is the target area of this project. Bounded by the Winnipesaukee River to the east, west and north, this small area includes mixed-use buildings and 7 brownfields sites (closed mills, auto repair, laundries) concentrated within a mere 60 acres. EnviroAtlas identifies 46 underground storage tank sites, 107 RCRA hazardous waste site, 19 active RCRA sites, and 9 brownfields sites reported in ACRES, showcasing the high number of hazardous waste sites, many of them brownfields, across a small community . These sites are left over from the time when the mills were operating, and the downtown shops were bustling; during the industrial revolution it was a rich and vibrant area. When the mills closed in the 70's, the economic lifeblood was drained from the community; jobs lost, families suffered, and businesses slowly, but continually closed their doors. Time, energy, and funds [from various sources, including EPA] have been consumed to revitalize some of these properties. The target area was selected to address several challenges: the brownfields properties have created blighted neighborhoods and represent significant health, safety and welfare risks and problems for residents; these brownfields disproportionately affect the most sensitive populations; and these brownfields have acted as a barrier to positive economic growth. The proposed cleanup work in the target area will effectively address these challenges by eliminating environmental contamination, blight, and removing a major public safety risk; making parking space and green space available, both of which are critical to support the nearby mixed-use properties; and leveraging public and private funds to catalyze investment in the core downtown.

1.a.ii Description of the Priority Brownfield Site: The cleanup will focus on the Ferrari Mill [or the "mill"], located at 93-119 Memorial Street [1.2 acres, Census Tract 043002, the north portion of the City] containing two separate buildings, the mill, and the Armory. The parcel is bounded by the Winnipesaukee River to the north; Odell Park [the City's key park and recreational complex] to the west; and mixed-use properties to the south and east. The cleanup of the mill site, with the creation of a new public space, allows for enhanced use of the property, enjoyment of the abutting river, while eliminating contamination created by over 75 years of improper disposal of industrial waste, and significant to a neighborhood that is a critical component of the overall revitalization of the City.

The mill was operated by the G.W. Griffin Company for the manufacturing of hacksaw blades from 1897 to 1979. The Stanley Tool Company purchased the property in 1979 and produced tool components on the site until 1986, at which time it was sold to the Ferrari family. No manufacturing has occurred since then. The Armory was used by the National Guard for many years but was then sold. The City purchased the property on November 21, 2022. Both buildings are now vacant.

The contamination of the site occurred between circa 1900 through 1979. Based on Phase 1 and 2 investigations from the 2014 period, and the 2018 Targeted Brownfield Assessment [all funded by EPA], the extent of subsurface industrial waste materials comprises approximately 11,050 square feet, with a calculated volume of 3,478 cubic yards. Buried materials are projected to extend beneath portions of site structures built after deposition of the material. Liquid industrial waste products may have also been introduced via a floor drain in the basement of the mill. These waste streams have contributed to soil, groundwater, and soil gas impacts,

with contaminants of concern including chlorinated volatile organic compounds, polycyclic aromatic hydrocarbons, and metals. In addition, both buildings contain asbestos-containing materials and lead-based paint requiring abatement to support reuse plans. The mill building section closest to the river area is now subject to foundation failures, thus complicating required cleanup and demolition work.

Since 1986, the mill has deteriorated significantly, and is now subject to an order from the Franklin Fire Chief to be demolished due to public safety and health concerns. Children reside in the housing across the street, and Memorial Street is a common pathway for sports teams and children on their way to the City's recreation center at Odell Park. The building is now an attractive nuisance.

1.b Revitalization of the Target Area:

1.b.i; Reuse strategy and alignment with revitalization plans: The cleanup of the mill site, and the repurposing of the land into a new public green space with a mixed-use development component fits perfectly into the overall economic redevelopment plans for the downtown. These plans are supported by decades of visioning sessions, charrette, and master plans which have continuously called for mixed use development and public access to the river. Most recently, this visioning was discussed as part of a 2015 multi-day workshop and forum on the future of the City. Since that time significant efforts have gone into continuing the discussion about the future of the City. Presentations to the City Council; workshops focusing on the design and planning for the Whitewater Park; and bi-weekly meetings by a group comprised of City staff, consultants, and project partners have kept various projects on course and pushed the planning agenda forward. A key goal is to create a new and improved downtown Franklin that puts an emphasis on the use, and the appreciation, of the Winnipesaukee River. The reuse and revitalization plans have several key components:

⇒ The mill building will be demolished [using some secured funds], and the site temporarily stabilized. The building's removal and the creation of new public green space is beneficial since the site is within a special FEMA flood zone.

⇒ Following remediation, the footprint of the mill building will be repurposed to create a new public park. A walking path will be constructed adjacent to the river and merged with the existing trail around Odell Park. The Winnipesaukee River will no longer be hidden behind the mill; benches will be installed, and the river will become a more appreciated part of the downtown. The creation of usable green space and improved access to the river is important since the downtown area has limited options for space like this. The construction of this public space will facilitate Green Infrastructure and Low Impact stormwater management systems, mitigating the problem of direct runoff to the river.

⇒ New parking will be created on the vacant land on the east side of the mill building and utilized by the new residents of the Stevens and Riverbend buildings, as well as the public.

⇒ The Armory, which sits at the western end of the subject property, is more structurally sound than the mill. The City will seek proposals from developers for the creation of a commercial and residential complex in the Armory and the City-owned Proulx building across the street. The residential units could help offset the housing crisis that the State is facing. If needed, a limited area of new parking for this mixed-use development could be located onsite. Interior renovations to these two buildings would trigger compliance with new efficiency Codes, electrical and HVAC components.

The City recognizes that many factors can change over a 5–10-year period. It is possible some of the project site might be needed for a mixed-use development that will help provide the necessary tax revenue to support the City in future years, as well as needed housing options.

1.b.ii Outcomes and Benefits of the Reuse Strategy: The different outcomes and benefits of the reuse strategy are all important:

a) The cleanup of the project site and the creation of new greenspace and recreational opportunities will eliminate one of the last blighted areas of the downtown and will thus act to incentivize other developers and investors to become more interested in being part of the City's revitalization through creating new development and the repurposing of other structures in the historic downtown.
b) The incentives will directly apply to the repurposing of the adjacent Armory and the Proulx buildings. This will result in new, upgraded, and energy efficient mixed-use structures which will benefit the City for many years.
c) The incentives will also apply to the continued established of the Whitewater Park, located upstream on the Winnipesaukee River. This will be the first such recreational park in New England.
d) The cleanup and the creation of these incentives will be carried out without causing any displacement of, or adverse impacts to, any residents in this area.

1.c.i-iv Strategy for Leveraging Resources: It is important to take note of the fact EPA has already contributed significant assessment funds work. The 2018 Targeted Brownfield Assessment [TBA] and a Remedial Action Plan [RAP] make it possible for the City to seek and utilize these hoped-for clean up funds. The resources are organized with: Name; Use; Secured or not; Additional benefits.

- ✓ Lakes Region Planning Commission: Characterization [1.c.i]; Unsecured; City has good relationship with LRPC, which has supported several assessment projects.
- ✓ NH Dept. of Environmental Services; Remediation / Demolition [1.c.ii]; Secured; $200,000 for the demolition of the mill building and site stabilization. **Note: No written documentation on the award has been issued by NH DES, but Michael McCluskey, from DES, has called the City to inform them of the grant award.**
- ✓ NH Business and Economic Affairs, InvestNH; Remediation / Demolition [1.c.ii]; Unsecured [decision in the next two months]; $400,000 for the demolition of the mill and site stabilization.
- ✓ City Tax Increment Financing; Reuse Activities [1.c.iii]; Unsecured; The City Council can approve TIF Funds for the landscaping work in the proposed public park.
- ✓ Developer based private/public partnership; Reuse Activities [1.c.iii]; Unsecured; The City is actively working to be business friendly, and these partnerships are important to the future of the City. The partnerships can be used for small projects such as the final construction features of the new public park or assist in the preparation of a viable plan for the redevelopment of the Armory and Proulx buildings.
- ✓ Community & small based, grants; Reuse Activities [1.c.iii]; Unsecured; For example, Franklin Savings Bank can provide funds for the new public park features such as benches or picnic table.
- ✓ The redevelopment of the Armory and Proulx buildings can utilize the existing infrastructure [water, sewer, roads, drainage, electric and communication systems]. If any utility upgrades are needed, they can be funded through the off-site improvement requirements or by the utilization of the TIF funds.

Criteria 2 Community Needs and Community Engagement

2a.i. The Community's Need for Funding: This EPA Brownfields funding is critical to the ability of the City of Franklin to proceed to the remediation and revitalization phase. Just as importantly, the funding will help move the economic redevelopment of the target's core downtown area forward. The inability of the City to draw on other funding sources for this project is due to a combination of forces:

a. The ability to raise taxes to assist in the remediation of the project site is limited due to a tax cap adopted by the City over 30 years ago. The cap restricts the ability of the City to raise additional funds through property taxes, resulting in a continuing struggle to keep up with increases in municipal services costs.
b. Franklin is the smallest city in the State of New Hampshire. The population estimate, per the US Census Quick Facts data, for July 1, 2021, is 8,828 persons.
c. The City has the third lowest Per Capita Income [PCI] of any city in the State. Compared to Merrimack County and the State, Franklin's PCI is 82% of the former, and 76% of the latter. Overall, it ranks the 199th lowest [out of 238 communities] PCI in the State.
d. The City has the third lowest Median Household Income [MHI] of any city in the State. Compared to Merrimack County and the State, Franklin's MHI is, approximately 74% of both. And it ranks the 216th lowest MHI in the State.
e. Franklin is one of only 13 communities in the State [and the only City] to have more than 60% [61.7%] of its population classified as low or moderate income
f. The property values throughout the City don't support the funding of an ongoing Capital Improvement Program [CIP] which addresses infrastructure problems in the downtown.

The economic well-being of the City of Franklin suffered when the mills closed, and a long downward slide began. For over 40 years, the City has been looked down upon and rumored to be a place to avoid. The downtown of the City was once regionally important, and it will be even more so today as positive change occurs. In the last 7 years great strides have been made to change that historic reputation. The cleanup of the Ferrari Mill, that will be facilitated by this grant, and the incorporation of that property into a refreshed City that sits adjacent to a great natural resource in the Winnipesaukee River, is an important component of that revitalization. Franklin is working hard to get it right, and many feel that if we fail now, the City may never have another opportunity.

2.a.ii Threats to Sensitive Populations:

(1) **Health or Welfare of Sensitive Populations**: There are some broad data points that reflect the types of challenges that certain members of the population confront. The number of students in the Middle and High Schools eligible for reduced or free school lunches is approximately 57%, compared to a State average of 20%. Civilian veterans are 8.7% of the population [over 18 years of age], while nationally it is 7.1%. 18.3% of the total civilian population has a disability, compared to 12.8% for the State. The number of Franklin families which have received Food Stamp / SNAP benefits in the past 12 months is 11.3% and Statewide it is 6.4%. The number of individuals in Franklin with a bachelor's degree or higher is 18.5 % of the population [25 years or older] while Statewide, it is 37.6%. The number of Franklin families which receive cash public assistance income is 3.1%; Statewide, it is 2.4%. And 7.9% of Franklin residents do not have any health coverage; Statewide is it is 6%.

One other data point comes from the comes from the NH Community Development Finance Authority [CDFA]. In 2019, CDFA, working with the NH Fiscal Policy Institute, created an analysis that looks at the economic well-being and community needs of every municipality in

the State. The factors evaluated include Basic Human Needs, Access to Opportunity, and Community Sustainability and Vibrancy. Franklin is ranked as the 4th most distressed community in the State. It's score of 54 is **188%** above the statewide average.

The cleanup of the Ferrari mill site, which will be facilitated by this grant, will help to incentivize overall economic growth in the downtown target area. Added growth means more property tax revenues [the primary revenue source for the City], which can better monetize the School Departments, and help provide better support systems for all residents.

(2) **Greater than Normal Incidence of Disease and Adverse Health Conditions:** The presence of brownfields and contamination such as asbestos, VOCs and metals that are present at the site increase the health risks associated with conditions such as asthma and cancer. The City of Franklin has high prevalence of both: according to EJSCREEN, the asthma rate is at the 84th percentile nationally, while the cancer prevalence is between the 60th and 80th percentile according to the National Environmental Public Health Network. In addition, the percentage of tested children under 6 years of age that have higher levels of lead is 14% for the City compared to 4% Statewide. This grant will directly improve the health of sensitive populations in the Target Area by removing sources of contamination that are additional risk factors.

(3) **Promoting Environmental Justice**: In additions to the environmental burden that sensitive populations suffer due to brownfields and the presence of a large, dilapidated mill, there are additional environmental injustices as indicated by EJSCREEN. The Lead Paint indicator is at the 79th percentile statewide and 75th percentile nationwide, despite the rural character of the State. To bring a specific example of environmental justice associated with the mill to the forefront, one of the direct abutters to the subject site is the former Riverbend Mill, which was converted to low-income housing. There is a real benefit for these residents through the remediation of the site. Currently these residents look out their window and live 40-feet from an abandoned and derelict property. Being low-income renters, they stay quiet and live thinking that this is acceptable. It is not acceptable! With the removal and cleanup of the mill, which will be facilitated by this grant, the lives of these residents will be drastically improved., and the associated environmental justice burdens for the surrounding community alleviated.

Community Engagement:

2.b.i & ii **Project Involvement and Roles:** The entities listed below [Name; Point of Contact; Specific Involvement / Assistance] have significant interest in the improvements downtown and have participated in the strategic planning and oversight work in the past 7 years.

- Franklin Business & Industrial Development Corp.; Jim Aberg, Exec. Director; 603-455-6662 jhaberg@metrocast.net; Member of the Economic Development Team [EDT] who regularly attends all bi-weekly meetings; expertise in development and financing matters.
- Mill City Park; Marty Parichand, Ex. Dir. 603-491-8694; marty@outdoornewengland.com; Member of the EDT & attends regular bi-weekly meetings; represents the recreational community and has led the charge for the construction of the Whitewater Park.
- Chinburg Builders; Matt Assia; massia@chinburg.com; 603-969-9148; Abutter to the Ferrari Mill; critical contact for all activities related to demolition and cleanup due to proximity to the site; provides advise/guidance for revitalization effort.
- Franklin Savings Bank; Ron Magoon (CEO); Ronald.Magoon@fsbnh.bank; 603-934-4445; Expertise in financing development projects & supports the revitalization of the downtown.

- Concord Area Trust for Community Housing; Tom Furtado (CEO); 603-225-8835; CATCH Housing abuts the Ferrari Mill; promotes and supports affordable housing, with long term interest in Downtown Franklin; liaison to the EDT.
- Franklin Falls Business Group; Valerie Blake; franklinfallsbusinessgroup@gmail.com; 603-671-7352; Liaison from the business community; provides support for revitalization efforts and meets with City staff & attends the bi-weekly meetings as needed.
- NH Dept. of Business & Economic Affairs; *New Rep is being selected; will provide upon appointment;* Actively supports the whitewater park and the creation of new recreational opportunity in the State; provides guidance and support at the bi-weekly meetings.
- Choose Franklin; Michael Lombardo; Lombm33@gmail.com; This community-based organization was established to support & promote revitalization efforts in the city; provides beneficial networking between businesses and other organizations in the City.

2.b.iii **Incorporating Community Input:** Community and public input will play a vital role in this remediation project. Comments received via any of the communication avenues mentioned below will be discussed and considered by staff and members of the economic development team. The plans to establish and maintain this input will include the following

- ✓ Public meeting on the proposed grant application.
- ✓ Updates at the monthly meetings of the City Council. These meetings are taped and available on-line so they can be viewed by residents and interested parties.
- ✓ Most of the individuals / entities outlined above always attends the regular bi-weekly planning &economic development meetings to get updates on the cleanup plan, and to discuss new issues and options for moving the project forward. These bi-weekly meetings have been a key driving force in all the redevelopment work that occurred in the downtown area over the past 7 years. During the Covid months, the team meet via Zoom on the same regular schedule.
- ✓ Updates of project information will be posted to the City website.
- ✓ The project site is within walking distance to City Hall, so updates will be posted at City Hall.
- ✓ Use of local news outlets [newspaper, radio], especially for all required meetings / hearings.

Criteria 3 Task Descriptions, Cost Estimates, and Measuring Progress]

3.a **Proposed Cleanup Plan:** The assessment activities revealed various contaminates that exceeded Remediation Standards on the project site. Two types of VOC's, 8 types of PAHs, and 3 types of metals [arsenic, cadmium, and lead] were detected. Groundwater sampling detected exceedances of, for example, Trichloroethene and Benzo[b]fluoranthene. Soil gas sampling detected exceedances of, for example, Ethylbenzene and Chloroform. Building Materials exceedances for Asbestos and PCBs were detected at multiple test points across the site. Industrial waste fill material was identified: Hacksaw blades, metal shavings and fragments and other materials were observed along the northern property line & extending down to the edge of the Winnipesaukee River. Bank erosion was observed, with hacksaw blades seen in the shallows of the river. To maximize the protection of public health, safety, and welfare, and to provide for the broadest reuse options of the project site, Alternative # 3 has been selected. This work will involve the removal of industrial waste fill, riverbank stabilization, PAH Soil excavation, long term groundwater monitoring well replacement and all required sampling and reporting programs. All disturbed areas will be restored, and all excavated materials will be collected and transported to authorized disposal sites.

3.b **Descriptions of Tasks/Activities and Outputs [i. Project Implementation; ii. Anticipated Project Schedule; iii. Task / Activity Lead; iv. Outputs]**

Task/Activity 1: Program Management	
i.	**Project Implementation: EPA Funded**: The contracted QEP will prepare technical reports such as updated ABCA & SWQAPP; manage ACRES and MBE/WBE reporting; maintain all files and records associated with the overall QEP project management work. **Non-EPA Funded:** City staff will: conduct the process of procuring a QEP; submit all required quarterly and financial reports; submit all Cooperative Agreement forms; oversee and manage all steering committee meetings; travel & attend EPA Brownfields Conference.
ii.	**Anticipated Schedule:** Formal funding will be available 10/1/23, but the City will initiate activity for the procurement of the QEP as soon as possible after the grant award is issued. This overall program management will run through the end of the grant period, by 9/30/27, or sooner if remediation and restoration work is completed sooner.
iii.	**Task/Activity Lead(s):** The City will lead all **Non-EPA Funded Activities** describe above; : The QEP will lead all the **EPA Funded Activities** outlined above.
iv.	**Outputs:** All required EPA reporting [ACRES, Quarterly and Financial Reports; M/W/DBE; Close Out report; RFQ for, and procurement of, QEP; regular Steering Committee meetings; general Cooperative Agreement oversight; attendance at National Brownfields Conference; grant drawdown requests.

Task/Activity 2: Community Outreach and Engagement	
i.	**Project Implementation: EPA Funded:** The QEP will: update to the ABCA, and associated presentation materials for the ABCA hearing; coordinate with the City on the preparation of the Community Relations Plan [CRP], which acts as a critical outreach and engagement tool; and provide digestible technical updates for inclusion on the website. **Non-EPA funded:** City staff will: prepare information update; prepare correspondence to specific abutters when needed; work with the QEP on the CRP; coordinate all work associated with the ABCA update hearing; and perform overall coordination and management of this community-based program consistent with the CRP.
ii.	**Anticipated Schedule:** These tasks and activities will be performed during the entire grant period [10/2/23 to approximately 12/31/27].
iii.	**Task/Activity Lead:** The City will lead all community engagement meetings, activities, and website updates; QEP will coordinate with the City on all technical and engineering related issues.
iv.	**Outputs:** Community Relations Plan; updated ABCA; website updates throughout the entire grant period; public notice for meetings & hearings; open and transparent coordination and communications with all parties.

Task/Activity 3: Site Specific Cleanup Activities	
i.	**Project Implementation: EPA Funded:** The QEP will: prepare all documents related to clean up [including final ABCA, QAPP, plans and preparation for bidding of contractors, updates, and reports]; support the City during the bid analysis process; oversee all phases of the cleanup activities; perform all required confirmatory sampling throughout the cleanup work including PAH, Asbestos, air monitoring and fugitive dust controls; monitor and ensure compliance with approved ABCA; maintain communications with EPA and NHDES staff throughout the cleanup. **Non-EPA funded:** The Project Manager will: monitor all phases of the cleanup work and

	coordinate with the QEP on a regular basis; act as the liaison between the contractor and any impacted city departments relative to road closures or other public safety measures; keep records of progress of the cleanup to be used for reporting to EPA or the State; provide updates for the website and City Council.
ii.	**Anticipated Schedule:** These tasks will commence in early 2024; some site mobilization work could commence in late 2024, and if weather allows, cleanup work could be underway in mid-to-late fall 2024; cleanup work would continue into 2025.
iii.	**Task/Activity Lead:** The QEP will be responsible for all technical and engineering based cleanup activities; the City's project manager will manage the flow of general information, project updates, and internal coordination with other City staff.
iv.	**Outputs:** Updated ABCA, QAPP, bid specifications, and all written technical reports, maintenance of work sign-in sheets for all contractors, completion of cleanup activities and stabilization of site for eventual repurposing.

Task/Activity 4: Cleanup Close-out and Final Reporting	
i.	**Project Implementation: EPA funded**: The QEP will: perform final inspections, communicate with State and EPA offices; prepare all close-out reports. **Non-EPA Funded**: The City will coordinate with and support all project management performed by the QEP and incorporate all relevant information into the Quarterly and Final reporting due to EPA.
ii.	**Anticipated Schedule:** Late fall of 2024 and through 2025-2026.
iii.	**Task/Activity Lead:** The QEP will manage all the technical cleanup matters, and the City will manage information flow for all community reporting and EPA reporting.
iv.	**Outputs:** Final cleanup and closure reports; all final reporting to EPA; ACRES; timely engagement and reporting to the community and all stakeholders; site work finished to allow for the next step of construction of the public park components.

3.c **Cost Estimates**: The City is seeking $1,923,850 in cleanup funding from EPA. These estimates were generated based on the costs from the Targeted Brownfield Assessment and Remedial Action Plan report, dated 2/14/18, input from environmental professionals, and related experiences of the City with the previous cleanup grant. [Note: some minor rounding included]

	Task 1 Program Management	Task 2 Community Outreach & Engagement	Task 3 Site Specific Cleanup	Task 4 Close-out & Final Reporting	Totals
Direct Costs					
Personnel	$0.00	$0.00	$0.00	$0.00	$0.00
Fringe Benefits	$0.00	$0.00	$0.00	$0.00	$0.00
Travel	$3,500	$0.00	$0.00	$0.00	$3,500
Equipment	$0.00	$0.00	$0.00	$0.00	$0.00
Supplies	$0.00	$0.00	$0.00	$0.00	$0.00
Contractual	$25,000	$20,000	$1,850,350	$25,000	$1,920,350
Other	$0.00	$0.00	$0.00	$0.00	$0.00
Total Direct Costs	$28,500	$20,000	$1,850,350	$20,000	$1,923,850
Indirect Costs	0.00	0.00	0.00	0.00	0.00
Total Budget	$28,500	$20,000	$1,850,350	$25,000	$1,923,850

Cost Breakdown
Task/Activity 1: Program Management
Travel: Brownfields Conference [airfare, meals, hotel] ($3500); Contractual: QEP 200 hours @ $125/hr. [$25,000] for preparation of reports/documents [ABCA, update Work, Plan/QAPP, ACRES updates, and reporting, MBE/WBE certifications, etc.] throughout the grant period; bid specs and hiring of contractors, engineering design, and permitting for specific site cleanup components.
Task/Activity 2: Community Outreach and Engagement
Contractual: QEP: 129 hours @ $155/hr. . [$20,000] for ABCA public meeting / CRP work / SWQPA permitting / monthly technical updates and related outreach for the public throughout the grant period.
Task/Activity 3: Specific Cleanup
Contractual: QEP: 1,940 hours @ $125/hr. [$242,500] for sampling, monitoring, cleanup oversight, and management. Cleanup Contractor: Asbestos abatement in mill and Armory ($211,000); Building Demolition ($200,000) Install sheet pile wall (275 linear ft @ $600 ft; $165,000); excavation/backfill 13 days at $500/day ($6500); Transport/disposal 5218 tons at $135/ton ($704,430); Geotextile liner 11,050 sq ft @ $0.25/ sq. ft. ($2763); riprap 250 tons @ $65/ton ($16,250); Clean fill 5050 tons @$40/ton ($202,000); PAH work: transport/disposal 376 tons @$125/ton ($47,000), liner 3785 sq ft @$0.25/ft ($946), Clean fill 376 tons @ $50/ton ($18,800); Monitoring Well Installation ($13,700), and initial sampling and reporting ($19,500)
Task/Activity 4: Cleanup Close-out / Final Reporting
Contractual: QEP: final inspections; ensure compliance with ABCA and all State/EPA requirements; final reporting and all close-out documents; complete ACRES management; 200 hours @ $125/hr. [$25,000]

3.d **Measuring Environmental Results**: The City will measure and report on overall project performance through the required Quarterly and Financial Reports; updates to the City website, the Steering Committee, and to the elected City Council members. The QEP will update the ACRES sites as the cleanup progresses. The EPA approved cleanup/work plan will act as the yardstick for all measurements. If there are delays in the project due to various outside issues, then these will be referenced in the Quarterly reports.

Criteria 4 Programmatic Capability and Past Performance

4.a Programmatic Capability

4.a.i & ii Programmatic Capacity and Key Staff: The City has substantial experience in grant administration. Oversight is a cooperative effort, and these key staffers will work together to manage and implement the EPA grant through to a successful end. **City Manager Judie Milner** has 36 years of municipal and county government experience [14 years with the City]. She and the Finance Director prepare and execute the City budget of $19,062,530. Actively involved with the economic redevelopment team over the past 7 years. **Planning Director & Special Projects Coordinator Seth Creighton** has been with the City for 18 months, with 18 years previous experience with other communities, and is an active member of the redevelopment team; he will provide overall management of the grant program. **Finance Director Esaundra Gaudette** has 23 years experience with municipal fiscal issues, including grants. She will oversee all the fiscal reporting and related financial requirements.

4.a.iii **Regarding Additional Resources:** For the implementation and management of the cleanup program, the City will rely upon procedures, outlined in the City Charter [Conflict of Interest] and the City Code [Purchasing Procedures] to ensure that the competitive bidding and selection process for the QEP and any contractors will be handled fairly and transparently.

4.b **Past Performance and Accomplishments**

4.b.i **Currently Has or Previously Received an EPA Brownfields Grant:** The City received a $200,000 EPA Brownfields grant in FY 2012. The project involved the cleanup of a City-owned parcel, the Former Guay's Garage Property at 599-601 South Main Street. The Final Project was submitted October 9, 2015, for the complete reporting period of 10/1/12 to 9/30/15. The Cooperative Agreement Number was BF 96163301-0. All grant funds were fully expended. As part of the City's continuing obligations following a tax taking, 60 liquid filled drums were observed at the rear of the former garage. These potential hazards were reported to the State and EPA, which triggered an emergency "removal action" by EPA. The waste materials in the drums were characterized; & the drums containing a variety of contaminates including cadmium, chromium, PCBs, and VOCs, were removed, and disposed of properly by EPA.

4.b.i(1) **Accomplishments:** The Guay's project involved the cleanup of various contaminates [comingled TPH and PAH compounds in exterior debris piles, PCBs in the stained concrete in the garage, lead, asbestos, etc.] The remediation work plan included the following tasks: site characterization work; communication between the QEP and EPA and NH Dept. of Environmental Services offices; an ABCA was prepared and later amended to address significant mold and mildew problems in the garage building; the debris piles on the site were properly disposed of; all hazardous materials in the garage and the burned out former apartment building were collected and disposed of; and, the lead contaminated wood siding on the garage was removed and disposed at a site in western NY. Reporting to ACRES was completed in a timely fashion, and all outcomes were achieved.

4.b.i(2) **Compliance with Grant Requirements:** All required tasks were completed. The QEP submitted the required updates and reports, including ACRES updates. The City's project manager submitted all the required Quarterly and Financial Reports and the Final Project Report, and maintained regular communications with Laurie O'Connor, the EPA Project Manager. The City complied with all meeting and public involvement requirements.

With the successful cleanup of the Guay's property, the focus turned to the repurposing of the remaining structure. The property has now been sold for commercial purposes.

City of Franklin, New Hampshire EPA Brownfields Cleanup Grant Application
Application Submission Table of Contents

In compliance with the EPA Guidelines for the submission of the Cleanup Grant, below is a list of the attached documents contained in the application package.

Note: The required forms are submitted separately through Grants.gov

1) Narrative Information Sheet (2 pages)

2) Narrative Responses to the Ranking Criteria (10 pages)

3) Responses to the Threshold Criteria for Cleanup Grant

   a) Critical excerpts of the February 2018 Targeted Brownfields Assessment / Remedial Action Plan [Remedial Action Contract No. EP-S1-06-03; EPA Task Order No. 0108-SI-BZ-0100.]. As discussed in Section 8 of the Threshold Criteria narrative, the Assessment report and the RAP were discussed in a noticed public meeting. This document constitutes an equivalent to an Analysis of Brownfield Clean up Alternatives [ABCA]. The TBA report and the associated Remedial Action Plan were submitted to NH Department of Environmental Services and the regional EPA office.
   b) A copy of the page from the 11/2/22 edition of the Laconia Daily Sun which contained the required legal notice. Also attached is a screen shot of the Home Page of the City's website showing the tab for all the documents provided to the public for the 11/14/22 public meeting.
   c) A summary of the notes from the 11/14/22 public meeting.
   d) Outline of the public Questions / comments and the responses of the City to the comments. [Note: For easier review of these two items, they have been combined into one document]
   e) A copy of the sign-in sheet from the public meeting.

4) State Letter of Acknowledgement and Support

City of Franklin – Application for EPA Brownfields Cleanup Grant
In Response to Section III.B, Threshold Criteria for Cleanup Grants

1. **Applicant Eligibility**: The City of Franklin affirms that it is a duly established and authorized general purpose unit of local government within the State of New Hampshire.

2. **Previously Awarded Cleanup Grants:** The City of Franklin affirms that the proposed site has not received funding from a previously awarded EPA Brownfields Cleanup Grant.

3. **Expenditure of Existing Multipurpose Grant Funds:** The City of Franklin affirms that it has not received any Multipurpose Grant Funds from the EPA, and that there is no open Multipurpose Grant.

4. **Site Ownership:** The City of Franklin purchased the subject property on November 21, 2022. The acquisition was carried out through a standard transfer of ownership and deeding process, with the purchase price being $1.00. Prior to that purchase, the property was owned by Ferrari Franklin Mills Realty, LLC.

5. **Basic Site Information:** The property is referred to as Ferrari Mill Site, and the address is 93-119 Memorial Street, Franklin, New Hampshire, 03235.

6. **Status and History of Contamination at the Site:**
   a) The site is contaminated with hazardous materials, with no know petroleum products.
   b) The subject property contains two buildings. The mill was used from approximately 1897 to 1979 for the manufacture of hacksaw blades. From 1979 to 1986, Stanley Tool Company produced tool components. They sold the property in 1986 to the Ferrari family, and the site has sat basically abandoned since then. The Armory was constructed, and used, by the National Guard for many years but was then sold to the Ferrari family, the former owner. For several years, the Armory building was used by a local construction company for the storage of materials and staging equipment, but that use stopped approximately 7 years ago, and the Armory has sat vacant since then. No historic uses of the Armory contributed to site contamination, but one small lean-to addition at the rear northeast corner was constructed on some of the industrial waste fill area.
   c) Recognized Environmental Concerns have been identified in Phase 1 and 2 reports generated between 2014-2015, and the 2018 Targeted Brownfields Assessment / Remedial Action Plan report. The contamination is linked to buried industrial waste, buried materials, and dumped liquids into the soils and groundwater, and buried metals, and hazardous building materials.
   d) The contaminations occurred between 1897 and 1979. The contaminates includes: buried solid and dumped liquid; industrial waste; chlorinated VOCs

[Tetrachloroethene, Trichloroethene, Naphthalene]; PAHs; and metals [arsenic and lead]; and building materials containing asbestos and lead paint.

7. **Brownfields Site Definition:** The subject property, with known and unknown environmental hazardous is considered a Brownfields site as defined in CERCLA section 101(39) as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substances, pollutants, contaminants, controlled substances, petroleum, or petroleum products, or is mine-scarred land. Further, the City affirms that the property is a) not listed or proposed for listing on the National Priorities List; b) not subject to unilateral administrative orders, court orders, administrative orders on consent, or judicial consent decrees issued to or entered into by parties under CERCLA; and c) not subject to the jurisdiction, custody, or control of the U.S. government.

8. **Environmental Assessment Required for Cleanup Grant Applications:** The site was the subject of a Phase I and a Phase II report performed in 2014. Further, the site was the subject of a Targeted Brownfields Assessment [TBA] and Remedial Action Plan [RAP] issued February 2018. [Remedial Action Contract No. EP-S1-06-03; EPA Task Order No. 0108-SI-BZ-0100.] The report detailed the procedures and protocols for the soil and groundwater sampling and analysis work. The findings from this sampling work were integrated into the discussion of the 3 alternatives and helped to define Alternative 3 [full remediation] as the appropriate approach. The Assessment report and the RAP were discussed in a noticed public meeting. This document constitutes an equivalent to an Analysis of Brownfield Clean up Alternatives [ABCA]. The TBA report and the associated Remedial Action Plan were submitted to NH Department of Environmental Services and the regional EPA office.

9. **Site Characterization:** Based on all available information, the City of Franklin affirms that there is a sufficient level of site characterization from the environmental site assessment performed to date for the remediation work to begin on the site. The New Hampshire Department of Environmental Services has provided a letter [attached to this grant filing] that discusses the Site Characterization issues, and which affirms that the site is eligible to be enrolled in a voluntary response program.

10. **Enforcement or Other Actions:** The City of Franklin finds that there are no known ongoing or anticipated environmental enforcement of any other action related to the site for which Brownfields Grant funding is sought.

11. **Sites Requiring a Property-Specific Determination:** Based on a review of the document titled, "Information on Sites Eligible for Brownfields Funding under CERCLA § 104(k), the City of Franklin affirms that the site does not need a Property-Specific Determination.

12. **Threshold Criteria Related to CERCLA / Petroleum Liability:** The City of Franklin's response to this criteria relate to the fact that the site is contaminated with hazardous substances.

Section 12.a: **Property Ownership Eligibility – Hazardous Substance Sites**: The City is not exempt from CERCLA liability since the acquisition did not meet the specified circumstances. The project does not quality for funding since the property was not acquired prior to January 11, 2002. The City does affirm, as outlined below, that the project is eligible for a Brownfields Grant since it meets the requirements for asserting an affirmative defense to CERCLA liability through one of the landowner liability protections, as outlined below.

Section 12.iii (1) **Bona Fide Prospective Purchaser Liability Protection** applies to the circumstances presented by the City of Franklin. The City claims that it satisfies the liability requirement to qualify as a Bona Fide Prospective Purchaser [BFPP]. This claim is supported by the following responses:

12.iii (1) (a): **Information of the Property Acquisition**:
(i – v) The City acquired the property through a negotiated purchase from a private individual. The date of the deeding was November 21, 2022. The City owns the property through a fee simple purchase. There are no co-owners of the property. The property was purchased from the Ferrari Franklin Mills Realty, LLC, with an ownership address of 18 Broadway, Stoneham, MA 02180. The City had no familial, contractual, corporate, or financial relationships or affiliations with the seller, or with any previous owner or operator, of the property.

12.iii (1) (b): **Pre-Purchase Inquiry:**
(i) Prior to the purchase of the Property, a Phase I assessment prepared. The report was prepared by the Nobis Engineering Group and was dated October 20, 2022. The City ordered the assessment, and the City was the sole client for the work performed.
(ii) The Phase I assessment was prepared by Nobis Engineering, out of their office in Concord NH. The work was overseen by Clarence "Tim" Andrews, P.G., Senior Project Manager of Nobis Engineering. Mr. Andrews was also the Senior Project Manager of the Targeted Brownfield Assessment for the subject property; that assessment was issued October 2017.
(iii) The Phase I assessment was prepared within 180 days of the deeding of the property to the City.

12.iii (1) (c): **Timing and/or Contributions Toward Hazardous Substances Disposal**:
As is outlined in the Targeted Brownfields Assessment report, the G.W. Griffin company produced hacksaws from 1897 to 1979. Based on all available information and records, the Stanley Tool Works, owners from 1979-1995, did not contribute any contamination to the site. The City has not encouraged, participated in, contributed to, or ordered the disposal of any contaminates on the site. The City Affirms that it has not, at any time, arranged for the disposal of hazardous substances at the site or transported hazardous substances to the site.

12.iii (1)(d): **Post-Acquisition Uses**:
There are no substantive uses being conducted on the property since the City purchased the site on November 21, 2022. Prior to the purchase by the City, the former owner, Ferrari Franklin Mills Realty, LLC agreed to allow Chinburg Builders to store construction materials on a small portion of the subject property. Chinburg Builders is renovating the abutting J.P. Stevens

Mill into a mixed use residential and commercial property. This use of a portion of the subject property for storage started approximately in the spring of 2022. Since the Chinburg group is working actively under Site Plan approval from the Planning Department and Building Permit activity overseen by the Inspection Department of the Franklin Fire Department, the City has permitted Chinburg to maintain the on-site storage. The stored materials are limited to non-hazardous goods such as new metal and HDPE piping, new lumber, metal staging, and the like.

12.iii (1) (e): **Continuing Obligations:**

(i) Since the property was acquired by the City, it has taken to stop any suspected releases of any additional hazardous materials or substances. The City of Franklin has no intent to allow anyone to use the property in such a manner as to cause any additional contamination or releases of any hazardous materials. The only use of the property will be the storage of construction materials discussed above. It is important to note that the subject property is located across the street from a City-owned building where the Planning, Zoning, and Assessing offices are located. A workshop and office for the Building and Grounds division of the DPW is also located in the lower floor of this building. The subject property is also located on Memorial Street, which is the only access to Odell Park, a key recreational and playground facility for the City. The Franklin Police Department make regular trips into Odell Park to ensure public safety, and as noted below, the inspection officers from the Franklin Fire Department perform regular visual inspections of the property.

(ii) As noted above, the City Police regularly patrols the area and keeps an eye out for overall public safety. Additionally, since the Franklin Fire Chief has ordered that the mill building constitutes a public hazard due to the deterioration of the structure, the Fire Safety Inspection team make regular visits to the property.

(iii) One key step in preventing or limit exposure to any previously released hazardous substance will be through the pursuit of funds to remediate the property. In mid-September 2022, the City submitted two different grant applications seeking funds to demolish the former mill building, and a small portion of the abutting former Armory building. Both structures contain asbestos materials that can impact the public. It is also important to note that the use of a small portion of the subject property by the Chinburg Builders for the storage of non-hazardous building materials and supplies is located distant and removed from areas of the site where hazardous materials have been identified. The City has received a verbal confirmation that the $200,000 grant from the NH Department of Environmental Services has been awarded. No decision has yet been made on the second grant for $400,000 from the NH Division of Business and Economic Affairs.

The City of Franklin Affirms and Confirms their commitment to the following requirements:

(i) The City will comply with any land use restrictions and will not impede the effectiveness or integrity of any institutional controls;

(ii) The City will assist and cooperate with those performing the cleanup and provide access to the subject property. It is the goal and intent of the City that it will be the entity initiating and performing all cleanup work and remediation of the property.

(iii) The City will comply with all information requests and administrative subpoenas that have or may be issued in connection with the property; and,

(iv) The City will provide all legally required notices, especially those associated with the cleanup of the property.

13. **Cleanup Authority and Oversight Structure:**

a. The oversight work will be managed by the environmental engineering firm hired by the City of Franklin, through it codified procurement process. The City and the Selected firm will comply with the State of New Hampshire Code of Administrative Rules [Env-OR-660] and will coordinate work with the NH Department of Environmental Services. The selected firm will perform daily, or as needed, inspections to ensure the protection of public health and safety. The firm performing tasks such as excavation /trucking, soils movement and management, and related construction-type work, will have to provide a work plan that document how they, and their work, will provide appropriate safeguards.

b. Some of the remediation work on the site will require permission from an abutting property [on the east side of the site] owner to allow access across, possible storage of equipment and materials, and general mobilization activity. The City has already been working with that property owner on a variety of permits, approvals, and some public/private partnerships, and as the plan for remediation work is prepared. The abutter is aware of the access needs and has vowed to assist; the cleanup is also in his best interest as a direct abutter. City officials will open communications regarding authorization for access and use.

14. Community Notification

a. **Draft Analysis of Brownfield Cleanup Alternatives:** As noted above in item 8, the Targeted Brownfield Assessment, and the Remedial Action Plan function as an equivalent assessment document. Critical excerpts from this document [hundreds of data tables were excluded] were made available to the public for review and comment. A copy of these critical excerpts is attached to this application.

b. **Community Notification Ad:** A copy of the ad is attached. Also attached is the notice that was placed on the City website [franklinnh.org]. The ad includes all the required information related to the availability and location of the assessment document, comment period, and the time / date / location of the meeting.

c. **Public Meeting:** Attached are all the required documents associated with the public meeting, held on Monday, November 14, 2022. The document package includes: summary of public comments, and the City's response to the comments; summary of the public meeting; and the sign-in / participant sheet.

d. **Submission of Community Notification Documents:** All of the required documents, as detailed in Section III.B.14.d, are attached to this outline of the Threshold Criteria document.

15. Contractors and Named Subrecipients: This item is Not Applicable as the City of Franklin has not procured a contractor or any subrecipient.

City of Franklin, New Hampshire EPA Brownfields Cleanup Grant Application
Application Submission Table of Contents

In compliance with the EPA Guidelines for the submission of the Cleanup Grant, below is a list of the attached documents contained in the application package.

Note: The required forms are submitted separately through Grants.gov

1) Narrative Information Sheet (2 pages)

2) Narrative Responses to the Ranking Criteria (10 pages)

3) Responses to the Threshold Criteria for Cleanup Grant

   a) Critical excerpts of the February 2018 Targeted Brownfields Assessment / Remedial Action Plan [Remedial Action Contract No. EP-S1-06-03; EPA Task Order No. 0108-SI-BZ-0100.]. As discussed in Section 8 of the Threshold Criteria narrative, the Assessment report and the RAP were discussed in a noticed public meeting. This document constitutes an equivalent to an Analysis of Brownfield Clean up Alternatives [ABCA]. The TBA report and the associated Remedial Action Plan were submitted to NH Department of Environmental Services and the regional EPA office.
   b) A copy of the page from the 11/2/22 edition of the Laconia Daily Sun which contained the required legal notice. Also attached is a screen shot of the Home Page of the City's website showing the tab for all the documents provided to the public for the 11/14/22 public meeting.
   c) A summary of the notes from the 11/14/22 public meeting.
   d) Outline of the public Questions / comments and the responses of the City to the comments. [Note: For easier review of these two items, they have been combined into one document]
   e) A copy of the sign-in sheet from the public meeting.

4) State Letter of Acknowledgement and Support

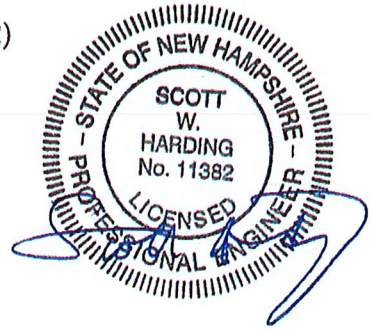
DES Waste Management Division
29 Hazen Drive PO Box 95
Concord, New Hampshire 03302-0095

TARGETED BROWNFIELDS ASSESSMENT AND REMEDIAL ACTION PLAN FERRARI MILL SITE

93-119 Memorial Street
Franklin, New Hampshire

NHDES Site No. 198606087
NHDES Project No. 33501

Prepared For:
United States Environmental Protection Agency
Region 1 – Brownfields Program
5 Post Office Square, Suite 100 (OSRR07-2)
(617) 918-1022
Mr. Alan Peterson



Prepared By:
Nobis Engineering, Inc.
18 Chenell Drive
Concord, New Hampshire 03301
(603) 224-4182
Clarence "Tim" Andrews, P.G. / Scott Harding, P.E.
TAndrews@nobiseng.com

February 14, 2018
File No. 80108.08

Elizabeth Reese Digitally signed by Elizabeth Reese DN: C=US, E=ereese@nobiseng.com, O=Nobis Engineering, CN=Elizabeth Reese Date: 2018.02.15 12:38:35 -5:00

Nobis
Engineering a Sustainable Future

EPA Region 1 RAC 2 Contract No. EP-S1-06-03

February 14, 2018
Nobis Project No. 80108

Via Electronic Submittal

U.S. Environmental Protection Agency
Attention: Mr. Alan Peterson, Task Order Project Officer
5 Post Office Square, Suite 100 (OSRR07-2)
Boston, Massachusetts 02109-3912

Subject: Transmittal of Targeted Brownfields Assessment and Remedial Action Plan
Ferrari Mill, Franklin, New Hampshire
NHDES Site No. 198606087, Project No. 33501
Targeted Brownfields Assessment
EPA Task Order No. 0108-SI-BZ-0100

Dear Mr. Peterson:

Enclosed is the Targeted Brownfields Assessment and Remedial Action Plan for the above referenced Task Order.

Should you have any questions or comments, please contact me at (603) 724-6226, or tandrews@nobiseng.com.

Sincerely,

NOBIS ENGINEERING, INC.

Clarence "Tim" Andrews, P.G.
Senior Project Manager

Scott W. Harding, P.E.
Senior Engineer

Enclosure

c: File 80108/NH

Nobis Engineering, Inc.
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Nobis
Engineering a Sustainable Future

Targeted Brownfields Assessment and Remedial Action Plan

Ferrari Mill Site
Franklin, New Hampshire

NHDES Site No. 198606087, Project No. 33501
Targeted Brownfields Site Assessment
EPA Task Order No. 0108-SI-BZ-0100

REMEDIAL ACTION CONTRACT No. EP-S1-06-03

FOR

US Environmental Protection Agency Region 1

BY

Nobis Engineering, Inc.

Nobis Project No. 80108

February 2018

U.S. Environmental Protection Agency
Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3919

Nobis Engineering, Inc.
Lowell, Massachusetts
Concord, New Hampshire

Phone (800) 394-4182
www.nobisengineering.com

Targeted Brownfields Assessment and Remedial Action Plan

Ferrari Mill Site
Franklin, New Hampshire
NHDES Site No. 198606087, Project No. 33501
Targeted Brownfields Site Assessment
EPA Task Order No. 0108-SI-BZ-0100

REMEDIAL ACTION CONTRACT
No. EP-S1-06-03

For

US Environmental Protection Agency
Region 1

By

Nobis Engineering, Inc.

Nobis Project No. 80108

February 2018

Clarence "Tim" Andrews, P.G.
Senior Project Manager

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FERRARI MILL
FRANKLIN, NEW HAMPSHIRE
NHDES SITE NO. 198606087

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FERRARI MILL
FRANKLIN, NEW HAMPSHIRE
NHDES SITE NO. 198606087

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ES EXECUTIVE SUMMARY

Nobis Engineering, Inc. (Nobis) has completed a Targeted Brownfields Assessment (TBA) and Remedial Action Plan (RAP) for the Ferrari Mill Site (the Site), located at 93-119 Memorial Street, Franklin, New Hampshire. The Site is identified by the New Hampshire Department of Environmental Services (NHDES) as the former Stanley Mill with NHDES Site No. 198606087, Project No. 33501. The objectives of the TBA were to address data gaps and further define the types and general extent of contamination present in soil, soil gas, groundwater, and building materials as a result of historical site operations and/or releases, as well as to assess for releases from a previously unidentified underground storage tank (UST). Nobis performed investigations at the Site which included the collection of shallow and subsurface soil samples, groundwater samples, soil gas samples, and building materials samples.

Soil analytical results presented in this TBA Report were compared to the New Hampshire Department of Environmental Services (NHDES) Soil Remediation Standards (SRS). The SRS are intended to provide a cleanup standard for assessment of contamination at the Site. The volatile organic compound (VOC) tetrachloroethene (PCE) was detected in several soil samples collected at the site at concentrations exceeding the applicable SRS. PCE exceedances were detected in the industrial/hacksaw fill along the back of the property by the river bank. The VOC naphthalene was detected in a soil sample collected between the former mill and former armory at a concentration exceeding the applicable SRS. Several polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations exceeding their respective SRS across the Site. High concentrations of PAHs were detected in the industrial fill in the area between the armory and the mill building. The metals arsenic and lead were detected in several soil samples collected from across the Site at concentrations exceeding their respective SRS. Additionally, the metals cadmium and chromium were detected in a single soil sample each at concentrations exceeding their respective SRS. All metals concentrations exceeding SRS were detected in locations containing industrial fill. Based on soil sample analytical results, PAH contamination at the Site is generally present at the ground surface to 4 feet below ground surface (bgs). Metal contamination at the Site is generally present at the ground surface to 4 feet bgs and up to 12 feet bgs within the area of industrial waste fill materials. Industrial waste fill materials on the property range in thickness from less than 1 foot to 12 feet, within an areal extent of approximately 11,700 square feet.

Groundwater analytical results in this TBA Report are compared to the NHDES Ambient Groundwater Quality Standards (AGQS). The use of AGQS is intended to provide a cleanup standard for assessment of contamination at the Site. The VOCs PCE, trichloroethene (TCE), cis-1,2-dichloroethene, and the PAHs benzo[a]anthracene and benzo[b]fluoranthene were detected at concentrations exceeding their respective AGQS. Groundwater VOC exceedances were detected in locations where industrial fill was observed and not in upgradient locations relative to the Site.

Soil gas analytical results in this TBA Report are compared to the New Hampshire Residential Soil Gas Screening Levels. Concentrations of PCE and TCE were detected at concentrations exceeding their respective Soil Gas Screening Levels. The soil gas exceedances were from a sample location adjacent to a floor drain in the northern portion of the mill building. This soil gas location was also the only location that had a chloroform detection.

Nobis completed assessment of the previously unidentified UST by test pit evaluation and removal of the tank to evaluate for releases, and ultimate closure of the UST and related product piping. The UST was observed to be approximately 1,000-gallons in capacity and utilized for storage of heating oil. Evaluation of the UST indicated the tank was in fair condition with no evidence of releases. Soil samples collected from the UST excavation did not report any SRS exceedances. The tank was closed in accordance with NHDES guidelines.

Nobis evaluated three alternatives to address contamination identified at the site. The first included fencing off areas of the Site that have residual soil contamination and recording an Activity and Use Restriction (AUR) for contaminated areas and installing asbestos warning signage on the former mill building and securing the building from entry. This alternative is presented as a "do nothing option".

The second alternative includes the partial demolition of site buildings. Installation of a geotextile liner over contaminated soil areas identified at the site (Industrial waste fill area and PAH impacted area), followed by capping of the areas with clean fill material to a minimum thickness of 2 feet. 1-foot angular riprap would be installed over the riverbank slope to armor the riverbank and protect the river bank from potential erosion. This alternative would also include and AUR.

The third alternative would also include the partial demolition of site buildings. As well as excavation and removal of industrial waste fill material and impacted soil from the river bank.

Excavation and removal of PAH impacted soil from the identified PAH areas with limited on-site management of PAH impacted soils. Followed by installation of a geotextile liner and backfilling of all excavated areas with suitable clean fill material to the original grade. One-foot angular riprap would be installed over the riverbank slope to armor the riverbank and protect the river bank from potential erosion. This alternative would also include an AUR.

Based on information gathered during this TBA, pending future site development considerations, and the evaluated remedial alternatives, the following remedial processes are recommended; The PCE and metal-impacted soil (industrial waste fill area) should be excavated to mitigate a potential direct contact risk to humans. PAH-impacted soil should also be excavated and disposed of off-site with limited potential for possible reuse on-site as deep backfill. PCE and metal-impacted soil (industrial waste fill area) should be excavated to mitigate potential vapor intrusion into Site buildings and to address a likely continuing source area to groundwater contamination. Groundwater exceedances detected in locations where industrial fill was observed will need to be monitored under a groundwater management permit, issued by NHDES. Asbestos-containing building materials should be abated at the former armory and former Stanley Mill buildings.

If construction of new buildings is planned during future site redevelopment, an evaluation of soil, groundwater, and soil gas conditions in the proposed building footprint may be warranted depending on the nature of use and type of construction. Site conditions may warrant additional remedial actions or installation of a soil gas mitigation system (passive or active) to eliminate potential VOC impacts to indoor air.

1.0 INTRODUCTION

This Targeted Brownfields Assessment (TBA) Report and Remedial Action Plan (RAP) was prepared by Nobis Engineering, Inc. (Nobis) for the United States Environmental Protection Agency (EPA) under contract No. EP-S1-06-03, Task Order No. 0108-SI-BZ-0100. This TBA Report documents the investigation activities and summarizes the data collected by Nobis at the Ferrari Mill (Site) located at 93-119 Memorial Street in Franklin, New Hampshire. The Site is identified by the New Hampshire Department of Environmental Services (NHDES) as the former Stanley Mill with NHDES Site No. 198606087, Project No. 33501. A Site Locus Plan is included as Figure 1. A Site Area Plan depicting pertinent site features is included as Figure 2.

The objectives of the TBA were to address data gaps from previous investigations and to further define the types and general extent of contamination present in soil, soil gas, and groundwater as a result of historical site operations and/or releases, as well as to evaluate hazardous building materials that would require abatement to support redevelopment. Nobis performed investigations at the Site which included the collection of shallow and subsurface soil samples, groundwater samples, soil gas samples, and building materials samples. Soil and groundwater sampling data collected during the TBA were compared to criteria established by the New Hampshire Department of Environmental Services (NHDES) in the New Hampshire Code of Administrative Rules Chapter Env-Or 600, Contaminated Site Management (Env-Or 600), to evaluate potential risks associated with contaminated environmental media (NHDES, 2016). Soil gas sampling data collected during the TBA were compared to the NH Residential Soil Gas Screening Levels. Building materials were analyzed for asbestos and polychlorinated biphenyl (PCB) content. This information will be used to support the development of potential alternatives for clean-up with order-of-magnitude cost estimates that will help support decision-making concerning future redevelopment of the Site.

This TBA Report was prepared in accordance with the EPA-approved Field Task Work Plan and Quality Assurance Project Plan Addendum (FTWP/QAPPA) for the Site, prepared by Nobis, submitted to EPA on March 20, 2017 and used to complete the Site activities (Nobis, 2017). The TBA activities included the following:

- A sub-slab investigation of the former armory and mill buildings, included installation of soil gas wells and limited soil sampling.

- Collection of soil gas samples.
- Oversight of test pits with collection of soil samples.
- Advancement of soil borings and collection of soil samples.
- Installation of overburden groundwater monitoring wells.
- Installation of a bedrock monitoring well.
- Collection of groundwater samples from existing and newly-installed monitoring wells.
- Underground storage tank (UST) release assessment and closure oversight with collection of confirmation samples.
- A supplemental Hazardous Building Materials (HBM) Survey with collection of building material samples.
- Data evaluation.
- Development of this report.
- Development of a Remedial Action Plan (RAP) to address hazardous building materials present at the Site and remediation of contaminated soil and groundwater identified at the Site. The RAP is needed to assess the feasibility and cost/benefit of remedial options including partial demolition of Site buildings, soil source removal, and establishment of an Activity and Use Restriction (AUR).

The results of this TBA investigation were used to develop remedial recommendations and associated cost estimates.

2.0 KEY TEAM MEMBERS

Alan Peterson is the EPA Task Order Project Officer (TOPO). Tim Andrews managed Nobis and subcontractor tasks and Gail DeRuzzo monitored project quality. Gail DeRuzzo also coordinated with the analytical laboratory and managed data review activities. Joshua Stewart was responsible for the implementation of all field activities as the Field Operations Leader (FOL). Absolute Resource Associates, Inc. (ARA) of Portsmouth, New Hampshire performed the soil, groundwater, and investigation-derived waste (IDW) disposal characterization analyses, Con-Test Analytical Laboratory (Con-Test) of East Longmeadow, Massachusetts performed the soil gas analyses, and EMSL Analytical, Inc. (EMSL) of Woburn, Massachusetts performed the building materials analyses. Monitoring wells were installed by New England Boring Contractors (NEBC) of Londonderry, New Hampshire. Soil gas monitoring points were installed by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire. Test pitting and UST closure was performed by Accuworx, Inc. (Accuworx) of Barre, Vermont.

3.0 SITE BACKGROUND

This section provides a physical description of the Site, historical site usage, discusses potential contaminants of concern identified during historical assessments, and summarizes previous environmental investigations completed at the Site.

The approximate 1.2-acre Site located at 93-119 Memorial Street near downtown Franklin, New Hampshire is identified as Lot 142 on City Tax Map 117. The Site is adjacent to the Winnipesaukee River and is part of the Franklin Falls Historic District. Two vacant structures currently exist on the Site; a former armory on the west side of the property and the former Stanley Mill on the east side.

The plan for Site redevelopment is currently undefined. The City of Franklin (City) is working with stakeholders to find sustainable commercial redevelopment options that support the downtown master plan.

A Site Locus Plan is included as Figure 1. A Site Area Plan is included as Figure 2.

3.1 Site History

G.W. Griffin Company operated a hacksaw manufacturing mill from approximately 1897 to 1979. The armory was constructed in 1911 and was used by the New Hampshire National Guard until 1935 when the G.W. Griffin company purchased the armory. In 1979 the Stanley Works purchased the property and operated on the Site until 1986. The property was then passed to the Franklin Falls Trust and in 1995 was transferred to the Ferrari Realty Trust. Previous investigations have identified the presence of hacksaw blade waste/industrial waste in fill material used to level and extend the property to the north, toward the Winnipesaukee River.

3.2 Contaminants of Concern

Contaminants of concern (COCs) include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), arsenic, and lead in soil, VOCs and PAHs in groundwater, and VOCs in soil gas. Maximum concentrations of contaminants detected in soil, groundwater, and soil gas samples collected from the Site exceeded applicable NHDES criteria.

Specific contaminants of concern in soil include the VOCs tetrachloroethene (PCE) and naphthalene, the PAHs benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, fluorene, and indeno[1,2,3-cd]pyrene, and the metals arsenic, chromium, and lead. The VOC PCE, its degradation compounds trichloroethene (TCE), cis-1,2-dichloroethene and vinyl chloride, and PAHs benzo[a]anthracene and benzo[b]fluoranthene are present in groundwater beneath the Site. The VOCs 1,2,4-trimethylbenzene, 1,4-dichlorobenzene, chloroform, ethylbenzene, PCE, and additional VOCs are present in soil gas at the Site. Asbestos and PCB-containing building materials and lead based paint are present in construction materials utilized in both the former armory and mill buildings.

3.3 Previous Site Investigations

A Phase I Environmental Site Assessment (ESA) was completed by Credere Associates, LLC (Credere) in August, 2014 (Credere, 2014), followed by a Phase II ESA completed by Credere in June, 2015 (Credere, 2015). These and other reports are available on the NHDES OneStop website. A summary of the findings from prior site investigations are as follows:

- Groundwater beneath the Site generally flows west/northwest toward the Winnipesaukee River (immediately adjacent to the Site) and is present at depths of approximately 10 to 17 feet below ground surface (bgs).

- A UST is present behind the former armory, located on the northwest corner of the Site.

- Industrial waste was used as fill material along the northern portion of the Site.

- The fill material varies in thickness from 3.5 to 8.5 feet and contains rusty metal coils, sheet metals, hacksaw blades, and other metal debris.

- The approximate extent of the fill encompasses the majority of the northern portion of the Site, including the riverbank.

- The fill may extend under portions of both the former mill and armory.

- Soil samples from the fill contain PCE, PAHs, and metals at concentrations exceeding NHDES Soil Remediation Standards (SRS).

- Analytical data collected from groundwater samples indicate that groundwater at the Site has been impacted by PCE, TCE, vinyl chloride, and arsenic at concentrations exceeding applicable Ambient Groundwater Quality Standards (AQGS).

- Groundwater was likely impacted from the industrial fill and/or historical discharges to floor drains within the former mill.

- PAHs were detected at concentrations exceeding applicable SRS in one of the sediment samples collected from the Winnipesaukee River.

- PCBs were not detected in the area of the former transformer pad.

- Surface soil throughout portions of the Site is impacted by PAHs at concentrations exceeding NHDES SRS.

- Asbestos-containing materials (ACM) and lead based paint were identified in the former mill.

- Florescent light fixtures, unlabeled drums and low level-PCB containing building materials were present throughout both the former mill and armory.

3.4 Site Geology and Hydrogeology Summary

Based on the investigations performed at the Site by Credere and Nobis, Nobis has prepared a summary of the conceptual site model for the Site. Nobis understands the following about the Site geology and hydrogeology:

- The overburden consists of fill material of varying composition and thickness. Below the fill are alluvial deposits. Weathered bedrock was encountered between 26 (NB-4) and 46 (NB-1) feet bgs. Competent bedrock was encountered at approximately 70 feet bgs at BR-1.

- The fill on-site contains hacksaw blades, metal debris, metal shavings, ash, and brick fragments. The thickness of the fill ranges from 3 to 12 feet bgs.

- Fine sands and silty sand was observed below the fill to approximately 30 feet bgs, transitioning to glacial till to approximately 40 feet bgs with weathered bedrock below.

- According to the Bedrock Geologic Map of New Hampshire, bedrock in the vicinity of the subject site is classified as metapelite, turbidites, with thin quartz conglomerates of the Lower part of the Rangeley Formation.

- Groundwater was observed to range from approximately 7.7 (NB-4S) to 15.4 (NB-1D) feet bgs and flowed in a generally northwest/west direction to the Winnipesaukee River. The variation in measured depth to groundwater is partially due to drop in ground surface elevation at the NB-4 well couplet.

- Four overburden well couplets are present at the site, all four indicate a downward vertical gradient of groundwater. The Winnipesaukee River is likely a discharge point for the groundwater on-site and may be acting as a groundwater contamination barrier.

4.0 SUMMARY OF TBA INVESTIGATION ACTIVITIES

A summary of the TBA investigation activities performed by Nobis is presented in the sections that follow.

4.1 Soil Gas Sample Point Installation

Nobis oversaw the installation of four permanent soil gas sampling points (AR-1 through AR-4) beneath the slab of the armory building and 5 permanent soil gas sampling points (SM-1 through SM-5) beneath the slab of the former Stanley Mill to varying depths from 3.5 feet bgs (SM-5), 4.0 feet bgs (AR-3), 4.5 feet bgs (AR-1), 5.0 feet bgs (AR-4), 5.5 feet bgs (AR-2), to 6.0 feet bgs (SM-1 through SM-4) by EAI using a hammer drill with a combination of 2-foot samplers and an auger bit on April 12 and 13, 2017. Soil gas sampling points were constructed of 6-inch AMS, Inc. vapor implants attached to ¼-inch low density polyethylene (LDPE) tubing, backfilled with filter sand with a bentonite seal at approximately 6 inches bgs. Each soil gas sampling point was finished with a flush-mounted road box set in concrete. Soil gas sampling point locations are shown on Figure 2. Construction details are included in Appendix A.

4.2 Sub-Slab Soil Sampling

Nobis performed sub-slab soil sampling concurrently with soil gas sample point installation activities at five of the nine sub-slab locations (AR-1, AR-2, SM-1, SM-2, and SM-3) to determine the presence of fill materials below the slab and evaluate potential impacts to the soil below the slab of the buildings in areas where industrial fill was likely used. Nobis visually classified soils in the field using the Modified Burmister Classification System and used a MiniRAE 3000 photoionization detector (PID) to field screen soil samples from each sub-slab boring location. PID screening results were all less than 1.0 part per million by volume (ppmv). Hacksaw blades and metal fragments were observed in the sample from 5 feet bgs at sub-slab location AR-2. No obvious indications of industrial fill material were observed in the soil recovered from the other sub-slab borings. Nobis reviewed boring logs prepared by Credere dated October 2014 in which industrial fill material was observed to a depth of 7.5 feet below ground surface (bgs) in boring CA-MW-4 and to a depth of 3.5 feet bgs in boring CA-MW-5. Both CA-MW-4 and -5 are located outside the Stanley Mill building along the northern most side of the building. Based on observations of industrial fill in borings CA-MW-4 and -5 and with the knowledge that the northern

portion of the Mill has been observed to be settling, possibly due to being constructed on top of fill material, it is inferred that some industrial fill material may be present below the building footprint, but the presence of fill below the building has not been confirmed.

A total of five sub-slab soil samples were collected. All five sub-slab soil samples were submitted for laboratory analysis of VOCs by SW-846 Method 8260C, PAHs by SW-846 Method 8270D, and Resource Conservation and Recovery Act (RCRA) metals by SW-846 Method 6020A/7471B. A summary of soil analytical data collected from the sub-slab soil borings advanced during the TBA is presented in Tables 1 through 3 and the complete laboratory analytical reports are included in Appendix D.

4.3 Bedrock Well Installation

Nobis oversaw the construction of a single bedrock well (BR-1) performed by NEBC beginning on April 19, 2017 and completed April 25, 2017. The borehole was advanced with a track-mounted Mobile Drill B-57 using drive and wash drilling methods using a 6-inch roller bit. No soil samples were collected during the advancement of the borehole, drill action and wash cuttings were observed. Presumed weathered bedrock was encountered at approximately 40 feet bgs, competent bedrock was encountered at approximately 69 feet bgs. 4-inch permanent casing was set at 69.5 feet bgs, the borehole and casing were grouted from 69.5 feet bgs to 1.5 feet bgs. The borehole was terminated at 95 feet bgs creating a 25-foot open borehole bedrock interval from 70 to 95 feet bgs. Boring logs are included in Appendix A.

4.4 Drive and Wash Soil Borings and Subsurface Soil Sampling

Nobis oversaw the advancement of soil borings by drive and wash methods performed by NEBC on April 21, 2017 through May 1, 2017. NEBC advanced six soil borings at the Site to collect soil data with which to evaluate the presence and nature of contamination in soils. Soil borings were advanced in locations intended to provide coverage across the Site and to enable field observations of subsurface conditions. Borings were completed as follows:

- One of the borings (NB-1) was advanced in the center portion of the Site to the west of and between the northern and southern portions of the former mill (shallow and deep overburden well couplet).

- Two of the borings (NB-2 and NB-3) were advanced on the northern portion of the Site, between the former mill and the armory (shallow and deep overburden well couplets).

- One of the borings (NB-4) was advanced on the northwestern portion of the Site, behind the former armory (shallow and deep overburden well couplet).

- Two of the borings (NB-5 and NB-6) were advanced to the north of the Site behind the former mill (deep overburden only).

Soil boring locations are shown on Figure 3. Boring logs are included in Appendix A.

Soil borings were advanced by a track-mounted Mobile Drill B-57 using drive and wash drill methods. Soil samples were collected continuously from ground surface to at least 10 feet bgs and at a minimum of every 5 feet after. Soil samples were collected using a standard 2-inch diameter by 24-inch long split spoon. After each spoon was driven into the sub-surface the spoons were opened to allow for soil classification and collection of soil samples for lab analyses. Split-spoons were decontaminated prior to reassembly. Termination depths of the borings were: 26 feet bgs (NB-4), 28 feet bgs (NB-5), 36 feet bgs (NB-2, NB-3, NB-6), and 46 feet bgs (NB-1).

Nobis visually classified soils in the field using the Modified Burmister Classification System and used a MiniRAE 3000 PID to field screen soil samples extracted during each sample interval. Fill material observed in borings ranged from no fill observed in borings NB-1, NB-3, and NB-4 to 6.5 to 12 feet bgs in borings (NB-2, NB-5, and NB-6). Fill material consisted of hacksaw blades, metal fragments and shavings, ash, brick fragments, and other fill debris. Generally, soils beneath the fill material were observed to be fine sands and silty sands, with glacial till encountered beneath the fine sands and silty sands and directly above weathered bedrock. PID screening results generally ranged from less than 1.0 ppmv to no more than 15.0 ppmv. However, there were several outliers recorded at NB-2 of 30.2 ppmv (2-4 feet bgs), 63.7 ppmv (34-36 feet bgs), and 217 ppmv (29-31 feet bgs). No staining or odors indicative of contaminant presence was noted in any of the soils inspected.

Three soil samples were collected for laboratory analysis from each soil boring to evaluate the potential vertical distribution of contaminants. Generally, one sample was collected at or near ground surface, one was collected just above the groundwater interface, and one was collected

at depth. Soil samples were submitted for laboratory analysis of VOCs by SW-846 Method 8260C, PAHs by SW-846 Method 8270D, and RCRA metals by SW-846 Method 6020A/7471B. Samples were selected for laboratory analysis based on PID field screening results, visual or olfactory evidence of contamination, and proximity to the groundwater interface. A summary of soil analytical data collected from soil borings advanced during the TBA is presented in Tables 1 through 3 and the complete laboratory analytical reports are included in Appendix D.

4.5 Test Pits and Soil Sampling

Nobis performed oversight of six test pit explorations (NB-TP-1 through NB-TP-6) completed by Accuworx on May 17, 2017. Test pits were completed to enable field observations of subsurface conditions, to further define the presence and nature of contamination previously identified at the site, and the extent of industrial waste fill materials. Test pits were completed at locations intended to fill in data gaps from previous investigations. Test pit locations are shown on Figure 3. Test pit logs are included in Appendix A.

Test pits were completed using a Volvo EC60E mini excavator with a 14-foot reach. Test pits were completed to varying depths ranging from 4 feet bgs (NB-TP-4), 4.5 feet bgs (NB-TP-5), 5 feet bgs (NB-TP-6), to 6 feet bgs (NB-TP-1 through NB-TP-3). Fill material thickness observed in the test pits ranged from no fill observed in NB-TP-3, to 0-2 feet bgs observed in NB-TP-2, and NB-TP-4 through NB-TP-6, to 0-3 feet bgs observed in NB-TP-1. Fill material consisted of metal fragments, ash, brick fragments, glass, and other fill debris.

One soil sample was collected for laboratory analysis from each test pit. Soil samples were submitted for laboratory analysis of VOCs by SW-846 Method 8260C, PAHs by SW-846 Method 8270D, and RCRA metals by SW-846 Method 6020A/7471B. Additionally, the soil samples collected from NB-TP-1 and NB-TP-4 were analyzed for hexavalent chromium by SW-846 Method 3060A/7196A. A summary of soil analytical data collected from soil borings advanced during the TBA is presented in Tables 1 through 3 and the complete laboratory analytical reports are included in Appendix D.

4.6 Shallow Soil Sampling

Nobis performed shallow soil sampling on June 7, 2017. Shallow soil boings targeted soil from 0.5 feet to 1.5 feet bgs to evaluate potential impacts to shallow soil and soil management concerns

for future redevelopment. Soil samples were collected using a 2-inch diameter stainless steel hand-auger. The hand-auger was decontaminated between boring locations using a liquid Alconox solution and a potable water rinse. Shallow soil sample locations are shown on Figure 3.

A total of ten shallow soil samples were collected, one per sample location. All shallow soil samples were analyzed for PAHs, with four (NB-SS-1, NB-SS-2, NB-SS-3, and NB-SS-4) of the samples also analyzed for VOCs, RCRA metals, and hexavalent chromium. A summary of soil analytical data collected from shallow soil borings completed during the TBA is presented in Tables 1 through 3 and the complete laboratory analytical reports are included in Appendix D.

4.7 Monitoring Well Installation and Development

Soil borings NB-1 through NB-4 were completed as 2-inch monitoring well shallow/deep couplets. Soil borings NB-5 and NB-6 were completed as 2-inch monitoring wells. The well screen intervals for the shallow/deep couplets were as follows: NB-1 (shallow 10-20' bgs, deep 34-39' bgs), NB-2 (shallow 8-18' bgs, deep 29-34' bgs), NB-3 (shallow 11-18; bgs, deep 25-28' bgs), and NB-4 (shallow 4-12' bgs, deep 20-25' bgs). Monitoring wells were constructed with polyvinyl chloride (PVC) materials consisting of 0.010-inch slotted screen and solid riser to bring the well to the ground surface. The annular space around the well screen was filled with filter sand pack, which was generally extended 2 feet above the top of the screen. Generally, a minimum 2-foot thick bentonite seal was installed above the sand pack and the remainder of the borehole annulus was backfilled using filter sand, except during installation of well couplets where an additional bentonite seal was installed above the filter sand pack of the second well. All monitoring wells were finished at the ground surface with a flush-mount road box protective cover. Monitoring well locations are shown on Figure 3. Refer to Appendix A for monitoring well construction details.

Following installation, the monitoring wells were developed by NEBC by surging and over-pumping them using a submersible pump. Observations were recorded during the well development process. Initial development water was laden with silt; however, water clarity improved with continued well development. All wells were developed until at least five well volumes of water were removed from the well or the well was purged dry. Development purge water was containerized into 55-gallon drums.

A well head elevation survey was completed by Nobis on June 7, 2017. The survey included the new monitoring wells installed by Nobis and six existing monitoring wells previously installed by others. The survey was referenced to a temporary benchmark with an elevation of 100 feet, set at the top of a fire hydrant located on Memorial Street to the south of the former Stanley mill and west/northwest of monitoring well CA-MW-1. Survey data and reference elevation calculations are included in Appendix C.

4.8 Groundwater Sampling

Nobis collected groundwater samples from the 11 newly installed wells and the six existing wells on May 31, 2017 and June 1, 2017. A synoptic round of groundwater elevation measurements of all Site monitoring wells was completed prior to sampling and is included in Table 5. Groundwater beneath the Site generally flows to the north/northwest, toward the Winnipesaukee River. Fluctuations in groundwater levels and transport directions will occur due to variations in precipitation, surface runoff, temperature, seasonal fluctuations, and other factors not assessed in this report. Local groundwater flow anomalies may also exist due to the influence of buildings, paved areas, underground utilities, and localized topography. Calculated groundwater elevation contours are shown on Figure 7.

Nobis used a peristaltic pump and dedicated polyethylene tubing with the inlet located approximately at the mid-point of the well screen to collect groundwater samples from each monitoring well. Groundwater samples were collected using the USEPA Region I Low Flow/Low Stress method. Groundwater levels were gauged using a Solinst® Model 101 electronic water interface probe (0.01-foot accuracy). Depth to groundwater measured at the Site ranged from 7.7 ft bgs (NB-4S) to 15.4 ft bgs (NB-1D). Non-aqueous phase liquid (NAPL) was not encountered in any of the sampled wells. A total of 17 groundwater samples, plus a field duplicate were submitted for laboratory analysis of VOCs, PAHs, and RCRA metals. The samples collected for PAHs and metals analysis were filtered in the field at the time of sample collection.

Purging rates varied between 85 to 135 milliliters per minute (ml/min). Purge water was monitored for stabilization of field indicator parameters (i.e., pH, temperature, specific conductance, dissolved oxygen, and oxidation/reduction potential [ORP]) using an In-Situ SmarTroll (SmarTroll) multi-parameter sonde with a 90ml flow-through cell. Turbidity was monitored using a HACH 2100Q turbidity meter. Both the SmarTrolls and turbidity meters were calibrated in accordance

with manufacturer specifications prior to the start of groundwater sampling activities. Field parameters were monitored at 5-minute intervals until the following stabilization criteria were met for 3 consecutive readings:

- Temperature; ± 3 percent;
- Specific conductance; ±3 percent;
- pH; ±0.1;
- ORP; ±10 millivolts;
- Dissolved oxygen; ±10 percent or measured less than 0.5 mg/L; and
- Turbidity; measured less than 5 NTUs or ±10 percent.

The data were recorded on low flow sample data sheets, which are included in Appendix B. When purging was completed, the discharge line from the pump was disconnected from the SmarTroll flow cell and samples were collected directly from the peristaltic pump discharge tube into pre-preserved containers provided by ARA. Following collection, samples were subsequently placed on ice in a cooler, logged on a chain-of-custody form, and transported to the laboratory by courier. A summary of groundwater analytical data collected from monitoring wells is presented in Tables 6 through 8. Results of groundwater sample laboratory analyses are presented on Figure 7 and the complete laboratory analytical reports are included in Appendix D. Data validation reports are included in Appendix E.

4.9 Soil Gas Sampling

Nobis collected soil gas samples from the newly installed soil gas sampling points (SG-AR1 through SG-AR4 and SG-SM1 through SG-SM5) on April 26, 2017. Prior to sampling each soil gas point approximately three 1-liter volumes of soil gas were collected in a Tedlar® bag to complete the initial purge of the sample point using a peristaltic pump. Potential short-circuiting (i.e., ambient air being drawn into the probe and mixing with the soil gas indicating poor representation of in-situ soil gas) was assessed by measuring oxygen (O_2) and carbon dioxide (CO_2) from the purged soil gas in the Tedlar® bag and compared to ambient O_2 and CO_2 levels. Total VOCs were also measured using a PID to screen the soil gas purged from the sample probe and into the Tedlar® bag. Upon verification of the absence of short-circuiting, a soil gas sample was collected.

Soil gas samples were collected using 6-liter SUMMA® canisters equipped with pressure gauges and 200 ml/min regulators. Each sample had a run time of approximately 30 minutes, except at SG-AR2 where a duplicate sample was collected simultaneously and the total run time was approximately 1 hour. Initial and final pressures of each canister were recorded. Soil gas samples were submitted to Con-Test for laboratory analysis of VOCs by Method TO-15. A summary of soil gas analytical data is presented in Table 9. Results of soil gas sample laboratory analyses are presented on Figure 8 and the laboratory analytical reports are included in Appendix D.

4.10 UST Closure

Nobis oversaw the release assessment by closure of a 1,000-gallon fuel oil UST performed by Accuworx on May 18, 2017. The UST was located along the north side of the former armory building to the northwest corner of the building, and measured 11 feet long with a 4-foot diameter. Approximately 4 inches of product was present in the UST and was removed using a vac-truck. The UST was cleaned prior to removal from the ground. The UST and product were transported and disposed of in accordance with all local, state, and federal regulations. The excavation measured 18 feet long by 8 feet wide and was 6 feet deep; soil encountered was tan fine sands. Soil from the excavation was screened using a PID; readings from the soil were all less than 1 ppmv. No pitting or holes were observed on the UST and no evidence of a release was observed. The UST closure was performed in general accordance with Chapter Env-Or 400 of the New Hampshire Code of Administrative Rules (NHDES, 2013). Field notes and photos of the UST closure are included in Appendix C.

A total of two composite soil samples were collected from the base of the UST excavation and were analyzed for VOCs, PAHs, RCRA metals, and diesel range organics (DRO) by Method 8015. A summary of soil analytical data collected from the UST excavation completed during the TBA is presented in Tables 1 through 4. Results of UST closure sample laboratory analyses are presented on Figure 9 and the complete laboratory analytical reports are included in Appendix D.

4.11 Supplemental Hazardous Building Materials Sampling

A limited hazardous building materials survey was conducted within the Site buildings to supplement a previous survey completed by Credere. The hazardous building material survey included the identification, quantification, and location of ACM and PCB-containing building materials. Detailed below are the hazardous materials identified within the Ferrari Mill and former armory.

The Ferrari Mill (Former Stanley Mill) building is a two-story structure with basement, it contains multiple rooms and open-concept office areas located on the first floor. The second floor of the building had four large open rooms. The former armory is a single-story structure with multiple rooms, and one large storage room. The construction of both buildings are brick and masonry with a combination of rubber membrane and asphalt shingle roofs on the buildings.

Figure 10 depicts the approximate bulk sample locations for asbestos and PCB analysis. The laboratory reports for the asbestos and PCB bulk samples are included as Appendix D.

Asbestos-Containing Materials

Mr. Karl Karlsson, an Asbestos Hazard Emergency Response Act (AHERA)-certified Asbestos Inspector, collected a total of 20 bulk samples from both buildings, on April 14, 2017. The bulk samples were transmitted under a chain-of-custody to EMSL Analytical, Inc. in Woburn, Massachusetts, a NHDES and U.S. Environmental Protection Agency (EPA) accredited laboratory. The laboratory analyzed the samples by polarized light microscopy (PLM) in accordance with the EPA "Method for Determination of Asbestos in Bulk Material"; EPA/600/R-93/116 (July 1993). Five samples of non-friable organically bound (NOB) materials were identified for additional analysis by transmission electron microscopy (TEM), if the PLM analysis did not already identify the sample as ACM.

Homogeneous building material bulk samples were analyzed with the "hit-stop" procedure. Utilizing the "hit-stop" procedure, if asbestos is detected in a sample collected from a homogeneous area, the remaining samples collected from that same homogeneous area are not required to be analyzed. Through the "hit-stop" procedure, a total of 21 bulk samples were analyzed by PLM. A summary of the asbestos analytical results is included in Table 10. A copy of the laboratory analytical data is included in Appendix D.

PCB-Containing Materials

Nobis examined the structures for building materials that could potentially contain PCBs on April 14, 2017. The Former Stanley Mill was reportedly constructed in the 1890's and the former armory was constructed in 1910's; however, based on observations made during the inspection, the structures have since gone through multiple renovations since their original construction. The

rationale for PCB characterization of suspect building materials was to determine the presence and/or concentrations of PCBs in building materials prior to renovation or demolition of the site structures. The sampling program consisted of collecting up to ten samples of suspect building material for analysis of PCBs by EPA Method 3540C/8082, using the Soxhlet extraction method. Based on observations made during the building inspections and grouping the structures together based similar construction materials and age, a total of only five building material samples were collected for off-site laboratory analysis.

The samples were analyzed by EMSL Analytical, Inc. (EMSL) of Cinnaminson, New Jersey. EMSL required a minimum of 10 grams per sampled material, to achieve the reporting limit of 0.1 milligrams per kilogram (mg/kg) equivalent to parts per million (ppm). The reporting limit was elevated for the analysis of the collected building materials due to matrix interference. A summary of the PCB analytical results is included in Table 11. A copy of the laboratory analytical data is included in Appendix D.

4.12 Investigation Derived Waste

IDW including soil cuttings, well development and sampling purge water, and debris (equipment and materials contaminated during fieldwork) were managed in accordance with the FTWP/QAPPA (Nobis 2017). Soil cuttings were containerized into a solids drum. Well development and sampling purge water was containerized into a liquids drum. One composite IDW soil sample and one composite liquid sample was collected and submitted to ARA for laboratory analysis of disposal characteristics. The soil, water, and any debris generated was containerized and disposed of as general waste in accordance with Federal, state, and local laws. IDW was transported off-Site by National Response Corporation (NRC) for proper disposal.

5.0 SUMMARY OF SAMPLING RESULTS

Soil, groundwater, soil gas, and building material laboratory analytical results of samples collected by Nobis for this TBA investigation are summarized in the following sections. Analytical results are compared to the applicable New Hampshire or Federal criteria to make a preliminary evaluation of potential risks associated with contamination and to determine the need for remedial actions or use limitations to facilitate reuse or redevelopment.

Soil analytical results were compared to the NHDES SRS published as Table 600-2 in Env-Or 600.

Groundwater analytical results were compared to the NHDES AGQS published as Table 600-1 in Env-Or 600 most recently updated October 22, 2016 and to NHDES Vapor Intrusion Screening Levels, groundwater to indoor air GW-2 (GW-2) values.

Soil gas analytical results were compared to the NH Residential Soil Gas Screening Levels.

Building materials were analyzed for asbestos and PCB content. Building material PCB analytical results were compared to Federal cleanup levels established in 40 CFR § 761.61 high occupancy use, bulk waste scenario (PCB Cleanup Standard).

Copies of laboratory analytical reports are included as Appendix D.

5.1 Soil Sampling Results

Soil analytical results are summarized on Tables 1 through 4. Soil analytical results are compared to the NHDES SRS. A summary of soil analytical results is provided below.

VOCs

A summary of VOC soil sample results is presented on Table 1. Several VOCs were detected at concentrations that exceed their respective SRS. A summary of the VOC exceedances is provided in the table below. All other VOCs, when detected, were below their respective SRS. Sample locations where VOCs were detected above their respective SRS are shown on Figure 4.

Contaminant/SRS (mg/Kg)	Sample Location/Concentration (mg/Kg)
Naphthalene / 5	NB-TP-1 / 26
Tetrachloroethene / 2	NB-2S/D / 5.4 NB-TP-6 / 4.1 SG-SM1 / 2.8

PAHs

A summary of PAH soil sample results is presented on Table 2. Several PAHs were detected at concentrations that exceed their respective SRS. A summary of the PAH exceedances is provided in the table below. All other PAHs, when detected, were below their respective SRS. Sample locations where PAHs were detected above their respective SRS are shown on Figure 5.

Contaminant/SRS (mg/Kg)	Sample Location/Concentration (mg/Kg)
Benzo[a]anthracene / 1	SG-SM2 / 19; SG-SM3 / 49; NB-2 S-1 0.5-2' / 1.1; NB-3 S-1 0.3-2' / 1.7; NB-6 S-1 0.3-2' / 6.1J; NB-5 0.3-2' / 1.3; NB-TP-1 3' / 340; NB-TP-3 1' / 9.8; NB-TP-6 4' / 2.5; NB-SS-1 / 7.1J; NB-SS-2 / 5.7J(20J); NB-SS-7 / 8.1
Benzo[a]pyrene / 0.7	SG-SM2 / 14; SG-SM3 / 41; NB-2 S-1 0.5-2' / 1.1; NB-3 S-1 0.3-2' / 1.4; NB-6 S-1 0.3-2' / 4.9J; NB-5 0.3-2' / 1.2; NB-TP-1 3' / 210; NB-TP-3 1' / 7.1; NB-TP-6 4' / 2.4; NB-SS-1 / 5.3J; NB-SS-2 / 3.9J(14J); NB-SS-4 / 0.64; NB-SS-7 / 5.4
Benzo[b]fluoranthene / 1	SG-SM2 / 15; SG-SM3 / 37; NB-2 S-1 0.5-2' / 1.3; NB-3 S-1 0.3-2' / 1.2; NB-6 S-1 0.3-2' / 5.0J; NB-5 0.3-2' / 1.3; NB-TP-1 3' / 180; NB-TP-3 1' / 5.8; NB-TP-6 4' / 2.5; NB-SS-1 / 5.9J; NB-SS-2 / 4.1J(12J); NB-SS-7 / 4.8
Benzo[k]fluoranthene / 12	SG-SM3 / 36; NB-TP-1 3' / 220
Chrysene / 120	NB-TP-1 3' / 270
Dibenz[a,h]anthracene / 0.7	SG-SM2 / 2.7; SG-SM3 / 5.1; NB-TP-1 3' / 42; NB-TP-3 1' / 1.3; NB-SS-1 / 1.5J; NB-SS-2 / 1.1J(3.4J); NB-SS-7 / 1.2
Fluorene / 77	NB-TP-1 3' / 140
Indeno[1,2,3-cd]pyrene / 1	SG-SM2 / 6.6; SG-SM3 / 14; NB-6 S-1 0.3-2' / 1.3J; NB-TP-1 3' / 99; NB-TP-3 1' / 3.9; NB-SS-1 / 3.0J; NB-SS-2 / 1.8J(6.9J); NB-SS-7 / 3.0
Naphthalene / 5	SG-SM3 / 5.1; NB-TP-1 3' / 64

Note: J = Concentration is estimated, (20) = field duplicate value.

Metals

A summary of metals soil sample results are presented on Table 3. Several metals were detected at concentrations that exceed their respective SRS. A summary of the metal exceedances is provided in the table below. All other metals, when detected, were below their respective SRS. Sample locations where PAHs were detected above their respective SRS are shown on Figure 6.

Contaminant/SRS (mg/Kg)	Sample Location/Concentration (mg/Kg)
Arsenic / 11	SG-AR2 / 50; NB-2 S-1 0.5-2' / 13 NB-3 S-1 0.3-2' / 19; NB-6 S-1 0.3-2' / 31(33) NB-SS-2 / 17(16)
Cadmium / 33	NB-2S/D / 140
Lead / 400	SG-SM3 / 650; NB-2 S-1 0.5-2' / 730 NB-5 0.3-2' / 480; NB-TP-6 4' / 440

5.2 Groundwater Sampling Results

A summary of groundwater sample results is presented on Tables 6 through 8. Groundwater analytical results are compared to the NHDES AGQS. The use of AGQS is intended to provide cleanup standards for the Site. A summary of groundwater exceedances is provided in the table below. All other analytes, when detected, were below their respective AGQS. VOC results exceeding GW-2 are marked in the table where applicable. Sample locations where analytes were detected above their respective AGQS are shown on Figure 7.

Contaminant/NHDES AGQS (GW-2)	Location/Concentration (µg/L)
Cis-1,2-Dichloroethene / 70	NB-4D / 82
Tetrachloroethene / 5 (240)	CA-MW-5 / 120 CA-MW-6 / 30 NB-2S / 21 NB-4S / 10 NB-4D / 42
Trichloroethene / 5 (20)	CA-MW-5 / 12 CA-MW-6 / 6 NB-2D / 23* NB-4D / 140* BR-1 / 6
Benzo[a]anthracene / 0.1	NB-4D / 0.2
Benzo[b]fluoranthene / 0.1	NB-4D / 0.2

Note: * = Concentration exceeds GW-2

5.3 Soil Gas Sampling Results

A summary of soil gas sampling results is presented on Table 9. Concentrations of PCE and TCE were detected above the NH Residential Soil Gas Screening Levels. All other VOCs, when detected, were below their respective NH Residential Soil Gas Screening Levels. A summary of exceedances is provided in the table below.

Contaminant/ NH Soil Gas Standard (µg/m^3)	Location/Concentration (µg/m^3)
Tetrachloroethene / 400	SM-1 / 2,100*;
Trichloroethene / 20	SM-1 / 74*

Note: * = Concentration exceeds Soil Gas Screening Levels

5.4 Building Material Results

Building materials bulk sample analytical results are summarized on Tables 10 and 11. A summary of building materials bulk sample analytical results is provided below.

Asbestos

Results of the laboratory analyses indicated the presence of asbestos (greater than or equal to 1 percent) in nine of the 21 bulk samples analyzed by PLM. Asbestos was not detected above 1 percent in any of the five NOB bulk samples analyzed by TEM. The building materials identified as ACM included window glazing, 12x12 brown floor tile and mastic, and tan speckled sheet flooring at the former armory, and boiler gasket, glue daubs, multi-colored sheet flooring, textured Tan/Brown sheet, and black caulking at the former Stanley Mill. These materials were readily accessible at the two buildings. Additional information pertaining to ACM identified at the buildings is included in Table 10.

PCBs

Results of the laboratory analyses indicated the following:

PCB-1 (White Paint Chips, Former Stanley Mill):

- No aroclors were present above the laboratory detection limit of 0.93 ppm.

PCB-2 (Green Wall Board, Former Stanley Mill):

- No aroclors were present above the laboratory detection limit of 0.98 ppm.

PCB-3 (Tan Wall Board, Former Stanley Mill):

- No aroclors were present above the laboratory detection limit of 0.95 ppm.

PCB-4 (Black Caulk, Former Stanley Mill):

- No aroclors were present above the laboratory detection limit of 0.93 ppm.

PCB-5 (White and Blue Painted Cinder Blocks, Former Armory):

- PCB Aroclor 1254 was present in the bulk sample, at a concentration of 1.5 ppm. This material exceeded the 1 ppm criterion for High Occupancy Use but did not exceed the 10 ppm criterion for High Occupancy Use With Encapsulation and Deed Recordation. These materials would be classified as Excluded PCB Product and would not trigger TSCA notification requirements as the detected total PCB concentration is <50 ppm.

Cleanup criteria based on high and low occupancy standards are established in 40 CFR §761.61. Cleanup levels for bulk PCB remediation waste is defined under 40 CFR §761.61 (a)(4)(i) and for porous material under 40 CFR §761.61 (a)(4)(iii).

5.5 Data Validation and Usability Evaluation

Nobis performed a Tier 1 Modified data validation in accordance with the EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2013); USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (EPA, 2014a); USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2014b), and the FTWP/QAPPA (Nobis, 2017). Data validation was performed on soil, soil gas, groundwater, and quality assurance/quality control (QA/QC) samples collected during the TBA. Tier 1 data validation only evaluates completeness of the data. Results of field and laboratory QA/QC samples were also evaluated and limited qualification of the data was performed. Limitations and qualification of the data were noted and explained in the data validation reports, which are provided in Appendix E. Based on the data validation performed, Nobis determined that the data are usable to support the objectives of the TBA.

6.0 CONTAMINANT DISTRIBUTION

This section provides a discussion of contaminant distribution based on the environmental data collected during the TBA and previous site investigations to support remedial recommendations to address contaminants of concern that would facilitate reuse and redevelopment of the Site.

6.1 Soil Contamination

VOCs

TBA soil sampling results and historic results indicate naphthalene and PCE are the only two VOCs that have been detected at concentrations exceeding their respective SRS. Detections of naphthalene exceeding the SRS of 5 mg/kg are limited to the samples collected at NB-TP-1 at 3 feet bgs and CA-TP-A3. Naphthalene concentrations at NB-TP-1 are most likely due to the presence of ash fill materials, the sample at NB-TP-1 was collected from a layer of ash fill material, this ash material was also observed at NB-TP-2 but was not sampled at this location. Naphthalene detection at CA-TP-A3 is most likely due to the presence of fill material at this location. Naphthalene was also present in the sample collected from location SG-SM3 performed as part of this TBA at a concentration exceeding the SRS.

Detections of PCE exceeding the applicable SRS were present across the area delineated as industrial fill, but were all within the extents of the industrial waste fill material. Detections of PCE exceeding the SRS include historic data collected from locations CA-TP-1(0-6 feet bgs), CA-TP-2(0-3.5 feet bgs), CA---SB-4/CA-MW-4, and CA-SB-5/CA-MW-5 and from locations NB-2(0.5-2 feet bgs), NB-TP-6(4 feet bgs), and SG-SM1(0.5-2 feet bgs) performed as part of this TBA. PCE was also present in the samples collected from locations NB-1(0.3-2 feet bgs), NB-3(0.3-2 feet bgs), NB-6(0.3-2 and 12-13 feet bgs), NB-SS-2(1 foot bgs), SG-AR2(0.5-2 feet bgs), SG-SM2(0.5-2 feet bgs), and SG-SM3(0.5-2 feet bgs) performed as part of this TBA and historic data collected from CA-SB-6/CA-MW-6(0.5-10 feet bgs), CA-SS-8(0-2 feet bgs) and CA-SS-10(0-2 feet bgs) at concentrations below the SRS. PCE concentrations in soil are generally limited to the extents of the industrial waste fill along the north end of the property. The source of PCE in this area is likely due to historic uses on-site, specifically from the production of hacksaw blades and from the use of industrial waste materials as fill.

PAHs

In general, PAHs are present across the Site at concentrations exceeding applicable SRS. Shallow soil (0-2 ft) detections of PAHs exceeding SRS are present within the extents of the industrial waste fill material and within a limited area between the former armory and former Stanley Mill buildings near loading docks and former parking or staging areas. PAHs at concentrations exceeding SRS were present in the shallow soil within the area between the

buildings in the samples collected from locations NB-3, NB-SS-7, and NB-TP-3 performed as part of this TBA and historic data collected from CA-SS-1 and CA-SS-2. Urban fill material, black soil and ash material, was present within 0-2 feet bgs in this area and is likely the source of the PAH contamination at these locations. PAHs were detected in exceedance of SRS in the samples collected from the shallow soil within the industrial fill area at locations (NB-2, NB-5, NB-6, NB-SS-1, NB-SS-2, NB-SS-4, SG-SM2, and SG-SM3) performed as part of this TBA and historic data collected from CA-SB-4/CA-MW-4, CA-TP-1, CA-TP-2, and CA-TP-A3. The source of PAHs in this area is likely from the industrial waste material used as fill in this area. PAH impacted shallow soil will need to be managed during any redevelopment activities.

PAHs present at concentrations exceeding applicable SRS in the sub-surface (2+ feet bgs) are limited to the extents of the industrial waste fill material, a limited area between the buildings (NP-TP-1), and a location of general urban fill (such as glass, brick, metal, etc.) located on the northeast portion of the site (NB-TP-6). PAHs were detected in the sample collected from NB-TP-1 at 3 feet bgs at concentrations exceeding applicable SRS. PAH concentrations at this location are most likely due to the presence of ash fill materials as the sample at NB-TP-1 was collected from a layer of ash fill material. This ash material was also observed at NB-TP-2 but was not sampled at this location, it is assumed the ash material at this location also contains PAHs at concentrations exceeding applicable SRS. PAHs were detected in a sample collected from NB-TP-6 at 4 feet bgs at concentrations exceeding applicable SRS. A black urban fill material consisting of metal fragments, ash, brick fragments, glass, and other fill debris including assumed graphite anodes was present at this location. This urban/industrial fill material is the likely source of the PAH contamination. This soil may need to be managed during any redevelopment activities. Based on the available data, PAH soil contamination at the Site generally appears to be limited to the urban and industrial waste fill materials located above the native soils.

Metals

The presence of metals at concentrations exceeding applicable SRS is limited to the extent of the industrial waste fill material and the area of urban fill materials on the northeast portion of the site. Arsenic was present at concentrations exceeding the applicable SRS in the samples collected from five locations (NB-2, NB-3, NB-6, NB-SS-2, and SG-AR2) performed as part of this TBA and historic data collected from CA-SB-4/CA-MW-4, CA-SB-5/CA-MW-5, CA-SB-6/CA-MW-6, CA-SS-5, CA-SS-9, CA-SS-10, CA-TP-1, CA-TP-3, and CA-TP-A3. Arsenic is present across the site,

and is likely from a combination of natural sources and minimal anthropogenic sources, except within the extents of the industrial waste fill material. The majority of arsenic concentrations within the extents of the industrial waste fill material are most likely from anthropogenic sources.

Lead was present at concentrations exceeding the SRS in the samples collected from four locations (NB-2, NB-5, NB-TP-6, and SG-SM3) performed as part of this TBA and historic data collected from CA-SS-5 and CA-TP-1. Lead is present across the site; however, the concentrations of lead exceeding the SRS were all within the extents of the industrial waste fill material. Lead in this area is most likely from anthropogenic sources.

Chromium detections exceeding the SRS were limited to historic data collected from CA-SS-10 (0-2ft bgs). This sample location is within the industrial waste fill area just below the west end of a retaining wall near the river edge. The chromium detected in this sample is most likely from anthropogenic sources related to the industrial waste fill material. Hexavalent chromium, where analyzed, did not exceed the SRS.

Cadmium detections exceeding the SRS were limited to the sample collected from NB-2 at 29 to 31 feet bgs. The source of cadmium in this sample is unknown. Cadmium was detected in only seven other samples collected at the site during the current TBA and previous site investigation activities, all at concentrations less than 2 mg/kg, far below the SRS of 33 mg/kg.

6.2 Groundwater Contamination

VOCs

Concentrations of VOCs in groundwater samples collected during TBA sampling which exceeded applicable AGQS include PCE and the PCE degradation compounds TCE and cis-1,2-dichloroethene. PCE was present in the groundwater samples collected from five locations (CA-MW-5, CA-MW-6, NB-2S, NB-4S, and NB-4D), TCE at five locations (CA-MW-5, CA-MW-6, NB-2D, NB-4D, and BR-1), and cis-1,2-dichloroethene at NB-4D.

The presence of PCE at concentrations exceeding AGQS at these locations is likely due to leaching from the industrial waste fill material as PCE was likely a component of cutting oils and cleaning agents used during production of hacksaw blades at the site. Additionally, a drain was identified in the northwest basement of the former Stanley Mill building and investigation results

suggest the drain is either a potential point source for PCE contamination or provides a preferential pathway for migration of PCE contamination. The highest concentrations of PCE have been present in the groundwater sampled from CA-MW-5 which was installed in close proximity to the drain pipe. The sub-slab soil sample collected at SG-SM1, located directly adjacent to the identified floor drain contained concentrations of PCE exceeding the SRS.

PCE is a dense non-aqueous phase liquid (DNAPL), with greater density than water and tends to "sink" if unconfined in groundwater. As discussed in Section 3.4, groundwater at the Site flows in a general northwest/west direction with a downward vertical gradient in the overburden aquifer. Spatial distribution of PCE and its degradation compounds is consistent with the current site geologic and hydrogeologic model. Concentrations of PCE degradation compounds increase downgradient in the horizontal and vertical directions.

Results reported from the sample collected at NB-4D and the site hydrogeologic model indicate deep overburden groundwater with concentrations of PCE, TCE, and cis-1,2-dichloroethene exceeding AGQS likely exists downgradient of this location, potentially extending off-site to the adjacent property to the west. The extent of downgradient impacts to overburden groundwater to the west of NB-4D is unknown and represents a data gap that may require future evaluation. TCE was present at concentrations exceeding AGQS in the sample collected from BR-1. BR-1 is an open bedrock borehole with an open interval from 70 feet bgs to 95 feet bgs. The presence of TCE exceeding AGQS at BR-1 is consistent with the current site hydrogeologic model and indicates the bedrock aquifer downgradient from this location is likely impacted by site contaminants. Groundwater impacted by PCE and its degradation compounds is confined to the industrial waste fill area and the areas downgradient discussed above. The extent of downgradient impacts is not known. Removal of the source area (industrial waste fill material) would likely address the source of the PCE, TCE, and cis-1,2-dichloroethene-impacted groundwater at the Site.

PAHs

PAHs were detected at concentrations exceeding AGQS in the groundwater sample collected from NB-4D and included benzo[a]anthracene and benzo[b]fluoranthene. The sample was field filtered prior to collection. The presence of these PAHs at concentrations above AGQS at this location may be attributable to leaching from the industrial waste fill material and ash fill materials

present at the Site. PAHs will bind to organic compounds in the soil, but at elevated concentrations these compounds could leach to the fine sand layer below the fill materials and could be transported down both horizontal and vertical gradients to the deep overburden aquifer in the vicinity of NB-4D. PAH impacts to groundwater at the Site appear to be limited to MW-4D; however, PAH impacts may exist downgradient of this location.

It is also possible that during sample collection cross contamination may have occurred, either by introduction of stray dust particles or some other means, resulting in a false detection. Regardless of validity of the PAH concentrations reported, these concentrations are relatively low in comparison to the standard and additional sampling should be performed to confirm the presence of these exceedances.

Metals

Metals were not present at concentrations exceeding AGQS in any of the samples collected during this TBA investigation. Arsenic was detected in a single sample (NB-5) and barium was detected in all the samples except for the sample collected from CA-MW-3. In 2014, arsenic was detected at a concentration exceeding the AGQS in well CA-MW-2, arsenic was not detected above laboratory detection limits at this location in 2017. All samples were field filtered prior to collection except for the sample collected from the bedrock well BR-1. Results indicate a dissolved metals plume leaching from the industrial waste fill material is not present at the Site and the metals present in the fill do not currently represent a significant risk to groundwater quality at the Site.

6.3 Soil Gas Contamination

VOCs were detected in shallow sub-slab soil gas samples collected at the Site at concentrations exceeding NH Residential Soil Gas Screening Levels. PCE was present in the soil gas sample collected from SG-SM1 at a concentration exceeding NH Residential Soil Gas Screening Level of 400 $\mu g/m^3$. TCE was also present in the soil gas sample collected from SG-SM1 at a concentration exceeding the NH Residential Soil Gas Screening Level of 20 $\mu g/m^3$. PCE and TCE present in the soil gas at this location is likely due to the presence of PCE and TCE in the soil and groundwater in the vicinity.

Chloroform was present in the soil gas sample collected from SG-SM1 at a concentration below the NH Residential Soil Gas Screening Level. Chloroform can be naturally occurring and the chloroform present in soil gas at the site is likely a combination of natural and anthropogenic sources.

1,2,4-Trimethylbenzene, 1,4-dichlorobenzene, and ethylbenzene were present in all the soil gas samples collected at the site at concentrations below their respective NH Residential Soil Gas Screening Levels. The concentrations reported for each of these analytes was generally uniform across the site. Soil and groundwater sampling at the Site did not indicate the widespread presence of petroleum impacts across the site.

7.0 REMEDIAL RECOMMENDATIONS AND COST ESTIMATE

Nobis identified, evaluated, and selected potential Remedial Action Alternatives (RAAs) to meet the requirements listed in New Hampshire Code of Administrative Rules Chapter Env-Or 600. Four areas are targeted for remedial action. The first area is the industrial waste fill material, several soil samples from the industrial waste fill material exceeded SRS for VOCs, PAHs, and metals. This area was also identified as the likely source of VOC impacts to groundwater at the site. The second area is an area of PAH soil contamination exceeding SRS, located between the former armory and former Stanley Mill buildings. The third area is the groundwater beneath the north and northwestern portion of the site impacted by PCE and its degradation compounds TCE and cis-1,2-dichloroethene at concentrations exceeding AGQS. One sample from location NB-4D reported concentrations of PAHs exceeding AGQS. The fourth area is the identified asbestos containing materials located at the former armory and former Stanley Mill buildings. The ACM was identified as a brownfields cleanup need and is included in this section for completeness of cost estimates.

7.1 Industrial Waste Fill Material

Industrial waste material in the form of hacksaw blades, metal fragments, metal shavings, and other fill material can be observed along the north end of the property down to the edge of the Winnipesaukee River. The industrial waste fill currently functions as the river bank along the property. This waste material contains VOCs, PAHs, and metals at concentrations that exceed NHDES SRS. Additionally, the waste is considered a solid waste potentially subject to NHDES Env-Sw 100-2000. During TBA investigation activities, Nobis observed evidence of bank erosion and the presence of hacksaw blades in the shallows of the river. Previous site investigation sediment sampling results indicated PAHs are present at concentrations exceeding applicable

standards. A possible source of the PAH contamination is the industrial waste fill material along the riverbank; however, given the industrial history of the vicinity, there are other possible sources including upstream sites, stormwater runoff, and atmospheric deposition of ash from nearby sources. Nobis evaluated multiple alternatives to address the industrial waste fill material, as summarized below.

Remedial Alternative #1: AUR with Fence

Alternative #1 evaluated the costs of implementing institutional controls including an AUR, and installation of chain-link fence to deny access to the industrial waste fill materials. Alternative #1 also includes the installation of chain-link fence to restrict access to the area of shallow soil PAH contamination, asbestos warning signage for the former armory and Stanley Mill buildings, and securing both buildings. This alternative also includes periodic inspections of the site, including long-term groundwater monitoring, inspecting fence and buildings for signs of entry, and inspecting the condition of the riverbank. This alternative is included to present a low capital cost "do nothing" remedial alternative. This alternative does not meet future use goals for the site.

The total cost over a 30-year span to implement this alternative is $337,362. Cost details are presented on Table 12. Long-term groundwater monitoring cost details included in this alternative are presented on Table 17.

Remedial Alternative #2: Partial Building Demolition, Riverbank Encapsulation and Stabilization, Fence, AUR

Alternative #2 evaluated implementing riverbank encapsulation and stabilization. This alternative would include an encapsulation and stabilization of the riverbank, AUR, installation of chain-link fence to deny access to the encapsulated industrial waste fill material and the area of shallow soil PAH contamination, asbestos abatement of the former armory and former Stanley Mill, partial demolition of the former armory and former Stanley Mill, and long-term groundwater monitoring. Encapsulation and stabilization of the riverbank would be completed by partial demolition of the former armory and former Stanley Mill after asbestos abatement to access industrial waste fill material beneath portions of both buildings. The extents of the industrial waste fill material and the area of shallow PAH-impacted soil would be covered with a geotextile liner and capped with a minimum of 2 feet of clean soil; 1-foot angular riprap would be installed over a portion of the clean soil cap to armor the riverbank and protect against potential erosion. Nobis estimates an

area of approximately 15,260 square feet would need to be capped and approximately 4,500 square feet would need 1-foot angular riprap installed.

This alternative leaves soil on site with PAH concentrations exceeding RCMP S-3 standards and would require approval from NHDES on a site-specific basis. PAHs detected in the groundwater at MW-4D indicate it is possible PAHs are leaching from the industrial waste fill material. The alternative also does not address the likely source of groundwater VOC impacts and would require long-term groundwater monitoring. This alternative may not meet future use goals for the site, depending on the selected reuse. The total cost over a 30-year span to implement this alternative is $999,789. Inspection, monitoring, and reporting costs are included in this estimate. Permitting for compliance with the Shoreland Water Quality Protection Act (SWQPA) has also been considered. Cost details are presented on Table 13. Long-term groundwater monitoring cost details included in this alternative are presented on Table 17.

Remedial Alternative #3: Partial Building Demolition and Excavation of Industrial Waste Fill Material Area

Alternative #3 evaluated excavating the industrial waste fill material area, and the shallow PAH-impacted soil area. This alternative would include excavation of the industrial waste fill material area, excavation of the PAH-impacted soil areas with off-site disposal and limited on-site management, AUR, asbestos abatement of the former armory and former Stanley Mill, partial demolition of the former armory and former Stanley Mill, restoration and stabilization of the riverbank, and long-term groundwater monitoring. A partial demolition of the former armory and former Stanley Mill after asbestos abatement would occur to access industrial waste fill material beneath portions of both buildings. The extents of the industrial waste fill material would be excavated to the layer of native tan fine sand (generally between 4 and 12 feet bgs). The areas of PAH-impacted soil exceeding RCMP S-3 standards would be excavated down to 1.5 or 3 feet bgs and disposed of off-site, the remaining PAH impacted soil will be managed on-site (backfilled within the industrial waste fill excavation), the excavations will be backfilled with suitable clean fill, and 1-foot angular riprap would be installed to armor the riverbank. Nobis estimates an area of approximately 4,500 square feet would need 1-foot angular riprap installed. The industrial waste fill material area comprises approximately 11,050 square feet and an estimated 3,478 cubic yards (5,218 tons) of soil and solid waste proposed for excavation and disposal (based on assumption of average fill thickness of 8.5 feet across the area). The impacted soil will be disposed of at

approved licensed landfill(s). Due to the excavation proximity to the river and the potential for limited excavation in the river (0 to 2 feet bgs) a 275-linear-foot sheet pile wall may need to be installed during excavation activities to protect the excavation from river flow.

Based on the results of the soil samples collected as part of this TBA and previous investigations, shallow PAH-contaminant impacts outside the extents of the industrial waste fill material appear to be localized to the area between the former armory and Stanley Mill buildings. Results from this TBA and previous investigations indicate PAH impacted soil in this area is present between 0 and 3 feet bgs. The impacted area is assumed to be 3,785 square feet.

Based on the nature of PAHs, limited area of impact, shallow depth of the affected soil, and the objective of achieving reuse of the area, soil excavation has been selected as the presumptive remedial measure. PAH results, specifically naphthalene and benzo[a]pyrene, exceed Method 1 Soil Standards Selection S-3 classification of the Risk Characterization and Management Policy (RCMP) (NHDES, 2013) of 5 mg/kg for both compounds. An approximately 720-square-foot area from the ground surface down to 3 feet bgs will be excavated and an additional approximately 1,055-square-foot area from the ground surface down to 1.5 feet bgs will be excavated. The soil from these two excavations would need to be disposed of off-site due to RMCP S-3 exceedances. Another approximately 2,015-square-foot area of PAH impacted soil from the ground surface down to 1.5 feet bgs will be excavated which currently exceeds RMCP S-1 but not S-3 standards. As these soils are shallow and regarded as readily accessible, they will also be disposed of off-site in accordance with NHDES policy. The excavation areas are defined by PAH results collected during this TBA and previous investigations, an outline of the areas to be excavated is shown on Figure 11.

The impacted soil identified for off-site disposal will be disposed of at approved licensed landfill(s. Nobis has assumed 251 cubic yards (376 tons) of PAH-impacted soils require disposal as non-regulated waste.

Abatement of hazardous building materials (as described in Section 7.2) is estimated to be $210,750. The costs associated with the partial building demolition are $205,000. Costs associated with the engineering design and construction of the sheet pile wall are approximately $155,500, and costs associated with industrial fill soil excavation, transport and disposal and riverbank restoration are approximately $734,504 and assumes excavated material would be

categorized as non-hazardous waste for disposal purposes. Permitting for compliance with the SWQPA has also been considered. Nobis has calculated a cost assuming disposal of identified soil exceeding S-3 standards at an approved landfill facility and management of remaining PAH impacted soil on-site. Total costs associated with PAH soil excavation and management are estimated to be $56,634. Because soil with PAHs will potentially remain on site, an AUR will be required at the site as described in Part Env-Or 608. The expected preparation and legal fees are approximately $5,000 with $3,500 assumed for survey of the restricted area. Long-term groundwater monitoring will still be required with an assumption of a 10-year period for groundwater quality to naturally attenuate. A 20% contingency is applied to the capital costs to cover unanticipated conditions.

The present value costs for this option are estimated to be $1,992,391. Cost details are presented on Table 14 as well as supporting information presented on Tables 15 through 17. This alternative meets the future use goals for the site.

7.2 Asbestos-Containing Materials

Asbestos-containing materials were identified during this TBA and previous site investigations at the former armory and Stanley Mill buildings. Abatement of the identified materials has been selected as the presumptive remedy, to support the future use and redevelopment goals for the site. The costs associated with addressing known asbestos-containing materials during planned renovation or demolition activities at both the former armory and the former Stanley Mill is estimated to be $273,975. The price is estimated conservatively high due to the elevated efforts to remove ACM windows. Given the uncertainty related to the extent of future renovation or demolition activities to site buildings, costs for recycling of ballasts and disposal of lead-based paint materials is not currently known; however, the demolition contractor would develop a cost estimate for these items as part of their work scope. Cost details are presented on Table 16.

7.3 Remedial Cost Estimate and Cost Effectiveness Analysis for Industrial Waste Fill Material Area

Currently no remedial actions are taking place at the site and it is Nobis's understanding that no remedial actions have taken place at the site to date. An AUR, fencing, and signage would at least identify potential risks to site visitors; however, it is unlikely this alternative would be

sustainable for long-term protection of human health and the environment and it renders the Site useless for redevelopment and reuse. For these reasons, this alternative is not recommended.

Encapsulation and stabilization of the riverbank is practical, but not effective at addressing contamination in soil, groundwater, and soil gas at the site. It also may not allow the site to achieve its future use goals. Based on the statements presented above and in Section 7.1, this alternative is not recommended and if implemented should only be used as a temporary alternative.

Source removal can be a very effective remedial action, will likely address a potential source area of groundwater and soil gas contamination, and will allow for the site to meet future use goals, while being the most protective of human health and the environment.

Estimated costs for the three remedial alternatives are summarized in the table below:

Remedial Alternative	Estimated Cost
Alternative #1: AUR, Fencing, Signage	$337,000
Alternative #2: Encapsulation and Stabilization	$1,000,000
Alternative #3: Excavation and Off-Site Disposal	$1,970,000

The three remedial alternatives for addressing the industrial waste fill material area and PAH contaminated soils were ranked in terms of feasibility, effectiveness, risk reduction, treatment time, and cost. Each criterion was scored with 1 being the lowest rank and 4 being the highest.

Remedial Alternative	Feasibility	Effectiveness	Risk Reduction	Treatment Time	Cost	Weighted Score
Weighting	0.2	0.2	0.2	0.2	0.2	
1. Alternative #1: AUR, Fencing, Signage	4	1	1	1	3	2.0
2. Alternative #2: Encapsulation and Stabilization	3	2	2	1	3	2.2
3. Alternative #3: Excavation and Off-Site Disposal	2	4	3	4	2	3.0

Based on these evaluations, the presumptive remedies for asbestos abatement and excavation of PAH-impacted soil, and remedial Alternative 3 for excavation and off-site disposal for the industrial waste fill material area are recommended to achieve the Site remediation goals. The estimated total cost of Alternative #3 remedial actions is $1,908,000.

7.4 EPA Green Remediation

The selected remedy aligns with several of the goals included in the EPA Region 1 Green Remediation Policy (EPA, 2012) including:

- Minimize total energy use and maximize use of renewable energy;
- Minimize air emissions and greenhouse gas generation;
- Minimize water use and impacts to water resources;
- Reduce, reuse, and recycle materials and wastes; and
- Protect and minimize adverse impacts to land and ecosystems.

Energy use, air emissions and greenhouse gas generation can be reduced with the use of biofuel blends in the construction equipment on site and by minimizing the amount of time equipment idles on-site.

Metal waste (saw blades, etc.) within the industrial waste fill materials could possibly be salvaged and recycled.

Impacts to water resources are minimized by removing PCE-contaminated soil, the likely source of PCE and PCE degradation compound contamination in Site groundwater.

Adverse impacts to land and ecosystems are minimized by performing the remedy, as the contamination identified on-site is present in shallow soil and poses a greater risk if left in place. Additionally, the waste materials currently pose a risk to the Winnipesaukee River and associated ecosystem, particularly if a catastrophic erosion event disturbs or dislodges the industrial fill materials into the water body.

The selected remedy will allow for redevelopment of the site, with the potential for green and sustainable development initiatives.

7.5 Impacted Groundwater

The industrial waste fill material in the form of hacksaw blades, metal fragments, metal shavings, and other fill material and the additional point source discharge to the waste fill material has been identified as the most likely source of VOC impacts to the groundwater at the site. The presumptive remedy for the impacted groundwater is the removal of the source material (industrial waste fill material) and long-term monitoring of groundwater with a goal of being protective to potential receptors. Several remedial technologies were considered (in-situ chemical oxidation, in-situ bioremediation, soil vapor extraction, and groundwater pump and treat) however, none of the technologies addressed the source area that exists entirely in the vadose zone. The considered technologies could be applied after the source area is removed if long-term monitoring data indicates a "polishing step" to groundwater remediation is warranted. A NHDES Groundwater Management Permit (GMP) would likely be required. The GMP would establish a Groundwater Management Zone, locations to be sampled, and sampling frequency. The cost to establish a GMP for the site is estimated to be $3,000 and annual monitoring and reporting costs are estimated to be $17,000. This cost estimate carried costs for the installation or replacement of approximately six monitoring wells. Cost details are presented on Table 17.

7.6 Impacted Soil Gas

The industrial waste fill material in the form of hacksaw blades, metal fragments, metal shavings, and other fill material and the additional point source discharge to the waste fill material has been identified as the most likely source of VOC impacts to soil gas identified at the site. The presumptive remedy for the impacted soil gas is the removal of the source material (industrial waste fill material).

It is noted that mitigation of soil gas and vapor intrusion issues associated with reuse of existing Site buildings or construction of new buildings at the Site is not included in these remedial evaluations as the plans for Site reuse are not known in enough detail to accurately estimate costs or methods of implementation; however, some method of addressing indoor air quality will have to be considered in conjunction with future redevelopment planning as a precaution.

If construction of new buildings is planned during future site redevelopment, an evaluation of soil, groundwater, and soil gas conditions in the proposed building footprint may be warranted depending on the nature of use and type of construction. Site conditions may warrant additional remedial actions or installation of a soil gas mitigation system (passive or active) to eliminate potential VOC impacts to indoor air with a goal of being protective to potential receptors.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The following sections present the TBA investigation conclusions, a summary of data gaps, and recommendations.

8.1 TBA Investigation Conclusions

Soil

TBA soil sampling results and historic results indicate naphthalene and PCE are the only two VOCs that have been detected at concentrations exceeding their respective SRS. Detections of naphthalene above the SRS of 5 mg/kg are limited to the samples collected at NB-TP-1 at 3 feet bgs and CA-TP-A3. Naphthalene concentrations at NB-TP-1 are most likely due to the presence of ash fill materials, the sample at NB-TP-1 was collected from a layer of ash fill material, this ash material was also observed at NB-TP-2 but was not sampled at this location. Naphthalene

concentrations at CA-TP-A3 are most likely due to the presence of fill material at this location. Naphthalene was also present in the sample collected from location SG-SM3 performed as part of this TBA at a concentration below the SRS.

Detections of PCE above the SRS were present across the site, but were all within the extents of the industrial waste fill material. Detections of PCE exceeding the SRS include historic data collected from locations CA-TP-1(0-6 feet bgs), CA-TP-2(0-3.5 feet bgs), CA-SB-4/CA-MW-4, and CA-SB-5/CA-MW-5 and from locations NB-2(0.5-2 feet bgs), NB-TP-6(4 feet bgs), and SG-SM1(0.5-2 feet bgs) performed as part of this TBA. PCE was also present in several samples collected from locations performed as part of this TBA and several historic data records at concentrations below the SRS. PCE concentrations in soil are generally limited to the extents of the industrial waste fill along the north end of the property. The source of PCE in this area is likely due to historic uses on-site, specifically from the production of hacksaw blades and from the use of industrial waste materials as fill.

In general, PAHs are present across the Site at concentrations exceeding applicable SRS. Shallow soil (0-2 ft) detections of PAHs exceeding SRS are present within the extents of the industrial waste fill material and within a limited area between the former armory and former Stanley Mill buildings. PAHs at concentrations above SRS were present in the shallow soil within the area between the buildings in the samples collected from locations NB-3, NB-SS-7, and NB-TP-3 performed as part of this TBA and historic data collected from CA-SS-1 and CA-SS-2. Urban fill material, black soil and ash material, was present within 0-2 feet bgs in this area and is likely the source of the PAH contamination at these locations. PAHs were detected in exceedance of SRS in the samples collected from the shallow soil within the industrial fill area at locations (NB-2, NB-5, NB-6, NB-SS-1, NB-SS-2, NB-SS-4, SG-SM2, and SG-SM3) performed as part of this TBA and historic data collected from CA-SB-4/CA-MW-4, CA-TP-1, CA-TP-2, and CA-TP-A3. The source of PAHs in this area is likely from the industrial waste material used as fill in this area. PAH-impacted shallow soil will need to be managed during any redevelopment activities.

PAHs present at concentrations exceeding applicable SRS in the sub-surface (2+ feet bgs) are limited to the extents of the industrial waste fill material, a limited area between the buildings (NP-TP-1), and a location of general urban fill located on the northeast portion of the site (NB-TP-6). PAHs were detected in a sample collected from NB-TP-1 at 3 feet bgs at concentrations exceeding applicable SRS. PAH concentrations at this location are most likely due to the presence of ash fill

materials. The sample at NB-TP-1 was collected from a layer of ash fill material; this ash material was also observed at NB-TP-2 but was not sampled at this location. It is assumed the ash material at this location also contains PAHs at concentrations exceeding applicable SRS. PAHs were detected in a sample collected from NB-TP-6 at 4 feet bgs at concentrations exceeding applicable SRS. A black urban fill material consisting of metal fragments, ash, brick fragments, glass, and other fill debris including assumed graphite anodes was present at this location and is the likely source of the PAH contamination. This soil may need to be managed during any redevelopment activities. Based on the available data, PAH soil contamination at the Site generally appears to be limited to the urban and industrial waste fill materials located above the native soils. The extent of PAH impacted soil in exceedance of SRS to the east of NB-TP-6 is unknown and future investigation may be required to evaluate this data gap.

The presence of metals at concentrations exceeding applicable SRS is limited to the extent of the industrial waste fill material and the area of urban fill materials on the northeast portion of the site. Arsenic was present at concentrations exceeding the SRS in the samples collected from five locations (NB-2, NB-3, NB-6, NB-SS-2, and SG-AR2) performed as part of this TBA and historic data collected from CA-SB-4/CA-MW-4, CA-SB-5/CA-MW-5, CA-SB-6/CA-MW-6, CA-SS-5, CA-SS-9, CA-SS-10, CA-TP-1, CA-TP-3, and CA-TP-3A. Arsenic concentrations exceeding SRS at the site are likely from anthropogenic sources with a minimal amount from natural sources.

Lead was present at concentrations greater than the SRS in the samples collected from four locations (NB-2, NB-5, NB-TP-6, and SG-SM3) performed as part of this TBA and historic data collected from CA-SS-5 and CA-TP-1. Lead is present across the site, however the concentrations of lead exceeding the SRS were all within the extents of the industrial waste fill material. Lead in this area is most likely from anthropogenic sources.

Chromium detections exceeding the SRS were limited to historic data collected from CA-SS-10 (0-2 ft bgs). This sample location is within the industrial waste fill area just below the west end of a retaining wall near the river edge. The chromium detected in this sample is most likely from anthropogenic sources related to the industrial waste fill material. Hexavalent chromium, where analyzed, did not exceed the SRS.

Cadmium detections exceeding the SRS were limited to the sample collected from NB-2 at 29 to 31 feet bgs. The source of cadmium in this sample is unknown. Cadmium was detected in only

seven other samples collected at the site during the current TBA and previous site investigation activities all at concentrations less than 2 mg/kg, far below the SRS of 33 mg/kg.

Groundwater

Concentrations of VOCs in groundwater samples collected during TBA sampling which exceeded applicable AGQS include PCE and the PCE degradation compounds TCE and cis-1,2-dichloroethene. PCE was present in the groundwater samples collected from five locations (CA-MW-5, CA-MW-6, NB-2S, NB-4S, and NB-4D), TCE at five locations (CA-MW-5, CA-MW-6, NB-2D, NB-4D, and BR-1), and cis-1,2-dichloroethene at NB-4D.

The presence of PCE at concentrations above AGQS at these locations is likely due to leaching from the industrial waste fill material as PCE was likely used as a cutting oil and for cleaning metal during production of hacksaw blades at the Site. Additionally, a drain was identified in the northwest basement of the former Stanley Mill building and investigation results suggest the drain is likely a point source for PCE contamination. The highest concentrations of PCE have been present in the groundwater sampled from CA-MW-5 which was installed in close proximity to the drain pipe. The sub-slab soil sample collected at SG-SM1, located directly adjacent to the identified floor drain, contained concentrations of PCE exceeding the SRS.

PCE is a DNAPL and is more dense than water. As discussed in section 3.4, groundwater at the Site flows in a general northwest/west direction with a downward vertical gradient in the overburden aquifer. Spatial distribution of PCE and its degradation compounds is consistent with the current site geologic and hydrogeologic model. Concentrations of PCE degradation compounds increase downgradient in the horizontal and vertical directions.

Results reported from the sample collected at NB-4D and the site hydrogeologic model indicate deep overburden groundwater with concentrations of PCE, TCE, and cis-1,2-dichloroethene exceeding AGQS likely exists downgradient of this location, potentially extending off-site to the adjacent property to the west. The extent of downgradient impacts to overburden groundwater to the west of NB-4D is unknown and represents a data gap that may require future evaluation. TCE was present at concentrations exceeding AGQS in the sample collected from BR-1. BR-1 is an open bedrock borehole with an open interval from 70 feet bgs to 95 feet bgs. The presence of TCE exceeding AGQS at BR-1 is consistent with the current site hydrogeologic model and

indicates the bedrock aquifer downgradient from this location is likely impacted by site contaminants. Identified groundwater impacted by PCE and its degradation compounds is limited to the industrial waste fill area and the areas downgradient discussed above. The extent of downgradient impacts is not known. Removal of the source area (industrial waste fill material) would likely address the majority of the PCE, TCE, and cis-1,2-dichloroethene-impacted groundwater at the site.

PAHs were detected at concentrations exceeding AGQS in the groundwater sample collected from NB-4D and included benzo[a]anthracene and benzo[b]fluoranthene. The sample was field filtered prior to collection. The presence of these PAHs at concentrations above AGQS at this location is likely due to leaching from the industrial waste fill material and ash fill materials present at the site. PAHs will bind to organic compounds in the soil, but at elevated concentrations these compounds could leach to the fine sand layer below the fill materials and could be transported down both horizontal and vertical gradients to the deep overburden aquifer in the vicinity of NB-4D. PAH impacts to groundwater at the site appear to be limited to MW-4D; however, PAH impacts may exist downgradient of this location.

Metals were not present at concentrations exceeding AGQS in any of the samples collected during this TBA investigation. All samples were field filtered prior to collection except for the sample collected from the bedrock well BR-1. Results indicate a dissolved metals plume leaching from the industrial waste fill material is not present at the Site and the metals present in the fill do not represent a significant risk to groundwater quality at the Site.

Soil Gas

VOCs were detected in shallow soil gas samples collected at the Site at concentrations exceeding NH Residential Soil Gas Screening Levels. PCE and TCE concentrations in the sample collected from SG-SM1 exceeded the NH Soil Gas Screening Levels of 400 $\mu g/m^3$ and 20 $\mu g/m^3$, respectively. The presence of these compounds in the soil gas at is likely due to the presence of PCE and TCE in the groundwater in the vicinity.

Hazardous Building Materials

TBA results and historic results indicate asbestos-containing building materials (ACBM) are present within both the former armory and former Stanley Mill building. ACBM in the former armory

is limited to Transite siding (observed, not sampled), window glazing, 12x12 brown floor tile and mastic, and tan speckled sheet flooring. ACBM in the former Stanley Mill building includes thermal system insulation (pipe wraps and mudded elbows), felt paper (roofing), hard window caulking, boiler gasket, glue daubs, multi-colored sheet flooring, textured Tan/Brown sheet flooring, and black caulking.

TBA results and historic results indicate PCB-containing building materials are present within both the former armory and former Stanley Mill building. PCB-containing materials at the former armory are limited to white and blue paint over cinderblocks present in the bulk sample, at a concentration of 1.5 ppm. PCB-containing materials at the former Stanley Mill include the concrete transformer pad (less than 1 mg/kg), pale green over green paint over brick (less than 1 mg/kg), and light blue over dark blue paint over brick at a concentration of 1.3 ppm.

8.2 Recommendations

Recommendations for remediation, and future site development considerations are provided in the sections below.

Groundwater Monitoring and Reporting

Given the presence of groundwater contamination in exceedance of AGQS, a GMP for the Site should be issued and groundwater monitoring and reporting schedules will be established in the GMP.

Concurrent with Site remediation and redevelopment activities, future groundwater monitoring needs should be evaluated and possible GMP monitoring locations should be reduced as appropriate to the nature and extent of dissolved groundwater contamination identified at the Site.

Remedial Actions

Asbestos-Containing Building Material Remediation

Nobis recommends asbestos abatement of the identified asbestos-containing building materials identified in the former armory and former Stanley Mill as the presumptive remedy to meet future use goals at the site.

PAH Soil Contamination Remediation

Nobis recommends excavation of shallow PAH-impacted soil outside the extents of the industrial waste fill material localized to the area between the former armory and Stanley Mill buildings as the presumptive remedy to address PAH soil contamination exceeding SRS and RCMP S-3. Nobis recommends excavation and disposal of approximately 251 cubic yards (376 tons) of PAH-impacted soils from within an area of approximately 720 square feet from 0 to approximately 3 feet bgs and an area of approximately 3,070 square feet from 0 to approximately 1.5 feet bgs. Coordination with an appropriate approved disposal facility will be required prior to soil excavation implementation to determine facility acceptance needs.

Industrial Waste Fill Material Area Remediation

To address the industrial waste fill material, Nobis recommends selection and implementation of Alternative 3 - excavation and off-site disposal. Based on the evaluation of alternatives, this alternative scored the highest weighted score of 3.0 out of a possible 4.0. This alternative consists of excavation and disposal of approximately 5,506 tons of contaminated soil and solid waste from within an area of approximately 11,660 square feet. Backfill material would consist of suitable clean fill and 1-foot riprap material along the riverbank to stabilize the excavated area from erosion and to protect the restored riverbank from weather events. Nobis recommends long-term groundwater monitoring to monitor the performance of the selected alternative.

Future Site Development Considerations

Due to the current groundwater quality at the Site and the results of sub-slab soil gas sampling, construction of new buildings planned for future Site redevelopment may warrant installation of a soil gas mitigation system (passive or active) to eliminate potential VOC impacts to indoor air. Plans for new buildings should consider groundwater quality within the vicinity of proposed construction.

Nobis assumes that some PAH-contaminated soils will remain at the site and implementation of an AUR will be required. The AUR for the site should define soil management requirements and limitation for high-risk uses (i.e. situations where children are expected to be present with high intensity/high frequency). Future redevelopment considerations should take into account the presence of residual contamination. Given the widespread presence of low-level PAHs in soil

throughout the Site, redevelopment planning should consider the incorporation of clean cover material and a separation barrier to prevent future exposure to contaminants.

Proposed redevelopment should consider the location and nature of remedial elements of the industrial waste fill material area. Redevelopment scenarios should incorporate design requirements such as stormwater controls and other infrastructure such that the performance of the remedial measure selected is not adversely impacted.

Table 12
Alternative #1 Cost Estimate - Institutional Controls
Ferrari Mill
Franklin, New Hampshire

ALTERNATIVE #1: INSTITUTIONAL CONTROLS: ACTIVITY USE RESTRICTION

Site: Ferrari Mill Site
Location: Franklin, New Hampshire
Phase: RAP

Description: Fence off areas of the Site that have residual soil contamination with Activity and Use Restriction (AUR) recorded for contaminated areas. Install asbestos warning signage on former mill building and secure from entry.

Description	Qty.	Units	Unit Cost	Cost	Notes	
Capital Costs						
Institutional Controls						
AUR - legal fees	1	ls	$5,000	$5,000		
Site Survey	1	ls	$3,500	$3,500		
Fencing Installation						
Permanent chain-link fencing installation	225	lf	$25	$5,625		
					Fence Install. subtotal:	$5,625
Secure Buildings						
Prevent entry to buildings (Locks, Boards, etc.)	1	ls	$750	$750		
Asbestos Warning Signs	20	per sign	$6	$120		
					Secure Bldg, subtotal:	$870
Long-Term Groundwater Monitoring						
See attached Table 17				$30,600		
SUBTOTAL				**$45,595**		
Contingency	20	%		$9,119		
Engineering, Design, and Regulatory Support	5	%		$2,280		
Project Management	5	%		$2,280		
Total Capital Costs:				**$59,274**		

Cost type	Year	Total Cost	Total Cost per Year	Discount Factor (5%)	Present Value	Notes
Present Value Analysis						
Capital Cost	0	$59,274			$59,274	
Site Inspection and Limited Maintenance Cost	1-30		$1,000	15.3721	$15,372	
Long-Term Monitoring Sampling and Reporting	1-30		$17,000.00	15.3721	$261,326	
Groundwater Management Permit Renewal	Every 5		$500.00	2.782	$1,391	
Total Cost					**$337,362**	

Table 13
Alternative #2 Cost Estimate - Industrial Waste Fill Materials Encapsulation and Stabilization Cost
Ferrari Mill
Franklin, New Hampshire

ALTERNATIVE 2: SOIL CAP, RIVER BANK ARMOR, BUILDING ABATEMENT AND PARTIAL DEMOLITION
Site: Ferrari Mill Site
Location: Franklin, New Hampshire
Phase: RAP

Description: Partial demolition site buildings. Install a geotextile liner over contaminated soil areas identified at the site (Industrial waste fill area and PAH impacted area). Followed by capping of the areas with clean fill material to a minimum thickness of 2 feet. 1-foot angular riprap will be installed over riverbank slope to armor the riverbank. The IC AUR is included.

Description	Qty.	Units	Unit Cost	Cost	Notes	
Capital Costs						
Institutional Controls - AUR	1	ls	$8,500	$8,500	IC subtotal:	$8,500
Partial Building Demolition						
Professional oversight	10	day	$1,000	$10,000		
Former Armory Demolition	1	ls	$150,000	$150,000		
Former Stanley Mill Demolition	1	ls	$45,000	$45,000	Demolition subtotal:	$205,000
Soil Cap and Riverbank Stabilization						
SWQPA Permitting Costs	1	ls	$5,000	$5,000		
Professional oversight	7	day	$1,000	$7,000		
Cap and riprap installation	7	day	$4,000	$28,000		
Clean fill (Soil Cap)	1,696	ton	$25.00	$42,389		
Geotextile Liner (Soil Cap Area)	15,260	sq. ft	$0.25	$3,815		
1-foot Angular Riprap (Riverbank Area)	250	ton	$35.00	$8,750	Soil Cap and Stabilization subtotal:	$89,954
Asbestos Abatement						
See attached Table 16				$210,750		
Long-Term Groundwater Monitoring						
See attached Table 17				$30,600		
SUBTOTAL				**$549,804**		
Contingency	20	%		$109,961		
Engineering, Design, and Regulatory Support	5	%		$27,490		
Project Management	5	%		$27,490		
Total Capital Costs:				**$714,745**		

Cost type	Year	Total Cost	Total Cost per Year	Discount Factor (5%)	Present Value	Notes
Present Value Analysis						
Capital Cost	0	$714,745.06			$714,745	
Site Inspection and Limited Maintenance Cost	1-30		$1,000	15.3721	$15,372	
Long-Term Monitoring Sampling and Reporting	1-30		$17,000.00	15.3721	$261,326	
Groundwater Management Permit Renewal	Every 5		$3,000.00	2.782	$8,346	
Total Cost					**$999,789**	

Table 14
Alternative #3 Cost Estimate - Industrial Waste Fill Materials Excavation Cost
Ferrari Mill
Franklin, New Hampshire

ALTERNATIVE 3: INDUSTRIAL WASTE FILL REMOVAL, RIVER BANK RESTORATION, PAH SOIL EXCAVATION, ASBESTOS ABATEMENT, PARTIAL BUILDING DEMOLITIOI

Site: Ferrari Mil Site
Location: Franklin, New Hampshire
Phase: CAFI/CAP

Description: Excavate and remove industrial waste fill material and impacted soil from the river bank. Followed by installation of a geotextile liner and backfilling of all excavated areas with suitable clean fill material to original grade. 1-foot angular riprap will be installed over riverbank slope to armor the riverbank. The IC AUR is included.

Description	Qty.	Units	Unit Cost	Cost	Notes	
Capital Costs						
Institutional Controls	1	ls	$8,500	$8,500	IC subtotal:	$8,500
SWQPA Permitting	1	ls	$5,000	$5,000	SWQPA subtotal:	$5,000
Partial Building Demolition						
Professional oversight	10	day	$1,000	$10,000		
Former Armory Demolition (Partial)	1	ls	$150,000	$150,000		
Former Stanley Mill Demolition (Partial)	1	ls	$45,000	$45,000	Demolition subtotal:	$205,000
Installation of Sheet Pile Wall						
Engineering Design	1	ls	$10,000	$10,000		
Professional oversight	4	day	$1,000	$4,000		
Installation	275	linear ft	$500	$137,500		
Reporting	1	ls	$4,000	$4,000	Sheet Pile subtotal:	$155,500
Industrial Waste Fill Material Excavation						
Professional oversight/sampling	13	day	$1,200	$15,600		
Excavation and backfill	13	day	$4,000	$52,000		
Characterization sampling	10	sample	$528.00	$5,510		
Confirmation sampling	8	sample	$228.00	$1,824		
Transport/disposal	5,218	ton	$100.00	$521,806		
Geotextile Liner	11,050	sq. ft	$0.25	$2,763		
1-foot Angular Riprap (Riverbank Area)	250	ton	$35.00	$8,750		
Clean fill	5,050	ton	$25.00	$126,251	**Excavation subtotal:**	**$734,504**
Shallow PAH Contaminated Soil Excavation						
See attached Table 15				$56,634		
Asbestos Abatement						
See attached Table 16				$210,750		
Long-Term Groundwater Monitoring Well Replacement						
See attached Table 17				$30,600		
Capital Costs Subtotal				$1,406,488		
Contingency	20	%		$281,298		
SUBTOTAL				**$1,687,786**		
Engineering, Design, and Regulatory Support	5	%		$84,389		
Project Management	5	%		$84,389		
Total Capital Costs:				$1,856,564		

Cost type	Year	Total Cost	Total Cost per Year	Discount Factor (5%)	Present Value	Notes
Present Value Analysis						
Capital Cost	0	$1,856,564.17			$1,856,564	
Site Inspection and Limited Maintenance Cost	1-10		$500	7.7216	$3,861	
Long-Term Monitoring Sampling and Reporting	1-10		$17,000.00	7.7216	$131,267	
Groundwater Management Permit Renewal	5 and 10		$500.00	1.3974	$699	
Total Cost					**$1,992,391**	

Table 15
Cost Estimate - Shallow PAH Soil Excavation Cost
Ferrari Mill
Franklin, New Hampshire

PAH SOIL EXCAVATION
Site: Ferrari Mill Site
Location: Franklin, New Hampshire
Phase: RAP

Description: Excavate and remove PAH impacted soils from identified areas. Followed by installation of a geotextile liner and backfilling of all excavated areas with clean fill material to a minimum thickness of 1.5 feet.

Description	Qty.	Units	Unit Cost	Cost	Notes	
Capital Costs						
Institutional Controls - AUR	1	ls	$8,500	$8,500	IC subtotal:	$8,500
PAH Excavation						
Professional oversight/sampling (PAH Area)	2	day	$1,200	$2,400		
Excavation and backfill (PAH Area)	2	day	$2,500	$5,000		
Characterization sampling (PAH Area)	1	sample	$528.00	$397		
Confirmation sampling (PAH Area)	4	sample	$228.00	$912		
Transport/disposal (PAH Area)	376	ton	$100.00	$37,583		
Geotextile Liner (PAH Area)	3,785	sq. ft	$0.25	$946		
Clean fill (PAH Area)	376	ton	$25.00	$9,396	PAH Excavation subtotal:	$56,634
SUBTOTAL				**$65,134**		
Contingency	20	%		$11,327		
Engineering, Design, and Regulatory Support	5	%		$3,257		
Project Management	5	%		$3,257		
Total Capital Costs:				**$82,975**		

Cost type	Year	Total Cost	Total Cost per Year	Discount Factor (5%)	Present Value	Notes
Present Value Analysis						
Capital Cost	0	$82,974.59			$82,975	
Total Cost					**$82,975**	

Table 16
Cost Estimate - Asbestos Abatement
Ferrari Mill
Franklin, New Hampshire

HAZARDOUS BUILDING MATERIALS ASBESTOS ABATEMENT
Site: Ferrari Mill Site
Location: Franklin, New Hampshire
Phase: RAP
Description: Abatement of all identified asbestos containing building materials in the former armory and former Stanley Mill

Description	Qty.	Units	Unit Cost	Cost	Notes	
Capital Costs						
Asbestos Abatement						
Professional oversight/sampling	15	day	$1,000	$15,000		
Abatement of former armory and former mill	1	ls	$195,750	$195,750	Abatement subtotal:	$210,750
SUBTOTAL				**$210,750**		
Contingency	20	%		$42,150		
Engineering, Design, and Regulatory Support	5	%		$10,538		
Project Management	5	%		$10,538		
Total Capital Costs:				**$273,975**		

Cost type	Year	Total Cost	Total Cost per Year	Discount Factor (5%)	Present Value	Notes
Present Value Analysis						
Capital Cost	0	$273,975.00			$273,975	
Total Cost					**$273,975**	

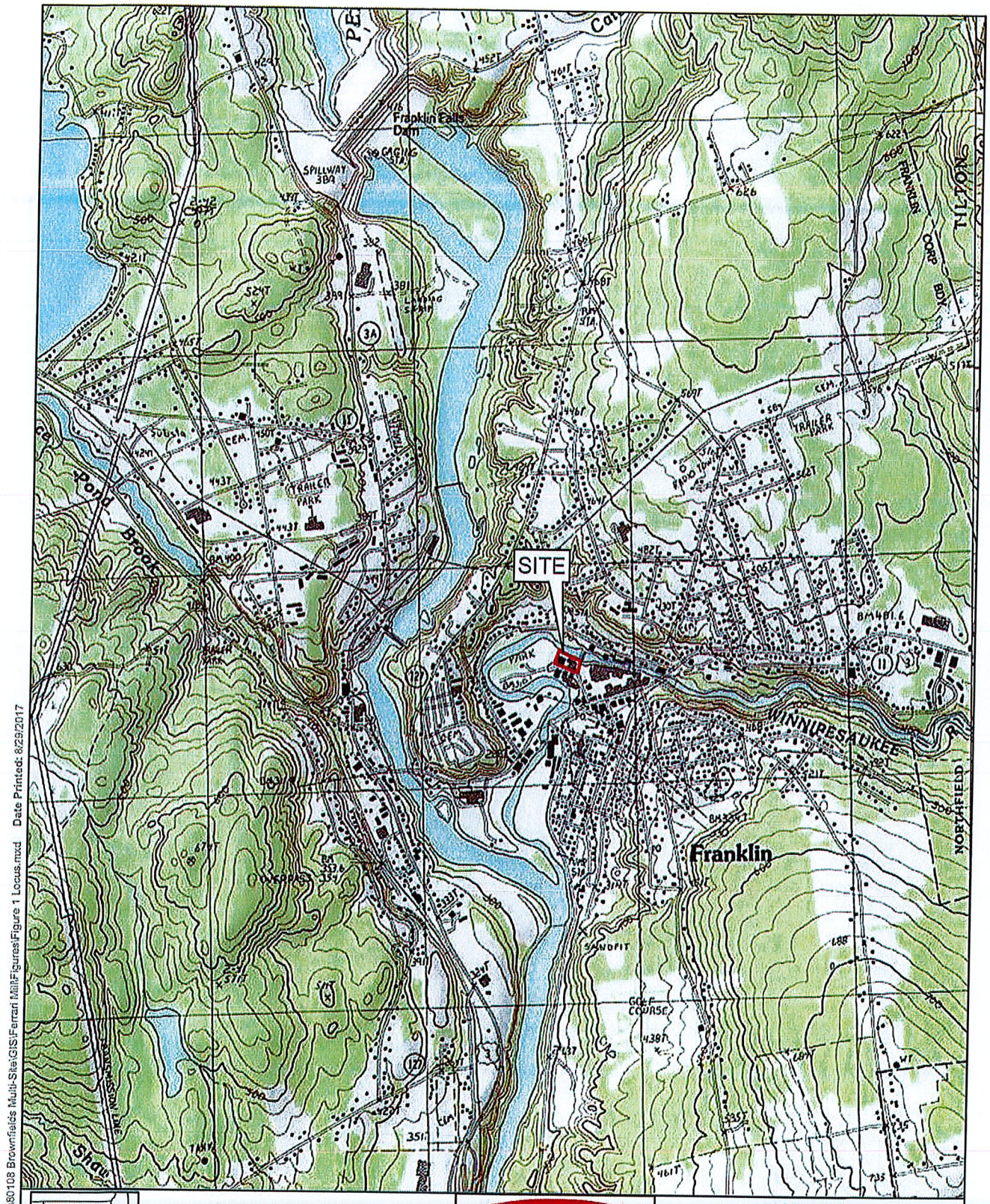
Table 17
Cost Estimate Long-Term Groundwater Monitoring Cost
Ferrari Mill
Franklin, New Hampshire

GROUNDWATER LONG-TERM MONITORING
Site: Ferrari Mill Site
Location: Franklin, New Hampshire
Phase: RAP

Description: Install monitoring wells (assumes 8). Perform long-term monitoring of groundwater that includes collecting samples for VOC, 1,4-dioxane, and RCRA 8 metals analysis twice a year, with annual reporting.

Description	Qty.	Units	Unit Cost	Cost	Notes	
Capital Costs						
Monitoring Well Installation						
Mobilization - Drill rig equipment and crew	1	ls	$500	$500		
Site access/IDW handling/standby	4	hr	$250	$1,000		
Install monitoring wells	2	day	$1,600	$3,200		
Drums and IDW disposal	2	ea.	$250	$500		
Engineering Oversight	2	day	$1,200	$2,400		
Engineering Reporting	1	ls	$3,500	$3,500	Well installation subtotal:	$11,100
Groundwater Sampling and Reporting						
Groundwater Management Permit Application	1	ls	$3,000	$3,000		
Groundwater sampling with VOC/1,4-dioxane/metals analysis	2	event	$7,000	$14,000		
Groundwater sampling report	1	ls	$2,500	$2,500	Groundwater sampling and reporting subtotal:	$19,500
SUBTOTAL				**$30,600**		
Contingency	20	%		$6,120		
Engineering, Design, and Regulatory Support	5	%		$1,530		
Project Management	5	%		$1,530		
Total Capital Costs:				**$39,780**		

Cost type	Year	Total Cost	Total Cost per Year	Discount Factor (3%)	Present Value	Notes
Present Value Analysis						
Capital Cost	0	$39,780.00			$39,780	
Annual Maintenance	1-10		$500.00	7.4410	$3,721	
Long-Term Monitoring Sampling and Reporting	1-10		$17,000.00	7.4410	$126,497	
Groundwater Management Permit Renewal	5 Years		$500.00	4.3130	$2,157	
Total Cost					**$172,154**	



USGS Topographic Map
Franklin, NH
Created 1987

0 500 1,000 2,000

Feet
1 inch = 2,000 feet

N

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FIGURE 1

LOCUS PLAN
FERRARI MILL
93-119 MEMORIAL STREET
FRANKLIN, NEW HAMPSHIRE

PREPARED BY: JRS	CHECKED BY: TA
PROJECT NO. 80108.08	DATE: FEBRUARY 2018

Path: R:\80000 Task Orders\80108 Brownfields Multi-Site\GIS\Ferrari Mill\Figures\Figure 1 Locus.mxd Date Printed: 8/29/2017

Notes:

1. Site sketch was developed from several sources including, City of Franklin Tax Map N8, Figures created by Credere Associates, LLC, observations made by Nobis and from the aerial photography provided by ESRI.

2. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Drum
- Floor Drain
- Natural Gas Hookup
- Outfall
- Unknown Pipe
- UST Vent Fill Line
- Pipe
- Retaining Wall
- Property Boundary
- Site Boundary
- Limit of Fill (Metal Shavings and Saw Blades)

Foundation

- Transformer Area
- UST Area

N

0 25 50 100

Feet

1 inch = 50 feet

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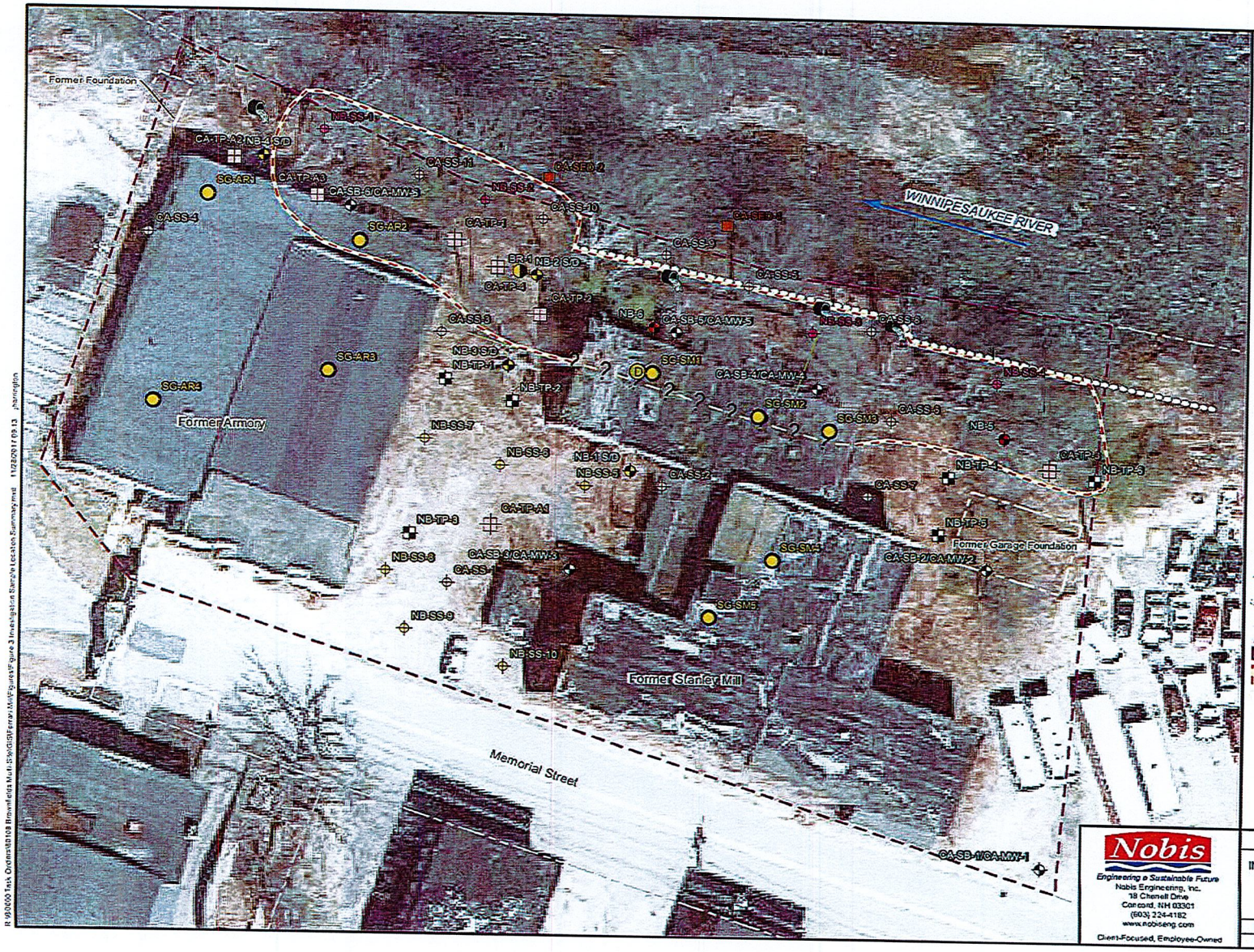
FIGURE 2

SITE AREA PLAN
FERRARI MILL
93-119 MEMORIAL STREET
FRANKLIN, NEW HAMPSHIRE

PREPARED BY: JRS	CHECKED BY: TA
PROJECT NO. 80108.08	DATE: FEBRUARY 2018

R:\80000 Tax Ordered\80108 Brownfields Multi-Site\GIS\Ferrari Mill\Figures\Figure 2 Ferrari Mill Site Area Plan.mxd 11/29/2017 18:40 jhamrick



Notes:

1. Site sketch was developed from several sources including, City of Franklin Tax Map N8, Figures created by Credere Associates, LLC, observations made by Nobis and from the aerial photography provided by ESRI.

2. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Existing Overburden Monitoring Well
- New Overburden Monitoring Well Couplet
- New Deep Overburden Monitoring Well
- New Bedrock Monitoring Well
- Previous Soil Boring Location
- Nobis Industrial Waste Shallow Soil Boring
- Nobis Shallow Soil Boring
- Previous Test Pit Location
- Nobis Test Pit Location
- Nobis Sub-Slab Sample Location
- Previous Sediment Sample Location
- Floor Drain
- Outfall
- Pipe
- Retaining Wall
- Property Boundary
- Site Boundary
- Limit of Fill (Metal Shavings and Saw Blades)
- Foundation

N

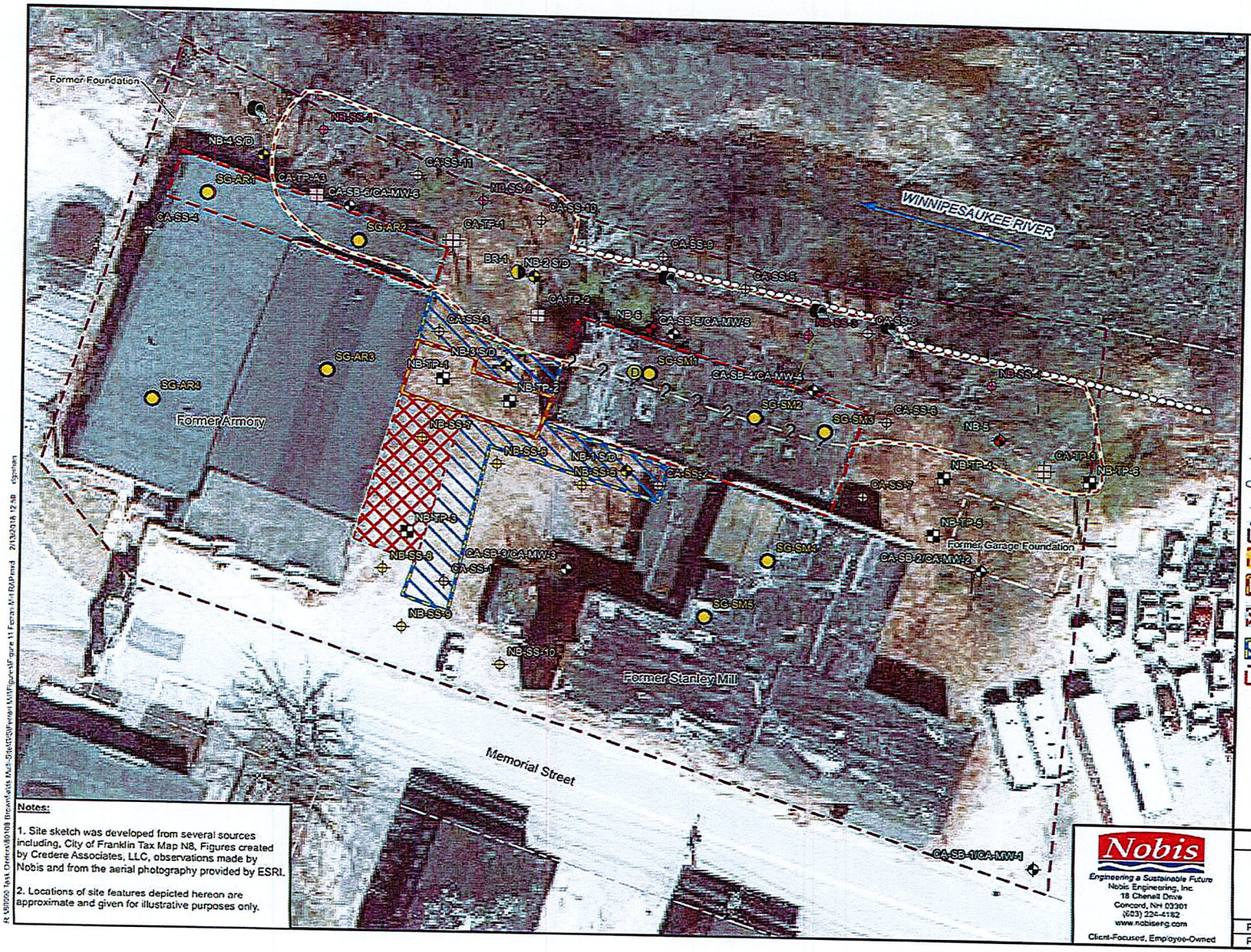
0 15 30 60
Feet
1 inch = 30 feet

Nobis
Engineering a Sustainable Future
Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301
(603) 224-4182
www.nobiseng.com
Client-Focused, Employee-Owned

FIGURE 3

INVESTIGATION SAMPLE LOCATION SUMMARY
FERRARI MILL
93-119 MEMORIAL STREET
FRANKLIN, NEW HAMPSHIRE

PREPARED BY: JRS	CHECKED BY: TA
PROJECT NO. 80108.08	DATE: FEBRUARY 2018



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- New Deep Overburden Monitoring Well
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- Nobis Industrial Waste Shallow Soil Boring
- Nobis Shallow Soil Boring
- Previous Test Pit Location
- Nobis Test Pit Location
- Nobis Sub-Slab Sample Location
- Floor Drain
- Outfall
- Pipe
- Retaining Wall
- Property Boundary
- Site Boundary
- Industrial Waste Fill Material
- Sub-Surface PAH Impacted Soil Area S-3 Exceedance; Excavate to 3.0 ft bgs
- Shallow PAH Impacted Soil Area S-3 Exceedance; Excavate to 1.5 ft bgs
- Shallow PAH Impacted Soil Area S-1 Exceedance; Excavate to 1.5 ft bgs
- Partial Building Demolition Areas
- Foundation

N

0 15 30 60
Feet
1 inch = 30 feet

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FIGURE 11

REMEDIAL ACTION PLAN
FERRARI MILL
93-119 MEMORIAL STREET
FRANKLIN, NEW HAMPSHIRE

PREPARED BY: JRS	CHECKED BY: TA
PROJECT NO. 80108.08	DATE: FEBRUARY 2018

City of Franklin, New Hampshire EPA Brownfields Cleanup Grant Application
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OBITUARIES

George Gurney, 82

CENTER HARBOR — George Gurney of Center Harbor died in Concord on October 28, 2022, at age 82, surrounded by his family — his wife Susan, son Peter, and daughter Katri.

Son of Richard C. Gurney and Margaret Alexander Gurney, George was born and grew up in Connecticut. He had one brother, Peter Gurney, five years his senior, now deceased. George's dad taught at The Hotchkiss School, making George the beneficiary of a wealth of educational, recreational, and cultural resources throughout his childhood, which he deeply treasured. After attending Hotchkiss as a student, George spent a gap year in England at the Bishop's Stortford College with the English Speaking Union Exchange Fellowship. During his time abroad, George's love for art developed and he discovered his life's calling.

Upon his return from England, George began his pursuit of expanding his knowledge of art at Brown University, University of Pennsylvania, and concluding at the University of Delaware where he earned his Ph.D. He taught at the University of Hartford and Sweet Briar College before entering the museum profession as a fellow at the National Gallery of Art. George worked at the Smithsonian American Art Museum (SAAM) from 1974-2011, serving as Curator of Sculpture for over 25 years. He was named Curator Emeritus at his retirement. He drew professional satisfaction from exhibitions he curated, beginning with Sculpture and the Federal Triangle in 1979, for which he wrote the definitive book on the subject, and ending with Remembering the Running Fence in 2010, working closely with the artists Christo and Jeanne-Claude.

Upon retirement, George and Susan moved up to Squam Lake in New Hampshire — a place he had retreated to annually and loved his entire life. His two children also moved to the area, drawn there by the love George instilled in them of the Squam Lakes region. George committed himself to volunteering for environmental causes — taking water quality measurements, removing invasive plants, conducting trail maintenance, monitoring conservation easements, and serving on the town's Conservation Commission. Everything he did was with the deliberate intention of helping the people and natural world around him. In the evenings he'd sit down with a glass of bourbon and play a game of cribbage with Susan while they admired the sunset.

A memorial gathering will be held at a later date. Donations in his memory may be made to The George Gurney Fellowship Endowment Fund at SAAM or to the Squam Lakes Association Squam Watershed Campaign.

Kathleen A. Gorse, 80

GILFORD — Kathleen Anne Gorse, 80, of Harvest Run, passed away on Saturday, October 29, 2022, at the Peabody Home in Franklin.

Kathleen was born on April 25, 1942, in Queens, New York, the daughter of the late William and Marie (Gogedy) Schauder.

Kathleen and her husband left Long Island, New York, in 1976, with their three children to open Taylor Rental Center in Belmont. Kathleen was active in the business for many years. She enjoyed the outdoors as well as spending time with her grandchildren, doing puzzles, crocheting and playing cards. Kathleen was also an active member in the First United Methodist Church of Gilford.

Kathleen is survived by her loving husband of 60 years, William C. Gorse of Gilford; her son, Jim Gorse and his wife Susan of Laconia, and their two children, Isabel and Gillian of Boston, Massachusetts; her son, Steve Gorse of Laconia; her daughter, Susan Ruggiero and her husband Rich of Wellesley, Massachusetts, and their three children, Curt, Lauren, and Davis; and her sister, Joan Akley of Levittown, New York. In addition to her parents, Kathleen was predeceased by her brothers, Jack Schauder and Tom Schauder.

There will be no calling hours.

A Funeral Service will be celebrated on Monday, November 7, 2022, at 10:00 a.m., at the First United Methodist Church of Gilford – Hope Ministries, 18 Wesley Way, Rte. 11A, Gilford, NH, 03249.

Wilkinson-Beane-Simoneau-Paquette Funeral Home & Cremation Services and 603Cremations.com, 164 Pleasant St., Laconia, NH, 03246, is assisting the family with arrangements. For more information and to view an online memorial, please visit www.wilkinsonbeane.com.

from preceding page

The NHEE'd to Get Outside Grant began in 2018 and has more than doubled in growth this year thanks to the generous donations from silent auction donors, Concord UU Church and two anonymous donors prompting NHEE to open the grant program for a spring grant round, instead of their typical fall grant round.

Thanks to this bonus spring round, 45 sixth graders from Plymouth Elementary School were able to visit Artists Bluff, Echo Lake and the New England Ski Museum on June 16. The lead teacher said, "A good number of our students seldom have opportunities outside of the Plymouth community to see the beauty of New Hampshire, to engage in healthy outdoor experiences, and to make broader connections with what we are learning in the classroom. This trip allowed all of us to come together as a community, all on the same playing field, so to speak, so that we could all have the same understanding and appreciation for nature, Earth's changing surface, topography, hiking, swimming, skiing, and simply enjoying a charcoal-grilled hotdog by a beautiful lake in the

see **GRANT** page 31

CITY OF FRANKLIN
NOTICE OF PUBLIC HEARING & MEETING

The City of Franklin will conduct a public hearing on the application to the US EPA for grant funds to the clean-up the Brownfields contamination at the Ferrari Mill Site at 93-119 Memorial Street. The hearing will be held at **6:00 PM, on November 14, 2022**, at the City Hall in Council Chambers, 316 Central Street, Franklin, NH. The hearing will present and discuss the application materials for the project site. The application materials, along with the Remedial Action Plan, which outlines the clean-up options and recommendations will be available on the Home page of the City Website [www.franklinnh.org] starting the morning of November 3rd. A hard copy of the materials can also be found in the City Manager's office at City Hall. Written comments on the application and the proposed clean-up plan will be accepted at the City Manager's office until 5:00 PM on Tuesday, November 15, 2022. The notice on the website provides further details.

Provisions for persons with special needs can be made by contacting the City Manager's office, via telephone or mail at least five days prior to the public hearing.

City of Franklin
316 Central Street
Franklin, NH 03235
(603) 934-3900


www.franklinnh.org
Content Structure People Configuration Advanced Help Reports
NEW HAMPSHIRE
The Three Rivers City
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BOARDS & COMMITTEES
RESIDENTS
BUSINESSES
FIND IT FAST
VIEW EDIT GROUP CABINET
Citizen Action Center
Mayor's Welcome
Charter & Codes
Online Bill Pay
Contact Info
Subscribe to E-News
City Council
Tax Cards
Mapping
Minutes & Agendas
Public Notices
Resident Resources
Calendars
Ferrari Mill EPA Application
Our Mission Statement:
"We will work as a Team to Ensure Franklin's future by Strengthening Education, Promoting Recreation, Supporting Businesses and Providing a Safe Community through the Efficient use of Resources and Talent. We will Eliminate waste at all levels to Maximize Value to our Taxpayers."
Help Beautify our City! Adopt a Garden Today! More »
https://www.franklinnh.org/home/pages/mayors-welcome
Type here to search
56°F Sunny

City of Franklin, New Hampshire EPA Brownfields Cleanup Grant Application
Application Submission Table of Contents

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4) State Letter of Acknowledgement and Support

City of Franklin, NH Application to US EPA for Brownfields Clean Grant Funds
Summary of Meeting Notes from the Public meeting - Monday, November 14, 2022
City Council Chambers, City Hall

The meeting was opened at 6:00 PM, and the City Manager introduced Richard Lewis, former City Planner, who is a consultant to the City for this project. His presentation touched on these issues:

- √ He introduced the project by showing a PowerPoint presentation. He first gave some history of the project site, informing the attendees that the Ferrari mill was used for the manufacture of hacksaw blades for approximately 80 years. The mill was sold to Stanley Tool Company in 1979, and they manufactured tools there until 1986 when it was sold to the current owner. Findings from the site assessments indicate that the site contamination occurred from 1897 to 1979.
- √ Since the site was last sold in 1986, the owner has not undertaken any regular maintenance on the mill building, and it has fallen into significant disrepair, to the point where the Fire Chief has ordered that the mill be demolished due to serious public safety concerns.
- √ The property has been on the radar of the City for at least 6-7 years, because it is adjacent to the Winnipesaukee River, and it is in a central location in the downtown area.
- √ The property has been the subject of several environmental assessments; a Phase I and Phase II were completed in 2015, and a Targeted Brownfields Assessment / Remedial Action Plan was completed in the spring of 2018.
- √ He informed the public that the City's application to the NH Department of Environmental Services [DES] has been approved for a $200,000 grant to assist in the demolition and cleanup of the property.
- √ He indicated that the City will be acquiring the property prior to the submission of the grant application to EPA.
- √ He indicated that the EPA has already spent funds on the Assessments conducted to date.
- √ He outlined that the City is seeking funding from EPA for the cleanup and remediation of the site.
- √ He outlined that the cleanup would assist in the economic redevelopment of the City. In the past 6-7 years there has been great strides in the revitalization of the core downtown area, but right now the Ferrari mill is an eyesore and a safety concern given that the contamination sits adjacent to the river. There are downstream communities in NH and Massachusetts that use the Merrimack River [which is partly feed by the Winnipesaukee River] for drinking water supplies. The contamination on the site impacts residents in the downtown and can be a contributing factor to health issues that confront area residents.
- √ Lastly, he indicated that the City is look for any comments and questions from the public on any phase of the project.
- √ He introduced Tim Andrews, from the Nobis Engineering Group, the firm that performed the 2018 Assessment report.

Tim Andrews informed the public that he and the Nobis team have been working on Brownfields issues in the City for over 10 years, that the 2018 Assessment was performed under contract with the EPA. He highlighted these points:

- The 2018 Assessment and Remedial Action Plan looked at 3 alternatives for the site. Alternative # 1 was basically a do-nothing option, where the site would be fenced and protected. Alternative # 2, was a very limited remediation, with many of the contaminates remaining in place, and the site being capped. Both alternatives were rejected by DES since the buried industrial waste around the site constituted illegal fill and the waste had to be removed. Further, DES determination that leaving the contamination in place posed a significant risk to the river.
- The selected alternative was # 3, which involved abatement of the hazardous building materials [lead and asbestos], the removal of the buried waste, cleanup of the contaminated soils, and protection for, and stabilization of the historically impacted shoreline embankments.
- The creation of the new public green spaces and the repurposing of the former Armory building would be a positive step for the City.

Following the conclusion of comments from Mr. Andrews the meeting moved in the Question & Answer period. The summary of the Q & A portion is provided in a separate document.

At the end of the Q & A, the meeting was closed.

Note: For ease of reading, the Public Comments and the Responses are being combined into one document.

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City of Franklin, NH Application to US EPA for Brownfields Clean Grant Funds
Summary of Public Comments and Questions and the Responses by the City.

Q 1: **What is the length of grant cycle?**

A 1: If approved, the grant period opens on 10/1/23 and closes on 9/30/27.

Q 2 **What happens if during the removal of the buried industrial waste some of the material spills into the river?**

A 2: The early stages of work on the grant involves the formulation of different plans and reports; these documents will discuss safety and protection measures to be utilized during the cleanup such as excavation of waste and the removal of sub-surface contaminates. One of the budget items will be the installation of sheet pilling adjacent to the river to protect against spillage and to protect the integrity of the shoreline embankment. All the plans and reports will be reviewed by EPA and/or DES staff to ensure that all issues are fully considered.

Q 3: a follow-up. **What happens if there is an accident; will the State or the EPA get involved since some kind of emergency would then exist?**

A 3: It is hard to say what would happen as the specific scenario is unknown. One of the tasks for the City and the QEP throughout the entire grant period is to keep EPA and DES informed of the status of the work and fully aware of any specific issues of concern.

Q 4: **Are you aware that the grant is due in 8 days, and it looks like there is lots of work remaining?**

A 4: Yes, we are aware of the calendar, and we have been working hard on all the various components of the application package for many weeks. We have also been taking advantage of the assistance of the University of Connecticut, which is one of the organizations hired by EPA to provide assistance to applicants. They have reviewed drafts of the narrative and related documents and provided good suggestions.

Q.5: **If the application was not funded, would the City apply next year?**

A 5: Yes, the City views this as a very important project that is a necessary part of the overall redevelopment and revitalization of the core downtown area. The City does not know what our chances are of getting an award this cycle, but the City feels that it is telling a good story and is proving the need and the benefits that the cleanup will provide. The City did receive a $200,000 grant from DES for demolition and cleanup work, and we also applied to the NH Division of Business and Economic Affairs for a $400,000 grant for demolition work, and we feel confident about that grant.

Q 6: **What is the depth of the industrial waste fill**?

A 6: It varies a bit over the site, but it is about 8-10 feet deep below ground level.

Q 7: **Since there is not free lunch anywhere, what fees or costs will the City have to assume with this grant?**

A 7: Once the City owns the property, which will occur prior to submission of the grant application, no property taxes will be paid by anyone that is a relatively small cost. Also, the City will notify their insurance carrier that we need to put the property under our coverage, and we expect that the insurance rate will go up a small amount since some portions of the property are in the flood plain.

Q 8: **Given that this is shoreland area where Native Americans may have camped, what happens if you find artifacts?**

A 8: There are a couple different answers. First, given the amount of disturbance to the site over the course of excavations to construct the 3 buildings that make up the mill, the potential to find artifacts might be limited. Second, the on-site inspectors who will check on the different excavations associated with the cleanup will keep their eyes out for possible artifacts. Third, if anything is found, the work will pause while items are collected, and the location documented. The State would be contacted and the City and the QEP would work with the officials from the State to determine the best course of action.

Q 9: **Why isn't the City, State, or EPA going after the owners of the mill for the cleanup funds?**

A 9: The NH DES did send a letter to the current owner and to Stanley Tool related to questions of liability. The findings from the various site assessment do conclude that the current owner has not performed any work or allowed any work that resulted in any contamination of the property. Stanley Tool, in response to the letter from DES, conducted a review of the issues and they provided information to the State they demonstrated that the manufacturing work they performed did not contribute to the contamination since the materials, cleaner, solvents, etc. they used do not match up with the contaminates found on the site. The only real responsible party is Griffin Manufacturing, which manufactured the hacksaw blades, and there is no evidence that there are any assets or other funds that could be secured by the State or the EPA to perform the necessary cleanup work. Sadly, this situation has repeated itself all over New England at these old mills; the only way to cleanup these site is with the assistance of the EPA or the State agencies.

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Public Meeting November 14, 2022 City Council Chambers
Re: the submission of a grant to US EPA for Brownfields Cleanup Grant

Please Sign-In with your Name

Timothy Doud.
Chuck Taylor
Desiree M. Laughlin
Stephanie Wolff
Cheryl Y. Fisher
Douglas Jensen
Dana Thiel
Michael Foss
Justin Hanscom
MichelleStanyan
Sam Creighton
David B. Goldstein
Kenny Kreis
Jason Grevior
Al Warner
Will Clark
Krystal Alpers
Michael Lombardo
Paul Duncanson

Please Sign-In with your Name

DEAN LAUGHY

MARTY PARICHAND

Valerie Acke

George J. Dzugan

April Bunker

VINCE RIBAS

JUDIE MILNER

Jo Brown

Robert Desrochers

Esther Manheather

OLIVIA ZINK

JAMES CHANDLER

Lisa Jones

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The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

EMAIL ONLY

November 15, 2022

Judie Milner, City Manager
City of Franklin
316 Central Street
Franklin, NH 03235

Subject: **City of Franklin**
FY23 Proposal for EPA Brownfields Cleanup Grant
Stanley Mill Site, Franklin, NH

State Letter of Acknowledgement and Support

Dear Judie Milner:

The New Hampshire Department of Environmental Services (NHDES) hereby acknowledges and expresses our support for the City of Franklin's proposal for an EPA Brownfields Cleanup Grant for the Stanley Mill site located at 93-119 Memorial Street in Franklin, New Hampshire.

Furthermore, NHDES affirms that the Stanley Mill site is enrolled in our State Response Program and that a sufficient level of site characterization has been performed to date for the proposed remediation work to begin.

Should your proposal be successful, NHDES will commit to providing a liaison to provide technical support, facilitate the process of reviewing and approving all cleanup related submittals to NHDES, and participate in any community outreach efforts.

We look forward to working with the City of Franklin on this important project within your community. Please contact me should you have any questions.

Sincerely,

Waste Management Division
Digitally signed by Waste Management Division
Date: 2022.11.15 14:02:04 -05'00'

Michael McCluskey, P.E.
Brownfields Program
Hazardous Waste Remediation Bureau
Tel: (603) 271-2183
Email: Michael.G.McCluskey@des.nh.gov

ec: Seth Creighton, Director Planning & Zoning, City of Franklin
Richard Lewis, City of Franklin
Dorrie Paar, EPA New England – Region 1
Jeffrey Marts, P.G., Administrator, NHDES-HWRB
Amy Renzi, P.G., State Sites Supervisor, NHDES-HWRB