



US Army Corps of Engineers ®

Levee Inspection Report

Name of System: Munster
 Name of Segment: Munster
 NLD System ID: 2605000006 NLD Segment ID: 2604000009

Segment Type: USACE Federally constructed, turned over to public sponsor for operations and maintenance
 Levee Sponsor (Name and Organization): Little Calumet River Basin Development Commission
 Inspection Report Prepared by: Chris Schaal Date(s) of Inspection: 04/29/2024 - 05/01/2024
 Inspection Report Prepared by: Mike Cook
 Inspection Report Prepared by: Youa Yang
 Inspection Report Prepared by: Brian Sweeney

Other Segments Within This System

Segment Name	NLD Segment ID#	Segment Type
NPS - Borman	2604000018	Non-Federally Constructed, local O&M

Contents of Levee Inspection Report:

- Levee Inspection Summary
- Inspection Checklist**
 - General Items
 - Levee Embankment
 - Floodwalls
 - Interior Drainage System
 - Pump Stations
 - FRM Channels
- Public Sponsor Pre-Inspection Form
- Levee Inspection Reference Guide
- Photos

Type of Inspection: Formal Inspection PL84-99 Inspection Special Inspection (mark this if purpose is Initial Eligibility Inspection or Continuing Eligibility Inspection for non-federal systems)

Approval Signature: *John A Groboski* Date Approved: 7/26/2024

Levee Inspection Team Members (Levee Sponsor, USACE, and Others)

Name	Organization	Discipline	Phone Number
Yuki Galisanao	USACE - Chicago District	LSPM	
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Dan Repay	LCRBDC	Sponsor	
Jesse Wells	Town of Munster	Community	
David White	Town of Munster	Community	
Alex Hinben	Town of Munster	Community	
Phillip Pierce	Town of Munster	Community	

Levee Segment Inspection Summary:

[Provide an Executive Summary of the segment inspection considering (1) the general condition of the segment, (2) the rationale for key Item ratings, categorized by Feature , and (3) the quantity or severity of notable observations/deficiencies and (4) notable changes in condition since the last inspection.]

The segment rating has not changed since the last formal inspection.

There were a few significant comments that identified inoperable louvre fans while sump pumps were running and one where a sump pump at a pump station generator was inoperable. The Unacceptable items do not affect the overall system rating but should be remedied as soon as possible.

There were minor issues associated with: animal burrow holes, unwanted vegetation on or near the levee embankment and floodwalls, silted in flap gates, minor cracks, spalling, or degraded joint filler in the concrete floodwalls, encroachments, depressions or rutting and bank or slope caving/erosion.

Levee System Inspection Summary:

[Synthesize information from the Levee Segment Inspection Summaries for each segment within the levee system. For single-segment levee systems, see Levee Segment Inspection Summary above.]

The overall system rating has not changed since the last formal inspection.

The NPS Borman segment had a few minor encroachment issues.

General Items

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Operations and Maintenance Manuals	A	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	<p>Justification: Documents maintained by the Munster Public Works Department and relevant copies distributed to appropriate internal agencies.</p>
		M	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.	
		U	Sponsor has not obtained lost or missing manuals identified during previous inspection.	
2. Emergency Supplies and Equipment (A or M only)	A	A	The sponsor maintains a stockpile of sandbags, shovels, and other flood fight supplies which will adequately supply all needs for the initial days of a flood fight. Sponsor determines required quantity of supplies after consulting with inspector.	<p>2024-0111 : Munster sandbag supplies inside container 1. Flood fighting supplies are stored behind the Munster Public Works facility on Fisher Street.(A)</p> <p>2024-0115 : Munster flooding supplies. Over 3/4 of total supplies are in these two containers located at the Munster Public Works location on Fisher Street. (A)</p> <p>2024-0162 : Trailer for stoplogs. All components present including spare. The trailer is located at the Munster Public Works location on Fisher Street with other flood fighting supplies.(A)</p> <p>Justification: There are adequate flood fighting supplies present and the location of the supplies is easily accessible at the Munster Public Works facility. The Town of Munster has a ready inventory of flood fighting supplies and equipment (over 2,000 filled sandbags, over 250k empty sandbags, 11 superbags (similar to Hesco), and 2 pumps. The primary resources are available through the public works department at 508 Fisher Street but can also be supplemented by other city departments. Additional storage is on Calumet Ave.</p>
		M	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

General Items

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
3. Flood Preparedness and Training (A or M only)	A	A	Sponsor has a written system-specific flood response plan that will be used to trigger emergency operation activities and a solid understanding of how to operate, maintain, and staff the levee system during a flood, including demonstration that sufficient flood warning time exists for the completed operation of all closure structures. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	Justification: A system specific flood response plan is in place. Munster uses the RAVE emergency notification system to send messages to residents via phone, email, and web. Munster also has a notification system through the police department with reverse 911 and websites. The City attends monthly O&M meetings, participated in a tabletop exercise in 2019, and a Road Closure was performed at River Road in 2021. Updated Flood Handbooks were provided in 2019.
		M	The sponsor maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Unwanted Vegetation Growth	M	A	The levee has little or no unwanted vegetation (trees, bush, or undesirable weeds), except for vegetation that is properly contained and/or situated on overbuilt sections, such that the mandatory 3-foot root-free zone is preserved around the levee profile. The levee has been recently mowed. The vegetation-free zone extends 15 feet from both the landside and riverside toes of the levee to the centerline of the tree. If the levee access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EP 1110-2-18 and other relevant Corps policy.	2024-0013 : Trees along the landside toe.(M) 2024-0061 : Trees and a bush within 15 ft of the landside toe.(M) 2024-0069 : Trees within 15 ft of the landside toe.(M)
		M	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present within the zones described above. This vegetation must be removed but does not currently threaten the operation or integrity of the levee.	2024-0077 : Tree within 15 ft of the landside toe.(M) 2024-0090 : Vegetation along the landside toe.(M)
		U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above and must be removed to reestablish or ascertain levee integrity.	2024-0126 : Tree along the riverside toe.(M) 2024-0130 : Tree along the riverside toe.(M) 2024-0134 : Tree on the riverside slope.(M) 2024-0150 : Tree on the riverside slope.(M) 2024-0153 : Vegetation on the crown and landside slope.(M) 2024-0236 : Vegetation within 15 ft of the riverside toe.(M) 2024-0324 : Vegetation along the riverside toe.(M) 2024-0332 : Trees along the landside toe.(M) 2024-0340 : Small trees starting to grow on the landside slope.(M) 2024-0376 : Vegetation along the riverside toe.(M) 2024-0420 : Trees on the riverside toe.(M)

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
				2024-0424 : Trees on the riverside toe.(M) Recommendation: Unwanted large trees should be completely removed with rootballs backfilled with compacted clay. Other trees, bushes, and tall grass within 15 ft of the levee toe should be cut back or mowed.
2. Sod Cover	A	A	There is good coverage of sod over the levee.	2024-0224 : Adequate sod cover - typical example(A) Justification: Sod coverage on the levee embankment is good.
M		Approximately 25% of the sod cover is missing or damaged over a significant portion or over significant portions of the levee embankment. This may be the result of over-grazing or feeding on the levee, unauthorized vehicular traffic, chemical or insect problems, or burning during inappropriate seasons.		
U		Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.		
NA		Surface protection is provided by other means.		

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
3. Encroachments	M	A	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	2024-0065 : Downed tree on the landside toe.(M)
		M	Trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	2024-0073 : Downed tree on the landside slope. The levee profile was damaged and is healing around the tree.(M) 2024-0081 : Chain-link fence along the landside toe.(M)
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.	2024-0085 : Lawnmower within 15 feet of the landside toe(M) 2024-0089 : Watercraft within 15 feet of the landside toe.(M) 2024-0093 : Garden on the landside toe.(M) 2024-0094 : Playground and logs on the landside toe.(M) 2024-0097 : Debris on the landside toe.(M) 2024-0122 : New electric pole on the landside toe related to the southshore train extension. A 408 permit was approved for the pole, but it is too close to the levee.(M) 2024-0137 : Temporary construction equipment and activity related to the southshore train extension (408 permitted).(A) 2024-0141 : Active 408 permitted construction activities related to the southshore train extension.(A) 2024-0145 : Construction activity related to the southshore train extension (408 approved).(A)

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Levee Embankments

Rated Item	Rating	Rating Guidelines	Observation Locations with Descriptions and Resulting Item Rating Justification
			<p>2024-0149 : Silt fence along the riverside toe - should be removed once train track construction is complete.(A)</p> <p>2024-0161 : Tire debris along the riverside toe.(M)</p> <p>2024-0169 : Pre-existing power pole on the landside toe - determine if it is Section 408 approved.(M)</p> <p>2024-0220 : Downed tree near the riverside levee toe.(M)</p> <p>2024-0232 : Tree leaning over on the riverside.(M)</p> <p>2024-0328 : Fallen tree debris on landside toe.(M)</p> <p>2024-0336 : Garden on the landside slope.(M)</p> <p>2024-0344 : Wood fence perpendicular to and abutting the landside toe.(M)</p> <p>2024-0348 : Decorative fence and traffic post on the landside toe.(M)</p> <p>2024-0352 : Wooden pallets stacked on the landside toe.(M)</p> <p>2024-0400 : New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.(M)</p> <p>2024-0404 : New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.(M)</p> <p>2024-0408 : New electric poles on the landside toe related to the southshore train extension. A 408</p>

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Levee Embankments

Rated Item	Rating	Rating Guidelines	Observation Locations with Descriptions and Resulting Item Rating Justification
			<p>permit was approved for the poles, but they are too close to the levee.(M)</p> <p>2024-0412 : Downed signs on the riverside slope - possibly related to the train track construction.(M)</p> <p>2024-0416 : New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.(M)</p> <p>2024-0428 : Pre-existing power pole on the riverside slope - determine if it is Section 408 approved.(M)</p> <p>2024-0432 : Park sign on the landside levee - determine if it is Section 408 approved.(M)</p> <p>Recommendation: Remove the encroaching trash and debris. If encroaching items belong to a local homeowner, discuss with homeowners and either remove items or apply for a Section 408 permit. For items related to the train track construction - verify that encroaching items are in compliance with the 408 permit once the construction is complete.</p>

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
4. Closure Structures	A	A	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	2024-0320 : Guardrail blocking the closure as-constructed.(M) Recommendation: Be prepared to remove the guardrail as needed to install the closure.
		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		NA	There are no closure structures along this component of the levee segment / system.	
5. Slope Stability	A	A	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	2024-0165 : Tie-in to the highway(A) 2024-0228 : Slopes are in good condition.(A)
		M	Minor slope stability problems that do not pose an immediate threat to the levee embankment.	
		U	Major slope stability problems (ex. deep seated sliding) identified that must be repaired to reestablish the integrity of the levee embankment.	
6. Erosion/Bank Caving	A	A	No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.	Justification: No issues observed.
		M	There are areas where minor erosion is occurring or has occurred on or near the levee embankment, but levee integrity is not threatened.	
		U	Erosion or caving is occurring or has occurred that threatens the stability and integrity of the levee. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
7. Settlement	M	A	No observed depressions in crown. Records exist and indicate no unexplained historical changes.	2024-0121 : 3 to 4 inches of levee settlement at the floodwall tie-in.(M) 2024-0364 : Hole extending under the floodwall cap at the levee tie-in.(M) 2024-0368 : Hole/depression related to settlement at the floodwall tie-in.(M) Recommendation: Fill in the settled area at the floodwall tie-in and monitor for further changes.
		M	Minor irregularities that do not threaten integrity of levee. Records are incomplete or inclusive.	
		U	Obvious variations in elevation over significant reaches. No records exist or records indicate that design elevation is compromised.	
8. Depressions / Rutting	M	A	There are scattered, shallow ruts, pot holes, or other depressions on the levee that are unrelated to levee settlement. The levee crown, embankments, and access road crowns are well established and drain properly without any ponded water.	2024-0009 : Landside slope rutting.(M) 2024-0133 : Depression and rutting in the crown and slope.(M) 2024-0142 : 3-inch deep rutting on the landside slope(M) Recommendation: Fill in shallow ruts with topsoil and grass seed. Fill deep ruts with clay and restore sod coverage.
		M	There are some infrequent minor depressions less than 6 inches deep in the levee crown, embankment, or access roads that will pond water.	
		U	There are depressions greater than 6 inches deep that will pond water.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
9. Cracking	A	A	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	Justification: No issues observed.
		M	Longitudinal and/or transverse cracks up to 6 inches in depth with no vertical movement along the crack. No cracks extend continuously through the levee crest. Longitudinal cracks are no longer than the height of the levee.	
		U	Cracks exceed 6 inches in depth. Longitudinal cracks are longer than the height of the levee and/or exhibit vertical movement along the crack. Transverse cracks extend through the entire levee width.	
10. Animal Control	A	A	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	Justification: No issues observed.
		M	The existing animal burrow control program needs to be improved. Several burrows are present which may lead to seepage or slope stability problems, and they require immediate attention.	
		U	Animal burrow control program is not effective or is nonexistent. Significant maintenance is required to fill existing burrows, and the levee will not provide reliable flood protection until this maintenance is complete.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
11. Culverts / Discharge Pipes (This item includes both concrete and corrugated metal pipes.)	M	A	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. All joints appear to be closed and the soil tight. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods within the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed are in good condition.	<p>Justification: The last camera inspection was in 2022. At the 24-inch RCP (MU-5), circumferential cracks were noted at the joint. Refer to the camera inspection report for more details.</p> <p>Recommendation: Monitor for changes. Perform the next inspection by 2027.</p>
		M	There are some defects noted that should be monitored. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed do not indicate a change in condition since the last condition assessment.	
		U	One or more significant defects exist. The exterior pipe conditions observed indicate there may be a change in pipe condition since the last condition assessment. The interior condition of pipes has not been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures.	
		NA	There are no discharge pipes / culverts.	
12. Riprap Revetments & Bank Protection	M	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	2024-0026 : Exposed geotextile from displaced riprap on riverside.(M)
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	2024-0070 : Displaced riprap on the riverside embankment.(M)
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	2024-0129 : Vegetation in riverside riprap.(M)
		NA	There is no riprap protecting this feature of the system, or riprap is discussed in another section.	Recommendation: Restore riprap and remove vegetation as needed.

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
13. Revetments other than Riprap	M	A	Existing revetment protection is properly maintained, undamaged, and clearly visible.	2024-0022 : Damaged gabion baskets on the riverside slope.(M) Recommendation: Repair damaged gabion baskets.
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		NA	There are no such revetments protecting this feature of the system.	
14. Underseepage Relief Wells/ Toe Drainage Systems	NA	A	Toe drainage systems and pressure relief wells necessary for maintaining levee segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		M	Toe drainage systems or pressure relief wells are physically damaged or are experiencing some clogging or performance losses as evidenced by performance data, pumping tests, or observation. The performance losses are not expected to significantly affect levee performance during full loading. Wells have been pump tested, drainage systems have been inspected within the past 5 years, and documentation is provided. Maintenance records indicate some well rehabilitation is needed.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining levee segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		NA	There are no relief wells/ toe drainage systems along this component of the levee segment / system.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
15. Seepage	A	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	Justification: No issues observed.
		M	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Unwanted Vegetation Growth	M	A	A grass-only or paved zone is maintained on both sides of the floodwall, free of all trees, brush, and undesirable weeds. The vegetation-free zone extends 15 feet from both the land and riverside of the floodwall, at ground-level, to the centerline of the tree. Additionally, an 8-foot root-free zone is maintained around the entire structure, including the floodwall toe, heel, and any toe-drains. If the floodwall access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EP 1110- 2-18 and other relevant Corps policy.	2024-0017 : Vegetation within 15-ft of the riverside floodwall.(M)
		M	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present within the zones described above. This vegetation must be removed but does not currently threaten the operation or integrity of the floodwall.	2024-0021 : Vegetation against the landside floodwall.(M) 2024-0025 : Vegetation against the landside floodwall.(M) 2024-0037 : Vegetation against the landside floodwall.(M)
		U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above. This vegetation threatens the operation or integrity of the floodwall and must be removed.	2024-0038 : Tree within 15-ft of the riverside floodwall.(M) 2024-0046 : Vegetation against the landside floodwall.(M) 2024-0057 : Vegetation within 15-ft of the riverside floodwall.(M) 2024-0058 : Vegetation within 15-ft of the riverside floodwall.(M) 2024-0066 : Vegetation and trees within 15-ft of the riverside floodwall.(M) 2024-0074 : Vegetation within 15-ft of the riverside floodwall.(M) 2024-0098 : Tree within 15-ft of the riverside floodwall.(M) 2024-0102 : Tree and vegetation within 15-ft of the riverside floodwall.(M) 2024-0106 : Small tree against the riverside floodwall.(M)

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Floodwalls

Rated Item	Rating	Rating Guidelines	Observation Locations with Descriptions and Resulting Item Rating Justification
			<p>2024-0118 : Tree within 15-ft of the riverside floodwall.(M)</p> <p>2024-0184 : Vegetation on the riverside floodwall.(M)</p> <p>2024-0188 : Small trees within 15-ft of the riverside floodwall.(M)</p> <p>2024-0208 : Small tree within 15-ft of the riverside floodwall.(M)</p> <p>2024-0244 : Tree trunk growing back against the landside floodwall.(M)</p> <p>2024-0252 : Vegetation along the landside floodwall (typical).(M)</p> <p>2024-0256 : Small trees within 15-ft of the riverside floodwall.(M)</p> <p>2024-0264 : Small tree against the landside floodwall.(M)</p> <p>2024-0268 : Vegetation in the riprap that runs along the riverside floodwall.(M)</p> <p>2024-0272 : Small tree against the riverside floodwall.(M)</p> <p>2024-0292 : Small tree against the riverside floodwall.(M)</p> <p>2024-0308 : Vegetation within 15-ft of the landside floodwall.(M)</p> <p>2024-0312 : Small trees against the landside floodwall.(M)</p>

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Floodwalls

Rated Item	Rating	Rating Guidelines	Observation Locations with Descriptions and Resulting Item Rating Justification
			<p>2024-0388 : Small tree against the landside floodwall.(M)</p> <p>2024-0392 : Small tree against the landside floodwall.(M)</p> <p>2024-0441 : Small trees against the landside floodwall.(M)</p> <p>Recommendation: Cut back trees and vegetation within 15-ft vegetation free zone. Large trees need to be removed completely and rootball backfilled with compacted clay.</p>

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
2. Encroachments	M	A	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the floodwall.	2024-0001 : Graffiti on the riverside floodwall.(M) 2024-0005 : Debris on the landside floodwall.(M)
		M	Trash, debris, unauthorized structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	2024-0041 : Fence running perpendicular to the land and riverside floodwall.(M) 2024-0050 : Paint on the riverside floodwall.(M)
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the floodwall.	2024-0114 : Sign and landscaping within 15-ft of the landside wall.(M) 2024-0125 : Guide wire within 15-ft of the landside floodwall.(M) 2024-0138 : Sheetpile section of the riverside floodwall - part of an approved 408 permit for commuter train construction.(A) 2024-0157 : Graffiti on the riverside overpass wall.(M) 2024-0158 : Guardrail within 15-ft of the landside wall. Signs, tower, and other visible objects within 15-ft of the wall are 408 approved.(M) 2024-0196 : Riprap moved to provide pedestrian access over the floodwall on the riverside.(M) 2024-0216 : Large log and rock against the riverside floodwall.(M) 2024-0260 : Guardrail obstructing Northcote Ave. closure point.(M) 2024-0280 : Statue against the landside floodwall.(M)

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Floodwalls

Rated Item	Rating	Rating Guidelines	Observation Locations with Descriptions and Resulting Item Rating Justification
			<p>2024-0284 : No issue - New fence is at least 15-ft from the landside floodwall.(A)</p> <p>2024-0304 : Debris (wooden spool) against the landside floodwall.(M)</p> <p>2024-0356 : Graffiti on the riverside floodwall.(M)</p> <p>2024-0372 : Rebar and barbed wire running along the base of the landside floodwall.(M)</p> <p>2024-0380 : Small trees against the landside floodwall.(M)</p> <p>2024-0396 : Utility poles within 15-ft of the landside floodwall.(M)</p> <p>2024-0440 : Utility pole within 15-ft of the landside floodwall. As-builts show the pole as existing prior to the levee/floodwall construction.(A)</p> <p>Recommendation: Remove the encroaching trash and debris. Graffiti should be removed by power washing, painting over it can allow moisture to be trapped between the concrete and paint, possibly leading to spalling or cracking. If encroaching items belong to a local homeowner, discuss with homeowners and either remove items or apply for a Section 408 permit. Signs or other objects belonging to a government or private agency should be removed or apply for a Section 408 permit.</p>

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
3. Closure Structures (Stop Log Closures and Gates) (A or U only)	A	A	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	2024-0034 : Post and panel road plate is missing.(A) 2024-0154 : Typical condition of closure structure(A) 2024-0436 : Typical view of the State Line Road closure.(A) Justification: No significant issues were identified.
		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		NA	There are no closure structures along this component of the levee segment / system.	
4. Concrete Surfaces	M	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2024-0030 : Minor cracks in the landside floodwall.(M) 2024-0042 : Minor spalling of the landside floodwall.(M) 2024-0054 : Exposed rebar due to spalling on top of the floodwall.(M) 2024-0082 : Spalling on top of the floodwall.(M) 2024-0212 : Minor crack on both sides of the wall.(M) 2024-0248 : Minor cracks on the landside floodwall.(M) Recommendation: Monitor cracks and spalling and consider patching/repair if a condition worsens.
		M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
5. Tilting, Sliding or Settlement of Concrete Structures	M	A	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	2024-0105 : Cap has shifted at tie-in.(M)
		M	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	2024-0117 : Cap has shifted at tie-in.(M)
		U	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	Recommendation: Monitor caps for further shifting at tie-ins.

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
6. Foundation of Concrete Structures	M	A	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2024-0019 : Erosion on the landside of the floodwall.(M)
		M	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stable until the next inspection.	2024-0033 : Approximately 2-ft of soil settlement along the base of the floodwall.(M) 2024-0101 : Soil settling under the floodwall panels on the landside.(M) 2024-0109 : Animal burrow on the landside of the wall.(M)
		U	Erosion or bank caving observed that is closer to the wall than the limits described above, or is outside these limits but may lead to structural instabilities before the next inspection. Additionally, if the floodwall is of I-wall or sheetpile construction, the foundation is unacceptable if any turf, soil or pavement material got washed away from the landside of the I-wall as the result of a previous overtopping event.	2024-0113 : Ponding water in animal burrow on landside of the wall.(M) 2024-0146 : Typical retaining wall.(A) 2024-0192 : Riprap covered with silt on riverside.(A) 2024-0276 : Displacement of riverside riprap.(M) 2024-0288 : Riprap has been displaced.(M) 2024-0296 : Typical hole/depression on the landside of the wall.(M) 2024-0300 : Depression about 1-ft deep on the landside of the wall.(M) 2024-0316 : Soil settling under the floodwall panels on the landside.(M) 2024-0360 : Animal burrow on the landside of the wall.(M) 2024-0384 : Typical depression on the landside of the wall.(M)

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
				<p>Recommendation: Fill in depressions and burrows next to the floodwall. Erosion areas should be regraded and covered with sod to prevent further issues.</p>
7. Monolith Joints	M	A	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	2024-0002 : Cracking in joint sealant.(M)
M		The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	2024-0006 : Cracking in joint sealant.(M) 2024-0010 : Backer rod or something of similar material sticking out.(M)	
U		The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	2024-0014 : Rusted concrete rebar protruding from the joint.(M) 2024-0018 : Cracking in joint sealant.(M)	
NA		There are no monolith joints in the floodwall.	2024-0029 : Typical sealant cracking.(M) 2024-0078 : Repaired sheetpile joint interlock on riverside.(A) 2024-0110 : Degraded expansion foam in joint.(M) 2024-0204 : Joint sealant is typically in good condition on riverside.(A) Recommendation: Inject polyurethane grout to replace missing water stop, remove old sealant, and install new sealant. Monitor smaller cracks in sealant.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
8. Underseepage Relief Wells/Toe Drain Systems	NA	A	Toe drainage systems and pressure relief wells necessary for maintaining levee segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		M	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining levee segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		NA	There are no relief wells/ toe drainage systems along this component of the levee segment / system.	
9. Seepage	M	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	2024-0086 : Possible seepage at sheetpile joint.(M) Recommendation: Monitor possible seepage.
		M	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside floodwall foundation.	
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Vegetation and Obstructions	M	A	No obstructions, vegetation, debris, or sediment accumulation noted within interior drainage channels or blocking the culverts, inlets, or discharge areas. Concrete joints and weep holes are free of grass and weeds.	2024-0027 : MU-08: Vegetation around the outlet structure. Wingwalls were underwater and could not be inspected.(M)
		M	Obstructions, vegetation, debris, or sediment are minor and have not impaired channel flow capacity or blocked more than 10% of any culvert openings, but should be removed. A limited volume of grass and weeds may be present in concrete channel joints and weep holes.	2024-0035 : MU-06: Vegetation around the outlet structure.(M)
		U	Obstructions, vegetation, debris, or sediment have impaired the channel flow capacity or blocked more than 10% of a culvert opening. Sediment and debris removal required to re-establish flow capacity.	2024-0039 : MU-06: Vegetation around the gateway structure(M) 2024-0045 : MU-09: Vegetation around the outlet structure.(M) 2024-0055 : MU-04: Vegetation around the gateway structure.(M) 2024-0075 : MU-02: Vegetation and tree around the outlet structure.(M) 2024-0083 : MU-02: Vegetation around the gateway structure.(M) 2024-0442 : MU-05: Vegetation around the chain link fence enclosure.(M) Recommendation: Remove vegetation from headwalls, ditches, and outlet structures.

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
2. Encroachments	M	A	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the interior drainage system.	2024-0053 : MU-09: Debris and soil on the duckbill valve.(M) 2024-0059 : MU-04: Headwall is covered by riprap. (M)
		M	Trash, debris, unauthorized structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of this component of the interior drainage system.	Recommendation: Remove encroachments.
3. Ponding Areas	NA	A	No trash, debris, structures, or other obstructions present within the ponding areas. Sediment deposits do not exceed 10% of capacity.	
		M	Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit operations and maintenance. Sediment deposits do not exceed 30% of capacity.	
		U	Trash, debris, excavations, structures, or other obstructions, or other encroachments or activities noted that will inhibit operations, maintenance, or emergency work. Sediment deposits exceeds 30% of capacity.	
		NA	There are no ponding areas associated with the interior drainage system.	
4. Fencing and Gates	A	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	Justification: No issues observed.
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		NA	There are no features noted that require safety fencing.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
5. Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts)	M	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2024-0049 : MU-09: Spalling on the outlet headwall.(M) 2024-0079 : MU-02: The wingwalls and headwall are in good condition.(A) 2024-0099 : MU-01: The water level is too high to see below the structure.(A) Recommendation: Monitor concrete spalling on outlet structures.
		M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	
		NA	There are no concrete items in the interior drainage system.	
6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures (Such as gate wells, outfalls, intakes, or culverts)	A	A	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	Justification: No issues observed.
		M	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
		U	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
		NA	There are no concrete items in the interior drainage system.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.)	M	A	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2024-0003 : MU-11: Scour around the outlet structure. The wingwalls were not observed - under riprap.(M) Recommendation: Consider adding riprap to prevent additional scouring.
		M	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. The rate of erosion is such that the structure is expected to remain stable until the next inspection.	
		U	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
		NA	There are no concrete items in the interior drainage system.	
8. Monolith Joints	A	A	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	Justification: No issues observed.
		M	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	
		U	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
		NA	There are no monolith joints in the interior drainage system.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
9. Culverts/Discharge Pipes	M	A	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. All joints appear to be closed and the soil tight. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods within the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed are in good condition.	<p>Justification: The last camera inspection was performed in 2022. At the 24-inch RCP (MU-5) there were circumferential cracks at the joint.</p> <p>Recommendation: Monitor for changes. Perform the next camera inspection by 2027.</p>
		M	There are some defects noted that should be monitored. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed do not indicate a change in condition since the last condition assessment.	
		U	One or more significant defects exist. The exterior pipe conditions observed indicate there may be a change in pipe condition since the last condition assessment. The interior condition of pipes has not been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures.	
		NA	There are no discharge pipes/ culverts.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
10. Sluice / Slide Gates	M	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	2024-0007 : MU-11: Gate fully closed - the gate was a bit noisy while closing.(M)
		M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	2024-0011 : MU-11: Some debris is inside the gatewell chamber.(M)
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	2024-0015 : MU-08: The gatewell structure is well mowed and in good condition.(A)
		NA	There are no sluice/ slide gates.	2024-0023 : MU-08: Gate fully closed - no issues. (A) 2024-0043 : MU-06: Gate fully closed - no issues. (A) 2024-0063 : MU-04: Gate fully closed - no issues. (A) 2024-0071 : MU-02: Gate fully closed - no issues. (A) 2024-0103 : MU-01: Gate fully closed - no issues. (A) Recommendation: Clear debris from the MU-11 gate chamber and lubricate the gate system.

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
11. Flap Gates/ Flap Valves/ Pinch Valves	M	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	2024-0087 : MU-02: Inlet flap gate into the sluice gate chamber.(A) 2024-0095 : MU-03: The flap gate is in good condition, slightly ajar.(A) 2024-0119 : MU-05: Cannot open the chain link gate to observe the gateway structure.(M) 2024-0200 : MU-12: A stick is stuck in the duckbill valve.(M) Recommendation: Ensure that all gateways are accessible. Clear the obstruction in the MU-11 valve. Check flap gates for proper seating.
		M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		NA	There are no flap gates.	
12. Trash Racks (non-mechanical)	A	A	Trash racks are fastened in place and properly maintained.	Justification: No issues observed.
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		NA	There are no trash racks, or they are covered in the pump stations section of the report.	
13. Other Metallic Items	A	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	Justification: No issues observed.
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		NA	There are no other significant metallic items.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
14. Riprap Revetments of Inlet/ Discharge Areas	A	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	Justification: No issues observed.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		NA	There is no riprap protecting this feature of the system, or riprap is discussed in another section.	
15. Revetments other than Riprap	NA	A	Existing revetment protection is properly maintained, undamaged, and clearly visible.	
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		NA	There are no such revetments protecting this feature of the system.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Pump Stations Operating, Maintenance, Training, & Inspection Records	A	A	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	Justification: Operation, maintenance and inspection records are being used and updated.
		M	Operation, maintenance and inspection records are present but not adequately used and updated.	
		U	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
2. Pump Station Operations and Maintenance Equipment Manuals	A	A	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	2024-0012 : PS-BA: Manuals are kept onsite.(A) 2024-0060 : PS-CA: Manuals and maintenance records are kept onsite.(A) 2024-0160 : PS-HM: Manuals and maintenance records are kept onsite.(A) Justification: No issues observed.
		M	Operation, maintenance and inspection records are present but not adequately used and updated.	
		U	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
3. Safety Compliance	M	A	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	2024-0004 : PS-BA: Missing confined space label - noted during previous inspections. Recommend adding confined space label.(M) 2024-0056 : PS-CA: Missing clips on grates near trash rakes - unchanged from previous inspections. Recommend adding missing clips for safety.(M) 2024-0108 : PS-OA: Typical example of missing confined space labels throughout the building. Recommend adding missing confined space labels.(M)
		M	No safety compliance inspection reports are available for review.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
4. Communications (A or M only)	A	A	A telephone, cellular phone, two-way radio, or similar device is available to pump station operator and maintenance personnel.	Justification: No issues observed.
		M	A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
5. Plant Building	M	A	The building is in good structural condition with no major foundation settlement problems. The roof is not leaking, intake & exhaust louvers are clear of debris, fans are operational, etc.	2024-0008 : PS-BA: Minor depression near EF-02 - Appears unchanged since last inspection. Recommend continuing to monitor the depression. (A)
		M	There are minor structural defects, minimal foundation settlement, leaks, or other conditions noted that need repair. Defects do not threaten the structural integrity or stability of the building, and will not impact pumping operations.	2024-0024 : PS-BA: Bird nests on building. Nests do not appear to be affecting building operation, recommend that they can be left in place.(A)
		U	The structural integrity or stability of the building is threatened, or there is damage to the building that threatens safety of the operator or impacts pumping operations.	<p>2024-0028 : PS-BA: Ground subsiding below concrete - appears similar to last inspection. Recommend monitoring the distance between the concrete pads to determine if the subsidence is continuing to occur.(M)</p> <p>2024-0036 : PS-CA: Typical example of cracks around skylights - evidence of leaking (staining). Recommend sealing cracks to prevent leaking.(M)</p> <p>2024-0040 : PS-CA: Typical example of wall cracks in the building. Recommend continuing to monitor minor cracks and filling in/sealing more significant ones.(M)</p> <p>2024-0044 : PS-CA: Cracks in concrete pad indicating settlement. Recommend replacing this section of concrete to prevent a possible trip hazard. (M)</p> <p>2024-0052 : PS-CA: Concrete spalling near trash rakes - Danger of possible beam failure under the grate. Recommend repairing the concrete to prevent beam failure.(M)</p> <p>2024-0084 : PS-CA: Typical example of wall cracks in the building. Recommend continuing to monitor minor cracks and filling in/sealing more significant ones.(M)</p>

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Pump Stations

Rated Item	Rating	Rating Guidelines	Observation Locations with Descriptions and Resulting Item Rating Justification
			<p>2024-0112 : PS-OA: Corroded pipe - noted during previous inspections. This pipe is part of the roof drainage, recommend repairing the pipe so that water doesn't leak into the building during/after rain events.(M)</p> <p>2024-0116 : PS-OA: Typical example of wall cracks in the building. Recommend continuing to monitor minor cracks and filling in/sealing more significant ones.(M)</p> <p>2024-0120 : PS-OA: Active leak at the roof drain. Recommend repairing to prevent further leaks during/after rain events.(M)</p> <p>2024-0124 : PS-OA: Severe corrosion on the exterior roof drain piping. Recommend repair.(M)</p> <p>2024-0136 : PS-OA: Cracks on corner of building. Recommend monitoring for worsening behavior.(M)</p> <p>2024-0144 : PS-OA: Missing filler at expansion joint - noted during previous inspections. Recommend replacing missing filler to prevent building leaks.(M)</p> <p>2024-0148 : PS-HM: Wall cracks in building wall. Recommend monitoring for worsening behavior.(M)</p> <p>2024-0164 : PS-HM: Cracks and shifted CMU in the bathroom wall. Recommend repairing cracks and installing a crack gauge to monitor for further wall movement.(M)</p>

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
6. Fencing and Gates	M	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	<p>2024-0088 : PS-CA: Broken security fencing - noted during previous inspections.(M)</p> <p>Recommendation: Recommend repair of fence.</p>
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		NA	There are no features noted that require safety fencing.	
7. Pumps	U	A	All pumps are properly maintained and lubricated. Systems are periodically tested and documented for review. No vibration, cavitation noises or unusual sounds are noted when the pump is operated. Bearing temperature sensor records don't indicate any problems.	<p>2024-0064 : PS-CA: Active leak on the bottom of the pump 4 lubricating reservoir. Recommend repairing the leak.(M)</p> <p>2024-0068 : PS-CA: Active leak at the pump 2 reservoir. Recommend repairing the leak.(M)</p> <p>2024-0072 : PS-CA: Active leak at the pump 1 supply line 90-degree bend. Recommend repairing the leak.(M)</p> <p>2024-0076 : PS-CA: Active leak at the pump 1 lubricating supply line. Recommend repairing the leak.(M)</p> <p>2024-0104 : PS-CA: Sump pump at generator is not operational.(U)</p>
		M	Minor deficiencies noted that need to be closely monitored or repaired, such as the presence of slight vibrations, leakage of packing gland, bearing temperature sensors are inoperable or no record is present. However, the pumps are operational and are expected to perform through the next period of usage.	
		U	Major deficiencies identified that may significantly reduce pumping operations. For example, bearing sensor records indicate problems, excessive vibration noted, impellers are badly corroded, or there are eroded or missing blades.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
8. Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.	U	A	All items are operational. Preventative maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, bearing sensors and auto shutdowns are operational.	<p>2024-0132 : PS-OA: Louver didn't open while sump exhaust fan was running. May be acceptable if louver was not designed to open while sump is operating.(U)</p> <p>2024-0152 : PS-HM: Louver not opening when sump pump is operational. May be acceptable if louver was not designed to open while sump is operating.(U)</p> <p>Recommendation: Recommend investigating the louver opening design needs and repairing if needed.</p>
		M	Systems have minor deficiencies, but are operational and will function adequately through the next flood. Bearing sensors are not operational.	
		U	One or more of the primary motors or systems is not operational, or noted deficiencies have not been corrected.	
9. Sumps / Wet Well	A	A	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	<p>Justification: No issues observed.</p>
		M	Debris, sediment, or other obstructions may be present and must be removed, but the sump/ wet well will function as intended during the next flood. Procedures are in place to remove debris accumulation during operation.	
		U	Large debris or excessive silt present which will hinder or damage pumps during operation, or no procedures established to remove debris accumulation during operation.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
10. Mechanical Operating Trash Rakes	M	A	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.	<p>2024-0048 : PS-CA: The north trash rake is still out of service from last year. No ETA on repair time - difficultly finding parts. This is Minimally Acceptable instead of Unacceptable because the other trash rake is operational. Recommend installing a new system if the old parts are no longer manufactured.(M)</p> <p>2024-0140 : PS-OA: Unusual squealing noise while operating the trash rake. Recommend investigating the noise and repairing/lubricating the system as needed.(M)</p>
		M	The trash rake is in need of maintenance, but is still operational.	
		U	Trash rake not operational or deficiencies will inhibit operations during the next flood event.	
		NA	There are no mechanical trash rakes.	
11. Non-Mechanical Trash Racks	A	A	Trash racks are fastened in place and properly maintained.	Justification: No issues observed.
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		NA	There are no trash racks, or they are covered in the pump stations section of the report.	
12. Fuel System for Pump Engines	A	A	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	Justification: No issues observed.
		M	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.	
		U	Fuel system not functional.	
		NA	No fuel system.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
13. Power Source	M	A	The normal power source and backup generators, if installed, are operational, properly exercised and well maintained. Surge protection, grounding, lightning protection, transformers, and automatic/manual transfer of main power to backup system is working.	2024-0020 : PS-BA: Generator runtime hours are 325 hrs 27 mins (hours during last inspection were 291 hrs 21 mins).(A)
		M	Normal power source and backup units, if applicable, are operational with minor discrepancies or maintenance, inspection and exercising record is present but not up to date. Preventative maintenance or repairs are required.	2024-0096 : PS-CA: Generator hours are 420 hrs 10 mins (hrs during last inspection were 398).(A)
		U	Normal power source or generators are not operational and must be repaired; or generator, if required, is not on site.	<p>2024-0100 : PS-CA: Water is ponding inside the generator room. Recommend determining the water source and preventing further water infiltration.(M)</p> <p>2024-0128 : PS-OA: Generator hours: North - 183.3 (167.4 hrs during last inspection). Center - 188.5 (172 hrs during last inspection). South - 157.6 (141.1 hrs during last inspection).(A)</p> <p>2024-0176 : PS-HM: Generator hours are 271.1 (hrs were not noted during the last inspection).(A)</p> <p>2024-0180 : PS-HM: There is surficial corrosion on the generator at the fuel tank. Recommend removing the corrosion and repainting.(M)</p>

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
14. Electrical Systems	M	A	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	2024-0016 : PS-BA: Outdated arc flash labels. Recommend funding a study to update the arc flash labels.(M) 2024-0032 : PS-CA: Outdated arc flash labels on all electrical enclosures. Recommend funding a study to update the arc flash labels.(M) 2024-0092 : PS-CA: Bird nest on top of the electrical panel. Recommend removing the nest if it is not occupied since it is near electrical components.(A) 2024-0156 : PS-HM: Outdated arc flash labels. Recommend funding a study to update the arc flash labels.(M) Recommendation: Replace outdated arc labels and remove nest from electrical panel.
		M	Operational with minor discrepancies. Preventative maintenance or repairs are required, but the components are expected to function adequately during the next flood event.	
		U	Components of the electrical system will not function adequately during the next flood event and must be replaced.	
15. Megger Testing on Pump Motors and Critical Power Cables	A	A	Results of megger tests on pump motors or critical power cables show that the insulation meets manufacturer's or industry standards. Tested within the last year.	Justification: Testing was performed within the last year. No issues observed.
		M	Megger testing not conducted within the past year. If megger tests on pump motors indicate that insulation resistance is below the manufacturer's or industry standard, but the resistance can be corrected with proper application of heat, this is minimally acceptable. (The application of heat does not relate to critical power cables.)	
		U	Megger tests not conducted within past two years, or tests indicate that insulation resistance is low enough that the equipment will not be able to meet design standards of operation; or evidence of arcing or shorting is detected visually.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
16. Enclosures, Panels, Conduit and Ducts	M	A	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	2024-0172 : PS-HM: Missing screen on louver - noted during previous inspections. Recommend replacing the missing screen.(M)
		M	Minor surface corrosion which appears to be maintainable. Cleaning and painting required.	
		U	Severely corroded and must be replaced to prevent failure, equipment damage, or safety issues.	
17. Intake and Discharge Pipelines	M	A	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. All joints appear to be closed and the soil tight. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods within the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed are in good condition.	2024-0080 : PS-CA: Severe corrosion on the sewage pump discharge line. Recommend removing the corrosion.(M) 2024-0168 : PS-HM: Excessive condensation on the cooling system pipes. Recommend investigating the issue.(M)
		M	There are some defects noted that should be monitored. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed do not indicate a change in condition since the last condition assessment.	
		U	One or more significant defects exist. The exterior pipe conditions observed indicate there may be a change in pipe condition since the last condition assessment. The interior condition of pipes has not been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
18. Sluice/Slide Gates	A	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	Justification: No issues observed.
		M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		NA	There are no sluice/ slide gates.	
19. Flap Gates/Flap Values/Pinch Values	A	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	Justification: No issues observed.
		M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		NA	There are no gates on discharge lines from pump station.	
20. Cranes	A	A	Cranes operational and have been inspected and load tested in accordance with applicable standards within the last year. Documentation is on hand.	Justification: No issues observed.
		M	Cranes have not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc, requiring maintenance.	
		U	Cranes are not operational, and this may prevent the pump station from functioning as required. No documentation available on cranes.	
		NA	There are no cranes.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
21. Other Metallic Items (Equipment, Ladders, Platform Anchors, etc)	A	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	Justification: No issues observed.
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		NA	There are no other significant metallic items.	

Key: A = Acceptable. M = Minimally Acceptable. U = Unacceptable. N/A = Not Applicable.

Photos



Inspect ID: 2024-0111

Feature Details: General Items - Emergency Supplies and Equipment (A or M only)

Station Start:

Station End:

Caption: Acceptable - Munster sandbag supplies inside container 1. Flood fighting supplies are stored behind the Munster Public Works facility on Fisher Street.



Inspect ID: 2024-0115

Feature Details: General Items - Emergency Supplies and Equipment (A or M only)

Station Start:

Station End:

Caption: Acceptable - Munster flooding supplies. Over 3/4 of total supplies are in these two containers located at the Munster Public Works location on Fisher Street.

Photos



Inspect ID: 2024-0162
Feature Details: General Items - Emergency Supplies and Equipment (A or M only) - Other
Station Start:
Station End:
Caption: Acceptable - Trailer for stoplogs. All components present including spare. The trailer is located at the Munster Public Works location on Fisher Street with other flood fighting supplies.



Inspect ID: 2024-0013
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees along the landside toe.

Photos



Inspect ID: 2024-0061
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees and a bush within 15 ft of the landside toe.



Inspect ID: 2024-0069
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees within 15 ft of the landside toe.

Photos



Inspect ID: 2024-0077
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tree within 15 ft of the landside toe.



Inspect ID: 2024-0090
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation along the landside toe.

Photos



Inspect ID: 2024-0126
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tree along the riverside toe.



Inspect ID: 2024-0130
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tree along the riverside toe.

Photos



Inspect ID: 2024-0134
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Tree on the riverside slope.



Inspect ID: 2024-0150
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Tree on the riverside slope.

Photos



Inspect ID: 2024-0153

Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Slope and Crown

Station Start:

Station End:

Caption: Minimally Acceptable - Vegetation on the crown and landside slope.



Inspect ID: 2024-0236

Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe

Station Start:

Station End:

Caption: Minimally Acceptable - Vegetation within 15 ft of the riverside toe.

Photos



Inspect ID: 2024-0324
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation along the riverside toe.



Inspect ID: 2024-0332
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees along the landside toe.

Photos



Inspect ID: 2024-0340

Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Slope

Station Start:

Station End:

Caption: Minimally Acceptable - Small trees starting to grow on the landside slope.



Inspect ID: 2024-0376

Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe

Station Start:

Station End:

Caption: Minimally Acceptable - Vegetation along the riverside toe.

Photos



Inspect ID: 2024-0420
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees on the riverside toe.



Inspect ID: 2024-0424
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees on the riverside toe.

Photos



Inspect ID: 2024-0224
Feature Details: Levee Embankments - Sod Cover - Landside and Waterside
Station Start:
Station End:
Caption: Acceptable - Adequate sod cover - typical example



Inspect ID: 2024-0065
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Downed tree on the landside toe.

Photos



Inspect ID: 2024-0073

Feature Details: Levee Embankments - Encroachments

Station Start:

Station End:

Caption: Minimally Acceptable - Downed tree on the landside slope. The levee profile was damaged and is healing around the tree.



Inspect ID: 2024-0081

Feature Details: Levee Embankments - Encroachments - Landside Toe

Station Start:

Station End:

Caption: Minimally Acceptable - Chain-link fence along the landside toe.

Photos



Inspect ID: 2024-0085
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Lawnmower within 15 feet of the landside toe



Inspect ID: 2024-0089
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Watercraft within 15 feet of the landside toe.

Photos



Inspect ID: 2024-0093
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Garden on the landside toe.



Inspect ID: 2024-0094
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Playground and logs on the landside toe.

Photos



Inspect ID: 2024-0097
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Debris on the landside toe.



Inspect ID: 2024-0122
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - New electric pole on the landside toe related to the southshore train extension. A 408 permit was approved for the pole, but it is too close to the levee.

Photos



Inspect ID: 2024-0137

Feature Details: Levee Embankments - Encroachments

Station Start:

Station End:

Caption: Acceptable - Temporary construction equipment and activity related to the southshore train extension (408 permitted).



Inspect ID: 2024-0141

Feature Details: Levee Embankments - Encroachments

Station Start:

Station End:

Caption: Acceptable - Active 408 permitted construction activities related to the southshore train extension.

Photos



Inspect ID: 2024-0145
Feature Details: Levee Embankments - Encroachments
Station Start:
Station End:
Caption: Acceptable - Construction activity related to the southshore train extension (408 approved).



Inspect ID: 2024-0149
Feature Details: Levee Embankments - Encroachments - Waterside Toe
Station Start:
Station End:
Caption: Acceptable - Silt fence along the riverside toe - should be removed once the train track construction is complete.

Photos



Inspect ID: 2024-0161
Feature Details: Levee Embankments - Encroachments - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tire debris along the riverside toe.



Inspect ID: 2024-0169
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Pre-existing power pole on the landside toe - determine if it is Section 408 approved.

Photos



Inspect ID: 2024-0220
Feature Details: Levee Embankments - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Downed tree near the riverside levee toe.



Inspect ID: 2024-0232
Feature Details: Levee Embankments - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Tree leaning over on the riverside.

Photos



Inspect ID: 2024-0328
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Fallen tree debris on landside toe.



Inspect ID: 2024-0336
Feature Details: Levee Embankments - Encroachments - Landside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Garden on the landside slope.

Photos



Inspect ID: 2024-0344
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Wood fence perpendicular to and abutting the landside toe.



Inspect ID: 2024-0348
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Decorative fence and traffic post on the landside toe.

Photos



Inspect ID: 2024-0352

Feature Details: Levee Embankments - Encroachments - Landside Toe

Station Start:

Station End:

Caption: Minimally Acceptable - Wooden pallets stacked on the landside toe.



Inspect ID: 2024-0400

Feature Details: Levee Embankments - Encroachments - Landside Toe

Station Start:

Station End:

Caption: Minimally Acceptable - New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.

Photos



Inspect ID: 2024-0404
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.



Inspect ID: 2024-0408
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.

Photos



Inspect ID: 2024-0412

Feature Details: Levee Embankments - Encroachments - Waterside Slope

Station Start:

Station End:

Caption: Minimally Acceptable - Downed signs on the riverside slope - possibly related to the train track construction.



Inspect ID: 2024-0416

Feature Details: Levee Embankments - Encroachments - Landside Toe

Station Start:

Station End:

Caption: Minimally Acceptable - New electric poles on the landside toe related to the southshore train extension. A 408 permit was approved for the poles, but they are too close to the levee.

Photos



Inspect ID: 2024-0428

Feature Details: Levee Embankments - Encroachments - Waterside

Station Start:

Station End:

Caption: Minimally Acceptable - Pre-existing power pole on the riverside slope - determine if it is Section 408 approved.



Inspect ID: 2024-0432

Feature Details: Levee Embankments - Encroachments - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Park sign on the landside levee - determine if it is Section 408 approved.

Photos



Inspect ID: 2024-0320
Feature Details: Levee Embankments - Closure Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Guardrail blocking the closure as-constructed.



Inspect ID: 2024-0165
Feature Details: Levee Embankments - Slope Stability - Landside
Station Start:
Station End:
Caption: Acceptable - Tie-in to the highway

Photos



Inspect ID: 2024-0228
Feature Details: Levee Embankments - Slope Stability - Slopes and Crown
Station Start:
Station End:
Caption: Acceptable - Slopes are in good condition.



Inspect ID: 2024-0364
Feature Details: Levee Embankments - Settlement
Station Start:
Station End:
Caption: Minimally Acceptable - Hole extending under the floodwall cap at the levee tie-in.

Photos



Inspect ID: 2024-0368
Feature Details: Levee Embankments - Settlement
Station Start:
Station End:
Caption: Minimally Acceptable - Hole/depression related to settlement at the floodwall tie-in.



Inspect ID: 2024-0009
Feature Details: Levee Embankments - Depressions/ Rutting - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Landside slope rutting.

Photos



Inspect ID: 2024-0133
Feature Details: Levee Embankments - Depressions/ Rutting - Slopes and Crown
Station Start:
Station End:
Caption: Minimally Acceptable - Depression and rutting in the crown and slope



Inspect ID: 2024-0142
Feature Details: Levee Embankments - Depressions/ Rutting - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - 3-inch deep rutting on the landside slope

Photos



Inspect ID: 2024-0026
Feature Details: Levee Embankments - Riprap Revetments & Bank Protection - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Exposed geotextile from displaced riprap on riverside.



Inspect ID: 2024-0070
Feature Details: Levee Embankments - Riprap Revetments & Bank Protection - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Displaced riprap on the riverside embankment.

Photos



Inspect ID: 2024-0129
Feature Details: Levee Embankments - Riprap Revetments & Bank Protection - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation in riverside riprap.



Inspect ID: 2024-0022
Feature Details: Levee Embankments - Revetments other than Riprap - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Damaged gabion baskets on the riverside slope.

Photos



Inspect ID: 2024-0017
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable -Vegetation within 15-ft of the riverside floodwall.



Inspect ID: 2024-0021
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation against the landside floodwall.

Photos



Inspect ID: 2024-0025
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation against the landside floodwall.



Inspect ID: 2024-0037
Feature Details: Floodwalls - Unwanted Vegetation Growth
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation against the landside floodwall.

Photos



Inspect ID: 2024-0038
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Tree within 15-ft of the riverside floodwall.



Inspect ID: 2024-0046
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation against the landside floodwall.

Photos



Inspect ID: 2024-0057
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation within 15-ft of the riverside floodwall.



Inspect ID: 2024-0058
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation within 15-ft of the riverside floodwall.

Photos



Inspect ID: 2024-0066
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation and trees within 15-ft of the riverside floodwall.



Inspect ID: 2024-0074
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation within 15-ft of the riverside floodwall.

Photos



Inspect ID: 2024-0098
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Tree within 15-ft of the riverside floodwall.



Inspect ID: 2024-0102
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Tree and vegetation within 15-ft of the riverside floodwall.

Photos



Inspect ID: 2024-0106
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree against the riverside floodwall.



Inspect ID: 2024-0118
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Tree within 15-ft of the riverside floodwall.

Photos



Inspect ID: 2024-0184
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation on the riverside floodwall.



Inspect ID: 2024-0188
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small trees within 15-ft of the riverside floodwall.

Photos



Inspect ID: 2024-0208
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree within 15-ft of the riverside floodwall.



Inspect ID: 2024-0244
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Tree trunk growing back against the landside floodwall.

Photos



Inspect ID: 2024-0252
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation along the landside floodwall (typical).



Inspect ID: 2024-0256
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small trees within 15-ft of the riverside floodwall.

Photos



Inspect ID: 2024-0264
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree against the landside floodwall.



Inspect ID: 2024-0268
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation in the riprap that runs along the riverside floodwall.

Photos



Inspect ID: 2024-0272
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree against the riverside floodwall.



Inspect ID: 2024-0292
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree against the riverside floodwall.

Photos



Inspect ID: 2024-0308
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation within 15-ft of the landside floodwall.



Inspect ID: 2024-0312
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small trees against the landside floodwall.

Photos



Inspect ID: 2024-0388
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree against the landside floodwall.



Inspect ID: 2024-0392
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree against the landside floodwall.

Photos



Inspect ID: 2024-0441
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small trees against the landside floodwall.



Inspect ID: 2024-0001
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Graffiti on the riverside floodwall.

Photos



Inspect ID: 2024-0005
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Debris on the landside floodwall.



Inspect ID: 2024-0041
Feature Details: Floodwalls - Encroachments - Landside and Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Fence running perpendicular to the land and riverside floodwall.

Photos



Inspect ID: 2024-0050
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Paint on the riverside floodwall.



Inspect ID: 2024-0114
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Sign and landscaping within 15-ft of the landside wall.

Photos



Inspect ID: 2024-0125

Feature Details: Floodwalls - Encroachments - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Guide wire within 15-ft of the landside floodwall.



Inspect ID: 2024-0138

Feature Details: Floodwalls - Encroachments - Waterside

Station Start:

Station End:

Caption: Acceptable - Sheetpile section of the riverside floodwall - part of an approved 408 permit for commuter train construction.

Photos



Inspect ID: 2024-0157
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Graffiti on the riverside overpass wall.



Inspect ID: 2024-0158
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Guardrail within 15-ft of the landside wall. Signs, tower, and other visible objects within 15-ft of the wall are 408 approved.

Photos



Inspect ID: 2024-0196
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Riprap moved to provide pedestrian access over the floodwall on the riverside.



Inspect ID: 2024-0216
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Large log and rock against the riverside floodwall.

Photos



Inspect ID: 2024-0260
Feature Details: Floodwalls - Encroachments
Station Start:
Station End:
Caption: Minimally Acceptable - Guardrail obstructing Northcote Ave. closure point.



Inspect ID: 2024-0280
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Statue against the landside floodwall.

Photos



Inspect ID: 2024-0284
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Acceptable - No issue - New fence is at least 15-ft from the landside floodwall.

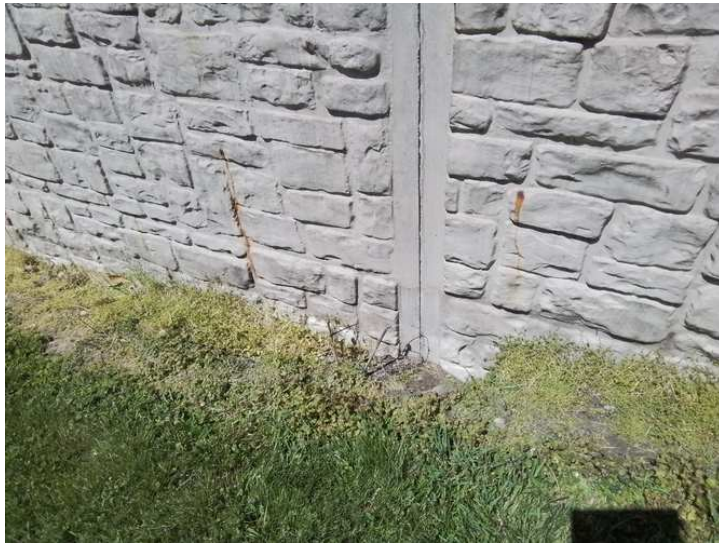


Inspect ID: 2024-0304
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Debris (wooden spool) against the landside floodwall.

Photos



Inspect ID: 2024-0356
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Graffiti on the riverside floodwall.



Inspect ID: 2024-0372
Feature Details: Floodwalls - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Rebar and barbed wire running along the base of the landside floodwall.

Photos



Inspect ID: 2024-0380

Feature Details: Floodwalls - Encroachments - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Small trees against the landside floodwall.



Inspect ID: 2024-0396

Feature Details: Floodwalls - Encroachments - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Utility poles within 15-ft of the landside floodwall.

Photos



Inspect ID: 2024-0440

Feature Details: Floodwalls - Encroachments - Landside

Station Start:

Station End:

Caption: Acceptable - Utility pole within 15-ft of the landside floodwall. As-builts show the pole as existing prior to the levee/floodwall construction.



Inspect ID: 2024-0034

Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only) - Other

Station Start:

Station End:

Caption: Acceptable - Post and panel road plate is missing.

Photos



Inspect ID: 2024-0154
Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only) - Other
Station Start:
Station End:
Caption: Acceptable - Typical condition of closure structure



Inspect ID: 2024-0436
Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only)
Station Start:
Station End:
Caption: Acceptable - Typical view of the State Line Road closure.

Photos



Inspect ID: 2024-0030

Feature Details: Floodwalls - Concrete Surfaces - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Minor cracks in the landside floodwall.



Inspect ID: 2024-0042

Feature Details: Floodwalls - Concrete Surfaces - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Minor spalling of the landside floodwall.

Photos



Inspect ID: 2024-0054
Feature Details: Floodwalls - Concrete Surfaces - Top of Floodwall
Station Start:
Station End:
Caption: Minimally Acceptable - Exposed rebar due to spalling on top of the floodwall.



Inspect ID: 2024-0082
Feature Details: Floodwalls - Concrete Surfaces - Top of Floodwall
Station Start:
Station End:
Caption: Minimally Acceptable - Spalling on top of the floodwall.

Photos



Inspect ID: 2024-0212
Feature Details: Floodwalls - Concrete Surfaces - Landside and Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Minor crack on both sides of the wall.



Inspect ID: 2024-0248
Feature Details: Floodwalls - Concrete Surfaces - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Minor cracks on the landside floodwall.

Photos



Inspect ID: 2024-0105
Feature Details: Floodwalls - Tilting, Sliding or Settlement of Concrete Structures
Station Start:
Station End:
Caption: Minimally Acceptable - Cap has shifted at tie-in.



Inspect ID: 2024-0117
Feature Details: Floodwalls - Tilting, Sliding or Settlement of Concrete Structures - Top of Floodwall
Station Start:
Station End:
Caption: Minimally Acceptable - Cap has shifted at tie-in.

Photos



Inspect ID: 2024-0019
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Erosion on the landside of the floodwall.



Inspect ID: 2024-0033
Feature Details: Floodwalls - Foundation of Concrete Structures
Station Start:
Station End:
Caption: Minimally Acceptable - Approximately 2-ft of soil settlement along the base of the floodwall.

Photos



Inspect ID: 2024-0101
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Soil settling under the floodwall panels on the landside.



Inspect ID: 2024-0109
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Animal burrow on the landside of the wall.

Photos



Inspect ID: 2024-0113

Feature Details: Floodwalls - Foundation of Concrete Structures - Landside

Station Start:

Station End:

Caption: Minimally Acceptable - Ponding water in animal burrow on the landside of the wall.



Inspect ID: 2024-0146

Feature Details: Floodwalls - Foundation of Concrete Structures - Other

Station Start:

Station End:

Caption: Acceptable - Typical retaining wall.

Photos



Inspect ID: 2024-0192
Feature Details: Floodwalls - Foundation of Concrete Structures - Waterside
Station Start:
Station End:
Caption: Acceptable - Riprap covered with silt on riverside.



Inspect ID: 2024-0276
Feature Details: Floodwalls - Foundation of Concrete Structures - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Displacement of riverside riprap.

Photos



Inspect ID: 2024-0288
Feature Details: Floodwalls - Foundation of Concrete Structures
Station Start:
Station End:
Caption: Minimally Acceptable - Riprap has been displaced.



Inspect ID: 2024-0296
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Typical hole/depression on the landside of the wall.

Photos



Inspect ID: 2024-0300
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Depression about 1-ft deep on the landside of the wall.



Inspect ID: 2024-0316
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Soil settling under the floodwall panels on the landside.

Photos



Inspect ID: 2024-0360
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Animal burrow on the landside of the wall.



Inspect ID: 2024-0384
Feature Details: Floodwalls - Foundation of Concrete Structures - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Typical depression on the landside of the wall.

Photos



Inspect ID: 2024-0002
Feature Details: Floodwalls - Monolith Joints - Landside Joint
Station Start:
Station End:
Caption: Minimally Acceptable - Cracking in joint sealant.



Inspect ID: 2024-0006
Feature Details: Floodwalls - Monolith Joints - Landside Joint
Station Start:
Station End:
Caption: Minimally Acceptable - Cracking in joint sealant.

Photos



Inspect ID: 2024-0010

Feature Details: Floodwalls - Monolith Joints - Landside Joint

Station Start:

Station End:

Caption: Minimally Acceptable - Backer rod or something of similar material sticking out.



Inspect ID: 2024-0014

Feature Details: Floodwalls - Monolith Joints - Landside Joint

Station Start:

Station End:

Caption: Minimally Acceptable - Rusted concrete rebar protruding from the joint.

Photos



Inspect ID: 2024-0018

Feature Details: Floodwalls - Monolith Joints - Waterside Joint

Station Start:

Station End:

Caption: Minimally Acceptable - Cracking in joint sealant.



Inspect ID: 2024-0029

Feature Details: Floodwalls - Monolith Joints

Station Start:

Station End:

Caption: Minimally Acceptable - Typical sealant cracking.

Photos



Inspect ID: 2024-0078
Feature Details: Floodwalls - Monolith Joints - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Repaired sheetpile joint interlock on riverside.



Inspect ID: 2024-0110
Feature Details: Floodwalls - Monolith Joints - Top of Floodwall
Station Start:
Station End:
Caption: Minimally Acceptable - Degraded expansion foam in joint.

Photos



Inspect ID: 2024-0204

Feature Details: Floodwalls - Monolith Joints - Waterside

Station Start:

Station End:

Caption: Acceptable - Joint sealant is typically in good condition on riverside.



Inspect ID: 2024-0086

Feature Details: Floodwalls - Seepage - Waterside Joint

Station Start:

Station End:

Caption: Minimally Acceptable - Possible seepage at sheetpile joint.

Photos



Inspect ID: 2024-0027

Feature Details: Interior Drainage System - Vegetation and Obstructions - Outlet Structure

Station Start:

Station End:

Caption: Minimally Acceptable - MU-08: Vegetation around the outlet structure. Wingwalls were underwater and could not be inspected.



Inspect ID: 2024-0035

Feature Details: Interior Drainage System - Vegetation and Obstructions - Outlet Structure

Station Start:

Station End:

Caption: Minimally Acceptable - MU-06: Vegetation around the outlet structure.

Photos



Inspect ID: 2024-0039
Feature Details: Interior Drainage System - Vegetation and Obstructions - Gatewell
Station Start:
Station End:
Caption: Minimally Acceptable - MU-06: Vegetation around the gatewell structure



Inspect ID: 2024-0045
Feature Details: Interior Drainage System - Vegetation and Obstructions - Outlet Structure
Station Start:
Station End:
Caption: Minimally Acceptable - MU-09: Vegetation around the outlet structure.

Photos



Inspect ID: 2024-0055

Feature Details: Interior Drainage System - Vegetation and Obstructions - Gatewell

Station Start:

Station End:

Caption: Minimally Acceptable - MU-04: Vegetation around the gatewell structure.



Inspect ID: 2024-0075

Feature Details: Interior Drainage System - Vegetation and Obstructions - Outlet Structure

Station Start:

Station End:

Caption: Minimally Acceptable - MU-02: Vegetation and tree around the outlet structure.

Photos



Inspect ID: 2024-0083
Feature Details: Interior Drainage System - Vegetation and Obstructions - Gatewell
Station Start:
Station End:
Caption: Minimally Acceptable - MU-02: Vegetation around the gatewell structure.



Inspect ID: 2024-0442
Feature Details: Interior Drainage System - Vegetation and Obstructions
Station Start:
Station End:
Caption: Minimally Acceptable - MU-05: Vegetation around the chain link fence enclosure.

Photos



Inspect ID: 2024-0053

Feature Details: Interior Drainage System - Encroachments - Outlet Structure

Station Start:

Station End:

Caption: Minimally Acceptable - MU-09: Debris and soil on the duckbill valve.



Inspect ID: 2024-0059

Feature Details: Interior Drainage System - Encroachments - Outlet Structure

Station Start:

Station End:

Caption: Minimally Acceptable - MU-04: Headwall is covered by riprap.

Photos



Inspect ID: 2024-0049
Feature Details: Interior Drainage System - Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts)
Station Start:
Station End:
Caption: Minimally Acceptable - MU-09: Spalling on the outlet headwall.



Inspect ID: 2024-0079
Feature Details: Interior Drainage System - Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts) - Outlet Structure
Station Start:
Station End:
Caption: Acceptable - MU-02: The wingwalls and headwall are in good condition.

Photos



Inspect ID: 2024-0099
Feature Details: Interior Drainage System - Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts) - Inlet Structure
Station Start:
Station End:
Caption: Acceptable - MU-01: The water level is too high to see below the structure.



Inspect ID: 2024-0003
Feature Details: Interior Drainage System - Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.) - Outlet Structure
Station Start:
Station End:
Caption: Minimally Acceptable - MU-11: Scour around the outlet structure. The wingwalls were not observed - under riprap.

Photos



Inspect ID: 2024-0007
Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell
Station Start:
Station End:
Caption: Minimally Acceptable - MU-11: Gate fully closed - the gate was a bit noisy while closing.



Inspect ID: 2024-0011
Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell
Station Start:
Station End:
Caption: Minimally Acceptable - MU-11: Some debris is inside the gatewell chamber.

Photos



Inspect ID: 2024-0015

Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell

Station Start:

Station End:

Caption: Acceptable - MU-08: The gatewell structure is well mowed and in good condition.



Inspect ID: 2024-0023

Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell

Station Start:

Station End:

Caption: Acceptable - MU-08: Gate fully closed - no issues.

Photos



Inspect ID: 2024-0043
Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell
Station Start:
Station End:
Caption: Acceptable - MU-06: Gate fully closed - no issues.



Inspect ID: 2024-0063
Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell
Station Start:
Station End:
Caption: Acceptable - MU-04: Gate fully closed - no issues.

Photos



Inspect ID: 2024-0071
Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell
Station Start:
Station End:
Caption: Acceptable - MU-02: Gate fully closed - no issues.



Inspect ID: 2024-0103
Feature Details: Interior Drainage System - Sluice / Slide Gates - Gatewell
Station Start:
Station End:
Caption: Acceptable - MU-01: Gate fully closed - no issues.

Photos



Inspect ID: 2024-0087

Feature Details: Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves - Gatewell

Station Start:

Station End:

Caption: Acceptable - MU-02: Inlet flap gate into the sluice gate chamber.



Inspect ID: 2024-0095

Feature Details: Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves - Gatewell

Station Start:

Station End:

Caption: Acceptable - MU-03: The flap gate is in good condition, slightly ajar.

Photos



Inspect ID: 2024-0119
Feature Details: Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves - Gatewell
Station Start:
Station End:
Caption: Minimally Acceptable - MU-05: Cannot open the chain link gate to observe the gatewell structure.



Inspect ID: 2024-0200
Feature Details: Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves - Outlet Structure
Station Start:
Station End:
Caption: Minimally Acceptable - MU-12: A stick is stuck in the duckbill valve.

Photos



Inspect ID: 2024-0012
Feature Details: Pump Stations - Pump Station Operations and Maintenance Equipment Manuals
Station Start:
Station End:
Caption: Acceptable - PS-BA: Manuals are kept onsite.



Inspect ID: 2024-0060
Feature Details: Pump Stations - Pump Station Operations and Maintenance Equipment Manuals - Interior
Station Start:
Station End:
Caption: Acceptable - PS-CA: Manuals and maintenance records are kept onsite.

Photos



Inspect ID: 2024-0160
Feature Details: Pump Stations - Pump Station Operations and Maintenance Equipment Manuals - Interior
Station Start:
Station End:
Caption: Acceptable - PS-HM: Manuals and maintenance records are kept onsite.



Inspect ID: 2024-0004
Feature Details: Pump Stations - Safety Compliance - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-BA: Missing confined space label - noted during previous inspections. Recommend adding confined space label.

Photos



Inspect ID: 2024-0056

Feature Details: Pump Stations - Safety Compliance - Exterior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: Missing clips on grates near trash rakes - unchanged from previous inspections. Recommend adding missing clips for safety.



Inspect ID: 2024-0108

Feature Details: Pump Stations - Safety Compliance - Interior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-OA: Typical example of missing confined space labels throughout the building. Recommend adding missing confined space labels.

Photos



Inspect ID: 2024-0008

Feature Details: Pump Stations - Plant Building - Exterior

Station Start:

Station End:

Caption: Acceptable - PS-BA: Minor depression near EF-02 - Appears unchanged since last inspection. Recommend continuing to monitor the depression.



Inspect ID: 2024-0024

Feature Details: Pump Stations - Plant Building - Exterior

Station Start:

Station End:

Caption: Acceptable - PS-BA: Bird nests on building. Nests do not appear to be affecting building operation, recommend that they can be left in place.

Photos



Inspect ID: 2024-0028
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-BA: Ground subsiding below concrete - appears similar to last inspection. Recommend monitoring the distance between the concrete pads to determine if the subsidence is continuing to occur.



Inspect ID: 2024-0036
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Typical example of cracks around skylights - evidence of leaking (staining). Recommend sealing cracks to prevent leaking.

Photos



Inspect ID: 2024-0040
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Typical example of wall cracks in the building. Recommend continuing to monitor minor cracks and filling in/sealing more significant ones.



Inspect ID: 2024-0044
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Cracks in concrete pad indicating settlement. Recommend replacing this section of concrete to prevent a possible trip hazard.

Photos



Inspect ID: 2024-0052

Feature Details: Pump Stations - Plant Building - Exterior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: Concrete spalling near trash rakes - Danger of possible beam failure under the grate. Recommend repairing the concrete to prevent beam failure.



Inspect ID: 2024-0084

Feature Details: Pump Stations - Plant Building - Exterior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: Typical example of wall cracks in the building. Recommend continuing to monitor minor cracks and filling in/sealing more significant ones.

Photos



Inspect ID: 2024-0112
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-OA: Corroded pipe - noted during previous inspections. This pipe is part of the roof drainage, recommend repairing the pipe so that water doesn't leak into the building during/after rain events.



Inspect ID: 2024-0116
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-OA: Typical example of wall cracks in the building. Recommend continuing to monitor minor cracks and filling in/sealing more significant ones.

Photos



Inspect ID: 2024-0120
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-OA: Active leak at the roof drain. Recommend repairing to prevent further leaks during/after rain events.



Inspect ID: 2024-0124
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-OA: Severe corrosion on the exterior roof drain piping. Recommend repair.

Photos



Inspect ID: 2024-0136
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-OA: Cracks on corner of building. Recommend monitoring for worsening behavior.



Inspect ID: 2024-0144
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-OA: Missing filler at expansion joint - noted during previous inspections. Recommend replacing missing filler to prevent building leaks.

Photos



Inspect ID: 2024-0148
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-HM: Wall cracks in building wall. Recommend monitoring for worsening behavior.



Inspect ID: 2024-0164
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-HM: Cracks and shifted CMU in the bathroom wall. Recommend repairing cracks and installing a crack gauge to monitor for further wall movement.

Photos



Inspect ID: 2024-0088

Feature Details: Pump Stations - Fencing and Gates - Exterior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: Broken security fencing - noted during previous inspections. Recommend repair.



Inspect ID: 2024-0064

Feature Details: Pump Stations - Pumps - Interior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: Active leak on the bottom of the pump 4 lubricating reservoir. Recommend repairing the leak.

Photos



Inspect ID: 2024-0068
Feature Details: Pump Stations - Pumps - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Active leak at the pump 2 reservoir. Recommend repairing the leak.



Inspect ID: 2024-0072
Feature Details: Pump Stations - Pumps - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Active leak at the pump 1 supply line 90-degree bend. Recommend repairing the leak.

Photos



Inspect ID: 2024-0076
Feature Details: Pump Stations - Pumps - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Active leak at the pump 1 lubricating supply line. Recommend repairing the leak.



Inspect ID: 2024-0104
Feature Details: Pump Stations - Pumps - Exterior
Station Start:
Station End:
Caption: PS-CA: Sump pump at generator is not operational.

Photos



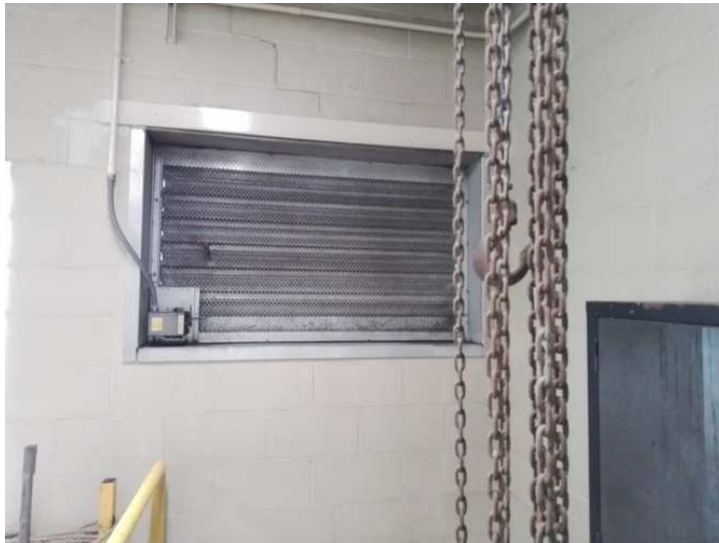
Inspect ID: 2024-0132

Feature Details: Pump Stations - Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc. - Interior

Station Start:

Station End:

Caption: Unacceptable - PS-OA: Louver didn't open while sump exhaust fan was running. May be acceptable if louver was not designed to open while sump is operating.



Inspect ID: 2024-0152

Feature Details: Pump Stations - Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc. - Interior

Station Start:

Station End:

Caption: Unacceptable - PS-HM: Louver didn't open while sump exhaust fan was running. May be acceptable if louver was not designed to open while sump is operating.

Photos



Inspect ID: 2024-0048

Feature Details: Pump Stations - Mechanical Operating Trash Rakes - Exterior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: The north trash rake is still out of service from last year. No ETA on repair time - difficultly finding parts. This is Minimally Acceptable instead of Unacceptable because the other trash rake is operational. Recommend installing a new system if the old parts are no longer manufactured.



Inspect ID: 2024-0140

Feature Details: Pump Stations - Mechanical Operating Trash Rakes - Interior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-OA: Unusual squealing noise while operating the trash rake. Recommend investigating the noise and repairing/lubricating the system as needed.

Photos



Inspect ID: 2024-0020
Feature Details: Pump Stations - Power Source - Exterior
Station Start:
Station End:
Caption: Acceptable - PS-BA: Generator runtime hours are 325 hrs 27 mins (hours during last inspection were 291 hrs 21 mins).



Inspect ID: 2024-0096
Feature Details: Pump Stations - Power Source - Exterior
Station Start:
Station End:
Caption: Acceptable - PS-CA: Generator hours are 420 hrs 10 mins (hrs during last inspection were 398).

Photos



Inspect ID: 2024-0100
Feature Details: Pump Stations - Power Source - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Water is ponding inside the generator room. Recommend determining the water source and preventing further water infiltration.



Inspect ID: 2024-0128
Feature Details: Pump Stations - Power Source - Exterior
Station Start:
Station End:
Caption: Acceptable - PS-OA: Generator hours: North - 183.3 (167.4 hrs during last inspection). Center - 188.5 (172 hrs during last inspection). South - 157.6 (141.1 hrs during last inspection).

Photos



Inspect ID: 2024-0176
Feature Details: Pump Stations - Power Source - Exterior
Station Start:
Station End:
Caption: Acceptable - PS-HM: Generator hours are 271.1 (hrs were not noted during the last inspection).



Inspect ID: 2024-0180
Feature Details: Pump Stations - Power Source - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-HM: There is surficial corrosion on the generator at the fuel tank. Recommend removing the corrosion and repainting.

Photos



Inspect ID: 2024-0016
Feature Details: Pump Stations - Electrical Systems - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-BA: Outdated arc flash labels. Recommend funding a study to update the arc flash labels.



Inspect ID: 2024-0032
Feature Details: Pump Stations - Electrical Systems - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-CA: Outdated arc flash labels on all electrical enclosures. Recommend funding a study to update the arc flash labels.

Photos



Inspect ID: 2024-0092

Feature Details: Pump Stations - Electrical Systems - Exterior

Station Start:

Station End:

Caption: Acceptable - PS-CA: Bird nest on top of the electrical panel. Recommend removing the nest if it is not occupied since it is near electrical components.



Inspect ID: 2024-0156

Feature Details: Pump Stations - Electrical Systems - Interior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-HM: Outdated arc flash labels. Recommend funding a study to update the arc flash labels.

Photos



Inspect ID: 2024-0172

Feature Details: Pump Stations - Enclosures, Panels, Conduit and Ducts - Exterior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-HM: Missing screen on louver - noted during previous inspections. Recommend replacing the missing screen.



Inspect ID: 2024-0080

Feature Details: Pump Stations - Intake and Discharge Pipelines - Interior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-CA: Severe corrosion on the sewage pump discharge line. Recommend removing the corrosion.

Photos



Inspect ID: 2024-0168

Feature Details: Pump Stations - Intake and Discharge Pipelines - Interior

Station Start:

Station End:

Caption: Minimally Acceptable - PS-HM: Excessive condensation on the cooling system pipes. Recommend investigating the issue.



**US Army Corps
of Engineers®**

Levee System 2605000006 / Segment 2604000009 Levee Sponsor Pre-Inspection Form

Purpose: To collect the best and most recent information to ensure all maintenance activities, including any improvements or repair work, and any other changes in condition are appropriately noted and documented during this inspection. This information is important to help pre-plan locations for inspectors during the field inspection.

Directions: To be filled out directly by the levee sponsor/maintaining agency or by USACE through interviewing the levee sponsor/maintaining agency during coordination efforts in preparation for the inspection. If the requested information is contained in supplemental documentation that was provided to USACE separately then only referencing to that supplemental documentation or providing information different than what is in the supplemental documentation is required on this form.

Levee Sponsor/Maintaining Agency: Little Calumet River Basin Development Commission

Date of last USACE Inspection: 05/01/2024

Date Levee Sponsor was notified of upcoming Inspection: 01/24/2024

1. Summary of maintenance/repairs/modifications performed since the last USACE inspection (if not captured in maintenance logs/documentation that has been provided separately):

Vegetation removal, encroachment removal, trash/debris removal, greasing of sluice gates, depression and settlement filling

2. Summary of planned actions/improvements/recommendations, but not yet accomplished:

no actions improvements or recommendations not yet accomplished

3. Results from inspections conducted by the levee sponsor/maintaining agency (if inspection documentation has not been provided separately):

no inspections performed

4. Description of any performance information observed, including successful performance, since the last USACE inspection. Include intervention measures taken, such as floodfighting or operational actions (e.g. operating pumps or closures) during high water events:

no performance information to report.

5. Identify any specific locations or components that you would like to be closely inspected or have planned testing scheduled (e.g. for pump stations/closures/relief wells) to correspond with the USACE inspection:

no specific locations noted

6. Provide any other information you want to note to have occurred since the last USACE inspection, such as any training/testing/emergency exercises or communication activities:

New emergency flood gate installed at Northcote bridge. New sluice gate drills acquired for exercising purposes

Levee Inspection Reference Guide

The purpose of the Levee Inspection Reference Guide is to provide supporting direction for conducting formal and special levee inspections, determining item ratings and finalizing the results of the inspection. This Checklist is to be used with the Standard Operation Procedures (SOP) for Levee Inspections and Site Visits.

A. Definitions:

Approved Alteration - Any action that builds upon, alters, improves, moves, or occupies a levee system. For federally authorized levee systems, a USACE Section 408 permission has been issued. For non-federally constructed and locally maintained levee systems, the levee sponsor is aware of and has approved the alteration. Often, observations of approved alterations are handled under the Encroachment item in the Levee Inspection Checklist. These observations should be noted as such and details included in the observation descriptions.

Encroachment - A non-project item such as trash, debris, structures, obstructions or unauthorized/inappropriate activities within the easement/right-of-way of the levee. For federally authorized levee systems, no USACE Section 408 permission has been issued. For non-federally constructed and locally maintained levee systems, the levee sponsor is unaware of and/or has not approved the non-project item or activity.

Feature - A component of a levee segment/system (e.g. Embankment, Floodwall, Channel, etc.). Levee segments/systems may have multiple Features that function together to exclude water from a defined leveed area. Main Features have their own section in the Levee Inspection Checklist.

Formal Inspection - A pre-scheduled comprehensive levee inspection by a team of subject matter experts led by a professional engineer or professional geologist to (1) document levee condition, (2) assess progress of ongoing risk management activities, (3) inform risk assessments and new risk management recommendations, and (4) include specific evaluations or testing, such as exercising closures or performing relief well pump tests.

Item - A characteristic of a levee Feature (e.g. Encroachments, Sod Cover, Seepage, etc.) that is used to assess the condition of the levee, inform risk assessments, and/or evaluate adequacy of operations and maintenance.

Levee Segment - A levee segment is a discrete portion of a levee system that is operated and maintained by a single entity. A levee segment may be composed of one or more levee features.

Levee System or Levee - A man-made structure that does not cross a watercourse, usually an earthen embankment or floodwall, designed and constructed with the principle function of excluding flood waters for a limited range of flood events from a portion of the floodplain (referred to as "leveed area").

Non-Project Segment - a form of manmade high ground which a levee system/segment ties into, whose existence and performance is necessary for excluding flood waters from the leveed area, but is not under any USACE authority.

Observation - A specific location (point or line) where an Item is evaluated and rated based on the rating guidelines (e.g. an area of levee that has less than 50% sod coverage).

Observation Location Description - Information that further describes the observation location such as land or waterside of the levee or proximity along the slope or crown that provides the reader with sufficient information to find the observation during future maintenance activities or inspections. Observation location descriptions may include the following: landside toe, landside toe and slope, landside levee slope only, landside slope and crown, slopes and crown, crown, slopes, toes, waterside toe, waterside toe and slope, waterside levee slope only, waterside slope and crown, other.

Observation Number - A numeric value that is used to identify a specific observation location during an inspection.

Rating Guidelines - Established parameters to assist an inspector in assessing the visual condition of a specific location (point or line) or multiple locations that serve as the rationale for a final Item rating.

Special Inspection - A formally documented visual inspection that is requested by the levee sponsor or required due to changed conditions or to document performance.

Use of the Levee Inspection Checklist:

General Notes:

- Each individual levee segment will have its own inspection results.
- Include only the feature sections of the Checklist that apply to the segment being inspected.
- The Levee Inspection Summary and the section labeled "General Items" is required for every formal and special inspection.
- Specific data fields have been included in the National Levee Database (NLD) to document frequency of inspection, testing or operation and condition for the following Features or Items: pipes, gates, relief wells, toe drains and closures. Applicable tables should be attached to the Levee Inspection Report (see Appendix J of the SOP for Levee Inspections and Site Visits. Specific corrective recommendations should not be included with the inspection results. Inspection results should be used to develop risk-informed recommendations as part of the Levee Risk Management Summary (See EC 1165-2-218).
- If there is a non-project segment as part of a levee system with a federally authorized segment that rights-of-entry could not be obtained, then visual observations should be documented in a Site Visit Summary.

Specific Levee Inspection Features Sections and Items:

- The items labeled "Culverts and Discharge Pipes" includes all gravity flow and pressurized pipes that pass over or through the levee and its foundation, as well as pipes away from the levee. Judgment and consistency should be exercised when determining if pipes should be rated under the Levee Embankment Feature or the Interior Drainage Feature "Culverts and Discharge Pipes" rated items. Pipe closures and drainage features should be rated in their respective items under the Interior Drainage System Feature. This includes all associated gates and drainage ditches, ponding areas and structures that are functioning as interior drainage components along the levee. The pump station feature has a separate item for intake and discharge pipes associated with those Features.
- The items labeled "Closure Structures" includes all closure structures, sandbag and earthen closures, stop logs and gates. Conduit and culvert closures are documented and rated in the appropriate items within the Interior Drainage System Feature.
- The starting and stopping location for embankments, floodwalls and closures shall be determined in a case-by-case basis.
- The section labeled "Flood Risk Management Channels" includes channels that have been constructed in association with the levee system. This section may also be used to inspect channels independent of levees. For "shoaling", the rating guidelines describing vegetation in a shoal are intended to document the permanence of the shoal and its likely impact on channel integrity or flow capacity.
- The Feature section labeled "Pump Stations" includes the structure of the pump station and all associated intake/discharge pipe, mechanical/electrical systems and equipment.
- For "Interior Drainage System", "Flood Risk Management Channels", and "Pump Stations", conditions of Items that impact levee embankments or floodwalls (e.g. ditches, ponding areas, bank stability or erosion) should also be rated under the appropriate Levee Embankments or Floodwalls section to reflect the impact on levee integrity.

C. Observation Ratings:

General Notes:

- For each Observation noted during the inspection, the inspector will apply a rating to the Observation based on the rating guidelines associated with the corresponding Item. Overall Item ratings are assigned based on summarizing all Observations for that Item.
- When an observation is associated with more than one feature (e.g. observed erosion identified in or near a levee embankment and a flood risk management channel), observations shall be recorded, described, and rated within each appropriate feature and item.
- Inspectors should document any observation/activity that can be visually seen from the levee that may adversely affect the integrity of the levee, even if the concern is beyond the limits of the easement/right-of-way, with documentation that the Observation is outside the easement/right-of-way. It is understood that resolution of these instances may be beyond the control of the levee sponsor.
- Observations associated with approved Section 408 permissions or levee sponsor permits for modifications should be rated under the corresponding Item and feature or under “Encroachments” and documented as such.
- Seepage Observation ratings should consider information collected during recent flood events.
- Most levee systems have components that may require testing or inspection to occur at a frequency that is outside of or more frequent than during pre-scheduled formal inspections to assess their internal condition or operability. These components usually are culverts and discharge pipes; relief wells and toe drains; closures, gates, and valves; and operational systems in pump stations. Requirements for testing/inspection of these components are typically prescribed in the levee’s operations and maintenance manual. A field observation must be recorded of visible conditions of each component during an inspection. This will be used to supplement internal conditional assessments using PACP defect codes for culverts and discharge pipes and toe drains; internal conditional assessments from pump testing for relief wells; and operational adequacy from testing/installation records for closures, gates and valves, and operational systems in pump stations in the Item Rating determination.
- If Districts schedule a walk-through pipe inspection (in accordance with EM 1110-2-2902 and EM 385-1-1) in conjunction with a levee inspection, inspectors must document both the interior conditions by assigning a PACP defect code and the pipe’s exterior conditions with an inspection Observation Rating.

General Guidelines for Assigning Observation Ratings:

Acceptable	Minimally Acceptable	Unacceptable
An “Acceptable” observation rating generally means that it has been operated and maintained in a way that meets the intent of the “Acceptable” rating guidelines herein, and is not expected to have a negative impact on performance.	A “Minimally Acceptable” observation rating generally means that it has deficiencies that should be corrected, but are not currently expected to have a negative impact. If not corrected, these deficiencies could lead to a negative impact on performance.	An “Unacceptable” observation rating generally means that it has serious deficiencies that require correction because these deficiencies are expected to have a negative impact on performance.

Documentation of the levee inspection observations should include, at a minimum:

- Observation number associated with the point or line
- Observation rating of “Acceptable”, “Minimally Acceptable” or “Unacceptable” based on rating guidelines for the Item
- Observation location description
- Levee station, river mile and/or GPS latitude/longitude associated with the point or line
- Description of the observation which is a detailed narrative that explains why an observation was documented and the rationale for the observation rating

- Photo associated with the observation point or line.
- Photo number related to a photograph of the observation point or line.

D. Item Ratings:

- Item ratings will be determined by considering all associated Observation ratings comprehensively. Rationale for overall Item ratings must be documented in the Levee Inspection Checklist.
- If the Item does not exist within the levee segment, the Item should be rated “N/A”.

General Guidelines for Assigning Item Ratings:

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
Observations are rated “Acceptable”, or one or more observations are rated “Minimally Acceptable” but the number or severity of “Minimally Acceptable” Observations collectively is not expected to have a negative impact on performance. No Observations were rated as “Unacceptable.”	One or more Observations are rated “Minimally Acceptable” or one or more Observations were rated “Unacceptable” but the number or severity of Observations collectively are not currently expected to have a negative impact, but if not corrected deficiencies could lead to a negative impact on performance.	One or more Observations are rated “Unacceptable” and the number or severity of Observations collectively has are expected to have a negative impact on performance.

National Levee Database

NLD

LEVEE INSPECTION MAPBOOK

Levee Segment
Munster

NLD Levee Segment ID
2604000009

Location
Munster

Inspection Type
Formal

Start Date
29-Apr-2024

End Date
01-May-2024

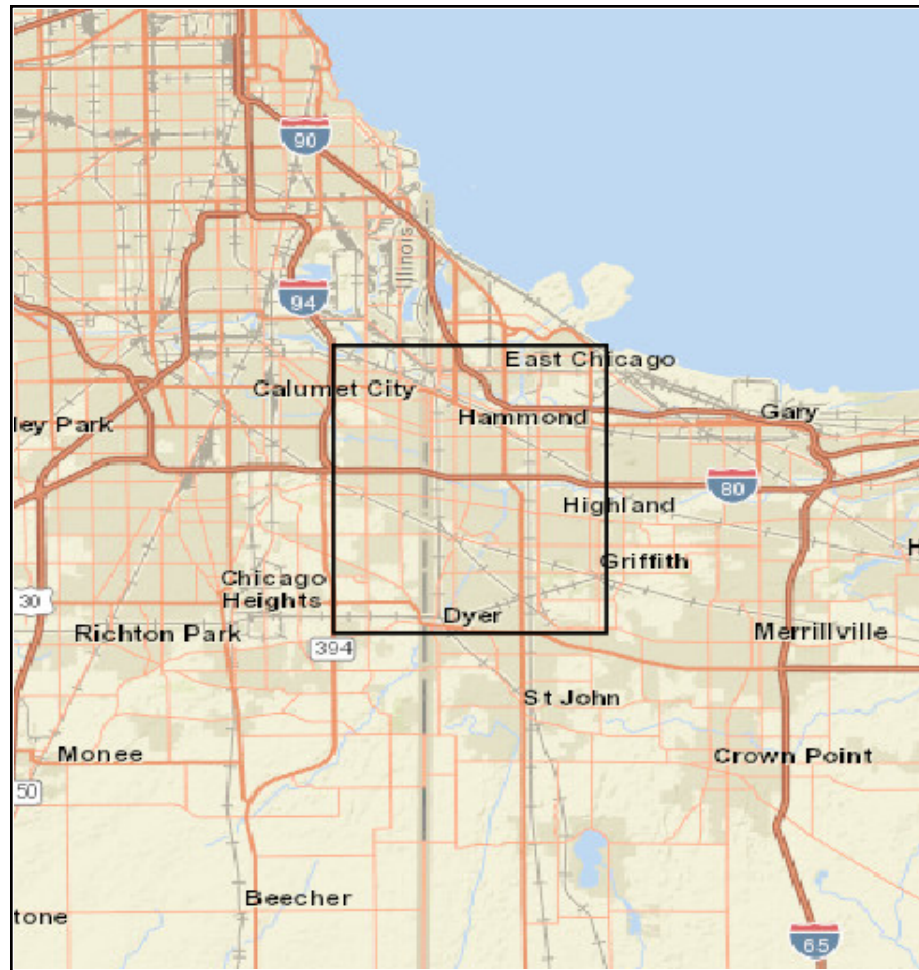
Inspected By
Brian Sweeney, Chris Schaal, Mike



US Army Corps
of Engineers

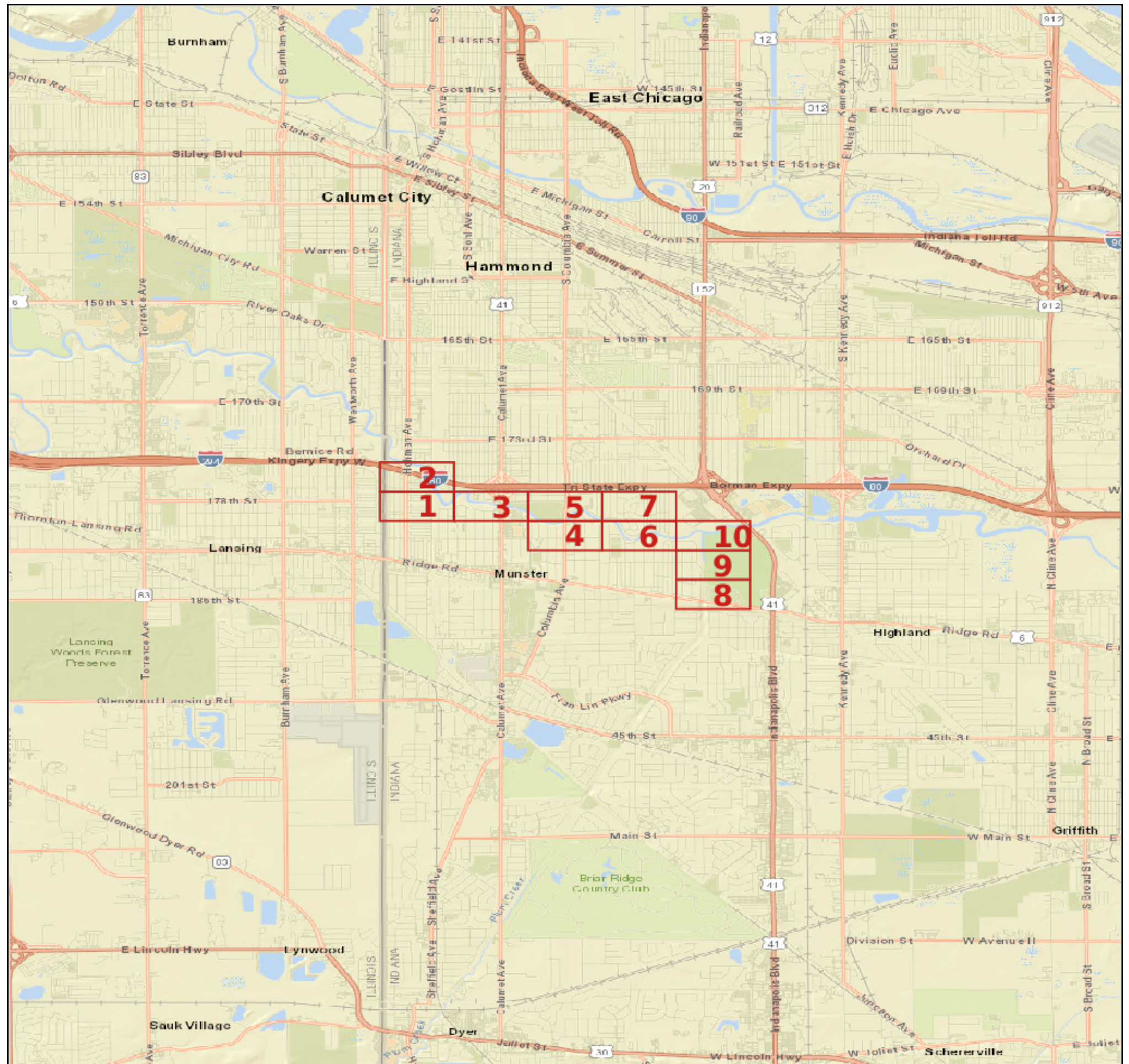
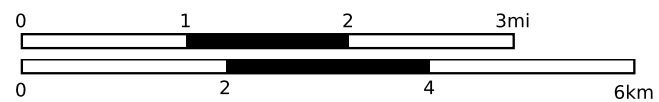
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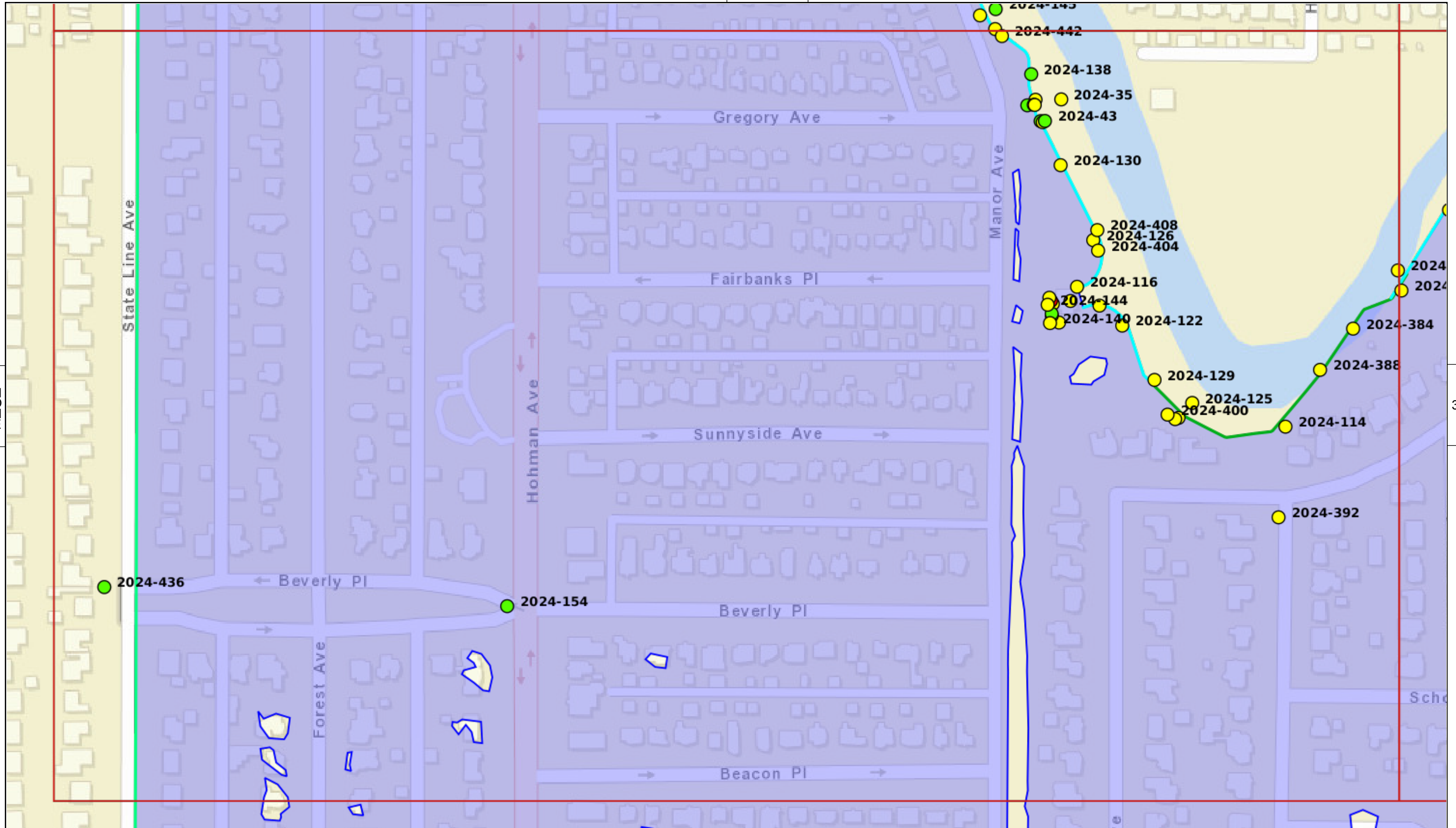
Levee: Munster



MAP ELEMENTS

10 Standard Sheets



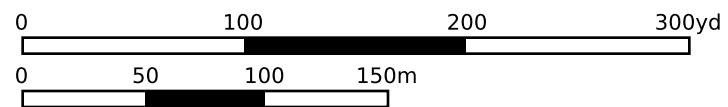


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- OBSERVATIONS**
- Acceptable
 - Minimally Acceptable
 - Unacceptable
 - Not Applicable

Scale = 1:3000



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	Munster	
	Type: Formal	01-May-2024

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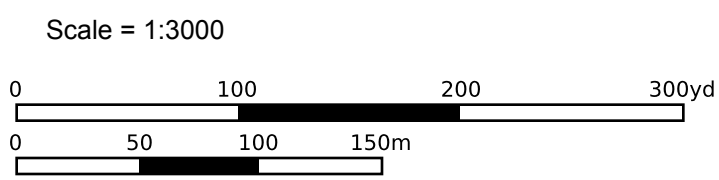


MZON

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- OBSERVATIONS**
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 - Unacceptable
 - Not Applicable



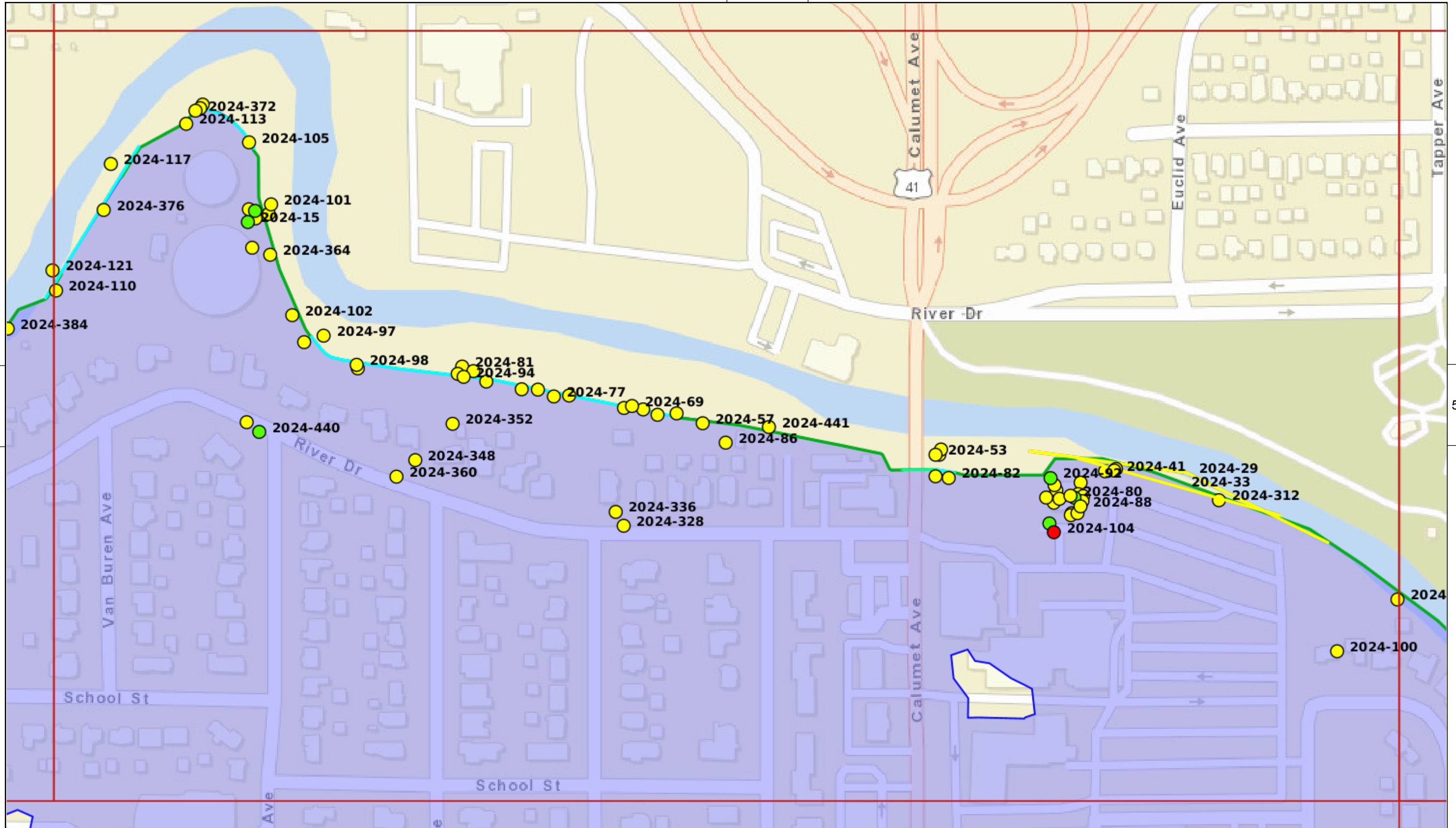
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Munster

29-Apr-2024
01-May-2024

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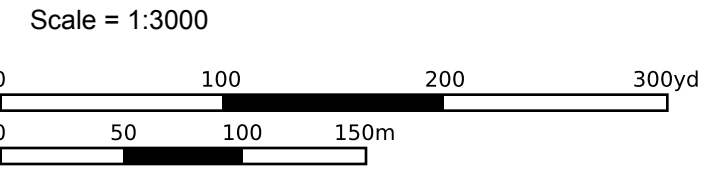
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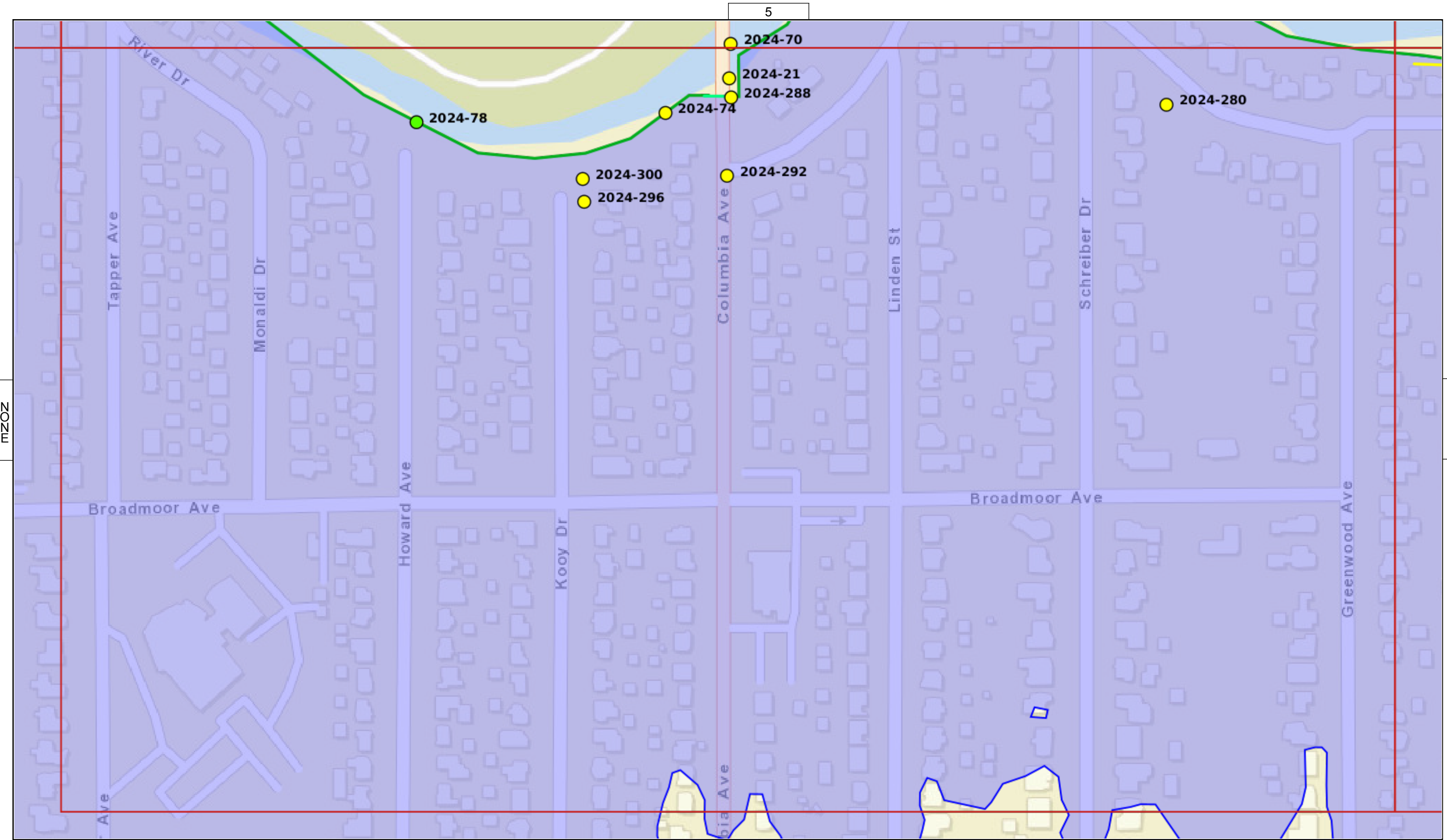
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- OBSERVATIONS**
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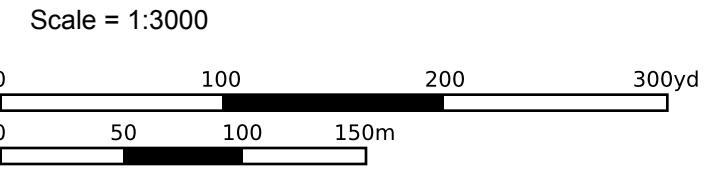
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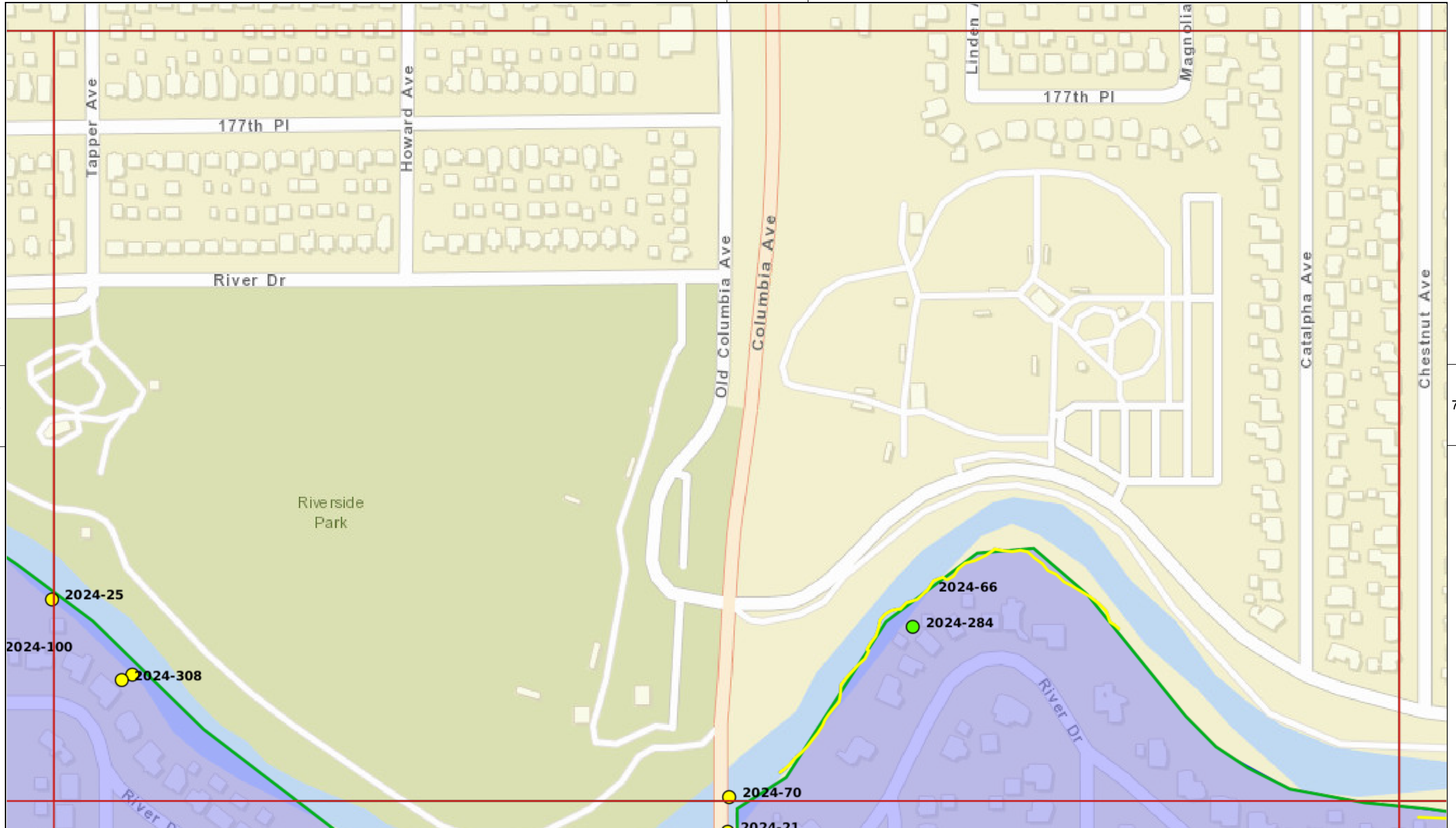
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Munster

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3

7

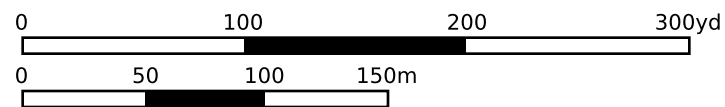
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OBSERVATIONS

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- *N* Minimally Acceptable
- *N* Unacceptable
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	Type: Formal	01-May-2024

Munster



4

10

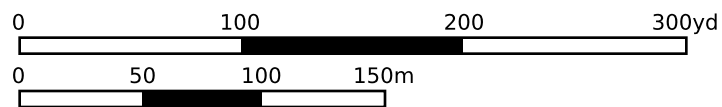
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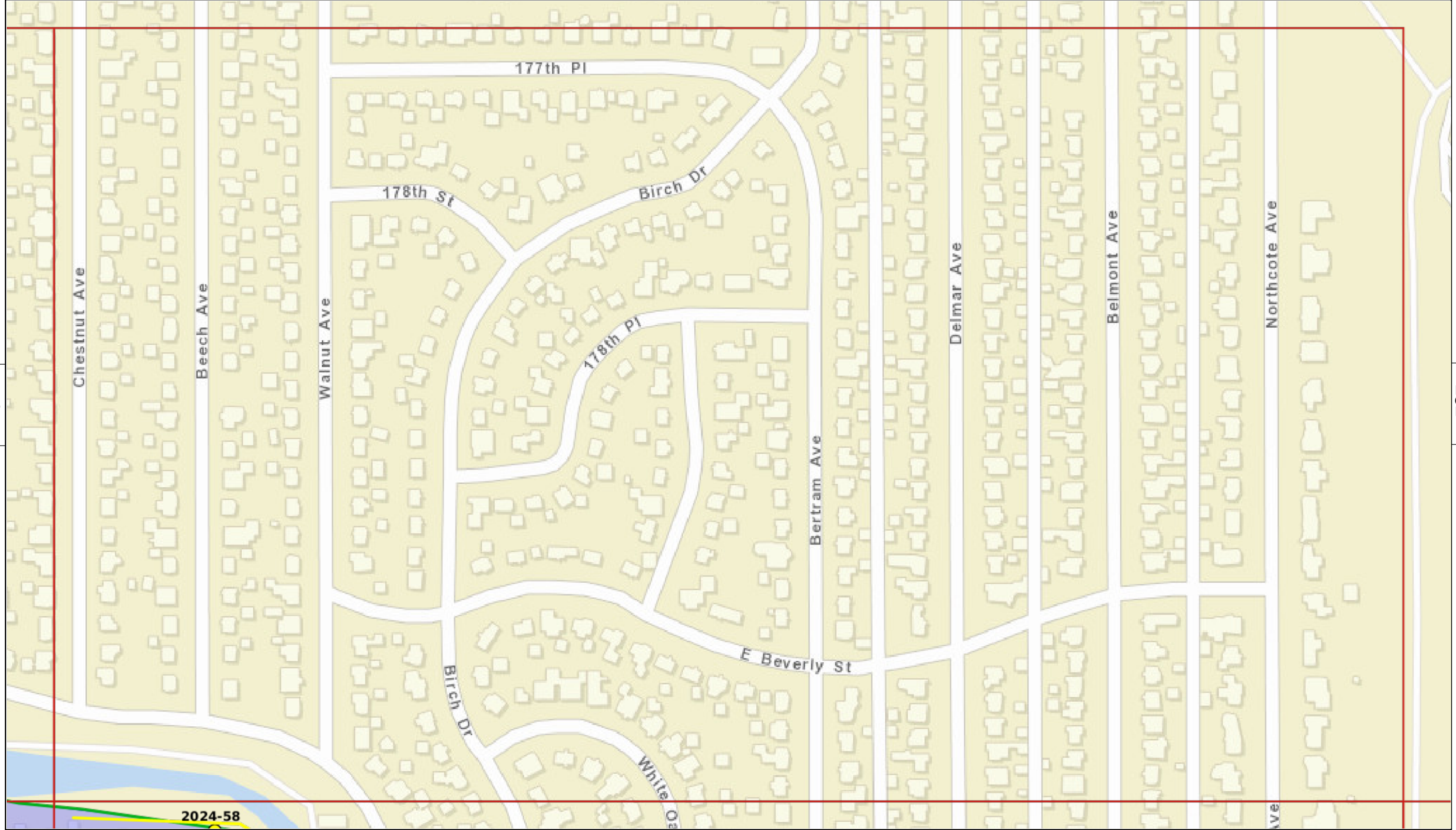
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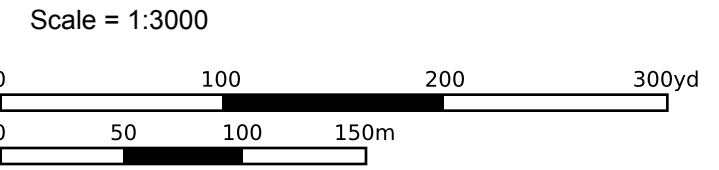
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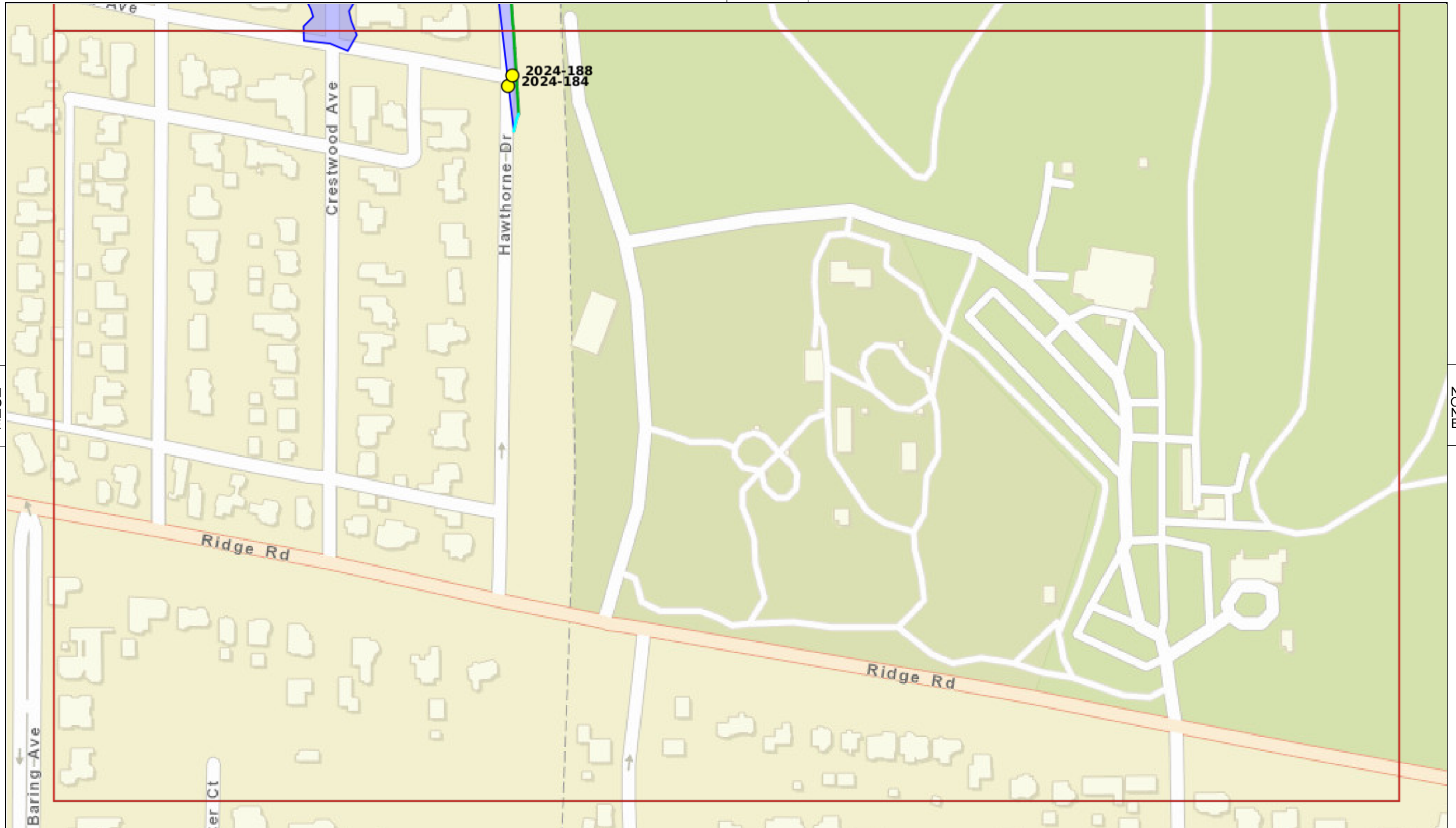
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- OBSERVATIONS**
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 - N Minimally Acceptable
 - N Unacceptable
 - N Not Applicable



NLD	Sheet: 7	29-Apr-2024
	Munster	
	Type: Formal	01-May-2024



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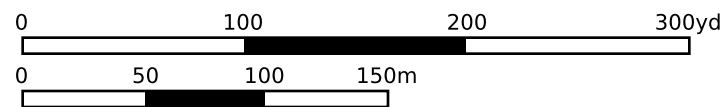
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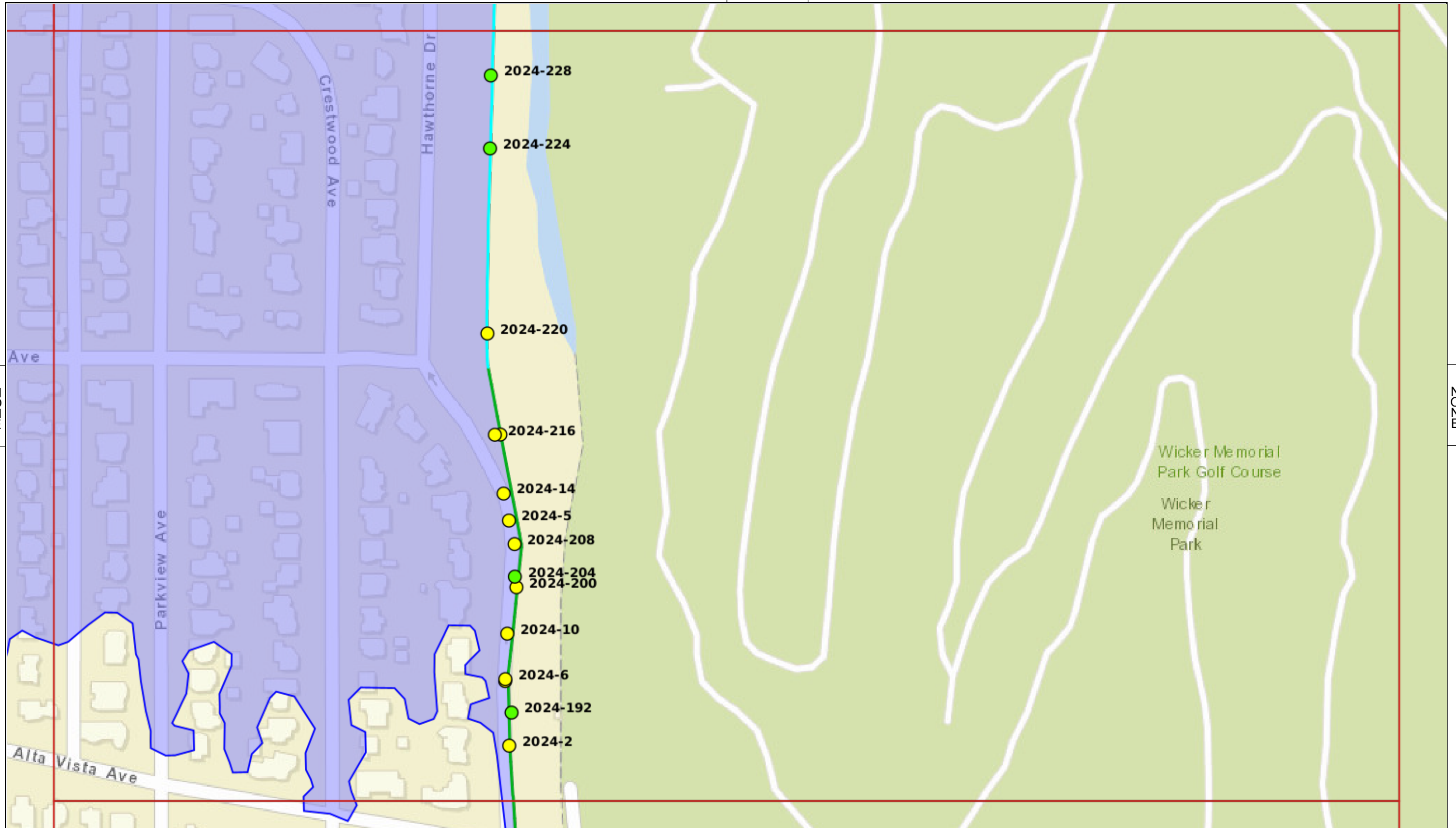
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	Munster	01-May-2024
Type: Formal		



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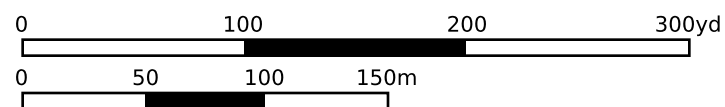
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OBSERVATIONS

- **N** Acceptable
- **N** Minimally Acceptable
- **N** Unacceptable
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	Munster	
	Type: Formal	01-May-2024

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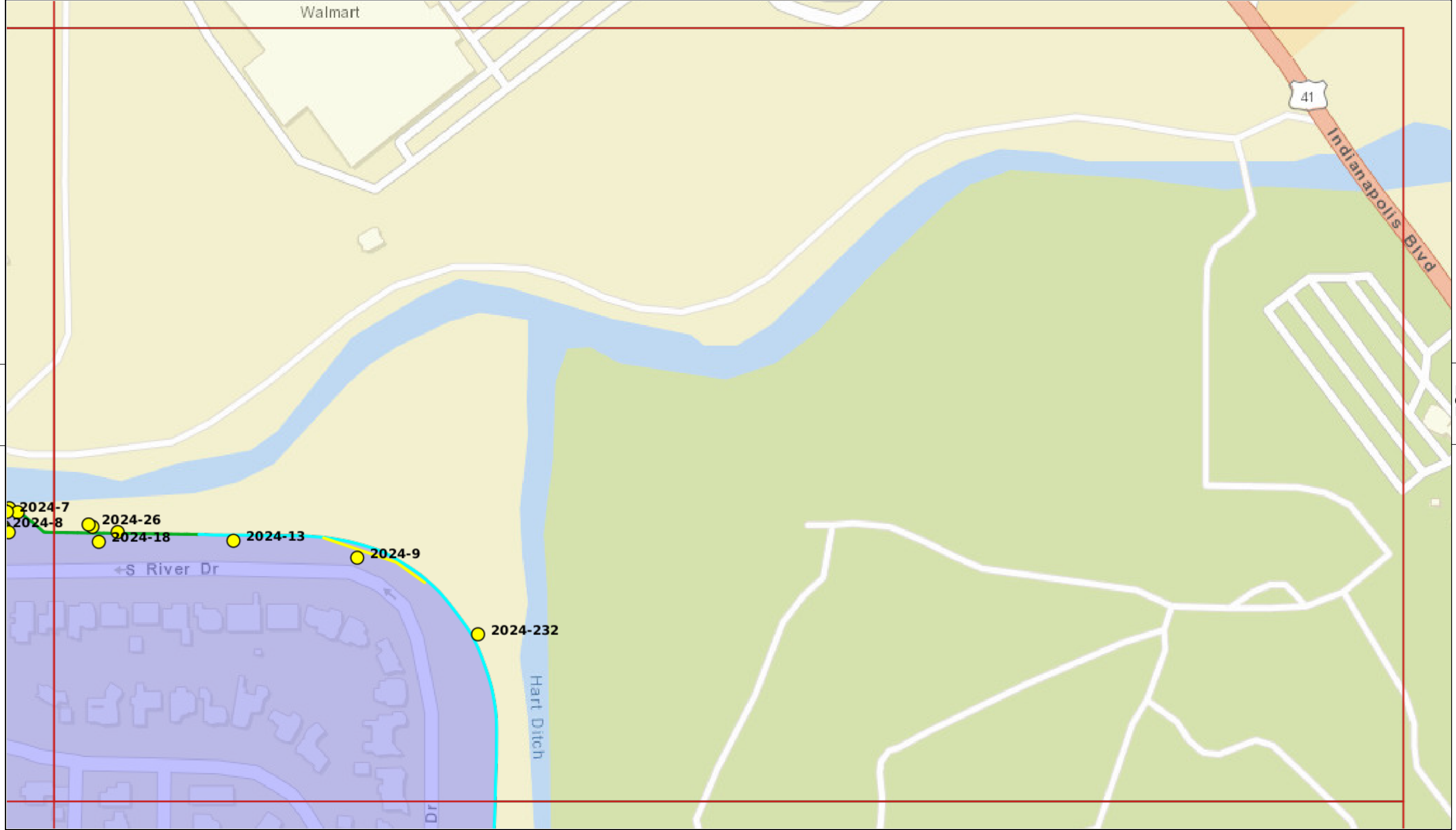
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41

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6

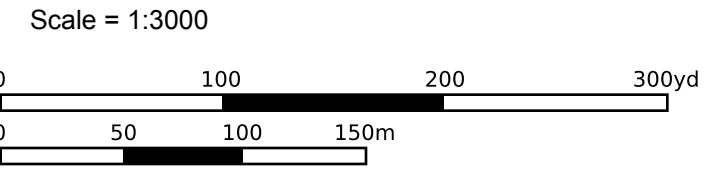
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9



- OBSERVATIONS**
- *N* Acceptable
 - *N* Minimally Acceptable
 - *N* Unacceptable
 - *N* Not Applicable



NLD	Sheet: 10	29-Apr-2024
	Munster	
	Type: Formal	01-May-2024

Subset of Inspection Items for Rehabilitation Program Eligibility Determination

In order to be eligible, all of the following items must be rated A, M, N/A or Yes.

Note: Item numbers listed below refer to their placement in the Inspection Checklist for the Munster Levee Segment.

Rehabilitation Program Eligibility Determination	
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Public sponsor provided maintenance information per the Public Sponsor Pre-Inspection Form.
Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Non-federal levee system meets Initial Eligibility criteria.
If either of the above items is marked "No" the levee system is not eligible.	
Rating	Rated Item
Levee Embankments	
A <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/>	3. Encroachments
A <input checked="" type="checkbox"/> U <input type="checkbox"/> N/A <input type="checkbox"/>	4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures)
A <input checked="" type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/>	5. Slope Stability
A <input checked="" type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/>	6. Erosion/ Bank Caving
A <input checked="" type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/>	10. Animal Control
A <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/> N/A <input type="checkbox"/>	11. Culverts/Discharge Pipes (This item includes both concrete and corrugated metal pipes.)
A <input type="checkbox"/> M <input type="checkbox"/> U <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	14. Underseepage Relief Wells/Toe Drainage Systems
Floodwalls – N/A	
A <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/>	2. Encroachments
A <input checked="" type="checkbox"/> U <input type="checkbox"/> N/A <input type="checkbox"/>	3. Closure Structures (Stop Log Closures and Gates)
A <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/>	5. Tilting, Sliding, or Settlement of Concrete Structures
A <input type="checkbox"/> M <input checked="" type="checkbox"/> U <input type="checkbox"/>	6. Foundation of Concrete Structures

A	<input type="checkbox"/>	8. Underseepage Relief Wells/Toe Drainage Systems
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input checked="" type="checkbox"/>	
Interior Drainage System		
A	<input type="checkbox"/>	9. Culverts/Discharge Pipes
M	<input checked="" type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input type="checkbox"/>	10. Sluice/Slide Gates
M	<input checked="" type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input type="checkbox"/>	11. Flap Gates/Flap Valves/Pinch Valves
M	<input checked="" type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
Pump Stations – N/A		
A	<input type="checkbox"/>	17. Intake and Discharge Pipelines
M	<input checked="" type="checkbox"/>	
U	<input type="checkbox"/>	
A	<input checked="" type="checkbox"/>	18. Sluice/Slide Gates
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input checked="" type="checkbox"/>	19. Flap Gates/Flap Valves/Pinch Valves
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
Rehabilitation Program Status		
Active	<input checked="" type="checkbox"/>	System meets all interim eligibility criteria, including having received a rating of A, M, N/A or Yes for all subset items and is therefore eligible for rehabilitation assistance.
Inactive	<input type="checkbox"/>	System does not meet interim eligibility requirements.
<p>Comments:</p> <p>The inspection found multiple items deemed unacceptable. These deficiencies (a broken sump pum, and multiple inoperable exhaust louvers) would not impact the performance of the levee during a flood event, and are not considered in the interim eligibility checklist above.</p>		