

**Site Management Plan**  
**Former Oak-Mitsui Facility**  
**80 First Street**  
**Hoosick Falls, Rensselaer County,**  
**New York**

**NYSDEC BCP Site No. 442052**

*CHA Project Number: 031861.000*

*Prepared for Client:*  
*Oak-Mitsui Technologies, LLC.*  
*80 First Street*  
*Hoosick Falls, New York 12090*

*Prepared by:*



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*August 2022*  
*Revised June 2023*

**Revisions to Final Approved Site Management Plan:**

<b>Revision No.</b>	<b>Date Submitted</b>	<b>Summary of Revision</b>	<b>NYSDEC Approval Date</b>

**CERTIFICATION STATEMENT**

I Scott Smith certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

**For CHA Consulting, Inc.:**

(Professional Seal)



Scott M. Smith, P.E.

Printed Name of Certifying Engineer

A handwritten signature in black ink that reads "Scott M. Smith".

Signature of Certifying Engineer

June 21, 2023

Date of Certification

083885

NYS Professional Engineer Registration Number

CHA Consulting, Inc.

Company

Vice President

Title

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## LIST OF ACRONYMS & ABBREVIATIONS

AOC	Area of Concern
APS™	Waterloo Advanced Profiling System
BGS	Below Ground Surface
CAMP	Community Air Monitoring Plan
Cascade	Cascade Technical Services, Inc.
CCR	Construction Completion Report
CHA	CHA Consulting, Inc.
COC	Certificate of Completion
CVPC	Chlorinated Polyvinyl Chloride
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EC	Engineering Control
ECL	Environmental Conservation Law
ERM	Environmental Resource Management
ESA	Environmental Site Assessment
EWP	Excavation Work Plan
FEMA	Federal Emergency Management Association
FER	Final Engineering Report
FSP	Field Sampling Plan
GAC	Granular Activated Carbon
HASP	Health and Safety Plan
HDPE	High Density Polyethylene
Honeywell	Honeywell International Inc.
IC	Institutional Control
IRM	Interim Remedial Measure
IRMWP	Interim Remedial Measure Work Plan
LWRP	Local Waterfront Revitalization Project
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
Oak-Mitsui	Oak-Mitsui, Inc.
OMT	Oak-Mitsui Technologies, LLC
Order on Consent	Order on Consent and Administrative Settlement
O&M	Operation and Maintenance
PCBs	Polychlorinated Biphenyls
P.E. or PE	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PID	Photoionization Detector
PPT	Parts Per Trillion
PRR	Periodic Review Report
PTFE	Polytetrafluoroethylene

PVC	Polyvinyl Chloride
PVDF	Polyvinylidene Fluoride
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RI	Remedial Investigation
ROD	Record of Decision
RP	Remedial Party
SC	Site Characterization
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SCR	Site Characterization Report
SCWP	Site Characterization Work Plan
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOCs	Semivolatile Organic Compounds
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TOGS	NYSDEC Technical & Operational Guidance Series
µg/L	Micrograms per Liter
VOCs	Volatile Organic Compounds

## EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan (SMP):

Site Identification: #442052 Former Oak-Mitsui Facility 80 First St. Hoosick Falls, New York

Institutional Controls:	<p>1. The property may be used for restricted residential, commercial or industrial uses.</p> <p>2. The following Institutional Controls (ICs) are also listed in Section 3.2:</p> <ul style="list-style-type: none"> <li>• The property may be used for: restricted residential, commercial and industrial use. Note the majority of the property is zoned for industrial use so a more restrictive use (e.g., restricted residential or commercial) would require rezoning</li> <li>• All Engineering Controls (ECs) must be operated and maintained as specified in this SMP;</li> <li>• All ECs must be inspected at a frequency and in a manner defined in the SMP;</li> <li>• The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or the Rensselaer Department of Health to render it safe for use as drinking water or industrial purposes, and the user must first notify and obtain written approval to do so from the Department;</li> <li>• Data and information pertinent to Site management must be reported at the frequency and in a manner as defined in this SMP;</li> <li>• All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;</li> <li>• Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;</li> <li>• Operation, maintenance, monitoring, inspection, and reporting of any physical component of the remedy shall be performed as defined in this SMP;</li> </ul>
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Site Identification: #442052 Former Oak-Mitsui Facility 80 First St. Hoosick Falls, New York

	<ul style="list-style-type: none"> <li>• Access to the Site must be provided to agents, employees, or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;</li> <li>• The potential for vapor intrusion must be evaluated for any building developed in the area within the IC boundaries noted in Appendix A, and any potential impacts that are identified must be monitored or mitigated in accordance with NYSDEC requirements. Installation of a vapor intrusion mitigation system for each building developed will eliminate a requirement to evaluate potential vapor intrusion;</li> <li>• Vegetable gardens and farming on the Site are prohibited; and</li> <li>• An evaluation shall be performed to determine the need for further investigation and remediation should large-scale redevelopment occur.</li> </ul> <p>3. All ECs must be inspected at a frequency and in a manner defined in the SMP.</p>
Engineering Controls:	1. Cover and Cap System
Inspections:	Frequency
1. Cover inspection	Quarterly for the first year, semiannually for year two, and annually for years three through thirty, unless otherwise approved by New York Department of Environmental Conservation (NYSDEC).
Monitoring: None	Not Applicable
Maintenance:	
2. Cover system	Repair eroded areas as needed based on inspection results
Reporting:	
1. Periodic Review Report (PRR)	The first PRR will be submitted 16 months after the Certificate of Completion (COC) is issued and annually thereafter unless otherwise approved by NYSDEC.

Further descriptions of the above requirements are provided in detail in the later sections of this Site Management Plan.

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## 1.0 INTRODUCTION

### 1.1 GENERAL

This Site Management Plan (SMP) is a required element of the remedial program for the Former Oak-Mitsui – First Street Facility located in Hoosick Falls, New York (hereinafter referred to as the “Site”). The Site is currently in the New York State (NYS) Superfund Program and is classified as a “P-site” (a site that has the potential to be listed on the Registry of Inactive Hazardous Waste Disposal Sites), Site No. 442052, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

Oak-Mitsui, Inc. (“Oak-Mitsui”) entered into an Order on Consent and Administrative Settlement (Order on Consent) on September 8, 2017, with the NYSDEC to remediate the Site. As discussed in Section 1.4.1, below, in connection with the transfer of the Site from Oak-Mitsui to Oak-Mitsui Technologies LLC (OMT), OMT agreed to assume the obligations of Oak-Mitsui under the Order on Consent. The Site location and boundaries of this Site are provided in Figures 1 and 2, respectively. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Environmental Easement provided in Appendix A. Note that two areas of the Site are excluded from this SMP; these two areas, shown on Figure 2, are a portion of land located east of the railroad tracks adjacent to the Hoosic River and the former employee parking lot.

After completion of the remedial work, some contamination was left at this Site, which is hereafter referred to as “remaining contamination”. Institutional and Engineering Controls (ICs and ECs) have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Rensselaer County Clerk, requires compliance with this SMP and all ECs and ICs placed on the Site.

This SMP was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with Environmental Conservation Law (ECL) Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor’s successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

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It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6 New York Codes, Rules and Regulations (NYCRR) Part 375 and the Order on Consent, (Index #4-20170511-208; Site #442052) for the Site, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by CHA Consulting, Inc. (CHA), on behalf of OMT in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the Site.

## **1.2 REVISIONS**

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. The NYSDEC can also make changes to the SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. In accordance with the Environmental Easement for the Site, the NYSDEC project manager will provide a notice of any approved changes to the SMP and append these notices to the SMP that is retained in its files.

## **1.3 NOTIFICATIONS**

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

1. 60-day advance notice of any proposed changes in Site use that are required under the terms of the Order on Consent, 6 NYCRR Part 375 and/or Environmental Conservation Law.
2. 7-day advance notice of any field activity associated with the remedial program.
3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan. If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above mentioned 60-day advance notice is also required.
4. Notice within 48 hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
5. Notice within 48 hours of any non-routine maintenance activities.
6. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
7. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

8. At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Order on Consent, and all approved work plans and reports, including this SMP.
9. Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1-1 below includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information. Note that the Remedial Parties for this Site include OMT and Honeywell International, Inc. (Honeywell).

**Table 1-1. Notifications\***

Contact Type	Name	Contact Information	Required Notification**
NYSDEC Project Manager	Rakshak H. Iyengar	<a href="mailto:Rakshak.Iyengar@dec.ny.gov">Rakshak.Iyengar@dec.ny.gov</a>	All Notifications
NYSDEC Project Manager's Supervisor	Ian Beilby, P.E.	(518) 402-9676 <a href="mailto:ian.beilby@dec.ny.gov">ian.beilby@dec.ny.gov</a>	All Notifications
NYSDEC Chief Site Control	Kelly Lewandowski	518-402-9569, <a href="mailto:kelly.lewandowski@dec.ny.gov">kelly.lewandowski@dec.ny.gov</a>	Notifications 1 and 8

Contact Type	Name	Contact Information	Required Notification**
NYSDOH Project Manager	Kristin Kulow	(607) 353-4335 <a href="mailto:Kristin.kulow@health.ny.gov">Kristin.kulow@health.ny.gov</a>	Notifications 4, 6, and 7
Site Owners/ Remedial Party	John Fatcheric, OMT	(803) 413-2312 <a href="mailto:John.Fatcheric@denkaiamerica.com">John.Fatcheric@denkaiamerica.com</a>	All Notifications
Remedial Party	Sasa Jazic, Honeywell	(518) 452-6632 <a href="mailto:sasa.jazic@honeywell.com">sasa.jazic@honeywell.com</a>	All Notifications
Remedial Party's Attorney	Phil Gitlen, Whiteman Osterman & Hanna, OMT	(518) 487-7607 <a href="mailto:pgitlen@woh.com">pgitlen@woh.com</a>	All Notifications
	Dale Desnoyers, Allen & Desnoyers, Honeywell	(518) 426-2288 <a href="mailto:dale@allendesnoyers.com">dale@allendesnoyers.com</a>	
Qualified Environmental Professional	Chris Burns, Ph.D., P.G., CHA Consulting, Inc.	(804) 412-8841 <a href="mailto:cburns@chacompanies.com">cburns@chacompanies.com</a>	All Notifications

\* Note: Notifications are subject to change and will be updated as necessary.

\*\* Note: Numbers in this column reference the numbered bullets in the notification list in this section.



## **1.4 SITE LOCATION AND DESCRIPTION**

The Site is located in the Village of Hoosick Falls, Rensselaer County, New York, and is comprised of three (3) parcels, Tax Map Nos. 27.14-7-2, 27.14-7-3 and 27.14-8-19 (see Figure 2). The Site is an approximately 7.5-acre area and is bounded by Hoosic River and Hoosic River Greenway to the north, 1<sup>st</sup> Street and Nixon Street to the south, the Pam Am Railroad line and residential properties along Lyman Street to the east, and Hoosic River and Hoosic River Greenway to the west (see Figure 2 – Site Layout Map). The boundaries of the Site are more fully described in Appendix A – Environmental Easement. The owner and operator of the Site parcel(s) at the time of issuance of this SMP is OMT.

### **1.4.1 Site Ownership**

Oak-Mitsui Technologies LLC (“OMT”) was formed as a limited liability company under Delaware law as a wholly owned subsidiary of Oak-Mitsui, Inc. on January 2, 2003. Ownership of the 80 First Street Site in Hoosick Falls, NY was transferred from Oak-Mitsui, Inc. to OMT by Deed dated May 22, 2019 and recorded on May 24, 2019. At the time of the transfer of ownership Oak-Mitsui, Inc. and OMT entered into an Assignment and Assumption Agreement pursuant to which OMT assumed the obligations of Oak-Mitsui, Inc. under the NYSDEC Order on Consent and Administrative Settlement, Index No. CO 4-20170511-208, dated as of September 8, 2017.

On June 1, 2019 Oak-Mitsui, Inc. transferred its ownership interest in OMT to Mitsui Mining & Smelting Co. LTD., 1-11-1 Osaki, Shinagawa ku, Tokyo Japan 141-8584. OMT offices are located at 1030 Hoover Boulevard, Frankfort, Kentucky USA 40601.

## **2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS**

### **2.1 PHYSICAL SETTING**

#### **2.1.1 Land Use**

The Site originally consisted of two former industrial buildings and a parking area surrounded by a chain link fence for security. The buildings were demolished in 2017 and what remained is concrete foundations and asphalt covered areas. A Site location map is provided in Figure 1 and a property boundaries map is provided in Figure 2. Tax Map Parcels 27.14-7.2, 27.14-7-3, and 27.14-8-19 comprise the Site property. According to the current Zoning Map on file with the

Village of Hoosick Falls (Barton and Loguidice, D.P.C. January 2015 Draft Existing Zoning Map of the Village of Hoosick Falls) parcels 27.14-7-3, 27.14-8-19 and the larger portion of parcel 27.14-7-2 is zoned for Industrial Use. The small extension of parcel 27.14-7-2 that is located to the south of the larger parcel is zoned for Commercial-Industrial Use and is currently used as a small parking lot across 1<sup>st</sup> Street. The small extension of parcel 27.14-7-2 that is located to the east of the larger parcel, along the Hoosic River on the east side of the elevated rail line is zoned for Residential use and is not included in the Environmental Easement or this SMP. The Site is currently vacant and undeveloped. Historic Site occupants include various industrial users such as a foundry, machine shop, coal manufacturing facility, paper mill machine manufacturing facility, and a copper foil manufacturing facility. Additional information about the Site's use history is included in Section 2.2.1.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include commercial and residential properties. The properties immediately south of the Site include residential properties; the properties immediately north of the Site include vacant/undeveloped properties; the properties immediately east of the Site include residential properties; and the properties to the west of the Site include residential properties.

### **2.1.2 Geology**

According to on-Site investigations completed by CHA between 2016 and 2020, shallow groundwater is found in poorly sorted silt, sand, gravel, and fill materials at an average depth of 12 feet below grade. A thick layer of less permeable glacial deposits (silt-rich clay) is situated between shallow groundwater and a deeper overburden aquifer, which consists of sand and gravel. Bedrock was not encountered during the previous on-site investigation by CHA; however, based on area studies completed by Environmental Resource Management (ERM) directly for Honeywell during the Site Characterization Work for Groundwater Investigation starting in July 2018 and finishing in December 2020, the depth to bedrock is variable and was encountered at a maximum depth of approximately 110 feet below the ground surface. Geologic cross sections A-A', B-B', and C-C' are shown in Figures 3, 4, and 5, respectively. Figure 6 shows the interpreted thickness of the clay and silt unit between the upper sandy unit and lower sands and gravels based on soil boring logs and spline interpolation methods using ArcGIS software. Site-specific boring logs are provided in Appendix B.

### 2.1.3 Hydrogeology

Groundwater generally occurs within the subsurface at average depths of approximately 9 feet to 16 feet below the ground surface (bgs) across the Site. Based on 2018 quarterly sampling events conducted by CHA, the groundwater generally flows in a northerly direction towards the Hoosic River. The water level variations throughout the year are most likely seasonal and do not indicate a change in the groundwater flow direction, which is continually to the north. Four groundwater wells were installed across the Site and sampled as part of a Phase 2 investigation conducted in 2016. Additional information about the groundwater investigation and remedial history as well as the remedial action objectives is included in Sections 2.2 and 2.3. A groundwater contour map is shown in Figures 7 and 8 for shallow and deep groundwater elevations, respectively. Groundwater elevation data is provided in Table 1. Groundwater monitoring well construction logs are provided in Appendix C.

No private or public potable water wells are identified within 0.25 miles of the Site. The Village of Hoosick Falls Municipal Wellfield is located approximately 0.8 miles south of the Site and along the east side of the Hoosic River. This groundwater source for drinking water is under the direct influence of surface water (from the nearby Hoosic River) and is classified and regulated as such by the New York State Department of Health (NYSDOH). The majority of monitoring wells constructed for the Site Characterization Program were abandoned as part of the Closure IRM and the few wells that remain (modified during the closure construction) will be utilized as downgradient wells for monitoring of another site not covered in this SMP.

Under the direction of ERM personnel during the Site Characterization for Groundwater Investigation, Cascade Technical Services, Inc. (Cascade) of Montpelier, Vermont, utilized the Waterloo APS™ Technology to continuously log the index of inferred hydraulic conductivity. These values are shown on the groundwater monitoring well construction logs in Appendix C.

## 2.2 INVESTIGATION AND REMEDIAL HISTORY

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

### 2.2.1 Site Use History

According to interpretations of the available Sanborn Fire Insurance maps, the Site was historically a mixture of industrial buildings with a few residential dwellings as far back as 1884. As industrial uses grew and expanded, the residential aspect faded away completely by late 1904. Previous industrial activities included the operation of a coal gas manufacturing facility by the Hoosick Falls Gaslight Company (and then the Fidelity Gas Company) from at least 1884 to at least 1910 on the southwestern portion of the Site; and the foundry and machine shop operations of the Pruyn Manufacturing Company (1891 to 1894), the Noble and Foss Machine Company (1894 to 1895), the Noble and Johnson Machine Company (1895 to 1902), and Nobel and Wood Machine Company (1902 to closure in 1973) on the northeastern side of the property. Oak Industries, Inc. purchased the former Noble and Wood Manufacturing facility in 1973 to house part of their Oak Materials Group operations. These operations involved the manufacture of laminates and specialty materials for use in circuit board applications. None of these operations involved the use of perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), or any chemical within the per- and poly-fluoroalkyl substances (PFAS) family of compounds.

From 1977 to 2001, the Site was used for high-volume manufacturing of copper foil and administrative offices. During this time:

- arsenic and copper were used in the manufacturing process.
- Chlorinated solvents were only used in nominal quantities at the facility for parts cleaning and glass-ware cleaning in the maintenance area and laboratory, respectively.
- Teflon/polytetrafluoroethylene (PTFE) type products or PFAS materials were not manufactured at the Site and PFOA, PFOS, or PFAS-containing dispersions, powders, or raw material components were not used. However, a small quantity of the service valves and piping installed at the facility contained Teflon/PTFE. For example, some of the valves in the facility over time had Teflon diaphragms or seals. Wherever possible, rubber diaphragms and seals were used due to the higher cost of Teflon components. In addition, a very limited number of the pipes at the facility were made of polyvinylidene fluoride (PVDF). Stainless Steel, polyvinyl chloride (PVC), chlorinated polyvinyl chloride (CPVC), and Fibercast (epoxy and vinyl ester) piping were used extensively in the facility.
- In addition to the small number of valves and piping that contained Teflon/PTFE at the facility, a very small quantity of Teflon/PTFE-coated fiberglass material products (manufactured by others) were used at the Site to conduct copper foil peel strength testing. Several plies of the Teflon/PTFE-coated fiberglass material provided by customers (Oak Laminates, AlliedSignal Laminates, Taconic Plastics, Keene, Arlon) made a small (8" by 10") epoxy resin laminate with their copper foil for peel strength testing. This testing was typically done twice a month. After peel strength testing was complete, the test materials were disposed of as non-hazardous waste. At peak production levels, approximately 1 to 2

pounds of waste may have generated per month. These testing operations started in the 1990s and ended in June 2001, when commercial production of copper foil stopped. Again, Teflon/PTFE type products or PFAS materials were not manufactured at the Site, nor were any PFOA, PFOS, or PFAS-containing dispersions, powders, or raw material components used at the Site.

From mid-2001 to 2015, the Site was used for administrative offices and other activities as follows:

- From 2005 to 2010, the Site was used for pilot scale (research and development) copper foil electroplating. This process utilized some of the copper foil manufacturing equipment that had remained at the Site from the high-volume manufacturing period.
- From 2003 to 2015, FaradFlex products were produced at the Site using heat & pressure to bond two pieces of adhesive-coated copper foil to either side of an insulating film. The adhesive coated copper foil was purchased from suppliers in Japan and Malaysia. The insulating film was also purchased from overseas suppliers. A large heated hydraulic press was installed along with other sheeting & collating equipment to manufacture this product.
- In 2015, the FaradFlex manufacturing operations were moved to Malaysia. The remaining administration staff were moved to leased office space at 8 John Street, Hoosick Falls and Plant operations ceased. In the summer of 2017, Site buildings were demolished.

### **2.2.2 Phase I and Phase II Limited Subsurface Environmental Investigation – 2016**

CHA completed individual Phase I Environmental Site Assessment (ESA) and Phase II Limited Subsurface Environmental Investigations at the Site in 2016 to evaluate the subsurface (and sub-slab) soil conditions and groundwater conditions in and around the formerly active areas of the Site. Investigation activities focused on former operational areas, former chemical and hazardous waste storage areas, and certain building structures such as a trench or sump. Samples collected during the Phase I and Phase II work were analyzed for metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and polychlorinated biphenyls (PCBs). The following summarizes the findings of the investigations:

- Subsurface and sub-slab soils were impacted with metal concentrations exceeding NYSDEC Industrial Use Soil Cleanup Objectives (SCOs) outlined in Title 6 NYCRR Part 375. The metal concentrations are most likely due to on-site operations and historical industrial uses as described in Section 2.2.1 dating back to the late 1800s.
- The areas of highest metal concentrations exceeding Industrial Use SCOs within the subsurface soils include the areas of Treaters 2 & 3, Treaters 4 & 5, Drum Deck Area, Dissolved Area (Filter Side), QA Lab Area, 11-20 Spent Tank Area, Wastewater Treatment Area and well MW-2 Area (see Figure 9). Detected metal concentrations decreased with depth except in eight locations.

- Subsurface and sub-slab soils were also impacted with low levels of SVOCs which were most likely attributed to the historic fill that was observed in the subsurface during this investigation.
- Four groundwater wells were installed across the Site and sampled as part of the Phase 2 investigation. The wells were sampled quarterly in 2017. Metals in the groundwater samples were either non-detect or below the NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 values.
- The pH levels for the groundwater samples ranged from 6.7 to 7.3, indicating that the metal compounds detected within the shallow soils had not affected the quality of the on-site groundwater.

### **2.2.3 Limited Investigations of Alleged Buried Drums and Arsenic Acid Container – September 2017**

In 2017, an anonymous call was made to the NYSDEC in which the caller claimed approximately 50 or more pallets of 55-gallon drums were buried during the mid-1970s in the north/northwestern portion of the above-referenced property. The alleged drums reportedly contained sludge from the on-site wastewater system and other chemical mixtures that could not be disposed of at the time and therefore were said to be buried and paved over. In addition, the caller also reported that a five-gallon container of arsenic acid was buried in a concrete footing during the construction of a recirculation tank in the former spent tank area of the on-site building. CHA completed subsurface investigations in the areas identified by the caller to confirm the presence or non-existence of alleged buried drums and the arsenic acid container. CHA completed the limited investigations per the NYSDEC-approved Work Plan for Limited Investigations of Alleged Buried Drums and Arsenic Acid Container, dated September 8, 2017. This investigation concluded the following:

- Of the seven test pits excavated within the northern portion of the Site, field screenings performed with a photoionization detector (PID) did not indicate the presence of volatile organic vapors in any of the test pit locations. No evidence of buried drums was observed in any of the test pits completed.
- Composite samples were taken of the concrete in the area of the suspected buried arsenic acid container and a bucket assumed to be the reported arsenic container, was removed and disposed of off-site. Analysis of the composite samples indicates the presence of arsenic in the concrete and surrounding soil. The soil in the area was removed as part of the Interim Remedial Measures and is summarized in the Interim Remedial Measures Work Plan (IRMWP) - November 2017, Addendum IRMWP August 2019, and Construction Competition Report - November 2020.

## 2.2.4 Interim Remedial Measures Work Plan – November 2017

A Soil Removal IRMWP (CHA, November 2017), approved by NYSDEC in January 2018, provided the plan and methodology for the excavation of soil in exceedance of the Industrial Use SCOs. In summary the IRMWP:

- Established procedures and methodology for the excavation soil in twelve areas of concern (AOCs) and the expansion of excavation areas as needed based on confirmation sampling exceedances.
- Established Site controls to minimize the potential for detrimental impacts to the environment and human health associated with the proposed excavations and handling of impacted soils.
- Provided remedial action project plans for the work, such as:
  - Health and Safety Plan (HASP)
  - Community Air Monitoring Plan (CAMP)
  - Field Sampling Plan (FSP)
  - Quality Assurance Project Plan (QAPP)
- Established waste characterization and fluids management requirements
- Provided details on confirmation sampling

A complete summary of the work can be found within the Construction Competition Report (CCR) submitted and approved by the NYSDEC in December 2020. An addendum to the IRMWP was prepared in August 2019 and is described in Section 2.2.5.

## 2.2.5 Addendum Interim Remedial Measures Work Plan – Revised August 2019

An addendum to the Soil Removal IRMWP (CHA August 2019) was approved by NYSDEC in August 2019 to define the implementation of additional measures after seven of the twelve excavations completed during the interim remedial measures (IRM) activities were left open and unfilled pending the completion of the Site Characterization activities described in Section 2.2.6, and 2.3.7. In summary the addendum IRMWP:

- Established procedures and methodology for the dewatering, treatment, and backfilling of the storage pit identified during the Site Characterization activities on the northern portion of the Site near the eastern boundary. This included treating the PFAS-contaminated water in the pit with a two-granular activated carbon (GAC) treatment system before discharge to the Hoosic River.
- Established backfilling procedures using imported material
- Provided updates to the remedial action project plans developed for the IRMWP

- Established waste characterization and fluids management requirements
- Provided details on confirmation sampling

The results of the work performed, and samples collected are included in the CCR submitted and approved by the NYSDEC in December 2020 and described in Section 2.2.10.

### **2.2.6 Site Characterization Work Plan for Soil Investigation – April 2018**

A Site Characterization Work Plan (SCWP) (CHA, April 2018) was approved by NYSDEC in April 2018 and describes the investigation and technologies used to determine whether the Site soils posed a threat to public health and the environment. In summary the SCWP for Soil Investigation:

- Proposed investigation activities, including:
  - Subsurface/utility clearance
  - Installation of a series of soil borings
  - Collection and analysis of soil samples for parameters of concern
  - Installation of groundwater monitoring and groundwater sampling as described in the SCWP for Groundwater Investigation developed by ERM (for Honeywell) and described in Section 2.2.7.
- Provided procedures for decontamination and investigation of derived waste
- Provided remedial action project plans

The results of the work performed, and samples collected are included in the Final Site Characterization Report (SCR) submitted and approved by the NYSDEC in January 2021 and described in Section 2.2.11.

### **2.2.7 Site Characterization Work Plan for Groundwater Investigation – July 2018**

Pursuant to the Order on Consent, an additional Responsible Party, Honeywell, agreed to conduct a groundwater investigation at the Site. As part of the SCWP developed by CHA in April 2018, ERM, Honeywell's consultant, developed a complementary SCWP, approved by NYSDEC in April 2018, to describe the investigation and technology utilized to determine whether the Site groundwater posed a threat to public health and the environment. In summary the SCWP for Groundwater Investigation:

- Established the first phase groundwater characterization program and provided the procedures for employing permeability profiling of overburden geologic units to identify the potential placement of new groundwater monitoring wells.



- Established methodology for groundwater sampling performed at the groundwater profiling locations to determine target locations of fixed monitoring wells that were planned for installation during Phase 2 of the Site Characterization (SC) and used to expedite the screening of PFAS.
- Established PFAS sampling considerations and procedures.
- Established protocols for monthly progress reports being submitted to NYSDEC following the approval of the Groundwater SCWP and continuing until the termination of the Order on Consent.

The results of the work performed, and samples collected are included in the Final SCR submitted and approved by the NYSDEC in January 2021 and described in Section 2.2.11.

### **2.2.8 Geologic Boring and Monitoring Well Location Plan – May 2019**

A second phase of the groundwater characterization program was completed following the approved ERM's May 1, 2019, Geologic Boring and Monitoring Well Location Plan. The conclusions of this investigation are summarized in the Final SCR prepared by CHA and approved by NYSDEC in January 2021.

### **2.2.9 Revised Ortho and Thermal Imaging Work Plan for Portions of the Hoosic River Using Drone Technology – October 2019**

The Revised Ortho and Thermal Imaging Work Plan was prepared by ERM in October 2019. The conclusions of this investigation are summarized in the Final SCR prepared by CHA and approved by NYSDEC in January 2021.

### **2.2.10 Construction Completion Report – April 2020, Revised November 2020**

The CCR was prepared by CHA in April 2020, revised in November 2020, and approved by NYSDEC in December 2020. The CCR describes the conclusions from the IRMWP, and Addendum IRMWP described in Section 2.2.4, and Section 2.2.5, respectively. CHA (for Oak-Mitsui) provided oversight for the removal of approximately 3,774 tons of contaminated soil as an Interim Remedial Measure - Targeted Soil Removals Program in February 2018. As described in Section 2.2.5 a second phase of IRM work activities to address one area of impounded water and restore all open excavations to grade was completed in late 2019 consistent with an approved IRMWP Addendum. Section 2.2.11 summarizes the results and conclusions related to arsenic-contaminated soil that was excavated during the IRM activities as part of the Site Characterization

Program. The dewatering and treatment of the water in the storage pit as described in the Addendum IRMWP concluded the following:

- An estimated 117,747 gallons of water was pumped through the treatment system and discharged to the Hoosic River after the basement basin dewatering and treatment work.
- Performance monitoring confirmed a stepped reduction in PFOA and PFOS concentrations through the system during the dewatering and treatment work.
- Concentrations of PFOA in the final effluent downstream of the lag vessel ranged between non-detect and 1.9 parts per trillion (ppt), while the concentrations of PFOS in the final effluent ranged between non-detect and an estimated value of 0.496 ppt.
- Results for the set of samples analyzed for the other parameters stipulated in the State Pollutant Discharge Elimination System (SPDES) Permit Equivalent (total dissolved solids, total suspended solids, total settleable solids, pH, and oil and grease) were within the established limits.
- Field measurements of dissolved oxygen were also within established limits.

In December 2017, following the completion of IRM soil excavations and removal activities the excavation areas in the following AOCs (Figure 10) were filled to grade with excavated material approved for backfill and approved imported material:

- AOC 3 at the west end of Foil Treaters 2 and 3; AOC 5 in the Drum Deck Area; AOC 6 in the Spent Tank Area for Cells 11-20; AOC 9 near the QC Lab; and AOC 10 in the Water Treatment Area near the Copper Press

In December 2019, following the second phase of IRM activities the excavation areas in the following AOCs were filled to grade with excavated material approved for backfill and approved imported material:

- AOC 1 and AOC 2 in the vicinity of Foil Treaters 4 and 5, AOC 4 in the vicinity of Foil Treaters 2 and 3, AOC 7 in the Spent Tank Area for Cells 1-10, AOC 8 in the Dissolving Area near the Filtration System, AOC 11 in the Water Treatment Area near the Arsenic Lamella Pit and near monitoring well MW-2, and AOC 12 in the vicinity of Borings B-21 and C-5 at the northern end of Site, along the western boundary.

### **2.2.11 Final Site Characterization Report – January 2021**

The Final SCR was prepared by both CHA (for OMT) and ERM (for Honeywell) and approved by NYSDEC in January 2021. All initial Site characterization activities were accomplished following the approved editions of CHA's Revised Site Characterization Work Plan for Soil Investigation, ERM's Revised Site Characterization Work Plan for Groundwater Investigation, ERM's Geologic Boring and Monitoring Well Location Plan, and associated documents

referenced above. Based on the results of these various remedial work activities, CHA concluded the following:

- Based on the detection of arsenic in the soil, excavation in 12 areas of concern was performed. In most cases, arsenic-contaminated soil was entirely removed except where further excavation could not safely be completed without compromising structures or embankments. Note that arsenic in those locations was located greater than four feet below grade.
- No VOCs, PCBs, or pesticides were detected above Commercial Use SCOs. Only two SVOCs were detected at a concentration exceeding the Industrial Use SCO and both were located greater than four feet below grade. PFAS, which currently only have a guidance value, were detected in numerous soil samples across the Site with no exceedances of the Commercial Use SCO.
- Several chlorinated VOC compounds were found in the groundwater, but concentrations ranged from non-detect to 6.29 micrograms per liter ( $\mu\text{g/l}$ ) in the shallowest zone. Higher concentrations of VOCs are present in a deeper sand and gravel unit located beneath a clay aquitard. These results, combined with an absence of VOCs in soils, indicate the Site is not a source of the VOCs.
- Arsenic was only detected in one groundwater sample at a concentration exceeding the groundwater standard at the south end of the Site. Copper was detected in concentrations exceeding the groundwater standard in several wells, none of which were located in the most downgradient position(s) on the Site. Based on the data, it does not appear that either arsenic or copper are migrating off-site in concentrations exceeding their respective groundwater standards.
- PFOA and other PFAS were not known to have been used on-Site by Oak-Mitsui. However, PFOA was detected in many wells across the Site. While there is some overlap, the concentrations in the shallow wells are generally lower than in the deeper wells (360-1200 nanograms per liter [ $\text{ng/L}$ ] versus 420-2200  $\text{ng/L}$ ), respectively.

Based on the analytical results and conclusions of the Site Characterization Program, CHA concluded that the threat, if any, to human health and the environment can be addressed as follows:

- Install an impermeable cap over the former manufacturing plant area
- Create a naturally landscaped area in the southwestern portion of the Site
- Prepare a Site Management Plan
- Record an Environmental Easement to restrict any use of groundwater from the Site (either for potable or non-potable use) and to limit future excavations on the Site.

Note that based on additional considerations, further described in Sections 2.2.13, 2.2.14 and 2.2.15, the concept of an impermeable cap was changed to a permeable soil cover system.

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### **2.2.12 Supplemental Site Characterization Work Plan and Soil Sampling Results – March 2021 and May 2021**

In March 2021, CHA collected additional soil samples on the eastern-most portion of parcel 27.14-7-2 located on the east side of the railroad tracks. The purpose of the sampling program was to determine if any further remedial activities were warranted in this area. This portion of the parcel is zoned for residential use. The sampling results, dated May 10, 2021, verified that none of the compounds, substances, or metals detected in this area exceeded the applicable Residential Use SCOs under 6 NYCRR Part 375 and that no further investigation or remediation was necessary on that portion of the parcel.

### **2.2.13 Potential Site Re-Use**

In 2019, during the Site characterization work, OMT did not have any plans for re-development of the Site.

In 2021, representatives from OMT, Honeywell and the Village of Hoosick Falls met to discuss potential redevelopment of the site into a park with informal play fields, picnic areas, playground areas, and a “hill” feature.

The Closure IRM Work Plan represents only OMT’s and Honeywell's interest in site closure in accordance with NYSDEC requirements and to effectively meet the Restricted Residential SCOs for Active and Passive Recreational Use under 6 NYCRR Part 375.

### **2.2.14 NYSDEC Correspondence – Path Forward - Guidance to Closure: February 2021**

In February 2021, NYSDEC issued a letter to OMT and Honeywell providing guidance from the Department relative to site closure. The letter is included in Appendix D.

### **2.2.15 Site Closure IRM Work Plan – Revised August 2021**

Following NYSDEC’s guidance for Site Closure, CHA prepared a Site Closure IRMWP summarizing the activities to be implemented. In summary, the Site Closure IRMWP includes the following construction of a twelve (12) inch thick soil cover system that incorporates the existing surface materials as the base of the overall cover and includes a six (6) inch gravel layer that will serve as an underdrain and six (6) inches of topsoil of sufficient quality to support a vegetative layer. The proposed cover system would exceed the minimum requirements to meet Industrial Use

SCOs and will meet the Restricted Residential SCOs for Active and Passive Recreational Use under 6 NYCRR Part 375.

- Construction of a storm sewer corridor
- Relocation of Fill Materials Placed During the 2017 Limited Investigations Program
- Relocation of Fill Materials Placed During the 2018 Gas Holder Exploration Program
- Construction of a Tree Buffer Corridor
- Assess and Address the Retaining Wall and Coal Slides/Chutes
- Construction of a "Hill" feature based on discussions with the Village of Hoosick Falls regarding their future plans
- Groundwater Monitoring Well Retrofitting/Abandonment

### **2.2.16 Implementation of the Site Closure Plan – May 2022**

Following the approval of the Site Closure IRM Work Plan, and based on potential concepts for future redevelopment, OMT and Honeywell volunteered to increase the thickness of the soil cover system to 24 inches (2 feet). The system includes a six (6) inch gravel underdrain, a twelve (12) inch thick common soil layer, and a six (6) inch topsoil layer. Additionally, for safety concerns, OMT and Honeywell, decided to bury the concrete retaining wall instead of constructing a safety railing along the top. This eliminated the separate need for a “hill” as envisioned in the Village’s future use plan. As recommended by CHA, OMT opted to install a cover system over the entire Site to address potential threats the Site posed to human health and the environment. Installation of the soil cover system cap and the other project elements began in May 2022 and was completed in August 2022. A full description of all of the remedial actions completed for the Site is provided in the Final Engineering Report (FER).

## **2.3 REMEDIAL ACTION OBJECTIVES**

The Remedial Action Objectives (RAOs) for the Site as listed in the Site Closure IRMWP dated August 2021 are as follows:

### **2.3.1 Groundwater**

#### **2.3.1.1 RAOs for Public Health Protection**

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

#### 2.3.1.2 RAOs for Environmental Protection

- Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

### 2.3.2 Soil

#### 2.3.2.1 RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure to contaminants volatilizing from contaminants in soil.

#### 2.3.2.2 RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

### 2.4.5 Soil Vapor

#### 2.4.5.1 RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into future buildings at a site.

## 2.4 REMAINING CONTAMINATION

### 2.4.1 Soil

Following the completion of the AOC excavations, confirmatory samples were collected from the bounding floor and/or walls of the final excavation pits using the excavator bucket to document the remaining contamination levels at the Site. Table 2 summarizes the results of all soil samples collected that exceed the Unrestricted Use SCOs, Commercial Use SCOs, Industrial Use SCOs, and the Protection of groundwater and Ecological resources SCOs at the Site after completion of remedial action. The full data report is included in the Final SCR approved by NYSDEC in January

2021 and is summarized below:

- The major contaminants identified above the Commercial Use SCOs, Industrial Use SCOs, and the Protection of groundwater and Ecological Resources SCOs, in the soil samples are VOCs, SVOCs, pesticides, PCBs, metals and cyanide, PFAS, and 1,4-Dioxane.
- No VOCs, PCBs, or Pesticides were detected above Commercial Use SCOs.
- Only two SVOCs were detected at a concentration exceeding the Industrial Use SCO and both were located greater than 4 feet below grade.
- PFAS, which as of January 2021 only had a guidance value, were detected in numerous soil samples across the Site with no exceedances of the Commercial Use SCO.

Soil sampling locations where any result exceeds the applicable Industrial Use SCOs are shown in Figure 11. Figure 12 reflects exceedances of Commercial Use SCOs, and Figure 13 reflects exceedances of Protection of Groundwater and Ecological Resources SCOs.

#### 2.4.1.1 Depth to Remaining Contamination

Exposure to remaining contamination at the Site is prevented by a cover system placed over the Site, and in many places on the Site, the former asphalt parking lot and concrete building foundations remain in place and serve as an additional barrier.

This cover system described in Section 2.2.16 provides a total thickness of two (2) feet of cover and the asphalt/concrete surfaces provide up to an additional 1 foot of protection, therefore; the depth to remaining contamination on most of the Site is a minimum of two (2) feet below the ground surface.

In the AOCs excavated during the IRM – Targeted Soil Removal, remaining contamination is located a minimum of two (2) feet below the cover system. Therefore, in the following areas, a minimum of four (4) feet of clean soil/gravel is located between the Site’s surface and the remaining contamination:

- Storage Pit that required dewatering and other pits and/or sub-basement areas (See Section 2.2.5).
- All areas where arsenic contaminated soil was detected, and contaminated soil was removed. In areas where contaminated soil could not safely be removed (AOC 4 Eastern Portion of Foil treaters 2 and 3 and AOC 8 Dissolving Area near the Filtration System) arsenic was detected at locations greater than four feet below the bottom of the current cover system.

## 2.4.2 Groundwater

During the Site Characterization Program, numerous wells were installed and sampled in three different hydrostratigraphic zones. The full data report is included in the Final SCR approved by NYSDEC in January 2021 and summarized below:

- Several chlorinated VOC compounds were found in the groundwater, but concentrations range from non-detect to 6.29 µg/l in the shallowest zone. Higher concentrations of VOCs are present in a deeper sand and gravel unit located beneath a clay aquitard. These results, combined with an absence of VOCs in soils, indicate the Site is not a source of the VOCs.
- Arsenic was only detected in one groundwater sample at the south end of the Site at a concentration exceeding the groundwater standard. Copper was detected in concentrations exceeding the groundwater standard in several wells, but none in wells in the most downgradient location position on the Site. Based on the data, it does not appear that either arsenic or copper are migrating off-site in concentrations exceeding their respective groundwater standards.
- PFOA and other PFAS were not known to have been used on-Site by Oak-Mitsui. However, PFOA was detected in many wells across the Site. While there is some overlap, the concentrations in the shallow wells are generally lower than in the deeper wells (360-1200 ng/L vs. 420-2200 ng/L), respectively.

As described in Section 2.2.7, Site characterization activities involved groundwater assessment using the Waterloo Advanced Profiling System (APS™). Table 3 shows the analytical results for VOCs, SVOCs, pesticides, PCBs, metals, and cyanide for groundwater APS Samples. Table 4 shows the analytical results for VOCs SVOCs, pesticides, PCBs, metals, and cyanide for groundwater samples from monitoring wells. Table 5 shows the analytical results for PFAS, total organic carbon, and pH for groundwater APS samples. Table 6 shows the analytical results for PFAS, total organic carbon, and pH for groundwater samples from monitoring wells. Figure 14 summarizes the VOC results of all samples of groundwater that exceed the Standards, Criteria, Guidelines (SCGs) after completion of the remedial action. Figure 15 summarizes the SVOC results in groundwater, Figure 16 summarizes the PFOA results in shallow groundwater, and Figure 17 summarizes the copper results in groundwater.



### **3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN**

#### **3.1 GENERAL**

Since remaining contamination exists at the Site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC project manager.

This plan provides:

- A description of all IC/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix F) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the Site remedy, as determined by the NYSDEC project manager.

#### **3.2 INSTITUTIONAL CONTROLS**

A series of ICs is required by the Site Closure IRM Work Plan to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the Site to restricted residential, commercial and industrial use only. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 2. These ICs are:

- The property may be used for: restricted residential, commercial and industrial use, although the property is currently only zoned for industrial use.
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;

- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Rensselaer Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Data and information pertinent to Site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any physical component of the remedy shall be performed as defined in this SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted in Appendix A, and any potential impacts that are identified must be monitored or mitigated in accordance with NYSDEC requirements. Installation of a vapor intrusion mitigation system for each building developed will eliminate a requirement to evaluate potential vapor intrusion;
- Vegetable gardens and farming on the Site are prohibited; and
- An evaluation shall be performed to determine the need for further investigation and remediation should large scale redevelopment occur.

### **3.3 ENGINEERING CONTROLS**

#### **3.3.1 Cover and Cap**

Exposure to remaining contamination at the Site is prevented by a cover system placed over the Site. This cover system is comprised of a minimum of six (6) inches of gravel as an underdrain layer for the added cover, a minimum of twelve (12) inches of barrier soil, and finally, a minimum of six (6) additional inches of topsoil with sufficient quality to support a vegetative layer. Figure 18 shows a survey of the Site prior to construction of the cover system. Figure 19 presents the location of the cover system and applicable demarcation layers. The bottom of the six-inch thick gravel underdrain layer provides a visible indicator of the bottom of the soil cover layer and serves as a demarcation layer.

Appendix E includes an As-Built Demolition Plan, an As-Built Plan for Site Improvements, and

an As-Built Plan depicting a cross-section of the cover system. Soils imported to the site for use in the cover system were tested in accordance with NYSDEC guidelines (analytical data is included in the Final Engineering Report) and all cover soils met the Part 375 Soil Cleanup Objectives for a future restricted residential use and were approved by NYSDEC prior to importation. Therefore, all the RAOs have been achieved for the cover soils.

The Excavation Work Plan (EWP) provided in Appendix F outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) (Appendix G) and associated Community Air Monitoring Plan (CAMP) prepared for the Site [Note: a generic CAMP has been created, and is included in Section 14.0 of the EWP] provided in Appendix F. Any disturbance of the Site's cover system must be overseen by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Appendix H includes a copy of the request to import reuse fill material form that must be used in the event of construction occurring on the site that requests importing of soil.

### **3.3.2 Criteria for Completion of Remediation/Termination of Remedial Systems**

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the Site Closure IRMWP. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the Site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

The Site Owner is not required to implement a groundwater monitoring program for the Site. Rather the remaining monitoring wells on the Site will be used as down-gradient monitoring points for another Site. When the remaining monitoring wells are no longer required for down-gradient monitoring by Honeywell, Honeywell will decommission all Site-related monitoring wells as per the NYSDEC's "CP-43: Groundwater Monitoring Well Decommissioning Procedures" policy.

The remedial parties will also conduct any needed Site restoration activities, such as repairs to the Site's cover system. Also, the remedial parties will ensure that no ongoing erosion is occurring on the Site.

### 3.3.2.1 Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP. The inspections will be conducted quarterly in year one (after completion of the Site Closure), semiannually in year two, and annually in year three through thirty (or less if approved by the NYSDEC).

### 3.3.3 Other Site Features

Note that the Site Owner has included some other features in the Site Closure on a voluntary basis. These include a perimeter fence for Site security, a tree buffer along Nixon Street for visual screening, and a repaved parking area. These Site features are not required elements of engineering controls.

Historically, storm sewer lines ran under the Former Oak-Mitsui building that has since been demolished leaving the piping's integrity unknown. As part of the Site closure activities, the storm sewer piping was replaced with new corrugated high-density polyethylene (HDPE) piping and rerouted across the facility around the former plant foundations in a defined utility corridor. In the section of storm sewer that crosses the Site from east to west, clean, imported bedding material and soil were used to backfill and complete the installation of the new storm sewer utility corridor to grade. As a result of this work, there is no remaining contamination from the Site in the new sewer utility corridor.

A second section of storm sewer was added along the western portion of the Site to connect to the previously permitted outfall and existing Site soils were used to backfill the utility trench in this corridor.

Note that the materials for the storm sewer piping and catch basins were provided by the Village of Hoosick Falls. The storm sewer collects stormwater from the west end of First Street. The storm sewer will be maintained by the Village of Hoosick Falls.

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## 4.0 MONITORING AND SAMPLING PLAN

There will be no media monitoring or sampling required at the Site after the installation of the cover system. Several monitoring wells constructed during the Site Characterization Program were abandoned during the Site Closure IRM. As previously described, other monitoring wells were retrofitted due to the addition of the soil cover system but will be used for down-gradient monitoring of other nearby sites. Figure 18 shows the monitoring wells that will remain at the Site. Information regarding the soil boring and groundwater monitoring well construction logs is provided in Appendix B and C, respectively.

### 4.1 SITE-WIDE INSPECTION

Site-wide inspections will be performed quarterly in the first year after the Site Closure IRM is completed, then semiannually for years two and then annually thereafter from years three through thirty unless otherwise approved by NYSDEC. These periodic inspections must be conducted when the ground surface is visible (i.e. no snow cover). Site-wide inspections will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix I – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that Site records are up to date.

Inspections of all remedial components installed at the Site will be conducted. A comprehensive Site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the

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following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If Site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, verbal notice to the NYSDEC project manager must be given by noon of the following day. In addition, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the Site by a qualified environmental professional, as defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

#### **4.2 TREATMENT SYSTEM MONITORING AND SAMPLING**

There are no treatment ECs on the Site that require monitoring and sampling. As described in Sections 6.0 and 7.0, the cover system will be inspected according to the schedule to verify and remedy (as-needed) cover system deficiencies.

#### **4.3 POST-REMEDATION MEDIA MONITORING AND SAMPLING**

Media monitoring and sampling is not required at the Site. As described in Section 6.0 and Section 7.0 the cover system and other Site components will be inspected at the intervals described in Section 4.1.

## **5.0 OPERATION AND MAINTENANCE PLAN**

### **5.1 GENERAL**

The Site remedy does not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP. Should a Soil Vapor Intrusion (SVI) system be installed in the future, associated with construction of any future buildings, this Operation and Maintenance (O&M) Plan will be amended to describe this system.

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## **6.0 PERIODIC ASSESSMENTS/EVALUATIONS**

### **6.1 CLIMATE CHANGE VULNERABILITY ASSESSMENT**

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given Site and associated remedial systems. Vulnerability assessments provide information so that the Site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the Site during periodic assessments, and briefly summarizes the vulnerability of the Site and/or engineering controls to severe storms/weather events and associated flooding.

Based on a review of the Federal Emergency Management Agency (FEMA) mapping, nearly all the once active areas of the Site are outside of the 100-year and 500-year flood zones, due mostly to the protection afforded by the Flood Control Structure along the western and northern boundaries of the Site. Only a small, narrow portion of the Site immediately east of the Flood Control Structure is mapped within the 500-year flood zone. The area between the Flood Control Structure and the river is mapped within the 100-year flood zone but represents a small portion of the Site. Mapping will be reviewed periodically to determine if any changes in the flood potential has occurred.

For post-closure stormwater management, the cover system will be graded to drain to the rock-filled drainage swale on the western portion of the Site; therefore, flooding and erosion due to severe rain events are anticipated to be minimal. Areas that may be impacted by wind would be trees/plantings along the southeast border of the Site. There are no long-term remedial systems that would be impacted by power loss. Due to the Site being vacant there is no anticipated storage of materials on-site that would be susceptible to a spill or other contaminant release due to storm-related damage.

### **6.2 GREEN REMEDIATION EVALUATION**

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including Site management, with the goal



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of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the Site during Site management, and as reported in the Periodic Review Report (PRR).

There are no mechanical remedial systems, buildings, or security systems that require electricity or water and no systems that generate waste or result in emissions at the Site. The installation of a soil cover system with a vegetative layer and the installation of a tree buffer are expected to reduce stormwater runoff and provide a better habitat that had previously existed before the completion of the remedy of the Site when much of the surface consisted of impervious surfaces or bare soil. Accordingly, no green remediation evaluations will be performed as part of the periodic reporting process.

### **6.2.1 Frequency of System Checks, Sampling and Other Periodic Activities**

There will be no monitoring or sampling of soil, groundwater, sediment, etc., so there are no annual direct and indirect energy consumption. As previously described, inspections of the Site will be performed at least annually by a qualified environmental professional. The inspection forms are included in Appendix I.

## 7.0 REPORTING REQUIREMENTS

### 7.1 SITE MANAGEMENT REPORTS

All Site management inspection, maintenance and monitoring events will be recorded on the appropriate Site management forms provided in Appendix I. These forms are subject to NYSDEC revision. All Site management inspection, maintenance, and monitoring events will be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 7.1 and summarized in the Periodic Review Report.

**Table 7-1. Schedule of Interim Monitoring/Inspection Reports**

Task/Report	Reporting Frequency*
Site Inspection	Quarterly in year one, semiannually in year two , and annually in years three through thirty (unless otherwise approved by NYSDEC.
Periodic Review Report	Annually, or as otherwise approved by the NYSDEC

*\* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC project manager.*

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Any observations, conclusions, or recommendations.

## 7.2 PERIODIC REVIEW REPORT

A Periodic Review Report (PRR) will be submitted to the NYSDEC project manager beginning sixteen (16) months after the Certificate of Completion is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the NYSDEC project manager or at another frequency as may be required or approved by the NYSDEC project manager. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site described in Appendix A – Environmental Easement. The report will be prepared in accordance with NYSDEC’s DER-10 and submitted within 30 days of the end of each certification period. Media sampling results, if any, will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site.
- Results of the required annual Site inspections, and severe condition inspections, if applicable.
- All applicable Site management forms and other records generated for the Site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- A Site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Site Closure IRMWP
  - Any new conclusions or observations regarding Site contamination based on inspections and
  - The overall performance and effectiveness of the remedy.

### 7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional as defined in 6 NYCRR Part 375 will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

*“For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:*

- *The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;*
- *Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the Site is compliant with the environmental easement;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

*I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the Site."*

If an unanticipated engineering evaluation is necessary to evaluate the effectiveness of the cover system, or an unanticipated reevaluation of the cover system is necessary, the following certification will be added by a Professional Engineer as defined in 6 NYCRR Part 375.

*"I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report."*

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The Periodic Review Report may also need to be submitted in hard-copy format if requested by the NYSDEC project manager.

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### **7.3 CORRECTIVE MEASURES WORK PLAN**

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control or failure to conduct Site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC project manager.

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## 8.0 REFERENCES

6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – “Technical Guidance for Site Investigation and Remediation”.

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

Phase I and Phase II Limited Subsurface Investigation Report, Oak-Mitsui Facility, CHA Consulting, Inc., February 2017.

Work Plan for Limited Investigation of Alleged Buried Drums and Acid Container Report, Former Oak-Mitsui Facility, CHA Consulting, Inc., August 2017.

Limited Investigation of Alleged Buried Drums and Acid Container Report, Former Oak-Mitsui Facility, CHA Consulting, Inc., February 2018.

Interim Remedial Measures Work Plan, Former Oak-Mitsui Facility, CHA Consulting, Inc., November 2017.

Addendum Interim Remedial Measures Work Plan, Former Oak-Mitsui Facility, CHA Consulting, Inc., August 2019.

Draft Site Characterization Work Plan, Former Oak-Mitsui Facility, CHA Consulting, Inc., July 2018

Site Characterization Work Plan for Soil Investigation, Former Oak-Mitsui Facility, CHA Consulting, Inc., April 2018

Site Characterization Work Plan for Groundwater Investigation, Honeywell, Former Oak-Mitsui Facility, Environmental Resource Management, July 2018.

Geologic Boring and Monitoring Well Location Plan, Honeywell, Former Oak-Mitsui Facility, Environmental Resource Management, May 2018.

Revised Ortho and Thermal Image Work Plan, Honeywell, Former Oak-Mitsui Facility, Environmental Resource Management, October 2019.

Final Site Characterization Report, Former Oak-Mitsui Facility, CHA Consulting, Inc. and Environmental Resource Management, January 2021.

Construction Competition Report, Former Oak-Mitsui Facility, CHA Consulting, Inc., Revised November 2020.

NYSDEC Path Forward – Guidance for Closure of Former Oak-Mitsui Facility, NYSDEC, February 2021.

Supplemental Site Characterization Work Plan, Former Oak-Mitsui Facility, CHA Consulting, Inc., May 2021.

Site Closure IRM Work Plan, Former Oak-Mitsui Facility, CHA Consulting, Inc., August 2021.