DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, CHICAGO DISTRICT
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604

May 11, 2022

Mr. Dan Repay
Little Calumet River Basin Development Commission
900 Ridge Road, Suite H
Munster, IN 46321

Dear Mr. Repay,

The Chicago District performed an inspection of the Munster Levee on April 11, 2022. The purpose of the U.S. Army Corps of Engineers (Corps) Levee Safety Program is to make sure levee systems are reliable and do not present unacceptable risks to the public, property, or the environment, with the emphasis on public safety. Two important principles that guide our program are the shared responsibility among partners at all levels for levee safety and the need for continuous and periodic project inspections and assessments. More information about the Levee Safety Program can be found in EC 1165-2-218.

This project has demonstrated its importance in reducing flood risk to the area. The Munster Levee protects about 4,670 people and over $751 million worth of property. The annual damages prevented reported for fiscal year 2021 was over $104 million for the Little Calumet River Project. The overall risk of the project is considered low.

The enclosed inspection report provides a condition rating for each of the levee system's features. The inspection report consists of the standard Inspection Checklist, photos taken during the inspection, and a map showing the locations of areas for your attention. The inspection rating will be posted to the National Levee Database (NLD) at https://levees.sec.usace.army.mil/ and available to the public.

Based on our findings, the previous rating of **Minimally Acceptable** for the levee system will not change. The project will continue to remain **Active** in the P.L. 84-99 Rehabilitation Program and eligible for federal rehabilitation assistance for items rated M or A. Eligibility determination is based on the USACE *Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to P.L. 84-99*. It is the Local Sponsor's responsibility to monitor the Project during high water storm events to assess project performance and inspect after storm subsidence to record any storm-related project damage. The Local Sponsor must immediately report storm-related project damage to the Corps so that the Corps may evaluate required repair reimbursement eligibility under the P.L. 84-99 Rehabilitation Program.

Deficiencies noted in the report should be addressed to ensure significant performance problems do not develop. The Local Sponsor is reminded that deferred maintenance may affect eligibility for rehabilitation assistance, and they should immediately prioritize, and address any serious maintenance recommendations included in this report. We remain available to discuss the deficiencies and appropriate repairs measures or other technical questions that you may have. Please be sure to coordinate with our office to have any work near the levee reviewed and approved before allowing any work to proceed. Our reviews are to ensure the integrity of the levee is not compromised by the proposed work and the levees will continue to function as designed. Alterations will be reviewed under the Section 408 program.

We look forward to continuing to work together in ensuring this project continues to provide protection. We are available to discuss any technical questions about the operation and maintenance and inspection requirements. We will coordinate with you regarding the next site visit planned for fall 2022. Please contact Chris Schall (773-372-2925) or myself if you have any questions.

Sincerely,

KOZAK.MICHELLE.SOPHIE.1506348010

Digitally signed by KOZAK.MICHELLE.SOPHIE.1506348010
Date: 2022.05.10 14:42:00 -05'00'

Michelle Kozak, PhD
Chief of Emergency Management
Chicago District
U.S. Army Corps of Engineers

Enclosures

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 Constructed, Public sponsor O&M

Levee Sponsor (Name and Organization): Little Calumet River Basin Development Commission

Inspection Report Prepared by: Chris Schaal Date(s) of Inspection: 04/11/2022 - 04/11/2022

Other Segments Within This System

Segment Name	NLD Segment ID#	Segment Type	Segment Inspection Rating
NPS - Borman	2604000018	Non-Federally Constructed, local O&M	N/A

Contents of Inspection Report:

- ☒ Levee Inspection Summary
- Inspection Checklist
  - ☒ General Items
  - ☒ Levee Embankment
  - ☒ Concrete Floodwalls
  - ☒ Interior Drainage System
  - ☒ Pump Stations
  - ☐ FDR System Channels
- ☒ Public Sponsor Pre-Inspection Form
- ☒ General Instructions
- ☒ Maps

Type of Inspection: ☒ Routine Inspection ☐ Periodic Inspection ☐ Special Inspection

Purpose of Special Inspection:

Ratings:

Segment Rating: ☐ Acceptable ☐ Minimally Acceptable ☐ Unacceptable ☐ No Verdict

System Rating: ☐ Acceptable ☐ Minimally Acceptable ☐ Unacceptable ☐ No Verdict

LSPM Signature: Date Approved: 5/10/22

LSO Signature: John A Grobosk Date Approved: 5/10/22

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

Name	Organization	Discipline	Team
Yuki Galisanao	USACE - Chicago District	LSPM	Levee
Chris Schaal	USACE - Chicago District	Lead/Geotech	Levee
Jonathan Lombardi	USACE - Chicago District	Mechanical	Pump Stations
Alan Jaski	USACE - Chicago District	Electrical	Pump Stations
Andrew Lin	USACE - Chicago District	Structural	Pump Stations
Jessica Sutton	USACE - Chicago District	Geospatial	Gates
Art Rundzaitis	USACE - Chicago District	Construction	Gates
Jessie Wells	Town of Munster		Levee
Ricky Wilcox	Hammond Sanitary District		Pump Station
Kevin Nickies	Town of Munster		Gates
Nick Nowaczyk	Town of Munster		Gates
Dan Repay	LCRBDC		Levee/Gates/PS
Chris Spolnik	Town of Munster		
David White	Town of Munster		

Segment Rating Rationale:

[Describe the basis of the Segment rating considering (1) the general condition of the segment, (2) the rationale for Item ratings, categorized by Feature that contributed to the Segment rating, and (3) the number or severity of notable observations/deficiencies. The summary may also include information related to the condition of the levee, not otherwise captured in the Levee Inspection Checklist, if applicable.]

No change in rating from Minimally Acceptable since the previous inspection. There was unwanted vegetation within the 15 ft vegetation free zone which was being addressed by the Local Sponsor at the time of the inspection. There was debris, downed trees, and other encroachments; settlement at the floodwall and levee crest where material was settling into the gaps between the sheet pile and concrete panels; minor rutting; animal activity; the pipe inspection reports are due; minor concrete issues on the floodwall; holes along the base of the concrete panels; missing waterstops within the cap and deteriorating sealants between Northcote and Columbia; trees and debris around drainage structures; debris in a flap gate; trees in riprap; missing confined space entry warning signs in the pump stations; minor structural defects in the pump stations; broken fence; mechanical trash rack locked out; and minor issues with screens.

System Rating Rationale:

[Synthesize information from the Segment rating rationales for each Segment within the System. For single-segment systems, see segment rating rationale above.]

See Segment Rating Rationale.

General Items for All Flood Damage Reduction Segments / Systems: Munster

For use during all inspections of all Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Operations and Maintenance Manuals	**A**	**A**	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	**Justification:** Documents maintained by the Munster Public Works Department and relevant copies distributed to appropriate internal agencies.
		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.	2022-0023 : 8 full pallets of sandbags, 1 sandbag machine, 9 open pallets of sandbags, concrete blocks, equipment. (A) 2022-0026 : 20 pallets of sandbags and 12 super bags at the Calumet facility. (A) **Justification:** Town of Munster has ready inventory of flood fighting supplies and equipment (over 2000 filled sandbags, over 250k empty sandbags, 11 superbags (similar to Hesco), 2 pumps). Primary resources available through public works department at 508 Fisher St, but also can be supplemented by other city departments. Additional storage on Calumet Ave.
		M	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.	
3. Flood Preparedness and Training (A or M only)	**A**	**A**	Sponsor has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the FDR system during a flood. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	**Justification:** 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. Also has a notification system through the police department with reverse 911 and websites. Attends monthly O&M meetings. Road Closure performed at River Road in 2021. Participated in a tabletop exercise in 2019. 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.	

Levee Embankments: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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 EM 1110-2-301 or Corps policy for regional vegetation variance.	2022-0044 : Bushes near riverside toe. (M) 2022-0059 : Trees on landside toe. (M) 2022-0068 : Row of trees along landside toe. (M) 2022-0113 : Small trees on landside toe. (M) 2022-0116 : Small trees on riverside toe. (M) 2022-0119 : Small trees along riverside toe. (M) 2022-0122 : Small trees on riverside toe. (M) **Recommendation:** Cut any trees or tall shrubs within 15 ft of the levee toe.
		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.	
		U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above and must to be removed to reestablish or ascertain levee integrity.	
2. Sod Cover	**A**	**A**	There is good coverage of sod over the levee.	**Justification:** No issues observed.
		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.	
		N/A	Surface protection is provided by other means.	

Levee Embankments: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	2022-0047 : Log on riverside toe. (M) 2022-0050 : Downed trees on landside toe. (M) 2022-0053 : Debris on riverside toe. (M) 2022-0056 : Debris and downed tree on landslide toe and slope. (M) 2022-0058 : Fallen tree within 15 feet of riverside toe (M) 2022-0061 : Downed tree within 15 feet of riverside toe (M) 2022-0062 : Garden on landside slope. (M) 2022-0065 : Wooden fence on landside toe. (M) 2022-0071 : Fence along landside toe. (M) 2022-0076 : Large tree within 6 ft of landside toe (M) 2022-0079 : Downed trees within 15 feet of riverside toe. (M) 2022-0082 : Large tree within 6 feet of landside toe. (M) 2022-0085 : Large tree within 6 feet of landside toe. (M) 2022-0125 : Town sign on crest. (M) **Recommendation:** Remove debris and downed trees within the easement. Submit a 408 request for fencing and signs or coordinate with owners to remove them.
		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.	
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.	
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.	**Justification:** No issues observed.
		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.	
		N/A	There are no closure structures along this component of the FDR segment / system.	

Levee Embankments: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
5. Slope Stability	**A**	**A**	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	**Justification:** No issues observed.
		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.	
7. Settlement	**M**	**A**	No observed depressions in crown. Records exist and indicate no unexplained historical changes.	2022-0083 : Settlement in the gap between the sheet pile and concrete panel at tie in to levee. (M) 2022-0086 : Settlement of levee at floodwall tie-in. (M) 2022-0095 : Settlement at levee tie in. (M) 2022-0098 : Settlement at levee tie in. (M) **Recommendation:** Add compacted clay under the topsoil to raise the height of the levee to match the sheet pile.
		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.	2022-0055 : Rutting on top of landside slope, minimal and may heal on its own. (A) 2022-0067 : Shallow vehicle rut on riverside slope. (A) 2022-0070 : Rutting on riverside slope. (M) 2022-0073 : 4-inch deep hole on riverside slope. (M) **Recommendation:** Fill ruts and depressions to match surrounding grade. Avoid mowing when the ground is wet.
		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.	

Levee Embankments: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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	**M**	**A**	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	2022-0064 : Mole activity across the crest. (M) **Recommendation:** Eliminate active burrowing and fill in any burrows.
		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.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	**Justification:** Camera inspection performed in July and September 2016 for the following culverts: 36-inch RCP (MU-1), 48-inch RCP (MU-2A), 60-inch RCP (MU-2A,B), 54-inch RCP (MU-2B), 24-inch RCP (MU-3), 36-inch RCP (MU-4), 24-inch RCP (MU-5) - Circumferential cracks at joint, 36-inch RCP (MU-6), 36-inch RCP (MU-8), 54-inch RCP (MU-9), 96-inch RCP (MU-10A), 96-inch RCP (MU-10B). Refer to the camera inspection report for more details. **Recommendation:** Monitor for changes. Provide camera inspection report.
		M	There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	
		U	Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
		N/A	There are no discharge pipes/ culverts.	

Levee Embankments: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
12. Riprap Revetments & Bank Protection	**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.	
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	
13. Revetments other than Riprap	**A**	**A**	Existing revetment protection is properly maintained, undamaged, and clearly visible.	**Justification:** No issues observed.
		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.	
		N/A	There are no such revetments protecting this feature of the segment / system.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
14. Underseepage Relief Wells/ Toe Drainage Systems	**NA**	**A**	Toe drainage systems and pressure relief wells necessary for maintaining FDR 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 FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
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.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Floodwalls: Munster

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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 EM 1110- 2-301 and/or Corps policy for regional vegetation variance.	2022-0001 : Small trees and vines on riverside. (A) 2022-0040 : Large trees on riverside. (M) 2022-0052 : Vines on riverside face. (A) 2022-0091 : Small tree on landside. (M) 2022-0104 : Small tree on landside. (A) 2022-0110 : Tall vegetation on riverside. (M) 2022-0112 : Small tree on landside. (A) 2022-0121 : Large trees along riverside. (M) 2022-0130 : Small tree on landside. (A) 2022-0229 : Vegetation on landside. (A) 2022-0238 : Small trees on landside (A) 2022-0247 : Trees on riverside. (M) **Recommendation:** Cut down trees and tall shrubs within 15 ft of the wall.
		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.	
		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.	
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.	2022-0038 : Graffiti. (M) 2022-0157 : Debris on landside. (M) 2022-0160 : Graffiti on landside wall. (M) 2022-0163 : Pipe on landside. (M) 2022-0166 : Garbage and yard waste on riverside. (M) 2022-0169 : Graffiti on riverside. (M) 2022-0187 : Soccer net on landside. (M) 2022-0196 : Statue and plant holder on landside. (M) 2022-0214 : Stone and timber pile on riverside. (M) 2022-0235 : Stool on landside. (M) 2022-0241 : Trash can, spool, and trash on landside. (M) 2022-0244 : Debris on riverside. (M) **Recommendation:** Power wash graffiti off the concrete. Remove debris and other items within the easement that do not belong to the project.
		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 the floodwall.	

Floodwalls: Munster

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	**Justification:** No issues observed.
		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.	
		N/A	There are no closure structures along this component of the FDR segment / system.	

Floodwalls: Munster

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	2022-0004 : Typical cracking on floodwall cap. (M) 2022-0010 : Crack running from top of cap to ground on landside. (M) 2022-0022 : Spalling of concrete exposing rebar material (M) 2022-0028 : Spalling on cap. (M) 2022-0034 : Surface spalling on cap. (M) 2022-0043 : Spalling with exposed rebar on landside. (M) 2022-0100 : Spalling of cap on landside near joint. (M) 2022-0103 : Cracks on cap. (M) 2022-0109 : Spalling at joint on landside. (M) 2022-0124 : Cracks on both sides of the wall. (M) 2022-0127 : Crack on wingwall. (M) 2022-0133 : Exposed rebar on cap. (M) 2022-0145 : Sealant under cap peeling. (M) 2022-0148 : Sealant peeling under cap. (M) 2022-0151 : Spalling on cap. (M) 2022-0154 : Spalling and exposed rebar on cap on landside. (M) 2022-0178 : Sealant peeling under cap. (M) 2022-0184 : Sealant peeling under cap. (M) 2022-0205 : Sealant peeling under cap. (M) **Recommendation:** Monitor cracks for further deterioration. Remove peeling sealant under the cap and reseal. Cut out pieces of broken or spalling concrete and repair. Cover exposed rebar.
		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.	

Floodwalls: Munster

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
5. Tilting, Sliding or Settlement of Concrete Structures	**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.	
6. Foundation of Concrete Structures	**M**	**A**	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2022-0035 : Holes on landside. (M) 2022-0041 : Hole at tie in to levee, 4 in deep. (M) 2022-0077 : Holes on landside. (M) 2022-0088 : Ponding of water near floodwall foundation on landside. (M) 2022-0089 : Hole on landside, 2.3 ft deep. (M) 2022-0092 : Holes on landside. (M) 2022-0118 : Surface starting to slope toward landside wall leading to ponding against the wall. (A) 2022-0217 : Rutting and depressions along the foundation on landside. (M) 2022-0232 : Holes on landside. (M) 2022-0250 : Holes on landside. (M) 2022-0256 : Holes on landside. (M) **Recommendation:** Grade foundation away from the wall to drain water away from the wall. Fill between the sheet pile and the concrete panel with shotcrete to prevent animal activity and further settlement.
		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 stabile until the next inspection.	
		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.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	2022-0037 : Cracking in joint sealant. (M) 2022-0094 : Cracking in joint sealant. (M) 2022-0181 : Hole in sealant. (M) 2022-0193 : Exposed waterstop on landside. (M) 2022-0199 : Filler material coming out of joint. (M) 2022-0202 : Filler and sealant missing from joint, typical between Northcote and Columbia. (M) **Recommendation:** Inject polyurethane grout to replace missing water stop, remove old sealant, and install new sealant. Monitor smaller cracks in sealant.
		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.	
		N/A	There are no monolith joints in the floodwall.	
8. Underseepage Relief Wells/ Toe Drainage Systems	**NA**	**A**	Toe drainage systems and pressure relief wells necessary for maintaining FDR 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 FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
9. 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.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Interior Drainage System: Munster

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
1. Vegetation and Obstructions	**A**	**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.	**Justification:** No issues observed.
		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.	
		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 reestablish flow capacity.	
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.	2022-0032 : MU-9: Trees and debris surrounding outlet structure. (M) 2022-0257 : MU-3: Inlet has overgrown vegetation and trees. (M) **Recommendation:** Cut any trees around the structures and remove debris within the easement.
		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.	
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.	
		N/A	There are no ponding areas associated with the interior drainage system.	

Interior Drainage System: Munster

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	
		N/A	There are no features noted that require safety fencing.	
5. Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts)	**A**	**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.	**Justification:** No issues observed.
		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.	
		N/A	There are no concrete items in the interior drainage system.	

Interior Drainage System: Munster

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	
		N/A	There are no concrete items in the interior drainage system.	
7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.)	**A**	**A**	No active erosion, scouring, or bank caving that might endanger the structure's stability.	**Justification:** No issues observed.
		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 stabile until the next inspection.	
		U	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
		N/A	There are no concrete items in the interior drainage system.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	
		N/A	There are no monolith joints in the interior drainage system.	

Interior Drainage System: Munster

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
9. Culverts / Discharge Pipes	**M**	**A**	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	**Justification:** Camera inspection performed in July and September 2016 for the following culverts: 36-inch RCP (MU-1), 48-inch RCP (MU-2A), 60-inch RCP (MU-2A,B), 54-inch RCP (MU-2B), 24-inch RCP (MU-3), 36-inch RCP (MU-4), 24-inch RCP (MU-5) - Circumferential cracks at joint, 36-inch RCP (MU-6), 36-inch RCP (MU-8), 54-inch RCP (MU-9), 96-inch RCP (MU-10A), 96-inch RCP (MU-10B). Refer to the camera inspection report for more details. **Recommendation:** Monitor for changes. Provide camera inspection report.
		M	There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	
		U	Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
		N/A	There are no discharge pipes/ culverts.	

Interior Drainage System: Munster

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
10. 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.	2022-0002 : MU-11: No issues. (A) 2022-0008 : MU-7: No issues. (A) 2022-0011 : MU-4: No issues. (A) 2022-0014 : MU-2: A little bit of silt. (A) 2022-0020 : MU-1: No issues. (A)
		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.	
		N/A	There are no sluice/ slide gates.	
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.	2022-0017 : MU-3: Flap gate stuck open. (M) 2022-0025 : MU-12: No issues. (A) **Recommendation:** Remove obstructions to any gates.
		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.	
		N/A	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.)	
		N/A	There are no trash racks, or they are covered in the pump stations section of the report.	

Interior Drainage System: Munster

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	
		N/A	There are no other significant metallic items.	
14. Riprap Revetments of Inlet/ Discharge Areas	**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.	2022-0097 : Tree growing in riprap. (M) **Recommendation:** Cut any trees in riprap revetments.
		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.	
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	
15. Revetments other than Riprap	**NA**	**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.	
		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.	
		N/A	There are no such revetments protecting this feature of the segment / system.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Pump Stations: Munster

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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:** 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.	
2. Pump Station Operations and Maintenance Equipment Manuals	**A**	**A**	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and updated as required, and adequately cover all pertinent pump station features. O&M manuals include points of contact for manufacturers and suppliers of major equipment used in the facility.	2022-0003 : PS-BA: Operations manuals present on-site. (A) 2022-0021 : PS-CA: Operations manuals present on-site. (A) 2022-0066 : PS-OA: Operations manuals present on-site. (A) 2022-0081 : PS-HM: Operations manuals present on-site. (A)
		M	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and adequately cover all pertinent pump station features. However, they are incomplete and the necessary updates have not been made.	
		U	Operation and Maintenance Equipment Manuals are not available.	
3. Safety Compliance	**M**	**A**	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	2022-0009 : PS-BA: Add confined space warning sign. (M) 2022-0057 : PS-OA: Add confined space warnings throughout building. (M) 2022-0087 : PS-HM: Add confined space warning signs. (M) **Recommendation:** Install confined space warning signs at the Baring Pump Station, Outlot A, and Hohman Munster pump stations..
		M	No safety compliance inspection reports are available for review.	
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.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	2022-0006 : PS-BA: Crack in building. No change from last time (M) 2022-0012 : PS-BA: Exterior crack. (M) 2022-0015 : PS-BA: Minor spalling on foundation pad. (A) 2022-0024 : PS-CA: Cracking around skylight. (M) 2022-0027 : PS-CA: Metal grate has no clips. Potential safety hazard. (M) 2022-0033 : PS-CA: Spalling on exterior of building. (M) 2022-0039 : PS-CA: Minor crack. (A) 2022-0042 : PS-CA: Crack in exterior wall. Exposed rebar. (M) 2022-0045 : PS-CA: Cracks near foundation of building. (M) 2022-0051 : PS-CA: Cracks on foundation pad surface. (M) 2022-0054 : PS-CA: Minor crack along the exterior of wall. (A) 2022-0060 : PS-OA: Crack running up along side plant building. Recently sealed. (A) 2022-0063 : PS-OA: Crack running up along corner or building. (M) 2022-0072 : PS-OA: Crack running down from roof to pipe. (M) 2022-0075 : PS-OA: Crack running from roof to pipe. (M) 2022-0078 : PS-OA: Crack along exterior corner of building. (M) 2022-0084 : PS-HM: Cracks near window frame should be repaired. (M) 2022-0090 : PS-HM: Spalling along corner. (M) **Recommendation:** Seal open cracks and monitor smaller cracks for progression. Cut out and replace large spalls. Replace missing metallic items.
		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.	
		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.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	2022-0048 : PS-CA: Fence is broken on the east end. (M) **Recommendation:** Repair the fence at the Calumet Ave Pump Station.
		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.	
		N/A	There are no features noted that require safety fencing.	
7. Pumps	**A**	**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.	**Justification:** No issues observed.
		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.	
8. Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.	**A**	**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.	**Justification:** No issues observed.
		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.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
9. Sumps / Wet well	**A**	**A**	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	**Justification:** No issues observed.
		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.	
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.	2022-0030 : PS-CA: Trash Rack component to be repaired. Trash rack currently locked out. (M) **Recommendation:** Repair trash rack component at the Calumet Ave Pump Station..
		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.	
		N/A	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.)	
		N/A	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.	
		N/A	No fuel system.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
13. Power Source	**A**	**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.	**Justification:** No issues observed.
		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.	
		U	Normal power source or generators are not operational and must be repaired; or generator, if required, is not on site.	
14. Electrical Systems	**A**	**A**	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	2022-0069 : PS-OA: Indicator lights fixed (A)
		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:** 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.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
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.	2022-0018 : PA-CA: Added cover for elbow connector. (A) 2022-0036 : PS-CA: Corroded screen vent exterior. (M) 2022-0093 : PS-HM: Louver screen is broken. (M) **Recommendation:** Replace screen vent at Calumet Ave Pump Station and broken louver screen at Hohman Munster Pump Station.
		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	**A**	**A**	Intake and discharge pipelines have no corrosion and paint is intact, except for minor touch up required. Pipe couplings and anchors have no leakage or corrosion.	**Justification:** No issues observed.
		M	Intake and discharge pipelines have minor corrosion and repair and painting is required. Pipe coupling with anchors have minor leakage, corrosion and require bolts to be tightened.	
		U	Intake and discharge pipelines have major corrosion and replacement is required. Pipe coupling with anchors have major leakage and is heavily corroded and requires replacement.	
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.	
		N/A	There are no sluice/ slide gates.	

Rated Item	Rating	Rating Guidelines		Location/Remarks/Recommendations
19. Flap Gates/ Flap Valves/ Pinch Valves	**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.	
		N/A	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.	
		N/A	There are no cranes.	
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.	
		N/A	There are no other significant metallic items.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction

Photos: Munster

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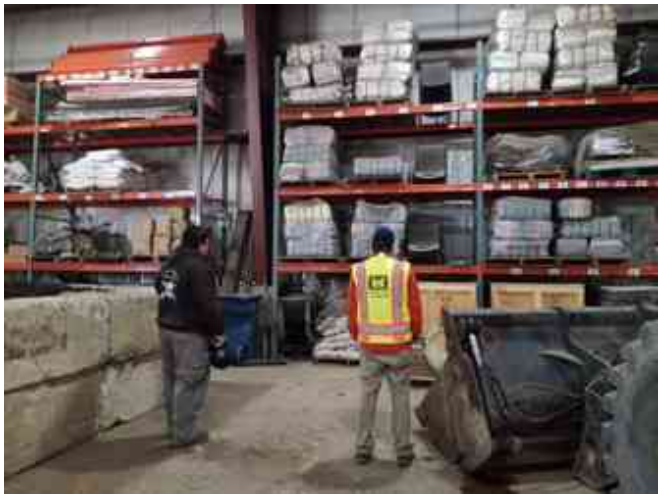	**Inspect ID:** 2022-0023 **Title:** 2604000009_CELRC_2022_A_0023_1_20220411T151554.jpg **Rated Item:** 2. Emergency Supplies and Equipment (A or M only) **Caption:** Acceptable - 8 full pallets of sandbags, 9 open pallets of sandbags, concrete blocks at the Public Works facility..
	**Inspect ID:** 2022-0023 **Title:** 2604000009_CELRC_2022_A_0023_4_20220411T151804.jpg **Rated Item:** 2. Emergency Supplies and Equipment (A or M only) **Caption:** Acceptable - 1 sandbag machine and concrete blocks at the Public Works facility..

Photos: Munster

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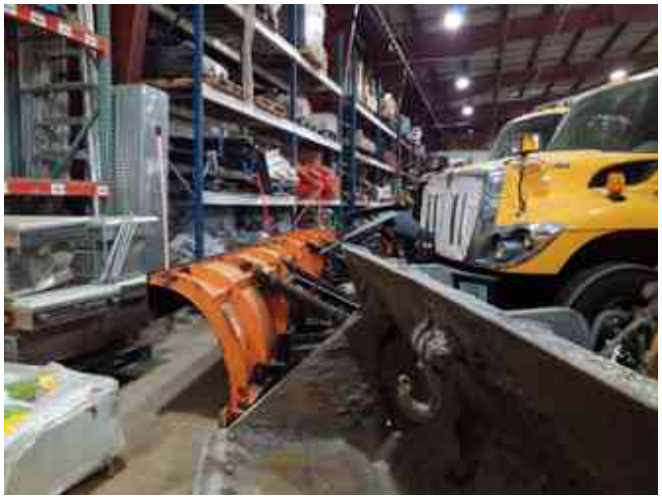	**Inspect ID:** 2022-0023 **Title:** 2604000009_CELRC_2022_A_0023_5_20220411T151849.jpg **Rated Item:** 2. Emergency Supplies and Equipment (A or M only) **Caption:** Acceptable - Equipment at the Public Works facility..
	**Inspect ID:** 2022-0026 **Title:** 2604000009_CELRC_2022_A_0026_1_20220411T153620.jpg **Rated Item:** 2. Emergency Supplies and Equipment (A or M only) **Caption:** Acceptable - 20 pallets of sandbags and 12 super bags at the Calumet facility.

Photos: Munster

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	**Inspect ID:** 2022-0026 **Title:** 2604000009_CELRC_2022_A_0026_3_20220411T153841.jpg **Rated Item:** 2. Emergency Supplies and Equipment (A or M only) **Caption:** Acceptable - Super bags at the Calumet facility.
	**Inspect ID:** 2022-0044 **Title:** 2604000009_CELRC_2022_A_0044_1_20220411T163701.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Bushes near riverside toe.

Photos: Munster

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	**Inspect ID:** 2022-0059 **Title:** 2604000009_CELRC_2022_A_0059_1_20220411T164209.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Trees on landside toe.
	**Inspect ID:** 2022-0068 **Title:** 2604000009_CELRC_2022_A_0068_1_20220411T164547.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Row of trees along landside toe.

Photos: Munster

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	**Inspect ID:** 2022-0113 **Title:** 2604000009_CELRC_2022_A_0113_1_20220411T171940.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Small trees on landside toe.
	**Inspect ID:** 2022-0116 **Title:** 2604000009_CELRC_2022_A_0116_1_20220411T172117.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Small trees on riverside toe.

	**Inspect ID:** 2022-0119 **Title:** 2604000009_CELRC_2022_A_0119_1_20220411T172617.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Small trees along riverside toe.
	**Inspect ID:** 2022-0122 **Title:** 2604000009_CELRC_2022_A_0122_1_20220411T173835.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Small trees on riverside toe.

Photos: Munster

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	**Inspect ID:** 2022-0047 **Title:** 2604000009_CELRC_2022_A_0047_1_20220411T163759.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Log on riverside toe.
	**Inspect ID:** 2022-0050 **Title:** 2604000009_CELRC_2022_A_0050_1_20220411T163908.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Downed trees on landside toe.

Photos: Munster

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	**Inspect ID:** 2022-0053 **Title:** 2604000009_CELRC_2022_A_0053_1_20220411T163955.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Debris on riverside toe.
	**Inspect ID:** 2022-0056 **Title:** 2604000009_CELRC_2022_A_0056_1_20220411T164053.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Debris and downed tree on landslide toe and slope.

	**Inspect ID:** 2022-0056 **Title:** 2604000009_CELRC_2022_A_2022-0056_2_20220411T164322.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Damage to the levee slope from downed tree.
	**Inspect ID:** 2022-0058 **Title:** 2604000009_CELRC_2022_A_0058_1_20220411T135627.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Fallen tree within 15 feet of riverside toe

	**Inspect ID:** 2022-0061 **Title:** 2604000009_CELRC_2022_A_0061_1_20220411T135801.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Downed tree within 15 feet of riverside toe
	**Inspect ID:** 2022-0062 **Title:** 2604000009_CELRC_2022_A_0062_1_20220411T164400.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Garden on landside slope.

Photos: Munster

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	**Inspect ID:** 2022-0065 **Title:** 2604000009_CELRC_2022_A_0065_1_20220411T164501.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Wooden fence on landside toe.
	**Inspect ID:** 2022-0071 **Title:** 2604000009_CELRC_2022_A_2022-0071_1_20220411T164750.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Fence along landside toe.

Photos: Munster

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	**Inspect ID:** 2022-0076 **Title:** 2604000009_CELRC_2022_A_0076_1_20220411T141257.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Large tree within 6 ft of landside toe
	**Inspect ID:** 2022-0079 **Title:** 2604000009_CELRC_2022_A_0079_1_20220411T141517.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Downed trees within 15 feet of riverside toe.

Photos: Munster

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	**Inspect ID:** 2022-0082 **Title:** 2604000009_CELRC_2022_A_0082_1_20220411T141626.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Large tree within 6 feet of landside toe.
	**Inspect ID:** 2022-0085 **Title:** 2604000009_CELRC_2022_A_0085_1_20220411T141713.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Large tree within 6 feet of landside toe.

Photos: Munster

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	**Inspect ID:** 2022-0125 **Title:** 2604000009_CELRC_2022_A_0125_1_20220411T174211.jpg **Rated Item:** 3. Encroachments **Caption:** Minimally Acceptable - Town sign on crest.
	**Inspect ID:** 2022-0083 **Title:** 2604000009_CELRC_2022_A_0083_1_20220411T165936.jpg **Rated Item:** 7. Settlement **Caption:** Minimally Acceptable - Settlement in the gap between the sheet pile and concrete panel at tie in to levee.

Photos: Munster

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	**Inspect ID:** 2022-0086 **Title:** 2604000009_CELRC_2022_A_0086_1_20220411T170128.jpg **Rated Item:** 7. Settlement **Caption:** Minimally Acceptable - Settlement of levee at floodwall tie-in.
	**Inspect ID:** 2022-0095 **Title:** 2604000009_CELRC_2022_A_0095_1_20220411T170557.jpg **Rated Item:** 7. Settlement **Caption:** Minimally Acceptable - Settlement at levee tie in.

	**Inspect ID:** 2022-0098 **Title:** 2604000009_CELRC_2022_A_0098_1_20220411T170726.jpg **Rated Item:** 7. Settlement **Caption:** Minimally Acceptable - Settlement at levee tie in.
	**Inspect ID:** 2022-0055 **Title:** 2604000009_CELRC_2022_A_0055_1_20220411T135454.jpg **Rated Item:** 8. Depressions/ Rutting **Caption:** Acceptable - Rutting on top of landside slope, minimal and may heal on its own.

Photos: Munster

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	**Inspect ID:** 2022-0067 **Title:** 2604000009_CELRC_2022_A_0067_1_20220411T140332.jpg **Rated Item:** 8. Depressions/ Rutting **Caption:** Acceptable - Shallow vehicle rut on riverside slope.
	**Inspect ID:** 2022-0070 **Title:** 2604000009_CELRC_2022_A_0070_1_20220411T140735.jpg **Rated Item:** 8. Depressions/ Rutting **Caption:** Minimally Acceptable - Rutting on riverside slope.

Photos: Munster

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	**Inspect ID:** 2022-0073 **Title:** 2604000009_CELRC_2022_A_0073_1_20220411T140916.jpg **Rated Item:** 8. Depressions/ Rutting **Caption:** Minimally Acceptable - 4-inch deep hole on riverside slope.
	**Inspect ID:** 2022-0064 **Title:** 2604000009_CELRC_2022_A_0064_1_20220411T140024.jpg **Rated Item:** 10. Animal Control **Caption:** Minimally Acceptable - Mole activity across the crest.

Photos: Munster

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	**Inspect ID:** 2022-0001 **Title:** 2604000009_CELRC_2022_A_0001_1_20220411T132110.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Acceptable - Small trees and vines on riverside.
	**Inspect ID:** 2022-0040 **Title:** 2604000009_CELRC_2022_A_0040_1_20220411T134605.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Large trees on riverside.

Photos: Munster

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	**Inspect ID:** 2022-0052 **Title:** 2604000009_CELRC_2022_A_0052_1_20220411T135144.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Acceptable - Vines on riverside face.
	**Inspect ID:** 2022-0091 **Title:** 2604000009_CELRC_2022_A_0091_1_20220411T142011.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Small tree against landside wall

Photos: Munster

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	**Inspect ID:** 2022-0104 **Title:** 2604000009_CELRC_2022_A_0104_1_20220411T171034.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Acceptable - Small tree on landside.
	**Inspect ID:** 2022-0110 **Title:** 2604000009_CELRC_2022_A_0110_1_20220411T171338.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Tall vegetation on riverside.

Photos: Munster

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	**Inspect ID:** 2022-0112 **Title:** 2604000009_CELRC_2022_A_0112_1_20220411T143451.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Acceptable - Small tree on landside.
	**Inspect ID:** 2022-0121 **Title:** 2604000009_CELRC_2022_A_0121_1_20220411T143907.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Large trees along riverside.

Photos: Munster

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	**Inspect ID:** 2022-0130 **Title:** 2604000009_CELRC_2022_A_0130_1_20220411T144418.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Acceptable - Small tree on landside.
	**Inspect ID:** 2022-0229 **Title:** 2604000009_CELRC_2022_A_0229_1_20220411T155449.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Acceptable - Vegetation on landside.

	**Inspect ID:** 2022-0238 **Title:** 2604000009_CELRC_2022_A_0238_1_20220411T155915.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Small trees on landside
	**Inspect ID:** 2022-0247 **Title:** 2604000009_CELRC_2022_A_0247_1_20220411T160436.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Minimally Acceptable - Trees on riverside.

Photos: Munster

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	**Inspect ID:** 2022-0038 **Title:** 2604000009_CELRC_2022_A_0038_1_20220411T163416.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Graffiti.
	**Inspect ID:** 2022-0157 **Title:** 2604000009_CELRC_2022_A_0157_1_20220411T145716.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Debris on landside.

Photos: Munster

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	**Inspect ID:** 2022-0160 **Title:** 2604000009_CELRC_2022_A_0160_1_20220411T150024.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Graffiti on landside wall.
	**Inspect ID:** 2022-0163 **Title:** 2604000009_CELRC_2022_A_0163_1_20220411T150120.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Pipe on landside.

Photos: Munster

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	**Inspect ID:** 2022-0166 **Title:** 2604000009_CELRC_2022_A_2022-0166_2_20220411T150715.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Garbage and yard waste on riverside.
	**Inspect ID:** 2022-0169 **Title:** 2604000009_CELRC_2022_A_0169_1_20220411T150516.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Graffiti on riverside.

Photos: Munster

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	**Inspect ID:** 2022-0187 **Title:** 2604000009_CELRC_2022_A_0187_1_20220411T152233.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Soccer net on landside.
	**Inspect ID:** 2022-0196 **Title:** 2604000009_CELRC_2022_A_0196_1_20220411T152728.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Statue and plant holder on landside.

Photos: Munster

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	**Inspect ID:** 2022-0214 **Title:** 2604000009_CELRC_2022_A_0214_1_20220411T153909.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Stone and timber pile on riverside.
	**Inspect ID:** 2022-0235 **Title:** 2604000009_CELRC_2022_A_0235_1_20220411T155750.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Stool on landside.

	**Inspect ID:** 2022-0241 **Title:** 2604000009_CELRC_2022_A_0241_1_20220411T160119.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Trash can, spool, and trash on landside.
	**Inspect ID:** 2022-0244 **Title:** 2604000009_CELRC_2022_A_0244_1_20220411T160318.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - Debris on riverside.

Photos: Munster

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	**Inspect ID:** 2022-0004 **Title:** 2604000009_CELRC_2022_A_0004_1_20220411T132618.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Typical cracking on floodwall cap.
	**Inspect ID:** 2022-0010 **Title:** 2604000009_CELRC_2022_A_0010_1_20220411T132953.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Crack running from top of cap to ground on landside.

	**Inspect ID:** 2022-0022 **Title:** 2604000009_CELRC_2022_A_0022_1_20220411T133703.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling of concrete exposing rebar material
	**Inspect ID:** 2022-0028 **Title:** 2604000009_CELRC_2022_A_0028_1_20220411T134133.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling on cap.

	**Inspect ID:** 2022-0034 **Title:** 2604000009_CELRC_2022_A_0034_1_20220411T134349.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Surface spalling on cap.
	**Inspect ID:** 2022-0043 **Title:** 2604000009_CELRC_2022_A_0043_1_20220411T134754.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling with exposed rebar on landside.

	**Inspect ID:** 2022-0100 **Title:** 2604000009_CELRC_2022_A_0100_1_20220411T142630.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling of cap on landside near joint.
	**Inspect ID:** 2022-0103 **Title:** 2604000009_CELRC_2022_A_0103_1_20220411T142727.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Cracks on cap.

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	**Inspect ID:** 2022-0109 **Title:** 2604000009_CELRC_2022_A_0109_1_20220411T143405.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling at joint on landside.
	**Inspect ID:** 2022-0124 **Title:** 2604000009_CELRC_2022_A_0124_2_20220411T144107.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Cracks on both sides of the wall.

	**Inspect ID:** 2022-0127 **Title:** 2604000009_CELRC_2022_A_0127_1_20220411T144231.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Crack on wingwall.
	**Inspect ID:** 2022-0133 **Title:** 2604000009_CELRC_2022_A_0133_1_20220411T144500.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Exposed rebar on cap.

	**Inspect ID:** 2022-0145 **Title:** 2604000009_CELRC_2022_A_0145_1_20220411T144907.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Sealant under cap peeling.
	**Inspect ID:** 2022-0148 **Title:** 2604000009_CELRC_2022_A_0148_1_20220411T145050.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Sealant peeling under cap.

	**Inspect ID:** 2022-0151 **Title:** 2604000009_CELRC_2022_A_0151_1_20220411T145333.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling on cap.
	**Inspect ID:** 2022-0154 **Title:** 2604000009_CELRC_2022_A_0154_1_20220411T145429.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Spalling and exposed rebar on cap on landside.

	**Inspect ID:** 2022-0178 **Title:** 2604000009_CELRC_2022_A_0178_1_20220411T151807.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Sealant peeling under cap.
	**Inspect ID:** 2022-0184 **Title:** 2604000009_CELRC_2022_A_0184_1_20220411T152046.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Sealant peeling under cap.

	**Inspect ID:** 2022-0205 **Title:** 2604000009_CELRC_2022_A_0205_1_20220411T153102.jpg **Rated Item:** 4. Concrete Surfaces **Caption:** Minimally Acceptable - Sealant peeling under cap.
	**Inspect ID:** 2022-0035 **Title:** 2604000009_CELRC_2022_A_0035_1_20220411T163139.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Holes on landside.

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	**Inspect ID:** 2022-0041 **Title:** 2604000009_CELRC_2022_A_0041_1_20220411T163615.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Hole at tie in to levee, 4 in deep.
	**Inspect ID:** 2022-0077 **Title:** 2604000009_CELRC_2022_A_0077_1_20220411T165416.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Holes on landside.

	**Inspect ID:** 2022-0088 **Title:** 2604000009_CELRC_2022_A_0088_1_20220411T141828.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Ponding of water near floodwall foundation on landside.
	**Inspect ID:** 2022-0089 **Title:** 2604000009_CELRC_2022_A_0089_1_20220411T170319.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Hole on landside, 2.3 ft deep.

	**Inspect ID:** 2022-0092 **Title:** 2604000009_CELRC_2022_A_0092_1_20220411T170423.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Holes on landside.
	**Inspect ID:** 2022-0118 **Title:** 2604000009_CELRC_2022_A_0118_1_20220411T143810.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Acceptable - Surface starting to slope toward landside wall leading to ponding against the wall.

	**Inspect ID:** 2022-0217 **Title:** 2604000009_CELRC_2022_A_0217_1_20220411T154823.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Rutting and depressions along the foundation on landside.
	**Inspect ID:** 2022-0232 **Title:** 2604000009_CELRC_2022_A_0232_1_20220411T155617.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Holes on landside.

	**Inspect ID:** 2022-0250 **Title:** 2604000009_CELRC_2022_A_2022-0250_2_20220411T160948.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Holes on landside.
	**Inspect ID:** 2022-0256 **Title:** 2604000009_CELRC_2022_A_0256_1_20220411T161409.jpg **Rated Item:** 6. Foundation of Concrete Structures **Caption:** Minimally Acceptable - Holes on landside.

	**Inspect ID:** 2022-0037 **Title:** 2604000009_CELRC_2022_A_0037_1_20220411T134445.jpg **Rated Item:** 7. Monolith Joints **Caption:** Minimally Acceptable - Cracking in joint sealant.
	**Inspect ID:** 2022-0094 **Title:** 2604000009_CELRC_2022_A_0094_1_20220411T142103.jpg **Rated Item:** 7. Monolith Joints **Caption:** Minimally Acceptable - Cracking in joint sealant.

	**Inspect ID:** 2022-0181 **Title:** 2604000009_CELRC_2022_A_0181_1_20220411T151931.jpg **Rated Item:** 7. Monolith Joints **Caption:** Minimally Acceptable - Hole in sealant.
	**Inspect ID:** 2022-0193 **Title:** 2604000009_CELRC_2022_A_0193_1_20220411T152600.jpg **Rated Item:** 7. Monolith Joints **Caption:** Minimally Acceptable - Exposed waterstop on landside.

	**Inspect ID:** 2022-0199 **Title:** 2604000009_CELRC_2022_A_0199_1_20220411T152829.jpg **Rated Item:** 7. Monolith Joints **Caption:** Minimally Acceptable - Filler material coming out of joint.
	**Inspect ID:** 2022-0202 **Title:** 2604000009_CELRC_2022_A_0202_1_20220411T152953.jpg **Rated Item:** 7. Monolith Joints **Caption:** Minimally Acceptable - Filler and sealant missing from joint, typical between Northcote and Columbia.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0032 **Title:** 2604000009_CELRC_2022_A_0032_1_20220510T115412.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - MU-9: Trees surrounding outlet structure.
	**Inspect ID:** 2022-0257 **Title:** 2604000009_CELRC_2022_A_0257_1_20220510T122145.jpg **Rated Item:** 2. Encroachments **Caption:** Minimally Acceptable - MU-3: Inlet has overgrown vegetation and trees.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0002 **Title:** 2604000009_CELRC_2022_A_0002_7_20220411T133749.jpg **Rated Item:** 10. Sluice/ Slide Gates **Caption:** Acceptable - MU-11: No issues.
	**Inspect ID:** 2022-0008 **Title:** 2604000009_CELRC_2022_A_0008_5_20220411T141432.jpg **Rated Item:** 10. Sluice/ Slide Gates **Caption:** Acceptable - MU-7: No issues.

	**Inspect ID:** 2022-0011 **Title:** 2604000009_CELRC_2022_A_0011_9_20220411T142729.jpg **Rated Item:** 10. Sluice/ Slide Gates **Caption:** Acceptable - MU-4: No issues.
	**Inspect ID:** 2022-0014 **Title:** 2604000009_CELRC_2022_A_0014_5_20220411T144245.jpg **Rated Item:** 10. Sluice/ Slide Gates **Caption:** Acceptable - MU-2: A little bit of silt.

	**Inspect ID:** 2022-0020 **Title:** 2604000009_CELRC_2022_A_0020_4_20220411T145859.jpg **Rated Item:** 10. Sluice/ Slide Gates **Caption:** Acceptable - MU-1: No issues.
	**Inspect ID:** 2022-0017 **Title:** 2604000009_CELRC_2022_A_0017_3_20220411T144641.jpg **Rated Item:** 11. Flap Gates/ Flap Valves/ Pinch Valves **Caption:** Minimally Acceptable - MU-3: Flap gate stuck open.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0025 **Title:** 2604000009_CELRC_2022_A_0025_1_20220411T134059.jpg **Rated Item:** 11. Flap Gates/ Flap Valves/ Pinch Valves **Caption:** Acceptable - MU-12: No issues.
	**Inspect ID:** 2022-0097 **Title:** 2604000009_CELRC_2022_A_0097_1_20220411T142514.jpg **Rated Item:** 14. Riprap Revetments of Inlet/ Discharge Areas **Caption:** Minimally Acceptable - Tree growing in riprap.

	**Inspect ID:** 2022-0003 **Title:** 2604000009_CELRC_2022_A_0003_1_20220411T131859.jpg **Rated Item:** 2. Pump Station Operations and Maintenance Equipment Manuals **Caption:** Acceptable - PS-BA: Operations manuals present on-site.
	**Inspect ID:** 2022-0021 **Title:** 2604000009_CELRC_2022_A_0021_1_20220411T134243.jpg **Rated Item:** 2. Pump Station Operations and Maintenance Equipment Manuals **Caption:** Acceptable - PS-CA: Operations manuals present on-site.

	**Inspect ID:** 2022-0066 **Title:** 2604000009_CELRC_2022_A_0066_1_20220411T141902.jpg **Rated Item:** 2. Pump Station Operations and Maintenance Equipment Manuals **Caption:** Acceptable - PS-OA: Operations manuals present on-site.
	**Inspect ID:** 2022-0081 **Title:** 2604000009_CELRC_2022_A_0081_1_20220411T143929.jpg **Rated Item:** 2. Pump Station Operations and Maintenance Equipment Manuals **Caption:** Acceptable - PS-HM: Operations manuals present on-site.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0009 **Title:** 2604000009_CELRC_2022_A_0009_1_20220411T132621.jpg **Rated Item:** 3. Safety Compliance **Caption:** Minimally Acceptable - PS-BA: Add confined space warning sign.
	**Inspect ID:** 2022-0057 **Title:** 2604000009_CELRC_2022_A_0057_1_20220411T141352.jpg **Rated Item:** 3. Safety Compliance **Caption:** Minimally Acceptable - PS-OA: Add confined space warnings throughout building.

	**Inspect ID:** 2022-0087 **Title:** 2604000009_CELRC_2022_A_0087_1_20220411T144724.jpg **Rated Item:** 3. Safety Compliance **Caption:** Minimally Acceptable - PS-HM: Add confined space warning signs.
	**Inspect ID:** 2022-0006 **Title:** 2604000009_CELRC_2022_A_0006_1_20220411T132337.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-BA: Crack in building. No change from last time

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0012 **Title:** 2604000009_CELRC_2022_A_0012_2_20220411T132713.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-BA: Exterior crack.
	**Inspect ID:** 2022-0015 **Title:** 2604000009_CELRC_2022_A_0015_1_20220411T132950.jpg **Rated Item:** 5. Plant Building **Caption:** Acceptable - PS-BA: Minor spalling on foundation pad.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0024 **Title:** 2604000009_CELRC_2022_A_0024_1_20220411T134442.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-CA: Cracking around skylight.
	**Inspect ID:** 2022-0027 **Title:** 2604000009_CELRC_2022_A_0027_1_20220411T134806.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-CA: Metal grate has no clips. Potential safety hazard.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0033 **Title:** 2604000009_CELRC_2022_A_0033_1_20220411T135339.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-CA: Spalling on exterior of building.
	**Inspect ID:** 2022-0039 **Title:** 2604000009_CELRC_2022_A_0039_1_20220411T135714.jpg **Rated Item:** 5. Plant Building **Caption:** Acceptable - PS-CA: Minor crack.

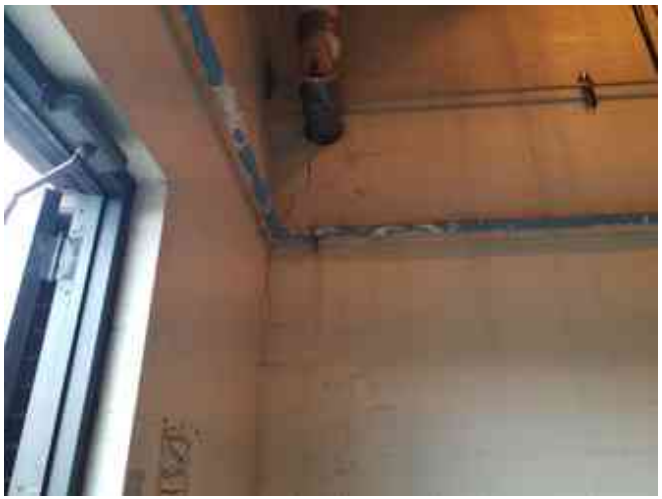
Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0042 **Title:** 2604000009_CELRC_2022_A_0042_1_20220411T135825.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-CA: Crack in exterior wall. Exposed rebar.
	**Inspect ID:** 2022-0045 **Title:** 2604000009_CELRC_2022_A_0045_1_20220411T140003.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-CA: Cracks near foundation of building.

	**Inspect ID:** 2022-0051 **Title:** 2604000009_CELRC_2022_A_0051_1_20220411T140308.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-CA: Cracks on foundation pad surface.
	**Inspect ID:** 2022-0054 **Title:** 2604000009_CELRC_2022_A_0054_1_20220411T140436.jpg **Rated Item:** 5. Plant Building **Caption:** Acceptable - PS-CA: Minor crack along the exterior of wall.

	**Inspect ID:** 2022-0060 **Title:** 2604000009_CELRC_2022_A_0060_1_20220411T141438.jpg **Rated Item:** 5. Plant Building **Caption:** Acceptable - PS-OA: Crack running up along side plant building. Recently sealed.
	**Inspect ID:** 2022-0063 **Title:** 2604000009_CELRC_2022_A_0063_1_20220411T141656.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-OA: Crack running up along corner or building.

	**Inspect ID:** 2022-0072 **Title:** 2604000009_CELRC_2022_A_0072_1_20220411T142249.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-OA: Crack running down from roof to pipe.
	**Inspect ID:** 2022-0075 **Title:** 2604000009_CELRC_2022_A_0075_1_20220411T142500.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-OA: Crack running from roof to pipe.

	**Inspect ID:** 2022-0078 **Title:** 2604000009_CELRC_2022_A_0078_1_20220411T142624.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-OA: Crack along exterior corner of building.
	**Inspect ID:** 2022-0084 **Title:** 2604000009_CELRC_2022_A_0084_1_20220411T144106.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-HM: Cracks near window frame should be repaired.

	**Inspect ID:** 2022-0084 **Title:** 2604000009_CELRC_2022_A_0084_2_20220411T144117.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-HM: Cracks near window frame should be repaired.
	**Inspect ID:** 2022-0084 **Title:** 2604000009_CELRC_2022_A_0084_3_20220411T144156.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-HM: Cracks near window frame should be repaired.

	**Inspect ID:** 2022-0090 **Title:** 2604000009_CELRC_2022_A_0090_1_20220411T145423.jpg **Rated Item:** 5. Plant Building **Caption:** Minimally Acceptable - PS-HM: Spalling along corner.
	**Inspect ID:** 2022-0048 **Title:** 2604000009_CELRC_2022_A_0048_2_20220411T140225.jpg **Rated Item:** 6. Fencing and Gates **Caption:** Minimally Acceptable - PS-CA: Fence is broken on the east end.

	**Inspect ID:** 2022-0030 **Title:** 2604000009_CELRC_2022_A_0030_1_20220411T135015.jpg **Rated Item:** 10. Mechanical Operating Trash Rakes **Caption:** Minimally Acceptable - PS-CA: Trash Rack component to be repaired. Trash rack currently locked out.
	**Inspect ID:** 2022-0069 **Title:** 2604000009_CELRC_2022_A_0069_1_20220411T142018.jpg **Rated Item:** 14. Electrical Systems **Caption:** Acceptable - PS-OA: Indicator lights fixed

	**Inspect ID:** 2022-0018 **Title:** 2604000009_CELRC_2022_A_0018_1_20220411T134111.jpg **Rated Item:** 16. Enclosures, Panels, Conduit and Ducts **Caption:** Acceptable - PA-CA: Added cover for elbow connector.
	**Inspect ID:** 2022-0036 **Title:** 2604000009_CELRC_2022_A_0036_1_20220411T135517.jpg **Rated Item:** 16. Enclosures, Panels, Conduit and Ducts **Caption:** Minimally Acceptable - PS-CA: Corroded screen vent exterior.

Photos: Munster

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

	**Inspect ID:** 2022-0093 **Title:** 2604000009_CELRC_2022_A_0093_1_20220411T145823.jpg **Rated Item:** 16. Enclosures, Panels, Conduit and Ducts **Caption:** Minimally Acceptable - PS-HM: Louver screen is broken.

US Army Corps of Engineers ®

Flood Damage Reduction System 2605000006 / Segment 2604000009
Public Sponsor Pre-Inspection Form

The following information is to be provided by the levee district sponsor prior to an inspection. This information will be used to help evaluate the organizational capability of the levee district to manage the levee segment / system maintenance program.

1. Levee segment / system and sponsor: (name of the segment / system and levee sponsor)

System 2605000006 / Segment 2604000009 CELRC

2. Reporting period: (month/day/year to month/day/year)

06/01/2021 to 04/10/2022

3. Summary of maintenance required by last inspection report:

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

4. Summary of maintenance performed this reporting period:

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

5. Summary of maintenance planned next reporting period:

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

6. Summary of changes to segment / system since last inspection:

N/A

7. Problems/ issues requiring the assistance of the US Army Corps of Engineers:

N/A

General Instructions for the Inspection of Flood Damage Reduction Segments / Systems

A. **Purpose of USACE Inspections**
The primary purpose of these inspections is to prevent loss of life and catastrophic damages; preserve the value of Federal investments, and to encourage non-Federal sponsors to bear responsibility for their own protection. Inspections should assure that Flood Damage Reduction structures and facilities are continually maintained and operated as necessary to obtain the maximum benefits. Inspections are also conducted to determine eligibility for Rehabilitation Assistance under authority of PL 84-99 for Federal and non-Federal systems. (ER 1130-2-530, ER 500-1-1)

B. **Types of Inspections:**
The Corps conducts several types of inspections of Flood Damage Reduction systems, as outlined below:

Initial Eligibility Inspections	Continuing Eligibility Inspections	
	Routine Inspections	Periodic Inspections
IEIs are conducted to determine whether a non-Federally constructed Flood Damage Reduction system meets the minimum criteria and standards set forth by the Corps for initial inclusion into the Rehabilitation and Inspection Program.	RIs are intended to verify proper maintenance, owner preparedness, and component operation.	PIs are intended to verify proper maintenance and component operation and to evaluate operational adequacy, structural stability, and safety of the system. Periodic Inspections evaluate the system's original design criteria vs. current design criteria to determine potential performance impacts, evaluate the current conditions, and compare the design loads and design analysis used against current design standards. This is to be done to identify components and features for the sponsor that need to be monitored more closely over time or corrected as needed. (Periodic Inspections are used as the basis of risk assessments.)

C. **Inspection Boundaries:**
Inspections should be conducted so as to rate each Flood Damage Reduction "Segment" of the system. The overall system rating will be the lowest segment rating in the system.

Project	System	Segment
A flood damage reduction project is made up of one or more flood damage reduction systems which were under the same authorization.	A flood damage reduction system is made up of one or more flood damage reduction segments which collectively provide flood damage reduction to a defined area. Failure of one segment within a system constitutes failure of the entire system. Failure of one system does not affect another system.	A flood damage reduction segment is defined as a discrete portion of a flood damage reduction system that is operated and maintained by a single entity. A flood damage reduction segment can be made up of one or more features (levee, floodwall, pump stations, etc).

D. **Land Use Definitions:**
The following three definitions are intended for use in determining minimum required inspection intervals and initial requirements for inclusion into the Rehabilitation and Inspection Program. Inspections should be considered for all systems that would result in significant environmental or economic impact upon failure regardless of specific land use.

Agricultural	Rural	Urban
Protected population in the range of zero to 5 households per square mile protected.	Protected population in the range of 6 to 20 households per square mile protected.	Greater than 20 households per square mile; major industrial areas with significant infrastructure investment. Some protected urban areas have no permanent population but may be industrial areas with high value infrastructure with no overnight population.

E. **Use of the Inspection Report Template:**
The report template is intended for use in all Army Corps of Engineers inspections of levee and floodwall systems and flood damage reduction channels. The section of the template labeled \"Initial Eligibility" only needs to be completed during Initial Eligibility Inspections of Non-Federally constructed Flood Damage Reduction Systems. The section labeled "General Items" needs to be completed with every inspection, along with all other sections that correspond to features in the system. The section labeled "Public Sponsor Pre-Inspection Report" is intended for completion before the inspection, if possible.

F. **Individual Item / Component Ratings:**
Assessment of individual components rated during the inspection should be based on the criteria provided in the inspection report template, though inspectors may incorporate additional items into the report based on the characteristics of the system. The assessment of individual components should be based on the following definitions.

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
The inspected item is in satisfactory condition, with no deficiencies, and will function as intended during the next flood event.	The inspected item has one or more minor deficiencies that need to be corrected. The minor deficiency or deficiencies will not seriously impair the functioning of the item as intended during the next flood event.	The inspected item has one or more serious deficiencies that need to be corrected. The serious deficiency or deficiencies will seriously impair the functioning of the item as intended during the next flood event.

G. **Overall Segment / System Ratings:**
Determination of the overall system rating is based on the definitions below. Note that an Unacceptable System Rating may be either based on an engineering determination that concluded that noted deficiencies would prevent the system from functioning as intended during the next flood event, or based on the sponsor's demonstrated lack of commitment or inability to correct serious deficiencies in a timely manner.

Acceptable System	Minimally Acceptable System	Unacceptable System
All items or components are rated as Acceptable.	One or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the segment / system from performing as intended during the next flood event.	One or more items are rated as Unacceptable and would prevent the segment / system from performing as intended, or a serious deficiency noted in past inspections (which had previously resulted in a minimally acceptable system rating) has not been corrected within the established timeframe, not to exceed two years.

H. **Eligibility for PL84-99 Rehabilitation Assistance:**
Inspected systems that are not operated and maintained by the Federal government may be Active in the Corps' Rehabilitation and Inspection Program (RIP) and eligible for rehabilitation assistance from the Corps as defined below:

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
The system is active in the RIP and eligible for PL84-99 rehabilitation assistance.	The system is Active in the RIP during the time that it takes to make needed corrections. Active systems are eligible for rehabilitation assistance. However, if the sponsor does not present USACE with proof that serious deficiencies (which had previously resulted in a minimally acceptable system rating) were corrected within the established timeframe, then the system will become Inactive in the RIP.	The system is Inactive in the RIP, and the status will remain Inactive until the sponsor presents USACE with proof that all items rated Unacceptable have been corrected. Inactive systems are ineligible for rehabilitation assistance.

I. **Reporting:**

After the inspection, the Corps is responsible for assembling an inspection report (or a summary report if it was a Periodic Inspection) including the following information:

a. All sections of the report template used during the inspection, including the cover and pre-inspection materials. (Supplemental data collected, and any sections of the template that weren't used during the inspection do not need to be included with the report.)

b. Photos of the general system condition and noted deficiencies.

c. A plan view drawing of the system, with stationing, to reference locations of items rated less than acceptable.

d. The relative importance of the identified maintenance issues should be specified in the transmittal letter.

e. If the Overall System Rating is Minimally Acceptable, the report needs to establish a timeframe for correction of serious deficiencies noted (not to exceed two years) and indicate that if these items are not corrected within the required timeframe, the system will be rated as Unacceptable and made Inactive in the Rehabilitation Inspection Program.

J. **Notification:**

Reports are to be disseminated as follows within 30 days of the inspection date.

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
Reports need to be provided to the local sponsor and the county emergency management agency.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, and to the FEMA region.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, FEMA region, and to the Congressional delegation within 30 days of the inspection.

National Levee Database

NLD

For Official Use Only

LEVEE INSPECTION MAPBOOK

Levee Segment
Munster

NLD Levee Segment ID
2604000009

Location
Munster

Inspection Type
Routine

Start Date
11-Apr-2022

End Date
11-Apr-2022

Inspected By
Chris Schaal, Jonathan Lombardi, Yuki

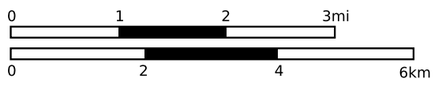
US Army Corps of Engineers

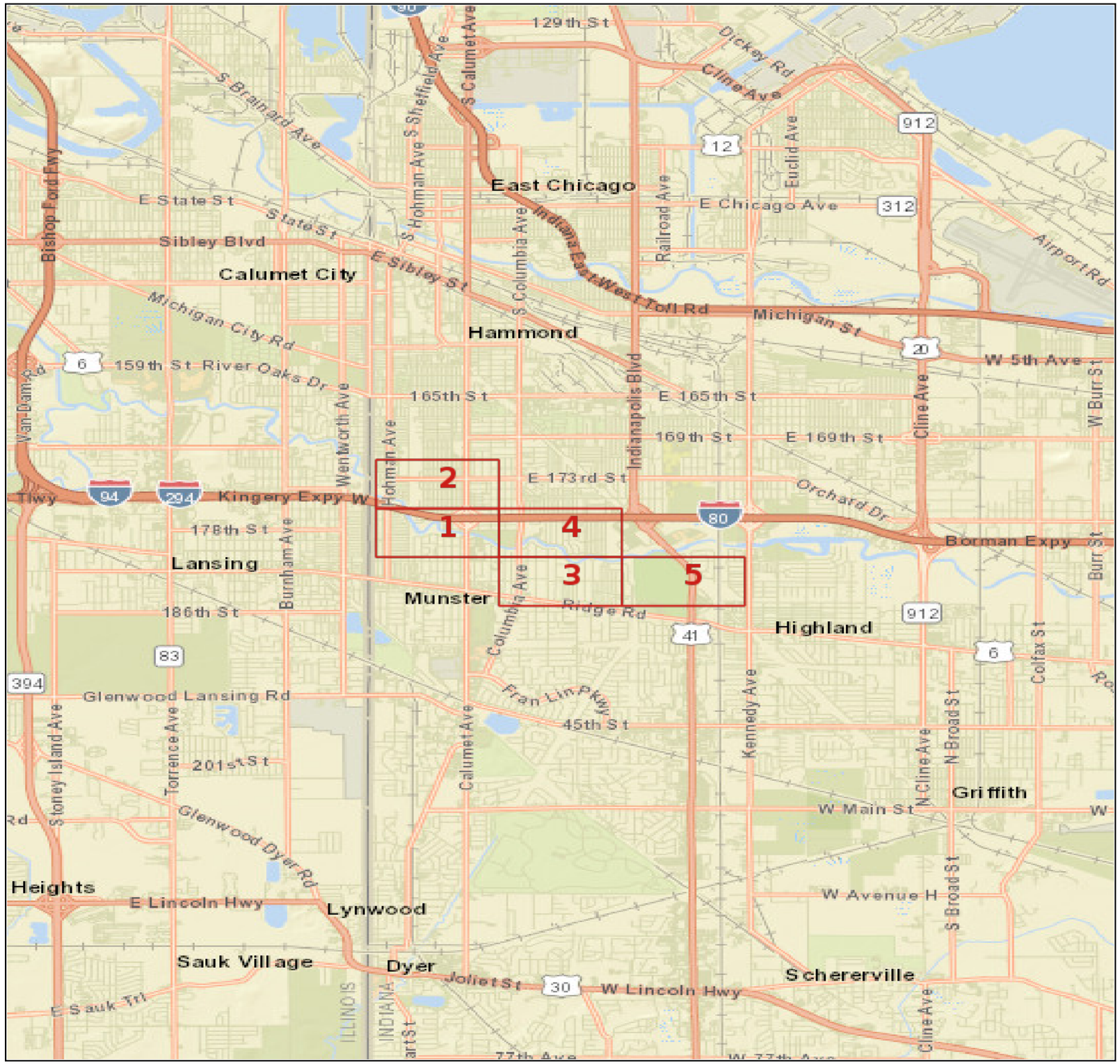
SHEET INDEX

Levee: Munster

MAP ELEMENTS

5 Standard Sheets





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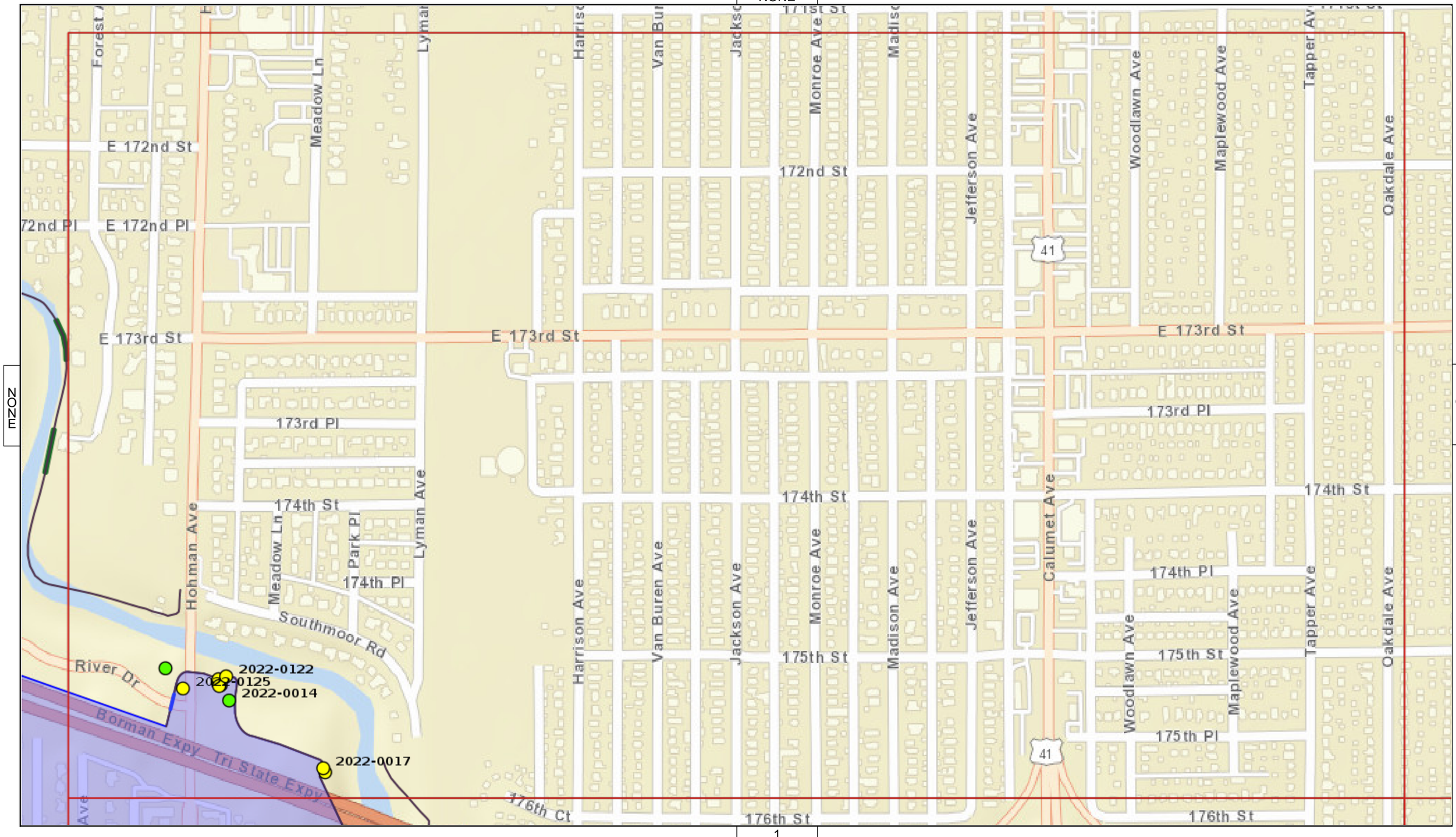

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OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

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NLD

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Munster

Type: Routine 11-Apr-2022

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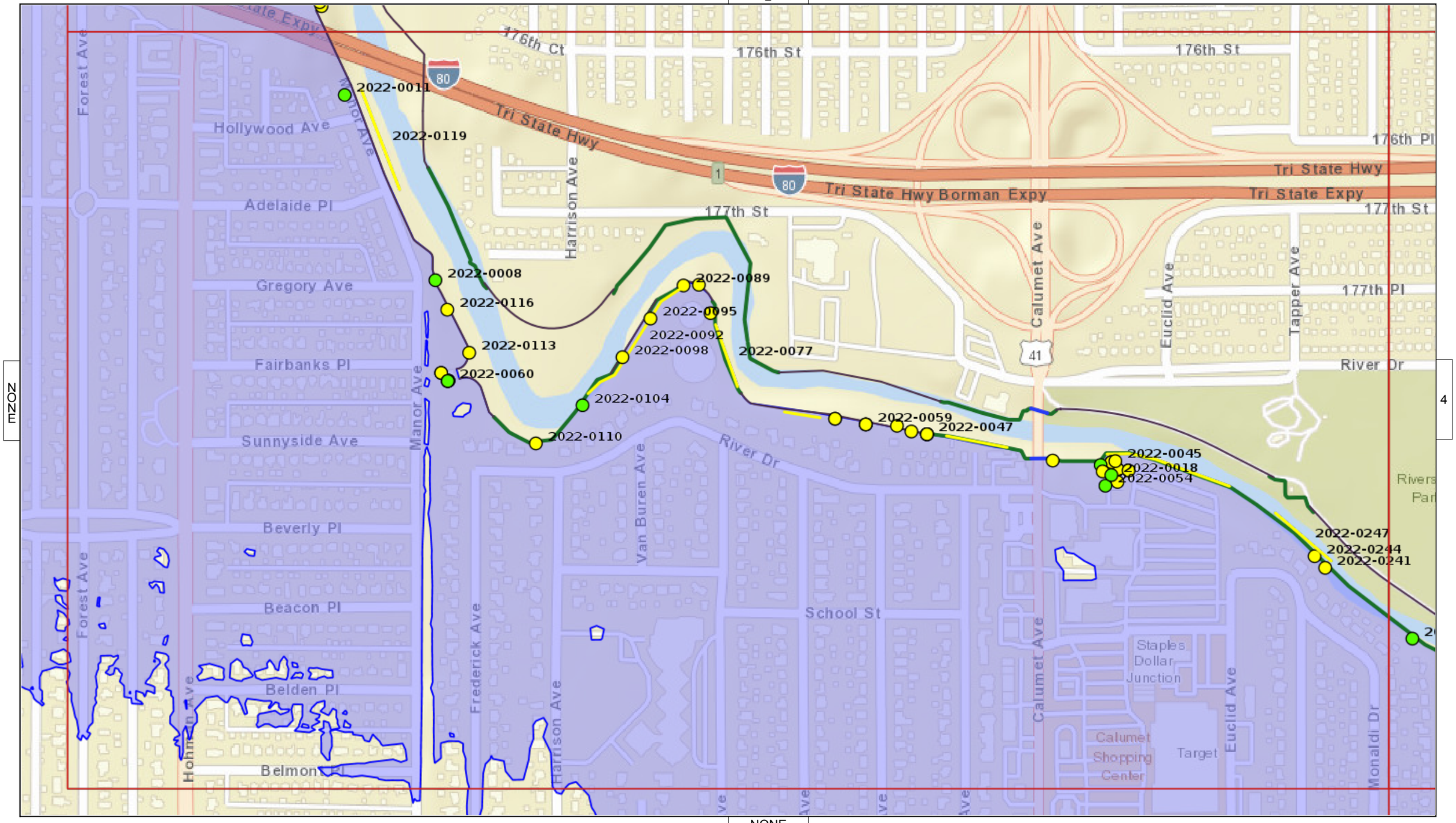

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- Minimally Acceptable
- Unacceptable
- Not Applicable

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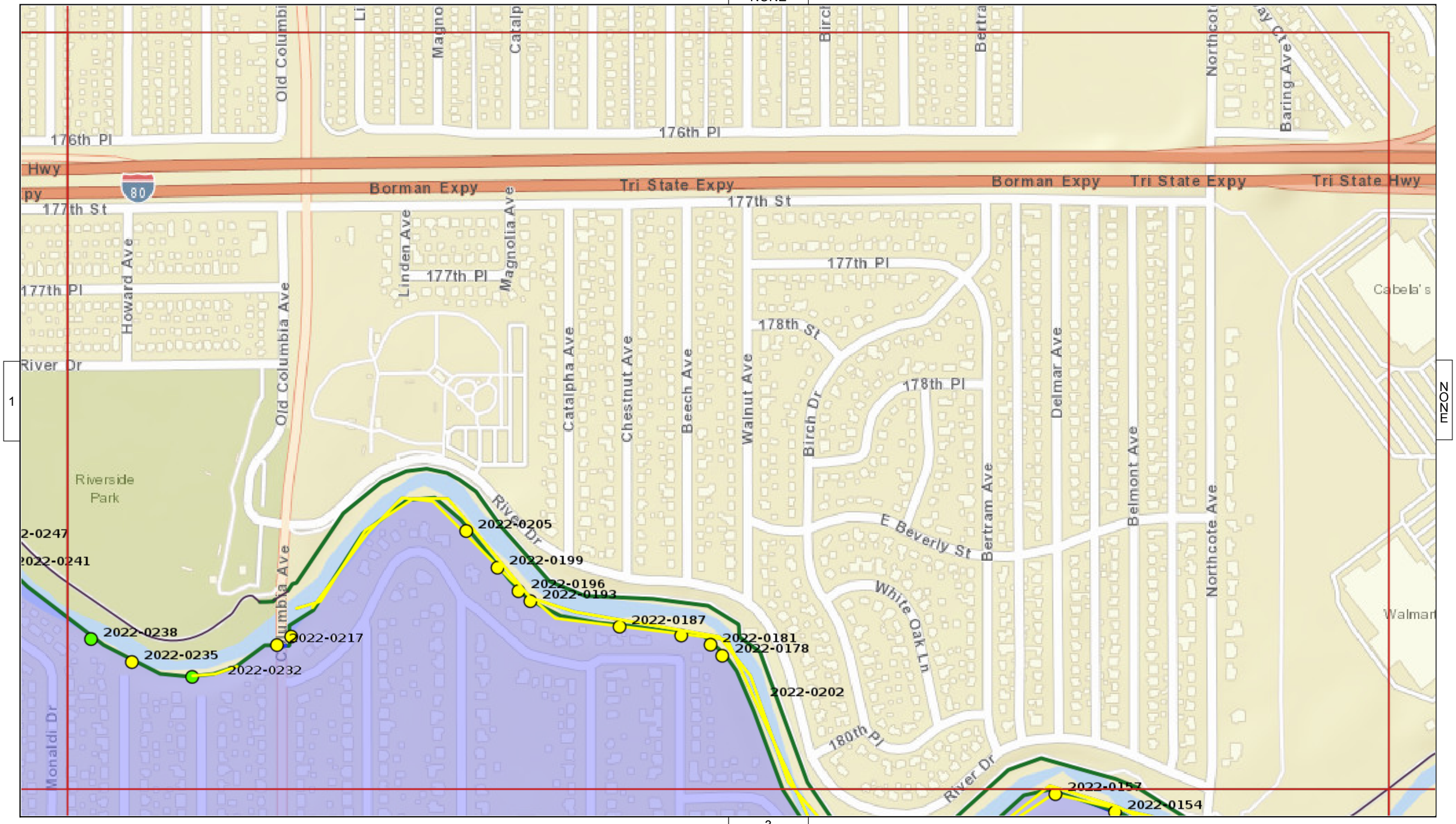

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OBSERVATIONS

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- Minimally Acceptable
- Unacceptable
- Not Applicable

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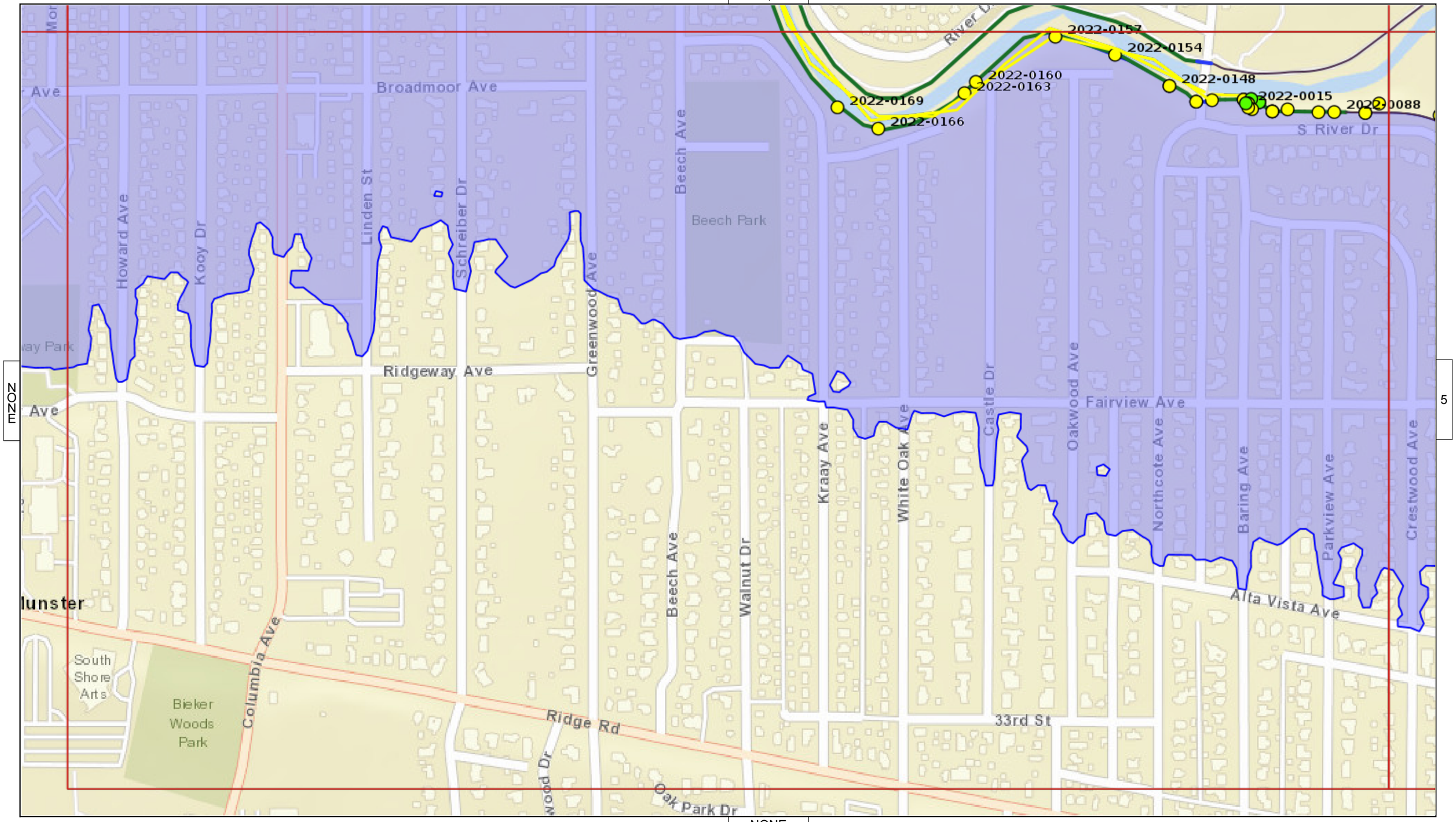

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OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

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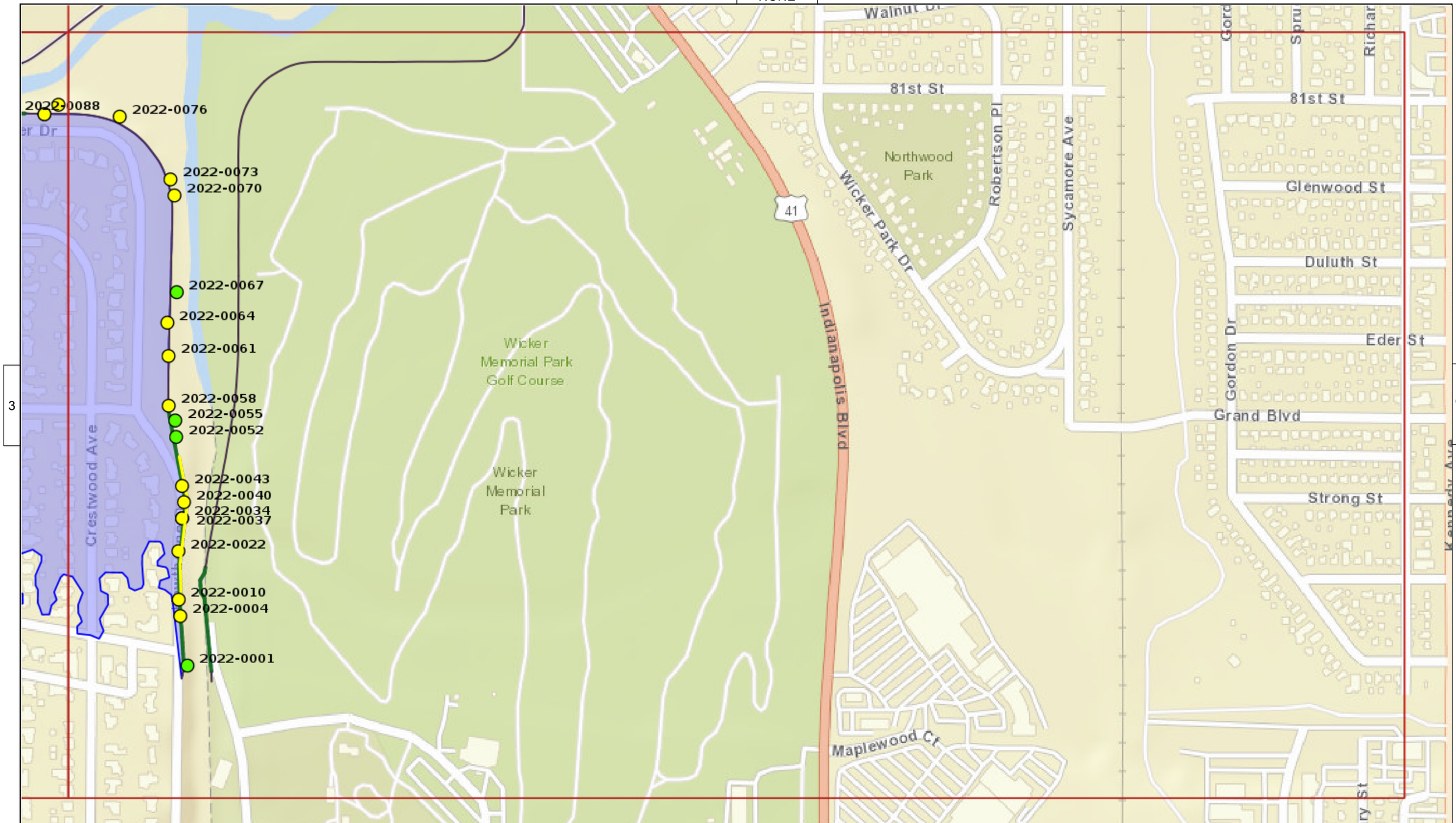

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OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

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NLD

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Munster

Type: Routine 11-Apr-2022

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.

Rehabilitation Program Eligibility Determination	
Yes ☒ No ☐	Public sponsor provided maintenance information per the Public Sponsor Pre-Inspection Form.
Yes ☐ No ☐ N/A ☒	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 ☐ M ☒ U ☐	3. Encroachments
A ☒ U ☐ N/A ☐	4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures)
A ☒ M ☐ U ☐	5. Slope Stability
A ☒ M ☐ U ☐	6. Erosion/ Bank Caving
A ☐ M ☒ U ☐	10. Animal Control
A ☐ M ☒ U ☐ N/A ☐	11. Culverts/Discharge Pipes (This item includes both concrete and corrugated metal pipes.)
A ☐ M ☐ U ☐ N/A ☒	14. Underseepage Relief Wells/Toe Drainage Systems
Floodwalls – N/A	
A ☐ M ☒ U ☐	2. Encroachments
A ☒ U ☐ N/A ☐	3. Closure Structures (Stop Log Closures and Gates)
A ☒ M ☐ U ☐	5. Tilting, Sliding, or Settlement of Concrete Structures
A ☐ M ☒ U ☐	6. Foundation of Concrete Structures

A ☐ M ☐ U ☐ N/A ☒	8. Underseepage Relief Wells/Toe Drainage Systems
Interior Drainage System	
A ☐ M ☒ U ☐ N/A ☐	9. Culverts/Discharge Pipes
A ☒ M ☐ U ☐ N/A ☐	10. Sluice/Slide Gates
A ☐ M ☒ U ☐ N/A ☐	11. Flap Gates/Flap Valves/Pinch Valves
Pump Stations – N/A	
A ☒ M ☐ U ☐	17. Intake and Discharge Pipelines
A ☒ M ☐ U ☐ N/A ☐	18. Sluice/Slide Gates
A ☒ M ☐ U ☐ N/A ☐	19. Flap Gates/Flap Valves/Pinch Valves
Rehabilitation Program Status	
Active ☒	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 ☐	System does not meet interim eligibility requirements.
Comments: Only minor issues noted for the system.	