US Army Corps of Engineers ®

Levee Inspection Report

Name of System: Hammond Forest Ave

Name of Segment: Hammond Forest Ave

NLD System ID: 2605000010 NLD Segment ID: 2604000010

Segment Type: USACE Federally constructed, turned over to public sponsor for operations and maintenance

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

Inspection Report Prepared by: Chris Schaal Date(s) of Inspection: 04/29/2024 - 04/30/2024

Inspection Report Prepared by: Mike Cook

Inspection Report Prepared by: Youa Yang

Other Segments Within This System

Segment Name	NLD Segment ID#	Segment Type

Contents of Levee Inspection Report:

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

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

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

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

Name	Organization	Discipline	Phone Number
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Mark Gordish	Hammond Public Works	Community	
Dean B	Hammond Public Works	Community	
Chris Tyssen	Hammond Public Works	Community	
Robert Kennedy Jr.	HSD	Community	

Levee Segment Inspection Summary:

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

The overall system rating is Minimally Acceptable, which is unchanged since the last formal inspection.

Two significant issues were identified: steps/landscaping rocks were excavated deeper into the landside levee slope and a louver fan did not operate when the corresponding fan was operating. The Unacceptable items do not affect the overall system rating but should be remedied as soon as possible.

There were minor issues associated with: a steep slope greater than the 1:2.5, animal burrow holes, unwanted vegetation on and near the levee embankment and floodwalls, silted in flap gates, deteriorating sealant on monolith joints, encroachments on or around levee embankment and floodwalls (consisting of vegetation, debris or roadway signs), bank and slope caving/erosion, and settlement. Issues noted at the pump stations included cracks, oil leaks, missing grate clips, erosion/depressions, ponding inside the building, a broken utility conduit, outdated electrical labels, and possible delamination of the concrete floor.

Levee System Inspection Summary:

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

Same as segment summary.

General Items

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Operations and Maintenance Manuals	**A**	**A**	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	**Justification:** A Forest Ave Levee System O&M Manual was developed for certification. Manuals are maintained by the City Engineering Department at City Hall.
		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.	2024-0005 : Over 4,000 sandbags are available. Pallets and bags are in acceptable condition, stored away from the elements, and located at the Conkey Ave public works department.(A) **Justification:** The City of Hammond has a ready inventory of flood fighting supplies and equipment. Primary resources are available through the Public Works Department, but also can be supplemented by other city departments. The Street Dept Public Works facility at 601 Conkey maintains pay loaders, 42 trucks (12 newer), 4 front loaders, 26 concrete blocks, portable welders, approximately 80 pallets (100/pallet) of shrink-wrapped sandbags checked within the past few years, 2 forklifts, a pile of sand, 5,000 empty sandbags, and visqueen. The borrow source is Krooswyk. Hammond manually fills sandbags or uses a salt spreader to fill large quantities of bags.
		M	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.	

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

General Items

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
3. Flood Preparedness and Training (A or M only)	**A**	**A**	Sponsor has a written system-specific flood response plan that will be used to trigger emergency operation activities and a solid understanding of how to operate, maintain, and staff the levee system during a flood, including demonstration that sufficient flood warning time exists for the completed operation of all closure structures. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	**Justification:** The City of Hammond uses the RAVE emergency notification system to send messages to residents via phone, email, and web. They also use reverse 911, the WJOB radio station, door to door, loudspeaker, and police to relay information. Public Works uses frequency radios with the police and fire departments. Evacuation areas include City Hall, the Civic Center, Jean Shepherd Community Center, Armory, Purdue Northwest, and the Area Career Center. The fire department has rescue boats. Public Works and the Sanitary District are ready to mobilize and Dyer and Grimmer are on hand to assist with flood fighting if required. Updated Flood Handbooks were provided in 2019.
		M	The sponsor maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Unwanted Vegetation Growth	**M**	**A**	The levee has little or no unwanted vegetation (trees, bush, or undesirable weeds), except for vegetation that is properly contained and/or situated on overbuilt sections, such that the mandatory 3-foot root-free zone is preserved around the levee profile. The levee has been recently mowed. The vegetation-free zone extends 15 feet from both the landside and riverside toes of the levee to the centerline of the tree. If the levee access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EP 1110-2-18 and other relevant Corps policy.	2024-0025 : Tree on the landside toe of the levee(M) 2024-0049 : Trees within 15 feet of the landside toe(M) 2024-0069 : Vegetation along the landside toe(M) 2024-0077 : Three large trees within 15 feet of the riverside toe(M) 2024-0087 : Garden on the landside slope(M) 2024-0093 : Trees on the landside slope(M) 2024-0095 : Small trees on the riverside of the sheetpile wall(M) 2024-0099 : Three trees planted in the landside slope since the last inspection(M) 2024-0103 : Ornamental trees and a bush on the landside slope of the retaining wall(M) 2024-0127 : Small trees on the riverside of wall.(M) 2024-0131 : Small tree on the landside of the sheetpile wall(M) **Recommendation:** Cut back trees and vegetation within the 15-foot vegetation free zone. Large trees need to be removed completely and rootball backfilled with compacted clay. If vegetation belongs to a local homeowner, discuss with homeowner and either remove vegetation or apply for a Section 408 permit.
		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 be removed to reestablish or ascertain levee integrity.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
2. Sod Cover	**A**	**A**	There is good coverage of sod over the levee.	2024-0139 : Good sod cover(A) **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.	
		NA	Surface protection is provided by other means.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
3. Encroachments	**M**	**A**	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	2024-0029 : Lawn furniture and pavement along the landside toe(M) 2024-0033 : Junction box embedded in the landside toe(M) 2024-0045 : Steps embedded in the landside slope(M) 2024-0053 : Downed branches on the riverside toe(M) 2024-0073 : Downed logs on the landside toe(M) 2024-0081 : Downed trees on the landside toe(M) 2024-0094 : Fallen tree on the landside slope(M) 2024-0107 : Fence and other objects within the landside toe easement(M) 2024-0111 : Playground within the landside toe easement(M) 2024-0115 : Planter bin within the landside toe easement(M) 2024-0119 : Garden on the landside of the sheetpile wall(M) 2024-0147 : Tree debris on the landside toe(M) 2024-0151 : Tree debris on the landside toe(M) 2024-0154 : Steps/landscaping rocks in the landside levee slope. Appears to have been embedded into the slope more since the last inspection(U)
		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.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
				Recommendation: Remove encroaching debris from around levee. If encroaching items belong to local homeowner, discuss with homeowner and either remove the items or apply for a Section 408 permit. The "Unacceptable"' observation points do not affect the overall system rating but should be addressed as soon as possible. Any of the embedded items in the levee that are removed will require filling and reseeding of the embankment to design specifications.
4. Closure Structures	**NA**	**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.	
		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		NA	There are no closure structures along this component of the levee segment / system.	
5. Slope Stability	**M**	**A**	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	2024-0021 : 1.5 to 1 slope on the riverside slope(M)
		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.	**Recommendation:** Monitor the steep slope for further changes.

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
6. Erosion/Bank Caving	**M**	**A**	No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.	2024-0017 : Riverside bank caving(M) 2024-0057 : Erosion and bank caving along the riverside toe(M) 2024-0091 : Erosion along the riverside toe(M) **Recommendation:** Repair embankments with riprap or suitable clay topsoil. Restore the toe where erosion or caving have altered the levee cross section.
		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.	2024-0037 : Settling of soil against the landside of the sheetpile wall - about 4 inches of settlement noted(M) 2024-0041 : Since the last inspection at the sheetpile wall - Along the center of the crest and on the slope, there is approximately 2 and 3 additional inches of settlement, respectively(M) 2024-0065 : 2 to 3 inches of settlement on the landside of the sheetpile wall(M) **Recommendation:** At the sheetpile wall, determine cause of soil loss and correct the issue as needed. Survey low spots in NAVD88 to confirm the current elevation and restore cross sections to original design.
		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.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
8. Depressions / Rutting	**M**	**A**	There are scattered, shallow ruts, pot holes, or other depressions on the levee that are unrelated to levee settlement. The levee crown, embankments, and access road crowns are well established and drain properly without any ponded water.	2024-0074 : Rutting due to animal tracks on the riverside slope(M) 2024-0079 : 1-foot-deep depression on the landside slope(M) 2024-0083 : Depression in the levee crown(M) 2024-0085 : 2 foot wide by 16-inch-deep hole in the riverside slope(M) 2024-0089 : Rutting and loss of sod cover on the landside crest(M) 2024-0098 : Depression and rutting on the levee crown(M) 2024-0102 : Depression on the levee crest(M) 2024-0135 : 6-inch-deep depression on the riverside toe(M) 2024-0143 : Minor depressions on the riverside slope(M) **Recommendation:** Fill shallow ruts with topsoil and seed. Fill deep ruts with clay and restore sod cover.
		M	There are some infrequent minor depressions less than 6 inches deep in the levee crown, embankment, or access roads that will pond water.	
		U	There are depressions greater than 6 inches deep that will pond water.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
9. Cracking	**A**	**A**	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	**Justification:** No issues observed.
		M	Longitudinal and/or transverse cracks up to 6 inches in depth with no vertical movement along the crack. No cracks extend continuously through the levee crest. Longitudinal cracks are no longer than the height of the levee.	
		U	Cracks exceed 6 inches in depth. Longitudinal cracks are longer than the height of the levee and/or exhibit vertical movement along the crack. Transverse cracks extend through the entire levee width.	
10. Animal Control	**M**	**A**	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	2024-0082 : 7-inch-deep animal burrow in the riverside slope(M) **Recommendation:** Fill the burrow with compacted clay and reseed.
		M	The existing animal burrow control program needs to be improved. Several burrows are present which may lead to seepage or slope stability problems, and they require immediate attention.	
		U	Animal burrow control program is not effective or is nonexistent. Significant maintenance is required to fill existing burrows, and the levee will not provide reliable flood protection until this maintenance is complete.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
11. Culverts / Discharge Pipes (This item includes both concrete and corrugated metal pipes.)	**M**	**A**	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. All joints appear to be closed and the soil tight. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods within the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed are in good condition.	**Justification:** The last camera inspection report was submitted in 2018. These pipes did not demonstrate any performance issues during the Feb 2018 flood event. FA-02 (12 inch RCP) - Partial inspection due to partially closed gate at manhole preventing further inspection. Previously existing sluice gates were supposed to have been removed. FA-04 (15 inch RCP) - Debris in the pipe. FA-05 (12 inch RCP) - Structural defects at the following locations from the manhole: circumferential crack (13.3 ft south), wide joint separation (7.9 ft south), misalignment at broken joints (8 ft north), wide joint separation (14.4 ft north), etc. **Recommendation:** Address deficiencies. Repair plan should be developed and coordinated with USACE before implementing. Provide the latest camera inspection report.
		M	There are some defects noted that should be monitored. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed do not indicate a change in condition since the last condition assessment.	
		U	One or more significant defects exist. The exterior pipe conditions observed indicate there may be a change in pipe condition since the last condition assessment. The interior condition of pipes has not been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures.	
		NA	There are no discharge pipes / culverts.	
12. Riprap Revetments & Bank Protection	**M**	**A**	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	2024-0097 : Trees in the riprap of the riverside slope(M) **Recommendation:** Remove trees from the riprap.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		NA	There is no riprap protecting this feature of the system, or riprap is discussed in another section.	

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Levee Embankments

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
13. Revetments other than Riprap	**M**	**A**	Existing revetment protection is properly maintained, undamaged, and clearly visible.	2024-0061 : Sheetpile walls on the landside and riverside are tilting out away from the center(M) 2024-0123 : Broken weld on the landside of the sheetpile wall(M) 2024-0155 : The tilting sheetpile at the riverside toe was underwater and was not inspected.(M) **Recommendation:** Adress the deficiencies related to the sheetpile wall.
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		NA	There are no such revetments protecting this feature of the system.	
14. Underseepage Relief Wells/ Toe Drainage Systems	**NA**	**A**	Toe drainage systems and pressure relief wells necessary for maintaining levee segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		M	Toe drainage systems or pressure relief wells are physically damaged or are experiencing some clogging or performance losses as evidenced by performance data, pumping tests, or observation. The performance losses are not expected to significantly affect levee performance during full loading. Wells have been pump tested, drainage systems have been inspected within the past 5 years, and documentation is provided. Maintenance records indicate some well rehabilitation is needed.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining levee segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		NA	There are no relief wells/ toe drainage systems along this component of the levee segment / system.	

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Levee Embankments

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

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Unwanted Vegetation Growth	**M**	**A**	A grass-only or paved zone is maintained on both sides of the floodwall, free of all trees, brush, and undesirable weeds. The vegetation-free zone extends 15 feet from both the land and riverside of the floodwall, at ground-level, to the centerline of the tree. Additionally, an 8- foot root-free zone is maintained around the entire structure, including the floodwall toe, heel, and any toe-drains. If the floodwall access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EP 1110- 2-18 and other relevant Corps policy.	2024-0006 : Vegetation on the landside of the floodwall(M) 2024-0030 : Typical vegetation along the floodwall on the riverside(M) 2024-0034 : Small tree on the riverside of the floodwall(M) 2024-0046 : Small tree on the riverside of the floodwall(M) 2024-0047 : Small tree on the riverside of the floodwall(M) 2024-0050 : Small tree on the riverside of the floodwall(M) 2024-0054 : Small trees on the riverside of the floodwall(M) 2024-0067 : Small trees on the riverside of the floodwall(M) **Recommendation:** Cut back trees and vegetation within the 15-foot vegetation free zone. Large trees need to be removed completely and rootball backfilled with compacted clay.
		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.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
2. Encroachments	**M**	**A**	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the floodwall.	2024-0035 : Sign post on the riverside of the floodwall(M) 2024-0042 : Leafy debris attracting water that could lead to freeze thaw on waterside of the floodwall. (M) 2024-0055 : Sign on the riverside of the floodwall(M) 2024-0101 : Sign on the riverside of the floodwall(M) 2024-0105 : Signs on the riverside of the floodwall(M) 2024-0109 : Sign on the riverside of the floodwall(M) 2024-0113 : Sign on the riverside of the floodwall(M) **Recommendation:** Remove debris or other encroachments. Signs or other objects belonging to a goverment agency should be removed or apply for a Section 408 permit.
		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.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
3. Closure Structures (Stop Log Closures and Gates) (A or U only)	**A**	**A**	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	2024-0001 : Tested opening and closing the closure structure. No issues noted. Two people took 7 minutes to completely install the closure(A) 2024-0003 : South closure: Top piece broke during exercise and a few logs are deformed, leaving gaps(A) 2024-0015 : North closure: There are small gaps between the stop logs(A) 2024-0031 : The sandbag closure base is in good condition(A) **Recommendation:** Replace broken or deformed stop logs
		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
		NA	There are no closure structures along this component of the levee segment / system.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
4. Concrete Surfaces	M	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2024-0007 : Typical example of minor spalling on the landside of the floodwall(M) 2024-0009 : Crack on the riverside of the floodwall(M) 2024-0010 : Typical cracking on the landside of the floodwall(M) 2024-0011 : Minor spalling on the landside of the floodwall(M) 2024-0013 : Crack maintenance on the riverside of the floodwall(M) 2024-0018 : Cracking that is slightly larger (not typical) on the landside of the floodwall(M) 2024-0026 : Broken concrete on the landside of the floodwall(M) 2024-0038 : Separation between the top and bottom portions of the riverside of the floodwall(M) 2024-0051 : Deteriorating concrete at the base of the riverside of the floodwall(M) 2024-0058 : Cracking on the riverside of the floodwall(M) 2024-0059 : Crack on the riverside of the floodwall(M) 2024-0063 : Cracking on the riverside of the floodwall(M)
		M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
				Recommendation: Grind down any major spalled areas and patch. Patch any cracks that are wider than hairline width.
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	**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. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stable until the next inspection.	
		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.	

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Floodwalls

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
7. Monolith Joints	**M**	**A**	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	2024-0002 : Typical example of joint sealant shrinking while drying on the landside of the floodwall(M) 2024-0014 : Typical example of the backer rod exposed at the top of the floodwall through the sealant(M) 2024-0019 : Cracked sealant on the landside of the floodwall(M) 2024-0022 : Typical exposed backer rod on the landside of the floodwall(M) 2024-0023 : Exposed backer rod at the top of the floodwall(M) 2024-0027 : Degraded sealant on the landside of the floodwall(M) 2024-0039 : Typical sealant cracking on the riverside of the floodwall(M) 2024-0043 : Sealant is saturated and deteriorating and the backer rod is exposed due to a concrete spall on the riverside of the floodwall(M) **Recommendation:** Restore any exposed/displaced backer rod to its original position. Remove any degraded sealant and replace in kind.
		M	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	
		U	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
		NA	There are no monolith joints in the floodwall.	

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Floodwalls

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

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Vegetation and Obstructions	**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 re-establish flow capacity.	
2. Encroachments	**A**	**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.	**Justification:** No issues observed.
		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.	
		NA	There are no ponding areas associated with the interior drainage system.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
4. Fencing and Gates	**NA**	**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.	
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		NA	There are no features noted that require safety fencing.	
5. Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts)	**M**	**A**	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2024-0070 : FA-04: Cracking at the outlet structure wingwall(M) **Recommendation:** Monitor cracks for growth. If cracks progress, fill with polyurethane sealant.
		M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	
		NA	There are no concrete items in the interior drainage system.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures (Such as gate wells, outfalls, intakes, or culverts)	**A**	**A**	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	**Justification:** No issues observed.
		M	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
		U	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
		NA	There are no concrete items in the interior drainage system.	
7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.)	**M**	**A**	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2024-0078 : FA-03: Depression behind the wall, about 44 inches deep(M) 2024-0086 : FA-03: Erosion near the outlet structure(M) **Recommendation:** Fill eroded areas with with riprap or clay and reseed.
		M	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. The rate of erosion is such that the structure is expected to remain stable until the next inspection.	
		U	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
		NA	There are no concrete items in the interior drainage system.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
8. Monolith Joints	**A**	**A**	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	**Justification:** No issues observed.
		M	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	
		U	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
		NA	There are no monolith joints in the interior drainage system.	
9. Culverts/Discharge Pipes	**M**	**A**	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. All joints appear to be closed and the soil tight. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods within the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed are in good condition.	2024-0071 : FA-06: General alignment is acceptable(A) **Justification:** The last camera inspection report was submitted in 2018. These pipes did not demonstrate any performance issues during the Feb 2018 flood event. FA-02 (12 inch RCP) - Partial inspection due to partially closed gate at manhole preventing further inspection. Previously existing sluice gates were supposed to have been removed. FA-04 (15 inch RCP) - Debris in the pipe. FA-05 (12 inch RCP) - Structural defects at the following locations from the manhole: circumferential crack (13.3 ft south), wide joint separation (7.9 ft south), misalignment at broken joints (8 ft north), wide joint separation (14.4 ft north), etc. **Recommendation:** Address deficiencies. Repair plan should be developed and coordinated with USACE before implementing. Provide the latest camera inspection report.
		M	There are some defects noted that should be monitored. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed do not indicate a change in condition since the last condition assessment.	
		U	One or more significant defects exist. The exterior pipe conditions observed indicate there may be a change in pipe condition since the last condition assessment. The interior condition of pipes has not been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures.	
		NA	There are no discharge pipes/ culverts.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
10. Sluice / Slide Gates	**NA**	**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.	
		M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		NA	There are no sluice/ slide gates.	
11. Flap Gates/ Flap Valves/ Pinch Valves	**M**	**A**	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	2024-0062 : FA-05: Debris and vegetation are around the gate(M) 2024-0066 : FA-04: Vegetation is covering the gate(M) 2024-0090 : FA-02: Vegetation is blocking the silted in gate(M) **Recommendation:** Clear debris or vegetation from 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.	
		NA	There are no flap gates.	
12. Trash Racks (non-mechanical)	**M**	**A**	Trash racks are fastened in place and properly maintained.	2024-0075 : FA-05: The inlet grate is broken(M) **Justification:** Recommendation: Repair the inlet grate
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		NA	There are no trash racks, or they are covered in the pump stations section of the report.	

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Interior Drainage System

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
13. Other Metallic Items	**A**	**A**	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	**Justification:** No issues observed.
		M	Corrosion seen on metallic parts appears to be maintainable.	
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		NA	There are no other significant metallic items.	
14. Riprap Revetments of Inlet/ Discharge Areas	**A**	**A**	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	**Justification:** No issues observed.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		NA	There is no riprap protecting this feature of the system, or riprap is discussed in another section.	
15. Revetments other than Riprap	**NA**	**A**	Existing revetment protection is properly maintained, undamaged, and clearly visible.	
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		NA	There are no such revetments protecting this feature of the system.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
1. Pump Stations Operating, Maintenance, Training, & Inspection Records	**A**	**A**	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	2024-0152 : PS-SH: Good maintenance record keeping(A) 2024-0153 : PS-FA: Good maintenance record keeping(A)
		M	Operation, maintenance and inspection records are present but not adequately used and updated.	
		U	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
2. Pump Station Operations and Maintenance Equipment Manuals	**A**	**A**	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	2024-0008 : PS-SH: Manuals kept onsite(A) 2024-0064 : PS-FA: Manuals kept onsite(A)
		M	Operation, maintenance and inspection records are present but not adequately used and updated.	
		U	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
3. Safety Compliance	**M**	**A**	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	2024-0048 : PS-SH: Missing grate clips.(M) **Recommendation:** Recommend adding clips for safety.
		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:** Devices are available to pump station operator and maintenance personnel.
		M	A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
5. Plant Building	**M**	**A**	The building is in good structural condition with no major foundation settlement problems. The roof is not leaking, intake & exhaust louvers are clear of debris, fans are operational, etc.	2024-0016 : PS-SH: Concrete crack in the building entrance landing.(M) 2024-0020 : PS-SH: Step was replaced since the last inspection(A) 2024-0036 : PS-SH: Depression near sluiceway, approximately 4" deep - noted during last inspection(M) 2024-0040 : PS-SH: Cracks in sluiceway. Repair attempts have been made in the past.(M) 2024-0044 : PS-SH: Missing roof shingles have been replaced since the last inspection(A) 2024-0068 : PS-FA: Hollow sounding floor at the location pictured / possible delamination.(M) 2024-0072 : PS-JA: Wall crack in the building.(M) 2024-0076 : PS-FA: Erosion near the building foundation - noted during previous inspections.(M) **Recommendation:** Recommend repairing. Fill in areas of erosion. Investigate the conitued settlement of the South Hohman Pump Station.
		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.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
6. Fencing and Gates	**A**	**A**	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	**Justification:** No issues observed.
		M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		NA	There are no features noted that require safety fencing.	
7. Pumps	**M**	**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.	2024-0012 : PS-SH: Ponding at pump 3, may be splashing up through the cover.(M) 2024-0052 : PS-FA: Active oil leak at SWP-1 - noted during previous inspections.(M) 2024-0060 : PS-FA: Evidence of oil leak on SWP-1 and SWP-2 supply lines (SWP-1 pictured).(M) **Recommendation:** Recommend checking seals on cover for degradation and inspecting for leaks and repairing as needed,
		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.	**U**	**A**	All items are operational. Preventative maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, bearing sensors and auto shutdowns are operational.	2024-0024 : PS-SH: The exhaust fan louver in the trash rake room is not opening while the fan is operating, may create negative pressure in the building.(U) **Recommendation:** Repair as soon as possible. The "Unacceptable"' item does not affect the overall system rating.
		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.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
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	**A**	**A**	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.	**Justification:** No issues observed.
		M	The trash rake is in need of maintenance, but is still operational.	
		U	Trash rake not operational or deficiencies will inhibit operations during the next flood event.	
		NA	There are no mechanical trash rakes.	
11. Non-Mechanical Trash Racks	**A**	**A**	Trash racks are fastened in place and properly maintained.	**Justification:** No issues observed.
		M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		NA	There are no trash racks, or they are covered in the pump stations section of the report.	
12. Fuel System for Pump Engines	**A**	**A**	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	**Justification:** No issues observed.
		M	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.	
		U	Fuel system not functional.	
		NA	No fuel system.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
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	**M**	**A**	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	2024-0004 : PS-SH: Outdated arc flash warning labels.(M) 2024-0056 : PS-FA: Outdated arc flash warning labels.(M) **Recommendation:** Recommend funding a study to update the labels.
		M	Operational with minor discrepancies. Preventative maintenance or repairs are required, but the components are expected to function adequately during the next flood event.	
		U	Components of the electrical system will not function adequately during the next flood event and must be replaced.	
15. Megger Testing on Pump Motors and Critical Power Cables	**A**	**A**	Results of megger tests on pump motors or critical power cables show that the insulation meets manufacturer's or industry standards. Tested within the last year.	**Justification:** Testing performed last year.
		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.	

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Pump Stations

Rated Item	Rating	Rating Guidelines		Observation Locations with Descriptions and Resulting Item Rating Justification
16. Enclosures, Panels, Conduit and Ducts	**M**	**A**	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	2024-0032 : PS-SH: Broken conduit - unchanged since last inspection.(M) **Recommendation:** Repair the broken conduit.
		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**	There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. All joints appear to be closed and the soil tight. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods within the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed are in good condition.	**Justification:** No issues observed.
		M	There are some defects noted that should be monitored. The interior condition of pipes has been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures. The exterior pipe conditions observed do not indicate a change in condition since the last condition assessment.	
		U	One or more significant defects exist. The exterior pipe conditions observed indicate there may be a change in pipe condition since the last condition assessment. The interior condition of pipes has not been verified using television camera videotaping or visual inspection methods at the frequency determined in accordance with Levee Inspections and Site Visits: Standard Operating Procedures.	

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

Pump Stations

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

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

Pump Stations

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

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

Photos

Inspect ID: 2024-0005
Feature Details: General Items - Emergency Supplies and Equipment (A or M only)
Station Start:
Station End:
Caption: 0005 - Acceptable - Over 4,000 sandbags are available. Pallets and bags are in acceptable condition, stored away from the elements, and located at the Conkey Ave public works department.

Inspect ID: 2024-0025
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tree on the landside toe of the levee

Photos

Inspect ID: 2024-0049
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Trees within 15 feet of the landside toe

Inspect ID: 2024-0069
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation along the landside toe

Photos

Inspect ID: 2024-0077
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Three large trees within 15 feet of the riverside toe

Inspect ID: 2024-0087
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Garden on the landside slope

Photos

Inspect ID: 2024-0093
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Trees on the landside slope

Inspect ID: 2024-0095
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small trees on the riverside of the sheetpile wall

Photos

Inspect ID: 2024-0099
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Three trees planted in the landside slope since the last inspection

Inspect ID: 2024-0103
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Ornamental trees and a bush on the landside of the retaining wall

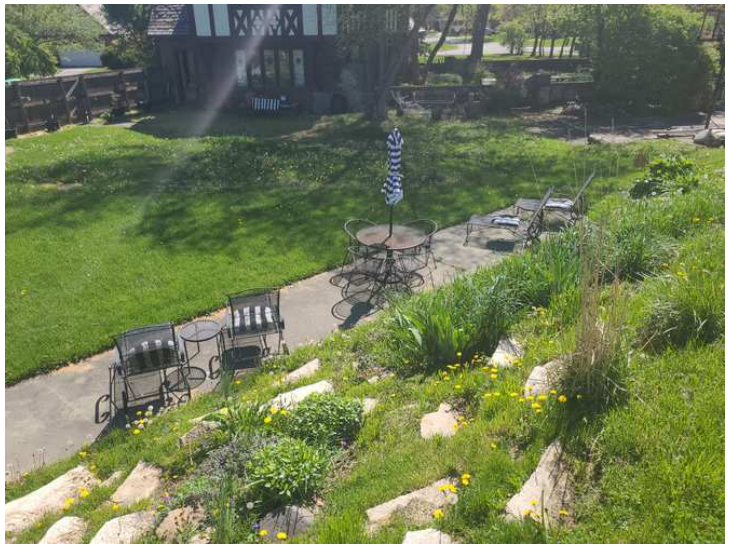
Photos

Inspect ID: 2024-0127
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small trees on the riverside of the sheetpile wall

Inspect ID: 2024-0131
Feature Details: Levee Embankments - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree on the landside of the sheetpile wall

Photos

Inspect ID: 2024-0139
Feature Details: Levee Embankments - Sod Cover - Slopes and Crown
Station Start:
Station End:
Caption: Acceptable - Good sod cover



Inspect ID: 2024-0029
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Lawn furniture and pavement along the landside toe

Photos

Inspect ID: 2024-0033
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Junction box embedded in the landside toe

Inspect ID: 2024-0045
Feature Details: Levee Embankments - Encroachments - Landside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Steps embedded in the landside slope

Photos

Inspect ID: 2024-0053
Feature Details: Levee Embankments - Encroachments - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Downed branches on the riverside toe

Inspect ID: 2024-0073
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Downed logs on the landside toe

Photos

	**Inspect ID:** 2024-0081 **Feature Details:** Levee Embankments - Encroachments - Landside Toe **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Downed trees on the landside toe
	**Inspect ID:** 2024-0094 **Feature Details:** Levee Embankments - Encroachments - Landside Slope **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Fallen tree on the landside slope

Photos

Inspect ID: 2024-0107
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Fence and other objects within the landside toe easement

Inspect ID: 2024-0111
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Playground within the landside toe easement

Photos

Inspect ID: 2024-0115
Feature Details: Levee Embankments - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Planter bin within the landside toe easement

Inspect ID: 2024-0119
Feature Details: Levee Embankments - Encroachments - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Garden on the landside of the sheetpile wall

Photos

Inspect ID: 2024-0147
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tree debris on the landside toe

Inspect ID: 2024-0151
Feature Details: Levee Embankments - Encroachments - Landside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Tree debris on the landside toe

Photos

Inspect ID: 2024-0154
Feature Details: Levee Embankments - Encroachments - Landside Slope
Station Start:
Station End:
Caption: Unacceptable - Steps/landscaping rocks in the landside levee slope. Appears to have been embedded into the slope more since the last inspection

Inspect ID: 2024-0021
Feature Details: Levee Embankments - Slope Stability - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - 1.5 to 1 slope on the riverside slope

Photos

Inspect ID: 2024-0017
Feature Details: Levee Embankments - Erosion/ Bank Caving - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Riverside bank caving

Inspect ID: 2024-0057
Feature Details: Levee Embankments - Erosion/ Bank Caving - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Erosion and bank caving along the riverside toe

Photos

Inspect ID: 2024-0091
Feature Details: Levee Embankments - Erosion/ Bank Caving - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - Erosion along the riverside toe.

Inspect ID: 2024-0037
Feature Details: Levee Embankments - Settlement - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Settling of soil against the landside of the sheetpile wall - about 4 inches of settlement noted

Photos

Inspect ID: 2024-0041
Feature Details: Levee Embankments - Settlement - Landside Slope and Crown
Station Start:
Station End:
Caption: Minimally Acceptable - Since the last inspection at the sheetpile wall - Along the center of the crest and on the slope, there is approximately 2 and 3 additional inches of settlement, respectively

Inspect ID: 2024-0065
Feature Details: Levee Embankments - Settlement - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - 2 to 3 inches of settlement on the landside of the sheetpile wall

Photos

	**Inspect ID:** 2024-0074 **Feature Details:** Levee Embankments - Depressions/ Rutting - Waterside Slope **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Rutting due to animal tracks on the riverside slope
	**Inspect ID:** 2024-0079 **Feature Details:** Levee Embankments - Depressions/ Rutting - Landside Slope **Station Start:** **Station End:** **Caption:** Minimally Acceptable - 1-foot-deep depression on the landside slope

Photos

Inspect ID: 2024-0083
Feature Details: Levee Embankments - Depressions/ Rutting - Crown
Station Start:
Station End:
Caption: Minimally Acceptable - Depression in the levee crown

Inspect ID: 2024-0085
Feature Details: Levee Embankments - Depressions/ Rutting - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - 2 foot wide by 16-inch-deep hole in the riverside slope

Photos

Inspect ID: 2024-0089
Feature Details: Levee Embankments - Depressions/ Rutting - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Rutting and loss of sod cover on the landside crest

Inspect ID: 2024-0098
Feature Details: Levee Embankments - Depressions/ Rutting - Crown
Station Start:
Station End:
Caption: Minimally Acceptable - Depression and rutting on the levee crown

Photos

Inspect ID: 2024-0102
Feature Details: Levee Embankments - Depressions/ Rutting - Crown
Station Start:
Station End:
Caption: Minimally Acceptable - Depression on the levee crest

Inspect ID: 2024-0135
Feature Details: Levee Embankments - Depressions/ Rutting - Waterside Toe
Station Start:
Station End:
Caption: Minimally Acceptable - 6-inch-deep depression on the riverside toe

Photos

Inspect ID: 2024-0143
Feature Details: Levee Embankments - Depressions/ Rutting - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Minor depressions on the riverside slope

Inspect ID: 2024-0082
Feature Details: Levee Embankments - Animal Control - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - 7-inch-deep animal burrow in the riverside slope

Photos

Inspect ID: 2024-0097
Feature Details: Levee Embankments - Riprap Revetments & Bank Protection - Waterside Slope
Station Start:
Station End:
Caption: Minimally Acceptable - Trees in the riprap of the riverside slope

Inspect ID: 2024-0061
Feature Details: Levee Embankments - Revetments other than Riprap - Landside and Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Sheetpile walls on the landside and riverside are tilting out away from the center

Photos

Inspect ID: 2024-0123
Feature Details: Levee Embankments - Revetments other than Riprap - Other
Station Start:
Station End:
Caption: Minimally Acceptable - Broken weld on the landside of the sheetpile wall

Inspect ID: 2024-0155
Feature Details: Levee Embankments - Revetments other than Riprap - Waterside Toe
Station Start:
Station End:
Caption: 0155 - Minimally Acceptable - The tilting sheetpile at the riverside toe was underwater and was not inspected.

Photos

Inspect ID: 2024-0006
Feature Details: Floodwalls - Unwanted Vegetation Growth - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Vegetation on the landside of the floodwall

Inspect ID: 2024-0030
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Typical vegetation along the floodwall on the riverside

Photos

Inspect ID: 2024-0034
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree on the riverside of the floodwall

Inspect ID: 2024-0046
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree on the riverside of the floodwall

Photos

Inspect ID: 2024-0047
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree on the riverside of the floodwall

Inspect ID: 2024-0050
Feature Details: Floodwalls - Unwanted Vegetation Growth - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Small tree on the riverside of the floodwall

Photos

	**Inspect ID:** 2024-0054 **Feature Details:** Floodwalls - Unwanted Vegetation Growth - Waterside **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Small trees on the riverside of the floodwall
	**Inspect ID:** 2024-0067 **Feature Details:** Floodwalls - Unwanted Vegetation Growth - Waterside **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Small trees on the riverside of the floodwall

Photos

Inspect ID: 2024-0035
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Sign post on the riverside of the floodwall

Inspect ID: 2024-0042
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Leafy debris attracting water that could lead to freeze thaw on the riverside of the floodwall

Photos

Inspect ID: 2024-0055
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Sign on the riverside of the floodwall

Inspect ID: 2024-0101
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Sign on the riverside of the floodwall

Photos

Inspect ID: 2024-0105
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Signs on the riverside of the floodwall

Inspect ID: 2024-0109
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Sign on the riverside of the floodwall

Photos

Inspect ID: 2024-0113
Feature Details: Floodwalls - Encroachments - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Sign on the riverside of the floodwall

NOT FOUND

Inspect ID: 2024-0001
Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only) - Landside and Waterside
Station Start:
Station End:
Caption: Acceptable - Tested opening and closing the closure structure. No issues noted. Two people took 7 minutes to completely install the closure

Photos

Inspect ID: 2024-0003
Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only) - Landside Face
Station Start:
Station End:
Caption: Acceptable - South closure: Top piece broke during exercise and a few logs are deformed, leaving gaps

Inspect ID: 2024-0015
Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only) - Landside
Station Start:
Station End:
Caption: Acceptable - North closure: There are small gaps between the stop logs

Photos

Inspect ID: 2024-0031
Feature Details: Floodwalls - Closure Structures (Stop Log Closures and Gates) (A or U only) - Other
Station Start:
Station End:
Caption: Acceptable - The sandbag closure base is in good condition

Inspect ID: 2024-0007
Feature Details: Floodwalls - Concrete Surfaces - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Typical example of minor spalling on the landside of the floodwall

Photos

Inspect ID: 2024-0009
Feature Details: Floodwalls - Concrete Surfaces - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Crack on the riverside of the floodwall

Inspect ID: 2024-0010
Feature Details: Floodwalls - Concrete Surfaces - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Typical cracking on the landside of the floodwall

Photos

Inspect ID: 2024-0011
Feature Details: Floodwalls - Concrete Surfaces - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Minor spalling on the landside of the floodwall

Inspect ID: 2024-0013
Feature Details: Floodwalls - Concrete Surfaces - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Crack maintenance on the riverside of the floodwall

Photos

Inspect ID: 2024-0018
Feature Details: Floodwalls - Concrete Surfaces - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Cracking that is slightly larger (not typical) on the landside of the floodwall

Inspect ID: 2024-0026
Feature Details: Floodwalls - Concrete Surfaces - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Broken concrete on the landside of the floodwall

Photos

Inspect ID: 2024-0038
Feature Details: Floodwalls - Concrete Surfaces - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Separation between the top and bottom portions of the riverside of the floodwall

Inspect ID: 2024-0051
Feature Details: Floodwalls - Concrete Surfaces - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Deteriorating concrete at the base of the riverside of the floodwall

Photos

	**Inspect ID:** 2024-0058 **Feature Details:** Floodwalls - Concrete Surfaces - Waterside **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Cracking on the riverside of the floodwall
	**Inspect ID:** 2024-0059 **Feature Details:** Floodwalls - Concrete Surfaces - Waterside **Station Start:** **Station End:** **Caption:** Minimally Acceptable - Crack on the riverside of the floodwall

Photos

Inspect ID: 2024-0063
Feature Details: Floodwalls - Concrete Surfaces - Waterside
Station Start:
Station End:
Caption: Minimally Acceptable - Cracking on the riverside of the floodwall

Inspect ID: 2024-0002
Feature Details: Floodwalls - Monolith Joints - Landside Joint
Station Start:
Station End:
Caption: Minimally Acceptable - Typical example of joint sealant shrinking while drying on the landside of the floodwall

Photos

Inspect ID: 2024-0014
Feature Details: Floodwalls - Monolith Joints - Joints
Station Start:
Station End:
Caption: Minimally Acceptable - Typical example of the backer rod exposed at the top of the floodwall through the sealant

Inspect ID: 2024-0019
Feature Details: Floodwalls - Monolith Joints - Joints
Station Start:
Station End:
Caption: Minimally Acceptable - Cracked sealant on the landside of the floodwall

Photos

Inspect ID: 2024-0022
Feature Details: Floodwalls - Monolith Joints - Landside
Station Start:
Station End:
Caption: Minimally Acceptable - Typical exposed backer rod on the landside of the floodwall

Inspect ID: 2024-0023
Feature Details: Floodwalls - Monolith Joints - Joints
Station Start:
Station End:
Caption: Minimally Acceptable - Exposed backer rod at the top of the floodwall

Photos

Inspect ID: 2024-0027
Feature Details: Floodwalls - Monolith Joints - Joints
Station Start:
Station End:
Caption: Minimally Acceptable - Degraded sealant on the landside of the floodwall

Inspect ID: 2024-0039
Feature Details: Floodwalls - Monolith Joints - Joints
Station Start:
Station End:
Caption: Minimally Acceptable - Typical sealant cracking on the riverside of the floodwall

Photos

Inspect ID: 2024-0043
Feature Details: Floodwalls - Monolith Joints - Joints
Station Start:
Station End:
Caption: Minimally Acceptable - Sealant is saturated and deteriorating and the backer rod is exposed due to a concrete spall on the riverside of the floodwall

Inspect ID: 2024-0070
Feature Details: Interior Drainage System - Concrete Surfaces (Such as gatewells, outfalls, intakes, or culverts) - Wingwall
Station Start:
Station End:
Caption: Minimally Acceptable - FA-04: Cracking at the outlet structure wingwall

Photos

	**Inspect ID:** 2024-0078 **Feature Details:** Interior Drainage System - Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.) **Station Start:** **Station End:** **Caption:** Minimally Acceptable - FA-03: Depression behind the wall, about 44 inches deep
	**Inspect ID:** 2024-0086 **Feature Details:** Interior Drainage System - Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.) - Other **Station Start:** **Station End:** **Caption:** Minimally Acceptable - FA-03: Erosion near the outlet structure

Photos

Inspect ID: 2024-0071
Feature Details: Interior Drainage System - Culverts/ Discharge Pipes - Other
Station Start:
Station End:
Caption: Acceptable - FA-06: General alignment is acceptable

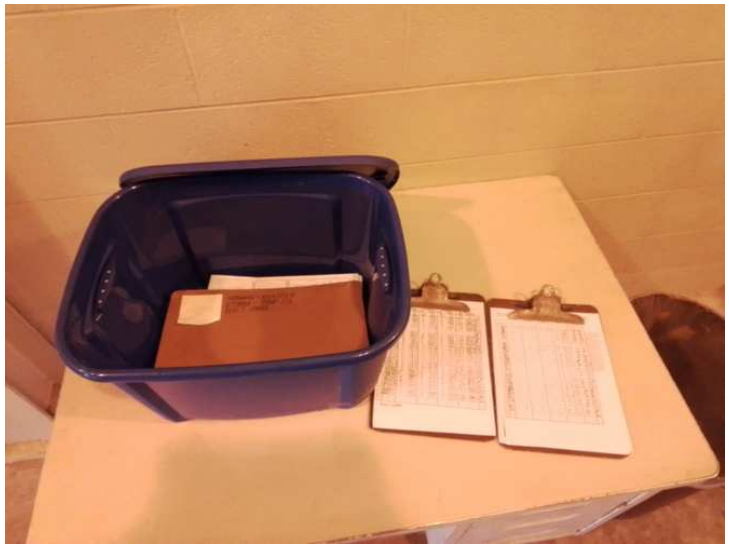
Inspect ID: 2024-0062
Feature Details: Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves
Station Start:
Station End:
Caption: Minimally Acceptable - FA-05: Debris and vegetation are around the gate

Photos

	**Inspect ID:** 2024-0066 **Feature Details:** Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves **Station Start:** **Station End:** **Caption:** Minimally Acceptable - FA-04: Vegetation is covering the gate
	**Inspect ID:** 2024-0090 **Feature Details:** Interior Drainage System - Flap Gates/ Flap Valves/ Pinch Valves - Other **Station Start:** **Station End:** **Caption:** Minimally Acceptable - FA-02: Vegetation is blocking the silted in gate

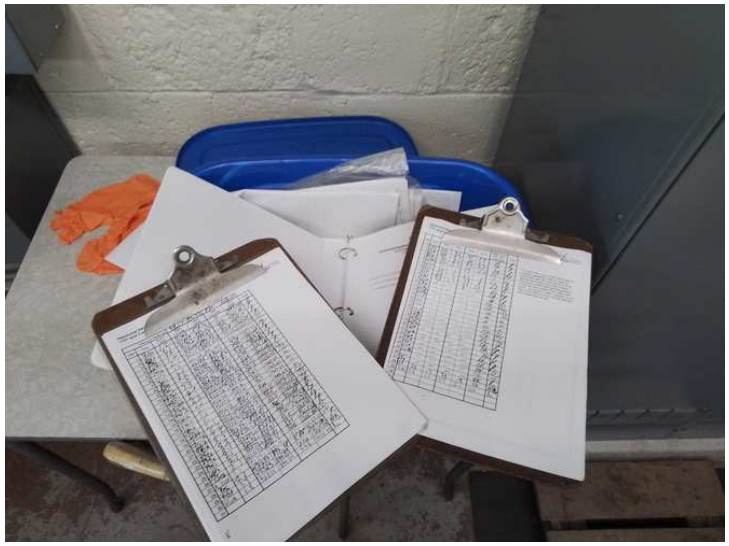
Photos

Inspect ID: 2024-0075
Feature Details: Interior Drainage System - Trash Racks (non-mechanical) - Inlet Structure
Station Start:
Station End:
Caption: Minimally Acceptable - FA-05: The inlet grate is broken

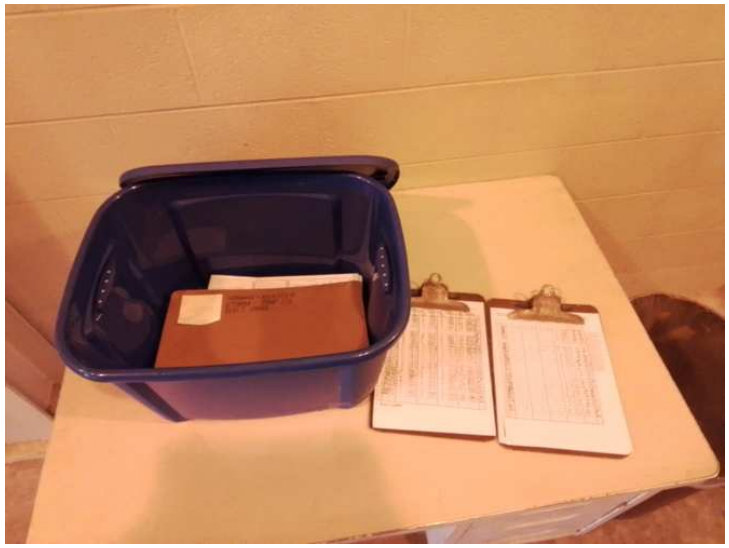


Inspect ID: 2024-0152
Feature Details: Pump Stations - Pump Stations Operating, Maintenance, Training, & Inspection Records
Station Start:
Station End:
Caption: Acceptable - PS-SH: Good maintenance record keeping

Photos

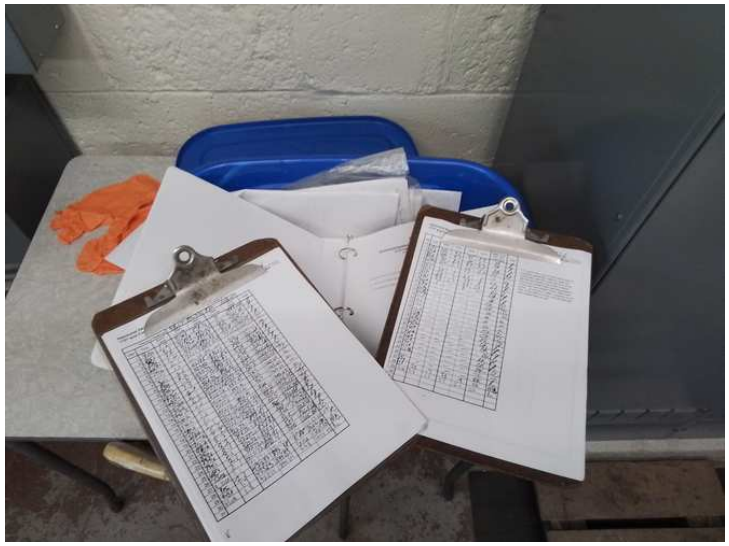


Inspect ID: 2024-0153
Feature Details: Pump Stations - Pump Stations Operating, Maintenance, Training, & Inspection Records
Station Start:
Station End:
Caption: Acceptable - PS-FA: Good maintenance record keeping



Inspect ID: 2024-0008
Feature Details: Pump Stations - Pump Station Operations and Maintenance Equipment Manuals - Interior
Station Start:
Station End:
Caption: Acceptable - PS-SH: Manuals kept onsite

Photos



Inspect ID: 2024-0064
Feature Details: Pump Stations - Pump Station Operations and Maintenance Equipment Manuals - Interior
Station Start:
Station End:
Caption: Acceptable - PS-FA: Manuals kept onsite

Inspect ID: 2024-0048
Feature Details: Pump Stations - Safety Compliance - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Missing grate clips.

Photos

Inspect ID: 2024-0016
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Concrete crack in the building entrance landing.

Inspect ID: 2024-0020
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Acceptable - PS-SH: Step was replaced since the last inspection

Photos

Inspect ID: 2024-0036
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Depression near sluiceway, approximately 4" deep - noted during last inspection.

Inspect ID: 2024-0040
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Cracks in sluiceway. Repair attempts have been made in the past.

Photos

Inspect ID: 2024-0044
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Acceptable - PS-SH: Missing roof shingles have been replaced since the last inspection

Inspect ID: 2024-0068
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-FA: Hollow sounding floor at the location pictured / possible delamination.

Photos

Inspect ID: 2024-0072
Feature Details: Pump Stations - Plant Building - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-JA: Wall crack in the building.

Inspect ID: 2024-0076
Feature Details: Pump Stations - Plant Building - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-FA: Erosion near the building foundation - noted during previous inspections.

Photos

Inspect ID: 2024-0012
Feature Details: Pump Stations - Pumps - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Ponding at pump 3, may be splashing up through the cover.

Inspect ID: 2024-0052
Feature Details: Pump Stations - Pumps - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-FA: Active oil leak at SWP-1 - noted during previous inspections.

Photos

	**Inspect ID:** 2024-0060 **Feature Details:** Pump Stations - Pumps - Interior **Station Start:** **Station End:** **Caption:** Minimally Acceptable - PS-FA: Evidence of oil leak on SWP-1 and SWP-2 supply lines (SWP-1 pictured).
	**Inspect ID:** 2024-0024 **Feature Details:** Pump Stations - Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc. - Interior **Station Start:** **Station End:** **Caption:** Unacceptable - PS-SH: The exhaust fan louver in the trash rake room is not opening while the fan is operating, may create negative pressure in the building.

Photos

Inspect ID: 2024-0004
Feature Details: Pump Stations - Electrical Systems - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Outdated arc flash warning labels.

Inspect ID: 2024-0056
Feature Details: Pump Stations - Electrical Systems - Interior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-FA: Outdated arc flash warning labels.

Photos

Inspect ID: 2024-0032
Feature Details: Pump Stations - Enclosures, Panels, Conduit and Ducts - Exterior
Station Start:
Station End:
Caption: Minimally Acceptable - PS-SH: Broken conduit - unchanged since last inspection.

Levee System 2605000010 / Segment 2604000010 Levee Sponsor Pre-Inspection Form

US Army Corps of Engineers ®

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

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

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

Date of last USACE Inspection: 06/05/2023

Date Levee Sponsor was notified of upcoming Inspection: 11/22/2023

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

filled any animal holes found

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

general vegetation maintenance

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

None

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

None

5. Identify any specific locations or components that you would like to be closely inspected or have planned testing scheduled (e.g. for pump stations/closures/relief wells) to correspond with the USACE inspection: None
6. Provide any other information you want to note to have occurred since the last USACE inspection, such as any training/testing/emergency exercises or communication activities: None

Levee Inspection Reference Guide

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

A. Definitions:

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

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

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

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

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

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

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

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

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

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

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

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

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

Use of the Levee Inspection Checklist:

General Notes:

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

Specific Levee Inspection Features Sections and Items:

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

C. Observation Ratings:

General Notes:

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

General Guidelines for Assigning Observation Ratings:

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

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

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

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

D. Item Ratings:

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

General Guidelines for Assigning Item Ratings:

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

National Levee Database

NLD

LEVEE INSPECTION MAPBOOK

Levee Segment
Hammond Forest Ave

NLD Levee Segment ID
2604000010

Location
Hammond Forest Ave

Inspection Type
Formal

Start Date
29-Apr-2024

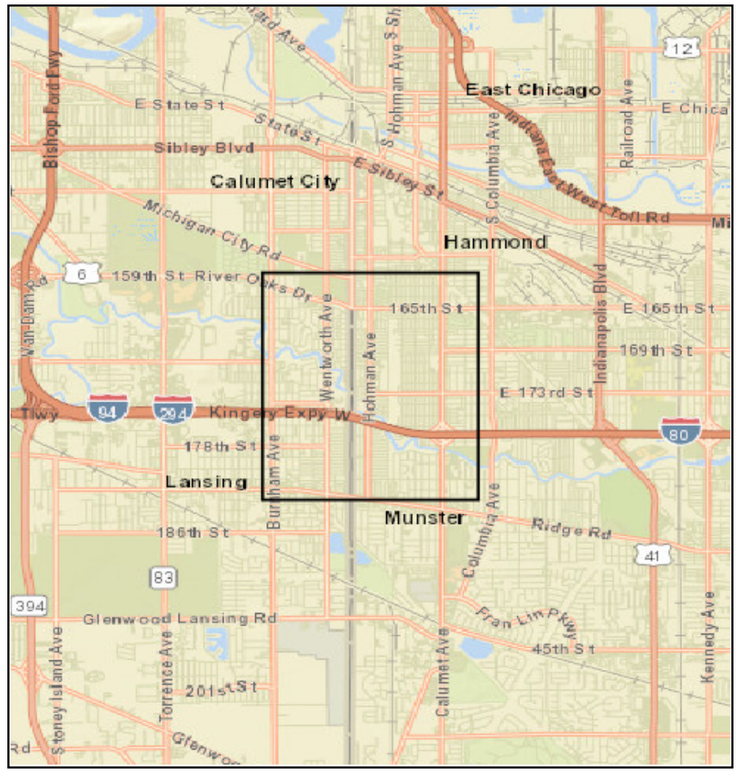
End Date
30-Apr-2024

Inspected By
Chris Schaal, Michael Haefeli, Mike

US Army Corps of Engineers

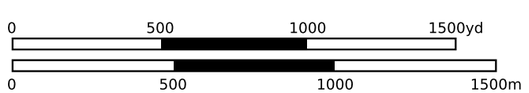
SHEET INDEX

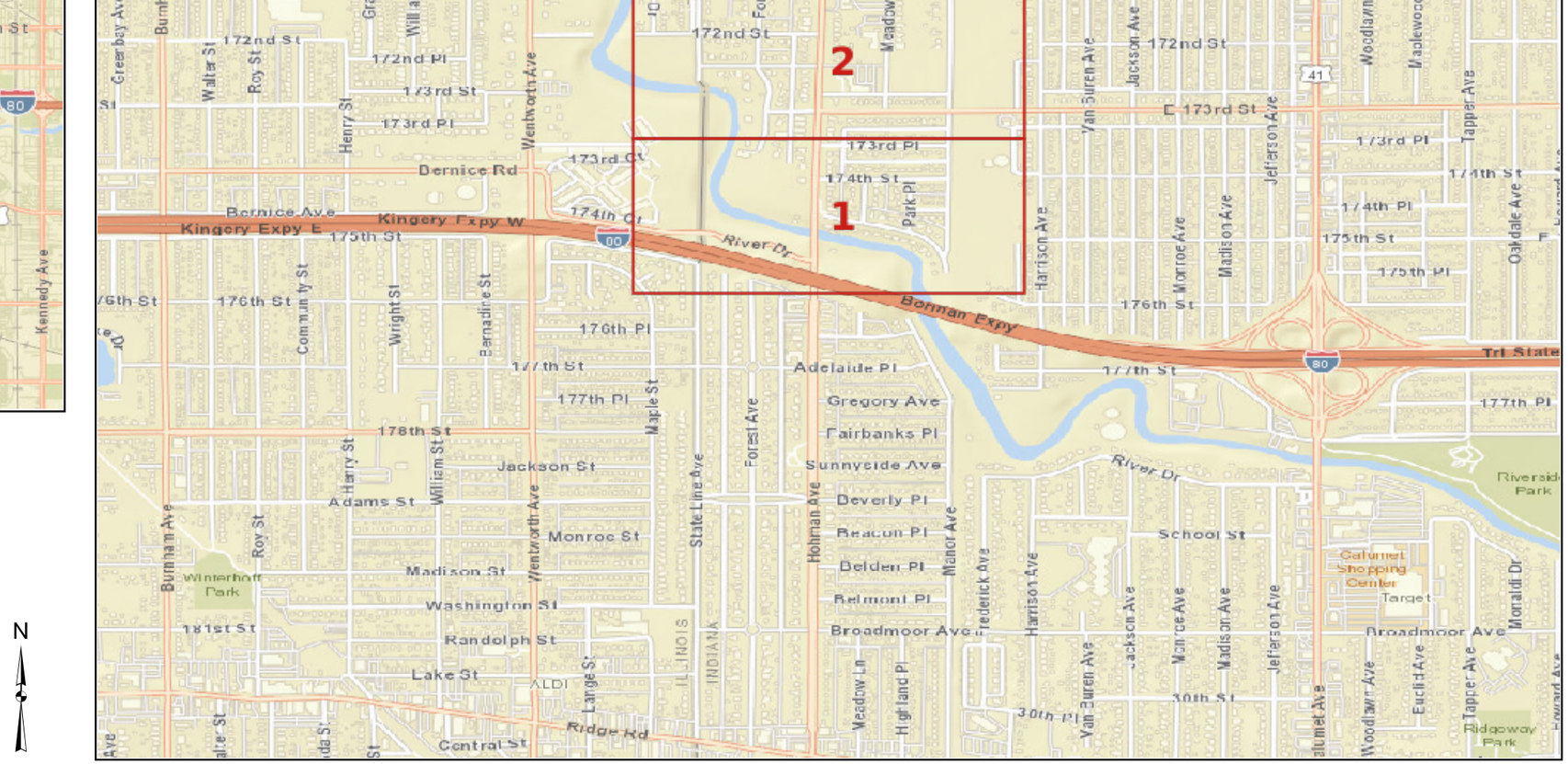
Levee: Hammond Forest Ave



MAP ELEMENTS

3 Standard Sheets



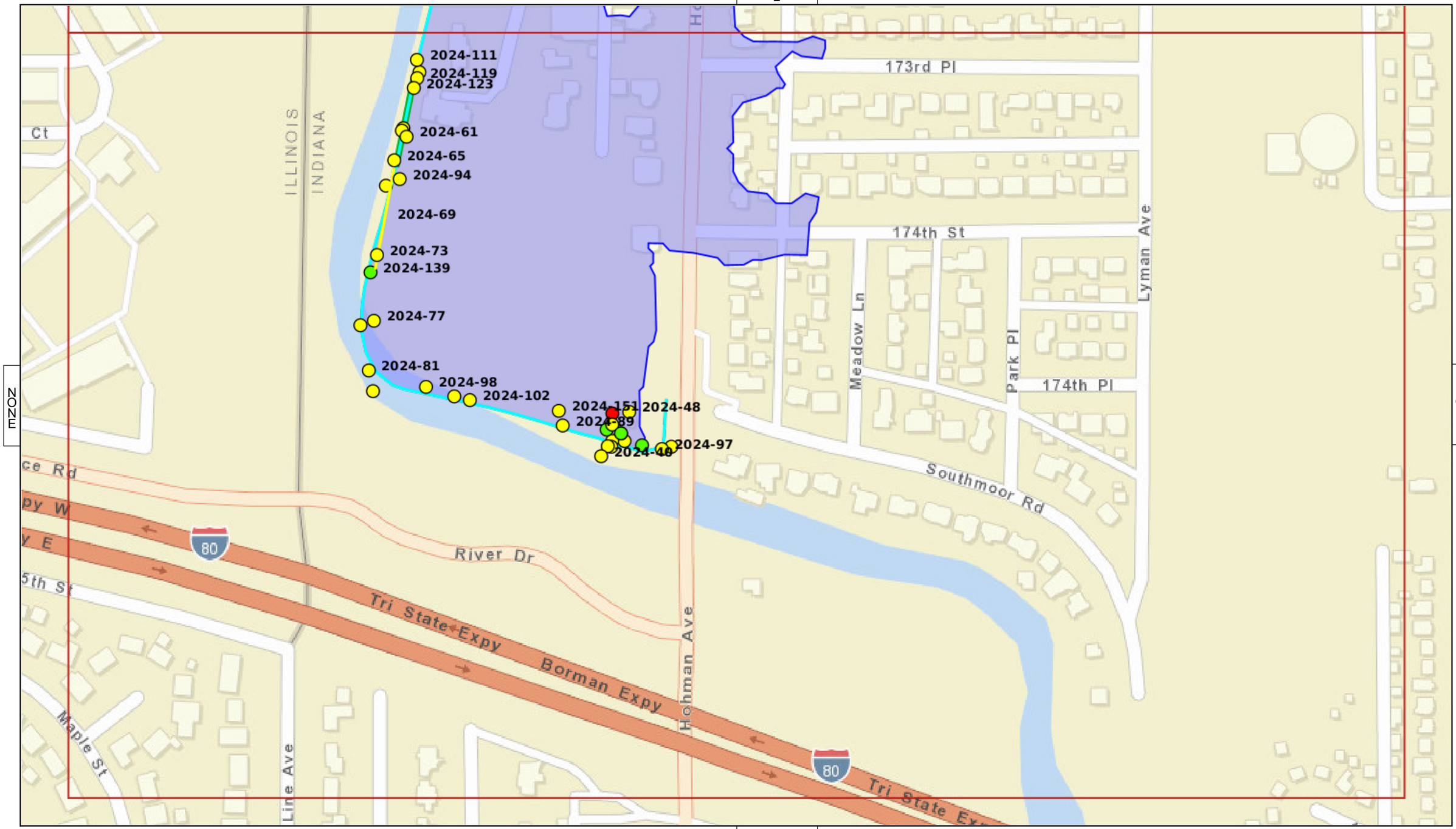


N

2

NONE

NONE



NONE

N

OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

Scale = 1:3000

0 100 200 300yd

0 50 100 150m

NLD

Sheet: 1 29-Apr-2024

Hammond Forest Ave

Type: Formal 30-Apr-2024

NONE

Shirley

State Line

Hohn

Meadow Ln

Lyman Ave

169th St

E 172nd St

172nd Pl

E 172nd Pl

Forest Ave

E 173rd St

Hohman Ave

2024-46
2024-50
2024-14
2024-51
2024-101
2024-9
2024-54
2024-59
2024-11
2024-63
2024-13
2024-2
2024-10
2024-6
2024-67
2024-1
2024-3
2024-75
2024-79
2024-83
2024-87
2024-91
2024-95
2024-99
2024-86
2024-103
2024-107
2024-53
2024-90
2024-111

N

OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

Scale = 1:3000

0 100 200 300yd

0 50 100 150m

NLD

Sheet: 2 29-Apr-2024

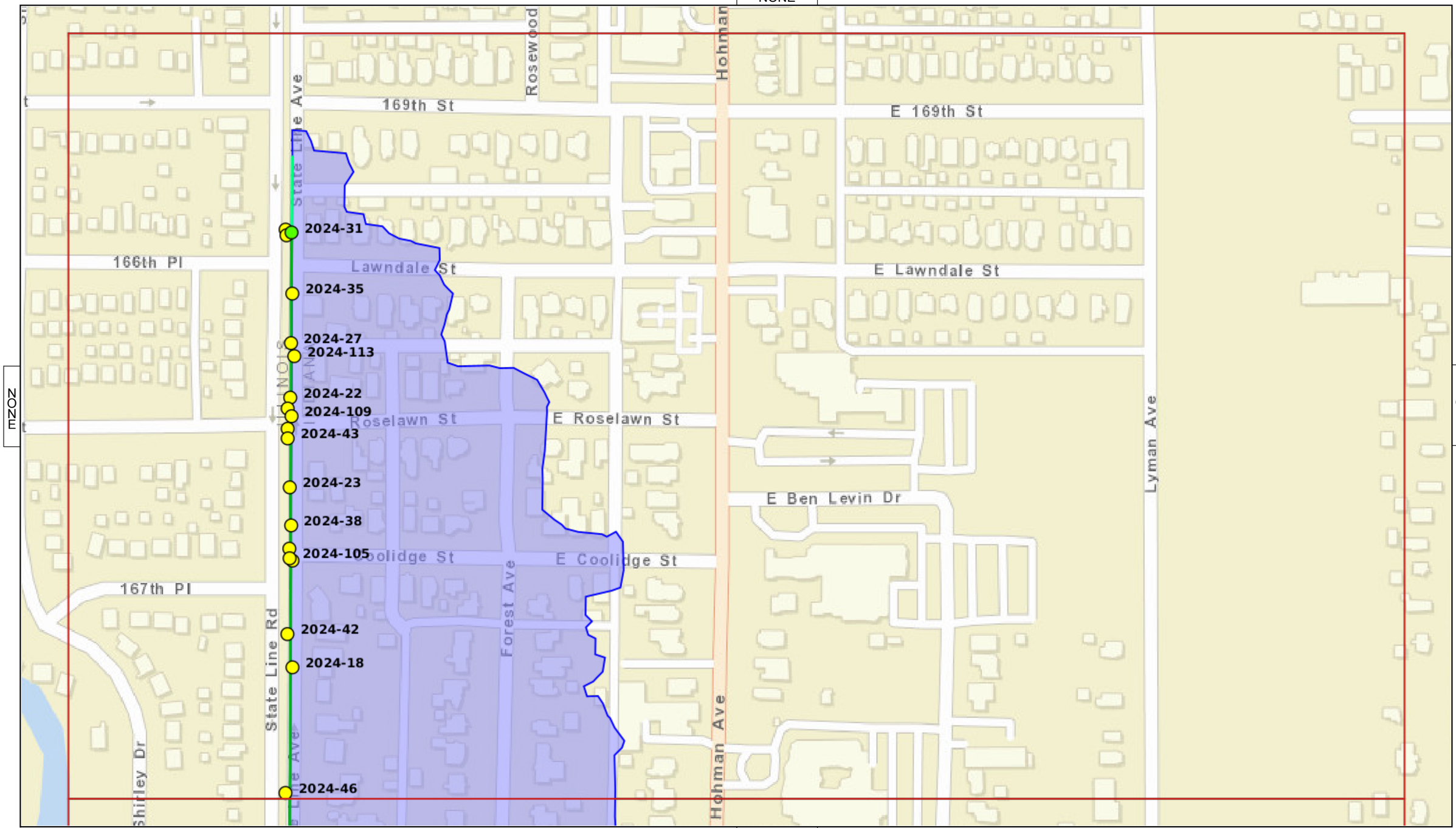
Hammond Forest Ave

Type: Formal 30-Apr-2024

NONE

NONE

NONE



N

OBSERVATIONS

- Acceptable
- Minimally Acceptable
- Unacceptable
- Not Applicable

Scale = 1:3000

0 100 200 300yd

0 50 100 150m

NLD

Sheet: 3 29-Apr-2024

Hammond Forest Ave

Type: Formal 30-Apr-2024

Subset of Inspection Items for Rehabilitation Program Eligibility Determination
In order to be eligible, all of the following items must be rated A, M, N/A or Yes.
Note: Item numbers listed below refer to their placement in the Inspection Checklist for the Forest Ave. Levee Segment.

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: While one unacceptable item of a defective exhaust fan louver was found, this deficiency does not significantly impact the levee performance during a flood event, and is not listed on the interim eligibility checklist above.	