

The South Meadows Redevelopment Considerations Study



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EXECUTIVE SUMMARY

MIRA Dissolution Authority and Study Purpose and Role

The MIRA Dissolution Authority (“MDA”) was created by an act of the State of Connecticut Legislature – Public Act 23-170, effective July 1, 2023. As a result of this legislation, the Authority replaced the existing Materials Innovation and Recycling Authority (MIRA). MDA assumed MIRA’s statutory duties and responsibilities, control over all of MIRA’s assets, authorities and capabilities during the dissolution process. Upon conclusion of this dissolution process (currently anticipated as early as July 1, 2025, but not later than July 1, 2026) any remaining rights, real or personal property of the Authority will pass to and vest in the State of Connecticut - including, but not limited to, the South Meadows Site.

The MDA selected Weston & Sampson to conduct a study of the Site, known as the South Meadows Redevelopment Considerations Study (Study), to identify both the immediate environmental needs and information necessary for potential future redevelopment of the South Meadows Site.

Potential Future Uses Defined

The following potential uses were identified to be included in this Study:

- Industrial / Commercial Activities as defined in the Connecticut Department of Energy and Environmental Protection (CT DEEP) Remediation Standard Regulations (RSRs);
- Residential Activities as defined in the RSRs;
- A combination of such activities on separate portions of the Site.

Community Outreach Program

The Community Outreach Program had two main goals – first, to keep the public informed of the Study process and results and second, to solicit feedback from the public and stakeholders on Site environmental concerns and what future uses of the Site should be considered to improve both the immediate neighborhood and Hartford region overall.

Public Meetings - A total of three public meetings were approved for the Study. The first was a public launch meeting held on June 23, 2024 to inform the public about the Study process and specific tasks and Study schedule. The second meeting was held on November 12, 2024, and similar to the launch meeting, the second meeting was both in-person and available via Zoom. During this second meeting results of the flood protection system evaluation, the hazardous building material inspection (HBMI) sampling results, and review of existing site conditions, restrictions, and potential future uses were presented. A third meeting will be held in mid-March to present the results of the final Study, including reviewed remediation and building demolition scenarios and opinions-of-cost for each.

Stakeholder Engagement – As part of the study, key stakeholders were contacted and interviewed to capture concerns, suggestions, and overall feedback about potential redevelopment of the MDA site. The following stakeholders were interviewed:

- Riverfront Recapture
- Capital Region Development Authority (CRDA)
- Goodwin University
- Eversource
- Urban League of Greater Hartford (ULGH)
- Center for Leadership & Justice / Greater Hartford Interfaith Action Alliance (GHIAA)

- HartfordNeXT
- City of Hartford Economic Development Department

Highlights Regarding Existing Environmental Conditions

The Site operated as a coal-fired electric plant in the 1920s, before shifting to petroleum fuel in the 1940s operating primarily from the existing power block building (PBF). In the mid-1980's the waste processing facility (WPF) was constructed and the Site operated as a waste-to-energy (WTE) facility until its closure in 2022.

The Site underwent extensive environmental remediation from 2001 through 2023, with additional remediation required by CT DEEP from 2019 to 2023. Site remediation included using Environmental Land Use Restrictions (ELURs) and Engineered Controls (ECs) to keep contaminated soil inaccessible during operation of the WTE facility. The ELURs and ECs are part of the Site's Verification (closure) that will be revised and submitted to CTDEEP in the Spring of 2025.

In 2022 MDA submitted a formal closure plan to CT DEEP that includes provisions for the proper shutdown of the buildings, coal removal, polychlorinated biphenyl (PCB) removal from the Administration Building, and equipment cleaning. An update to the closure plan will include results of PCB testing that was conducted as part of the Study. The approval of the Site Verification by CT DEEP would allow the continuation of WTE operations, if still operating, without additional remediation. However, if the Site has other uses, additional Site remediation and likely some demolition of Site structures will be required.

Highlights Regarding Conceptual Site Considerations

Hazardous Building Materials - Due to the age of the Site buildings and the type of construction, an inspection was performed to identify and quantify accessible hazardous building materials (HBMs) to support environmental compliance, develop remediation costs, and inform future redevelopment planning. The HBMI Inspection (HBMI) was conducted between June and September 2024 and involved the collection of 1,507 asbestos bulk samples or suspect Asbestos Containing Materials (ACMs) from 706 Homogeneous Areas (HAs) for asbestos analysis, the collection of 2,383 XRF lead paint readings, 80 PCB samples and visual surveys to identify universal waste and other hazardous materials. While the majority of the Site buildings (~90-95%) were accessible, excluded areas include confined spaces, inaccessible materials or areas of the buildings/structures, and materials requiring destructive testing.

From the 1,507 asbestos samples collected, 122 HAs were confirmed to contain asbestos at or above the State of Connecticut regulated level of 1% by weight or federal regulated level of >1% by weight.

Lead-based paint was identified on limited site components within the WPF buildings, mainly on metal handrails and metal fuel piping. Within the PBF, a significant amount of lead-based paint was identified on structural steel, but was limited on masonry surfaces, including both brick and concrete.

Out of the 80 PCB samples collected, PCBs were detected in the following:

- 43 of the 52 paint samples analyzed, with 4 samples ≥ 50 mg/Kg.
- One window glazing sample
- Four tarry samples
- Nine samples of caulk

Flood Protection System Evaluation - Part of this study included develop of an Operation, Inspection, and Maintenance Plan (OIMP) and Emergency Preparedness Plan (EPP) for the floodwall penetrations, and to prepare a report documenting the work required and estimated costs to properly abandon or remove each floodwall penetration and encroachment. The OIMP documents the requirements for the operation, maintenance, and inspection of each utility penetrating the floodwall. Of the twelve identified penetrations, only one, a storm drain outfall (HD-36), is active.

The EPP defines the roles and responsibilities of those in charge of monitoring for and responding to emergency conditions involving floodwall penetrations. The EPP is intended to become a part of the Greater Hartford Flood Commission's (GHFC) Emergency Action Plan and defines the flood response process using a phased approach where the level of readiness and monitoring increases with the predicted flood level.

Removal of floodwall penetrations is impractical for all but one penetration (HD-50a, a liquid fuel line), as the remaining penetrations pass under the floodwall. In-place decommissioning consists of excavating to expose the pipes on each side of the floodwall, cutting the pipe on each side of the floodwall, and filling the pipe with cement grout or concrete. The estimated cost of properly abandoning floodwall penetrations is approximately \$2.65M.

Site Easements – There are several significant easements on the Site including utility easements, drainage easements, a railroad easement, a flood control easement for the Site's floodwall and adjacent dike, and bridge and highway easement for the elevated portion of Route 5/15 on the northern portion of the property. Eversource owns significant electrical infrastructure on the property including a 115kv switching station, a 23kv/115kv substation, underground duct banks and overhead transmission lines. The Order of Magnitude (OOM) cost estimate for relocating the electrical substations and re-routing of electrical lines has been estimated at between \$95M and \$380M in present value costs.

Site Surroundings – The Site is surrounded by commercial and industrial uses including Brainard Airport to the south, a regional agricultural market and wetlands to the west and industrial part to the southwest. The Connecticut River borders the Site to the East with Charter Oak Landing bordering the Site to the northeast. The presence of wetlands, the Connecticut River flood protection system and Brainard Airport will affect future development of the property.

Permits and Approvals to be Considered - The Site is primarily located in the Industrial (ID-1) District and Connecticut River Overlay District, with a portion of the eastern side in the Open Space District. The Industrial (ID-1) District zoning language specifically calls out using this district to integrate lower-impact industry with surrounding residential areas. This differentiates it from the Industrial (ID-2) District, which is designed for heavier industries such as waste processing and motor vehicle wrecking yards. Accordingly, the ID-1 designation reflects the City's desire for the future redevelopment on the Site. The Connecticut River Overlay District was created to open access to the river and allow for specific uses that account for ecological preservation. This district applies to all locations located within 2,000 feet landward of the Connecticut River, overlapping a majority of the Site.

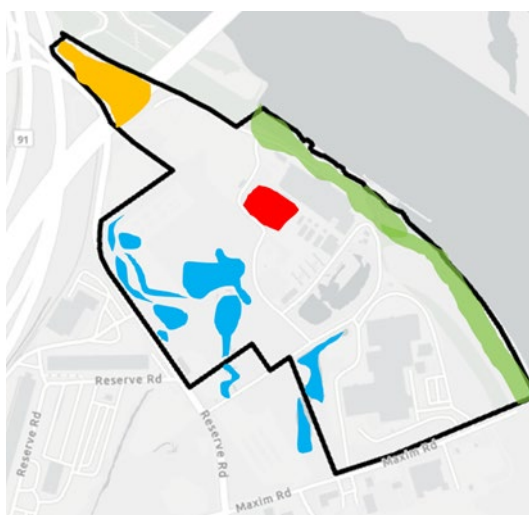
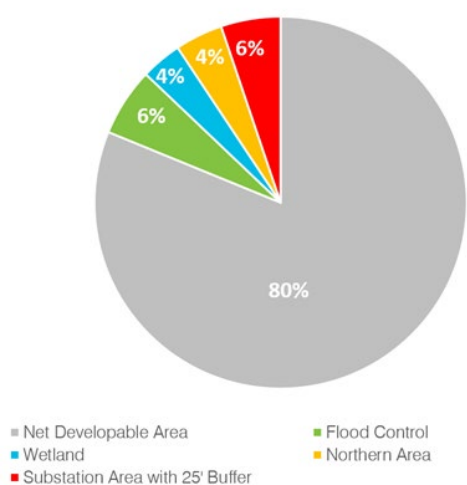
Future development will need to meet the requirements of the ID-1 and Connecticut River Overlay district. Additionally, building heights will need to be reviewed and approved by the FAA due to the close proximity of Brainard Airport.

Highlights Regarding Assessment of Potential Future Uses

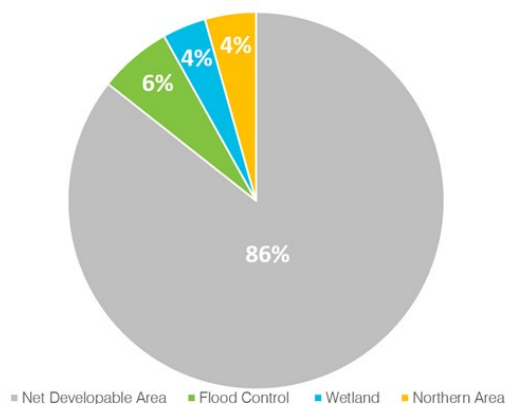
The following three scenarios were contemplated to assist the MDA in understanding the risks and costs associated with various land uses. The proposed uses are based upon the CT DEEP RSRs.

- Industrial/Commercial as defined by the RSRs
- Residential/Recreation as defined by the RSRs
- Mixed Use (Default to Residential RSR criteria)

Concepts related to potential future uses were developed using Site constraints, proximity to the Connecticut River and existing infrastructure as guides. Development constraints and net developable areas are shown in the pie graphs below.



Industrial and Commercial Use with electrical substations intact



Potential residential use with the electrical substations removed

Highlights Regarding Environmental Needs and Knowledge for Potential Future Uses

The RSRs are utilized by CT DEEP to determine whether a property's soil and groundwater quality are sufficient for 1) a site's intended use and 2) protective of the State's water resources. For this Site, the applicable RSRs include Residential or Industrial/Commercial Direct Exposure Criteria (DEC) (depending on site use), Pollutant Mobility Criteria for GB designated groundwater areas (GB PMC), Surface Water Protection Criteria (SWPC) and Volatilization Criteria (VC). Remediation activities were evaluated based on potential future uses of the Site and remediation scenarios developed with remediation opinions-of-cost.

Scenario 1a – Industrial/Commercial Use and Demolition of the Power Block Facility: This scenario envisions that future site use will be consistent with currently permitted uses as a waste processing facility, that is, with the exception of the demolition of the PBF, all existing buildings, structures, infrastructure, and environmental restrictions will remain in place. With the removal of the PBF, PCB impacts in soil adjacent to the PBF and on exterior walls of the PBF structure would need to be remediated to <10 ppm for EPA and CT DEEP compliance. The present value Site remediation opinion-of-cost for this scenario is \$12.14M with a range of -25% and +50%.

Scenario 1b – Industrial/Commercial Use and Demolition of the Waste Processing Facility: In this future reuse scenario, it is assumed that the WPF and its associated buildings will be removed and that future use will allow re-development of the Site for I/C purposes. This scenario would not preclude having a portion of the property used for passive recreation purposes as contemplated by CT DEEP's "Risk-based Remediation Criteria for Managed Multifamily Residential and Passive Recreational Exposure Scenarios" (CT DEEP12/31/2024). This scenario includes keeping the PBF building since it has historic significance. The existing dock would be repurposed for industrial or commercial uses. The present value Site remediation opinion-of-cost for this scenario is \$14.72M with a range of -25% and +50%.

Scenario 1c: Industrial/Commercial Use and Demolition of All Structures: This scenario envisions that all existing Site structures will be demolished and the future use will allow re-development of the Site for I/C purposes. This scenario would not preclude having a portion of the property used for passive recreation purposes. The present value Site remediation opinion-of-cost for this scenario is \$23.78M with a range of -25% and +50%.

Scenario 2a – Residential Use with ELURs: This scenario envisions that future Site use will allow redevelopment of the Site for Residential purposes while keeping applicable inaccessible soil and ELURs/ECs in place. This scenario includes the removal of the WPF and PBF buildings and related structures. The electrical substations would be removed from their current location and the existing dock would be repurposed for residential or mixed use. The present value Site remediation opinion-of-cost for this scenario is \$27.16M with a range of -25% and +50%..

Scenario 2b: Residential Use with Imported Fill - This scenario envisions that future Site use will allow re-development of the Site for Residential purposes by adding up to 13 feet of clean fill across much the site to keep contaminated soil below the RSR 15-foot DEC zone. No remedial excavations other than select PCB exceedance areas would be conducted. This scenario includes the removal of the WPF and PBF buildings and related structures. The electrical substations would be removed from their current location and the existing dock would be repurposed for residential or mixed use. The present value Site remediation opinion-of-cost for this scenario is \$92.20M with a range of -25% and +50%.

Demolition and Abatement Costs – A demolition and abatement cost estimate was prepared to demolish all aboveground Site structures including the WPF, PBF, conveyor lines, and greenhouse buildings. Buildings would be demolished to four feet below grade and filled to the ground surface with granular and/or flowable fill. Abatement would include identified asbestos-containing materials, universal wastes, and PCB bulk product waste. Non-PCB impacted structural steel would be sold at scrap value. The present value demolition and abatement opinion-of-cost is \$35.2M with a range of -30% and +50%.

Remediation and Demolition Schedule – Weston & Sampson has made the following assumptions regarding remediation and demolition schedules:

- Abandonment of Floodwall Penetrations including engineering and permitting – Completed in 2026 (also start date for all scenarios)
- Industrial/Commercial Use Scenario and Demolition of PBF
 - Demolition of PBF and related structures – 2 year duration
 - Soil sampling beneath former PBF – 6 month duration
 - PCB soil remediation – 6 month duration
- Industrial/Commercial Use Scenario and Demolition of WPF–
 - Demolition of WPF and Abatement of PBF – 1.5 year duration
 - Data gap investigation including SLERA – 1 year duration
 - PCB Soil Remediation – 6 month duration
- Industrial/Commercial Use Scenario and Demolition of All Structures
 - Demolition of WPF and PBF – 2 year duration
 - Data gap investigation including SLERA – 1 year duration
 - PCB Soil Remediation – 6 month duration
- Residential Use (keep ELURs)
 - Demolition of PBF and WPF and related structures – 2 year duration
 - Data gap investigation including Screening Level Ecological Risk Assessment (SLERA) – 1 year duration
 - Substation and transmission line relocation – 2 years after building demo
 - PCB soil remediation – 1 year duration after substation relocation
- Residential Use (add up to 13 feet of clean fill)
 - Demolition of PBF and WPF and related structures – 2 year duration
 - Substation and transmission line relocation – 2 years after building demo
 - Import and spread fill on eastern and central portions of site – 3 year duration
 - SLERA – 1 year duration

Using the above-referenced schedule and an annual cost inflation rate of 3.1%, the opinions-of-cost for each future use scenario has been calculated as shown in the table below.

SITE USE OPTIONS COST MATRIX – ENGINEERING OPINIONS-OF-COST FOR STIE DEMO AND
REMEDIAION (INCLUDING 3.1% ANNUAL ESCALATION)

Future Use Scenarios	Floodwall Penetration Closure	Building and Structure Abatement and Demo ¹	Site Remed ²	Removal of Eversource Substation ³	Total Cost Estimate Beginning 2026	Total Cost Estimate Beginning 2031	Total Cost Estimate Beginning 2036
Ind/Com with WPF – Demo of PBF	3.2	30.84	13.68	0	47.72	55.40	64.32
Ind/Com Use with PBF – Demo of WPF	3.2	8.33	16.34	0	27.87	32.36	37.56
Ind/Com Use with no buildings	3.2	38.5	26.80	0	68.49	79.52	92.32
Res Use with/EURs	3.2	38.5	30.60	178.54	250.84	291.22	338.10
Res Use with 13 ft. of Imported Fill	3.2	38.5	113.63	178.54	333.87	387.61	450.00

NOTES:

¹ Opinion of cost ranges from -30% and +50%² Opinion of cost ranges from -25% and +50%³ Opinion of cost ranges from 50% and +100%

The estimated time to completion for each activity, beginning in 2026, was used to determine the cost escalation value for the activity

I. INTRODUCTION

The MIRA Dissolution Authority (“MDA”) was created by an act of the State of Connecticut Legislature – Public Act 23-170, effective July 1, 2023. As a result of this legislation, the Authority replaced the existing Materials Innovation and Recycling Authority (MIRA). The MDA assumed MIRA’s statutory duties and responsibilities, control over all of MIRA’s assets, authorities, and capabilities. Additionally, it has been charged with supplemental duties and responsibilities related to MIRA’s dissolution.

The Authority is the owner of an approximate 80-acre site encompassing the now shuttered MIRA Resource Recovery Facility and Jet Turbine Facility located in the South Meadows section of Hartford, CT and more specifically identified as 300 Maxim Road and 100 Reserve Road in Hartford (the “South Meadows Site” or “Site”). The location of the Site is shown in Figure 3-1. An Aerial Map of the Site is shown in Figure 3-2.

The MIRA Resource Recovery Facility was shut down for numerous reasons including its age, serviceability and reliability. The Resource Recovery Facility stopped receiving, processing, and combusting waste in July 2022. Since then, the facility has been broom cleaned, equipment oils, fuels, and lubricants have been properly removed, explosive blast cleaning of the boilers has been performed and bag house filter bags have been removed. The Jet Turbine Facility was then shut down effective May 31, 2023. The Authority’s corporate offices are presently located at the Site.

The MDA’s charge includes the responsibility to wind down MIRA’s operations and activities in an orderly manner. A key component of this charge involves studying the South Meadows Site with an eye to future redevelopment and use. An additional facet of the Authority’s charge and duties includes the marketing and sale of its surplus property and facilities. Upon conclusion of this dissolution process (currently anticipated as early as July 1, 2025, but not later than July 1, 2026) any remaining rights and real or personal property of the Authority will pass to and vest in the State of Connecticut - including, but not limited to, the South Meadows Site.

Accordingly, the MDA sought proposals to conduct a study of the Site, known as the South Meadows Redevelopment Considerations Study (Study), to identify both the immediate environmental needs and information necessary for potential future redevelopment of the South Meadows Site. Weston & Sampson was subsequently selected by the MDA to perform the Study and prepare a report on the Study activities and findings.

This Study has included documentation of existing environmental conditions, evaluation of conceptual site considerations and the immediate environmental needs and knowledge associated with the following potential future uses of the South Meadows Site:

- Industrial / Commercial Activities as defined in the Connecticut Department of Energy and Environmental Protection (CT DEEP) Remediation Standard Regulations (RSRs);
- Residential Activities as defined in the CT DEEP RSRs;
- Currently-Permitted Activities; and
- A combination of such activities on separate partitions of the Site.

Specific tasks as part of this Study included the following:

- Developing a community outreach program that included public meetings on the status of the Study, a survey of residents and key stakeholders to solicit comments and questions related to

potential future uses and environmental concerns related to the South Meadows Site, and interviews with key stakeholders.

- A review of existing environmental conditions including the status of environmental remediation, facility closure plan and their impact on potential future uses
- A review and documentation of the Site's Flood Protection System and preparation of:
 - Operation, Inspection and Maintenance Plan (OIMP)
 - Emergency Preparedness Plan
 - A report on Proper Abandonment / Removal of Penetrations and Encroachments
- A hazardous building materials survey that included asbestos, lead based paint, universal wastes, and PCBs in building materials for all Site buildings
- Prepare opinions-of cost for abatement of the Waste Processing Facility (WPF) and Power Block Facility (PBF)
- Review and documentation of additional site considerations including easements, proximity to Brainard Airport, the Connecticut River and Charter Oak Park, permit requirements, and utility infrastructure
- A review of potential future uses and concepts
- Develop remediation scenarios for the identified potential uses: current permitted use, industrial/commercial use, and residential use, and prepare opinions-of-cost for each
- Prepare engineering opinions-of-cost for the demolition of the WPF and PBF buildings and existing aboveground structures.

The methodology of specific tasks and results are summarized in the following sections of the Study report with the detailed reports, derivation of opinions-of-cost, and HBMI sampling results included in the Appendices.

II. COMMUNITY OUTREACH

Community outreach was an important aspect of this Study and should continue as subsequent phases of site redevelopment proceeds. Communicating with residents and stakeholders is critical to the redevelopment process as numerous questions from residents and environmental justice advocates have echoed concerns about potential contamination on the Site, and the range of potential Site uses. It was therefore important that the general public and stakeholders were kept informed about the process and purpose of this Study, and the Study results. Community outreach had two main goals; first, to keep the public informed of the Study process and results and second, to solicit feedback from the public and stakeholders on Site environmental concerns and what future uses of the Site should be considered to improve both the immediate neighborhood and Hartford region overall.

METHODOLOGY & APPROACH

The engagement team worked diligently to reach out to civic groups, city resources such as the office of community engagement, and other vested stakeholders to help amplify the purpose of the study and to share study information with the public. We were able to make quality community connections that included posting within the Hartford public library system and several civic groups who shared the information via their platforms. The Hartford News/Southside Media also provided coverage of the meetings online and in print. These collaborative outreach partners helped amplify the messaging of the study.

A. Public Meetings

A total of three public meetings were approved for the Study. The first was a public launch meeting to inform the public about the Study process and specific tasks and Study schedule. The launch meeting was also an opportunity to issue a survey and solicit comments on the community's concerns and opinions on potential future uses of the Site. The launch meeting was held on July 23, 2024, at the Metzner Community Center in Hartford from 5:30 to 7:30 pm. The meeting was both in-person and available and recorded via Zoom. The public launch meeting was an overall success yielding 33 unique participants and about 22 respondents to our survey. A fact sheet on the history and status of the South Meadows Site was made available to attendees (online and in-person) and a 'comment corner' was available for attendees to leave comments and questions regarding the Site and Study. A recording of the public launch meeting was posted on MDA's website. Comments and questions that were received during the launch meeting were reviewed by the MDA and Weston & Sampson team, and are included in Appendix A. Some of the questions and responses were incorporated into a Frequently Asked Questions (FAQ) sheet that was subsequently published and made available on the MDA's website. A copy of the published FAQ sheet is included in Appendix A.

The second public meeting was held on November 12, 2024 at the Metzner Community Center in Hartford from 5:30 to 7:30pm. Similar to the launch meeting, the second meeting was both in-person and available via Zoom. The objective was to present results of the flood protection system evaluation, the hazardous building material inspection (HBMI) sampling, and review of existing site conditions, restrictions, and potential future uses. Prior to this meeting, the previously described FAQ sheet of commonly asked questions was expanded and made available on all platforms. The public meeting featured a panel discussion inclusive of the planning team and MDA staff to address questions and concerns from the attending public. Questions and comments received during this meeting were recorded and are presented in Appendix A.

The third and final public meeting will be held to present the final results of the Study and is anticipated to be held in mid-March 2025.

B. Stakeholder Interviews

After initial community outreach efforts, the consulting team's goal was to execute a public launch meeting and review the comments, suggestions, and survey results with the MDA board and staff for effectiveness. After deliberation on our outreach efforts, it was decided to increase our engagement by incorporating stakeholder interviews. To prioritize whom to reach out to, we acquired an understanding of current agencies and organizations that MDA had communicated with over the past several years. We also worked with different community leaders and elected officials regarding who we should speak with. The nexus of these individual conversations led to a prioritized list of stakeholders with mutual interest in the consideration study.

Our team worked diligently in our outreach efforts to communicate with leadership representing these various stakeholders to host discussions and interviews to capture concerns, suggestions, and overall feedback about potential redevelopment of the MDA site. We approached the discussion with basic stakeholder questions and made attempts to align stakeholder activity with this phase of the process. We looked to identify common themes in planning efforts across South Meadows in a collaborative approach for potential visioning down the road. The interviews were an opportunity to educate on the value of the Study and its purpose. It was also an opportunity to learn from the stakeholders about their individual community and economic development efforts and how they intersect with the Site.

A total of eight Stakeholder Interviews are expected to be completed and documented. summaries of these engagements are included in Appendix B.

C. Spanish Translation & Facilitation

Per the scope, public meetings, communications, and digital media were presented and available in Spanish. The engagement team made every effort to be inclusive and aware of the growing Hispanic/Latino demographic that has been impacted by past operations of the MIRA site. Our public meetings to date have been staffed accordingly with native Spanish speakers prepared to ensure that all who attend can understand and participate as needed. All materials, including public meeting presentations and fact sheets are available in Spanish on the MDA website.

SU APOORTE ES IMPORTANTE
ESTUDIO DE REURBANIZACIÓN

¿SABÍAS QUE...? LA PLANTA DE CONVERSIÓN DE BASURA EN ENERGÍA DE SOUTH MEADOWS HA CESADO SUS OPERACIONES EL 19 DE JULIO DE 2022.

INFÓRMESE SOBRE ESTA PRÓXIMA FASE CRÍTICA Y SEA PARTE DE LA CONVERSACIÓN PARA UN PLAN IMPULSADO POR LA COMUNIDAD.



MARTES, 23 DE JULIO DE 2024

5:30PM - 7:30PM | METZNER COMMUNITY CENTER
 60 FRANKLIN AVENUE, HARTFORD, CT.

ABIERTO AL PÚBLICO

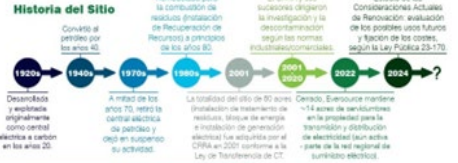
REFRESCOS PROPORCIONADOS

EN VIVO POR ZOOM

URL PÚBLICA DE ZOOM: [HTTPS://BIT.LY/3XNM1FV](https://bit.ly/3XNM1FV)

PARA MÁS INFORMACIÓN: WWW.CTMIRA.ORG 203-514-0856

Estudio de South Meadows MIRA Weston&Sampson



Cierre y clausura de la Planta de Recuperación de Recursos

- 1. La instalación se cerró en julio de 2022, cuando dejó de recibir y quemar residuos.
- 2. Se limpiaron los residuos y se realizó con una excavadora, se sacaron los tubos de los equipos, los dispositivos de medición radiológica y los botones de freno de la cámara de filtro de la instalación y se eliminaron adecuadamente fuera del emplazamiento, y se limpiaron las cámaras con explosivos.
- 3. En mayo de 2022 se presentó al DEEP un Plan de Cierre Inicial para la instalación de Recuperación de Recursos.
- 4. El Plan de Cierre inicial incluye la retirada adicional de productos químicos comerciales, el lavado y sellado de tanques y recipientes, una limpieza exhaustiva de las superficies de los equipos y edificios y de los sistemas de drenaje de aguas pluviales, el sellado de los pozos que del suelo, la limpieza del ataque de carbón, la limpieza y el desmantelamiento de las instalaciones que son fuente de contaminación de los recursos hídricos que son fuente de contaminación, el sellado de los tubos de entrada y descarga de agua de refrigeración, la extracción de líquidos, aceites y residuos de humo.
- 5. Si el Plan de Cierre Inicial no se propone la demolición de ningún edificio.
- 6. El Plan de Cierre ha pasado por varias rondas de comentarios por parte del DEEP y de revisiones por parte de la Autoridad.
- 7. La aprobación definitiva del Plan de Cierre se obtendrá antes de la revisión de las consideraciones del Estudio de Consideraciones sobre la Reurbanización de South Meadows.
- 8. Mientras tanto, la Autoridad podrá proceder a la extracción y reciclaje de los equipos no reutilizables.

Remediación en curso para cumplir con las normas comerciales / industriales

- 1. El sitio de transferencia desmanteló la investigación ambiental y la remediación a las normas comerciales / industriales.
- 2. Se hicieron miles de muestras de suelo y se identificaron 44 zonas preocupantes.
- 3. El emplazamiento pasó por 12 años de rehabilitación activa. Incluye:
 - Extracción y aterrizaje de 60,000 toneladas de tierra contaminada.
 - Bombeo y tratamiento de agua subterránea.
 - Instalación de cercos bioactivos.
 - Instalación de restricciones de excavación y restricciones de uso de la tierra con fines medioambientales.
- 4. Se entregó un Informe de Verificación (que la remediación estaba completa) al DEEP en julio de 2015, pero fue respaldado por el DEEP en junio de 2019 después de que se descubrieron contaminantes adicionales en un área de producción.
- 5. Se completó una reparación adicional en octubre de 2023.
- 6. La entrega de un Informe de Verificación Rehabilitado al DEEP está prevista para el año de 2024.
- 7. Una vez que el DEEP acepta el Informe de Verificación, se considerará que se ha completado la rehabilitación del emplazamiento a las normas comerciales e industriales.

III. EXISTING ENVIRONMENTAL CONDITIONS

A. Site Description and Infrastructure

Project Location

The MIRA South Meadows Facility consists of approximately 80 acres of land and is located at Gate 20 Reserve Road and 300 Maxim Road in Hartford, Connecticut. The northern two-thirds of the property is where the Power Block Facility (PBF) is located, and the remaining one-third contains the Waste Processing Facility (WPF) where municipal solid waste was historically processed for combustion at the PBF. Figure 3-1 displays the regional context.

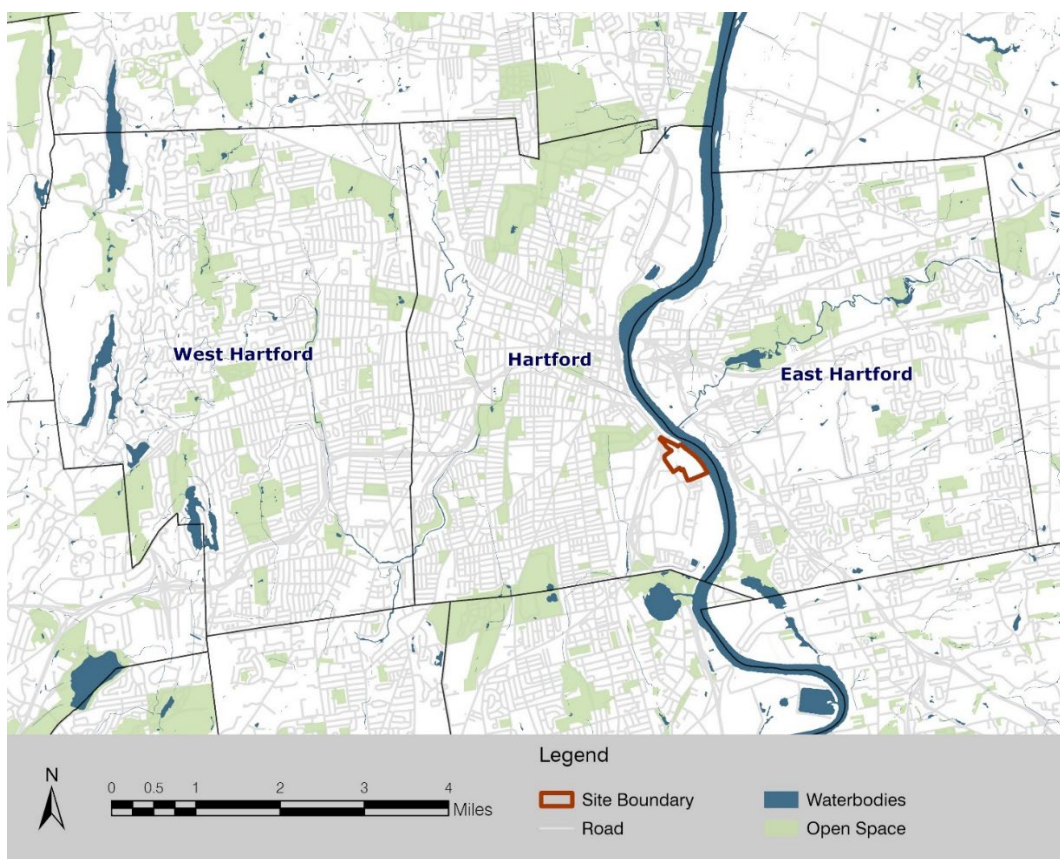


Figure 3-1. Site regional location map
Source: CT Department of Energy & Environmental Protection

As shown in Figure 3-2, Eversource maintains the South Meadow 1A Substation in the northern part of the Site, and the Hartford-Brainard Airport, owned by the Connecticut Airport Authority and the State, abuts the Site directly to the south. I-91 bounds the Site to the west and the Connecticut River and its associated flood control levee system bound it to the east.

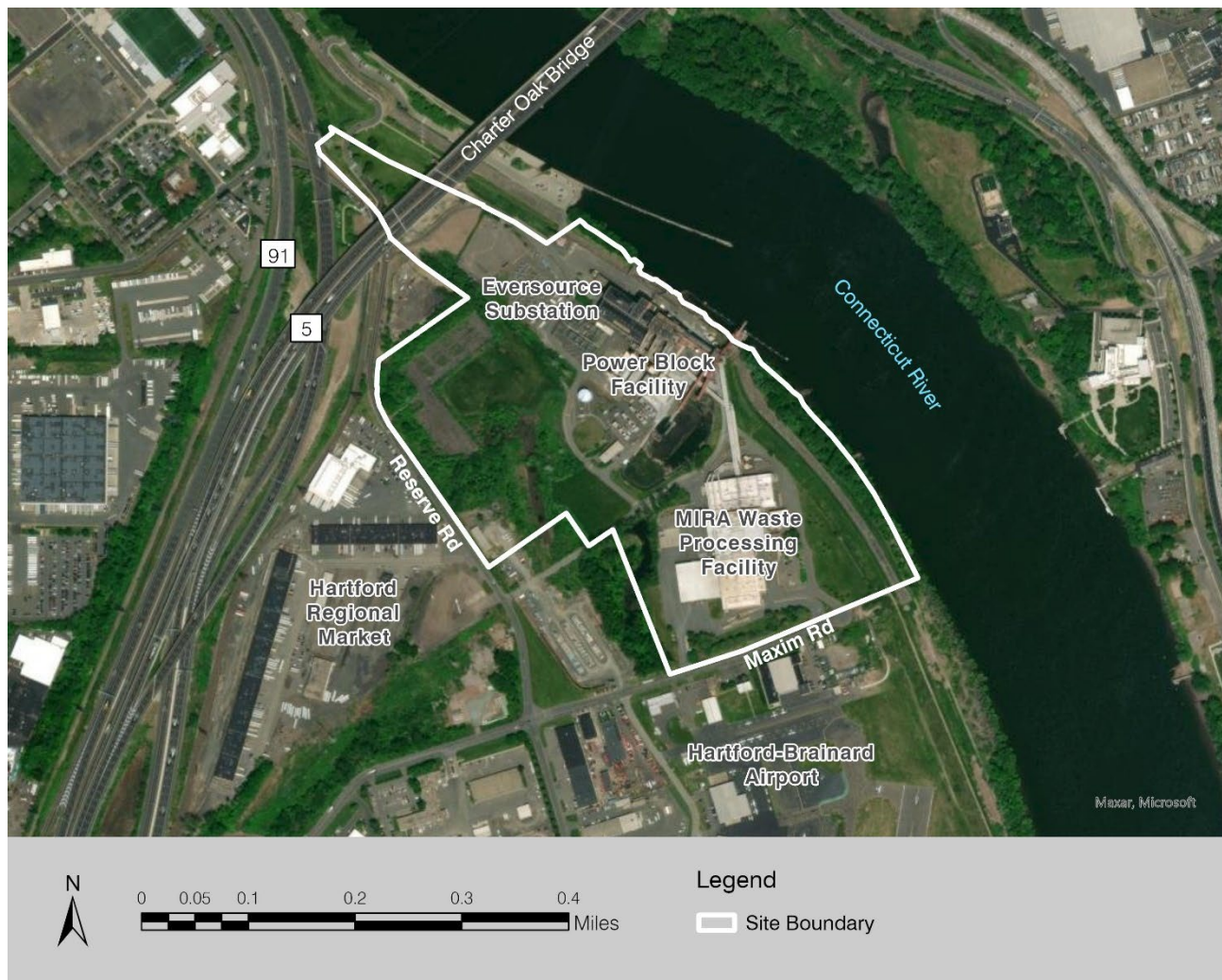


Figure 3-2. Site aerial map

Source: South Meadows Site General Layout Plan 2024

Also in the South Meadows neighborhood are the Hartford Regional Market, a wholesale food distribution center and restaurant area managed by the Capital Region Development Authority on State-owned land; a Mobil Gas Station; a U.S. post office; industrial warehouses including Grainger, Hartford Granite & Marble, Universal Ceramic Tile, Nutmeg Trucks, Reliable Electric Motor, Hilti, Classic Restaurant Supply, CT Lighting Center, and O&G Earth Products; and a Best Western Hotel and Days Inn (City of Hartford, Energy Improvement District Comprehensive Plan, 2019).

Project History

The Site operated as a coal-fired electric plant in the 1920s, before shifting to petroleum fuel in the 1940s and becoming a resource recovery facility in the 1980s. Under the Connecticut Resources Recovery Authority, which purchased the Site in 2001, the Site underwent extensive environmental remediation from 2001 to 2018, with additional remediation required by the Connecticut Department of Energy and Environmental Protection (CT DEEP) from 2019 to 2023. After the announcement of its closure in 2022, the MDA was created by the State to manage the Site. The MDA finalized Environmental Land Use Restrictions (ELURs) and documentation of Engineered Controls for resubmission of the Site's

Verification Report in Spring of 2024, after an initial rejection in 2019 due to the need for additional remediation (MIRA, 2024).

The resource recovery facility was shut down in 2022, the same year that MIRA submitted a formal closure plan to CT DEEP. The work needed for closure involves proper shutdown of the buildings, coal removal, polychlorinated biphenyl (PCB) removal from the Administrative Building, equipment removal from the resource recovery facility, and the completion of this South Meadows Redevelopment Considerations Study (MIRA, 2024).

Existing Structures

There are two main structures on site: The Power Block Facility (PBF) and the Waste Processing Facility (WPF). The PBF is occupied by multiple structures, including the administrative building and the main PBF building which includes substructures added onto over time (turbine hall, boiler area, electrical area, cable vault, offices, and control room). Other associated structures include the ash load-out building; the ash truck wheel wash building; the lined coal storage pile/runoff pond; a garage and warehouse; and the coal pond pump house.

The WPF includes two buildings. The first is an approximately 202,000-square-foot (sf) building that houses administrative offices, processing equipment, the Maneuvering Hall, and storage. The second building is a storage building of approximately 38,000 sf located north of the administrative offices.

There are two other smaller buildings: warehouse storage near Gate 40 and a small guard building adjacent to the Gate 20 driveway entrance.

Facility Structures on the Connecticut River

Several structures from the power block and waste processing facilities extend out into the Connecticut River. These are highlighted in Figure 3-3 and include screenhouse structures and screen equipment and the coal barge unloading crane and dock.

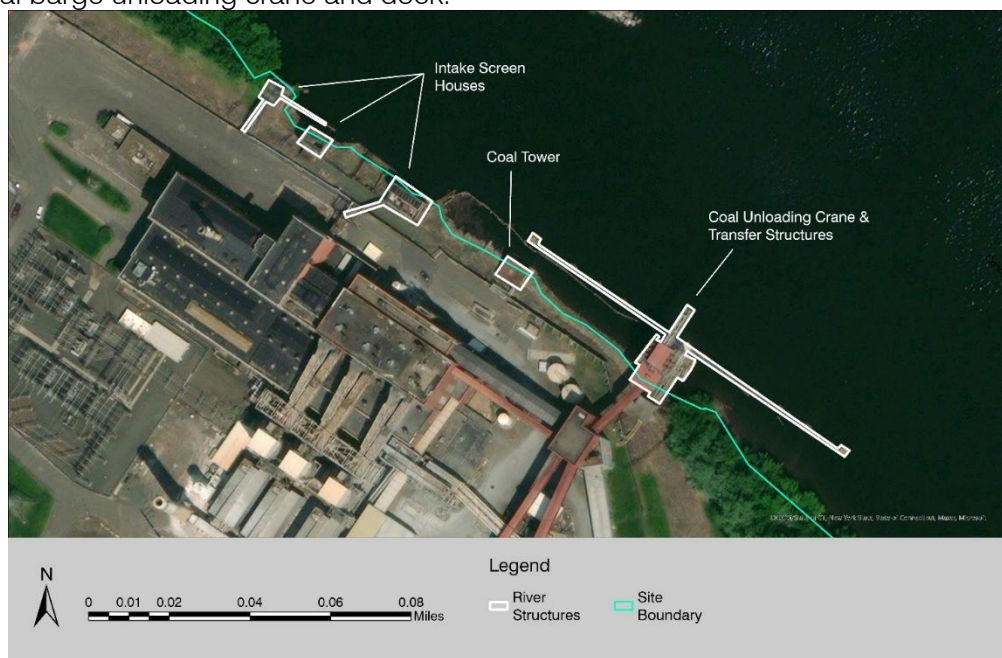


Figure 3-3. Facility structures on the Connecticut River
Source: City of Hartford Open Data 2024

The screenhouses are one- to two-story buildings as shown in Figure 3-4.



Figure 3-4. Screen houses on the Connecticut River
Source: Weston & Sampson site visit, 2024

Utilities

Water Supply

The Site receives its drinking water from the Metropolitan District Commission (MDC), with the supply sourced from local reservoirs such as the Barkhamsted and Nepaug Reservoirs. The water is treated before distribution (MDC, Drinking Water, 2024).

Gas

The Site formerly had a working natural gas line.

Electric

Eversource maintains Substation South Meadows directly adjacent to the northwest edge of the Site.

Wastewater

The Site's wastewater is managed by the MDC. Wastewater is processed at the South Meadows Wastewater Treatment Plant, located just south of the property. This facility treats and manages the Site's wastewater following environmental standards (MDC, 2024).

Soils and Groundwater

The property is located within the Connecticut River Valley province. Soils typically consist of a combination of clay, sand, silt, and gravel, which is consistent with river-derived deposits. The soil type on Site is a deep clay that has a thickness of 30 to 40 feet, covered by Udorthent loamy soil (CT ECO, 2023). This soil type is a fill material that is fine, sandy, and has slopes ranging from 0-25%, but

predominantly 0-5% (New England Soil, 1989). The drainage properties of Site soils range from moderately well-drained to well-drained, as shown in Figure 3-5. (CT ECO, 2023).

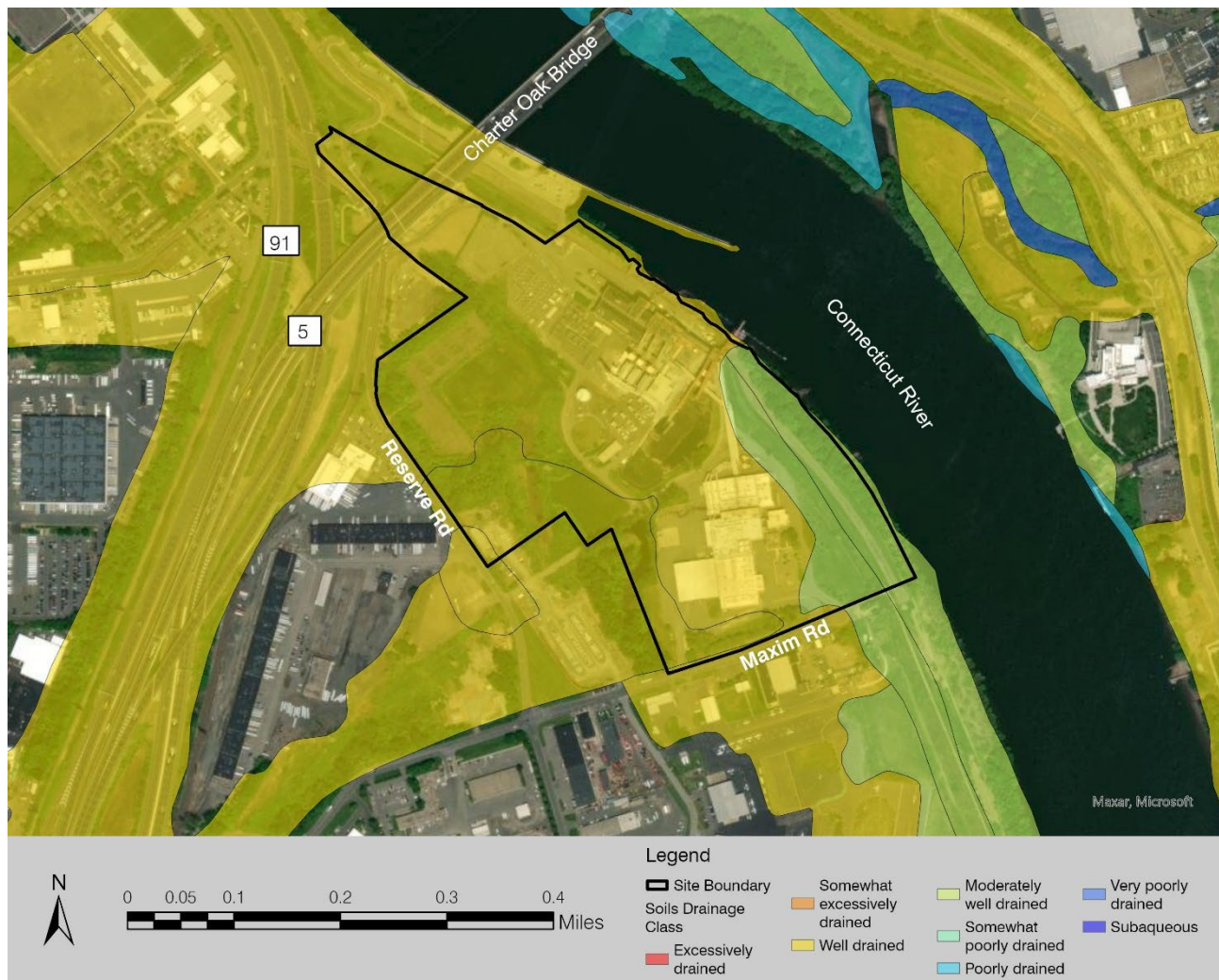


Figure 3-5. Soils drainage class map
 Source: Connecticut Environmental Conditions Online 2023, USDA National Cooperative Soil Survey 2023

Brownfields

Previously published environmental reports have documented numerous areas of concern (AOCs) with various contaminants of concern (COCs) including petroleum products, PCBs, and metals typical with former power plant and waste processing facilities. A listing of site AOCs and COCs can be found in Table 1 at the end of the report. As a result of soil and groundwater contamination from historical activities, the site has been under remediation over the last 20 years and includes the emplacement of certain Environmental Land Use Restrictions (ELURs). The following ELURs were placed on the WPF and PBF property following remediation performed under the Connecticut Remediation Standard Regulations (RSRs). The areas referred to in the table refer to Sheets 3 and 4 of the South Meadows Site General Layout Plan, provided as Attachment A of the Request for Proposals.

Table 3-1. Brownfield Restrictions

Restriction	Description
A. Use	No residential activity shall be permitted at the Properties (in their entirety).
B. Disturbances	Inaccessible soil in Subject Areas A-1, A-2, B, D, E, F-1, F-2, G-b, H-1, H-2, J, K, L, Q, and R shall not be exposed as a result of excavation, demolition, or other activities. The soil, bituminous concrete, concrete, building slab, or permanent structures which are in the Subject Areas, shall not be disturbed in any manner by activities such as demolition, excavation or other intrusive activities. Any pavement, which is necessary to render such soil inaccessible, shall be maintained in good condition pursuant to the pavement, permanent structure and engineered control monitoring and maintenance plan entitled Engineered Control & Permanent Structure Inspections and Long Term Ground Water Monitoring Manual (Rev. 2, dated January 2018), as amended and approved by the Connecticut Department of Energy and Environmental Protection, and on file at the Connecticut Department of Energy and Environmental Protection Public File Room.
C. Demolition	<p>Demolition of buildings or permanent structures within Subject Areas A-1, A-2, B, E, F-1, F-2, and J (transformer and electrical equipment foundations in switchyards and the Coal Pile/Coal Pond Liner, respectively) shall not be permitted. The permanent structures shall be maintained in good condition pursuant to the pavement, permanent structure, and engineered control monitoring and maintenance Plan entitled Engineered Control & Permanent Structure Inspections and Long Term Ground Water Monitoring Manual (Rev. 2, dated January 2018), as amended and approved by the Connecticut Department of Energy and Environmental Protection, and on file at the Connecticut Department of Energy and Environmental Protection Public File Room.</p> <p>Demolition of buildings (the southwestern-most portion of the main “PBF building” known as the former Administrative wing) within Subject Area B shall not be permitted, and soil in Subject Area B shall not be exposed to infiltration of water.</p>
D. Disturbances	The engineered controls described in the document attached hereto as Exhibit B, or polluted soil below such engineered controls in Subject Areas C, D, G-a, I, M, N, O, and P shall not be disturbed in any manner as a result of excavation, demolition, plant root growth, or other activities. Any pavement or concrete which constitutes the engineered controls (or portions thereof) in Subject Areas C and I, shall be maintained in good condition pursuant to the pavement, permanent structure, and engineered control monitoring and maintenance Plan entitled Engineered Control & Permanent Structure Inspections and Long Term Ground Water Monitoring Manual (Rev. 2, dated January 2018), as amended and approved by the Connecticut Department of Energy and MIRA Closure Plan 2-11 Permits and Regulatory Considerations May 2022 Environmental Protection, and on file at the Connecticut Department of Energy and Environmental Protection Public File Room.
E. Access	At Subject Area M, the two gates that allow access to the storm water basin shall remain locked at all times, except for conducting storm water sampling and maintenance activities.

<p>F. Wetland Soils at Subject Areas Q and R</p>	<p>(i) The soil, wetland soils and vegetation at Subject Areas Q and R shall not be disturbed; (ii) The fence that borders the wetland at Subject Areas Q and R shall remain intact. This fence may be the perimeter security fence for the facility; (iii) The wetlands at Subject Areas Q and R shall be guarded to ensure no trespassers. The guard for wetland may be the guard(s) at the entrances to the facility; and (iv) Any future modifications to the ELUR at Subject Areas Q and R shall undergo a reevaluation of the health risks associated with the contaminated wetland.</p>
<p>G. Closure Requirement A</p>	<p>MIRA shall maintain existing structures and pavement consistent with the land use restrictions placed on the parcel. The Coal Pile/Coal Pond Liner will remain intact as required by the ELUR demolition restriction. In addition, facility access and wetlands disturbances shall not contravene the use restrictions placed on the parcel. Closure contractors shall be provided with a drawing that shows the areas of the restrictions and shall be instructed to avoid or limit activities within these areas.</p>

Source: Verification Report, Exhibit C: Declaration of Environmental Land Use Restriction and Grant of Easement, Property of Materials Innovation and Recycling Authority, sheet 4 of 6.

Topography

The Site has elevations ranging between 15 to 20 feet above mean sea level (ft msl) in the western half and the former MIRA facility, to 30 ft msl around the Eversource substation, as shown in Figure 3-6. The eastern edge of the Site rises steeply up to 35 ft msl as part of the levee system.

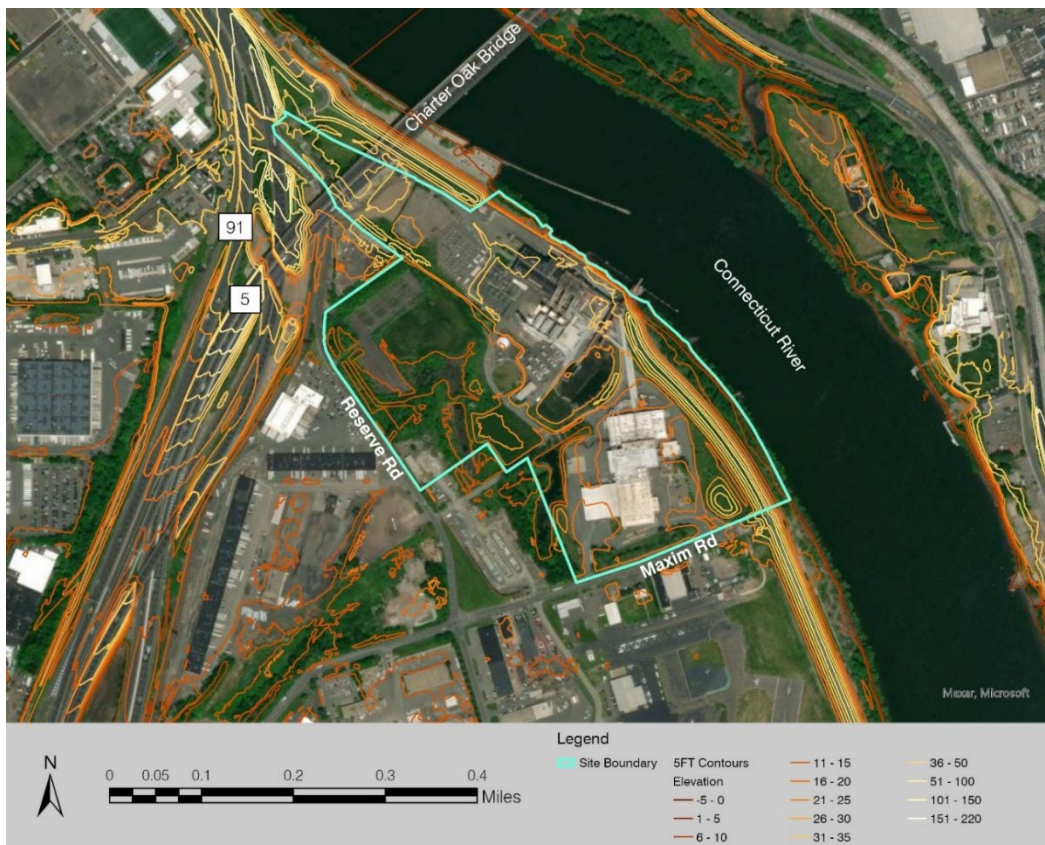


Figure 3-6. Elevations map
 Source: City of Hartford Open Data 2024

Historic Preservation

Once a vital piece of industrial infrastructure, the plant played a crucial role in Hartford’s energy production and economic development. Over the years it has become a symbol of the area’s industrial heritage, sparking discussions about its cultural importance. We will delve into its historical background, examine its lasting impact, and consider potential paths for preserving this iconic structure for future generations.

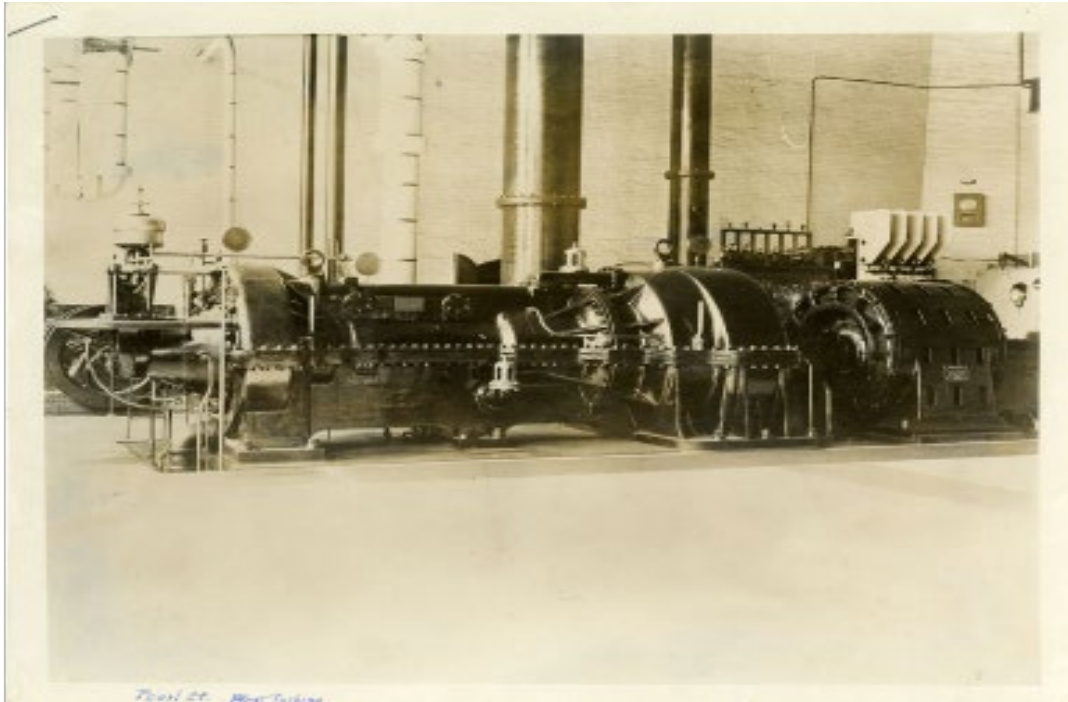
General History

The Hartford Electric Light Company (HELCO), chartered by the Connecticut General Assembly in 1881, began its service to the city of Hartford in 1882 under the leadership of its first president, Austin Cornelius Dunham. The company’s first project, in 1883, was installing arc lighting at the Asylum Street railroad station. By 1900, Hartford became the first city in New England to feature an all-electric street lighting system, marking HELCO’s rise as a pioneering force in electricity generation and distribution.



Figure 3-7. Office of HELCO at 266 Peal Street where an arc lamp and lighted signage is visible, Hartford, c. 1902
Source: Connecticut Museum of Culture and History

HELCO quickly became known for its innovative contributions to the electrical industry. In 1893, it became the first public utility in the United States to transmit three-phase alternating current over long distances, sending electricity from the Rainbow Hydroelectric Station on the Farmington River to its Pearl Street station in Hartford. The company also introduced groundbreaking advancements in energy management, including the use of a storage battery in 1896 to store power from its hydraulic plants and supply peak energy demands.



*Figure 3-8. Steam turbine "Mary Ann" housed in the Pearl Street power station in 1901
Source: University of Connecticut Archives & Special Collections*

As HELCO grew, its ability to harness cutting-edge technology helped to shape the electric age in Hartford. The company installed the first steam turbine used by a public utility in 1901, a 55-ton Westinghouse unit affectionately named "Mary Ann." By 1902, HELCO's system powered 77,000 incandescent lights and over 1,000 arc lamps, solidifying its role in making Hartford a leader in electric power use per capita. Additional innovations included the invention of the electric range, marketed by Dunham in 1908, which quickly became a staple in 20,000 Hartford homes.

HELCO's reach expanded with the construction of the Tariffville dam and powerhouse on the Farmington River in 1899, utilizing aluminum for transmission conductors for the first time. In 1915, HELCO partnered with the Connecticut Power Company, creating a power exchange agreement that allowed the two companies to cooperatively supply electricity to their customers. This partnership paved the way for HELCO's eventual merger with the Connecticut Power Company in 1958 (University of Connecticut, 2013) (Mirecki, 2020).

History of the South Meadow Power Plant

As Hartford's population expanded and the need for electricity grew in the early 1900s, the Hartford Electric Light Company needed to expand its power generation capabilities. In 1904, a new power plant was established at Dutch Point on the south side of the city. The "Mary Ann" steam turbine was laboriously relocated to this facility and the Pearl Street plant transitioned to serve as a distribution substation.

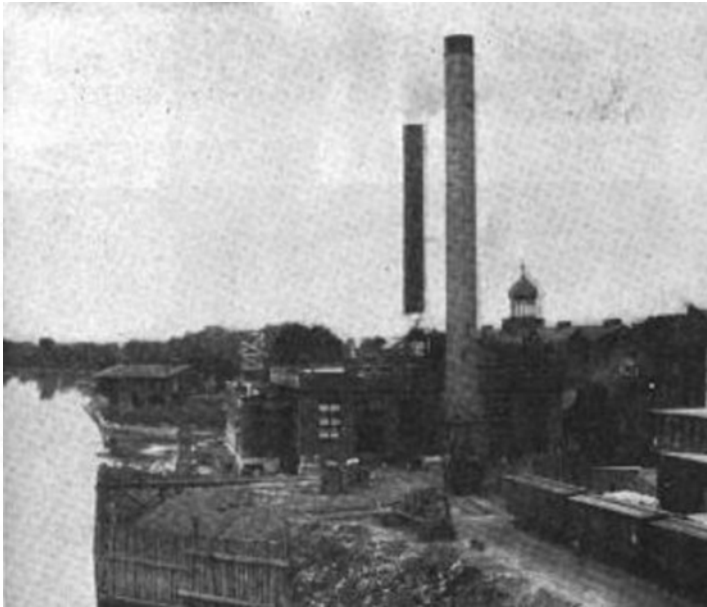
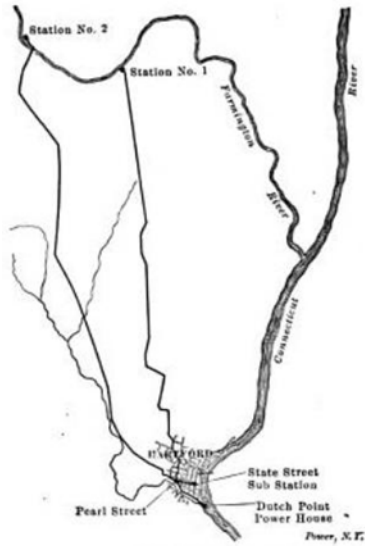


Figure 3-9 (left). Layout of HELCO stations in Hartford in 1909, showing Dutch Point on the south side of the city. Source: Power and the Engineer; Figure 3-10 (right). Image of the Dutch Point Power Plant in 1909. Source: Power and the Engineer

Over the following years, the Dutch Point plant underwent several expansions to increase its size and capacity. By 1917, the plant had reached its limits, prompting HELCO to acquire land a mile south on the Connecticut River for the construction of the new South Meadow Power Station (Hill Publishing Company, 1909) (Sterner, 2024).

Figure 3-11. Screenshot of Hartford Courant article reporting the opening of the South Meadow Power Plant on December 18, 1921
Source: Newspapers.com

The South Meadow Power Plant opened in 1921 to great enthusiasm and acclaim, celebrated as a paragon of efficiency with remarkably low operating costs. The plant's opening was marked by an article in the Hartford Courant on December 18, 1921, which noted: "So thoughtfully and carefully has the planning and building been done that it will require only about sixty employees to operate the station...Not only in the choice of equipment has forethought for efficiency been employed. The installation of it, the planning of the locations and the like, also tends to the best and most economical results" (Space and Maintenance Economy in Hartford Electric Light Co. Power Station at South Meadow, 1921). This innovative design reflected the advancements in technology and management that characterized the era, positioning the South Meadow Power Plant as a significant addition to Hartford's energy infrastructure.



*Figure 3-12. View of the South Meadow Power Plant from the Connecticut River in 1922
Source: Hartford History Center, Hartford Public Library*

In 1923, HELCO installed a new, experimental turbine at the Dutch Point plant that ran on mercury vapor instead of steam. The turbine was damaged and shut down in 1927, but in that same year, the company completed a substantial, new addition at the South Meadow plant to contain a similar unit, which was the first commercial mercury cycle generating unit in the country. Despite the high cost of mercury and the health hazards of mercury fumes, the turbine continued to operate until 1947, when it was replaced with a new mercury boiler unit for \$2,000,000 (Preservation Connecticut, 2024) (The Hartford Courant, 1947).

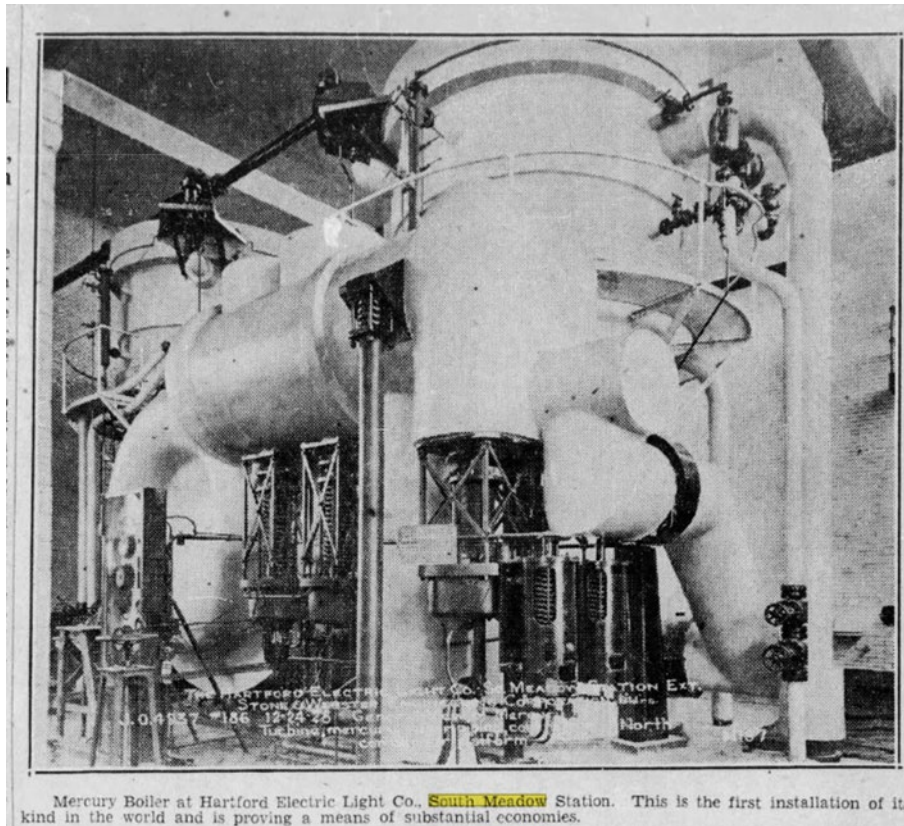


Figure 3-13. Photo of the mercury boiler at South Meadow Power Plant from 1933
Source: *The Hartford Daily Courant*, July 2, 1933

The plant transitioned to petroleum fuels by the 1940s and was converted into a waste-to-energy facility in the 1980s, which ultimately ceased operations in 2022 (MIRA, Future Redevelopment in South Meadows, 2024). The Dutch Point Power Station was demolished in 1962, leaving the South Meadow Power Plant as an important vestige of 20th-century industrial architecture along the Connecticut River.

Historic Building Evolution and Existing Conditions

The original core of the 1920s power plant at South Meadow survives and is legible today. However, the building has undergone several additions and expansions to reach its existing condition, with periods of construction from nearly every decade since its erection.

The first opportunity for the building footprint to be documented would likely have been on the 1922 Sanborn Company Fire Insurance Maps of Hartford. However, the property is blank with a note that the “Hartford Electric Light Company’s Power Plant” is located “beyond,” but permission to survey the plant was refused by the company (Yale University Library, 1922).

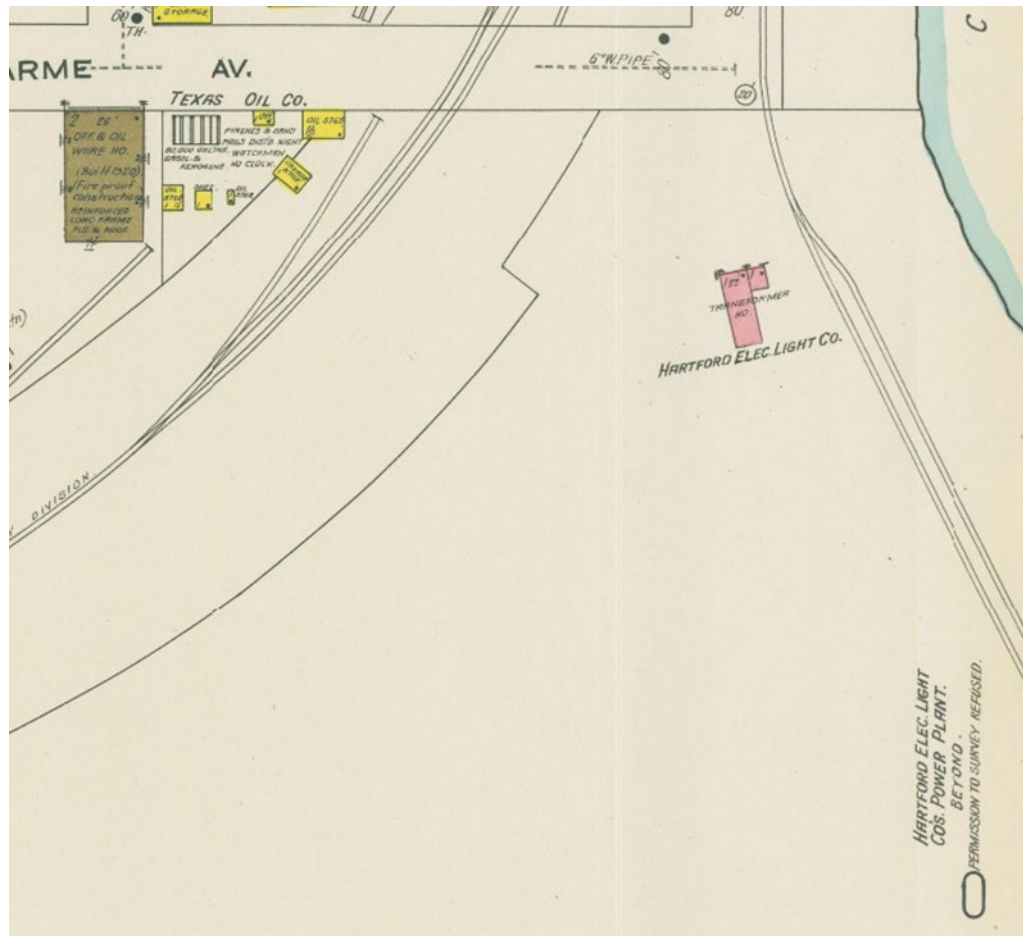


Figure 3-14. Screenshot of the 1922 Sanborn Map in the vicinity of South Meadow Power Plant, noting the plant was not surveyed because the company "refused permission"
Source: Yale University Library

Early on, a major addition was incorporated to house the new mercury vapor turbine in 1927. Aerial imagery from 1934 shows a large rectangular addition had been constructed westward, toward the rear of the building, and a long, shorter addition was built expanding south of the building, adjacent to the river. At this point, it appears the rear wing of the building was engulfed by the rectangular rear addition, but the roof forms of the primary body and north extension are defined as an L-shaped footprint in the northeastern most corner of the building mass.

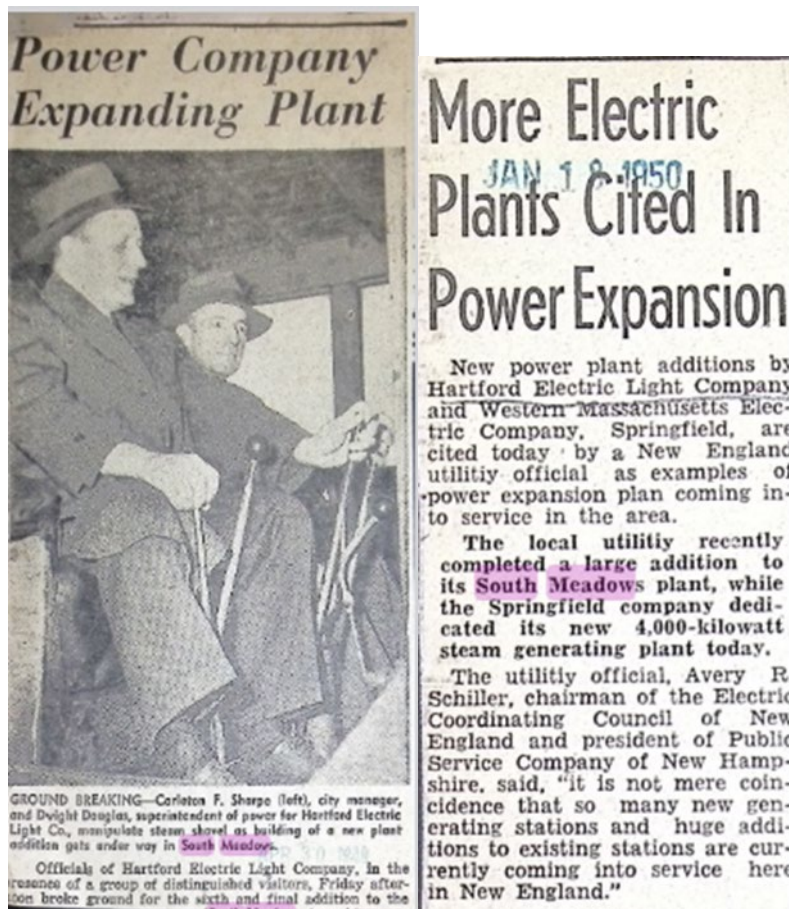


Figure 3-15 (left). Article from Hartford Courant discussing the planned expansion of the South Meadows Power Plant, April 30, 1948. Source: Hartford Public Library; Figure 3-16 (right): Article from Hartford Courant noting a "large addition" was recently completed at the South Meadows plant, January 18, 1950.

Source: Hartford Public Library

Large-scale use of mercury for power generation came to an end in the mid-20th century, and the mercury turbines at the South Meadow plant ceased operation in the mid-1960s (Preservation Connecticut, 2024). When the property was converted to a resource recovery operation in the 1980s, more additions were incorporated into the power block facility, and a larger waste processing facility was constructed in a separate building to the south. These interventions did not impact the original, historic portion of the building.



Figure 3-17. View of the north elevation of the building today, with the historic portion seen on the right-hand side
Source: Weston & Sampson site visit, 2024

Today, the historic L-shaped footprint of the plant remains discernible. Comparing the structure to a 1922 photograph, many original architectural features, such as the large arched windows, brick corbelling, and stone details like the string course, cornice, sills, and keystones, are still intact, distinguishing the historic building from later modern additions. Additionally, a significant amount of historic material appears preserved both on the interior and exterior, including metal windows, enameled brick, and wood paneling. Also, notably, the historic structure still contains two General Electric steam turbines from 1942 and 1949, two boilers from 1960, and an 1883 Armington-Sims 50-horsepower steam engine that was originally used at the Hartford Electric Light Pearl Street Station (Preservation Connecticut, 2024).



Figure 3-18. Examples of historic materials still extant on the building, include (left to right) wood paneling, metal windows, and enameled brick
Source: Weston & Sampson site visit, 2024.

Transportation

The Site is strategically located at the junction of Interstate 91, Interstate 84, and State Route 5, three miles south of downtown Hartford (see Figure 3-19). This location offers convenient regional connectivity for both commuters and freight transport. I-91 provides direct access to downtown Hartford to the north and the Bradley International Airport corridor, while I-84 connects to the western and eastern parts of Connecticut.

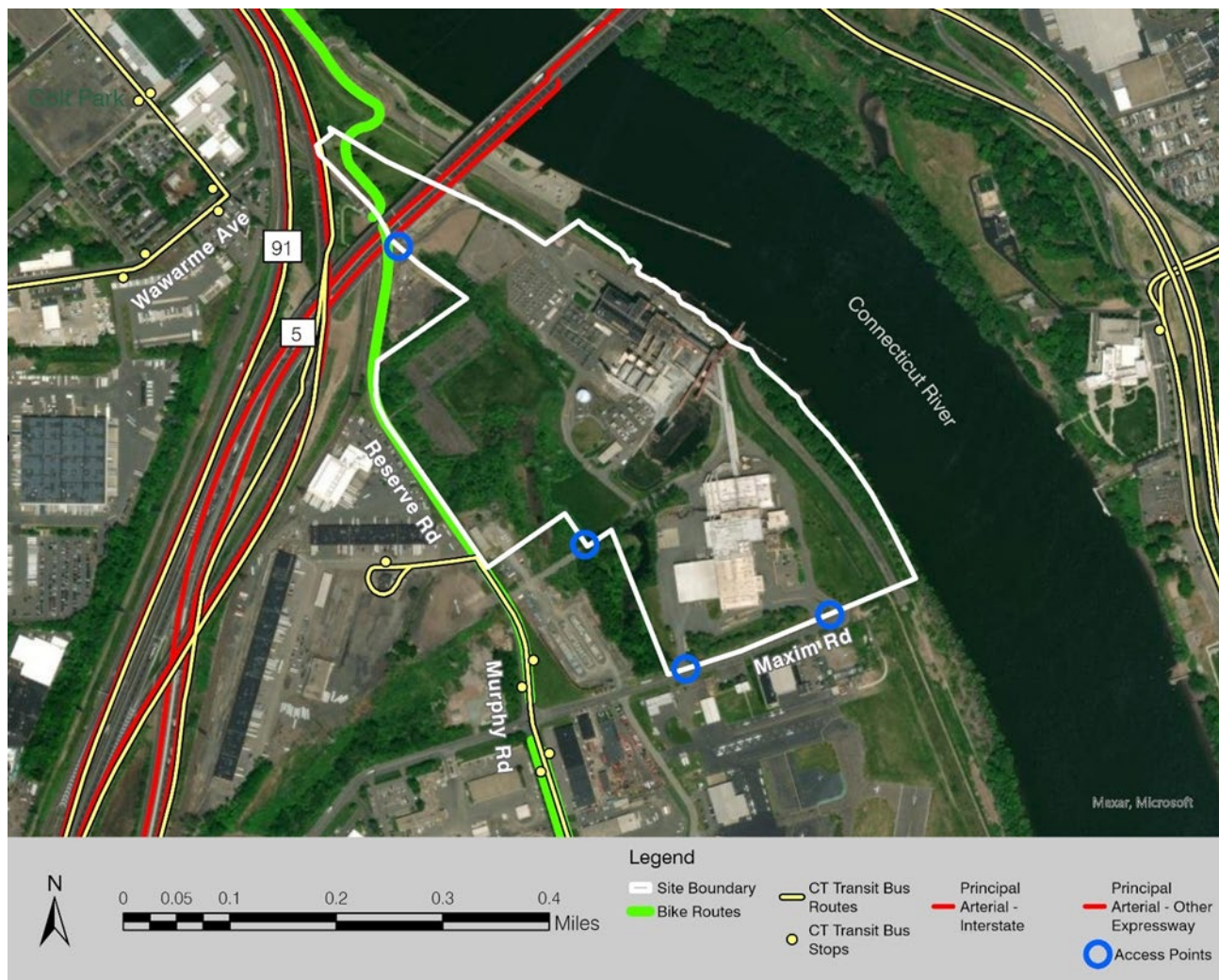


Figure 3-19. Transportation map
Source: City of Hartford Open Data 2024

Site Access

The Site has numerous access points, with the primary entrances on Maxim Road and Reserve Road. There is also site access from Reserve Road that is enabled by easement. Maxim Road connects directly to Brainard Road to the west, providing straightforward access to the regional road network. From there, Brainard Road links to Murphy Road and Airport Road, allowing vehicles to quickly reach I-91 and I-84.

Bus Network

Public transportation options are available with local bus routes serving nearby streets, making it easier for workers and visitors who use transit. The Site is connected to the Locust Street bus route along

Reserve Road, which makes a loop down Murphy Road and across the highway, going north on Locust Street, Wawarme Avenue along Colt Park, and beyond.

The Wethersfield Avenue/Middletown, New Haven/Hartford Express, Berlin Turnpike Flyer, Cromwell Express, Newington Express, Century Hills Express, Meridien Express, and Middletown/Old Saybrook bus routes travel along I-91 and Route 5, but do not have stops in or near the Site.

Pedestrian Resources

Pedestrian infrastructure in the immediate area is limited due to the prevalence of industrial and commercial developments.

Bicycle Resources

There is a one-sided bike lane on Reserve Road leading to the Site from Charter Oak Landing, which crosses the Charter Oak Bridge and then converts into a two-sided bike lane on Murphy Road, connecting to Brainard Road.

IV. CONCEPTUAL SITE CONSIDERATIONS

A. Hazardous Building Materials Inspection

This section summarizes the study-level Hazardous Building Materials Inspection (HBMI) performed by Eagle Environmental, Inc. (Eagle) at the Materials Innovation and Recycling Authority (MIRA) Resource Recovery Facility and Jet Turbine Facility (Appendix C). Due to the age of the Site buildings and the type of construction, the HBMI was performed to identify and quantify accessible hazardous building materials (HBMs) to support environmental compliance, develop remediation costs and inform future redevelopment planning. The study-level HBMI did not include inaccessible areas of the buildings or inaccessible building materials that could not be readily identified or sampled without disassembling equipment, coring through slabs and foundations, entry into confined spaces, or other means of destructive testing to locate and identify materials for testing. Inaccessible suspect ACMs were assumed to be ACM for the purpose of this study and additional testing is recommended to confirm ACMs and the quantities present.

The inspection focused on identifying and quantifying hazardous materials within accessible areas of the Site buildings and structures, including:

- **Asbestos-Containing Materials (ACMs):** ACMs were identified by licensed Asbestos Inspectors via sampling and analysis in accordance with EPA and OSHA standards.
- **Lead-Based Paint:** Suspect lead-based paints were screened using X-Ray Fluorescence (XRF) devices to evaluate lead content.
- **Universal Waste and Other Hazardous Materials (OHMs):** OHMs were visually inspected for regulated materials such as metal halide and fluorescent lamps, mercury-containing items, lamps, batteries, PCB/DEHP electrical components (excluding transformers that were previously inventoried), stored chemicals, paints, solvents, petroleum products, and refrigerants containing Chlorofluorocarbons (CFCs) or Hydrochlorofluorocarbons (HCFCs).
- **Polychlorinated Biphenyls (PCBs):** Suspect PCB-containing materials were identified and sampled following EPA standards in a parallel process during the HBMI. As the presence of PCBs have a significant and distinct impact on remediation approach and costs, those results are discussed below.

The HBMI was conducted between June and September 2024 and involved the collection of 1,507 asbestos bulk samples from 706 Homogeneous Areas (HAs) or suspect ACMs for asbestos analysis, the collection of 2,383 XRF lead paint readings, 76 PCB samples, and visual surveys to identify universal waste and other hazardous materials. While the majority of the Site buildings (~90-95%) were accessible, excluded areas include confined spaces, inaccessible materials or areas of the buildings/structures, and materials requiring destructive testing.

1. Asbestos Containing Materials

ACM Results Summary

From the 1,507 samples collected, 122 HAs were confirmed to contain asbestos at or above the State of Connecticut regulated level of 1% by weight or federal regulated level

of >1% by weight. An additional 61 HAs were visually identified as suspect ACMs but due to inaccessibility or the presence of vermiculite, were presumed ACMs.

Due to the newer ages of construction, limited amounts of ACM were identified in the Waste Processing Facility. The Power Block Facility, due to both its various ages of construction and the nature of its function, had widespread use of large quantities of ACM in building materials and finishes. Over 24,000 linear feet of wire coatings, over 5,000 linear feet of pipe insulation and over 15,000 square feet of ACM asphaltic tar were identified in the Power Block Facility along with other ACMs.

ACMs of note are listed below (quantities listed are approximate):

Waste Processing Facility:

- Window glazing compound: Eight doors and seven window sashes.
- Roof flashing cement: 20 square feet
- Assumed ACMs: Gaskets, adhesives, and pin tab adhesives in ductwork.

Power Block Facility:

- Boilers 9 & 10: Interior asbestos-containing materials including insulation, liners, gaskets and presumed refractory materials.
- 5,200 linear feet of asbestos-containing/contaminated pipe insulation.
- 829 ACM gaskets were identified in the boiler area with several additional gaskets in other areas of the buildings.
- 24,000 linear feet of ACM wire coatings in the boiler area, Turbine Hall, and Northeast Utilities Building.
- 2,200 sashes with ACM window glazing compounds.
- 2,000 linear feet of 48" diameter process water intake/discharge piping with ACM tar and felt coatings.
- 15,500 square feet of asphaltic tar on terracotta and clay block.
- Interior asbestos-containing tape on turbine stators.
- Roofing materials (flashing, tar, felts): Found across multiple buildings.
- Expansion joints and caulks: Significant quantities throughout walls and roof structures.

Numerous other ACMs present throughout the Power Block Facility were identified during the inspection which are included within the attached Eagle report.

2. *Lead-Based Paint Testing Results*

Lead-based paint was identified on limited site components within the Waste Processing Facility buildings, mainly metal handrails and metal fuel piping.

Within the Power Block Facility, a significant amount of lead-based paint was identified on structural steel but was limited on masonry surfaces, including both brick and concrete. Various other site components within and on the Power Block Facility such as metal door frames, window frames, and wooden components were also found to contain lead-based paint. Additionally, glazed ceramic block has lead present in its matrix with no coating present.

The lead-based paint screen results are provided on 36 individual XRF lead-based paint screen reports provided in the attached Eagle report.

3. *Universal Waste and Other Hazardous Materials (OHMs)*

Throughout the Site, Eagle identified approximately 10,000 linear feet of fluorescent lights and metal halide light bulbs, 75 mercury thermostat controls, 650 lead acid batteries (some in operational equipment) and 300 aerosol cans.

4. *PCBs/DEHP*

PCBs/DEHP (di-(2-ethylhexyl) phthalate) are assumed to be present in approximately 550 older type fluorescent light ballasts and capacitors found in motors and electrical components.

Additional OHMs such as refrigerants in heating, ventilation, and air conditioning (HVAC) equipment and window air conditioners, stored chemicals including paints, solvents, household chemicals, and stored petroleum products were all identified throughout the Site.

A detailed summary of inventoried universal waste materials and OHMs are included within the attached Eagle report.

5. *PCB Containing Building Materials*

Eighty samples were collected of suspected PCB-containing building materials, with the results detailed below. The sampling was limited to structures that were constructed or could have been renovated during the timeframe when PCBs were used in building materials, typically cited as between 1950 and 1980. The sampling results including sample photo log and lab results are included in a technical memorandum "PCBs in Building Materials Assessment" in Appendix D.

The regulation of PCBs in building materials is complex because EPA regulations differ based upon the source of the PCBs in the materials sampled. Specifically, if PCBs were added to building materials prior to their application to the structure, they are potentially regulated as PCB bulk product waste. However, if PCBs are found in building materials due to a release (i.e., PCBs are present due to a spill or aerial deposition), they are regulated as PCB remediation waste.

Building materials containing ≥ 50 mg/kg total PCBs and where PCBs were added to the building materials prior to use, are classified as PCB bulk product waste and are not authorized for continued use. These materials must be removed from the building. Building materials containing < 50 mg/kg total PCBs are classified as Excluded PCB Products and are not regulated by EPA. The potential for dilution of PCB content in the building materials must be considered as dilution is prohibited. Thus, building materials tested as containing < 50 mg/kg total PCBs may still be considered to be PCB bulk product waste.

Building materials containing PCBs where the source of PCBs is due to a release are regulated as PCB remediation waste. PCB remediation waste may be left in place if it does not pose a risk to human health and the environment. If a PCB remediation waste is to be left in place, it must be demonstrated that the volatilization of PCBs or potential for direct exposure does not pose an excess risk to human health.

Building materials with PCBs also present a continued risk of releases of PCBs to the environment, accordingly, EPA typically requires their removal or encapsulation.

CT DEEP has provided guidance on PCBs in building materials that is applied to materials classified as Excluded PCB Products under EPA regulations. Under the CT DEEP guidance, building materials containing ≥ 1 mg/kg PCBs are to be removed from the structure. In addition, the building substrates (i.e., the building material to which the PCB-containing material has been applied) must also be demonstrated to contain < 1 mg/kg PCBs or additional removal actions must be performed.

Sampling within buildings determined to potentially have PCB containing building materials was focused on paint, caulk, glazing, and tarry materials on the exterior and interior of the structures, as these materials are considered to be the most likely to contain PCBs. The primary focus of the PCB sampling effort was on paint within the structures because the presence of PCB-containing paint has a large effect upon demolition or abatement costs. Analytical results for building materials sampled are presented in Table 2.

Fifty-two samples of paint were collected during two rounds of sampling. During the initial sampling, one sample of green paint from the boiler room in the PBF was determined to be a PCB bulk product waste. A second round of sampling was performed to determine PCB content in green paint within the boiler room and surrounding areas of the PBF. Overall, PCBs were detected in forty-three of the fifty-two paint samples analyzed. Four samples were classified as PCB bulk product waste based upon the determined PCB concentration being ≥ 50 mg/kg total PCBs. Additional evaluation is required to determine if the remaining paint samples indicate the presence of Excluded PCB Products or PCB remediation waste and, if the materials are determined to be Excluded PCB Products, the applicability of CT DEEP guidance to these materials.

Eighteen samples of caulk were collected, and PCBs were detected in nine of the samples. One sample had a reporting limit ≥ 50 mg/kg and additional specialized testing is recommended to determine the actual PCB concentration in this material. Six other caulk samples had PCB concentrations > 1 mg/kg but < 50 mg/kg and additional evaluation is required to determine if the remaining paint samples indicate the presence of Excluded PCB Products or PCB remediation waste. If the materials are determined to be Excluded PCB Products, the applicability of CT DEEP guidance to these materials needs to be determined.

Five samples of window glazing materials were analyzed, PCBs were detected in three samples, however, none are classified as PCB bulk product waste, and the concentration of only one sample was > 1 mg/kg. It is considered likely that the glazing material with > 1 mg/kg total PCBs will be classified as an Excluded PCB Product and that only CT DEEP guidance will be applicable.

Five samples of tarry materials were analyzed. PCBs were detected in four samples, however, none are classified as PCB bulk product waste, and the concentration of two samples were > 1 mg/kg. It is considered likely that the tarry materials with > 1 mg/kg total PCBs will be classified as an Excluded PCB Product and that only CT DEEP guidance will be applicable.

Conclusions and Recommendations

Eagle's report provides a detailed inventory of hazardous materials, including asbestos quantities, lead-based paint distribution, and universal waste findings. Comprehensive additional sampling is recommended for inaccessible areas and to further delineate the presence of certain materials such as

PCBs in paint. Preliminary cost estimates for ACM and OHM abatement are discussed in Section VI of this report.

The HBMI survey findings serve as a critical resource for safe, compliant redevelopment of the former MIRA site. Plans and specifications for hazardous materials removal/management should be developed to support future abatement activities at the Site while adhering to EPA, OSHA, and state regulations during abatement and redevelopment.

We recommend that ACMs identified during the inspection be managed under an ACM O&M Plan until they are removed. The O&M Plan should, at a minimum, include provisions for repairing any damaged ACMs, labeling of ACM, training, and notification. Prior to renovation or demolition, we recommend confirming presumed ACMs in inaccessible areas through additional inspection and sampling. Finally, a licensed asbestos project designer should create detailed abatement plans as part of any design package.

The lead-based paint testing data should be used for future planning in developing a waste characterization sampling plan to support proper disposition of lead-contaminated waste materials generated during renovation or demolition of the Site buildings. Additional representative Toxicity Characteristic Leaching Procedure (TCLP) testing will likely be required to manage waste disposal streams once future use of the facility has been determined. The lead-based paint testing data should also be provided to contractors who may perform maintenance, renovation or demolition activities in the building to support in compliance with the OSHA Lead in Construction Standard (29 CFR 1926.62). The universal waste materials and OHMs will require collection and containerization for proper disposal prior to renovation or demolition.

The PCB building materials data requires further analysis to determine the appropriate classification of the building materials prior to preparation of bid documents for abatement or demolition. Specifically, evaluation of the sample results and the location of the materials should be used to determine if the building materials are a PCB bulk product waste, Excluded PCB Product, or PCB remediation waste. For those materials classified as Excluded PCB Products, CT DEEP guidance is applicable and those materials and the substrates to which they have been applied have different remedial goals. It is recommended that an abatement plan for the PCB-containing building materials be prepared and submitted to EPA and CT DEEP for review, comment, and approval prior to the preparation of any bid documents for building demolition or abatement.

B. Review and Documentation of Site's Flood Protection System

The Site is located along the west bank of the Connecticut River. In response to the devastating floods in 1936 and 1938, the U.S. Army Corps of Engineers (USACE) constructed the Hartford Flood Control System (HFCS) to reduce flooding risks. The HFCS consists of earthen dikes, concrete floodwalls, closure structures, and structures to facilitate drainage inside the protected area. The HFCS passes through the Site, with most of the area adjacent to the PBF consisting of a concrete floodwall. Several penetrations through or under the floodwall allow for the passage of pipes between the landside and the riverside.

Table 4-1 lists the existing utility penetrations through or under the floodwall. Identification numbers consistent with the HFCS Operation and Maintenance Manual are provided for reference.

Table 4-1. Utility penetrations at the Facility.

ID No.	Station	Description	Diameter/Size and Material of Penetration	Status
HD-36	84+21M	Storm drain	12 in. dia. pipe - Cast Iron	Active
HD-37	85+28M	Compressed air and water	1.5 in. dia. city water 1 in. dia. compressed air 6 in. dia. service water	Inactive
HD-38	84+55M	Non-contact cooling water intake (Unit 6)	48 in. dia. pipe - Steel	Inactive
HD-43	86+77.5M	Service water intake	24 in. dia. pipe placed inside 48 in. dia. pipe - Steel	Inactive
HD-44	87+65M	Non-contact cooling water intake (Unit 5)	48 in. dia. pipe - Steel	Inactive
HD-45	87+40.6M	Water discharge (source unknown)	14 in. dia. pipe - Cast Iron	Inactive
HD-46	87+35.85M	Service water discharge	48 in. dia. pipe - Steel	Inactive
HD-47	87+85M	Non-contact cooling water discharge (Unit 5)	48 in. dia. pipe - Steel	Inactive
HD-47a	88+34M	Non-contact cooling water discharge (Unit 6)	48 in. dia. pipe - Steel	Inactive
HD-48	89+3.65M	Storm drain (former ash pit)	12 in. dia. pipe - Cast Iron	Inactive
HD-49	90+75M	Oil pipe in former ash pit drain	8 in. dia. oil line (Steel) placed inside 10 in. dia. drain line (Cast Iron)	Inactive
HD-50a	92+31.7M	Jet fuel line	8 in. dia. pipe - Steel	Inactive

There are no penetrations numbered HD-39 to HD-42.

After construction of the HFCS, the USACE handed over management of the flood control infrastructure to the City of Hartford as the Local Sponsor. The Greater Hartford Flood Commission (GHFC), a consortium of the communities protected by the HFCS, is presently the Local Sponsor.

The GHFC has expressed concerns that the existing utilities represent a risk to the HFCS. In a May 10, 2022 letter to the MDA, the GHFC requested that the MDA provide information regarding the operation, inspection, maintenance, and emergency preparedness of the floodwall penetrations. The GHFC also indicated that utilities penetrating the floodwall and facility features encroaching on the floodwall right-of-way that no longer serve a useful purpose are to be removed or abandoned in accordance with industry standards. Part of the scope of this study was to develop an Operation, Inspection, and Maintenance Plan (OIMP) and Emergency Preparedness Plan (EPP) for the floodwall penetrations, and to prepare a report documenting the work required and estimated costs to properly abandon or remove each floodwall penetration and encroachment.

Our work to prepare these documents included the following tasks:

- Reviewing relevant documents provided to us by the MDA and readily available public information.
- Visiting the Site to observe existing conditions and search for record drawings in the Facility's plan room.
- Attending a meeting with the Authority and the GHFC to discuss the work and understand GHFC's concerns regarding penetrations and encroachment.
- Developing a scope of work and cost estimate for utility abandonment and encroachment removal.

A summary of each plan and report is provided below.

1. Operation, Inspection and Maintenance Plan - OIMP

The OIMP, provided in Appendix E1, documents the requirements for the operation, maintenance, and inspection of each utility penetrating the floodwall.

Of the twelve identified penetrations, only one, a storm drain outfall (HD-36), is active. Some of the penetrations have gate valves at various locations along their lengths. Operation consists of opening and closing the valves. The inactive penetrations will have their valves always kept closed. The gate valve on the storm drain outfall will be kept open, except during flooding.

Inspection consists of performing visual observations of the penetrations, the surrounding ground surface, valves, and valve chambers for signs of distress or damage. The inspections will be performed annually. The penetrations will also need to be inspected internally using a closed-circuit television camera every five years.

Maintenance consists of dewatering and cleaning valve chambers, lubricating and trial-operating gates, and replacing worn seals.

2. Emergency Preparedness Plan - EPP

The EPP, provided in Appendix E2, defines the roles and responsibilities of those in charge of monitoring for and responding to emergency conditions involving floodwall penetrations. The EPP is intended to become a part of the GHFC's Emergency Action Plan for the HFCS. The EPP defines the flood response process using a phased approach where the level of readiness and monitoring increases with the predicted flood level. The phases in the EPP are consistent with the emergency operations procedures in the HFCS Operation and Maintenance Manual. The EPP also provides guidance for patrols to be performed during flood events, and flood response equipment and materials to be stored and stockpiled on site. Procedures for coordination with other agencies participating in citywide flood response is outlined.

3. *Proper Abandonment / Removal of Penetrations and Encroachments*

The report documenting the requirements for the abandonment and removal of floodwall penetrations and encroachments is provided in Appendix E3.

The USACE provides guidance for the proper abandonment of floodwall penetrations. Two methods outlined are removal and in-place decommissioning. Removal is impractical for all but one penetration (HD-50a, a liquid fuel line), as the remaining penetrations pass under the floodwall. In-place decommissioning consists of excavating to expose the pipes on each side of the floodwall, cutting the pipe on each side of the floodwall, and filling the pipe with cement grout or concrete.

In addition to the penetrations already identified, concrete tunnels formerly conveying intake and discharge cooling water pass under the floodwall. After the retirement of South Meadow Station Units 1 and 2 in the 1970s, both tunnels were abandoned. Based on a drawing that was included in the 1981 HFCS Operations and Maintenance Manual, both tunnels were abandoned by bulkheading the tunnels on either side of the floodwall and filling them with concrete to create an internal concrete plug. On the riverside, the discharge tunnel was filled with sand from the concrete plug to a second concrete plug at the discharge canal.

The GHFC has expressed concern that if the concrete plug in the discharge tunnel in the discharge canal were to be damaged, the sand could ravel out of the tunnel. If the empty tunnel were then to collapse, undermining of the floodwall toe could occur. To alleviate the risk of this sequence of events occurring, the MDA should consider replacing the sand fill with a more erosion-resistant material, such as flowable fill.

Floodwall encroachments include pipes mounted on the riverside face of the floodwall and along the south oil dock, cable trays mounted to the top of the floodwall, a utility bridge spanning from the PBF to the top of the floodwall, and catwalks spanning from Screenhouses No. 1 and No. 3 to the top of the floodwall. The identified encroachments are all located above ground and can be removed using conventional equipment.

Costs of this work are estimated to be \$2.65 million. The estimate carries a 40% contingency, which reflects the conceptual level of project development at present. The cost estimate does not include disposal of asbestos-containing materials, any other hazardous building materials, or hazardous materials within the existing lines. The cost estimate assumes that the excavated soils can be reused as backfill. If environmental testing indicates that the soil cannot be reused as backfill, we estimate that the additional cost to dispose of soil offsite and backfilling the excavations with imported fill is \$550,000. The cost estimate does not include design and permitting for the work.

C. Additional Site Considerations

The MIRA site is the subject of multiple easements and encumbrances. The information in this section includes the maps included in the South Meadows Redevelopment Request for Proposals as well as additional maps provided by MIRA, a four-page set of maps titled "Map Showing Property of the Connecticut Light & Power Company to be Conveyed to Connecticut Resources Recovery Authority Maxim & Reserve Roads Hartford, Connecticut, dated December 15, 2000. The discussion of Brownfields in the following section discusses environmental land use restrictions (ELURs), and the section below summarizes the easements by category.

There are various types of easements on site, including utility easements, easements related to the flood control system, rights-of-way, and other encumbrances. This report will focus on the easements that are mapped and have the potential to impact redevelopment.

1. Eversource Easements of Neighboring Infrastructure

Eversource owns two electrical substations just northwest of the PBF: a 115kV switching station and a 115kV/23kV transformer station along with underground duct banks and overhead transmission lines. When the PBF was generating power, it would feed directly into the 115kV switching station, which in turn was fed to the adjacent 115kV/23kV transformer station through underground lines and then directed through underground duct banks running to the north and southwest. There are also overhead transmission lines running east across the Connecticut River and southwest. Each of these structures have easements in favor of Eversource.

Since the Eversource infrastructure is located in the center of the property, Weston & Sampson met with Eversource to discuss the possibility of moving the substations and duct banks to another location and the approximate cost for doing so. Eversource indicated that there are no plans to move or modify the existing electrical infrastructure other than to disconnect the PBF building from the 115kV switching station. However, in mid-January they agreed to evaluate the potential cost to remove the electrical substations and duct banks off the property. In the meantime, Tetra Tech's Power Unit developed a conceptual plan to remove the electrical substations to the southwest corner of the Site adjacent to Reserve Road and prepared conceptual (Level 5) cost estimate for the relocation. The OOM cost estimate for relocating the electrical substations and re-routing of electrical lines was estimated between \$78M and \$312M in present value costs. The substation cost estimate study, including a site plan showing the proposed relocation, is included in Appendix F.

Table 4-2. Utility Easements

Type	Description
Sewer Easement	From the Hartford Electric Light Company to the Metropolitan District, dated August 29, 1977, and amended (Encumbrance #24)
Right-of-Way and Easement for Telephone Lines	From the Hartford Electric Light Company to the Southern New England Telephone Company, dated August 31, 1973 (Encumbrance #22)
Utility Towers and Equipment Rights	Rights of Connecticut Light and Power Company d/b/a Eversource Energy in utility towers, electric poles, and equipment (Encumbrance #34D).
Propane Tank Easement	From Connecticut Resources Recovery Authority to Connecticut Light and Power Company, dated March 10, 2006, and modified in 2014 (Encumbrance #35).

There are access easements for the operation and maintenance of the substation and switchyard. The specific limitations on the utility easements and the Eversource easements need to be refined to fully understand the impact on redevelopment potential.

2. *Railroad, Drainage or Access Easements*

The Site features one long and one short railroad siding remnant on its western part. These remnants are not connected to any existing rail lines and are no longer in use, but they remain visible on the Site.

There are easements related to existing public infrastructure, to allow for access to these facilities for operation and maintenance. These include:

Flood Control Easements - There are easements related to the flood control system in favor of the City of Hartford and the Greater Hartford Flood Commission for their continued operation and maintenance. This is a 30-foot setback on both sides of the facility, where buildings cannot be located.

Highway and Bridge Easements – These easements allow access for the maintenance of highways and bridges in favor of the State of Connecticut.

A permanent right of way that grants access from Reserve Road at Gate 40.

3. *Proximity to Brainard Airport*

Originally known as Brainard Field, Hartford Brainard Airport is mainly used by recreational pilots, flight schools, and various aviation-related businesses. It is managed by the Connecticut Airport Authority (CAA) and the State of Connecticut. In 2022, the City of Hartford commissioned a report titled "The Hartford-Brainard Airport – A Visioning Plan for Its Future." This report reviewed potential redevelopment alternatives. Land use compatibility near airports is essential to ensure that development around airports does not interfere with aviation safety or expose surrounding communities to significant risks (City of Hartford, Hartford-Brainard Airport Visioning Report for the Future, 2022). Federal Aviation Administration (FAA) guidelines, several restrictions apply to land use near airports, and these are tied to specific compatibility factors (FAA, 2022). Below are several potential restrictions related to development near an airport. Current research indicates that the runway protection zone for Hartford Brainard Airport is located away from the former MIRA site, but official coordination with the FAA is needed to confirm this.

Height Restrictions

Tall structures, such as buildings or towers, must comply with FAA Part 77 regulations to avoid penetrating protected airspace. Incompatible land uses include any developments that obstruct navigable airspace or increase the risk of collision. Compatible uses are lower-profile developments that do not interfere with aircraft flight paths.

Noise Compatibility

Land uses that are sensitive to noise, such as residential areas, schools, and hospitals, are generally incompatible within areas where noise levels exceed the Day-Night Average Sound Level (DNL) of 65 decibels (dB). Compatible uses in noisy areas include industrial, commercial, and agricultural developments, which are less sensitive to noise pollution.

Runway Protection Zones (RPZs)

The areas directly off the ends of runways are designated as RPZs to enhance safety for people and property on the ground. Residential, commercial, and recreational developments are considered incompatible due to the risk of accidents in these zones. However, open spaces, certain agricultural

uses, and airport infrastructure are compatible, if they do not pose a hazard. The RPZ for Hartford-Brainard Airport is shown in Figure 4-1 (Connecticut Department of Transportation, Hartford Brainard Sustainable Airport Master Plan, 2014).

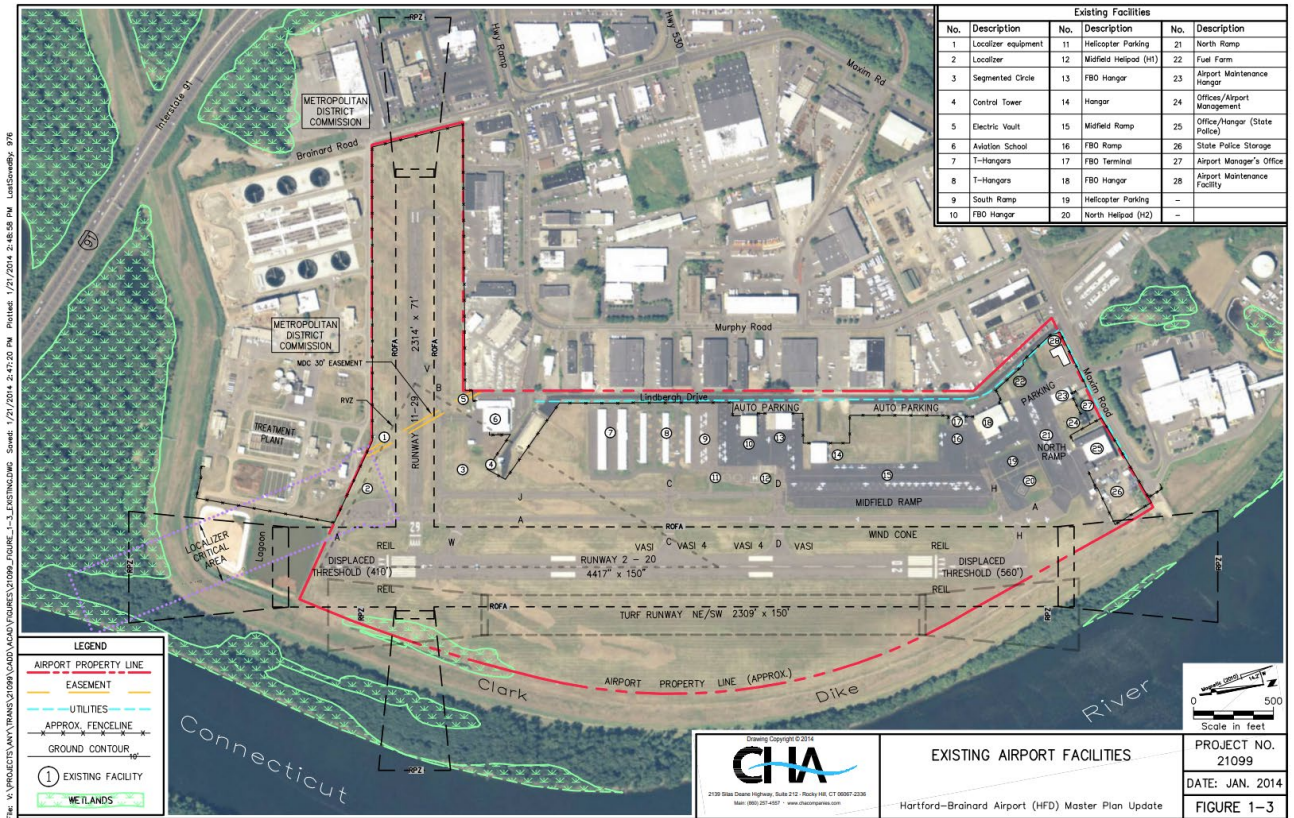


Figure 4-1. Runway Protection Zones Among Existing Airport Facilities
 Source: Hartford Brainard Sustainable Airport Master Plan Update 2014

Wildlife Attractants

Land uses that attract wildlife, such as waste disposal sites, water bodies, or certain types of agriculture, are incompatible near airports due to the increased risk of bird strikes and other wildlife-related hazards. Compatible uses are those that do not attract wildlife or implement strategies to minimize wildlife hazards.

Visual and Atmospheric Interference

Developments that produce glare, light emissions, smoke, or steam are incompatible as they can impair pilot visibility during landing and takeoff. Compatible land uses are those that avoid causing visual or atmospheric disturbances and do not obstruct the pilot’s line of sight or disrupt navigational aids.

4. Proximity to Connecticut River, Charter Oak Landing, and Colt Park

As shown in Figure 4-2, Charter Oak Landing extends into the Site along the Connecticut River. On the ground, however, access ends at a parking lot directly north of the Eversource substation. The park contains paved roads, pedestrian paths, and open space on the riverbanks.

Across the highway to the northwest is Colt Park and Trinity Health Stadium. Colt Park has several athletic fields, a playground, and a municipal pool. A large parking lot separates Trinity Health Stadium from the park. As discussed in this section, various plans by the City of Hartford have a concurrent vision for the City's riverfront space. Based on the work of Riverfront Recapture, the Capital City Parks Plan, and the Bicycle Master Plan, this vision is a riverfront park that includes pedestrian and bike paths, comprising the length of the Connecticut River shoreline in Hartford.

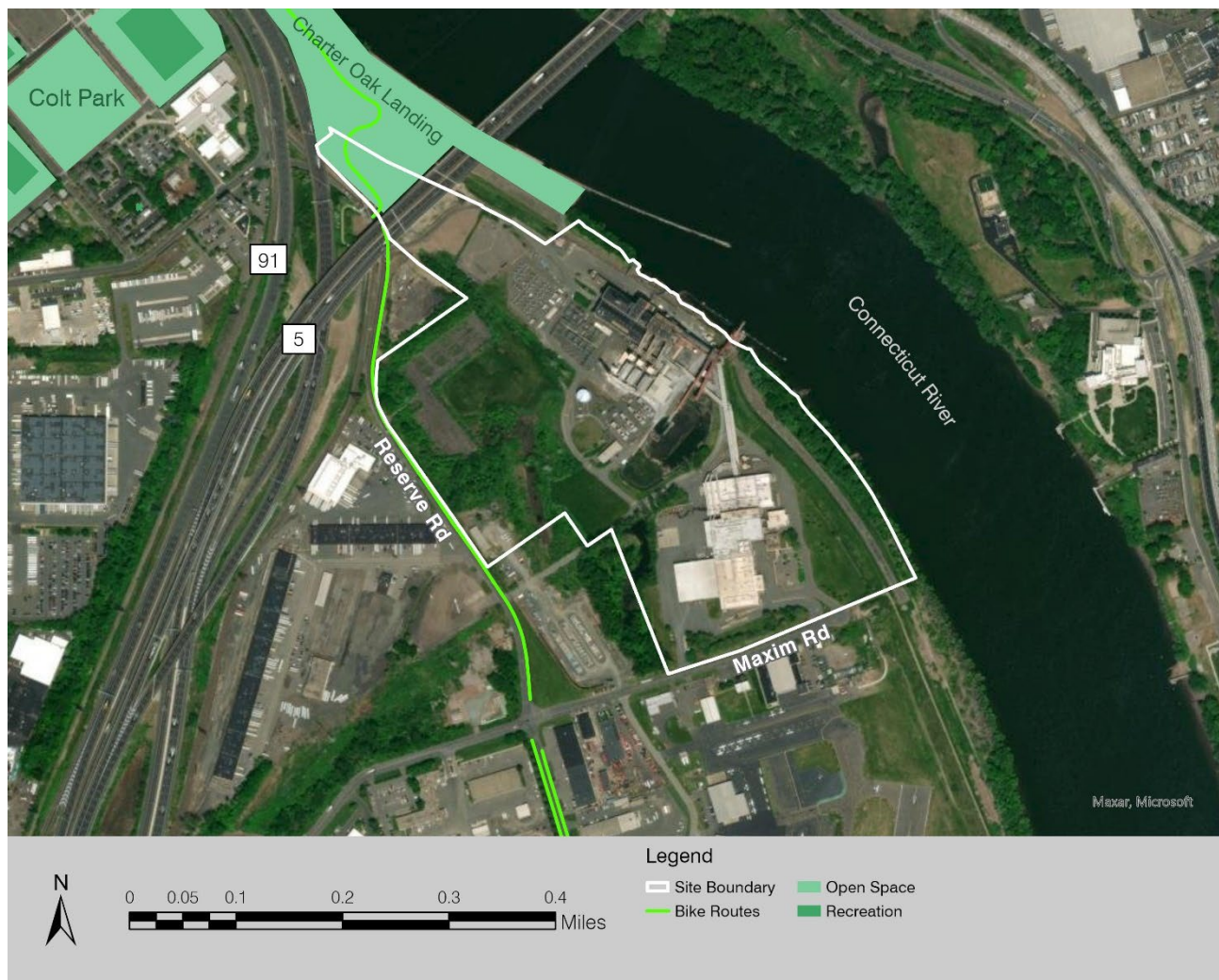


Figure 4-2. Open space and recreation map
Source: City of Hartford Open Data 2024

5. Wetlands and Site Drainage Considerations

The Connecticut River runs from north to south directly along the eastern edge of the project area. Figure 4-3 depicts the wetlands present on site and the concrete levee wall which is part of a larger levee system that includes a 35-foot high berm extending south from the wall.

A total of eight wetland areas (designated Wetlands A through E and Wetlands G through I) comprising 2.5 acres were identified on the property by the Connecticut Resources Recovery Authority and are

shown in Figure 4-3 (Connecticut Resources Recovery Authority, 2013). The current coal pond is also shown in Figure 4-3.

Wetland F was determined to be offsite following its initial delineation. Although technically delineated as a wetland, Wetland G, also known as Stormwater Basin G, is a stormwater detention basin at the Waste Processing Facility. Wetland G was remediated in 2013. Wetlands A, B, C, D, E, G, H, and I are “not subject to regulation by the City of Hartford Inland Wetlands and Watercourses Commission based on a declaratory ruling from the State of Connecticut that allows the Connecticut Department of Energy and Environmental Protection to review and approve all regulated activities within wetland areas on CRRA property” (Connecticut Resources Recovery Authority, 2013)

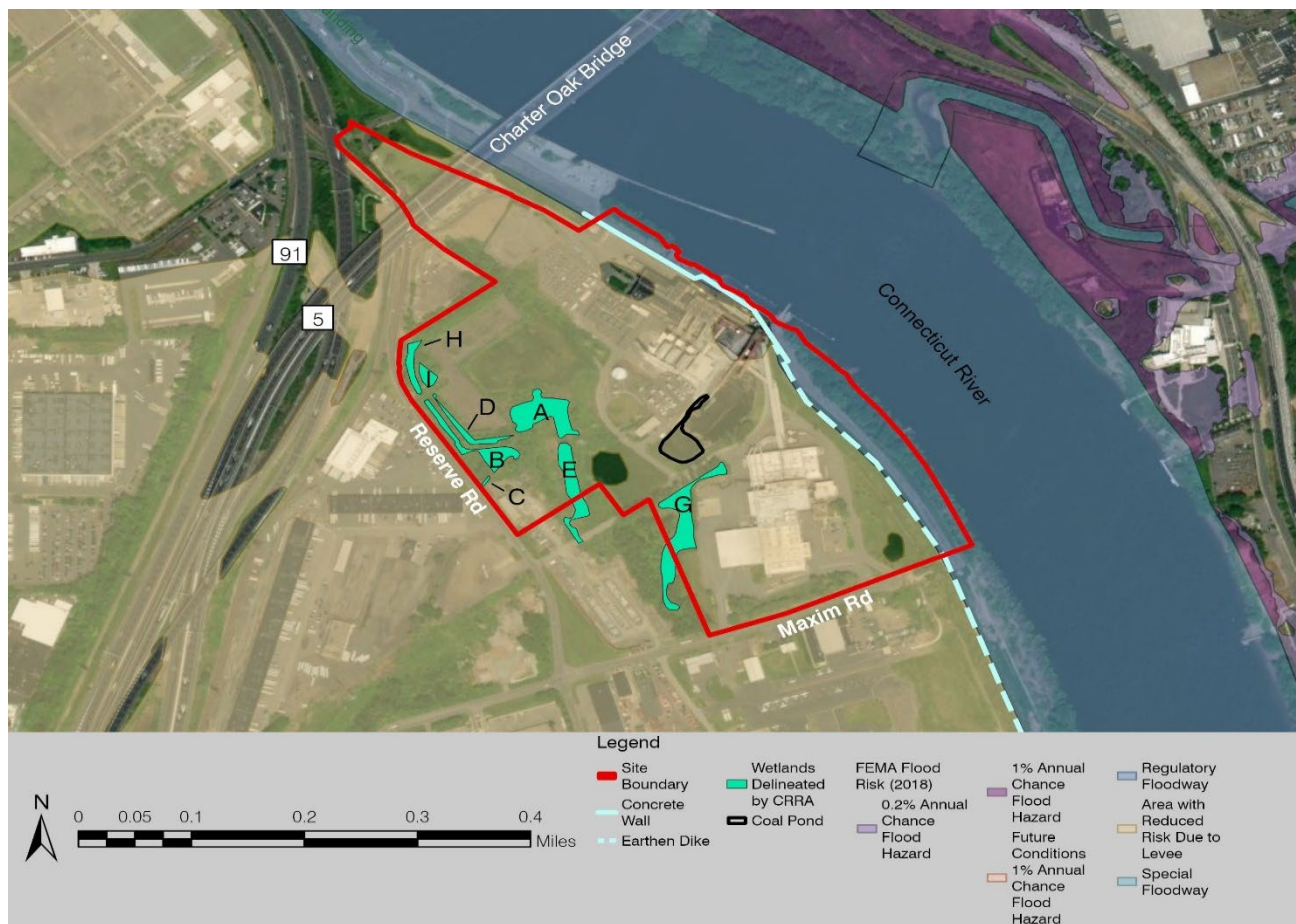


Figure 4-3. Water resources map

Source: City of Hartford Open Data 2024, National Wetland Inventory 2024, FEMA 2018, Connecticut Resources Recovery Authority Power Block Facility Wetlands Area Remediation Action Plan 2013

D. Permits and Approvals to be Considered

This section describes local land use restrictions including zoning and wetlands.

Zoning Constraints

The Site is primarily located in the Industrial District (ID-1) and Connecticut River Overlay District, with a portion of the eastern side in the Open Space District, as shown in Figure 4-4. The following is a

summary of the types of allowed uses within these zoning districts.

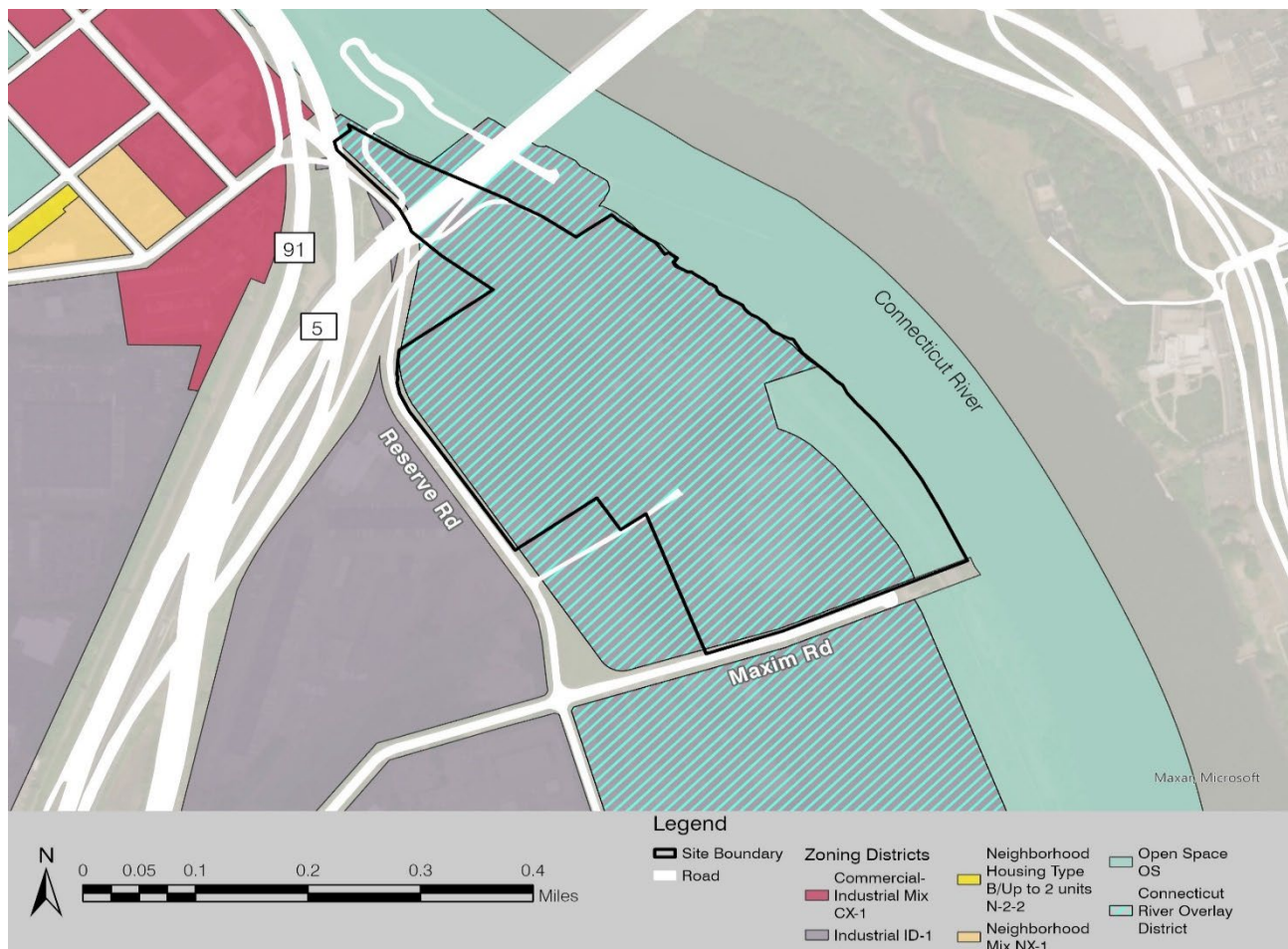


Figure 4-4. Zoning map

Source: CT Environmental Conditions Online 2012, City of Hartford Open Data 2024

Industrial District

The ID-1 District is designed for medium to heavy industry with a minimum of noise, odor, glare, and pollution and moderate traffic on public streets. The zoning language specifically calls out using this district to integrate lower-impact industry with surrounding residential areas. This differentiates it from the ID-2 District, which is designed for heavier industries such as waste processing and motor vehicle wrecking yards. Accordingly, the ID-1 designation reflects the City’s desire for redevelopment on the Site. The current closest residential areas to the Site are the Neighborhood Mix Districts (NX-1) across the highway to the northwest (City of Hartford, Zoning Regulations, 2024).

Permitted Uses

The principal permitted uses, permitted uses with use-specific conditions, and uses requiring a special permit for the ID-1 District are listed in Table 4-3.

Table 4-3. ID-1 Principal Permitted Uses

Permissions	Uses
Permitted Uses	<u>Service Use</u> : General service; Automobile fueling & limited service; Automobile service/car wash; Automobile, truck, limousine rental; Community service; Eating places
	<u>Infrastructure Use</u> : Parking as principal use
Permitted Subject to Use-Specific Conditions	<u>Residential & Lodging</u> : Temporary shelter facility
	<u>Open Space</u> : Community garden; Honey beekeeping; Park
	<u>Retail Use</u> : Commercial equipment & supply; Convenience store; Discount variety store; Outdoor sales lot
	<u>Service Use</u> : Pawn shop/check cashing establishment; Tattoo/piercing parlor
	<u>Employment Use</u> : Craftsman industrial
	<u>Industrial Use</u> : Heavy industry; Light industry; Outdoor storage yard; Transportation facilities; Warehouse/distribution
	<u>Cannabis Use</u> : Medical marijuana producer
Permitted Subject to Use-Specific Conditions with Possible Special Permit	<u>Residential & Lodging</u> : Group living for health reasons
Requires a Special Permit	<u>Residential & Lodging</u> : Rooming house/boardinghouse
	<u>Civic & Institutional</u> : Assembly, general; Government/higher education/hospital; Police/fire; Stadium/arena; Transit station
	<u>Open Space</u> : Intensive park uses; River uses; Urban farm
	<u>Service Use</u> : Neighborhood service
	<u>Adult Use</u> : Adult establishment
	<u>Infrastructure Use</u> : Transportation & utilities; Transmission towers
	<u>Cannabis Use</u> : Cultivator; Micro-cultivator; Retailer; Hybrid retailer; Product manufacturer; Food and beverage manufacturer; Product packager

Source: (City of Hartford, Zoning Regulations, 2024)

Building Types

Allowed building types for new construction, renovations of existing structures, and redevelopment in the ID-1 District are Commercial Centers, General Buildings, and Workshops/Warehouses (City of Hartford, Zoning Regulations, 2024).

Commercial Centers describe stores that are accessible to both pedestrians and vehicles, with parking lots along the street and generally ground-story retail.

General Buildings typically have office, civic, and residential uses, and are designed to be accessible to pedestrians and transit riders. Buildings have a landscaped area before the sidewalk, and parking is generally in the rear of the lot.

Workshops/Warehouses in Industrial Districts specifically are designed to be more flexible for different truck loading, warehousing, and manufacturing uses. However, the buildings are still located close to the front lot lines to allow for pedestrian access.

Dimensional Requirements

Dimensions for each of the allowed building types are listed in Table 4-4. Additional dimensional requirements can be found in Section 4.0 of the Zoning Regulations.

Table 4-4. Dimensional Requirements of ID-1 Buildings

Dimensions	Building Type		
	Commercial Center	General Building	Workshop/Warehouse
Min. Lot Width	140'	None	60'
Max. Building Width	None	None	None
Max. Building Coverage	50%	60%	60%
Max. Impervious Area	70%	75%	80%
Min. Overall Height	1 story	2 stories	1 story
Max. Overall Height	4 stories	4 stories	No max.
Ground Story (Measured floor-to-floor)	14' to 18'	9' to 24'	12' to 30'
Upper Stories (Measured floor-to-floor)	9' to 14'	9' to 16'	9' to 16'

Source: (City of Hartford, Zoning Regulations, 2024), (City of Hartford, Zoning Regulations, 2024)

Connecticut River Overlay District

The Connecticut River Overlay District was created to open access to the river and allow for specific uses that account for ecological preservation. As shown in Figure 4-4, this district applies to all locations located within 2,000 feet landward of the Connecticut River, overlapping with a majority of the Site. Developers must file a zoning permit application unless other provisions of the Overlay District otherwise require a special permit application. Specifically, a special permit is required if construction is proposed within 75 feet landward of the Connecticut River (City of Hartford, Zoning Regulations, 2024).

Permitted Uses

Principal uses are limited to the following in Table 4-5, regardless of the uses of the underlying zoning. Accessory uses are allowed in conjunction with the principal uses.

Table 4-5. Connecticut River Overlay District Principal Permitted Uses

Permissions	Uses
Permitted Uses	<u>Residential & Lodging</u> : Multi-unit dwelling; Bed & breakfast; Hotel/apartment hotel
	<u>Civic & Institutional</u> : Assembly, general; School; Transit station
	<u>Open Space</u> : Intensive park uses; Park
	<u>Retail Use</u> : Neighborhood retail
	<u>Service Use</u> : Neighborhood service; Child day care; Drinking places; Eating places; Entertainment assembly; Temporary events
	<u>Employment Use</u> : Office; Craftsman industrial
	<u>Infrastructure Use</u> : Airport

Source: (City of Hartford, Zoning Regulations, 2024)

Building Types and Dimensional Requirements

Buildings follow the Building Types permitted by the underlying zoning. Building Type regulations apply to all buildings with the following exceptions:

- Minimum Overall Height shall be 3.5 stories.
- Maximum Overall Height shall be 30 percent greater than the Building Type otherwise allows.

Sustainability Requirements

As an additional requirement, the Connecticut River Overlay District may approve permit applications depending on the use of construction methods and building materials that minimize environmental impacts. Impacts include those affecting stormwater runoff, energy use, water quality, and air quality.

Parking Requirements

Maximum parking requirements by use are displayed in Table 4-6 (City of Hartford, Zoning Regulations, 2024).

Table 4-6. Maximum Parking Requirements by Use

Uses	Requirements
Residential & Lodging	
One-Unit Dwelling, Group Living for Health Reasons	Maximum 4 spaces per lot For a One-Unit Dwelling Building in N-1-1, maximum 6 spaces per lot
2- & 3-Unit Dwelling, Multi-Unit Dwelling, Efficiency/Micro Unit	Maximum 2 spaces per unit
Bed & Breakfast, Hotel/Apartment Hotel	Maximum 1.5 spaces per guest room
Temporary Shelter Facility	Maximum 1 space per bed
Group Living	In accordance with special permit review; guideline is maximum 1.5 spaces per adult resident, or for foster homes and children's homes guideline is maximum 2 spaces per 4 children residents
Residential Care	Maximum 1 space per bed (excluding bassinets)
Rooming house/Boardinghouse	In accordance with special permit review; guideline is maximum 1 space per rooming unit, plus maximum 1.5 spaces per dwelling unit of owner or manager

Civic & Institutional Uses	
Hospital	In accordance with special permit review; guideline is maximum 1 space per bed (excluding bassinets)
Library/Museum	None
All Other Civic & Institutional Uses	In accordance with special permit review
Open Space Uses	
Outdoor Market	2 per truck/kiosk
Park, River Uses, Urban Farm	In accordance with special permit review
Retail Uses	
Outdoor Sales Lot for Vehicles	1 space for each unregistered vehicle permitted to be sold, plus 1 additional space per minimum 10, maximum 5 such vehicles, reserved for visitors/employees
All Other Retail Uses	Maximum 3 spaces per 1,000 square feet net floor area devoted to retail space
Service Uses	
Automobile Fueling & Limited Service, Automobile Service/Car Wash, Drinking Places, Entertainment Assembly, & Smoking Places	In accordance with special permit review or, if special permit not required, in accordance with site plan review
Eating Places	Maximum 3 spaces for every 5 persons based on maximum capacity
All Other Service Uses	Maximum 3 spaces per 1,000 square foot of net floor area devoted to customer service
Adult Uses	
Adult Establishment	In accordance with special permit review; guideline is minimum 1 space, maximum 3 spaces per 600 square feet net floor area devoted to retail space; OR for assembly-type uses: minimum 1 space for every 4 persons based on maximum capacity
Employment Uses	
All Employment Uses	Maximum 4 spaces per 1,000 square feet
Infrastructure Uses	
All Industrial & Warehouse Uses	Maximum 1 space per employee
Cannabis Uses	
Cultivator, Micro-cultivator, Product Manufacturer, Food & Beverage Manufacturer, Product Packager, Medical Marijuana Production Facility	Maximum 1 space per employee
Retailer, Hybrid Retailer, & Medical Marijuana Dispensary	Maximum 3 spaces per 1,000 square feet net floor area devoted to retail space

Note: Where special permit review is required for particular projects, these off-street automobile parking requirements shall be used as guidance but are not binding.

Source: City of Hartford Zoning Regulations 2024

Wetlands Regulations

The Connecticut River runs from north to south directly along the eastern edge of the project area. Figure 4-5 depicts the wetlands present on site and the concrete levee wall which is part of a larger levee system that includes a 35-foot berm extending south from the wall.

A total of eight wetland areas (designated Wetlands A through E and Wetlands G through I) comprising 2.5 acres were identified on the property by the Connecticut Resources Recovery Authority and are shown in Figure 4-5 (Connecticut Resources Recovery Authority, 2013). The current coal pond is also shown in Figure 4-5.

Wetland F was determined to be offsite following its initial delineation. Although technically delineated as a wetland, Wetland G, also known as Stormwater Basin G, is a stormwater detention basin at the Waste Processing Facility (WPF). Wetland G was remediated in 2013. Wetlands A, B, C, D, E, G, H, and I are “not subject to regulation by the City of Hartford Inland Wetlands and Watercourses Commission based on a declaratory ruling from the State of Connecticut that allows the Connecticut Department of Energy and Environmental Protection to review and approve all regulated activities within wetland areas on CRRA property” (Connecticut Resources Recovery Authority, 2013).

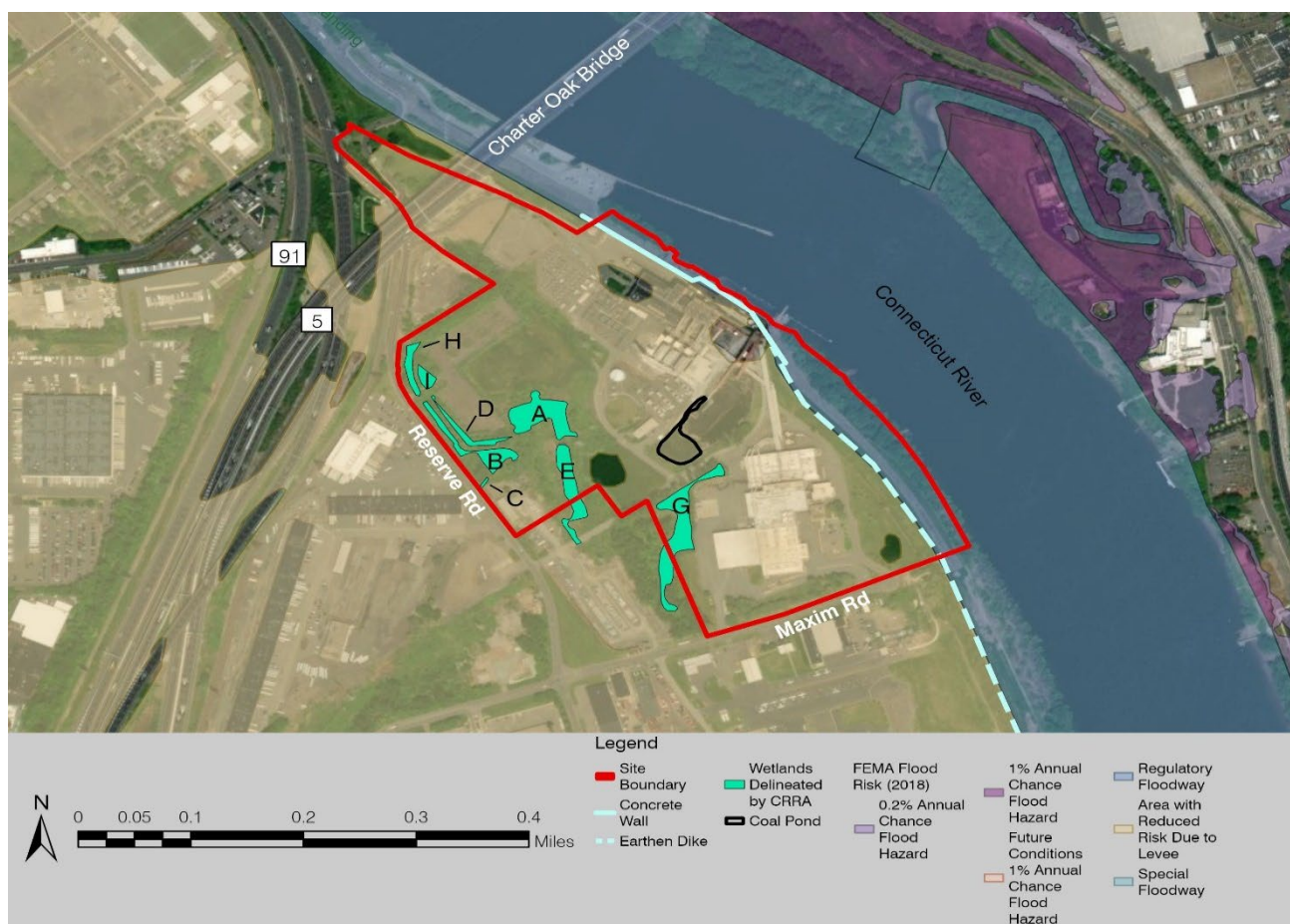


Figure 4-5. Water resources map

Source: City of Hartford Open Data 2024, National Wetland Inventory 2024, FEMA 2018, Connecticut Resources Recovery Authority Power Block Facility Wetlands Area Remediation Action Plan 2013

V. POTENTIAL FUTURE USES

Potential future uses includes two parts. The first is a summary of the site and regional factors that could present opportunities, constraints, or potentially both, to the site's redevelopment. The second is a discussion of the type and amount of development, based on the four redevelopment concepts that this report will consider – residential uses, including recreation, industrial/commercial, currently permitted uses, and a mix of uses.

A. Opportunities and Constraints

Following is a summary of the opportunities, followed by factors that could represent both opportunities and constraints and then constraints. This summary is followed by a discussion of how some of these factors might guide site and building design.

1. The City of Hartford

The MIRA site was designated by the city as part of the “South Meadows” redevelopment area in its Hartford City Plan, in 2020. Hartford's 2035 Plan of Conservation and Development (POCD) specifically called out the reuse of the South Meadows area as a priority, including it in its ten transformative projects. The future land use map from the POCD designates the South Meadows's future land use as medium-density mixed-use, which is 3 to 6 stories, and light industrial. These plans all promote redevelopment that capitalizes on the site's riverfront location and includes significant recreation resources, specifically identifying a connection along the river.

Opportunity – The City's identification of the MIRA site as a priority project for redevelopment suggests that a redevelopment plan that is consistent with the City's goals would receive significant City support.

2. Market Conditions

The 2023 Hartford-Brainard-Vision-Report included a market analysis, which had the following conclusions related to future development:

- The local industrial market is strong, particularly in terms of logistics and distribution uses.
- The retail market remains relatively stable.
- The multifamily market is strong. 96% of multi-family buildings in Hartford report a 4% vacancy rate. The analysis also indicated a need for affordable housing.
- The office market is not strong, and its future is uncertain.

Opportunity – The market for all the proposed redevelopment options, except for office, is strong.

3. The Power Block Facility

This building is known historically as the South Meadow Power Plant and was built by the Hartford Electric Light Company in 1921.

Opportunity – This building presents an opportunity for adaptive reuse if a feasible use or mix of uses can be identified. Its size presents some challenges to residential development. Its current height may also make it easier for the redevelopment to include taller structures.

4. The Connecticut River

The City of Hartford has identified this site for redevelopment, largely because of its location along the river and the potential to take advantage of views and other access to the river.

Opportunity – The riverfront location is an opportunity. The current levy blocks views to the riverfront at ground level, but there are also several structures – screen houses, coal towers, and a dock – which may provide an opportunity for development on the river side of the levy.

5. Recreation Use

Plans put forth by the City of Hartford and Riverfront Recapture have proposed to use the MIRA site's riverfront to link recreation resources from the north to the south.

Opportunity – The City's support for this recreation resource could help to with the Greater Hartford Flood Control Commission and the Army Corps of Engineers to design a recreation resource along the riverfront that would increase the value of the MIRA site.

6. Connecticut Regional Market

This is a 33-acre facility with over 185,000 square feet of warehouse and refrigerated space at 101 Reserve Road. It is the largest perishable food distribution facility between New York and Boston consisting of four distribution/warehouse buildings, one free-standing restaurant, office space dedicated to real estate management, Department of Agriculture and related federal agricultural services, and a farmers' market pavilion. The Market provides facilities for both retail and wholesale trade. A 2022 report identified a need for expansion.

Opportunity – There may be an opportunity for the MIRA site to be incorporated with the expansion of the Regional Market. The existing WPF building could provide distribution/warehouse space, and the Power Block building could provide an opportunity for adaptive reuse for more retail-oriented uses.

7. Waste Processing Facility (WPF)

The facility has a permit that allows the continuation of waste transfer uses until 2028. The Waste Processing Facility building is permitted to receive municipal solid waste, to store up to 20,000 yards of waste on-site, and to distribute 680 tons of municipal solid waste, per day. In order of this use to continue, the WPF building would remain. Under the current permit, this use could be limited to the southern portion of the site. Truck access to the WPF would be off of Maxim Road.

Opportunity – Allowing the WPF to continue to operate under the current permit until it expires presents the opportunity for the owner to realize some revenue to support redevelopment plans. This building could be reused for other industrial uses. Since this is the parcel closest to the airport, a light industrial use might provide an appropriate transition to a more mixed-use redevelopment on the rest of the site.

8. Airport

The proximity of both the Hartford Brainard Airport and the Interstate presents both opportunities and constraints. The impact depends upon the type of future redevelopment and future building siting. The Hartford Brainard Airport Vision report assessed the potential for advanced manufacturing, research and development, and aviation technology.

Opportunity/Constraint – There may be some restrictions related to uses, including residential uses. However, the report identified a few types of industrial uses related to aviation technology that could capitalize on the site's location and proximity to the airport use.

9. Access to Interstate

This site benefits from direct access to major interstate highways and state roads.

Opportunity/Constraint – Proximity to the Interstate is an opportunity for some types of industrial uses but does present a barrier between downtown and the South Meadows Area.

B. Site Constraints

There are two types of legal constraints related to future redevelopment, the current easements and the existing ELURs.

1. Easements

As noted in the existing conditions section, there are multiple easements related to utilities and other infrastructure on the MIRA site. The mapped easements will need additional research to understand how they might impact or restrict building location.

2. Brownfields

The MIRA site has many areas of concern (AOCs) that require environmental land use restrictions (ELURs). Currently, an ELUR prohibits residential development at the MIRA site. In addition to this overall ELUR, there are multiple ELURs across the site that address different types and levels of contamination. Some ELURs are related to existing buildings and structures.

ELURs can be removed if the existing contamination is removed. There can also be ways to align the building program with the goals of the ELUR – for example, if a paved parking area or building foundation could restrict access to contaminated soils. As some contaminants have a greater impact on project costs, coordinating the site design with these restrictions can also reduce costs for redevelopment.

C. Site Design Considerations

In addition to the legal restrictions, several site factors can constrain, or guide, redevelopment. To maximize usable space while minimizing environmental impact, building placement can consider how to work with these conditions.

1. Slope and Topography

The site's slope ranges between 15 to 35 feet, with steeper areas closer to the levee system near the Connecticut River. There are flatter areas to the west near Interstate 91.

2. Wetlands and Stormwater

As noted, the wetlands jurisdiction is the Connecticut Department of Environmental Management (CTDEEP), because of the presence of contamination. The wetlands will present site constraints, and any potential impacts will be reviewed by CDEEP.

3. Flood Control and Levee System

There is an easement for the continued operation and maintenance of the system that includes both the dike and the land around it. There may be potential to utilize some of this area for recreation resources. There are also existing structures on the river side of the dike that may present some opportunity for additional public access to the river.

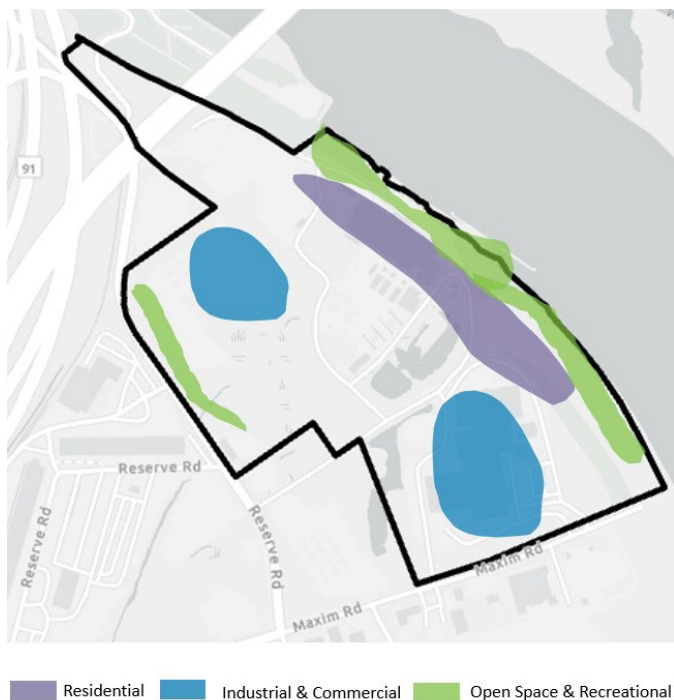


Figure 5-1. Conceptual Site Map of Development Advantages
Source: Weston & Sampson 2024

D. Conceptual Site Design

This section describes how the site’s layout and existing conditions could affect site design. In Weston & Sampson’s experience the existing location of infrastructure and environmental conditions offer certain advantages to different types of development on the site. Considering the adjacent airport use, and the access from Maxim Road, the southern part of the site – related to the WPF – could be utilized for a higher intensity industrial or commercial use and commercial use at the northwestern part. This portion of the site could be a buffer between the remainder of the site and the airport use. The central portion of the site, closer to the river, could accommodate residential buildings and would be the most desirable location because of the river views. Areas along the western and eastern edge near the riverfront should be reserved for parks and riverwalks. The restrictions around the levy would prevent any more intense development. The development concepts based on these advantages are depicted in Figure 5-1.

The MIRA South Meadows Facility site encompasses approximately 80 acres. After accounting for various environmental and regulatory constraints at this conceptual level, the net developable area is estimated at approximately 65 acres. This analysis will present potential development scenarios within the allowable zoning and regulatory framework, including mixed land uses and residential development options.

1. Zoning Designations

As noted in the previous section, there is an underlying industrial zone, with a Connecticut River Overlay.

Industrial District (ID-1)

The primary zoning designation for the site.

- Permitted Uses: Light and heavy industry, warehousing, and transportation facilities. Limited residential uses (temporary shelters) with conditions.

- Dimensional Limits: Max building coverage 60%, max impervious area 80%, no max height for industrial structures, and 4 stories for Commercial building
- Special Permit: Required for civic, institutional, certain residential, and specific commercial uses.

Connecticut River Overlay District

This overlay introduces additional regulations for areas within 2,000 feet of the river. It includes environmental sustainability requirements and restricts certain developments near the river.

- Permitted Uses: Multi-unit residential, hotels, parks, neighborhood retail, and office spaces.
- Dimensional Limits: Minimum height 3.5 stories, max height 30% above base zoning.
- Special Permits: Needed for development within 75 feet of the river. Emphasis on sustainable construction.

In terms of development feasibility, the following uses are allowed:

- Multi-unit residential is allowed in the Connecticut River Overlay District.
- Industrial is allowed in the I-1 District.
- Commercial & Mixed-Use: Depending upon the specific use, these are feasible in both the Overlay and ID-1 Districts.
- Recreation/Open Space: Best fit for Open Space and Overlay Districts.
- Currently Permitted Use: This is a continuation of an existing use.

2. Net Developable Area Assumptions with Residential Development

As noted, the gross area of the site is 80 acres. We have estimated some exclusion areas to reflect existing side constraints (see Figure 5-2 and Figure 5-3). These were estimated to include:

- Flood Control Infrastructure – 5 Acres
This exclusion includes the infrastructure as well as the 30-foot setback.
- Wetlands: 3 acres
There were 2.5 acres of wetlands identified in the Power Block Facility Wetlands Area Remediation Action Plan (Connecticut Resources Recovery Authority, 2013).
- North of the highway: 3.5 acres
The area that begins under the highway, to the north is excluded. This area of the site is cut off from the remainder of the site and many of the existing easements affect this small area.

The net developable area calculation used is:

Net Developable Area = Gross Site Area – (Flood Control Easements + Wetlands Setbacks + Northern Side Easement)

Using the specific site information, the calculation is:

Net Developable Area = 80 acres – (5 + 3 + 3.5) acres = 68.5 acres

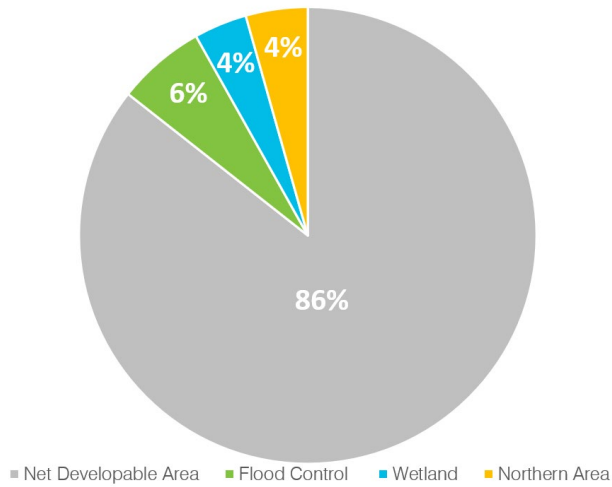


Figure 5-2 and Figure 5-3 Summary of Developable Area of Residential Development
Source: Weston & Sampson 2024

3. Developable Area Assumptions without Residential Development

The net developable area calculation used is:

$$\text{Net Developable Area} = \text{Gross Site Area} - (\text{Flood Control Easements} + \text{Wetlands Setbacks} + \text{Northern Side Easement} + \text{Substation area with 25' Buffer})$$

Using the specific site information, the calculation is:

$$\text{Net Developable Area} = 80 \text{ acres} - (5 + 3 + 3.5 + 4.37) \text{ acres} = 64.13 \text{ acres}$$

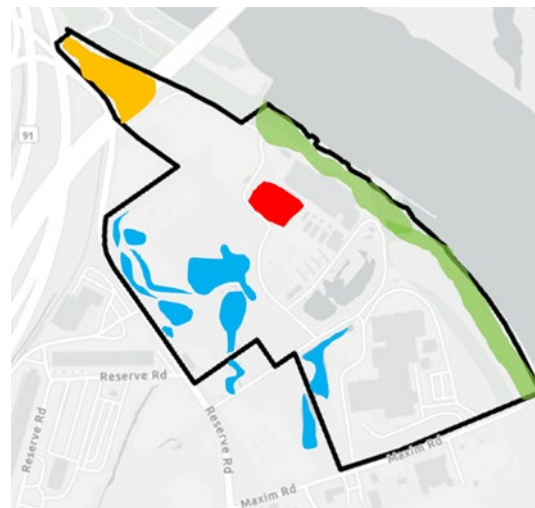
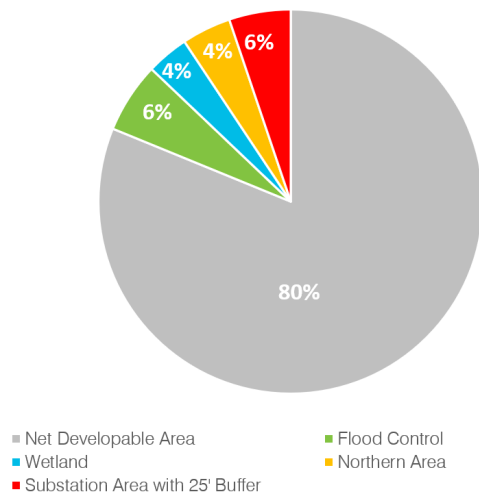


Figure 5-4 and Figure 5-5 Summary of Developable Area of Non-Residential Development
Source: Weston & Sampson 2024

E. Potential Future Use Scenarios

These four scenarios are contemplated to assist the MDA in understanding the risks and costs associated with these various land uses. The proposed uses are based upon the Connecticut Department of Energy and Environmental Protection Remediation Standard Regulations (RSRs).

- Commercial/Industrial as defined by the RSRs including currently permitted as defined by the permit issued by CT DEEP to Materials Innovation and Recycling Authority to operate a solid waste Resources Recovery Facility.
- Residential/Recreation as defined by the RSRs
- Mixed Use

This section summarizes the future development opportunities related to each use category, based on existing conditions information, including some assumptions.

Commercial/Industrial

This redevelopment option was assumed to include:

- Reuse of the existing building
- A combination of commercial and industrial.
- Some warehouse/distribution industrial uses.
- Some industrial uses that connect with either the airport or the Regional Food market.

This scenario prioritizes industrial and commercial use, with a well-planned land use breakdown to maximize both utility and efficiency, as shown in Figure 5-6. The industrial area covers 38 acres, with 47.50% building coverage dedicated to warehousing, food processing, and distribution centers. Potential tenants include local manufacturers, logistics companies, and food processing hubs, aligning with Hartford’s Regional Agriculture Market. The commercial area spans 20.63 acres with 25.79% building coverage, focused on retail, office spaces, and small business hubs. This area is designed to serve the local workforce with restaurants, convenience stores, and offices for administrative or tech businesses.

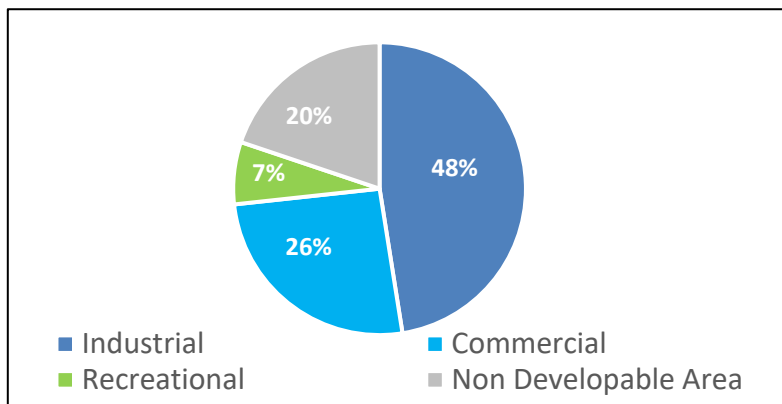


Figure 5-6 Breakdown of Industrial and Commercial
Source: Weston & Sampson 2024

In addition, 5.5 acres are allocated for recreational and open space, primarily serving as green buffers for stormwater retention along roads and between industrial and commercial sections. While green space is kept minimal to maintain a business-friendly atmosphere, it supports environmental management.

Key features of this development include its proximity to highways I-91 and I-84, making it ideal for distribution and industrial businesses. Additionally, the electrical switchyard and substation would

remain as is and would allow for renewable power generation on the Site. The commercial space leverages demand to serve industrial tenants and the broader community. The design also addresses constraints by mitigating environmental impacts through minimal green space and energy-efficient industrial buildings.

Scenario 1 Commercial/Industrial – Demolition of PFB Under Scenario #1, the site could be redeveloped as a waste management or recycling facility, leveraging the existing infrastructure and permitted activities. This option presents several advantages and challenges that should be considered in the decision-making process.

Advantages of Redevelopment as a Waste Management or Recycling Facility

- **Reduced Permitting Effort and Costs** – Since the facility was originally constructed for municipal solid waste (MSW) management, modifying an existing permit may be less complex and costly compared to obtaining a new permit for a different land use.
- **Utilization of Existing Infrastructure** – The site was purpose-built for MSW management, meaning much of the necessary infrastructure is already in place, reducing redevelopment costs.
- **Strong Transportation Network** – The facility is well-served by existing transportation infrastructure, including roadways and potential rail access, which supports efficient shipping and receiving of materials.
- **Continuity of Operations** – The redevelopment would align with the historical use of the site, potentially expediting approvals and reducing regulatory hurdles.

Challenges of Redevelopment as a Waste Management or Recycling Facility

- **Environmental Justice Considerations** – The facility is located within an environmental justice (EJ) community, where redevelopment as a waste-related use could raise concerns regarding potential environmental and health impacts.
- **Community Opposition** – Given the site's history and its location within an EJ community, there may be significant resistance from local stakeholders, advocacy groups, and residents who prefer alternative redevelopment options.
- **Regulatory and Compliance Challenges** – While permit modification may be easier than obtaining a new permit, the project would still be subject to stringent environmental regulations, including air quality, noise, and waste management compliance.
- **Market Demand and Economic Viability** – The feasibility of redeveloping the facility for waste management or recycling depends on market demand, policy incentives, and long-term economic sustainability.

Scenario 2 Commercial/Industrial – Demolition of WPF

This Scenario aims to free up developable land on the Waste Processing Facility (WPF) portion of the site located on the southern portion and is approximately 27.5 acres in area. This scenario envisions reuse of the PBF building since it has historical significance and reuse of the existing dock.

Scenario 3 Commercial/Industrial – Demolition of WPF and PBF

This Scenario includes the demolition of all site structures on the property, except for the electrical switchyard and substation, to allow for a clean slate for commercial/industrial development. This scenario also includes reuse of the existing dock.

Residential /Recreational

The future redevelopment as residential will include a recreation component. Assumptions for this concept include:

- Multi-family residential in a multi-story building at the maximum allowable density
- Demolition of the existing buildings
- Use of the site’s general circulation pattern
- The recreation resource is proposed to be a greenway, running along the river’s edge, for the length of the Site.
- Removal of the electrical infrastructure including switchyard and substation

This scenario emphasizes housing and recreational areas to create a residential community with easy access to public amenities and natural resources (see Figure 5-7). The land use breakdown allocates 35 acres to the residential area, with 43.75% building coverage, accommodating approximately 550 units. The housing focus includes a mix of high-density apartments.

The recreational and open space component spans 33.5 acres, featuring public parks, trails, and riverfront greenways. These spaces will be utilized for extensive parks, sports fields, children’s playgrounds, and community event areas. The riverfront is leveraged for public enjoyment through walking and biking trails, community gardens, and picnic areas, enhancing the natural beauty of the location.

This concept aligns with the Hartford 400 Vision by integrating public parks and ensuring access to the Connecticut River. In response to environmental constraints, flood-prone areas near the riverfront are designated for parks and greenways, providing natural flood protection and improving environmental resilience.

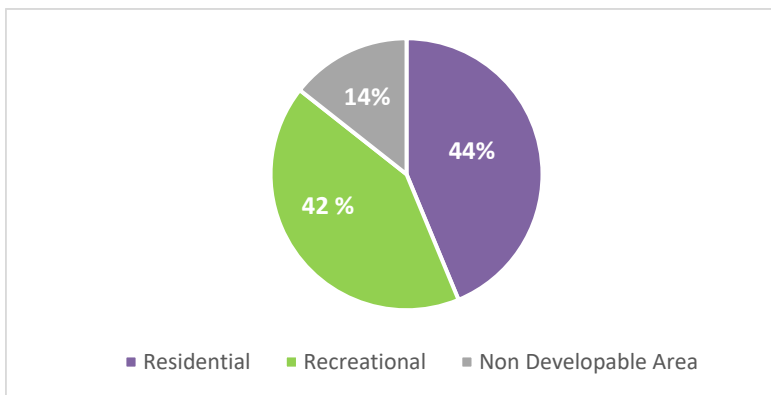


Figure 5-7 Breakdown of Residential and Recreation
Source: Weston & Sampson 2024

Mixed Use

This future use assumes a combination of industrial and either commercial or residential uses. Initial research suggests that a more intense use at the south end of the site around the current WPF could work as a buffer separating the airport use from more sensitive users at the northern end of the site. This use could be the currently permitted use in the short-term or could be a light industrial or warehouse/distribution use. The actual mix of uses will depend upon decisions related to the existing PBF and the substation. The greenway along the river is recommended to be part of this redevelopment scenario as well (Figure 5-8).

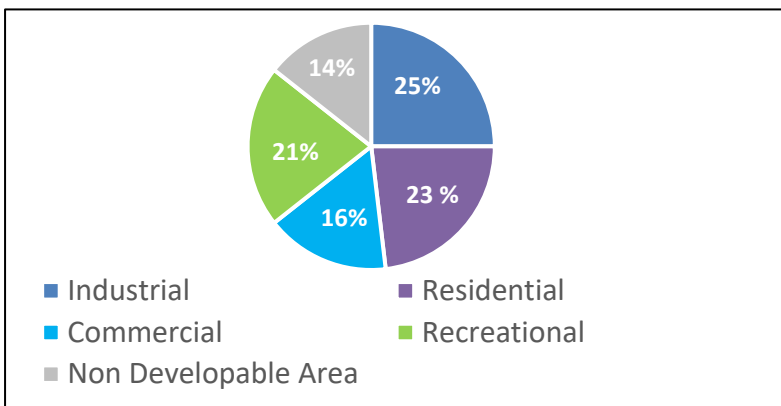


Figure 5-8 Breakdown of Mixed-Use Redevelopment
Source: Weston & Sampson 2024

This scenario envisions a vibrant live-work-play district that integrates industrial, commercial, residential, and recreational areas. This concept is based upon Hartford's City Plan and the zoning overlay, which promotes a mix of light industrial and residential. The land use breakdown allocates 20 acres for industrial purposes, with 50% of building coverage dedicated to warehousing, light manufacturing, and food processing. The industrial hub is designed to coexist with residential livability by offering shared cold storage facilities aligned with the needs of the Hartford Regional Agriculture Market. The industrial uses are concentrated within the WPF structure and use Maxim Road for access.

The commercial area spans 13 acres, also with 50% building coverage. It could include local retail, grocery stores, restaurants, and small office spaces, catering to both residential and industrial tenants. This area emphasizes farm-to-table restaurants, food markets, and office spaces for agriculture-related startups, promoting a close connection between local food production and consumption. The residential area occupies 18.5 acres, with 40% building coverage, providing approximately 400 units averaging 800 square feet each. The housing focus is on high-density. Recreational and open spaces cover 17 acres, featuring public parks, and walking and bike paths. Residential buildings take advantage of the river views. Recreation uses are located along the river and the design of green spaces leverages the existing wetlands as natural features.

F. Potential Funding Sources

There are dozens of State and Federal funding programs related to the cleanup and redevelopment of former industrial properties, and some of these are listed in Appendix F. A few potentially significant grant and loan programs are described below:

- **CT Brownfield Municipal Grant Program** – This program is administered by the Connecticut Department of Economic Community Development (CT DECD) and is a competitive grant program for municipalities and municipal entities to assist with brownfield development projects that will make a significant environmental impact. A municipal entity can request up to \$4 million to work with a private party partner to conduct environmental assessment and site remediation. Grants have been historically awarded twice per year.
- **U.S. EPA Brownfields Assessment and Remediation Grants** – Both are competitive grant programs for either performing environmental assessments or remediation of brownfields sites and are available for property owners, municipalities, and prospective developers. Grants are typically awarded once per year.
- **Historic Rehabilitation Tax Credit** - The CT Historic Rehabilitation Tax Credit Program (C.G.S., Sec. 10-416c) establishes a 25% tax credit on the qualified rehabilitation expenditures associated with the rehabilitation of a Certified Historic Structure. A property can be used for residential or non-residential purposes. The credit increases to 30% if the project is located within a federally designated opportunity zone such as the South Meadows site.
- **CT Targeted Brownfield Development Loan Program** – This program is administered by CTDECD for current owners and prospective purchasers of brownfields properties. Loans of up to \$4 million are available and have been historically awarded twice per year.

VI. ENVIRONMENTAL NEEDS AND KNOWLEDGE NECESSARY FOR POTENTIAL FUTURE USES**A. Soil Compliance Standards**

The CT DEEP regulates soil and groundwater clean-ups through the CT Remediation Standard Regulations (RSRs) which specify acceptable levels of contaminants in soil and groundwater based on site use and the potential to use groundwater as a water supply source. According to the CT RSRs, soil is required to meet the following two criteria:

1. Pollutant Mobility Criteria (PMC) are the maximum allowable contaminant concentrations in soil that will not negatively impact underlying groundwater. Since the Site is within a GB groundwater classification area, the GB PMC values are applicable. The GB PMC applies to soil from the ground surface to the annual high groundwater table.
2. Direct Exposure Criteria (DEC) are the maximum allowable contaminant concentrations in soil that will not negatively impact someone's health (including a child's) if they should come into direct contact with the affected soil. The default DEC is residential (RDEC). Industrial/commercial DEC (I/C DEC) can be applied on a site if an environmental land use restriction (ELUR) is in place. The DEC applies to soil from ground surface to 15 feet below grade (ft. bg).

B. Groundwater Compliance Standards

According to the CT RSRs, groundwater is required to meet the following three criteria:

1. Groundwater Protection Criteria (GWPC) – are the maximum allowable contaminant concentrations in groundwater that will not pose significant harm to potable groundwater supplies (private or public). Since the Site is located within a GB area and located within an area with no private or public supply wells, the GWPC will not apply to the Site.
2. The Volatilization Criteria (VC) apply to groundwater polluted with volatile organic compounds (VOCs) within 15 ft. bg or a structure. There are both residential and industrial/commercial default VC; Residential VC apply to all such groundwater except that below a structure used solely for industrial or commercial activity, provided an ELUR is in effect which ensures that the parcel upon which such structure is located will not be used for any residential purpose in the future, and that any future use of the parcel is limited to industrial or commercial activity. Furthermore, there are other VC exceptions that might apply to the Site.
3. The Surface Water Protection Criteria (SWPC) are designed to ensure that contaminant concentrations in groundwater do not adversely impact water quality in a surface water body receiving groundwater discharges, except as follows. For a wetland or intermittent stream, the RSRs assume there may be no dilution and therefore, the aquatic life criteria (contained in the CT DEEP Water Quality Standards) are used as the SWPC (i.e., are compared directly to the contaminant concentrations in the groundwater plume(s)).

Future uses of the Site can comply with applicable soil and groundwater RSR criteria by remediating contaminants in-situ, or by excavation and treatment/disposal, or by rendering the contamination either

inaccessible (e.g., below 4 feet from the surface) or environmentally isolated (e.g., beneath a building or engineered cap). The latter two options require an ELUR be emplaced on the property deed, such as those ELURs that are currently applied on the property.

C. Site Remediation Scenarios

In evaluating potential future uses of the former MIRA facility, two basic scenarios related to the RSR use criteria were considered from an environmental remediation needs perspective:

1. Development of the Site for Industrial/Commercial uses only.
2. Development of the Site for Residential uses only.

For each of these scenarios, specific underlying assumptions were identified that are likely to impact the implementation of each option. Although many of these assumptions are shared between the two scenarios, some assumptions are specific to the option being considered. For a mixed use development scenario the regulatory default would be to meet the more restrictive residential use criteria. The following discussion examines those assumptions identified which will drive Site environmental remediation needs for each future use scenario.

1. Scenario #1A: *Industrial/Commercial Use and Demolition of the Power Block Facility*

This scenario envisions that future site use will include retaining the former WPF and demolition of the PBF, with infrastructure and environmental restrictions remaining in place. This scenario includes implementation of the 2002 closure plan. This scenario would not preclude having a portion of the property used for passive recreational purposes as contemplated by CT DEEP's "Risk-based Remediation Criteria for Managed Multifamily Residential and Passive Recreational Exposure Scenarios". This scenario would be the likely site layout if the site were used for currently permitted use with the understanding that CTDEEP would need to agree to allow the transfer of the existing permit to another operator and allow for the output volume to equal the input volume of materials (maximum of 20,790 CY). Additionally, the current permit would need to be extended by CT DEEP to allow permitted operations to extend beyond May 16, 2028.

Redevelopment for currently permitted use has several advantages and challenges that should be considered in the decision-making process.

Advantages of Redevelopment as a Waste Management or Recycling Facility

- Reduced Permitting Effort and Costs – Since the facility was originally constructed for municipal solid waste (MSW) management, modifying an existing permit may be less complex and costly compared to obtaining a new permit for a different land use.
- Utilization of Existing Infrastructure – The site was purpose-built for MSW management, meaning much of the necessary infrastructure is already in place, reducing redevelopment costs.
- Strong Transportation Network – The facility is well-served by existing transportation infrastructure, including roadways and potential rail access, which supports efficient shipping and receiving of materials.
- Continuity of Operations – The redevelopment would align with the historical use of the site, potentially expediting approvals and reducing regulatory hurdles.

Challenges of Redevelopment as a Waste Management or Recycling Facility

- Environmental Justice Considerations – The facility is located within an environmental justice

(EJ) community, where redevelopment as a waste-related use could raise concerns regarding potential environmental and health impacts.

- Community Opposition – Given the site's history and its location within an EJ community, there may be significant resistance from local stakeholders, advocacy groups, and residents who prefer alternative redevelopment options.
- Regulatory and Compliance Challenges – While permit modification may be easier than obtaining a new permit, the project would still be subject to stringent environmental regulations, including air quality, noise, and waste management compliance.
- Market Demand and Economic Viability – The feasibility of redeveloping the facility for waste management or recycling depends on market demand, policy incentives, and long-term economic sustainability.

Under this scenario the following assumptions were identified:

a. Any future site remediation will be consistent with the Verification Report (including additional remediation of PCBs performed in Area 3-3) pending approval of the CT DEEP. Following extensive site investigations and subsequent environmental remediation to address a variety of identified environmental concerns, a Verification Report was submitted to CT DEEP in May 2018. This report summarized the various environmental activities performed at the Site as required to meet the criteria of the CT DEEP RSRs. The Verification Report, as attested to and stamped by a Licensed Environmental Professional, provided documentation to support a determination that the actions performed rendered the Site in compliance with the RSRs. Following submittal of the Verification Report, an area of PCB impacted soil exceeding RSR criteria was discovered in January 2019 by Eversource in an area associated with a subsurface electrical duct bank. Because these soils were not in compliance with RSR criteria, remediation of this area was performed and completed in the Summer/Fall of 2023. This was documented in the *Area 3-3 PCB Remedial Action Report* (PCB RAR) submitted to CT DEEP in January 2024. Based on the Verification Report and the PCB RAR, it is assumed that the Site is now in compliance with the RSRs and that any future site remediation will be performed consistent with current environmental site conditions.

b. New and/or modified ELURs will be needed to allow I/C use. In instances where construction of buildings, structures, and/or infrastructure may be needed to support an I/C use, new or modified ELURs may be required. For example, where an excavation may be required to install a building foundation and the area is restricted by an ELUR due to the presence of an engineered cap, that ELUR could potentially be modified such that the building slab would serve in place of the engineered cap. Another example would be where an ELUR area of contaminated soils is made into a parking lot. In this instance, if the impacted soil is removed to a sufficient depth and/or replaced with pavement, the currently in place ELUR could be removed or beneficially modified to reflect the new site condition. Because there are many ELURs in place at the Site for a variety of reasons and conditions, the creation of new and/or modified ELURs will need to be evaluated on a case-by-case basis, depending on the I/C use envisioned.

c. No Site soils are classifiable as Hazardous Waste. Based on past site investigations and remedial measures, it is believed that no hazardous waste (as defined by federal and state regulations) is present at the Site. This presumption is of importance as the presence of any soils which could potentially exceed hazardous waste criteria would require removal and/or installation of remedial measures that are typically significantly more costly to implement than those required for non-hazardous waste.

d. Maintain existing surface elevations and cover. This assumption preserves current site topography and drainage and serves to protect existing ELUR required caps and limits the disturbance of potentially impacted surficial soils.

e. Retain the existing Waste Processing Facility and auxiliary buildings/structures. It is envisioned that the WPF and associated structures will be retained for possible future re-use.

f. Remediate PCB impacts ≥ 50 parts per million (ppm) at PBF-3, FD Fan Area/Station Service Transformer, and on exterior walls of the PBF structure to < 10 ppm for EPA and CT DEEP compliance. Based on prior site investigations it is suspected that PCBs may exist in soils in the PBF area (i.e., PBF-3, FD Fan Area/Station Service Transformer), and are known to be present in some of the paint on the PBF building exterior. In those locations where PCBs exhibit concentrations exceeding 50 ppm, these soils/surfaces must be remediated to a concentration of less than 10 ppm, as required by federal and state regulations.

g. Remove the existing PBF and auxiliary buildings. In this future reuse scenario, it is assumed that the PBF and its auxiliary buildings (e.g., screen houses, coal and ash handling structures, warehouse, etc.) will be removed. This assumption specifies that the PBF will be demolished to 4 feet below grade (ft. bg), the remaining basement will be filled (e.g., with granular fill or flowable fill), and the entire building footprint returned to current grade using clean backfill. The need to demolish the structure to 4 ft. bg and restoring grades with clean fill is tied to a specification in the RSRs regarding restricting human exposure to potentially contaminated underlying soil.

h. Re-purpose the current fuel off-loading dock for I/C purposes. In this scenario, the fuel off-loading dock would be re-purposed for I/C uses. It is assumed that this re-purposing would encompass the dock's existing footprint and would be allowed with reasonable potential modification of its current permit.

i. Retain the existing Eversource 115kV and 23kV substations and corresponding institutional controls. In the Industrial/Commercial use scenarios, the two Eversource substations will remain in their current energized configuration.

j. Retain the energized Eversource duct bank located in the easement area and prevent disturbance of PCB impacted soils ≥ 50 ppm that remain in place near the duct bank. Similar to the above assumption, the existing Eversource subsurface electrical duct bank

will remain energized and in its current location. Potentially PCB impacted soils in the duct bank easement area will not be disturbed.

k. Existing SMP to remain in effect and to be followed for future activities, with some updates. As a condition for the establishment of site ELURs, CT DEEP requires the creation of a Soil Management Plan (SMP). The purpose of the SMP is to provide guidance for how site soils are to be managed to protect human health and the environment from activities such as excavation, removal, regrading, etc. that may disturb potentially contaminated soils. Depending on the specific I/C development activities proposed, the existing SMP that was developed for the Site may require modification to ensure that any planned disturbance of Site soils will not adversely impact human health or the environment. Any modification or anticipated deviation from the current SMP will require prior review and approval by the CT DEEP.

l. Obtain temporary releases from ELURs, as necessary, to perform site work. Where future site work requires invasive activities within an established ELUR area, a temporary release from the conditions of the ELUR must be obtained and approved by CT DEEP. This will be needed in instances where, upon completion of the work, the original ELUR limitation will be reinstated. In the case where the original ELUR cannot be re-instated, a new or modified ELUR may be required (see assumption #2 above).

2. Scenario #1B: Industrial/Commercial Use and Demolition of the Waste Processing Facility

In this future reuse scenario, it is assumed that the WPF and its associated buildings will be removed, the PBF building would be retained and repurposed, and that future use will allow re-development of the Site for I/C purposes. This scenario includes implementation of the 2022 facility closure plan. This scenario would not preclude having a portion of the property used for passive recreational purposes. Under this future use, the following assumptions which were identified for *Scenario #1a* will also apply to Scenario#1b:

- a. Any future site remediation will be consistent with the Verification Report (including additional remediation of PCBs performed in Area 3-3) pending approval of CT DEEP.
- b. New and/or modified ELURs will be needed to allow I/C use.
- c. No Site soils are classifiable as Hazardous Waste.
- d. Maintain existing surface elevations and cover.
- e. Remediate PCB impacts ≥ 50 ppm at PBF-3, FD Fan Area/Station Service Transformer, and on exterior walls of the PBF structure to < 10 ppm for EPA and CT DEEP compliance.
- f. Re-purpose the current fuel off-loading dock for I/C purposes.
- g. Retain the existing Eversource 115kV and 23kV substations and corresponding institutional controls.
- h. Retain the energized Eversource duct bank located in the easement area and prevent disturbance of PCB impacted soils ≥ 50 ppm that remain in place near the duct bank.

- i. Existing SMP to remain in effect and to be followed for future activities, with some updates. 12. Obtain temporary releases from ELURs, as necessary, to perform site work.

In addition to these previously presented assumptions, the following new or modified assumptions are applicable to the future *Industrial/Commercial Use* scenario:

j. Remove the existing Waste Processing Facility and auxiliary buildings/structures. It is envisioned that the WPF and associated structures will be demolished/removed to current surface grade. It is assumed that all the WPF structures are constructed with slab-on-grade foundations such that no significant soil excavation/removal will be needed to complete their demolition/removal.

k. Retain existing PBF and auxiliary buildings/structures. In the I/C use scenario it is assumed that the PBF and associated buildings/structures will remain in place, possibly to be reused or modified for new purposes. This would require maintenance of these buildings/structures pending any anticipated future reuse.

3. Scenario #1C: *Industrial/Commercial Use and Demolition of All Structures*

This scenario envisions that all existing Site structures will be demolished, and the future use will allow re-development of the Site for I/C purposes. This scenario includes implementing the 2022 facility closure plan. This scenario would not preclude having a portion of the property used for passive recreation purposes. Under this future use the following assumptions which were identified for Scenarios #1a/1b will also apply to Scenario #1C:

- a. Any future site remediation will be consistent with the Verification Report (including additional remediation of PCBs performed in Area 3-3) pending approval of CT DEEP.
- b. New and/or modified ELURs will be needed to allow I/C use.
- c. No Site soils are classifiable as Hazardous Waste.
- d. 5b. Remove the existing Waste Processing Facility and auxiliary buildings/structures.
- e. Maintain existing surface elevations and cover.
- f. Remediate PCB impacts ≥ 50 ppm at PBF-3, FD Fan Area/Station Service Transformer, and on exterior walls of the PBF structure to < 10 ppm for EPA and CT DEEP compliance.
- g. Remove the existing PBF and auxiliary buildings.
- h. Re-purpose the current fuel off-loading dock for I/C purposes.
- i. Retain the existing Eversource 115kV and 23kV substations and corresponding institutional controls.
- j. Retain the energized Eversource duct bank located in the easement area and prevent disturbance of PCB impacted soils ≥ 50 ppm that remain in place near the duct bank.
- k. Existing SMP to remain in effect and to be followed for future activities, with some updates. 12. Obtain temporary releases from ELURs, as necessary, to perform site work.

The advantage of this scenario is that, by demolishing all current Site structures, an unencumbered "clean slate" would be available for a variety of compatible future industrial/commercial uses. The primary disadvantages of this scenario are the added costs and time needed to clear the Site.

4. Scenario #2A: *Residential Use* – Inaccessible Soil ELURs Remain In Place

This scenario envisions that future site use will allow re-development for Residential purposes while keeping applicable ELURs in place. This scenario includes the implementation of the 2022 facility closure plan. Under this scenario, the following assumptions which were identified for the *Industrial/Commercial Use* scenarios will also apply to the *Residential Use #2A* scenario:

- a. Any future site remediation will be consistent with the Verification Report (including additional remediation of PCBs performed in Area 3-3) pending approval of CT DEEP.
- b. No site soils are classifiable as Hazardous Waste.
- c. Maintain existing surface elevations and cover.
- d. Remove the existing WPF and auxiliary buildings/structures.
- e. Remove the existing PBF and auxiliary buildings.
- f. Existing SMP to remain in effect and to be followed for future activities, with some updates.
- g. Obtain temporary releases from ELURs, as necessary, to perform site work.

In addition to these previously presented assumptions, the following new or modified assumptions are applicable to the future *Residential Use #2A* scenario:

h. New and/or modified ELURs will be needed to allow residential use. In instances where construction of buildings, structures, and/or infrastructure may be needed to support a residential use, new or modified ELURs may be required. The reason for these new and/or modified ELURs are variable but would be similar to the examples provided in the *Industrial/Commercial Use* scenarios (see item 2 above).

i. Remediate PCB impacts ≥ 50 ppm at PBF-3, FD Fan Area/Station Service Transformer, and on exterior walls of the PBF structure to < 1 ppm for EPA and CT DEEP compliance. This assumption is consistent with the requirements of the *Industrial/Commercial Use* scenarios, however, to meet EPA and CT DEEP Residential requirements, all PCB concentrations must be remediated to < 1 ppm.

j. Re-purpose the current fuel off-loading dock for recreational purposes. In this scenario the fuel off-loading dock would be re-purposed for recreational uses. It is assumed that this re-purposing would encompass the dock's existing footprint and would be allowed with reasonable potential modification of its current permit.

k. Remove the existing Eversource 115kV and 23kV substations. In the *Residential Use* scenarios, the two Eversource substations will be de-energized and removed off-site to a nearby parcel. Following removal, the substation soils will need to be evaluated and remediated to meet RSR criteria, including the removal of any PCB impacted soils > 1 ppm.

l. Remove the energized Eversource electrical duct bank located in the easement area. Following de-energizing and removal of the duct bank, the easement area soils will need

to be evaluated and remediated to meet RSR criteria, including the removal of any PCB impacted soils >1 ppm.

5. Scenario #2B: *Residential Use* – Clean Fill Imported to Remove Soil Remediation Requirement

This scenario envisions that future Site use will allow re-development for Residential purposes by adding 13 feet of clean fill across much of the Site to render contaminated soil below the RSR 15-foot Direct Exposure Criteria (DEC) zone. This scenario includes the implementation of the 2022 facility closure plan. Under this future use, the following assumptions which were identified for *the Industrial/Commercial Use scenarios* and/or the *Residential #2A* scenario will also apply to the *Residential Use #2B* scenario:

- a. Any future Site remediation will be consistent with the Verification Report (including additional remediation of PCBs performed in Area 3-3) pending approval of CT DEEP.
- b. New and/or modified ELURs will be needed to allow residential use.
- c. No Site soils are classifiable as Hazardous Waste.
- d. Remove the existing WPF and auxiliary buildings/structures.
- e. Remediate PCB impacts ≥ 50 parts per million (ppm) at PBF-3, FD Fan Area/Station Service Transformer, and on exterior walls of the PBF structure to <1 ppm for EPA and CT DEEP compliance.
- f. Remove the existing PBF and auxiliary buildings.
- g. Re-purpose the current fuel off-loading dock for recreational purposes.
- h. Remove the existing Eversource 115kV and 23kV substations.
- i. Remove the energized Eversource electrical duct bank located in the easement area.
- j. Existing SMP to remain in effect and to be followed for future activities, with some updates.
- k. Obtain temporary releases from ELURs, as necessary, to perform site work, as needed.

In addition to these previously presented assumptions, the following new assumption would be applicable to the future *Residential Use #2B* scenario:

I. Modify existing surface elevations and cover. In the *Residential Use #2B* scenario the eastern half of the Site would be filled with approximately 13 feet of clean fill to an elevation approximately equivalent to the top of the flood wall. This would mitigate current exceedances of RSR DEC requirements (i.e., impacted soil would be rendered >15 ft. bg) and would create scenic river views at grade level for future development.

The advantage of the *Residential Use #2B* option is that, by filling in the eastern half of the property, an elevated and level surface would be created that would provide a more easily developable area. By burying currently ELUR-restricted areas, potential future excavations for foundations and infrastructure would not be encumbered by the need to manage contaminated soil. Burial would also further isolate existing contaminants from Site residents. Although the development and aesthetic improvements would be significant, they would come at a substantial increase in cost and time due to the effort required to place such a large amount of fill at the Site.

D. Environmental Data Gaps

Following a review of the Site Verification Report and other related documents, it was determined that additional environmental information is needed to support future uses of the Site. This information, typically referred to as “data gaps”, will require supplemental environmental investigations. Two primary data gaps have been identified:

1. Evaluation of soils beneath building slabs and in the Station Service Transformer area. In those instances where the removal of slab-on-grade buildings are envisioned for re-purposing for other uses, underlying soils will need to be sampled and analyzed to establish RSR compliance. Similarly, subsequent to de-energizing and removal of the Station Service Transformer, soils surrounding and under the transformer footprint will also need to be evaluated for RSR compliance.

2. Perform a Screening Level Ecological Risk Assessment (SLERA) to evaluate potential ecological risks in adjacent Connecticut River sediments. Although the current RSRs do not include criteria specific to contaminants that may be present in river sediments, CT DEEP does require the performance of a SLERA if these sediments are accessible and/or may be disturbed by future uses. The need for a SLERA at the Site is relevant for both the *Industrial/Commercial* and *Residential Use* scenarios, where the re-purposing of the fuel off-loading dock is envisioned. A SLERA is the initial step in determining if a more detailed environmental evaluation is needed. As its name indicates, a SLERA is done as a screening tool to provide a generalized evaluation of the likelihood of possible ecological risks at a site. As such, a SLERA can typically be performed fairly expediently, often as a desk-top effort using existing information and industry-standard assumptions. Unless a more detailed risk assessment is warranted, a SLERA typically does not require extensive sediment sampling or invasive site investigations.

Depending on future use of the Site some additional environmental evaluations may be needed to support specific re-development activities (e.g., targeted evaluations of impacted soil to support excavations, characterization of excess soil for waste disposal). These activities are not considered environmental data gaps in the traditional sense, in that they would be triggered only by a specific future use that is currently unknown.

E. Timing and Opinions-of-Costs

Weston & Sampson understands that remediation of the Site for some yet undetermined future use will likely be years away. However, since the timing (duration) of remediation tasks (as well as building demolition) has a significant bearing on the potential costs of remediation, we have made the following assumptions regarding remediation and demolition schedules:

- Abandonment of Floodwall Penetrations including engineering and permitting – Completed in 2026 (also start date for all scenarios)
- Industrial/Commercial with Demo of PBF Use Scenario –
 - Demolition of PBF and related structures – 2 year duration
 - Soil sampling beneath former PBF – 6 month duration

- PCB soil remediation – 6 month duration
- Industrial/Commercial with Demo of WPF Use Scenario –
 - Demolition of WPF and Abatement of PBF – 1.5 year duration
 - Data gap investigation including SLERA – 1 year duration
 - PCB Soil Remediation – 6 month duration
- Industrial/Commercial with Demo of WPF and PBF Use Scenario –
 - Demolition of WPF and PBF – 2 year duration
 - Data gap investigation including SLERA – 1 year duration
 - PCB Soil Remediation – 6 month duration
- Residential Use (keep ELURs)
 - Demolition of PBF and WPF and related structures – 2 year duration
 - Data gap investigation including SLERA – 1 year duration
 - Substation and transmission line relocation – 2 years after building demo
 - PCB soil remediation – 1 year duration after substation relocation
- Residential Use (add 13 feet of clean fill)
 - Demolition of PBF and WPF and related structures – 2 year duration
 - Substation and transmission line relocation – 2 years after building demo
 - Import and spread fill on eastern and central portions of site – 3 year duration
 - SLERA – 1 year duration

Weston & Sampson prepared Class IV (Study Level) opinions-of-cost (estimates) to remediate the Site per the various scenarios described above. According to AACE International Recommended Practice 17R-97: Cost Estimate Classification System, a Class IV estimate assumes the project maturity level is 1-15% with an expected accuracy range between -25% and +50%. *These estimates do not include building demolition and abatement costs, nor the removal and relocation of Eversource's electrical infrastructure which were derived separately.* The opinion-of-costs are detailed in the tables attached as Table 5-1.

The estimates shown below are present value costs.

Industrial/Commercial Use with Demo of PBF – approximately \$12.14M

Industrial/Commercial Use with Demo of WPF- approximately \$14.73M

Industrial/Commercial Use with Demo of All Site Structures - approximately \$23.78M

Residential Use (w/existing ELURs) – approximately \$27.16M

Residential Use (w/imported Clean fill) – approximately \$92.20M

F. Demolition Cost Study

Weston & Sampson contracted with Tetra Tech to develop a demolition scope of work and cost estimate for the buildings and structures associated with the former MIRA site.

The demolition scope of work at the PBF includes all aspects of demolishing the facilities to 4' below existing grade, including asbestos abatement, removal of all regulated wastes, segregating and

recycling of all ferrous and non-ferrous metals, removal and disposal of brick, and crushing and re-using concrete on-site as fill for sub-grade structures. Demolition at the WPF includes the same as the PBF, except all existing slabs at grade level will be left behind so as not to disturb sub-grade soils on the southern portion of the Site. Environmental site remediation is to be estimated by others. Other details as specific buildings, structures or areas are described in the demolition cost report in Appendix H.

Tetra Tech was asked to develop a cost scenario to abate all asbestos and hazardous and regulated materials if the buildings were renovated instead of full demolition. This was considered and it was determined that this would be difficult to develop without consideration of a myriad of decisions that would have to be developed and discussed with the future commercial use to develop a reasonable cost number.

It is Weston & Sampson's opinion that the costs provided below in line items labelled, ACM / Regulated Materials Abatement - PBF and ACM / Regulated Materials Abatement – WPF would suffice for either scenario, full demolition of said structures, or some level of asbestos abatement with buildings remaining. At this time, we do not have sufficient information on how some materials would be managed in place for a renovation scenario. *We want to point out, that full abatement without demolition is likely not possible, given the configuration of ACMs in the buildings. Here are two examples:*

- Tar mastic on concrete under the brick of the Administration Building. This material would likely be managed in place instead of abatement, because abatement can only be performed if all exterior brick is demolished. Cost for abatement of this material assumes full demolition of the building. The cost for abatement of this material without demolition, would be different and much higher.

- 15,000 sf of ACM tar mastic on exterior block of the PBF building. Removal of this material would not be warranted in a renovation scenario as it is likely providing some value as a sealant to the building envelope. And a renovation scenario would likely cover this material in a new more aesthetically pleasing siding. The cost included for abatement of this ACM in this estimate is based on a demolition scenario, if renovation without demolition is chosen, a different abatement method would be required, and the costs and access to abate the material would be much higher.

Tetra Tech developed Class IV estimates in accordance with the same AACE International Recommended Practice as noted above.

The cost estimates for demolition and abatement were separated into two major areas.

- Area 1 – Power Block Facility (PBF)
- Area 2 – Waste Processing Facility (WPF)

The Site plan (Figure 6-1) shows the break point for the two project areas. The following table summarizes the total demolition probable costs for the work. Refer to the rollup of probable demolition costs (Attachment 1) that provides additional detail to the cost in Table VI-1 below.

Table VI-1 – Demolition Probable Cost Summary (in USD)

Description	Total Cost (Forecast)	Class IV Estimate Range	
		-30%	50%
Total Demolition Project Costs	\$35,199,883	\$24,639,918	\$52,799,824
Planning - Pre-Mobilization Activities	\$110,500	\$77,350	\$165,750
Contractor Engineering Support	\$65,000	\$45,500	\$97,500
Mobilization & Demobilization	\$241,551	\$169,086	\$362,326
Temporary Facilities	\$182,145	\$127,502	\$273,218
Site Supervision & Management	\$3,092,813	\$2,164,969	\$4,639,220
LOTO / Air Gap	\$18,971	\$13,280	\$28,457
Misc. Material Survey and Sampling	\$233,211	\$163,248	\$349,816
ACM / Regulated Materials Abatement - PBF	\$8,719,526	\$6,103,668	\$13,079,289
ACM / Regulated Materials Abatement - WPF	\$317,899	\$222,529	\$476,848
PCB/Lead Impacted Steel Disposal*	\$6,091,624	\$4,264,137	\$9,137,436
Demolition - PBF	\$6,808,338	\$4,765,837	\$10,212,507
Demolition - WPF	\$2,566,806	\$1,796,764	\$3,850,209
Contractor Markups	\$10,869,368	\$7,608,558	\$16,304,052
SCRAP CREDIT	-\$4,117,870	-\$2,882,509	-\$6,176,805
PBF	-\$3,075,475	-\$2,152,833	-\$4,613,213
WPF	-\$1,042,395	-\$729,677	-\$1,563,593

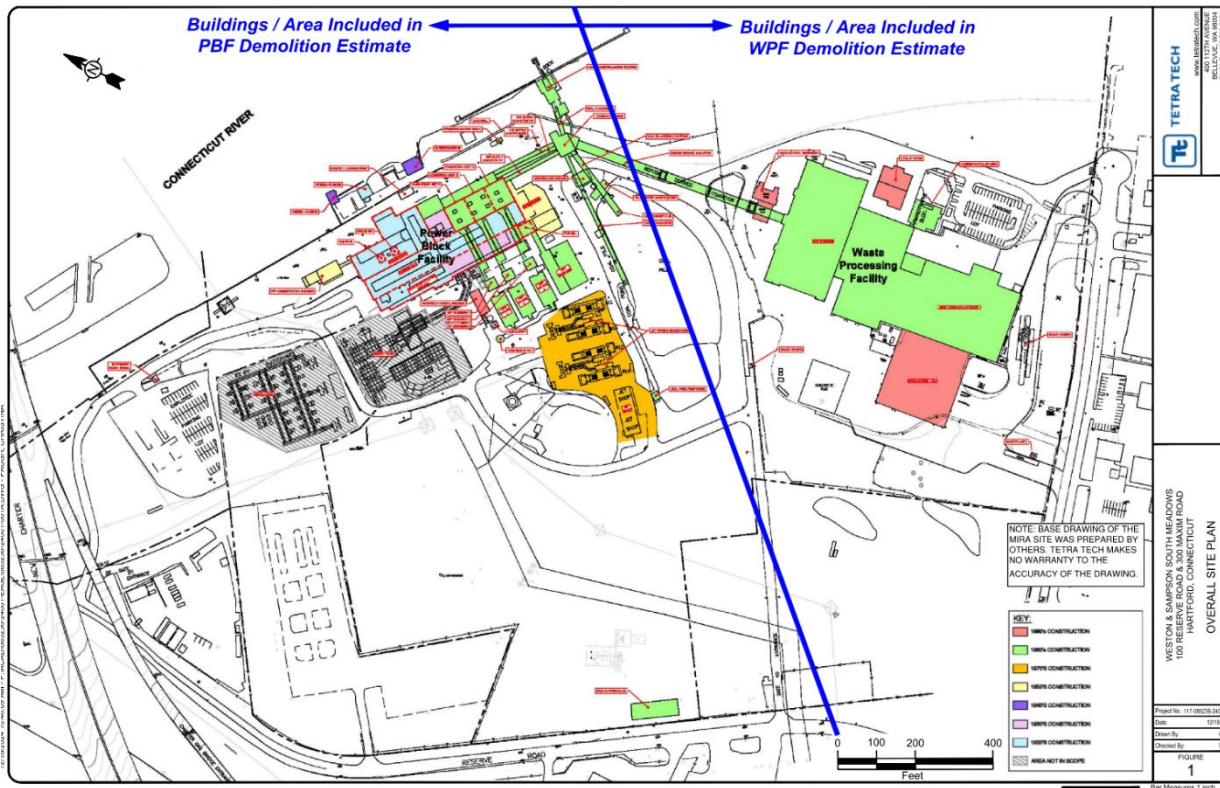
*PCBs as well as high concentrations of lead, have been identified in various green paints throughout the 1920/1930 era Power Block buildings. Because of the PCBs in paint (>50 ppm and <500 ppm), steel with this paint cannot be recycled for scrap credit. Therefore, these materials must be disposed as a PCB bulk product waste. However, because the paint has a high concentration of lead, it is likely that lead in the paint will be the cost driver for disposal.

Accordingly, the cost for disposal included in this table is reflective of the cost for disposal of 4,340 net tons of steel in a Sub-title C landfill as hazardous waste.

We do believe there are several options to reduce the overall disposal costs of green painted steel from the PBF, however, the cost to explore these options is beyond the scope of this study. These options may include;

- Feasibility of removing green paint from the steel, in place prior to demolition:
 - o Using chemical paint removers, or media blasting, the removed paint would be collected and disposed accordingly, thereby allowing the steel to be recycled

- Feasibility of removing green paints from steel **after** demolition:
 - o In a negative pressure enclosure using media blasting or using chemical paint removers, the removed paint would be collected and disposed accordingly, thus, allowing the steel to be recycled
- Treatment of the high concentration lead in paint on the steel to pass a TCLP test as it relates to its hazardous waste designation:
 - o If this option is chosen, it would still require the steel to be disposed as PCB bulk product waste, resulting in a disposal cost of approximately \$3.7 million vs. the \$6 million indicated above.



Document1

VII. SUMMARY OF ENGINEERING OPINION-OF-COSTS

To account for escalation of costs over time, the ENR Construction Cost Index was used to develop an annual escalation percentage (inflation rate). Over a period from January 2022 through January 2025, the cost index increased by 3.1% on average (or 3.03% compounded). The estimated time of completion for each activity, beginning in 2025, was used to determine the cost escalation value for that activity.

For each scenario listed in the matrix table below, it was assumed that the abandonment of floodwall penetrations would occur first, likely in 2025/2026, for an estimated total cost of \$3.2M, including engineering and permitting costs. Facility closure costs were adjusted to present value and included in the Site remediation costs.

VIII. MDA SOUTH MEADOWS SITE RECONSIDERATION STUDY – ENGINEERING OPINIONS-OF-COST FOR SITE DEMO AND REMEDIATION (INCLUDING 3.1% ANNUAL ESCALATION)

Future Use Scenarios	Floodwall Penetration Closure	Building and Structure Abatement and Demo ¹	Site Remed ²	Removal of Eversource Substation ³	Total Cost Estimate Beginning 2026	Total Cost Estimate Beginning 2031	Total Cost Estimate Beginning 2036
Ind/Com with WPF – Demo of PBF	3.2	30.84	13.68	0	47.72	55.40	64.32
Ind/Com Use with PBF – Demo of WPF	3.2	8.33	16.34	0	27.87	32.36	37.56
Ind/Com Use with no buildings	3.2	38.5	26.80	0	68.49	79.52	92.32
Res Use with/EURs	3.2	38.5	30.60	178.54	250.84	291.22	338.10
Res Use with 13 ft. of Imported Fill	3.2	38.5	113.63	178.54	333.87	387.61	450.00

Notes:

¹ Opinion of cost ranges from -30% and +50%

² Opinion of cost ranges from -25% and +50%

³ Opinion of cost ranges from 50% and +100%

The estimated time to completion for each activity, beginning in 2026, was used to determine the cost escalation value for the activity

IX. REFERENCES

ENR Construction Cost Index - 200 hours of common labor at the 20-city average of common labor rates, plus 25 cwt of standard structural steel shapes at the mill price prior to 1996 and the fabricated 20-city price from 1996, plus 1.128 tons of Portland cement at the 20-city price, plus 1,088 board ft of 2x 4 lumber at the 20-city price. Published annual cost indices from January 2022 through 2025 average as 3.1% annual increase.

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FIGURES

Consultants:

Revisions:

No.	Date	Description

COA:

Seal:

Issued For:
NOT RELEASED FOR CONSTRUCTION

Scale: 1"=100'

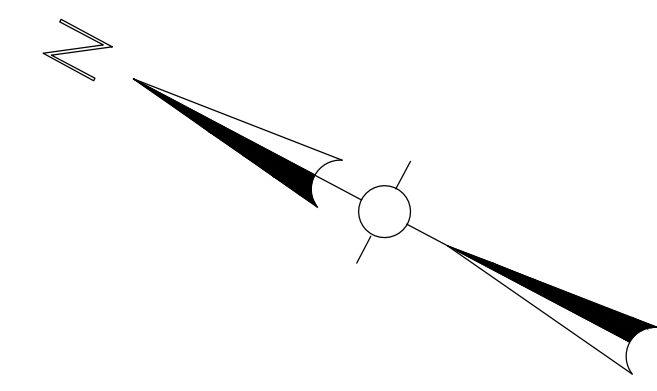
Date: FEBRUARY 2025
 Drawn By: ACS
 Reviewed By: RC
 Approved By: RC

W&S Project No.: ENG24-0668
 W&S File No.:

Drawing Title:

**PROPOSED
 13-FOOT FILL PLAN**

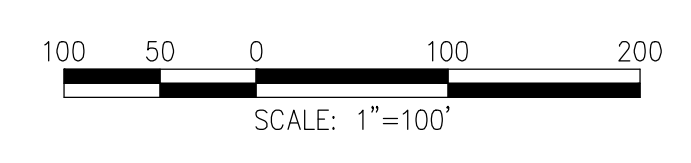
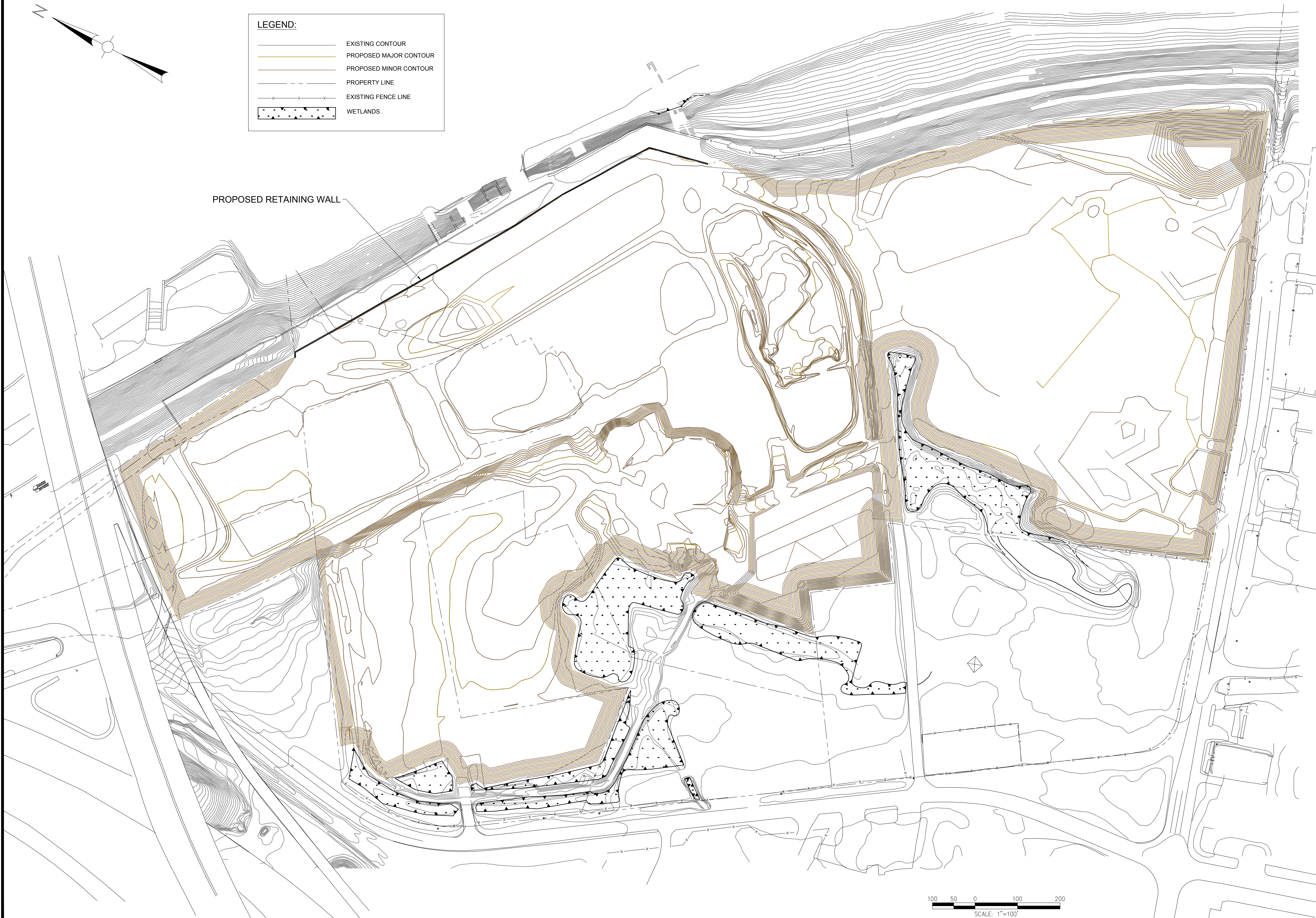
FIGURE 6



LEGEND:

- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPERTY LINE
- EXISTING FENCE LINE
- WETLANDS

PROPOSED RETAINING WALL



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TABLES

Table 1
AOCs and COCs

TABLE 1
AOCS and COCs

AOC	ELUR Subject Area	COCs	Remediation	Industrial/Commercial Use	Residential Use
Power Block Facility (PBF)					
PBF-1	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
PBF-2	A-1, F-2	Arsenic, PCBs	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently but under any changes to Site access restrictions additional remediation of PCB impacts will be required.	Does not meet residential standards for PCBs currently and remediation of this area will be required.
PBF-3	A-1, F-2	Arsenic, PCBs	Excavation of polluted soil Soil Impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Does not meet residential standards for PCBs currently and remediation of this area will be required.
PBF-3/FD Fan	A-1, D	PCBs	Excavation of polluted soil Engineered Control (DEC/PMC)	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation. Presence of PCBs ≥ 50 mg/kg may have to be addressed and, if structure is demolished, additional remediation will be required.
PBF-4	A-1, B	Arsenic, PCBs	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
PBF-5	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
PBF-6	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
115 kV Substation	A-1, F-2	Arsenic, PCBs	Excavation of polluted soil	Meets I/C standards currently and under any changes to Site access restrictions.	Does not meet residential standards for PCBs currently and remediation of this area will be required.
23 kV Substation	A-2, F-2	Arsenic, PCBs	Excavation of Polluted Soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Does not meet residential standards for PCBs currently and remediation of this area will be required.
Gate 20 Access Road	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Fuel Line Cap Area	A-1, I	Arsenic	Excavation of polluted soil Soil impacts inaccessible beneath Engineered Control	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in

TABLE 1
AOCS and COCs

					surface elevations or cover may require additional remediation.
PBF Wetlands	Q, R	Arsenic	Risk Assessment	Wetlands not to be developed	Wetlands not to be developed
Track Hopper Room	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Mercury Boiler Room	A-1, C	Arsenic, Mercury	Excavation of polluted soi Engineered Control (DEC/PMC)	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Demolition of the structure and concrete serving as the Engineered Control cover would require additional remediation.
Waste Processing Facility (WPF)					
WPF-1	A-1, O	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
WPF-2	A-1, P	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
WPF-3	A-1, N	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
WPF-4	A-1, L	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
WPF-5	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
WPF-6	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Stormwater Detention Basin	M	Arsenic	Risk Assessment	Wetlands not to be developed	Wetlands not to be developed
Stormwater Detention Basin Fence Line	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.

TABLE 1
AOCS and COCs

Bollard Installation Area	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
WPF Wetlands	M	Arsenic	Risk Assessment	Wetlands not to be developed	Wetlands not to be developed
Area 1					
Area 1-1	A-1, J	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 1-2	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 1-3	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 1-4	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 1-5	A-1	Arsenic	Excavation of polluted soil Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 1-6	K	Arsenic, Vanadium	Excavation of polluted soi Soil impacts inaccessible beneath constructed Engineered Control	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 2					
Area 2-1	H-1	ETPH, PAHs	Excavation of polluted soi Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 2-2	H-1	ETPH, PAHs	Excavation of polluted soi Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 2-3	H-1	ETPH, PAHs	Excavation of polluted soi Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.

TABLE 1
AOCS and COCs

Former PCB AST and Piping	H-1	ETPH, PAHs	Demolition of tank, piping, and foundation.	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction.
Area 3					
Area 3-1	A-1, G-a	Metals (As, Cr, Pb) Petroleum Hydrocarbons PAHs	Excavation of polluted soil Engineered Control (DEC only)	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 3-2	A-1, G-b	Metals (As, Cr, Pb) Petroleum Hydrocarbons PAHs	Excavation of polluted soi Soil impacts inaccessible	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation.
Area 3-3	A-1, G-b	Metals (As, Cr, Pb) Petroleum Hydrocarbons PAHs PCBs	Excavation of polluted soil Engineered Control (DEC only)	Meets I/C standards currently and under any changes to Site access restrictions.	Meets residential standards currently and under any changes to Site access restriction. Any change in surface elevations or cover may require additional remediation. Presence of PCBs ≥ 50 mg/kg may have to be addressed and, if duct banks within the area are decommissioned, additional remediation will be required.

Table 2
PCB Inspection Results

Sample ID	Sample Location	Material Description	Total PCBs (mg/kg)	Estimated Application Area	Regulatory Classification
Paint Samples					
P-A	PBF/NU Building Interior	Cream wall paint	1.6	25,000 SF	Ex/CR
P-B	PBF Interior	Black wall paint	16	15,000 SF	Ex/CR
P-C	PBF Interior	Green wall paint	19	125,000 SF	Ex/CR
P-D	PBF Interior	Yellow wall/railing paint	9.6	500 SF	Ex/CR
P-E	PBF Interior	Red beam paint	4.4	12,500 SF	Ex/CR
P-F	PBF Interior	Orange beam paint	11	12,500 SF	Ex/CR
P-G	PBF Interior	Light cream wall paint	8.5	22,500 SF	Ex/CR
P-H	PBF Interior	Red wall/pipe paint	14	1,500 SF	Ex/CR
P-J	PBF Interior	Blue pipe paint	<0.093	1,500 SF	Not Regulated
P-K	PBF Interior	Black wall/brick paint	4.6	12,500 SF	Ex/CR
P-L	PBF Interior	White brick paint	5.4	1,950 SF	Ex/CR
P-M	PBF Interior	Green beam paint	490	58,000 SF	BPW
P-M (A)	PBF Interior	Green paint	2.3	58,000 SF	Ex/CR
P-M (B)	PBF Interior	Green paint	3.9	58,000 SF	Ex/CR
P-M (C) 1	PBF Interior	Green paint	3.7	58,000 SF	Ex/CR
P-M (C) 2	PBF Interior	Green paint	<0.77	58,000 SF	Not Regulated
P-M (D)	PBF Interior	Green paint	17.8	58,000 SF	Ex/CR
P-M (E)	PBF Interior	Green paint	3.7	58,000 SF	Ex/CR
P-M (F) 1	PBF Interior	Green paint	2.3	58,000 SF	Ex/CR
P-M (F) 2	PBF Interior	Green paint	3.0	58,000 SF	Ex/CR
P-M (G) 1	PBF Interior	Green paint	7.8	58,000 SF	Ex/CR
P-M (G) 2	PBF Interior	Green paint	8.1	58,000 SF	Ex/CR
P-M (H) 1	PBF Interior	Green paint	8.4	58,000 SF	Ex/CR
P-M (H) 2	PBF Interior	Green paint	13	58,000 SF	Ex/CR
P-M (I) 1	PBF Interior	Green paint	57	58,000 SF	BPW
P-M (I) 2	PBF Interior	Green paint	23	58,000 SF	Ex/CR
P-M (J) 1	PBF Interior	Green paint	20	58,000 SF	Ex/CR
P-M (J) 2	PBF Interior	Green paint	16	58,000 SF	Ex/CR
P-M (K) 1	PBF Interior	Green paint	13	58,000 SF	Ex/CR
P-M (K) 2	PBF Interior	Green paint	11	58,000 SF	Ex/CR
P-M (L)	PBF Interior	Green paint	41	58,000 SF	Ex/CR
P-M (M)	PBF Interior	Green paint	38	58,000 SF	Ex/CR
P-M (N) 1	PBF Interior	Green paint	43	58,000 SF	Ex/CR
P-M (N) 2	PBF Interior	Green paint	50	58,000 SF	BPW
P-N	PBF Interior	Grey wall paint	11	27,500 SF	Ex/CR
P-O	PBF Interior	Baby blue beam paint	6.5	5,500 SF	Ex/CR
P-P	NU Building Interior	Light green paint	3.1	35,000 SF	Ex/CR
P-Q	NU Building Interior	White paint	3.2	7,500 SF	Ex/CR
P-R	NU Building Interior	Olive green paint	12	10,000 SF	Ex/CR
P-S	NU Building Interior	White paint on foundation	51	12,500 SF	BPW
P-T	Admin Building Interior	Blue wall paint	<0.47	1,500 SF	Not Regulated
P-U	Admin Building Interior	Off white hall paint	0.49	9,800 SF	Not Regulated
P-V	Admin Building Interior	Tan wall paint	0.53	12,500 SF	Not Regulated
P-W	PBF Exterior/Structures	Yellow steel paint (stairs/beams)	<0.46	450 SF	Not Regulated
P-X	PBF Exterior/Structures	Grey steel paint	<0.097	1,000 SF	Not Regulated
P-Y	PBF Exterior/Structures	Red paint on fiberglass	<0.10	750 SF	Not Regulated
P-Z	PBF Exterior Façade C	Red paint over terra cotta block	3.3	1,500 SF	Ex/CR
7-19-AF-250A	PBF Interior	Metallic paint on structural components and pipes	15	650 LF	Ex/CR
7-22-AF-281A	PBF Interior	Black brushed on paint on structural steel beam	4.1	150 SF	Ex/CR

Sample ID	Sample Location	Material Description	Total PCBs (mg/kg)	Estimated Application Area	Regulatory Classification
Caulk Samples					
AF-458 (I)	Elevator room penthouse façade D	Window caulk grey	0.81	1,500 LF	Not Regulated
AF-467	PBF Façade A	Grey caulk @ mechanical box	<0.73	15 LF	Not Regulated
AF-477	PBF façade C	Grey expansion seam caulk	<0.80	150 LF	Not Regulated
AF-603	PBF roof 2	Original caulk at coping seam	<0.76	325 LF	Not Regulated
AF-467	PBF Façade A	Grey caulk @ mechanical box	<0.73	15 LF	Not Regulated
AF-426	Rm 3-36	Expansuion joint caulk	12	25 LF	Ex/CR
AF-456	NU façade A	Grey vertical caulk over expansion board	20	25 LF	Ex/CR
AF-458	NU façade A	Exterior window caulk grey	2.2	360 LF	Ex/CR
AF-463	NU façade A	Caulk @ brick and foundation junction	3.1	100 LF	Ex/CR
AF-522	Admin exterior	Grey window caulk	<390	600 LF	BPW
AF-523	Admin façade A	Grey vertical caulk on cube windows	0.58	600 LF	Not Regulated
AF-524	Admin exterior	Grey louvre caulk	<0.094	25 LF	Not Regulated
AF-526	WH Façade D	Caulk at brick corner junction	<0.78	300 LF	Not Regulated
AF-527	WH façade C	White caulk at window sash	<0.76	100 LF	Not Regulated
AF-651	WH Roof	Black caulk on EPDM	<0.80	300 LF	Not Regulated
7-23-AF-296A	Rm 1-26 Elevation 45'	Caulk at orignal building / addition junction - beige	0.90	100 LF	Not Regulated
7-31-AF-371A	Rm 1-64	Door frame caulk - off white	6.5	15 LF	Ex/CR
7-31-AF-372A	Rm 1-64	Expansion joint caulk at 20's / 70's construction junction - off white	4.3	100 LF	Ex/CR
Glazing Samples					
AF-457 (I)	Elevator room penthouse façade D	Window glazing compound	3.3	300 LF	Ex/CR
AF-473	PBF façade C	Window glazing compound	0.83	3,500 LF	Not Regulated
AF-490	Admin	Window glazing compound in hall doors black	<0.78	150 LF	Not Regulated
AF-524	WH façade A	Window glazing compound white	<0.085	10,000 LF	Not Regulated
7-23-AF-305A	Rm 2-29 Elevation 57'	Window glazing compound in office windows - beige	0.89	10,000 LF	Not Regulated
Tar Material Samples					
AF-607	PBF roof 1 corrugated steel section	Black sealant	7.8	300 SF	Ex/CR
AF-629	PBF roof 2	Mop down tar	<0.76	15,500 SF	Not Regulated
AF-390	Rm 4-40	Black mastic under floor tile	1.7	10,000 SF	Ex/CR
AF-479	Administration Building	Black mastic under floor tile	0.40	10,000 SF	Not Regulated
7-23-AF-317A	Rm 2-33 Elevation 57'	Floor tile mastic - black	0.82	10,000 SF	Not Regulated

Notes:

Estimated Application Area is the square footage (SF) of paint or tar material applied or the linear feet (LF) of caulk or glazing compounds applied on the structure

BPW - Material sampled is classified as a PCB bulk product waste

Ex/CR - Material sampled is classified as an excluded PCB product and regulated under Connecticut guidance documents

Not Regulated - Material tested is not regulated because PCBs were either not detected or found at a concentration <1 mg/kg

Table 5

Remediation Opinions of Cost for Reuse Scenarios

Class 4 (Study Level) Opinion of Cost

Study Level (Class 4) Opinion of Cost		Date Prepared: 3/7/2025	Sheet 1 of 1		
Project: South Meadows Redevelopment Study (Scenario #1A: Industrial / Commercial Use with Demolition of PBF)		Bases: Previous Similar Work			
Weston & Sampson Engineers, Inc.		Estimator: JCW	Checked by: RJC		
DESCRIPTION: This scenario envisions that future site use will match the currently permitted Industrial / Commercial (I/C) use as a waste management and/or recycling facility, the existing WPF building, structures, infrastructure, and environmental restrictions will remain, and the PBF Building, related structures and infrastructure will be demolished. Please refer to the Study report for the full list of assumptions.					
A Class 4 (Study Level) Opinion of Cost is made with some engineering data and may be estimated by comparison with similar projects. This type of estimate is normally accurate within plus 50% or minus 25%. Weston & Sampson Engineers, Inc. (Weston & Sampson) has no control over the cost of labor, materials, equipment or services furnished by others, over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions. Weston & Sampson's opinion of probable Total Project Costs judgment as an experienced and qualified professional engineer, familiar with the remediation industry. Weston & Sampson cannot and does not guarantee that proposals, bids or actual Total Project or Remediation Costs will not vary from opinions of probable cost prepared by Weston & Sampson.					
Item No.	Item Description	Unit Meas.	No. Units	Per Unit	
Future Site Remediation Consistent With 2018 LEP Verifier					
1a	Remediate PCB impacts at PBF-3 to < 10 parts per million (ppm) ¹	Tons	6100	\$700	\$4,270,000
1b	Remediate PCB impacts at FD Fan Area/Station Service Transformer to < 10 ppm ¹	Tons	2000	\$700	\$1,400,000
1c	Remediate PCB impacts on exterior walls of the PBF structure ¹	Tons	700	\$650	\$455,000
Sub Total					\$6,125,000
New or Modified Institutional/Engineering Controls and Permits Needed to Permit I/C Use⁶					
2a	Prepare New or Modified Environmental Land Use Restrictions (ELURs) or Notices of Activity and Use Limitations (NAULs)	Each	3	\$50,000	\$150,000
2b	Prepare New or Modified Engineered Controls (ECs)	Each	3	\$35,000	\$105,000
2c	Monitoring/Inspections ³	Event	30	\$5,000	\$150,000
2d	Maintenance/Repairs ³	Event	15	\$15,000	\$225,000
2e	Prepare Registration for New Recycling Permit	Est.	6	\$50,000	\$300,000
Sub Total					\$930,000
Site Soils are Not Classified as a RCRA Hazardous Waste					
3	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Maintain Existing Surface Elevations and Cover					
4	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Retain Existing WPF and Auxiliary Buildings					
5a	Implement Facility Closure Plan for WPF	LS	1	\$687,000	\$687,000
5b	Retain Existing WPF ^{6,7}	LS	1	\$0	\$0
Sub Total					\$687,000
Re-Purpose Existing Fuel Off-Loading Dock for I/C Purposes					
6	Design, Permit & Modify Existing Dock	LS	1	\$810,000	\$810,000
Sub Total					\$810,000
Remove Existing PBF (to 4 ft. below grade) and Auxiliary Buildings					
7	Implement Facility Closure Plan for PBF	LS	1	\$3,428,000	\$3,428,000
Sub Total					\$3,428,000
Retain Existing Eversource 115kV and 23kV Electrical Substations and Institutional Controls					
8	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Retain Eversource Duct Bank and Easement Area and Do Not Disturb PCB Impacted Soils > 50 ppm Near Duct Bank					
9	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Implement Existing Soil Management Plan For Future Activities					
10	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Obtain Temporary Releases from ELURs to Perform Site Work (As Needed)					
11	Prep. of CT DEEP Forms	LS	9	\$5,000	\$45,000
Sub Total					\$45,000
Data Gap Investigations					
12	Evaluate Soils Beneath Building Slabs and Station Service Transformer Area	LS	1	\$120,000	\$120,000
Sub Total					\$120,000
OPINION OF TOTAL COST^{4,5}					\$12,145,000

Note:

Class 4 Cost Estimate as defined in "Cost Estimate Classification System", AACE International Recommended Practice No. 17R-97

Assumptions:

1. Reduce PCB concentrations to <10 ppm for EPA and CT DEEP compliance.
2. Per 22a-133k-1(f) of the RSRs, a financial assurance mechanism is required to support an ELUR engineered control. For the MDA South Meadows site this requirement has been fulfilled with the establishment of a Trust Fund or a Payment of Funds in Cash to the DEEP Commissioner.
3. Required for CT DEEP compliance; presumes 30 years.
4. Demolition and abatement costs for PBF building and structures are not included.
5. Estimates are present worth costs.
6. Operations and maintenance (O&M) costs for any retained buildings or structures are not included.
7. This scenario presumes there are no drainage costs associated with retaining the WPF building and associated structures.

Class 4 (Study Level) Opinion of Cost

Study Level (Class 4) Opinion of Cost		Date Prepared: 3/7/2025	Sheet 1 of 1		
Project: South Meadows Redevelopment Study (Scenario #1B: Industrial / Commercial Use with Demolition of WPF)		Bases: Previous Similar Work			
Weston & Sampson Engineers, Inc.		Estimator: JCW	Checked by: RJC		
DESCRIPTION: This scenario envisions that future site use will allow re-development for Industrial/Commercial (I/C) uses, the existing PBF building, structures, infrastructure, Access to docks, and environmental restrictions will remain, and the WPF building, structures and infrastructure will be demolished. Please see the Study report for a full list of cost assumptions.					
A Class 4 (Study Level) Opinion of Cost is made with some engineering data and may be estimated by comparison with similar projects. This type of estimate is normally accurate within plus 50% or minus 25%. Weston & Sampson Engineers, Inc. (Weston & Sampson) has no control over the cost of labor, materials, equipment or services furnished by others, over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions. Weston & Sampson's opinion of probable Total Project Costs judgment as an experienced and qualified professional engineer, familiar with the remediation industry. Weston & Sampson cannot and does not guarantee that proposals, bids or actual Total Project or Remediation Costs will not vary from opinions of probable cost prepared by Weston & Sampson.					
Item No.	Item Description	Unit Meas.	No. Units	Per Unit	
Future Site Remediation Consistent With 2018 LEP Verifier					
1a	Remediate PCB impacts at PBF-3 to < 10 parts per million (ppm) ¹	Tons	6100	\$700	\$4,270,000
1b	Remediate PCB impacts at FD Fan Area/Station Service Transformer to < 10 ppm ¹	Tons	2000	\$700	\$1,400,000
1c	Remediate PCB impacts on exterior walls of the PBF structure ¹	Tons	700	\$650	\$455,000
Sub Total					\$6,125,000
New or Modified Institutional/Engineering Controls and Permits Needed to Permit I/C Use²					
2a	Prepare New or Modified Environmental Land Use Restrictions (ELURs) or Notices of Activity and Use Limitations (NAULs)	Each	3	\$50,000	\$150,000
2b	Prepare New or Modified Engineered Controls (ECs)	Each	3	\$35,000	\$105,000
2c	Monitoring/Inspections ³	Event	30	\$5,000	\$150,000
2d	Maintenance/Repairs ³	Event	15	\$15,000	\$225,000
Sub Total					\$630,000
Site Soils are Not Classified as a RCRA Hazardous Waste					
3	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Maintain Existing Surface Elevations and Cover					
4	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Remove Existing WPF and Auxiliary Buildings/Structures					
5a	Implement Facility Closure Plan for WPF	LS	1	\$715,000	\$715,000
5b	Design/Build New Subsurface Stormwater Drainage	LS	3	\$900,000	\$2,700,000
Sub Total					\$3,415,000
Retain Existing PBF and Auxiliary Buildings					
6a	Implement Facility Closure Plan for PBF	LS	1	\$3,455,000	\$3,455,000
6b	Retain Existing PBF ⁶	LS	1	\$0	\$0
Sub Total					\$3,455,000
Re-Purpose Existing Fuel Off-Loading Dock for I/C Purposes					
7	Design, Permit & Modify Existing Dock	LS	1	\$810,000	\$810,000
Sub Total					\$810,000
Retain Existing Eversource 115kV and 23kV Electrical Substations and Institutional Controls					
8	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Retain Eversource Duct Bank and Easement Area and Do Not Disturb PCB Impacted Soils Near Duct Bank					
9	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Obtain Temporary Releases from ELURs to Perform Site Work (As Needed)					
10	Prep. of CT DEEP Forms	LS	9	\$5,000	\$45,000
Sub Total					\$45,000
Implement Existing Soil Management Plan For Future Activities With Updates					
11	Update SMP	LS	1	\$10,000	\$10,000
Sub Total					\$10,000
Data Gap Investigations					
12a	Evaluate Soils Beneath Building Slabs	LS	1	\$85,000	\$85,000
12b	Conduct Screening Level Ecological Risk Assessment (SLERA) of CT River Sediments	LS	1	\$150,000	\$150,000
Sub Total					\$235,000
OPINION OF TOTAL COST^{4,5}					\$14,725,000

Note:

Class 4 Cost Estimate as defined in "Cost Estimate Classification System", AACE International

Assumptions:

1. Reduce PCB concentrations to <10 ppm for EPA and CT DEEP compliance.
2. Per 22a-133k-1(f) of the RSRs, a financial assurance mechanism is required to support an ELUR engineered control. For the MDA South Meadows site this requirement has been fulfilled with the establishment of a Trust Fund or a Payment of Funds in Cash to the DEEP Commissioner.
3. Required for CT DEEP compliance; presumes 30 years.
4. Demolition and abatement costs for WPF buildings and structures are not included
5. Estimates are present worth costs.
6. Operations and maintenance (O&M) costs for any retained buildings or structures are not included
7. This scenario presumes there are no drainage costs associated with retaining the PBF building and associated structures

Class 4 (Study Level) Opinion of Cost

Study Level (Class 4) Opinion of Cost		Date Prepared: 3/7/2025	Sheet 1 of 1		
Project: South Meadows Redevelopment Study (Scenario #1C: Industrial / Commercial Use with Complete Site Demolition)		Bases: Previous Similar Work			
Weston & Sampson Engineers, Inc.		Estimator: JCW	Checked by: RJC		
DESCRIPTION: This scenario envisions that future site use will allow re-development for Industrial/Commercial (I/C) uses, all on-site buildings, structures and infrastructure will be demolished, and existing environmental land use restrictions will remain. Please see the Study report for a full list of cost assumptions.					
A Class 4 (Study Level) Opinion of Cost is made with some engineering data and may be estimated by comparison with similar projects. This type of estimate is normally accurate within plus 50% or minus 25%. Weston & Sampson Engineers, Inc. (Weston & Sampson) has no control over the cost of labor, materials, equipment or services furnished by others, over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions. Weston & Sampson's opinion of probable Total Project Costs judgment as an experienced and qualified professional engineer, familiar with the remediation industry. Weston & Sampson cannot and does not guarantee that proposals, bids or actual Total Project or Remediation Costs will not vary from opinions of probable cost prepared by Weston & Sampson.					
Item No.	Item Description	Unit Meas.	No. Units	Per Unit	
Future Site Remediation Consistent With 2018 LEP Verificator					
1a	Remediate PCB impacts at PBF-3 to < 10 parts per million (ppm) ¹	Tons	6100	\$700	\$4,270,000
1b	Remediate PCB impacts at FD Fan Area/Station Service Transformer to < 10 ppm ¹	Tons	2000	\$700	\$1,400,000
1c	Remediate PCB impacts on exterior walls of the PBF structure ¹	Tons	700	\$650	\$455,000
Sub Total					\$6,125,000
New or Modified Institutional/Engineering Controls and Permits Needed to Permit I/C Use²					
2a	Prepare New or Modified Environmental Land Use Restrictions (ELURs) or Notices of Activity and Use Limitations (NAULs)	Each	6	\$50,000	\$300,000
2b	Prepare New or Modified Engineered Controls (ECs)	Each	6	\$35,000	\$210,000
2c	Monitoring/Inspections ³	Event	30	\$10,000	\$300,000
2d	Maintenance/Repairs ³	Event	20	\$30,000	\$600,000
Sub Total					\$1,410,000
Site Soils are Not Classified as a RCRA Hazardous Waste					
3	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Maintain Existing Surface Elevations and Cover					
4	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Remove Existing WPF and Auxiliary Buildings/Structures					
5a	Implement Facility Closure Plan for WPF	LS	1	\$715,000	\$715,000
5b	Design/Build New Subsurface Stormwater Drainage	LS	3	\$900,000	\$2,700,000
Sub Total					\$3,415,000
Remove Existing PBF and Auxiliary Buildings					
6a	Implement Facility Closure Plan for PBF	LS	1	\$3,455,000	\$3,455,000
6b	Design/Build New Subsurface Stormwater Drainage	LS	9	\$900,000	\$8,100,000
Sub Total					\$11,555,000
Re-Purpose Existing Fuel Off-Loading Dock for I/C Purposes					
7	Design, Permit & Modify Existing Dock	LS	1	\$810,000	\$810,000
Sub Total					\$810,000
Retain Existing Eversource 115kV and 23kV Electrical Substations and Institutional Controls					
8	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Retain Eversource Duct Bank and Easement Area and Do Not Disturb PCB Impacted Soils Near Duct Bank					
9	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Obtain Temporary Releases from ELURs to Perform Site Work (As Needed)					
10	Prep. of CT DEEP Forms	LS	20	\$5,000	\$100,000
Sub Total					\$100,000
Implement Existing Soil Management Plan For Future Activities With Updates					
11	Update SMP	LS	1	\$10,000	\$10,000
Sub Total					\$10,000
Data Gap Investigations					
12a	Evaluate Soils Beneath Building Slabs	LS	1	\$200,000	\$200,000
12b	Conduct Screening Level Ecological Risk Assessment (SLERA) of CT River Sediments	LS	1	\$150,000	\$150,000
Sub Total					\$350,000
OPINION OF TOTAL COST^{4,5}					\$23,775,000

Note:

Class 4 Cost Estimate as defined in "Cost Estimate Classification System", AACE International

Assumptions:

1. Reduce PCB concentrations to <10 ppm for EPA and CT DEEP compliance.
2. Per 22a-133k-1(f) of the RSRs, a financial assurance mechanism is required to support an ELUR engineered control. For the MDA South Meadows site this requirement has been fulfilled with the establishment of a Trust Fund or a Payment of Funds in Cash to the DEEP Commissioner.
3. Required for CT DEEP compliance; presumes 30 years.
4. Demolition and abatement costs for all on-site buildings and structures are not included
5. Estimates are present worth costs.

Class 4 (Study Level) Opinion of Cost

Study Level (Class 4) Opinion of Cost		Date Prepared: 3/7/2025	Sheet 1 of 1		
Project: South Meadows Redevelopment Study (Scenario #2A: Residential Use with ELURs In-Place)		Bases: Previous Similar Work			
Weston & Sampson Engineers, Inc.		Estimator: JCW	Checked by: RJC		
DESCRIPTION: This scenario envisions that future site use will allow re-development of the site for Residential purposes while keeping applicable ELURs in place. All buildings and structures to be demolished and substations and transmission lines removed. Please refer to the Study report for the full list of assumptions.					
A Class 4 (Study Level) Opinion of Cost is made with some engineering data and may be estimated by comparison with similar projects. This type of estimate is normally accurate within plus 50% or minus 25%. Weston & Sampson Engineers, Inc. (Weston & Sampson) has no control over the cost of labor, materials, equipment or services furnished by others, over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions. Weston & Sampson's opinion of probable Total Project Costs judgment as an experienced and qualified professional engineer, familiar with the remediation industry. Weston & Sampson cannot and does not guarantee that proposals, bids or actual Total Project or Remediation Costs will not vary from opinions of probable cost prepared by Weston & Sampson.					
Item No.	Item Description	Unit Meas.	No. Units	Per Unit	
Future Site Remediation Consistent With 2018 LEP Verification					
1a	Remediate PCB impacts at PBF-3 to < 1 parts per million (ppm) ¹	Tons	10000	\$700	\$7,000,000
1b	Remediate PCB impacts at FD Fan Area/Station Service Transformer to < 1 ppm ¹	Tons	4500	\$700	\$3,150,000
1c	Remediate PCB impacts on exterior walls of the PBF structure ¹	Tons	700	\$650	\$455,000
Sub Total					\$10,605,000
New or Modified Institutional/Engineering Controls and Permits Needed to Permit Residential Use²					
2a	Prepare New or Modified Environmental Land Use Restrictions (ELURs) or Notices of Activity and Use Limitations (NAULs)	Each	3	\$50,000	\$150,000
2b	Prepare New or Modified Engineered Controls (ECs)	Each	3	\$35,000	\$105,000
2c	Monitoring/Inspections ⁴	Est.	30	\$5,000	\$150,000
2d	Maintenance/Repairs ⁴	Est.	15	\$15,000	\$225,000
Sub Total					\$630,000
Site Soils are Not Classified as a RCRA Hazardous Waste					
3	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Maintain Existing Surface Elevations and Cover					
4	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Remove Existing WPF and Auxiliary Buildings/Structures					
5a	Implement Facility Closure Plan for WPF	LS	1	\$715,000	\$715,000
5b	Design/Build New Subsurface Stormwater Drainage	LS	3	\$600,000	\$1,800,000
Sub Total					\$2,515,000
Remove Existing PBF (4 ft. below grade) and Auxiliary Buildings/Structures					
6a	Implement Facility Closure Plan for PBF	LS	1	\$3,455,000	\$3,455,000
6b	Design/Build New Subsurface Stormwater Drainage	LS	9	\$600,000	\$5,400,000
Sub Total					\$8,855,000
Re-Purpose Existing Fuel Off-Loading Dock for Residential Purposes					
7	Design, Permit & Construct New Dock	LS	1	\$810,000	\$810,000
Sub Total					\$810,000
Remove Existing Eversource 115kV and 23kV Electrical Substations and Institutional Controls					
8	Remediate PCB impacts to Remove IC ¹	LS	3600	\$700	\$2,520,000
Sub Total					\$2,520,000
Remove Eversource Duct Bank and Easement Area and Remediate PCB Impacted Soils Near Duct Bank					
9	Remediate PCB impacts at Duct Bank to < 1 ppm ¹	LS	1100	\$700	\$770,000
Sub Total					\$770,000
Obtain Temporary Releases from ELURs to Perform Site Work (As Needed)					
10	Preparation of CT DEEP Forms	LS	9	\$5,000	\$45,000
Sub Total					\$45,000
Implement Existing Soil Management Plan For Future Activities With Updates					
11	Update SMP	LS	1	\$10,000	\$10,000
Sub Total					\$10,000
Data Gap Investigations					
12a	Evaluate Soils Beneath Building Slabs, Station Service Transformer Area, and Both Substations	LS	1	\$250,000	\$250,000
12b	Conduct Screening Level Ecological Risk Assessment (SLERA) of CT River Sediments	LS	1	\$150,000	\$150,000
Sub Total					\$400,000
OPINION OF TOTAL COST^{3,5,6}					\$27,160,000

Note:

Class 4 Cost Estimate as defined in "Cost Estimate Classification System", AACE International Recommended Practice No. 17R-97

Assumptions:

- Reduce PCB concentrations to <1 ppm for EPA and CT DEEP compliance.
- Per 22a-133k-1(f) of the RSRs, a financial assurance mechanism is required to support an ELUR engineered control. For the MDA South Meadows site this requirement has been fulfilled with the establishment of a Trust Fund or a Payment of Funds in Cash to the DEEP Commissioner.
- Costs for removal of Eversource electrical infrastructure is not included
- Required for CT DEEP compliance; presumes 30 years.
- Demolition and abatement costs for buildings and structures are not included.
- Estimates are present worth costs.

Class 4 (Study Level) Opinion of Cost

Study Level (Class 4) Opinion of Cost		Date Prepared: 3/7/2025	Sheet 1 of 1		
Project: South Meadows Redevelopment Study (Scenario #2B: Residential Use with Demolition of All Buildings and Clean Fill Imported to Remove Soil Remediation Requirement)		Bases: Previous Similar Work, RS Means Cost Data			
Weston & Sampson Engineers, Inc.		Estimator: JCW	Checked by: RJC		
DESCRIPTION: This scenario envisions that future site use will allow re-development of the site for Residential purposes and adding 13 feet of clean fill throughout most of the site to keep contaminated soil below the 15-foot Direct Exposure Criteria zone. Please refer to the Study report for a full list of assumptions.					
A Class 4 (Study Level) Opinion of Cost is made with some engineering data and may be estimated by comparison with similar projects. This type of estimate is normally accurate within plus 50% or minus 25%. Weston & Sampson Engineers, Inc. (Weston & Sampson) has no control over the cost of labor, materials, equipment or services furnished by others, over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions. Weston & Sampson's opinion of probable Total Project Costs judgment as an experienced and qualified professional engineer, familiar with the remediation industry. Weston & Sampson cannot and does not guarantee that proposals, bids or actual Total Project or Remediation Cost will not vary from opinions of probable cost prepared by Weston & Sampson.					
Item No.	Item Description	Unit Meas.	No. Units	Per Unit	
Future Site Remediation Consistent With 2018 LEP Verification					
1a	Remediate PCB impacts at PBF-3 to < 1 parts per million (ppm) ¹	Tons	10000	\$700	\$7,000,000
1b	Remediate PCB impacts at FD Fan Area/Station Service Transformer to < 1 ppm ¹	Tons	4500	\$700	\$3,150,000
1c	Remediate PCB impacts on exterior walls of the PBF structure ¹	Tons	700	\$650	\$455,000
1c	Remediate PCB Impacted Soil at Other Areas to < 1 ppm ¹	Tons	0	\$650	\$0
Sub Total					\$10,605,000
New or Modified Institutional/Engineering Controls and Permits Needed to Permit Residential Use²					
2a	Prepare New or Modified Environmental Land Use Restrictions (ELURs) or Notices of Activity and Use Limitations (NAULs)	Each	2	\$50,000	\$100,000
2b	Prepare New or Modified Engineered Controls (ECs)	Each	2	\$35,000	\$70,000
2c	Monitoring/Inspections ⁴	Est.	30	\$5,000	\$150,000
2d	Maintenance/Repairs ⁴	Est.	10	\$10,000	\$100,000
Sub Total					\$420,000
Site Soils are Not Classified as a RCRA Hazardous Waste					
3	No Fees Anticipated	LS	1	\$0	\$0
Sub Total					\$0
Change Surface Elevations by Importing Clean Fill					
4	Backfill Site With 13 ft.of Fill ⁷	LS	1	\$0	\$72,615,000
Sub Total					\$72,615,000
Remove Existing WPF (to 4 ft. below grade) and Auxiliary Buildings/Structures					
5	Implement Facility Closure Plan for WPF	LS	1	\$715,000	\$715,000
Sub Total					\$715,000
Remove Existing PBF (to 4 ft. below grade) and Auxiliary Buildings/Structures					
6	Implement Facility Closure Plan for PBF	LS	1	\$3,455,000	\$3,455,000
Sub Total					\$3,455,000
Re-Purpose Existing Fuel Off-Loading Dock for Residential Purposes					
7	Design, Permit & Construct New Dock	LS	1	\$810,000	\$810,000
Sub Total					\$810,000
Remove Existing Eversource 115kV and 23kV Electrical Substations and Institutional Controls					
8	Remediate PCB Impacts to Remove IC ³	LS	3600	\$700	\$2,520,000
Sub Total					\$2,520,000
Remove Eversource Duct Bank and Easement Area and Remediate PCB Impacted Soils Near Duct Bank					
9	Remediate PCB Impacts at Duct Bank ¹	LS	1100	\$700	\$770,000
Sub Total					\$770,000
Obtain Releases from ELURs to Perform Site Work (As Needed)					
10	Preparation of CT DEEP Forms	LS	9	\$5,000	\$45,000
Sub Total					\$45,000
Implement Existing Soil Management Plan For Future Activities With Updates					
11	Update SMP	LS	1	\$10,000	\$10,000
Sub Total					\$10,000
Data Gap Investigations					
12a	Evaluate Soils Below Building Slabs, Station Service XFMR Area, both Substations and Duct Bank	LS	1	\$80,000	\$80,000
12b	Conduct Screening Level Ecological Risk Assessment (SLERA) of CT River Sediments	LS	1	\$150,000	\$150,000
Sub Total					\$230,000
OPINION OF TOTAL COST^{4,5,6}					\$92,195,000

Note: Class 4 Cost Estimate as defined in "Cost Estimate Classification System", AACE International

Assumptions:

- Reduce PCB concentrations to <1 ppm for EPA and CT DEEP compliance.
- Per 22a-133k-1(f) of the RSRs, a financial assurance mechanism is required to support an ELUR engineered control. For the MDA South Meadows site this requirement has been fulfilled with the establishment of a Trust Fund or a Payment of Funds in Cash to the DEEP Commissioner.
- Required for CT DEEP compliance; presumes 30 years.
- Demolition and abatement costs for buildings and structures are not included.
- Costs do not include removal of Eversource electrical infrastructure
- Estimates are present worth costs.
- Placement of 13 ft. of clean fill could raise groundwater levels on the site, and any impact on the regional water table and any PMC exceedance issues previously mitigated through ELURs is unclear.