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**Subject:** OU2-5 ICIAP - Final Distribution  
**Attachments:** OU2-5 ICIAP Rev1 Final.pdf

Jim,

Attached please find the Lower Fox River Operable Units 2, 3, 4 and 5 Institutional Control Implementation and Assurance Plan (ICIAP) as approved by EPA on May 9, 2023. If you have any questions or have any issues opening the document please let me know.

Best, Bryan



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**APPENDIX D**

**POST-REMEDIAL ACTION RESPONSE WORK PLAN**

**INSTITUTIONAL CONTROL IMPLEMENTATION  
AND ASSURANCE PLAN**

**Lower Fox River Operable Units 2, 3, 4, 5**

**Prepared for**

Georgia-Pacific Consumer Products LP

NCR Corporation

Glatfelter Corporation

**Prepared by**

Anchor QEA, LLC

Tetra Tech EC, Inc.

**For Submittal to**

Wisconsin Department of Natural Resources

U.S. Environmental Protection Agency

Revision 1

February 2023

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## List of Acronyms and Abbreviations

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A/OT	Agencies/Oversight Team
BODR	Basis of Design Report
BRRTS	Bureau for Remediation and Redevelopment Tracking System (WDNR)
BOTW	BRRTS on the Web
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COMMP	Cap Operations, Maintenance, and Monitoring Plan
CWA	Clean Water Act
cy	cubic yard
ESD	Explanation of Significant Differences
GIS	geographic information system
ICIAP	Institutional Control Implementation and Assurance Plan
LTMP	long-term monitoring plan
MGP	manufactured gas plant
MNR	monitored natural recovery
MOA	Memorandum of Agreement
NFA	North Focus Area
OHWM	Ordinary High-Water Mark
OU	Operable Unit
PCB	polychlorinated biphenyl
ppm	parts per million
RA	remedial action
RAL	remedial action level
RAO	remedial action objective
RAWP	Remedial Action Work Plan
RD	remedial design
RI/FS	remedial investigation / feasibility study
RNA	Regulated Navigation Area
ROD	Record of Decision
RR Sites Map	Remediation and Redevelopment Sites Map
SRA	special remediation area
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard

## List of Acronyms and Abbreviations

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USEPA	U.S. Environmental Protection Agency
WDNR	Wisconsin Department of Natural Resources
WDHS	Wisconsin Department of Health Services
WPS	Wisconsin Public Service Corporation
WRRD	Wisconsin Remediation and Redevelopment Database

## 1 INTRODUCTION AND BACKGROUND

This document presents the Institutional Control Implementation and Assurance Plan (ICIAP) for the remediation of polychlorinated biphenyls (PCBs) in Operable Units (OUs) 2 to 5 of the Lower Fox River and Green Bay Site (Site; see Figure 1-1). As described in the *Remedial Design Work Plan* (Shaw and Anchor Environmental 2004) approved by the U.S. Environmental Protection Agency (USEPA) and the Wisconsin Department of Natural Resources (WDNR) (collectively, the “Response Agencies”) on June 28, 2004, the ICIAP is an integral element of the overall remedial design (RD). The purpose of the ICIAP is to ensure the long-term protectiveness of the remedial action (RA) to address contaminated sediments in OUs 2 to 5. The objective of the RA was to protect human health and the environment. Full-scale RA in OUs 2 to 5 began in spring 2009 and was completed in summer 2020; therefore, contaminated sediments contained beneath engineered caps are subject to this ICIAP.

Anticipated capping areas in OUs 2 to 5 were initially described in the *Lower Fox River Remedial Design 100 Percent Design Report for 2010 and Beyond Remedial Actions – Volume 2* (Tetra Tech et al. 2012). These proposed cap areas were re-assessed prior to each construction season using additional data from infill sampling and site-specific evaluations. A list of final capped areas and figures showing their locations can be found in the OUs 2 to 5 *Certification of Remedial Action Completion Report* (Tetra Tech 2022 – note this report is expected to be finalized in 2022). The process for riparian landowner notification of capping areas is discussed in *Technical Memorandum - Evaluation of Available Draft Impact to Riparians and Riparian Notification* (Tetra Tech et al. 2009).

As discussed in further detail herein, landowners in riparian capping areas (defined for ICIAP purposes as an area where the post-cap water depth is less than 5 feet, or deeper in cap areas of OU 4B within 300 feet of the shoreline) were notified prior to each construction season of upcoming remediation plans. These landowners were offered the opportunity to meet with WDNR and the Administrative Order Respondents<sup>1</sup> to develop and implement cap designs that

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<sup>1</sup> The “Administrative Order Respondents” to the Response Agencies’ 2007 Administrative Order for Remedial Action (USEPA 2007) are Appleton Papers Inc.; CBC Coating, Inc. (formerly known as Riverside Paper Corporation); Georgia-Pacific Consumer Products LP (formerly known as Fort James Operating Company, Inc.); Menasha Corporation; NCR Corporation; P.H. Glatfelter Company; U.S. Paper Mills Corp. (U.S. Paper); and WTM I Company (formerly known as Wisconsin Tissue Mills, Inc.). Within this document, “Respondents” refers to NCR Corporation, Georgia Pacific Consumer Products LP, and Glatfelter Corporation.

met the requirements of the Record of Decision (ROD), as amended (USEPA and WDNR 2002, 2003, and 2007). Attempts were made to address the reasonable needs of the riparian landowners. Annual Phase 2B Remedial Action Work Plans (RAWPs) included a technical memorandum concerning the Notification of Riparian Property Owners in the vicinity of the RA planned for that year. Each annual memorandum identified the riparian property owners and described the process to notify them of RA planned in their area. Example letters are also included in the riparian technical memoranda that were attached as appendices to the annual RAWPs.

An initial notification was sent to all riparian property owners near RA planned for a given year to inform them that certain activities would take place in the Lower Fox River. Owners of riparian property in OU 4B where dredging would occur within 300 feet of the shoreline were provided additional notification. Riparian owners with dredging planned around their existing structures also received an agreement, and a follow-up contact with the riparian property owners was made prior to RA. Examples of the first and second riparian letters are included in the technical memoranda that were attached as appendices to the annual RAWPs.

When remedial work in an OU was completed, the parties performing the RA prepared an as-built survey of each engineered capping area. As described in Section 2 of this ICIAP, capping areas will be recorded on WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW) database and included on appropriate local units of government geographic information system (GIS) mapping systems and made available to the public through such institutions as public libraries and local units of government.

Following construction, related communication and correspondence with riparian landowners was documented in appendices to the annual RA Summary Reports prepared by the Respondents following the completion of each construction season.

This ICIAP does not address institutional controls related to upland areas used in implementing the RA, including the former Shell property material processing and staging facility. These upland areas were decommissioned in 2021, including building demolition, soil remediation, and final site grading under CERCLA authority and State requirements.

## 1.1 Background on Institutional Controls

As defined in USEPA's Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (USEPA 2005) and the ROD Amendment for OUs 2 to 5 (USEPA and WDNR 2007), institutional controls are non-engineered instruments, such as administrative and legal controls, that may be included as part of the RA to minimize the potential for human health or ecological exposure to sediment contamination and to ensure the long-term integrity of the remedy. The term "institutional control" generally refers to "non-engineered instruments, such as administrative and legal controls that help to minimize the potential for human exposure to contamination and protect the integrity of the remedy" (USEPA 2004b). USEPA guidance on institutional controls is provided in Office of Solid Waste and Emergency Response (OSWER) Directive 9355.0-74FS-P, *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups* (USEPA 2000) and OSWER Directive 9355.0-106, *Strategy to Ensure Institutional Control Implementation at Superfund Sites* (USEPA 2004b).

Institutional controls are typically grouped into the following categories (USEPA 2005):

- Proprietary land use restrictions and maintenance agreements that may involve legal instruments
- Enforcement and permit devices
- Governmental controls including permit conditions for future actions
- Informational devices including signage and fish consumption advisories that may be required until remedial action objectives (RAOs) are met

## 1.2 The Lower Fox River OUs 2 to 5 Remedial Action

The PCB cleanup remedy for the Lower Fox River was originally set forth in RODs for OUs 2 to 5 issued in December 2002 and June 2003 by the Response Agencies under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. §§ 9601-9675 (USEPA and WDNR 2002 and 2003). In order to support detailed RD analyses consistent with the RODs, intensive data collection was performed at the Site from 2004 to 2007. In June 2007, a ROD Amendment was issued by the Response Agencies that made changes to parts of the remedy described in the original RODs in response to new information collected since 2003, and from experience with prior remediation activities at the Site (USEPA and WDNR 2007).



The ROD Amendment required institutional controls in OUs 2 to 5 to maintain the integrity of the remedy, including protection of engineered caps and reduction of potential exposure in monitored natural recovery (MNR) areas where residual contamination remains after completion of RAs. The ROD Amendment discussed the use of governmental and property use institutional controls, such as regulated navigation areas and designated areas (including appropriate buffers) where use restrictions would be required. The ROD Amendment outlined the following types of institutional controls that may be considered during RD:

- Water use restrictions (e.g., limitations on anchoring, spudding, dragging, or conducting salvage operations; establishment of "no wake" areas and other operating restrictions for commercial and non-commercial vessels that could potentially disturb the riverbed or the engineered remedy; or restricting public access to remedial construction areas)
- Construction limitations (e.g., restrictions on dredging and other excavation activities such as laying cable in aquatic areas)
- Monitoring and maintenance requirements for certain areas (e.g., dams)
- Providing additional information to the public to ensure protectiveness of the remedy (e.g., fish consumption advisories)

The requirement to implement this ICIAP in OUs 2 to 5 is set forth in the Response Agencies' 2007 Administrative Order for Remedial Action ("Order") (USEPA 2004a) and the accompanying Phase 2B Scope of Work.

## 2 INSTITUTIONAL CONTROLS TO PROTECT ENGINEERED CAPS

This section describes the institutional controls that will be used to protect engineered caps following construction. As discussed previously, institutional controls are used to support the long-term protectiveness of the remedy. They serve as a supplement to other methods of maintaining the long-term protectiveness of the remedy, such as the design of the caps themselves and design features incorporated as a result of the riparian landowner notification process. The 100 Percent Design Report Volume 2 (Tetra Tech et al. 2012) summarizes the basis for design of the OUs 2 to 5 engineered caps.

*Technical Memorandum – Evaluation of Available Draft Impact to Riparians and Riparian Notification* (Tetra Tech et al. 2009) outlined the general process to be utilized by the Respondents and WDNR to identify, notify, and work with riparian cap landowners during RA. Riparian areas are defined for this purpose as areas with a post-cap water depth less than 5 feet, or deeper cap areas in OU 4B within 300 feet of the shoreline. (Riparian cap areas are depicted in Figures 2-1A and B and 2-2A and B.) Riparian landowners were presented with information regarding RA planned near their shorelines and structures. Each annual RAWP included a list and figures depicting riparian properties within noted proximity to RA areas and provided details on potential impacts to draft and shoreline structures. An evaluation was provided that assessed the impact effect on available draft for riparian property owners due to sand cover or engineered cap installation (although sand covers are not intended to remain undisturbed in the long term). This information was provided to riparian landowners. Documentation of riparian correspondence is provided in appendices to the annual RA Summary Reports, prepared at the end of each construction season by the Respondents.

The Respondents worked with the riparian landowners to consider and implement design changes, if warranted, to address any reasonable needs or requests of a riparian with a demonstrated adverse impact from proposed designs. Design changes identified by riparian owners were only implemented following approval by the Agencies.

Section 2.1 discusses the institutional control aspects of existing regulatory authorities and their relationship to additional institutional controls, such as Memoranda of Agreement (MOAs). Section 2.2 addresses in-water construction activities, such as placement of a pier, that are exempt from existing regulatory authority. Section 2.3 addresses non-exempt dredging.

Section 2.4 addresses vessel operations such as speed and anchoring. Section 2.5 addresses monitoring and maintenance.

## **2.1 Existing Regulatory Authorities and Additional Institutional Controls**

An institutional control is deemed to be already in place if another agency has responsibility for enforcing a prohibition on the activity that otherwise would need to be the subject of an institutional control (USEPA 2005). Chapter 30 of the Wisconsin Statutes, Sections 401 and 404 of the Clean Water Act (CWA), and Sections 9 and 10 of the Rivers and Harbors Act give WDNR and the U.S. Army Corps of Engineers (USACE) the authority and responsibility to enforce prohibitions on activities that would threaten the integrity of the engineered caps. The use of these existing regulatory authorities as institutional controls will be confirmed through MOAs with the Respondents. This subsection examines the extent to which existing regulatory authorities addressed potential risks to the engineered caps. Table 2-1 provides a list of institutional controls that were used. The list is organized by the three distinct capping installation scenarios: 1) caps in the federal navigational channel; 2) caps outside of the navigational channel that are not shoreline caps, namely caps that maintain no less than 3 feet of navigable water above the top of the cap; and 3) shoreline caps, namely those caps that do not maintain 3 feet of navigable water above the top of the cap, referenced to the low water datums for each OU.

**Table 2-1  
Media, Remedy Components, and Areas that Required Institutional Controls**

	<b>Caps Constructed in Federal Navigation Channels</b>	<b>Caps Constructed Outside of Federal Navigation Channels that are not Riparian Caps</b>	<b>Constructed Riparian Sediment Caps</b>
<b>Objectives of Institutional Control</b>	Ensure that USACE maintenance dredging does not extend more than 2 feet below the federally authorized channel depth and that no other activity, such as dredging, impacts the integrity of the engineered caps.	Ensure that no activity such as dredging impacts engineered cap integrity	Ensure that no activity, particularly Chapter 30 permit exempt activity, impacts the integrity of shoreline caps
<b>Enforcement and Permit Devices</b>	<ul style="list-style-type: none"> <li>▪ MOA with Respondents, Brown County and municipalities regarding mapping and communications</li> <li>▪ MOA with Respondents, USACE and WDNR regarding regulatory programs and dredging requirements in federal navigational channel</li> <li>▪ USEPA Administrative Order for RA</li> </ul>	<ul style="list-style-type: none"> <li>▪ MOA with Brown County and municipalities regarding mapping and communications</li> <li>▪ MOA with WDNR and USACE regarding regulatory programs</li> <li>▪ USEPA Administrative Order for RA</li> </ul>	<ul style="list-style-type: none"> <li>▪ MOA with Brown County and municipalities regarding mapping and communications</li> <li>▪ MOA with WDNR and USACE regarding regulatory programs</li> <li>▪ USEPA Administrative Order for RA</li> </ul>
<b>Informational Devices</b>	<ul style="list-style-type: none"> <li>▪ MOA with Respondents, Brown County and municipalities regarding mapping and communications</li> <li>▪ MOA with Respondents, USACE and WDNR regarding dredging requirements in federal navigational channel and regulatory programs</li> <li>▪ WDNR BRRTS Registry</li> <li>▪ WDNR and Brown County GIS Mapping System</li> <li>▪ Governmental Notices such as fish advisories and navigational maps</li> <li>▪ Utility notification</li> <li>▪ Diggers Hotline</li> </ul>	<ul style="list-style-type: none"> <li>▪ MOA with Brown County and municipalities regarding mapping and communications</li> <li>▪ MOA with WDNR and USACE regarding regulatory programs</li> <li>▪ WDNR BRRTS Registry</li> <li>▪ WDNR and Brown County GIS Mapping System</li> <li>▪ Governmental Notices such as fish advisories and navigational maps</li> <li>▪ Utility notification</li> <li>▪ Diggers Hotline</li> </ul>	<ul style="list-style-type: none"> <li>▪ MOA with Brown County and municipalities regarding mapping and communications</li> <li>▪ MOA with WDNR and USACE regarding regulatory programs</li> <li>▪ WDNR BRRTS Registry</li> <li>▪ WDNR and Brown County GIS Mapping System</li> <li>▪ Governmental Notices such as fish advisories and navigational maps</li> <li>▪ Riparian Landowner Notifications and Consultations</li> <li>▪ Utility notification</li> <li>▪ Diggers Hotline</li> </ul>
<b>Governmental Controls</b>	<ul style="list-style-type: none"> <li>▪ WDNR Chapter 30 requirements</li> <li>▪ Sections 10 and 401/404 USACE permit requirements</li> </ul>	<ul style="list-style-type: none"> <li>▪ WDNR Chapter 30 Requirements</li> <li>▪ Sections 10 and 401/404 USACE permit requirements</li> </ul>	<ul style="list-style-type: none"> <li>▪ WDNR Chapter 30 requirements</li> <li>▪ Sections 10 and 401/404 USACE permit requirements</li> </ul>
<b>Proprietary Controls</b>	None anticipated	None anticipated	None anticipated

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### **2.1.1 WDNR's Institutional Control Authority and Cap Protection Responsibility**

Wisconsin's authority to regulate activities in waterways predates the Wisconsin Constitution and has its origins in the "public trust doctrine" of the Northwest Ordinance of 1787. In essence, the public trust doctrine provides that the State of Wisconsin (the State) holds all natural navigable waters in trust for the public. The State's rights in navigable waters are paramount, and the rights of riparian landowners are qualified and subordinate to the State's rights. The doctrine requires action not only to preserve the trust, but also to promote it. The doctrine requires Wisconsin to intervene to protect public rights in navigable waters. The State administers the public trust through various statutes and rules that regulate activities in navigable waters. The State also has a regulatory framework and public information system for sites with sediment contamination. Through these statutes and rules, the State has created the regulatory framework to provide the long-term institutional control to protect the integrity of the engineered caps.

First, Wisconsin law requires that all RA sites with residual contamination be listed on a WDNR database available to the public. Wis. Stat. Section 292.12. One such public database is the Wisconsin Remediation and Redevelopment Database (WRRD), an inter-linked network of databases tracking information on contaminated site activities. The WRRD includes: 1) the BOTW database, which is a collection of documents for each site used for tracking the status of cleanup actions; and 2) Remediation and Redevelopment Sites Map (RR Sites Map). The RR Sites Map GIS tool allows the user to locate and view contamination data on a map, utilizing geographical information (e.g., lakes, rivers), transportation data (e.g., roads, railroad) and political information (e.g., county and municipal boundaries). The Respondents will submit a completed WDNR Case Closure Request Form 4400-202 to WDNR for the State Closure approval process and placement on WRRD database. The WRRD can be accessed at this web page link. <https://dnr.wisconsin.gov/topic/Brownfields/WRRD.html>.

Second, Chapter 30 of the Wisconsin Statutes helps effectuate the public trust doctrine. Chapter 30 provides for a permitting program that will effectively protect the integrity of the capping element of the selected remedy:

- Section 30.12 makes it unlawful to place a structure on the bed of a navigable waterway unless a permit has been granted by WDNR or unless the structure is otherwise authorized by statute.

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- Section 30.20 makes it unlawful to remove material from the bed of a navigable waterway unless a permit has been granted by WDNR or unless the removal is otherwise authorized by statute.

The Chapter 30 regulatory framework is administered by WDNR through exemptions, general permits, and individual permits. A summary of exempt activities is provided in Attachment 1. There are no exempt activities that threaten the integrity of the caps.

Both general and individual permitting activities require WDNR notice and provide WDNR with the opportunity to meet its regulatory responsibility of protecting the caps. Any activities that pose a threat to the caps would be addressed through the permitting standard that an activity cannot "...be detrimental to the public interest." The public interest standard in Wisconsin has been broadly interpreted to give WDNR the authority to protect the public's interest in water including the protection of water quality, aquatic life, and fish. As is the case under any permit or other regulatory program designed to protect the public interest, persons subject to a regulatory program designed to protect the caps would be expected to bear the costs of complying with that program.

As noted previously, although the State's rights in navigable waters are paramount, riparian landowners maintain qualified and subordinate rights, namely the rights to reasonable access and use. The Respondents acknowledged those qualified and subordinate rights. Accordingly, riparian landowners were notified of planned RA in certain proximity to their riparian land and have had the opportunity address potential impacts through design considerations or RA modifications, subject to approval by the Agencies.

Initial general notification letters were sent annually to all to riparian landowners near RA areas identified for the season to inform them that certain RA construction would be conducted in the area in the upcoming year. Additional notification letters were sent to owners of riparian property in OU 4B where dredging would occur within 300 feet of the shoreline. In general, the notification process was as follows:

1. Initial notification to all riparian property owners located near annual RA construction areas. Example letters were included in the riparian technical memoranda that were attached to each annual RAWP.
2. A second notification to OU 4B riparian property owners with RA occurring within 300 feet of their shoreline or where post-cap or cover depths would be less than 5 feet in any

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OU. Riparian property owners with dredging around shoreline structures also received a riparian agreement form with the second notification. All riparian correspondence is documented in annual RA Summary Reports.

3. Follow-up contact with riparian property owners that received the second notification regarding their acceptance of the agreement. As noted, all riparian correspondence was documented in annual RA Summary Reports.

Riparian property owners with structures in the OU 4 dredge, cap, or sand cover areas were presented with options regarding the RA near their structures. These options, modified as applicable to site-specific conditions, were incorporated into the Riparian Agreement.

Updates on the status of riparian landowner notification and discussions were provided during the weekly quality control meetings conducted during each construction season.

### ***2.1.2 Implementation of Chapter 30 Institutional Controls***

A comprehensive GIS database was created and maintained by the Respondents for the entire length of the Lower Fox River from OUs 2 to 5. The Respondents also provided WDNR with GIS-compatible databases for all the engineered caps, which are included as Appendix G of the Certification of RA Completion Report (Tetra Tech 2022). Because the capping activity in OUs 2 to 5 was confined to Brown County, the Respondents will coordinate with Brown County in the development and maintenance of the database to ensure consistency between the Respondents' database, Brown County's mapping databases and the WRRD. Respondents will make their database available to the following municipalities in Brown County:

- Cities of Green Bay and De Pere
- Towns of Lawrence and Ledgeview
- Villages of Allouez and Ashwaubenon

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In coordination with WDNR, the Respondents database will be linked to the existing WRRD, or its equivalent replacement(s).<sup>2</sup> This database includes information on the locations of the following:

- Government and utility infrastructure, including underwater lines, bridges, etc.
- All public access points
- All private access points, including marinas and private piers (private pier locations are only applicable in riparian cap areas)
- All pierhead and bulkhead lines
- All caps, with links to identify the nature of the cap

Chapter 30 permitting applications for activities within OUs 2 to 5 that have potential to impact areas of engineered caps will be coordinated within WDNR so that any Chapter 30 permits issued in proximity to cap areas are consistent with the approved remedy and protect the engineered caps. An MOA between WDNR, USACE and the Respondents (“Agencies MOA”) is being developed to include this aspect of Chapter 30 permit implementation and is expected to be finalized in 2023. An additional MOA is anticipated to be finalized in 2023 between Respondents and Brown County, De Pere, Village of Ashwaubenon, Village of Allouez, Town of Lawrence, Town of Ledgeview, and Green Bay (“Municipalities MOA”). WDNR is not a party to this MOA.

During RA, annual inspection of engineered caps was performed to identify instances of disturbance or construction activities that were not permitted under Chapter 30 (or related federal authorities). As part of the annual Phase 2B Work Plans for RA, the annual RA

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<sup>2</sup> Traditionally, parties conducting environmental cleanups in Wisconsin ensured that property owners would refrain from certain actions by recording deed restrictions that applied to the property. WDNR, however, has moved away from using deed restrictions as a means of proprietary control to regulate activities where residual contamination remains after a cleanup. Instead, WDNR requires that the affected area be registered in the WDNR’s BOTW database, which is WDNR’s public notification system for environmental cleanups that contain in-place, residual contamination. WDNR also requires written notification to affected landowners. This revised approach is a result of Wisconsin Statutes Section 292.12 enacted in 2006. Pursuant to this regulatory framework, the location of the caps will be registered in the BOTW database and affected riparian landowners will be notified in writing. The location of the caps also will be indicated on the Brown County government mapping systems pursuant to the MOA between the Respondents and municipalities.



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Summary Report, and the Site Surveys Report Addendum (as applicable), the following activities were summarized:

- Results of cap inspections conducted in the past year
- Communications with riparian landowners of caps constructed in certain proximity to their property
- Communications with utilities located adjacent to caps
- Development activities impacting engineered caps
- Development activities that occurred where caps are present (e.g., installation of a Chapter 30 exempt pier)
- Chapter 30 permits that were applied for involving the Fox River in Brown County
- Dredging of the navigational channel authorized by USACE
- Changes in Chapter 30, particularly changes that increase the dredging or construction activities that are exempt from Chapter 30 requirements
- Other relevant changes in federal authorities and local ordinances

Post-construction inspections will be performed throughout the operation and maintenance period of the remedy and will be conducted and reported according to the Cap Operations, Maintenance, and Monitoring Plan (COMMP; Anchor QEA et al. 2021).

Detailed inspection, monitoring, and maintenance requirements for engineered caps are described in the Response Agency-approved COMMP (Anchor QEA et al. 2021). The Response Agency-approved Long Term Monitoring Plan (LTMP; see Appendix I of the 100 Percent Design Report Volume 2) and Adaptive Management and Value Engineering Plan (see Appendix E of the 100 Percent Design Report Volume 2) also detail additional monitoring and adaptive management requirements, respectively.

Submerged utilities crossing the river are identified in the GIS database. Utility owners were notified and involved in the design and approval of any RA to be performed above or adjacent to the submerged utilities. Cap areas that included site-specific designs which varied from the standard cap types described in the 100 Percent Design Volume 2 installed above submerged utilities were identified as “special remediation area” (SRA) caps. Due to location-specific constraints, SRA caps cannot achieve all standard aggregate cap design or performance criteria and are appropriately categorized as exceptional caps as identified in the ROD and ROD Amendment. SRA caps were designed to prevent, to the extent practicable, the release of

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contaminated sediment in unique areas, including those above utilities where federal navigation depths restrict the cap thicknesses. Additional notifications and coordination with the USACE and the utility owners were required for the construction of these caps. For additional details on SRA caps, see the Certification of RA Completion Report (Tetra Tech 2022).

At two OU 4 locations, bulkhead wall improvements were constructed during the RA to provide structural integrity of the shoreline to facilitate dredging of sediments adjacent to the bulkheads to the maximum extent practicable. These two bulkheads are designated as caps designed to prevent the release of contaminated sediment remaining between the new and pre-existing bulkhead that could not be practically removed. The bulkhead wall caps are categorized as caps in accordance with remedial approaches in exceptional areas and were designed and constructed to fully achieve ROD cap performance criteria. The two bulkhead wall caps are located at the RGL Slip and C. Reiss Terminal facilities (refer to Figure 2-2 for locations of these caps). For additional details on bulkhead wall caps, see the COMMP (Anchor QEA et al. 2021). The COMMP includes all relevant correspondence and monitoring agreements signed by the property owners and the Respondent to perform the long-term monitoring described in the COMMP.

A post-dredge cap was designed and constructed in OU 4B at the former Wisconsin Public Service Corporation (WPS) Manufactured Gas Plant (MGP) North Focus Area (NFA) adjacent to the East River turning basin (see Figure 2-2). WPS, who is responsible for the MGP waste, reached an agreement with the Respondents to conduct a joint RA within the NFA to remove the majority of the PCB-impacted sediment that is co-mingled with MGP waste and to cap remaining materials where dredging was not feasible. This agreement allowed the PCB remediation project to move forward while also providing an early action remedy for the MGP-related waste ahead of remedial investigation/feasibility study (RI/FS) to be performed by WPS.

The post-dredge NFA armored cap was designed to be protective of human health and the environment; it includes a chemical isolation layer amended with organoclay (organically modified phyllosilicate, derived from a naturally occurring clay mineral) and granular activated carbon (GAC), overlain by a geotextile filter layer and a grouted mattress armor layer for stability and erosion protection. The cap design was accepted by WDNR and USEPA (USEPA and WDNR 2019) and meets performance standards for the Lower Fox River PCB Project. The

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post-dredge NFA armored cap was designed as a potential final remedy for the MGP site, subject to further consideration as part of the USEPA MGP CERCLA RI/FS process for the Adams Street MGP site. If the NFA armored cap is retained as a final remedy for the NFA, it is the Respondent's expectation that this cap will become part of the MGP site remedy, and the cap monitoring and maintenance will be included as part of WPS' implementation order with USEPA and WDNR. Until a final decision is made by the Agencies and a legally enforceable document under CERCLA authority transfers liability for the NFA armored cap to a different entity (e.g., WPS), the COMMP requirements of this cap are the responsibility of the PCB project's Respondents subject to their respective consent decrees.

### **2.1.3 Existing Federal Regulatory Authorities**

Although WDNR Chapter 30 is the primary existing regulatory authority used as an institutional control, there is also a range of federal laws that place restrictions on and require permits to be obtained for dredging, filling, or other construction activities in the aquatic environment. These include CWA Section 404, Title 33 United States Code (U.S.C.) Section 1344; and Sections 9 and 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 401 and 403, which require federal permitting for construction that would impact the course, capacity, or condition of navigable waters of the United States. The 401/404 regulations are typically implemented by USACE but may also be implemented by USEPA. Under the Section 404(b)(1) guidelines at 40 CFR 230.10(b), no discharge (i.e., excavation of caps) was allowed if of the following violations occurred:

- Caused or contributed to violations of water quality standards, pursuant to CWA Section 401, after consideration of local dilution and dispersion.
- Violated any applicable toxic effluent standard or discharge prohibition under CWA Section 307.

Thus, existing federal programs further ensure that dredging activities do not disturb the integrity of the engineered caps constructed in OUs 2 to 5.

## **2.2 Riparian Activities That Are Exempt from Permitting**

As discussed previously, the Respondents and WDNR worked with riparian landowners during RA. Riparian landowners were presented with information regarding RA planned near their shorelines and structures. The Respondents developed and implemented a remedy for engineered caps that met ROD requirements and attempted to address any reasonable needs or

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requests of riparian landowners. The RA planned for each area was updated as appropriate in annual Phase 2B Work Plans for RA.

The potential exists for riparian landowners to conduct activities that are exempt from Chapter 30 permit requirements within riparian shoreline capping areas (see Attachment 1). These Chapter 30 exempt activities may include installation of seasonal dock structures, piling for piers or wharfs in less than 5 feet of water, ice control, or watercraft pivoting; or manual dredging. In general, seasonal dock or piling installations in or near shoreline cap areas are not expected to have any significant impact on the integrity of the shoreline caps. These structures are typically secured in place by concrete blocks or other similar gravity anchors resting on the bottom (i.e., anchors do not typically penetrate the bottom), which are left in-place year-round. The armor design of the shoreline and other offshore caps is sufficient to resist disturbance from these gravity anchors such that the caps remain protective.

Piles installed for permit-exempt piers, wharfs, ice control, or watercraft pivoting are likely to be small diameter pipe piles driven in place. The act of mechanically driving the piles is not expected to have a significant negative impact on the integrity of the caps since the cap material within the immediate footprint of the pile would either be driven down or pushed aside by the pile (Boudreau et al. 2003). (Note that jetting alone is likely not a feasible means of pile installation in the nearshore cap areas, given the relatively large armor specifications of the cap materials.) Similarly, removal of such temporary piling is not expected to have a significant impact on the protectiveness of a cap area. Although some temporary, minor disturbance of the cap could be created through the removal of a pile, cap material from immediately adjacent to a pile would be expected to fill the void created by the removal of a pile almost instantaneously. In addition, the area of impact is insignificant relative to the area of any capping area. Therefore, no significant exposure to underlying contaminated sediments is expected as a result of exempt pile removal activities.

The only dredging activity that is exempt from Chapter 30 permitting requirements is manual dredging. Manual dredging includes the use of a hand-held device without power and does not pose a threat to the integrity of the caps.

### **2.3 Non-Exempt Dredging Activities**

In order to protect the engineered caps, it is necessary to conduct future dredging operations in a manner that does not remove the capping material. Two types of dredging operations were

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evaluated: maintenance of the federal navigation channel in OU 4; and privately sponsored dredging of marinas and other locations outside of the navigation channel.

Engineered caps were designed and constructed to avoid damage from periodic dredging of the federal navigation channel. As discussed in the 100 Percent Design Report Volume 2 (Tetra Tech et al. 2012), engineered caps located within federal navigation channel were designed to maintain their integrity, and the design provides that the top of the cap was at least 2 feet below the authorized depth of the navigation channel. Consistent with the requirements of the ROD Amendment and 2010 Explanation of Significant Differences (ESD), all engineered caps placed below the federally authorized navigation channel depth were at least 21-inches thick, including a surface armor layer comprising quarry spall or equivalent materials. In addition to providing erosion protection as previously described, the armor stone placed within the navigation will serve as a physical marker of the top of the cap if future maintenance dredging in the OU 4B channel inadvertently excavates well below the authorized. The cap design minimizes the chance that future navigational dredging will disturb the engineered caps. The overdredge allowances on maintenance dredging performed by the USACE extend no further than 2 feet below the authorized channel depth.

To protect caps installed in the OU 4A navigation channel, which is no longer maintained by the USACE and is considered to have “caretaker” status, a berm, cap area CC17, was constructed to prevent large ships transiting the Fort Howard turning basin from traveling south into the OU 4A channel and impacting engineered caps there. Design and construction of this berm was collaboratively designed among the USACE, Agencies and the LLC. CC17, south of the Fort Howard turning basin is depicted in Figure 2-2. There are no long-term monitoring or maintenance requirements required for this berm, CC17.

In addition to the design features discussed above, the Agencies MOA is being finalized between the USACE, WDNR, and the Respondents to ensure that future dredging activities within the federal navigation channel would not compromise the integrity of the engineered caps, and is expected to be finalized in 2023.

Privately sponsored dredging in excess of 2 cubic yards (cy) at marinas and other locations outside of the navigation channel required a Dredging – Waterway & Wetland Permit under Chapter 30. As discussed earlier, existing Chapter 30 permitting authorities provide an adequate institutional control for these activities.

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## 2.4 Limitations on Navigation or Vessel Speed

The engineered caps constructed in OUs 2 to 5 were designed to resist anticipated shear stresses and other potential erosional events. As discussed in the 100 Percent Design Report Volume 2 (Tetra Tech et al. 2012), RD modeling determined that the highest bottom shear stresses from vessel operations occurred during relatively low-speed maneuvers. Cap designs were developed using this information and multiple combinations of vessel operating parameters. Based on these engineering evaluations, there was no need to establish no-wake or restricted vessel speed zones as Regulated Navigation Areas (RNAs) to protect engineered caps in the Lower Fox River. RNAs are federally regulated water areas under 33 CFR Part 165 within a defined boundary for which regulations for vessels navigating within the area have been established and are meant to control access to an area as a solution to safety or environmental concerns (U.S. Coast Guard [USCG] 2022). The USCG and the Port of Green Bay currently enforce no-wake and restricted vessel speed zones in parts of OU 4 to provide for general navigation safety.

Anchoring, spudding, dragging, and salvage operations are sometimes restricted in sediment capping areas if such restrictions are deemed necessary to provide protection against activities that could potentially damage the integrity of the armor layer (USEPA 2005). However, the engineered cap designs developed for OUs 2 to 5 include placement of a target thickness of at least 7 inches of an armor layer consisting of gravel or quarry spalls (or equivalent armor layer), as appropriate for the particular location. Note that there are some small portions of SRA caps that do meet the design criteria for armor stone thickness due to site-specific constraints, including proximity to submerged utilities and the authorized navigation channel depths. These areas are expected to mix with the underlying sediment; therefore, potential impacts from anchoring, spudding, dragging, or salvage operations are not expected to damage the integrity of the SRA cap.

As discussed in the 100 Percent Design Report Volume 2 (Tetra Tech et al. 2012), the range of recreational and commercial anchor types for vessels that operate within the Lower Fox River were evaluated for potential to damage caps and to reduce the bearing strength of the designed armor layer. The evaluations determined that vessels' anchors deployed in capping areas would rarely penetrate the relatively coarse-grained armor layer. Long-term cap monitoring will be performed to verify the continued protectiveness of the caps (see COMMP; Anchor QEA et al. 2021).

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The ROD Amendment (e.g., page 59 of the Responsiveness Summary; USEPA and WDNR 2007) anticipated localized damage to engineered caps, such as those potentially associated with anchoring, dragging, and spudding, and noted that such disturbances are not expected to reduce the overall effectiveness of the remedy.

Moreover, should an anchor or other object penetrate the armor layer, the designed “self-healing” behavior of the cap will maintain the integrity of the cap upon withdrawal of the object (e.g., see Palermo et al. 1998 and Boudreau et al. 2003). To provide appropriate protection from anchoring and related activities in localized high-use areas, the 100 Percent Design Report Volume 2 provided for localized modifications of cap designs, such as near boat launches, and site-specific designs were incorporated, as needed. Long-term post-construction cap monitoring targets higher use areas of the river to confirm that the caps continue to be protective (see COMMP; Anchor QEA et al. 2021).

Thus, further prohibitions on the anchoring of vessels within capping areas of OUs 2 to 5 were not necessary to maintain the effectiveness of the remedy and would have unduly burdened local recreational use of the river without a concomitant environmental benefit. (The USCG already regulates anchoring and other activities that would obstruct navigation within the navigation channel, and these restrictions are expected to continue in perpetuity as part of ongoing channel operations [e.g., see Section 15 of the 1899 Rivers and Harbors Act], but such restrictions are not necessary to protect the navigation channel caps as designed.)

## **2.5 Monitoring and Maintenance**

As discussed in the ROD Amendment and detailed in the Response Agencies-approved COMMP (Anchor QEA et al. 2021), long-term monitoring and maintenance will be performed<sup>3</sup> to support the physical integrity of the caps, including bulkhead wall caps, SRA caps, the NFA armored cap, and the permanent containment of the underlying sediment contaminants. Monitoring events are scheduled to occur on a pre-determined schedule (see the COMMP, Appendix A), and within one calendar year following major river flow events, periods of extended low water, vessel damage at the bulkhead wall caps, or construction activities that

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<sup>3</sup> Georgia-Pacific Consumer Products (GP) and P.H. Glatfelter Company (Glatfelter) entered into a consent decree with the government to implement the COMMP.

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may have a significant impact on river hydrodynamics or to the stability of the bulkhead wall caps.

Institutional controls with respect to the De Pere Dam were not deemed necessary to ensure the protectiveness of the remedy in OU 3 and OU 4.

Even if the De Pere Dam were to be removed in the future and soft sediment deposits in OU 3 upstream of the dam were subject to erosion and transport, the degree to which OU 3 sediment would be transported downstream would depend on the manner in which the dam might be removed. The most likely scenario is that the dam would be removed in a controlled manner; if so, little or no sediment would be transported downstream. However, even if dam removal caused a wholesale movement of sediment, the average PCB concentration of that sediment would likely be low. Under the remedy described in the 100 Percent Design Volume 1 (Tetra Tech and Anchor 2009), approximately 2.0 million cy of recent (post-dam) soft sediments would be retained in OU 3 after remedy construction, along with a relatively small amount (0.2 million cy) of sediment cap aggregates. These sediments and cap aggregates would contain an average PCB concentration of about 0.7 parts per million (ppm), which is generally below the remedial action level (RAL) of 1.0 ppm.

In addition, an institutional control may be deemed to be already in place if another agency has responsibility for conducting an activity or enforcing a prohibition and existing laws or regulations require an environmental review before that program is changed (USEPA 2005). USACE and WDNR currently have responsibilities related to the operation and maintenance of dams that are part of the Fox River Navigational System. White Paper 4, issued with the 2003 ROD, describes Wisconsin regulatory and environmental review requirements associated with proposals for dam removal. White Paper 4 also notes that USACE has continued to operate, inspect, and maintain the De Pere Dam. Moreover, a considerable amount of infrastructure and recent residential development along OU 3 depends on continued operation of the dam. For all the foregoing reasons, institutional controls to prevent the removal of the De Pere Dam were deemed unnecessary to ensure the long-term protectiveness of the remedy in OUs 3 and 4.



### 3 PUBLIC INFORMATION AND ADVISORIES

Fish consumption advisories are informational devices; a WDNR fish consumption advisory is in place for the Lower Fox River and was incorporated into the ROD Amendment. Due to the elevated concentrations of PCBs and mercury detected in fish tissue from the Lower Fox River and Green Bay, WDNR issued consumption advisories in 1977 and 1987 for fish and waterfowl, respectively.

As of January 2023, fish consumption advisories for PCBs are currently in effect for several species of fish located in the Lower Fox River and in Green Bay. Current advisories can be found by searching WDNR's website. These advisories are issued by WDNR and the Wisconsin Department of Health Services (WDHS).

To find current WDNR fish consumption advisories go to the following website link:

[https://dnr.wisconsin.gov/topic/Fishing/consumption.](https://dnr.wisconsin.gov/topic/Fishing/consumption)

General information is provided under the topic "*Choose Wisely Publication.*" To find consumption advisories for specific waterbodies, use the "*Online Query Tool*" under "*Find Advice For Your Fishing Spot*" at the following link: <https://dnr.wi.gov/FCSEExternalAdvQry/FishAdvisorySrch.aspx> (choose "*County*" and "*Advisory Area*" drop down menus to find the waterbody of interest).

WDNR posts fish advisories at individual water bodies when recommendations for that body of water differ from the general state standards. WDNR does not have a complete list of postings as it only posts advisories at sites where fish are designated "do not eat." WDHS posts its own advisory signs, and some local health departments may post their own advisory signs, in addition to those posted by WDNR.

WDNR and WDHS regularly evaluate contaminant levels to determine whether consumption advice needs to be updated based on new data. Changes to the advisories are communicated to the public via press releases and updates to WDNR and WDHS websites. The releases are statewide press releases and are issued periodically. WDHS updates its signs when information from WDNR tissue sampling indicates that updating is necessary.

In 1984, WDNR initiated its wildlife contaminant monitoring program. Results of the monitoring program indicated that PCB concentrations were elevated in waterfowl species

hunters harvested from Green Bay. WDNR then developed procedures for issuing consumption advisories for waterfowl and issued a waterfowl consumption advisory for mallard ducks in 1987. The advisory for mallards taken in the “Lower Fox River from Lake Winnebago at Neenah and Menasha downstream, including Little Lake Butte des Morts, to the northeast city limits of Kaukauna”, and the “Lower Fox River from the De Pere Dam to the River’s mouth at Green Bay, and lower Green Bay south of a line from Point au Sable west to the west shore of Green Bay.” The advisory has remained in place since its issuance. The advisories are issued each year in the annual hunting guide distributed by WDNR. The federal Food and Drug Administration threshold level for poultry of 3 ppm wet-weight PCBs on a fat basis has been adopted by WDNR for the Lower Fox River.

WDNR’s fish and waterfowl advisory programs are expected to continue, so there was no reason to require an independent advisory program as part of the OU 2 to 5 RA. In addition, an independent advisory program may have created a risk of contradictory advice to the public. The LTMP describes the water and biological tissue monitoring program to be implemented by the Respondents to the Order in the years following the RA to verify that the RA will be effective at reducing risk to humans, mammals, birds, fish, and invertebrates. Data collected during implementation of the LTMP will be forwarded by Respondents to WDNR staff responsible for the fish and waterfowl advisory programs.

## 4 REPORTING

Section 2 discusses the Respondents' annual reporting and communications with riparian landowners, bulkhead wall cap owners (RGL Slip and C. Reiss Terminal) and utilities, along with other elements to ensure the long-term protectiveness of engineered caps in OUs 2 to 5. Annual RA Summary Reports, prepared by the Lower Fox River Remediation LLC included as-built surveys of each capped area in OU 2-5 the Lower Fox River, and as discussed, the location of the engineered caps will be registered by the Respondents in WDNR's BOTW database and Brown County's website, and affected landowners will be notified in writing. All correspondence with riparian landowners during active RA has been documented in annual RA Summary Reports, and correspondence and documentation on SRA caps and the two bulkhead wall caps are included in the COMMP. The NFA armored cap is discussed in further detail in the NFA RA Summary Report, which is included as an Appendix to the Certification of RA Completion Report (Tetra Tech 2022). In addition, the locations of all caps will be provided by the Respondents to Brown County for inclusion on the County's GIS mapping system.

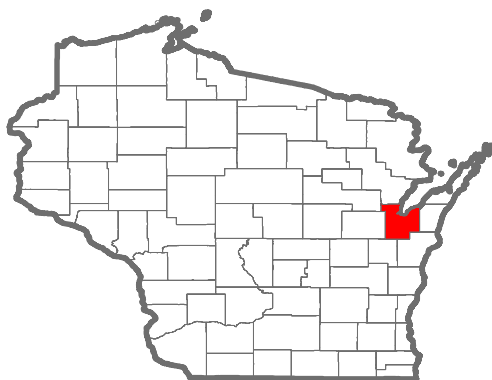
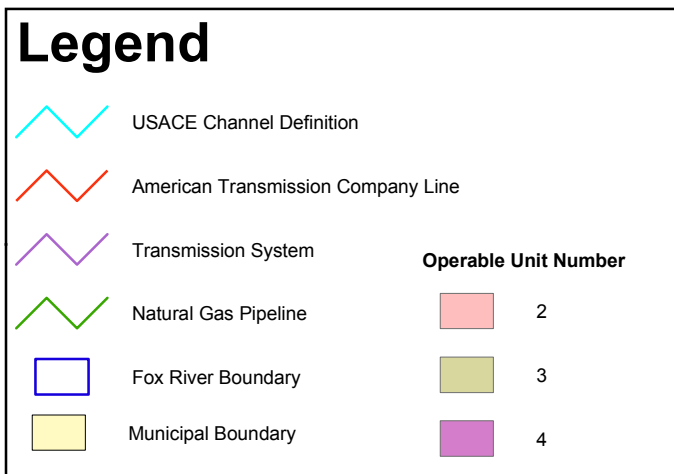
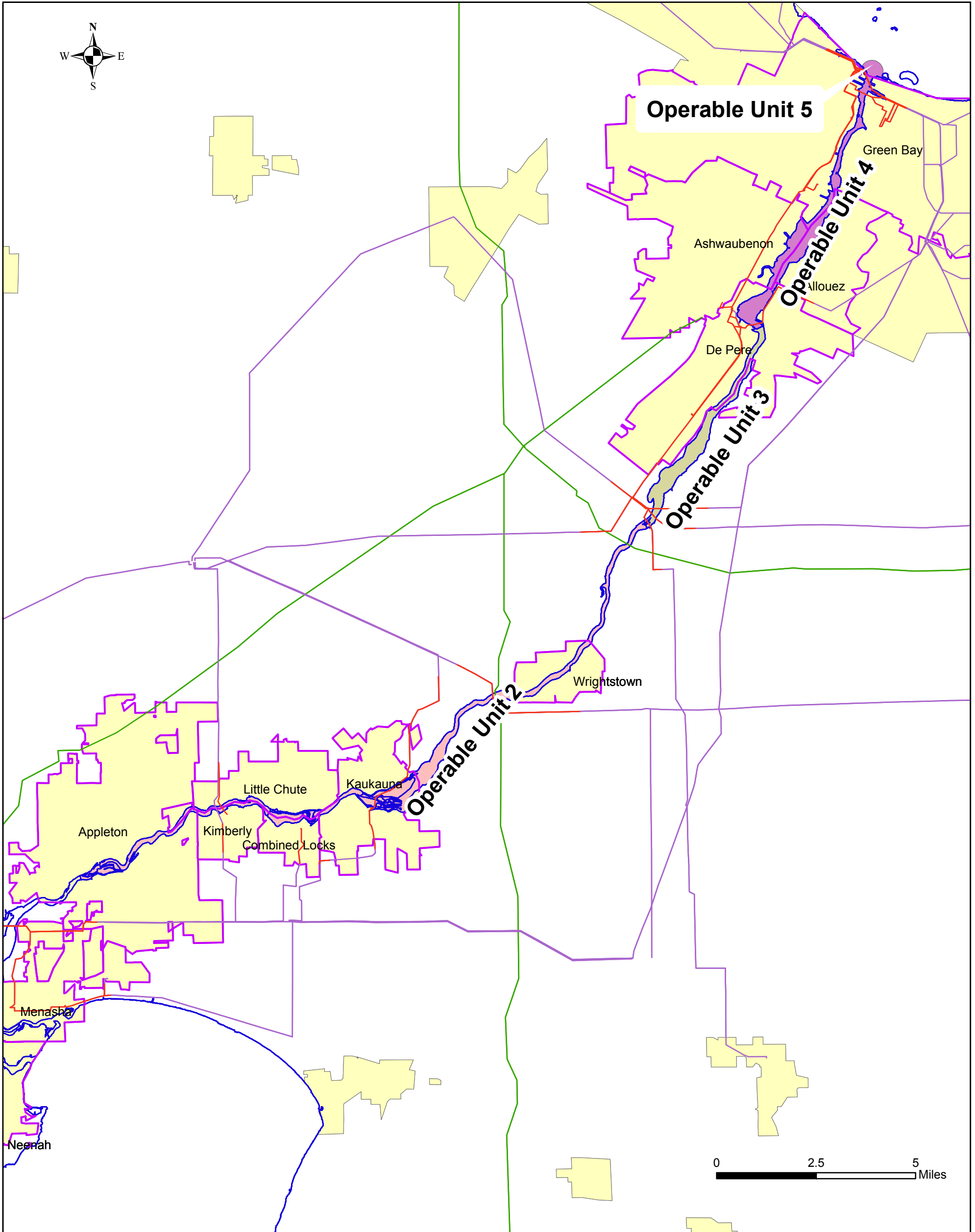
As part of the CERCLA 5-year review, USEPA will require periodic evaluations of the status and effectiveness of the institutional controls implemented in OUs 2 to 5. As practical, long-term cap monitoring and maintenance reporting under the COMMP and water/biota sampling and reporting under the LTMP will be coordinated to take place during the same year, approximately 2 years prior to the scheduled CERCLA 5-year reviews, so that the most up-to-date information will be available to inform the review.

## 5 REFERENCES

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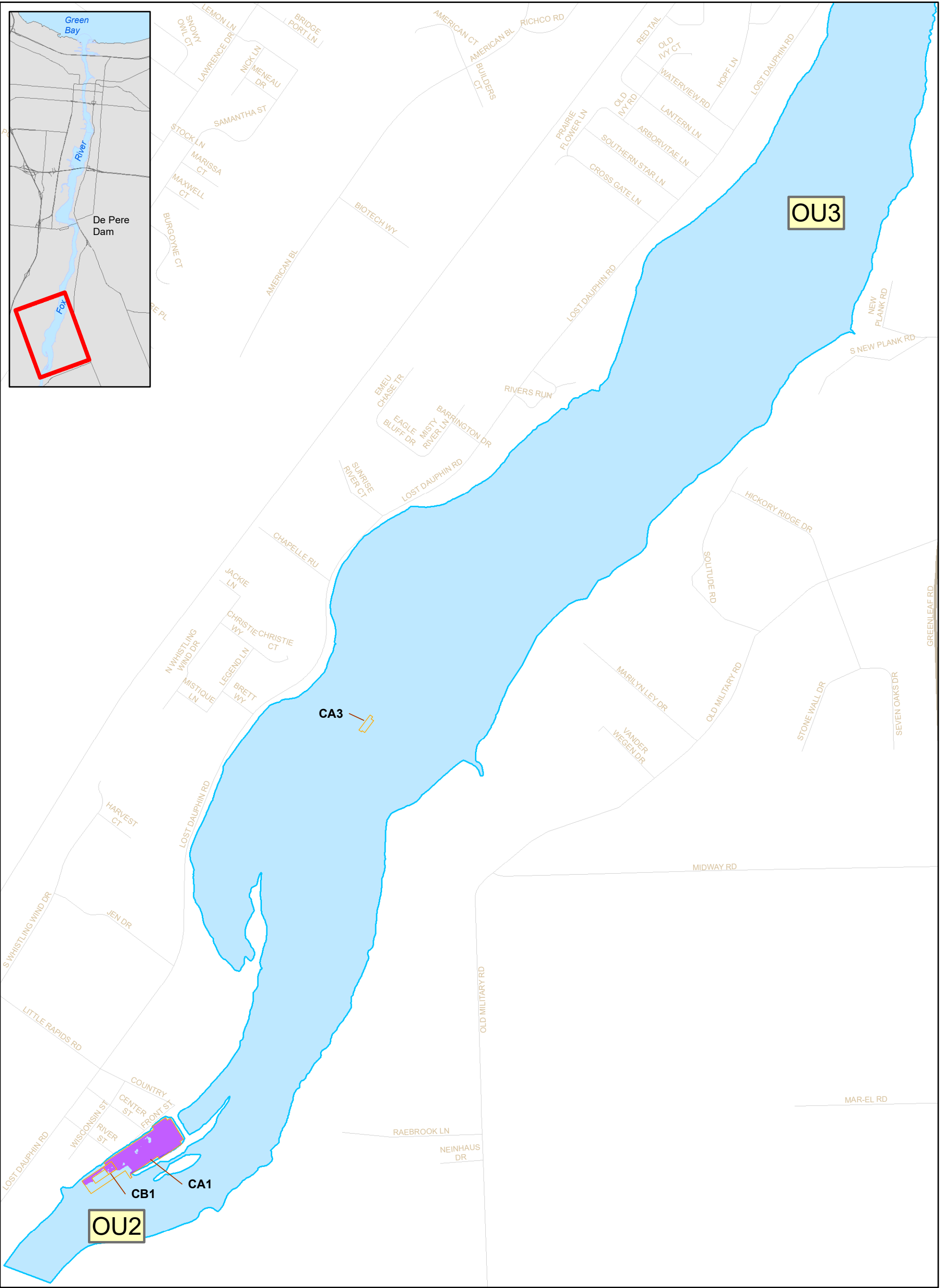
## FIGURES



**Figure 1-1  
Lower Fox River  
Area Location Map**

*Lower Fox River OU 2-OU 5*



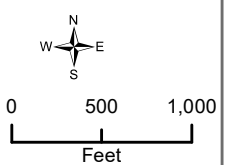


- Fox River Shoreline
- Major Road
- Minor Road
- Shoreline Cap
- Cap A, B or C
- Cap Area in Less Than 5 Feet of Water
- Area Within 300 feet of the OU 4B Shoreline
- Fox River

Figure 2-1A

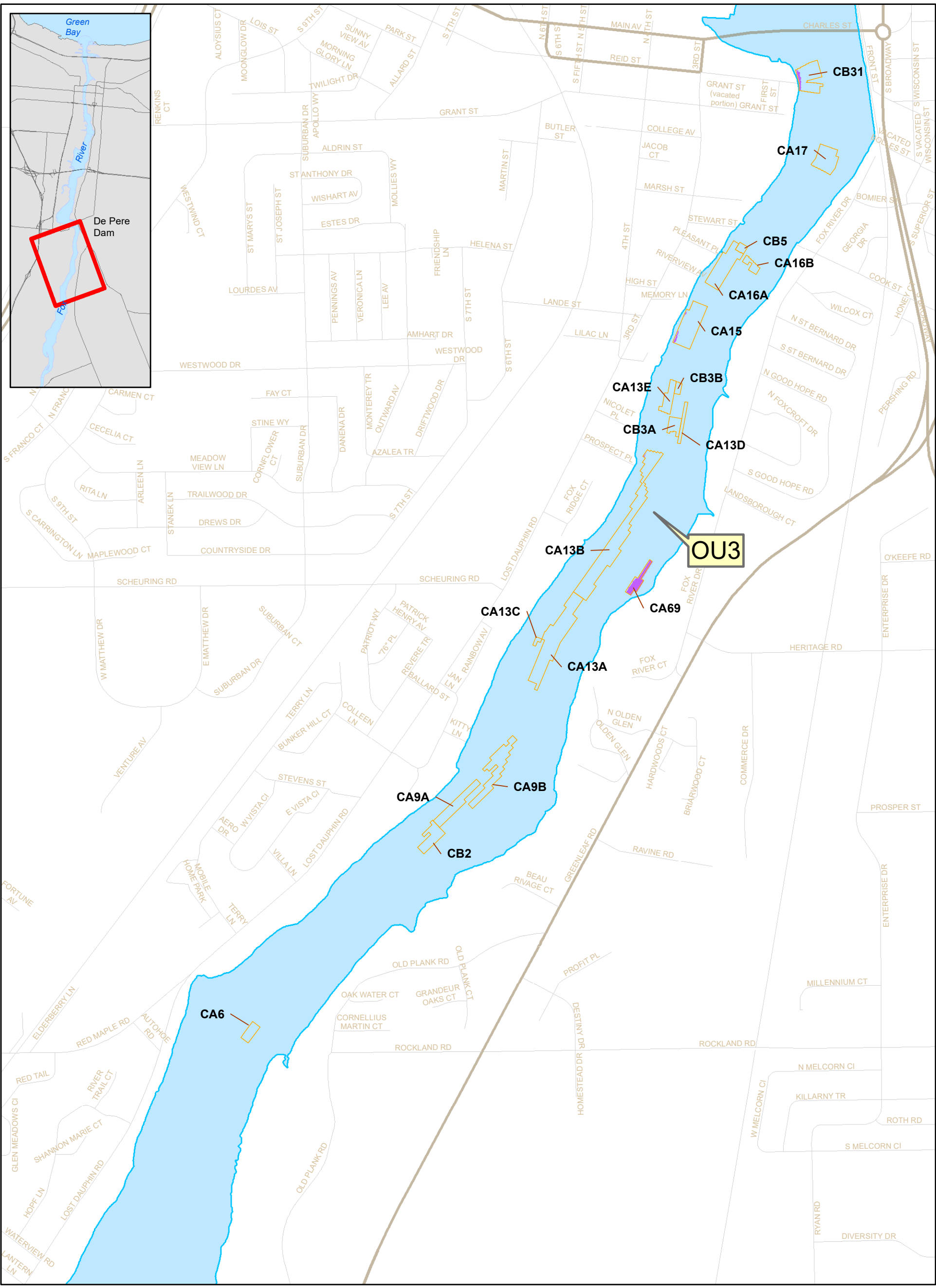
Fox River OU 2 and OU 3 Riparian Cap Areas

Brown County, Wisconsin, USA





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- Fox River Shoreline
- Major Road
- Minor Road
- Shoreline Cap
- Cap A, B or C
- Cap Area in Less Than 5 Feet of Water
- Area Within 300 feet of the OU 4B Shoreline
- Fox River

**Figure 2-1B**


**Fox River OU 3**

**Riparian Cap Areas**


Brown County, Wisconsin, USA



**TETRA TECH EC, INC.**

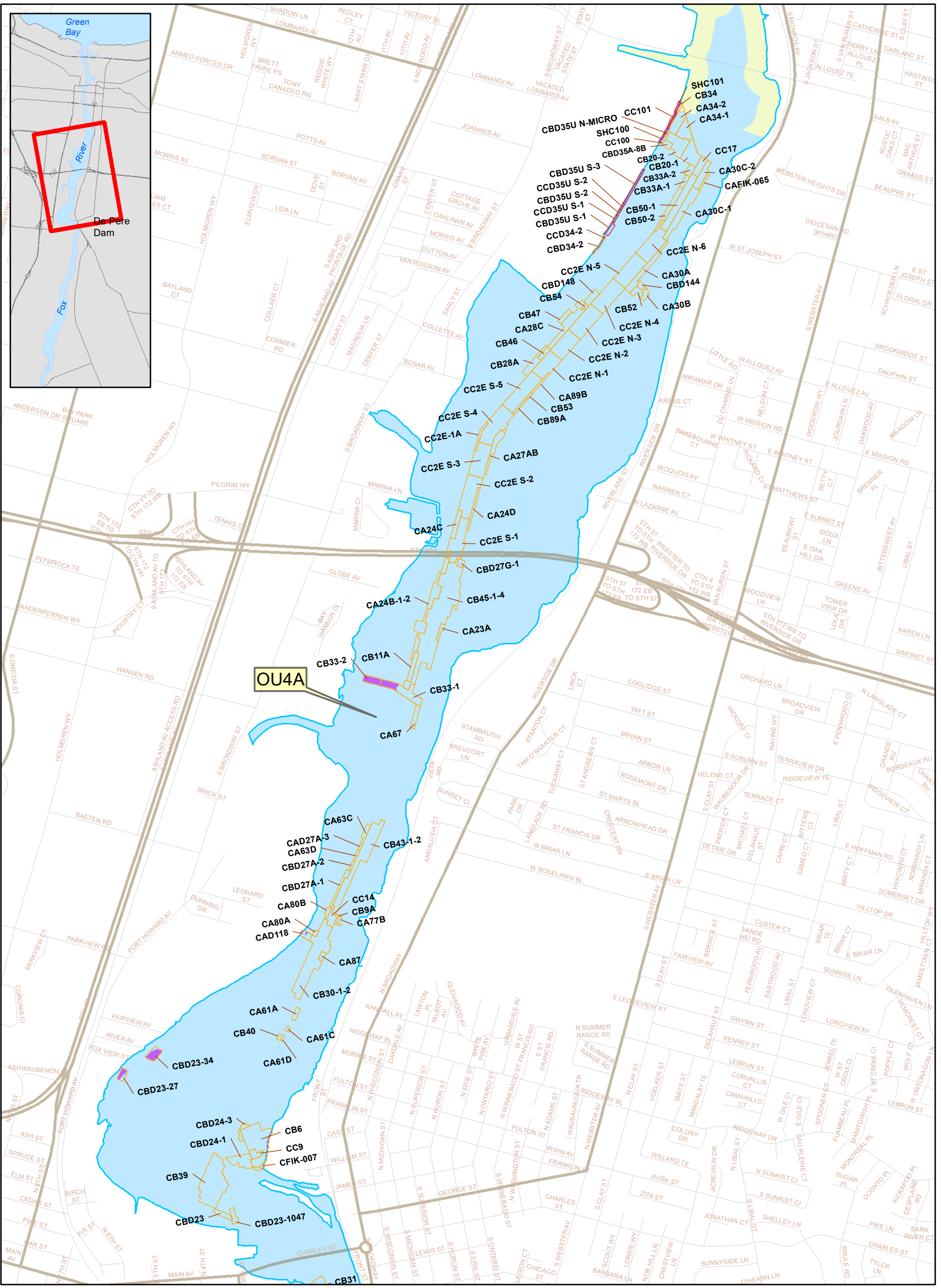
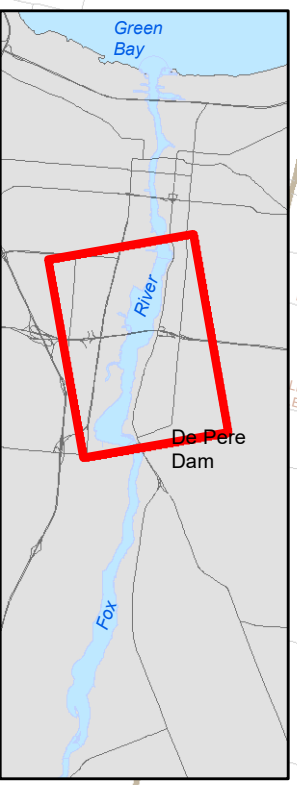


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**Figure 2-2A**

**Fox River OU 4 and OU 5 Riparian Cap Areas**

Brown County, Wisconsin, USA

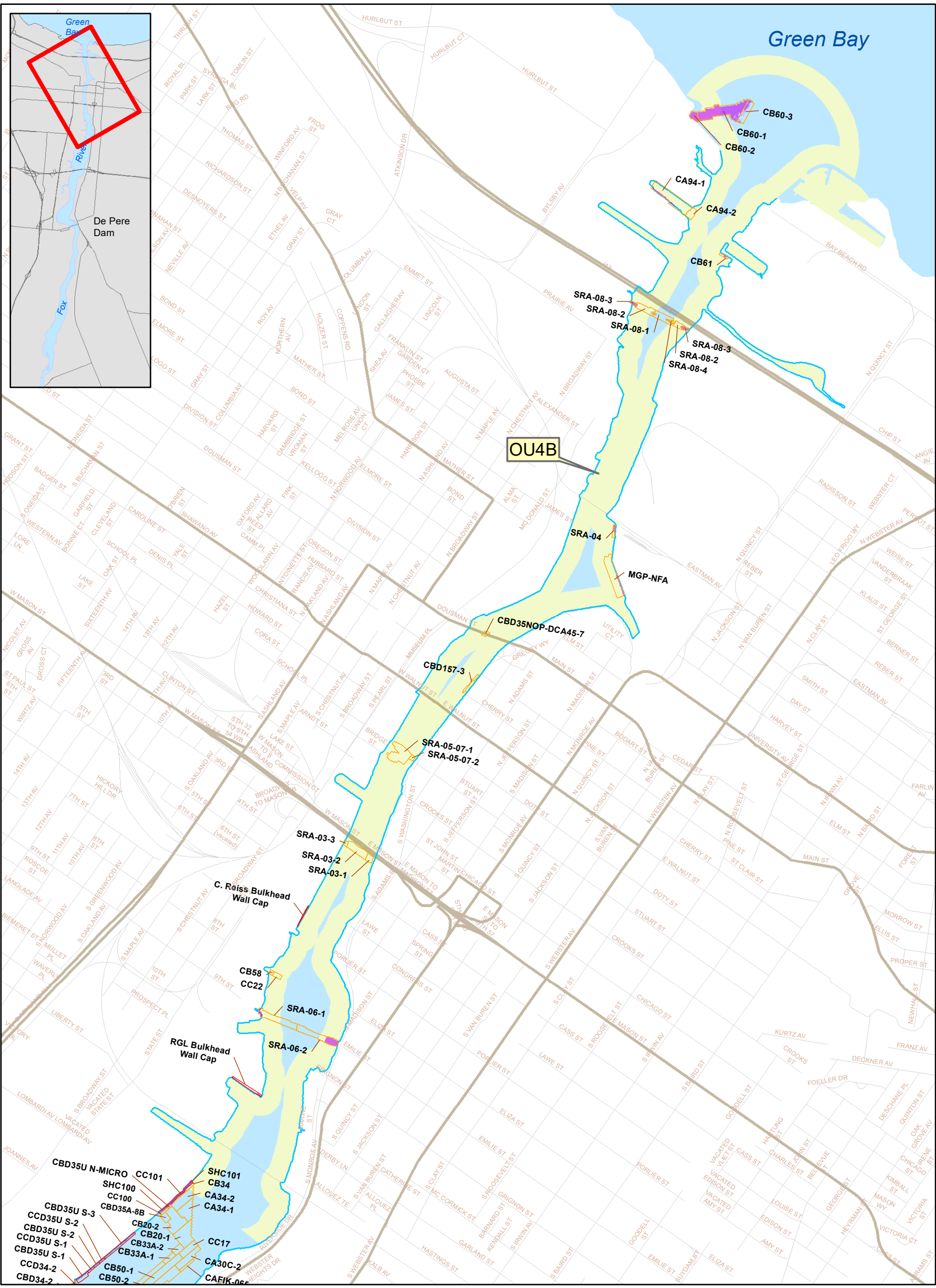
TETRA TECH EC, INC.

ANCHOR OEA

0 500 1,000 Feet

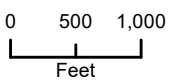
- Fox River Shoreline
- Major Road
- Minor Road
- Shoreline Cap
- Cap A, B or C
- Cap Area in Less Than 5 Feet of Water
- Area Within 300 feet of the OU 4B Shoreline
- Fox River

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- Fox River Shoreline
- Major Road
- Minor Road
- Shoreline Cap
- Cap A, B or C
- Cap Area in Less Than 5 Feet of Water
- Area Within 300 feet of the OU 4B Shoreline
- Fox River

**Figure 2-2B**  
**Fox River OU 4 and**  
**OU 5 Riparian Cap Areas**



Brown County, Wisconsin, USA

**ATTACHMENT 1**  
**EXEMPTIONS FROM SECTIONS 30.12 AND 30.20 PERMIT**  
**REQUIREMENTS**

## **EXEMPTIONS FROM SECTION 30.12 PERMIT REQUIREMENTS**

**(as of January 16, 2023)**

1. A deposit of sand, gravel, or stone that totals less than 2 cubic yards and that is associated with any activity or project that is exempt from an individual permit or a general permit under this subchapter.
2. A deposit of sand, gravel, or stone that is necessary to perform an activity authorized under s. 30.125 (2) (a).
3. A structure, other than a pier or a wharf, that is placed on a seasonal basis in accordance with rules promulgated by the department.
4. A fish crib, spawning reef, wing deflector, or similar device that is placed on the bed of navigable waters for the purpose of improving fish habitat.
5. A bird nesting platform, wood duck house, or similar structure that is placed on the bed of a navigable water for the purpose of improving wildlife habitat.
6. A boat shelter, boat hoist, or boat lift that is placed on a seasonal basis adjacent to the riparian owner's pier or wharf or to the shoreline on the riparian owner's property, in accordance with rules promulgated by the department.
7. A pier or wharf to which all of the following apply:
  - It is no more than 6 feet wide.
  - It extends no further than to a point where the water is 3 feet at its maximum depth as measured at summer low levels, or to the point where there is adequate depth for mooring a boat or using a boat hoist or boat lift, whichever is farther from the shoreline.
  - It has no more than 2 boat slips for the first 50 feet of the riparian owner's shoreline footage and no more than one additional boat slip for each additional 50 feet of the riparian owner's shoreline footage.
  - Notwithstanding the width limitation in subd. 1., a pier may have an area as a loading platform that is more than 6 feet wide if the surface area of the platform does not exceed 200 square feet.
8. An intake structure and pipe that is placed on the bed of a navigable water for the purpose of constructing a dry fire hydrant to supply water for fire protection.
9. A piling that is driven into the bed of a navigable water adjacent to the owner's property for the purpose of deflecting ice, protecting an existing or proposed structure, or providing a pivot point for turning watercraft.

10. Riprap in an amount not to exceed 100 linear feet that is placed to replace existing riprap located in an inland lake or Great Lakes water body and that includes the replacement of filter fabric or base substrate.
11. Riprap in an amount not to exceed 300 linear feet that is placed to repair existing riprap located in an inland lake or Great Lakes water body, and that consists only of the placement of additional rock or the redistribution of existing rock within the footprint of the existing riprap.
12. Riprap in an amount not to exceed 200 linear feet that is placed in a river or inland lake, or in an amount not to exceed 300 linear feet that is placed in a Great Lakes water body, and to which all of the following apply:
  13. The riprap is clean fieldstone or quarry stone with a diameter of no less than 6 inches and no greater than 48 inches.
  14. The toe of the riprap does not extend more than 8 feet waterward of the ordinary high-water mark.
  15. The final riprap slope is not steeper than one foot horizontal to 1.25 feet vertical.
  16. The riprap does not reach an elevation higher than 36 inches above the ordinary high-water mark or above the storm-wave height, as calculated using a method established by the department by rule, whichever is higher.
17. No fill material or soil is placed in a wetland and, aside from riprap and, under subd. 7., gravel, no fill material or soil is placed below the ordinary high-water mark of any navigable waterway.
18. The riprap follows the natural contour of the shoreline.
19. Filter fabric or clean-washed gravel is used as a filter layer under the riprap.
20. A biological shore erosion control structure, as defined by rule by the department.
21. An intake or outfall structure that is less than 6 feet from the water side of the ordinary high-water mark and that is less than 25 percent of the width of the channel in which it is placed.
22. A structure or deposit that is related to the construction, access, or operation of new manufacturing facility in a navigable stream located in an electronics and information technology manufacturing zone designated under s. 238.396 (1m).

## **EXEMPTION FROM SECTION 30.20 PERMIT REQUIREMENTS**

1. NR 345.04(1)(d) establishes an exemption for manual dredging. Manual dredging is defined at NR 345.03(8) as follows:

(8) "Manual dredging" means removal or disturbance of bottom material by hand or using a hand-held device without the aid of external or auxiliary power. Manual dredging is often associated with the collection of aquatic insects for bait, removal of nuisance vegetation or debris and the panning for gold or other material. For the purpose of ch. 30, Stats., manual dredging does not include "de minimis" activities as defined in sub. (2).