	Lev	vee Inspection Report						
Name of System: Garv Name of Segment: Garv South	th							
US Army Corps of Engineers ® NLD System ID: 2605000003 NLD Segment ID: 2604000004								
Segment Type: USACE Federally constructed, turned or								
Levee Sponsor (Name and Organization): <u>Little Calumet</u> Inspection Report Prepared by: <u>Christopher Schaal</u>	et River Basin Development Comm	Date(s) of Inspection: 06/07/2022 - 06/	10/2022					
		Other Segments Within This System						
Segment Name	NLD Segment ID#	Segment Type	Segment Inspection Rating					
Gary North 26	604000003	USACE Constructed, Public sponsor O&M	Minimally Acceptable					
Contents of Inspection Report:								
Levee Inspection Summary	Type of Inspection:	Routine Inspection	ic Inspection Special Inspection					
General Items	rype of inspection.							
Levee Embankment	Purpose of Special I							
Concrete Floodwalls	Purpose of Special I	nspection.						
	Ratings:							
Interior Drainage System	Segment Rating:	Acceptable Minimally Acceptable	Unacceptable No Verdict					
E FDR System Channels	System Rating:	Acceptable Minimally Acceptable	Unacceptable No Verdict					
Public Sponsor Pre-Inspection Form	LSPM Signature:	Malai Gahanar	Date Approved: 8/9/22					
General Instructions	LSO Signature:	John A Groboski	Date Approved: 8/9/22					
Maps		U ů						

Name	Organization	Discipline	Team
Yuki Galisanao	USACE - Chicago District	LSPM	Levee
Chris Schaal	USACE - Chicago District	Lead/Geotech	Levee
Madhu Karri	USACE - Chicago District	Geotech	Levee
Clayton Insley	USACE - Chicago District	Intern	Levee
Richard Realeza	USACE - Chicago District	Geotech	Levee
Adam Karr	USACE - Chicago District	Geospatial	Sluice Gates
Audry Stooksbury	USACE - Chicago District	Intern	Sluice Gates
Jonathan Lombardi	USACE - Chicago District	Mechanical	Pump Station
Patrick Hanley	USACE - Chicago District	Mechanical	Pump Station
Andrew Lin	USACE - Chicago District	Structural	Pump Station
Jeremiah Haley	USACE - Chicago District	Electrical	Pump Station
Dan Repay	LCRBDC		Levee/Gates/PS
Derek Nimetz	Contractor		Sluice Gates
Simeon Colquit	Contractor		Sluice Gates
Oliver King	CLEM		Dump Station

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

Oliver King

GLEM

**Pump Station** 

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Yuki Galisanao	USACE - Chicago District	LSPM	Levee
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Adam Karr	USACE - Chicago District	Geospatial	Sluice Gates
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GLEM

**Pump Station** 

### Segment Rating Rationale:

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

Minor issues with unwanted vegetation, debris, rutting, sod cover, animal control, erosion, minor concrete cracking and spalling, deteriorating joints, minor sluice gate and flap gate issues, and minor pump station issues. Unacceptable ratings involve missing O&M Manuals at some pump stations, and large trees greater than 2 inches in diameter in or near the levee toe. Given the presence and training of operations personnel, and given the regular vegetation clearance program carried out by the local sponsor, it is not expected that these deficiencies will affect the performance of the levee during a flooding event.

### System Rating Rationale:

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

# General Items for All Flood Damage Reduction Segments / Systems: Gary South For use during all inspections of all Flood Damage Reduction Segments / Systems

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations	
1.	Operations and Maintenance	Α	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.	Justification: Sponsor has complete set of O&M Manuals	
	Manuals		Μ	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)	Α	Α	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.	<b>Justification:</b> The local sponsor has taken over maintaining flood fighting supplies from Gary. They share storage with Munster at their facility on Calumet and have a number of pallets of empty sandbags available. The Munster Public Works facility is about 11 miles from the sandbag closure at Broadway and would take about 25 minutes to travel along Ridge Road.	
			Μ	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.		
3.	Flood Preparedness and Training (A or M only)	Μ	Α	Sponsor has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the FDR system during a flood. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.	<b>Justification:</b> Flood fighting is usually performed by the community. Gary has limited resources and a lot of turn over. They rely heavily on others to provide supplies and assistance. The last sandbag closure exercise performed with Gary was in 2014	
			М	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.	and is overdue to be performed. Updated Flood Handbooks were provided in 2019.	

Rated Item Rat	ng Rating Guidelines	Location/Remarks/Recommendations
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	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
1.	Unwanted Vegetation Growth	U	A	The levee has little or no unwanted vegetation (trees, bush, or undesirable weeds), except for vegetation that is properly contained and/or situated on overbuilt sections, such that the mandatory 3-foot root-free zone is preserved around the levee profile. The levee has been recently mowed. The vegetation-free zone extends 15 feet from both the landside and riverside toes of the levee to the centerline of the tree. If the levee access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EM 1110-2-301 or Corps policy for regional vegetation variance.	2022-0022 : Small tree and tall vegetation on the riverside toe. (M) 2022-0028 : Small trees along riverside toe (M) 2022-0046 : Large tree on landside toe. (U) 2022-0073 : Large shrub growth on riverside slope. (M) 2022-0085 : Small tree on the landside toe. (M) 2022-0130 : Typical tall vegetative growth on landside toe. (M)
			Μ	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.	2022-0133 : Small trees on landside toe. (M) 2022-0146 : Large trees and tall vegetation within 15 feet of riverside toe. (U) 2022-0163 : Small trees on the landside toe. (M)
			U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above and must to be removed to reestablish or ascertain levee integrity.	2022-0173 : Small tree and tall vegetation on riverside toe. (M) 2022-0175 : Tall vegetation growth on landside toe. (M) 2022-0176 : Tall vegetation along riverside toe. (M) 2022-0185 : Tall Vegetation along riverside toe. (M) 2022-0190 : Large tree growth in landside ditch and close to toe. (U) 2022-0196 : Large trees growing in landside drainage ditch. (M) 2022-0202 : Small trees growing in landside drainage ditch. (M) 2022-0229 : Large tree growing in drainage ditch on landside toe. (U) 2022-0238 : Large tree growing in landside drainage ditch. (U) 2022-0239 : Typical dense and tall vegetation along section 408 section. (M) 2022-0241 : Small tree growing in the landside drainage ditch. (M) 2022-0242 : Small trees growing, and are not allowed in 408 permission zone. (M) 2022-0262 : Large tree growing and vegetation along waterside ditch. (U) 2022-0268 : Large tree growth close to levee on

**Controlled Unclassified Information (CUI):** This document contains levee information that shall not be released in an uncontrolled manner

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
					riverside ditch. (U) 2022-0283 : Large tree growing in waterside drainage ditch. (U)
					<b>Recommendation:</b> Remove trees and tall vegetation from 15 foot zone around levee toe
2.	Sod Cover	м	Α	There is good coverage of sod over the levee.	2022-0052 : Wildflower cover insufficient in this area. (M)
		Μ	Μ	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.	2022-0061 : Sod cover poor on riverside slope. (M) 2022-0097 : Sod damage from mowing. (M) <b>Recommendation:</b> Replant wildflowers until
			U	Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.	proper vegetation cover is established. Place new sod and regrade in areas with poor sod cover.
			N/A	Surface protection is provided by other means.	

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
3.	Encroachments	Μ	A	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	2022-0049 : Dead trees on riverside toe. (M) 2022-0064 : Concrete block on landside toe. (M) 2022-0079 : Concrete block near levee crown. (M) 2022-0088 : Typical burned and fallen debris on riverside toe near Martin Luther King Drive and area paralleling 32nd ave toward Georgia ave. (M) 2022-0106 : Fallen tree debris on waterside toe. (M) 2022-0115 : Fallen tree debris on waterside toe. (M) 2022-0143 : Downed tree on riverside toe. (M) 2022-0155 : Asphalt debris on riverside toe. (M) 2022-0158 : Debris on riverside toe. (M) 2022-0167 : Concrete debris on riverside toe. (M) 2022-0169 : Fallen tree debris on riverside toe. (M) 2022-0170 : Concrete debris on riverside toe. (M) 2022-0170 : Concrete debris on riverside slope. (M) 2022-0172 : Bollard split in half on levee crest near Martin Luther King Dr. (M) 2022-0187 : Post on landside slope near chase and 35th street. (M) 2022-0214 : Debris on riverside toe. (M) 2022-0218 : Debris on riverside toe. (M)
			Μ	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.	
					<b>Recommendation:</b> Remove encroachments from 15-foot encroachment free zone. Backfill if encroachment is sunken into levee slope.

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
4.	Closure Structures	Μ	Α	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.	2022-0224 : Spalling on fresh concrete, landside, on grant st. closure abutments. (A) <b>Recommendation:</b> Repair spalling concrete.
			U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
			N/A	There are no closure structures along this component of the FDR segment / system.	
5.	Slope Stability	A	Α	No slides, sloughs, tension cracking, slope depressions, or bulges are present.	Justification: No Issues Observed.
			Μ	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.	

Rated	Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
6. Erosior Caving		М	А	No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.	2022-0109 : Visible long term erosion due to water/waves. North-south running portion of waterside toe along Martin Luther King Drive (M)
			Μ	There are areas where minor erosion is occurring or has occurred on or near the levee embankment, but levee integrity is not threatened.	2022-0112 : Erosion along North-South portion of waterside toe along Martin Luther King Drive (M)
			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.	<ul> <li>2022-0118 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>(M)</li> <li>2022-0124 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>(M)</li> <li>2022-0139 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>(M)</li> <li>2022-0145 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>(M)</li> <li>2022-0145 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>Broad leafed plants growing on failing surface.</li> <li>(M)</li> <li>2022-0151 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>Broad leafed plants growing on failing surface.</li> <li>(M)</li> <li>2022-0157 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>Broad leafed plants growing on failing surface.</li> <li>(M)</li> <li>2022-0157 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>Broad leafed plants growing on failing surface.</li> <li>(M)</li> <li>2022-0157 : Erosion along North-South portion of waterside toe along Martin Luther King Drive.</li> <li>Broad leafed plants growing on failing surface.</li> <li>(M)</li> <li>2022-0179 : Animal burrow or bank cave, landside toe (M)</li> <li>2022-0191 : Mild erosion into riverside slope. East of Chase St. (M)</li> <li>2022-0203 : Erosion riverside toe. Southeast corner of riverside toe near Grant St. (M)</li> <li>2022-0209 : Erosion near wingwalls (M)</li> <li>2022-0212 : Cut of about 1 foot along riverside toe (M)</li> <li>Recommendation: Repair eroded areas with</li> </ul>
					riprap or compacted clay as appropriate.

observed depressions in crown. Records exist and indicate no explained historical changes. For irregularities that do not threaten integrity of levee. Records are inclusive. Historicate that do not threaten integrity of levee. Records are explete or inclusive. Historicate that design elevation is compromised. For are scattered, shallow ruts, pot holes, or other depressions on the e that are unrelated to levee settlement. The levee crown, ankments, and access road crowns are well established and drain herely without any ponded water. For are some infrequent minor depressions less than 6 inches deep in evee crown, embankment, or access roads that will pond water.	Justification: No Issues Observed 2022-0055 : Rutting about 3 inch deep, riverside slope. (M) 2022-0070 : Rutting caused by mowing, riverside slope (M)
mplete or inclusive. ious variations in elevation over significant reaches. No records exist cords indicate that design elevation is compromised. The are scattered, shallow ruts, pot holes, or other depressions on the te that are unrelated to levee settlement. The levee crown, ankments, and access road crowns are well established and drain terly without any ponded water. The are some infrequent minor depressions less than 6 inches deep in	slope. (M) 2022-0070 : Rutting caused by mowing, riverside
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e that are unrelated to levee settlement. The levee crown, ankments, and access road crowns are well established and drain erly without any ponded water. The are some infrequent minor depressions less than 6 inches deep in	slope. (M) 2022-0070 : Rutting caused by mowing, riverside
re are some infrequent minor depressions less than 6 inches deep in	
ever crown, chrodikinent, or access rodus that will pollu water.	2022-0076 : Rutting caused by mowing, landside slope. (M) 2022-0091 : Rutting caused by mowing riverside
re are depressions greater than 6 inches deep that will pond water.	<ul> <li>slope. (M)</li> <li>2022-0091 : Rutting caused by mowing, riverside slope. (M)</li> <li>2022-0094 : Rutting caused by mowing. Riverside slope (M)</li> <li>2022-0100 : Rutting caused by mowing, riverside slope. (M)</li> <li>2022-0103 : Rutting caused by mowing, riverside slope. (M)</li> <li>2022-0121 : Caved in animal burrow, riverside slope. (M)</li> <li>2022-0127 : Depression on riverside slope (M)</li> <li>2022-0149 : Depression on levee crown (M)</li> <li>2022-0152 : Rut along riverside toe (M)</li> <li>2022-0161 : Large depression near riverside toe (M)</li> <li>2022-0164 : 8 in deep depression along riverside toe (M)</li> <li>2022-0178 : Large shallow depression on landside toe. (M)</li> <li>2022-0277 : 4 inch deep depression, 3 foot diameter, on waterside. (M)</li> <li>2022-0286 : 6 inch deep depression on waterside toe and slope, 6 foot diameter area. (M)</li> </ul>

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
9. Cracking	Μ	А	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	2022-0037 : Occasional cracks along pavement at top of berm. Typical. (A) 2022-0058 : Asphalt pavement gouged and
		Μ	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.	cracked longitudinally. (M) 2022-0160 : Transverse Cracks in asphalt on levee crown. (A) 2022-0215 : 3 in deep hole in asphalt. (M) 2022-0245 : Longitudinal crack on landside crest.
		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.	<b>Recommendation:</b> Reseal asphalt cracks with sealant. Monitor longitudinal crack near 33rd st. and Broadway for underlayment movement.

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
10. Animal Control	М	А	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	2022-0082 : Animal burrow, landside toe moving up slope. (M)
		Μ	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.	2022-0136 : Animal burrow, riverside slope. (M) 2022-0142 : Animal burrow riverside slope. (M) 2022-0148 : Animal burrow, riverside toe. (M) 2022-0154 : Animal burrow, riverside toe. Along
		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.	2022-0154 : Animal burrow, riverside toe. Along North-south running portion of waterside toe along Martin Luther King Drive (M) 2022-0166 : Animal droppings indicative of high activity (A) 2022-0184 : Animal burrow on landside slope close to crown. (M) 2022-0193 : Series of inactive animal burrows on landside slope. (A) 2022-0194 : Animal burrow 6 in wide 3 foot long. South East corner of Gary South near 35th and Grant St. (M) 2022-0197 : Typical large burrows. Riverside toe near 35th and grant corner. (M) 2022-0199 : Inactive animal burrows on landside slope. (M) 2022-0206 : Large burrow. South east corner near 35th and Grant. (M) 2022-0202 : Animal burrows on landside slope. Southeast corner of 35th St. and Grant. (M) 2022-0233 : animal burrow on landside toe. (M) 2022-0236 : Animal burrow 3in long on landside crest (M) 2022-0280 : Animal burrow on riverside slope (M)
				<b>Recommendation:</b> Open animal burrows and repair with compacted clay. Improve animal control program in hotspots.

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations					
11. Culverts / Discharge Pipes (This item includes both concrete and corrugated metal pipes.)	A	would result in si essentially circula Corrugated metal the original coatin been relined with Condition of pipe or visual inspectio	ks, holes, cracks in the discharge pipes/ culverts that gnificant water leakage. The pipe shape is still r. All joints appear to be closed and the soil tight. pipes, if present, are in good condition with 100% of ng still in place (either asphalt or galvanizing) or have appropriate material, which is still in good condition. s has been verified using television camera video taping on methods within the past five years, and the report for lable for review by the inspector.	<b>Justification:</b> Camera inspection performed in July 2019. No issues noted. Silt and debris removed. IDOT culverts inspected in 2020. Refer to Interior Drainage.					
		water and need to structurally sound ovalized in some curvature reversal loss may be begin next inspection. C corrosion and pin Condition of pipe or visual inspectio	number of corrosion pinholes or cracks that could leak be repaired, but the entire length of pipe is still and is not in danger of collapsing. Pipe shape may be locations but does not appear to be approaching a . A limited number of joints may have opened and soil ning. Any open joints should be repaired prior to the Corrugated metal pipes, if present, may be showing holes but there are no areas with total section loss. s has been verified using television camera video taping on methods within the past five years, and the report for lable for review by the inspector.						
							collapsing or as a suffered 100% se appear to be in go an Unacceptable 1 been verified usir methods within th	oration and/or has significant leakage; it is in danger of lready begun to collapse. Corrugated metal pipes have ction loss in the invert. HOWEVER: Even if pipes ood condition, as judged by an external visual inspection, Rating will be assigned if the condition of pipes has not g television camera video taping or visual inspection he past five years, and reports for all pipes are not ew by the inspector.	
		A There are no disc	harge pipes/ culverts.						

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
12. Riprap Revetments & Bank	Μ	Α	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.	2022-0182 : Vegetation in riprap at inlet structure (M) <b>Recommendation:</b> Remove vegetation from
Protection		Μ	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.	riprap.
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		N/A		
13. Revetments other than	NA	Α	Existing revetment protection is properly maintained, undamaged, and clearly visible.	
Riprap		Μ	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.	
		N/A	There are no such revetments protecting this feature of the segment / system.	

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
14. Underseepage Relief Wells/ Toe Drainage Systems	NA	Α	Toe drainage systems and pressure relief wells necessary for maintaining FDR segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	
		Μ	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
15. Seepage		Α	No evidence or history of unrepaired seepage, saturated areas, or boils.	Justification: No Issues Observed.
	Α	Μ	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Unwanted Vegetation Growth	М	A A grass-only or paved zone is maintained on both sides of the floodwall, free of all trees, brush, and undesirable weeds. The vegetation-free zone extends 15 feet from both the land and riverside of the floodwall, at ground-level, to the centerline of the tree. Additionally, an 8- foot root-free zone is maintained around the entire structure, including the floodwall toe, heel, and any toe-drains. If the floodwall access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EM 1110- 2-301 and/or Corps policy for regional vegetation variance.	2022-0004 : Vegetation on riverside floodwall. (M) 2022-0010 : Vegetation on landside face of floodwall. (M) 2022-0221 : Vegetation on wall landside. (M) 2022-0248 : Vegetation in area between ramp and floodwall not allowed. Encroachment per Section 408 permit. (M) 2022-0256 : Vegetation growth on riverside face.
		<b>M</b> 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.	<ul> <li>(M)</li> <li>2022-0292 : Ivy growth on riverside face of wall.</li> <li>(M)</li> <li>Recommendation: Remove vegetation growth</li> </ul>
		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.	from floodwall and the 15 foot vegetation free zone.
2. Encroachments	<b>M</b> obstructions present within the easement area. Encroachment	obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not	2022-0019 : Debris on landside, within 15 feet of floodwall. (M) 2022-0040 : Broken signage near Broadway on riverside of floodwall. (M)
		M Trash, debris, unauthorized structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	2022-0251 : Sign in area where mowing is allowed not approved by USACE and existing Section 408 permit. (M) <b>Recommendation:</b> Remove debris from 15 foot debris free zone.
		U Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the floodwall.	

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
3.	Structures (Stop Log Closures and	А	Α	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.	Justification: No Issues Observed
	Gates) (A or U only)		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.	
			N/A	There are no closure structures along this component of the FDR segment / system.	
4.	4. Concrete Surfaces	M	Α	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2022-0001 : Cracking on water side. (M) 2022-0007 : Cracking on waterside wall. (M) 2022-0016 : Concrete loose near joint. (M)
				Μ	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.	point it bends. Some portions appear full thickness from wall face to top surface. (M) <b>Recommendation:</b> Repair cracks with polyurethane sealant. Remove loose concrete spalls and repair by sawcutting and replacing the concrete section.

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
5.	Tilting, Sliding or	Α	А	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	Justification: No Issues Observed
	Settlement of Concrete Structures		Μ	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	М	Α	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2022-0254 : Animal burrow, 3ft wide landside wall face (M)
StructuresMThere are areas where the ground is eroding towards the structure. Efforts need to be taken to slow and repair this not judged to be close enough to the structure or to be pr enough to affect structural stability before the next inspe purposes of inspection, the erosion or scour is not closer face of the wall than twice the floodwall's underground b wall is of L-wall or T-wall construction; or if the wall is wall construction, the erosion is not closer than twice the	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stabile until the next inspection.	2022-0259 : Scouring and deterioration of rip rap along outlets. (M) <b>Recommendation:</b> Repair animal burrow with compacted clay. Repair rip rap in closure outlet area.			
			U	Erosion or bank caving observed that is closer to the wall than the limits described above, or is outside these limits but may lead to structural instabilities before the next inspection. Additionally, if the floodwall is of I-wall or sheetpile construction, the foundation is unacceptable if any turf, soil or pavement material got washed away from the landside of the I-wall as the result of a previous overtopping event.	

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations				
7.	Monolith Joints	Μ	Α	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	2022-0043 : Sealant wearing down. (M)				
			Μ	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.	2022-0247 : Deteriorating sealant on waterside. (M) 2022-0250 : Deteriorating sealant on riverside. (M) 2022-0253 : Deteriorating sealant on waterside.				
			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.	<ul> <li>(M)</li> <li>2022-0271 : Joint splitting g on waterside (M)</li> <li>2022-0274 : Deteriorating sealant on waterside.</li> <li>(M)</li> <li>2022-0295 : Deteriorating sealant on waterside</li> </ul>				
			N/A	There are no monolith joints in the floodwall.	face. (M) 2022-0298 : Deteriorating scalant on waterside face. (M) <b>Recommendation:</b> Repair sealant. Replace damaged waterstop with polyurethane sealant.				
8.	Underseepage Relief Wells/ Toe Drainage Systems	NA	A	Toe drainage systems and pressure relief wells necessary for maintaining FDR segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.					
							Μ	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
			U	Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.					
			N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.					

### Floodwalls: Gary South

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated It	tem	Rating		Rating Guidelines	Location/Remarks/Recommendations
9. Seepage			Α	No evidence or history of unrepaired seepage, saturated areas, or boils.	Justification: No Issues Observed.
		A		Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	
			U	Evidence or history of active seepage, extensive saturated areas, or boils.	

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

**Controlled Unclassified Information (CUI):** This document contains levee information that shall not be released in an uncontrolled manner

Flood Damage Reduction Segments / Systems Inspection Report Gary South Floodwalls Page 5 of 5

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
1.	Vegetation and Obstructions	M	A	No obstructions, vegetation, debris, or sediment accumulation noted within interior drainage channels or blocking the culverts, inlets, or discharge areas. Concrete joints and weep holes are free of grass and weeds.	2022-0025 : Vegetation in ditches East of Grant St. (M) 2022-0029 : GS-9: Vegetation present at inlet. (M) 2022-0032 : GS-10: Vegetation present. (M)
			Μ	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.	2022-0083 : GS-15: Vegetation present at inlet. (M) 2022-0092 : GS-16: Inlet has thick vegetation. (M) 2022 0128 : GS-2: Vegetation along grate. (M)
			U	Obstructions, vegetation, debris, or sediment have impaired the channel flow capacity or blocked more than 10% of a culvert opening. Sediment and debris removal required to reestablish flow capacity.	2022-0128 : GS-3: Vegetation along grate. (M) 2022-0181 : Trees growing in drainage ditch on landside toe east of Chase St. (M) 2022-0208 : Vegetation growth in inlet structure. (M) 2022-0223 : GS-3: Trees growing in drainage ditch on landside. (M) <b>Recommendation:</b> Clear or burn vegetation along ditches.
2.	Encroachments	Μ	Α	No trash, debris, unauthorized structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the interior drainage system.	2022-0211 : Debris in outlet structure. (M) <b>Recommendation:</b> Remove debris from outlet structure.
		-	Μ	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.	

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
3. Ponding Areas	Α	А	No trash, debris, structures, or other obstructions present within the ponding areas. Sediment deposits do not exceed 10% of capacity.	Justification: No issues observed
		Μ	Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit operations and maintenance. Sediment deposits do not exceed 30% of capacity.	
		U	Trash, debris, excavations, structures, or other obstructions, or other encroachments or activities noted that will inhibit operations, maintenance, or emergency work. Sediment deposits exceeds 30% of capacity.	
		N/A	There are no ponding areas associated with the interior drainage system.	
4. Fencing and Gates	Α	Α	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
		Μ	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
		U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
		N/A	There are no features noted that require safety fencing.	
5. Concrete Surfaces (Such as	М	Α	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	2022-0020 : GS-8c: Concrete at gate stem cracking. (M) 2022-0044 : GS-11: Outlet clear of debris. (A)
gatewells, outfalls, intakes, or culverts)		М	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.	Recommendation: Repair cracked concrete.
		U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	
		N/A	There are no concrete items in the interior drainage system.	

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations		
6.	Tilting, Sliding or	М	Α	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	2022-0131 : GS-3: Ground around concrete is sliding. (M)		
	Settlement of Concrete and Sheet Pile Structures (Such as gate wells, outfalls,		М	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.	<b>Recommendation:</b> monitor sliding and backfill slope with topsoil or compacted clay as needed.		
	intakes, or culverts)		U	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.			
			N/A	There are no concrete items in the interior drainage system.			
7.	Foundation of Concrete	М	Α	No active erosion, scouring, or bank caving that might endanger the structure's stability.	2022-0226 : Erosion of levee around GS-3 access ramp. 4.5 to 5 foot into levee surface. 5 foot deep (M)		
	Structures (Such as culverts, inlet and discharge structures, or gatewells.)					М	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. The rate of erosion is such that the structure is expected to remain stabile until the next inspection.
			U	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.			
			N/A	There are no concrete items in the interior drainage system.			

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
8.	Monolith Joints	Monolith JointsAThe 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.		and cracking/ desiccation is minimal. Joint filler material and/or waterstop	Justification: No Issues Observed
			Μ	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	
	U The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.				
			N/A	There are no monolith joints in the interior drainage system.	

	Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations								
9.	Culverts / Discharge Pipes	М	A There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.	2022-0137 : GS-4: Disconnected pipes. (M) Justification: Camera inspection performed in July 2019. NO issues noted. Silt and debris removed. IDOT culverts inspected in 2020. Next inspection should be performed in 2024. Recommendation: Repair disconnected pipe								
			M There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.									
											U Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspectior an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.	
			N/A There are no discharge pipes/ culverts.									

Rated Item Ra	ating	Rating Guidelines	Location/Remarks/Recommendations
10. Sluice / Slide Gates	Μ	A Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	2022-0002 : GS-7: Sluice gate did not shut completely. (M) 2022-0005 : GS-8: Sluice gate did not shut and sediment present. Gate always shut. (M) 2022-0011 : GS-8b: Gate did not fully close. (M)
		M Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	2022-0014 : GS-8b: Garbage on top of gate, did not close. (M) 2022-0017 : GS-8a: Closed completely. (A) 2022-0023 : GS-8a: No sediment found on gate. (A)
		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.	2022-0035 : GS-10: Gate was opened, no sediment. (A)
	Γ	W/A       There are no sluice/ slide gates.	<ul> <li>2022-0038 : GS-10: Gate closed completely. (A)</li> <li>2022-0050 : GS-11b: Gate did not close</li> <li>completely. (M)</li> <li>2022-0053 : GS-11b: Gate did not close</li> <li>completely, sediment on bottom of gate. (M)</li> <li>2022-0056 : GS-11a: Gate did not close all the</li> <li>way. (M)</li> <li>2022-0059 : GS-11a: Gate did not close, no</li> <li>sediment present at bottom of gate, debris must be</li> <li>under gate. (M)</li> <li>2022-0074 : GS-12b: Gate did not close all the</li> <li>way. (M)</li> <li>2022-0074 : GS-12a: Gate did not close all the</li> <li>way. (M)</li> <li>2022-0080 : GS-14: Sluice gate closed completely. (A)</li> <li>2022-0086 : GS-15: Gate closed completely, sediment present outside of gate. (M)</li> <li>2022-0089 : GS-15: Gate worked properly, sediment at bottom. (A)</li> <li>2022-0101 : GS-16: Both gates shut completely. (A)</li> <li>2022-0107 : GS-5: Gate shut to begin with, completely closed. (A)</li> <li>2022-0107 : GS-5: Sediment on bottom of gate. (M)</li> </ul>

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
				2022-0119 : GS-2b: Gate completely closed. (A) 2022-0122 : GS-2c: Gate closed completely. (A) 2022-0125 : GS-2d: Gate completely closed. (A) 2022-0134 : GS-3: Gate closed completely, needs to be greased. (A) 2022-0140 : GS-4: Gate closed completely. (A)
				<b>Recommendation:</b> GS-7 : make sure gate shuts completely. GS-8b: remove silt and make sure gate shuts completely. clear garbage from gates. GS-11a,b: make sure gate shuts completely. clear debris and silt GS-12a,b: make sure gate shuts completely. clear debris and silt GS-15: clear sediment from around gate. GS-5: clear sediment from around gate.
11. Flap Gates/ Flap Valves/	Μ	Α	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	2022-0026 : GS-9a,b: Both flapgates were shut. (A)
Pinch Valves		М	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	2022-0041 : GS-10: Flapgate stuck open. (M) 2022-0047 : GS-11: Both flapgates completely sealed. (A) 2022-0065 : GS-12: Both flapgates completely
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	closed. (A) 2022-0095 : GS-16: Flapgates are not completely
		N/A	There are no flap gates.	closed. (M) 2022-0110 : GS-5: Flapgate completely closed. (A) 2022-0113 : GS-2: Flapgates fully underwater, cannot determine if open or closed. (A)
				<b>Recommendation:</b> GS-10: clear debris until flapgate closes. GS-16: clear debris until flapgate closes.

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
12. Trash Racks		А	Trash racks are fastened in place and properly maintained.	Justification: No Issues Observed
(non- mechanical)	Α	Μ	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
		U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
		N/A	There are no trash racks, or they are covered in the pump stations section of the report.	
13. Other Metallic Items	Μ	Α	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	2022-0008 : GS-8: Concrete around light pole cracking. (M)
		Μ	Corrosion seen on metallic parts appears to be maintainable.	2022-0068 : GS-12a: Gate stem leaking water when running, greased while running (M)
		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	2022-0071 : GS-12a: Crack and rust (M) 2022-0077 : GS-14: Fence and post broken. (M)
		N/A	There are no other significant metallic items.	<b>Recommendation:</b> GS-8: Repair cracked concrete. GS-12a: Investigate water leak when running. repair crack in gate stem. GS-14: Replace or repair fence and post.
14. Riprap Revetments of Inlet/	Α	Α	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
Discharge Areas		Μ	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.	

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
15. Revetments other than Riprap			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
		Μ	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.	
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.	
	N/A There are no such revetments protecting this feature of the segment / system.			

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Flood Damage Reduction Segments / Systems Inspection Report Gary South Interior Drainage System Page 9 of 9

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations	
1.	Pump Stations Operating, Maintenance, Training, &	А	A	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	Justification: No Issues Observed	
	Inspection Records		Μ	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	U	Α	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and updated as required, and adequately cover all pertinent pump station features. O&M manuals include points of contact for manufacturers and suppliers of major equipment used in the facility.	2022-0015 : PS-GE: No operations manuals onsite. Recommend adding to electrical cabinet for storage. (U) 2022-0027 : PS-GW: No manuals onsite.	
	Manuals		Μ	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and adequately cover all pertinent pump station features. However, they are incomplete and the necessary updates have not been made.	Recommend adding to cabinet (U) 2022-0030 : PS-CL: Manuals present onsite. (A) 2022-0039 : PS-BW: Manuals not present onsite (A)	
			U	Operation and Maintenance Equipment Manuals are not available.	<b>Recommendation:</b> Provide manuals for Grant East, Grant West, and Broadway	
3.	Safety Compliance	Α	Α	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	Justification: No issues Observed.	
			Μ	No safety compliance inspection reports are available for review.		
4.	Communications (A or M only)	Α	Α	A telephone, cellular phone, two-way radio, or similar device is available to pump station operator and maintenance personnel.	Justification: No Issues Observed.	
			Μ	A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.		
5.	Plant Building	Μ	Α	The building is in good structural condition with no major foundation settlement problems. The roof is not leaking, intake & exhaust louvers are clear of debris, fans are operational, etc.	2022-0051 : PS-BW: Vegetation obstructs access	
			Μ	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.	to the electrical equipment for station power. (M) <b>Recommendation:</b> Grant East: Recommend clearing debris and sealing with grout to prevent moisture penetration. Broadway: Remove vegetation to restore access to electrical equipment	
			U	The structural integrity or stability of the building is threatened, or there is damage to the building that threatens safety of the operator or impacts pumping operations.		

	Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations		
6.	Fencing and Gates	М	Α	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	2022-0018 : PS-GW: Fence is post is falling over. Repair and connect to fence. (M) 2022-0021 : PS-GW: Multiple potential animal		
			Μ	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	burrows through fence. Recommend filling cavities with soil or desert to prevent entry. (M) <b>Recommendation:</b> Grant West: Repair post and		
			U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	<b>Recommendation:</b> Grant West: Repair post and connect to fence. Repair animal burrows with soil or compacted clay		
			N/A	There are no features noted that require safety fencing.	1 1 1 1 1 1		
7.	Pumps	Μ	Α	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.	2022-0003 : PS-GE: Sump pump is out of service. Plan already in place to replace pump. (M) 2022-0024 : PS-GW: Pump SWP-2 was ran and operated as planned. Not enough water to run		
			Μ	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.	more pumps. (A) 2022-0036 : PS-CL: Sump pump piping discharges back into intake of station. Should be shutoff during flooding situations. (M) 2022-0048 : PS-BW: Pumps could not be run since the wet well is very dry. Local sponsor noted		
			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.	this station does not get much water and pumps run infrequently (A) <b>Recommendation:</b> 32nd and Cleveland: Shut off sump pump during flooding situations.		
8.	Motors, Engines, Fans, Gear Reducers, Back Stop	Α	Α	All items are operational. Preventative maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, bearing sensors and auto shutdowns are operational.	Justification: No Issues Observed		
	Devices, etc.		Μ	Systems have minor deficiencies, but are operational and will function adequately through the next flood. Bearing sensors are not operational.			
			U	One or more of the primary motors or systems is not operational, or noted deficiencies have not been corrected.			

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations		
9. Sumps / Wet well	Α	Α	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	Justification: No Issues Observed		
		Μ	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	NA	Α	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.			
Trash Rakes			The trash rake is in need of maintenance, but is still operational.			
		U	Trash rake not operational or deficiencies will inhibit operations during the next flood event.			
		N/A	There are no mechanical trash rakes.			
11. Non-	м	Α	Trash racks are fastened in place and properly maintained.	2022-0006 : PS-GE: Some debris buildup. (M)		
Mechanical Trash Racks	Μ	Μ	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.	2022-0033 : PS-CL: vegetation around trash rack intake (M) 2022-0042 : PS-BW: Some debris on trash rake intake. (M)		
		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.)	<b>Recommendation:</b> clean trash racks regularly.		
		N/A	There are no trash racks, or they are covered in the pump stations section of the report.			
12. Fuel System for Pump	Α	Α	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	Justification: No Issues Observed		
Engines		Μ	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.			
		U	Fuel system not functional.			
		N/A	No fuel system.			

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
13. Power Source	Α	operation	rmal power source and backup generators, if installed, are onal, properly exercised and well maintained. Surge protection, ing, lightning protection, transformers, and automatic/manual r of main power to backup system is working.	Justification: No Issues Observed
		M Norma minor o present require	l power source and backup units, if applicable, are operational with discrepancies or maintenance, inspection and exercising record is but not up to date. Preventative maintenance or repairs are d.	
		U Normal repaired	l power source or generators are not operational and must be d; or generator, if required, is not on site.	
14. Electrical Systems	Α	A Operati Prevent periodi	ional and maintained free of damage, corrosion, and debris. tative maintenance and system testing is being performed cally.	Justification: No Issues Observed
		are req	ional with minor discrepancies. Preventative maintenance or repairs uired, but the components are expected to function adequately the next flood event.	
		U Compo the nex	nents of the electrical system will not function adequately during t flood event and must be replaced.	
15. Megger Testing on Pump Motors	Α	A Results the insu the last	of megger tests on pump motors or critical power cables show that ilation meets manufacturer's or industry standards. Tested within year.	Justification: No Issues Observed
and Ċritical Power Cables		manufa with pr	r testing not conducted within the past year. If megger tests on notors indicate that insulation resistance is below the acturer's or industry standard, but the resistance can be corrected oper application of heat, this is minimally acceptable. (The tion of heat does not relate to critical power cables.)	
		meet de	t tests not conducted within past two years, or tests indicate that on resistance is low enough that the equipment will not be able to esign standards of operation; or evidence of arcing or shorting is d visually.	

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
16. Enclosures, Panels, Conduit and	Α	Α	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	Justification: No Issues Observed
Ducts		Μ	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	М	Α	Intake and discharge pipelines have no corrosion and paint is intact, except for minor touch up required. Pipe couplings and anchors have no leakage or corrosion.	2022-0045 : PS-BW: Discharge pipes coming from pumps are very corroded. (M) <b>Recommendation:</b> Broadway: monitor discharge
		Μ	Intake and discharge pipelines have minor corrosion and repair and painting is required. Pipe coupling with anchors have minor leakage, corrosion and require bolts to be tightened.	pipes for further deterioration.
		U	Intake and discharge pipelines have major corrosion and replacement is required. Pipe coupling with anchors have major leakage and is heavily corroded and requires replacement.	
18. Sluice/ Slide Gates	Α	Α	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
		Μ	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
		U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
		N/A	There are no sluice/ slide gates.	

# **Pump Stations: Gary South**

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating		Rating Guidelines	Location/Remarks/Recommendations
Flap Valves/ M		Α	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	2022-0012 : PS-GE: Right flap gate stuck open a little. (M)
		Μ	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	<b>Recommendation:</b> Grant East: remove debris from right flap gate
		U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
		N/A	There are no gates on discharge lines from pump station.	
20. Cranes	NA	A Cranes operational and have been inspected and load tested in accordance with applicable standards within the last year. Documentation is on hand.		
		Μ	Cranes have not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc, requiring maintenance.	
		U	Cranes are not operational, and this may prevent the pump station from functioning as required. No documentation available on cranes.	
		N/A	There are no cranes.	
21. Other Metallic Items	Α	Α	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
(Equipment, Ladders,		Μ	Corrosion seen on metallic parts appears to be maintainable.	
Platform Anchors, etc)		U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
		N/A	There are no other significant metallic items.	

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

**Controlled Unclassified Information (CUI):** This document contains levee information that shall not be released in an uncontrolled manner

Flood Damage Reduction Segments / Systems Inspection Report Gary South Pump Stations Page 6 of 6

Inspect ID: 2022-0022 Title: 2604000004_CELRC_2022_A_0022_1_20220608T131132.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small tree and tall vegetation on the riverside toe
Inspect ID: 2022-0028 Title: 2604000004_CELRC_2022_A_0028_1_20220608T131415.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small trees along riverside toe

Inspect ID: 2022-0046 Title: 2604000004_CELRC_2022_A_2022- 0046_3_20220608T140355.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large tree on landside toe.
Inspect ID: 2022-0073 Title: 2604000004_CELRC_2022_A_0073_1_20220608T141307.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Large shrub growth on riverside slope.



Inspect ID: 2022-0133 Title: 2604000004_CELRC_2022_A_0133_1_20220608T145550.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small trees on landside toe.
Inspect ID: 2022-0146 Title: 2604000004_CELRC_2022_A_0146_1_20220610T145300.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large trees and tall vegetation within 15 feet of riverside toe.

Inspect ID: 2022-0163 Title: 260400004_CELRC_2022_A_0163_1_20220608T150922.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small trees on the landside toe.
Inspect ID: 2022-0173 Title: 260400004_CELRC_2022_A_0173_1_20220610T151700.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small tree and tall vegetation on riverside toe.

Inspect ID: 2022-0175 Title: 2604000004_CELRC_2022_A_0175_1_20220610T145224.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Tall vegetation growth on landside toe.
Inspect ID: 2022-0176 Title: 2604000004_CELRC_2022_A_0176_1_20220610T151853.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Tall vegetation along riverside toe.

Inspect ID: 2022-0185 Title: 2604000004_CELRC_2022_A_0185_1_20220610T153252.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Tall Vegetation along riverside toe.
Inspect ID: 2022-0190 Title: 2604000004_CELRC_2022_A_0190_1_20220610T150551.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large tree growth in landside ditch and close to toe.

Inspect ID: 2022-0196 Title: 2604000004_CELRC_2022_A_0196_1_20220610T150932.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Large trees growing in landside drainage ditch.
Inspect ID: 2022-0202 Title: 2604000004_CELRC_2022_A_0202_1_20220610T151407.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small trees growing in landside drainage ditch.

Inspect ID: 2022-0229 Title: 2604000004_CELRC_2022_A_0229_1_20220610T155845.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large tree growing in drainage ditch on landside toe.
Inspect ID: 2022-0238 Title: 2604000004_CELRC_2022_A_0238_1_20220610T160540.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large tree growing in landside drainage ditch.

Inspect ID: 2022-0239 Title: 260400004_CELRC_2022_A_0239_1_20220610T170158.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Typical dense and tall vegetation along section 408 section.
Inspect ID: 2022-0241 Title: 2604000004_CELRC_2022_A_0241_1_20220610T160949.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small tree growing in the landside drainage ditch.

Inspect ID: 2022-0242 Title: 260400004_CELRC_2022_A_0242_1_20220610T170319.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Small trees growing, and are not allowed in 408 permission zone.
Inspect ID: 2022-0262 Title: 260400004_CELRC_2022_A_0262_1_20220610T164350.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large trees growing and vegetation along waterside ditch.

Inspect ID: 2022-0268 Title: 2604000004_CELRC_2022_A_0268_1_20220610T164832.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large tree growth close to levee on riverside ditch.
Inspect ID: 2022-0283 Title: 2604000004_CELRC_2022_A_0283_1_20220610T170801.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Unacceptable - Large tree growing in waterside drainage ditch.

Inspect ID: 2022-0052 Title: 260400004_CELRC_2022_A_0052_2_20220608T135452.jpg Rated Item: 2. Sod Cover Caption: Minimally Acceptable - Wildflower cover insufficient in this area.
Inspect ID: 2022-0061 Title: 260400004_CELRC_2022_A_0061_1_20220608T140747.jpg Rated Item: 2. Sod Cover Caption: Minimally Acceptable - Sod cover poor on riverside slope.

Inspect ID: 2022-0097 Title: 2604000004_CELRC_2022_A_0097_1_20220608T142915.jpg Rated Item: 2. Sod Cover Caption: Minimally Acceptable - Sod damage from mowing.
Inspect ID: 2022-0049 Title: 260400004_CELRC_2022_A_0049_1_20220608T135035.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Dead trees on riverside toe.

Inspect ID: 2022-0064 Title: 2604000004_CELRC_2022_A_0064_1_20220608T140854.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Concrete block on landside toe.
Inspect ID: 2022-0079 Title: 2604000004_CELRC_2022_A_0079_1_20220608T141455.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Concrete block near levee crown.

Inspect ID: 2022-0088 Title: 2604000004_CELRC_2022_A_0088_1_20220608T142104.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Typical burned and fallen debris on riverside toe near Martin Luther King Drive and area paralleling 32nd ave toward Georgia ave.
Inspect ID: 2022-0106 Title: 2604000004_CELRC_2022_A_0106_1_20220608T143603.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Fallen tree debris on waterside toe.

Inspect ID: 2022-0115 Title: 2604000004_CELRC_2022_A_0115_1_20220608T144659.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Fallen tree debris on waterside toe.
Inspect ID: 2022-0143 Title: 2604000004_CELRC_2022_A_0143_1_20220610T145147.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Downed tree on riverside toe.



Inspect ID: 2022-0167 Title: 260400004_CELRC_2022_A_0167_1_20220610T151534.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Concrete debris on riverside toe.
Inspect ID: 2022-0169 Title: 260400004_CELRC_2022_A_0169_1_20220608T151312.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Fallen tree debris

Inspect ID: 2022-0170 Title: 2604000004_CELRC_2022_A_0170_1_20220610T151615.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Concrete debris on riverside slope.
Inspect ID: 2022-0172 Title: 260400004_CELRC_2022_A_0172_1_20220608T151413.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Bollard split in half on levee crest near Martin Luther King Dr.

Inspect ID: 2022-0187 Title: 260400004_CELRC_2022_A_0187_1_20220610T150444.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Post on landside slope near chase and 35th street.
Inspect ID: 2022-0214 Title: 260400004_CELRC_2022_A_0214_1_20220610T153308.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Debris on landside toe.

Inspect ID: 2022-0218 Title: 2604000004_CELRC_2022_A_0218_1_20220610T161046.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Debris on riverside toe.
Inspect ID: 2022-0230 Title: 2604000004_CELRC_2022_A_0230_1_20220610T164851.jpg Rated Item: 3. Encroachments Caption: Acceptable - Riprap on landside toe, approved under section 408.

Inspect ID: 2022-0265 Title: 2604000004_CELRC_2022_A_0265_1_20220610T164627.jpg Rated Item: 3. Encroachments Caption: Minimally Acceptable - Dead tree on riverside toe.
Inspect ID: 2022-0224 Title: 2604000004_CELRC_2022_A_0224_1_20220610T162159.jpg Rated Item: 4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures) (A or U only) Caption: Minimally Acceptable - Spalling on fresh concrete, landside, on grant st. closure abutments.

Inspect ID: 2022-0109 Title: 2604000004_CELRC_2022_A_0109_1_20220608T144016.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Visible long term erosion due to water/waves. North-south running portion of waterside toe along Martin Luther King Drive
Inspect ID: 2022-0112 Title: 2604000004_CELRC_2022_A_0112_1_20220608T144531.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive

Inspect ID: 2022-0118 Title: 2604000004_CELRC_2022_A_0118_1_20220608T144809.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive.
Inspect ID: 2022-0124 Title: 260400004_CELRC_2022_A_0124_1_20220608T145029.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive.

Inspect ID: 2022-0139 Title: 2604000004_CELRC_2022_A_0139_1_20220608T145906.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive.
Inspect ID: 2022-0145 Title: 260400004_CELRC_2022_A_0145_1_20220608T150134.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive. Broad leafed plants growing on failing surface.

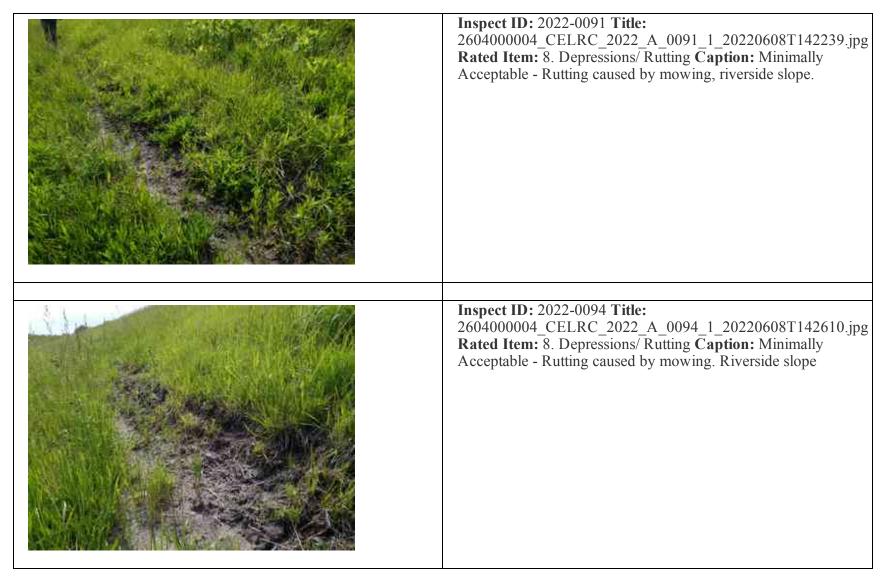
Inspect ID: 2022-0151 Title: 260400004_CELRC_2022_A_0151_1_20220608T150424.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive. Broad leafed plants growing on failing surface.
Inspect ID: 2022-0157 Title: 2604000004_CELRC_2022_A_0157_1_20220608T150654.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion along North-South portion of waterside toe along Martin Luther King Drive. Broad leafed plants growing on failing surface.

Inspect ID: 2022-0179 Title: 2604000004_CELRC_2022_A_0179_1_20220610T152743.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Animal burrow or bank cave
Inspect ID: 2022-0191 Title: 2604000004_CELRC_2022_A_0191_1_20220610T153652.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Mild erosion into riverside slope. East of Chase St.

Inspect ID: 2022-0203 Title: 2604000004_CELRC_2022_A_2022- 0203_1_20220610T155223.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion riverside toe
Inspect ID: 2022-0209 Title: 2604000004_CELRC_2022_A_0209_1_20220610T155700.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Erosion near wingwalls

Inspect ID: 2022-0212 Title: 2604000004_CELRC_2022_A_2022- 0212_2_20220610T161443.jpg Rated Item: 6. Erosion/ Bank Caving Caption: Minimally Acceptable - Cut of about 1 foot along riverside toe
Inspect ID: 2022-0055 Title: 260400004_CELRC_2022_A_0055_1_20220608T135820.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Rutting about 3 inch deep, riverside slope.

Inspect ID: 2022-0070 Title: 2604000004_CELRC_2022_A_0070_1_20220608T141212.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Rutting caused by mowing, riverside slope
Inspect ID: 2022-0076 Title: 2604000004_CELRC_2022_A_0076_1_20220608T141402.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Rutting caused by mowing, landside slope.



	Inspect ID: 2022-0100 Title: 2604000004_CELRC_2022_A_0100_1_20220608T143258.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Rutting caused by mowing, riverside slope.
<image/>	Inspect ID: 2022-0103 Title: 2604000004_CELRC_2022_A_0103_1_20220608T143455.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Rutting caused by mowing, riverside slope.

Inspect ID: 2022-0121 Title: 2604000004_CELRC_2022_A_0121_1_20220608T144914.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Caved in animal burrow, riverside slope.
Inspect ID: 2022-0127 Title: 2604000004_CELRC_2022_A_0127_1_20220608T145213.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Depression on riverside slope

Inspect ID: 2022-0149 Title: 2604000004_CELRC_2022_A_0149_1_20220610T150403.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Depression on levee crown
Inspect ID: 2022-0152 Title: 2604000004_CELRC_2022_A_0152_1_20220610T150710.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Rut along riverside toe

Inspect ID: 2022-0161 Title: 2604000004_CELRC_2022_A_0161_1_20220610T151031.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Large depression near riverside toe
Inspect ID: 2022-0164 Title: 2604000004_CELRC_2022_A_0164_1_20220610T151253.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - 8 in deep depression along riverside toe

Inspect ID: 2022-0178 Title: 2604000004_CELRC_2022_A_0178_1_20220610T145450.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - Large shallow depression on landside toe.
Inspect ID: 2022-0277 Title: 2604000004_CELRC_2022_A_0277_1_20220610T165936.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - 4 inch deep depression, 3 foot diameter, on waterside.

Inspect ID: 2022-0286 Title: 2604000004_CELRC_2022_A_0286_1_20220610T170847.jpg Rated Item: 8. Depressions/ Rutting Caption: Minimally Acceptable - 6 inch deep depression on waterside toe and slope, 6 foot diameter area.
Inspect ID: 2022-0037 Title: 2604000004_CELRC_2022_A_0037_1_20220608T132919.jpg Rated Item: 9. Cracking Caption: Acceptable - Occasional cracks along pavement at top of berm. Typical.

Inspect ID: 2022-0058 Title: 2604000004_CELRC_2022_A_0058_1_20220608T140442.jpg Rated Item: 9. Cracking Caption: Minimally Acceptable - Asphalt pavement gouged and cracked longitudinally.
Inspect ID: 2022-0160 Title: 260400004_CELRC_2022_A_0160_1_20220608T150750.jpg Rated Item: 9. Cracking Caption: Acceptable - Transverse Cracks in asphalt on levee crown.

Inspect ID: 2022-0215 Title: 2604000004_CELRC_2022_A_0215_1_20220610T160817.jpg Rated Item: 9. Cracking Caption: Minimally Acceptable - 3 in deep hole in asphalt.
Inspect ID: 2022-0245 Title: 2604000004_CELRC_2022_A_0245_1_20220610T171145.jpg Rated Item: 9. Cracking Caption: Minimally Acceptable - Longitudinal crack on landside crest. Near 33rd and Broadway.

Inspect ID: 2022-0082 Title: 2604000004_CELRC_2022_A_0082_1_20220608T141746.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow, landside toe moving up slope.
Inspect ID: 2022-0136 Title: 2604000004_CELRC_2022_A_0136_1_20220608T145729.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow, riverside slope.

Inspect ID: 2022-0142 Title: 260400004_CELRC_2022_A_0142_1_20220608T150029.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow riverside slope.
Inspect ID: 2022-0148 Title: 260400004_CELRC_2022_A_0148_1_20220608T150256.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow, riverside toe.

Inspect ID: 2022-0154 Title: 260400004_CELRC_2022_A_0154_1_20220608T150551.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow, riverside toe. Along North-south running portion of waterside toe along Martin Luther King Drive
Inspect ID: 2022-0166 Title: 260400004_CELRC_2022_A_0166_1_20220608T151113.jpg Rated Item: 10. Animal Control Caption: Acceptable - Animal droppings indicative of high activity

Inspect ID: 2022-0184 Title: 2604000004_CELRC_2022_A_0184_1_20220610T145805.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow on landside slope close to crown.
Inspect ID: 2022-0188 Title: 2604000004_CELRC_2022_A_0188_1_20220610T153439.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Burrow on riverside toe.

Inspect ID: 2022-0193 Title: 2604000004_CELRC_2022_A_0193_1_20220610T150750.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Series of animal burrows on landside slope.
Inspect ID: 2022-0194 Title: 2604000004_CELRC_2022_A_0194_1_20220610T153815.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow 6 in wide 3 foot long

Inspect ID: 2022-0197 Title: 2604000004_CELRC_2022_A_0197_1_20220610T154006.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Typical large burrows. Riverside toe near 35th and grant corner.
Inspect ID: 2022-0199 Title: 2604000004_CELRC_2022_A_0199_1_20220610T151108.jpg Rated Item: 10. Animal Control Caption: Acceptable - Inactive animal burrows on landside slope.





Inspect ID: 2022-0280 Title: 2604000004_CELRC_2022_A_0280_1_20220610T170120.jpg Rated Item: 10. Animal Control Caption: Minimally Acceptable - Animal burrow on riverside slope
Inspect ID: 2022-0182 Title: 2604000004_CELRC_2022_A_0182_1_20220610T153018.jpg Rated Item: 12. Riprap Revetments & Bank Protection
<b>Caption:</b> Minimally Acceptable - Vegetation in riprap at inlet structure

Inspect ID: 2022-0004 Title: 260400004_CELRC_2022_A_0004_1_20220608T125829.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Vegetation on riverside floodwall.
Inspect ID: 2022-0010 Title: 260400004_CELRC_2022_A_0010_1_20220608T130304.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Vegetation on landside face of floodwall.

Inspect ID: 2022-0221 Title: 2604000004_CELRC_2022_A_0221_1_20220610T162002.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Vegetation on wall landside.
Inspect ID: 2022-0248 Title: 2604000004_CELRC_2022_A_0248_1_20220610T171513.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Vegetation in area between ramp and floodwall not allowed. Encroachment per Section 408 permit.

Inspect ID: 2022-0256 Title: 2604000004_CELRC_2022_A_0256_1_20220610T162456.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Vegetation growth on riverside face.
Inspect ID: 2022-0292 Title: 260400004_CELRC_2022_A_0292_1_20220610T171905.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Minimally Acceptable - Ivy growth on riverside face of wall.

Inspect ID: 2022-0019 Title: 2604000004_CELRC_2022_A_0019_1_20220608T130654.jpg Rated Item: 2. Encroachments Caption: Minimally Acceptable - Debris on landside, within 15 feet of floodwall.
Inspect ID: 2022-0040 Title: 2604000004_CELRC_2022_A_0040_1_20220608T134022.jpg Rated Item: 2. Encroachments Caption: Minimally Acceptable - Broken signage near Broadway on riverside of floodwall.

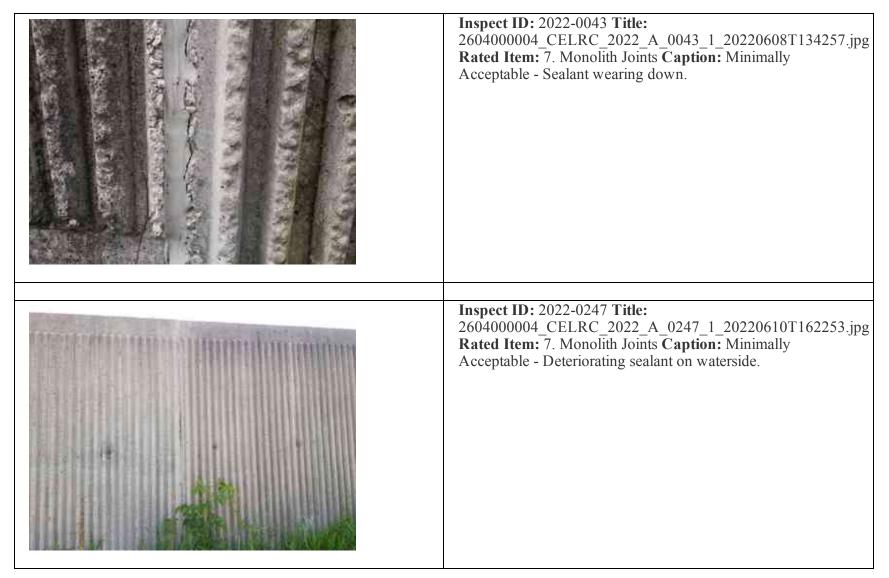
Inspect ID: 2022-0251 Title: 2604000004_CELRC_2022_A_0251_1_20220610T171736.jpg Rated Item: 2. Encroachments Caption: Minimally Acceptable - Sign in area where mowing is allowed not approved by USACE and existing Section 408 permit.
Inspect ID: 2022-0001 Title: 2604000004_CELRC_2022_A_0001_1_20220608T125740.jpg Rated Item: 4. Concrete Surfaces Caption: Minimally Acceptable - Cracking on water side.



Inspect ID: 2022-0067 Title: 2604000004_CELRC_2022_A_0067_1_20220608T141014.jpg Rated Item: 4. Concrete Surfaces Caption: Minimally Acceptable - Minor crack on top of floodwall.
Inspect ID: 2022-0227 Title: 2604000004_CELRC_2022_A_0227_1_20220610T162757.jpg Rated Item: 4. Concrete Surfaces Caption: Minimally Acceptable - Riverside crack where floodwall and pump station meet

Inspect ID: 2022-0289 Title: 2604000004_CELRC_2022_A_0289_1_20220610T171635.jpg Rated Item: 4. Concrete Surfaces Caption: Minimally Acceptable - Top of floodwall is spalling at the point it bends. Some portions appear full thickness from wall face to top surface.
Inspect ID: 2022-0254 Title: 2604000004_CELRC_2022_A_0254_1_20220610T172148.jpg Rated Item: 6. Foundation of Concrete Structures Caption: Minimally Acceptable - Animal burrow, 3ft wide landside wall face

Inspect ID: 2022-0259 Title: 2604000004_CELRC_2022_A_0259_1_20220610T162736.jpg Rated Item: 6. Foundation of Concrete Structures Caption: Minimally Acceptable - Scouring and deterioration of rip rap along outlets.
Inspect ID: 2022-0013 Title: 2604000004_CELRC_2022_A_0013_1_20220608T130352.jpg Rated Item: 7. Monolith Joints Caption: Minimally Acceptable - Cracking on landside joint and near joint.





Inspect ID: 2022-0271 Title: 2604000004\_CELRC\_2022\_A\_0271\_1\_20220610T165126.jpg Rated Item: 7. Monolith Joints Caption: Minimally Acceptable - Joint splitting g on waterside Inspect ID: 2022-0274 Title: 2604000004 CELRC 2022 A 0274 1 20220610T165252.jpg Rated Item: 7. Monolith Joints Caption: Minimally Acceptable - Deteriorating sealant on waterside.

Inspect ID: 2022-0295 Title: 2604000004_CELRC_2022_A_0295_1_20220610T172047.jpg Rated Item: 7. Monolith Joints Caption: Minimally Acceptable - Deteriorating sealant on waterside face.
Inspect ID: 2022-0298 Title: 260400004_CELRC_2022_A_0298_1_20220610T172137.jpg Rated Item: 7. Monolith Joints Caption: Minimally Acceptable - Deteriorating sealant on waterside face.

Inspect ID: 2022-0029 Title: 260400004_CELRC_2022_A_0029_1_20220607T134652.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - GS-9: Vegetation present at inlet.	Inspect ID: 2022-0025 Title: 2604000004_CELRC_2022_A_0025_1_20220608T131234.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - Vegetation in ditches East of Grant St.
	2604000004_CELRC_2022_A_0029_1_20220607T134652.jpg <b>Rated Item:</b> 1. Vegetation and Obstructions <b>Caption:</b>

Inspect ID: 2022-0032 Title: 2604000004_CELRC_2022_A_0032_1_20220607T135408.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - GS-10: Vegetation present.
Inspect ID: 2022-0083 Title: 260400004_CELRC_2022_A_0083_1_20220607T153040.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - GS-15: Vegetation present at inlet.



Inspect ID: 2022-0208 Title: 2604000004_CELRC_2022_A_0208_1_20220610T152802.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - Vegetation growth in inlet structure.	Inspect ID: 2022-0181 Title: 2604000004_CELRC_2022_A_0181_1_20220610T145549.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - Trees growing in drainage ditch on landside toe east of Chase St.
	2604000004_CELRC_2022_A_0208_1_20220610T152802.jpg <b>Rated Item:</b> 1. Vegetation and Obstructions <b>Caption:</b>

Inspect ID: 2022-0223 Title: 260400004_CELRC_2022_A_0223_1_20220610T154614.jpg Rated Item: 1. Vegetation and Obstructions Caption: Minimally Acceptable - GS-3: Trees growing in drainage ditch on landside.
Inspect ID: 2022-0211 Title: 260400004_CELRC_2022_A_0211_1_20220610T153049.jpg Rated Item: 2. Encroachments Caption: Minimally Acceptable - Debris in outlet structure.

Inspect ID: 2022-0020 Title: 2604000004_CELRC_2022_A_0020_1_20220607T133604.jpg Rated Item: 5. Concrete Surfaces (Such as gate wells, outfalls, intakes, or culverts) Caption: Minimally Acceptable - GS-8c: Concrete at gate stem cracking.
Inspect ID: 2022-0044 Title: 260400004_CELRC_2022_A_0044_1_20220607T141159.jpg Rated Item: 5. Concrete Surfaces (Such as gate wells, outfalls, intakes, or culverts) Caption: Acceptable - GS-11: Outlet clear of debris.

Inspect ID: 2022-0131 Title: 2604000004_CELRC_2022_A_0131_1_20220609T172544.jpg Rated Item: 6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures (Such as gate wells, outfalls, intakes, or culverts) Caption: Minimally Acceptable - GS-3: Ground around concrete is sliding.
Inspect ID: 2022-0226 Title: 2604000004_CELRC_2022_A_0226_1_20220610T155121.jpg Rated Item: 7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.) Caption: Minimally Acceptable - Erosion of levee around GS-3 access ramp. 4.5 to 5 foot into levee surface. 5 foot deep

Inspect ID: 2022-0226 Title: 260400004_CELRC_2022_A_0226_2_20220610T155218.jpg Rated Item: 7. Foundation of Concrete Structures (Such as culverts, inlet and discharge structures, or gatewells.) Caption: Minimally Acceptable - Erosion of levee around GS-3 access ramp. 4.5 to 5 foot into levee surface. 5 foot deep
Inspect ID: 2022-0137 Title: 260400004_CELRC_2022_A_0137_1_20220609T174031.jpg Rated Item: 9. Culverts/ Discharge Pipes Caption: Minimally Acceptable - GS-4: disconnected pipes.

Inspect ID: 2022-0002 Title: 2604000004_CELRC_2022_A_0002_1_20220607T131447.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS 7, Sluice gate did not shut completely.
Inspect ID: 2022-0005 Title: 2604000004_CELRC_2022_A_0005_1_20220607T132235.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-8: luice gate did not shut and sediment present. Gate always shut.

Inspect ID: 2022-0011 Title: 260400004_CELRC_2022_A_0011_1_20220607T132831.jpg Rated Item: 10. Sluice/Slide Gates Caption: Minimally Acceptable - GS 8 gate B gate did not fully close
Inspect ID: 2022-0014 Title: 260400004_CELRC_2022_A_0014_1_20220607T133322.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-8b: Garbage on top of gate, did not close.

Inspect ID: 2022-0017 Title: 2604000004_CELRC_2022_A_0017_1_20220607T133455.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-8a: Closed completely.
Inspect ID: 2022-0023 Title: 2604000004_CELRC_2022_A_0023_1_20220607T133730.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS 8 gate A, no sediment found on gate

Inspect ID: 2022-0035 Title: 260400004_CELRC_2022_A_0035_1_20220607T135943.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-10: Gate was opened, no sediment.
Inspect ID: 2022-0038 Title: 260400004_CELRC_2022_A_0038_1_20220607T140144.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-10: Gate closed completely.

Inspect ID: 2022-0053 Title: 2604000004_CELRC_2022_A_0053_1_20220607T143121.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-11b: Gate did not close completely, sediment on bottom of gate.
Inspect ID: 2022-0056 Title: 2604000004_CELRC_2022_A_0056_1_20220607T143526.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-11a: Gate did not close all the way.

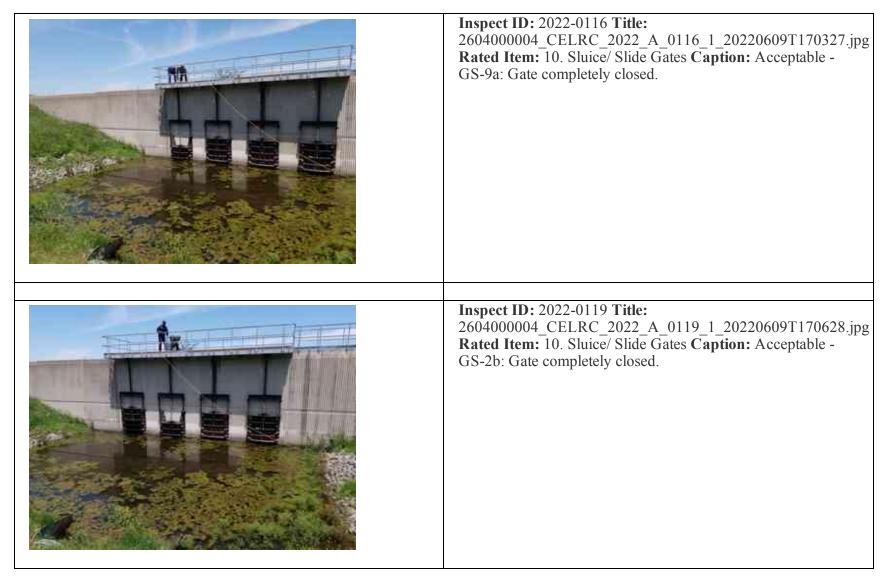
Inspect ID: 2022-0059 Title: 2604000004_CELRC_2022_A_0059_1_20220607T143841.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-11a: Gate did not close, no sediment present at bottom of gate, debris must be under gate.
Inspect ID: 2022-0062 Title: 260400004_CELRC_2022_A_0062_1_20220607T144931.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-12b: Gate did not close all the way.

Inspect ID: 2022-0074 Title: 260400004_CELRC_2022_A_0074_1_20220607T150416.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-12a: Gate did not close completely.
Inspect ID: 2022-0080 Title: 260400004_CELRC_2022_A_0080_1_20220607T152022.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-14: Sluice gate closed completely.

Inspect ID: 2022-0086 Title: 2604000004_CELRC_2022_A_0086_1_20220607T153313.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Minimally Acceptable - GS-15: Gate closed completely, sediment present outside of gate.
Inspect ID: 2022-0089 Title: 2604000004_CELRC_2022_A_0089_1_20220607T153709.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-15: Gate worked properly, sediment at bottom.

Inspect ID: 2022-0098 Title: 2604000004_CELRC_2022_A_0098_1_20220607T154636.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-16a,b: Both gates shut completely.
Inspect ID: 2022-0101 Title: 260400004_CELRC_2022_A_0101_1_20220607T155112.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-16: Both gates closed.





Inspect ID: 2022-0122 Title: 2604000004_CELRC_2022_A_0122_1_20220609T171307.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-2c: Gate closed completely.
Inspect ID: 2022-0125 Title: 260400004_CELRC_2022_A_0125_1_20220609T171710.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-2d: Gate completely closed.

Inspect ID: 2022-0134 Title: 260400004_CELRC_2022_A_0134_1_20220609T173036.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-3: Gate closed completely, needs to be greased.
Inspect ID: 2022-0140 Title: 260400004_CELRC_2022_A_0140_1_20220609T174424.jpg Rated Item: 10. Sluice/ Slide Gates Caption: Acceptable - GS-4: Gate closed completely.

Inspect ID: 2022-0026 Title: 2604000004_CELRC_2022_A_0026_1_20220607T134527.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Acceptable - GS-9a,b: Both flapgates were shut.
Inspect ID: 2022-0041 Title: 2604000004_CELRC_2022_A_0041_1_20220607T140407.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Minimally Acceptable - GS-10: Flapgate stuck open.

Inspect ID: 2022-0047 Title: 2604000004_CELRC_2022_A_0047_1_20220607T141333.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Acceptable - GS-11: Both flapgates completely sealed.
Inspect ID: 2022-0065 Title: 2604000004_CELRC_2022_A_0065_1_20220607T145931.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Acceptable - GS-12: Both flapgates completely closed.

Inspect ID: 2022-0095 Title: 260400004_CELRC_2022_A_0095_1_20220607T154331.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Minimally Acceptable - GS-16: Flapgates are not completely closed.
Inspect ID: 2022-0110 Title: 2604000004_CELRC_2022_A_0110_1_20220607T185311.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Acceptable - GS-5: Flapgate completely closed.

Inspect ID: 2022-0113 Title: 2604000004_CELRC_2022_A_0113_1_20220609T165829.jpg Rated Item: 11. Flap Gates/ Flap Valves/ Pinch Valves Caption: Acceptable - GS-2: Flapgates fully underwater, cannot determine if open or closed.
Inspect ID: 2022-0008 Title: 2604000004_CELRC_2022_A_0008_1_20220607T132629.jpg Rated Item: 13. Other Metallic Items Caption: Minimally Acceptable - GS-8: Concrete around light pole cracking.

	Inspect ID: 2022-0068 Title: 260400004_CELRC_2022_A_0068_1_20220607T150026.jpg Rated Item: 13. Other Metallic Items Caption: Minimally Acceptable - GS-12a: Gate stem leaking water when running, greased while running
<image/>	Inspect ID: 2022-0071 Title: 260400004_CELRC_2022_A_0071_1_20220607T150300.jpg Rated Item: 13. Other Metallic Items Caption: Minimally Acceptable - GS-12a: Crack and rust

Inspect ID: 2022-0077 Title: 2604000004_CELRC_2022_A_0077_1_20220607T151546.jpg Rated Item: 13. Other Metallic Items Caption: Minimally Acceptable - GS-14: Fence and post broken.
Inspect ID: 2022-0015 Title: 2604000004_CELRC_2022_A_0015_1_20220607T131332.jpg Rated Item: 2. Pump Station Operations and Maintenance Equipment Manuals Caption: Unacceptable - PS-GE: No operations manuals onsite. Recommend adding to electrical cabinet for storage.

Inspect ID: 2022-0027 Title: 2604000004_CELRC_2022_A_0027_1_20220607T132855.jpg Rated Item: 2. Pump Station Operations and Maintenance Equipment Manuals Caption: Unacceptable - PS-GW: No manuals onsite. Recommend adding to cabinet
Inspect ID: 2022-0030 Title: 2604000004_CELRC_2022_A_0030_1_20220607T133756.jpg Rated Item: 2. Pump Station Operations and Maintenance Equipment Manuals Caption: Acceptable - PS-CL: Manuals present onsite.

Inspect ID: 2022-0039 Title: 260400004_CELRC_2022_A_0039_1_20220607T144255.jpg Rated Item: 2. Pump Station Operations and Maintenance Equipment Manuals Caption: Acceptable - PS-BW: Manuals not present onsite
Inspect ID: 2022-0009 Title: 2604000004_CELRC_2022_A_0009_1_20220607T130939.jpg Rated Item: 5. Plant Building Caption: Minimally Acceptable - PS-GE Cracking around light pole pedestal.

	Inspect ID: 2022-0051 Title: 260400004_CELRC_2022_A_0051_1_20220607T145258.jpg Rated Item: 5. Plant Building Caption: Minimally Acceptable - PS-BW: Vegetation obstructs access to the electrical equipment for station power.
<image/>	Inspect ID: 2022-0018 Title: 2604000004_CELRC_2022_A_0018_1_20220607T132012.jpg Rated Item: 6. Fencing and Gates Caption: Minimally Acceptable - PS-GW: Fence is post is falling over. Repair and connect to fence.

Inspect ID: 2022-0021 Title: 260400004_CELRC_2022_A_0021_1_20220607T132050.jpg Rated Item: 6. Fencing and Gates Caption: Minimally Acceptable - PS-GW: Multiple potential animal burrows through fence. Recommend filling cavities with soil or desert to prevent entry.
Inspect ID: 2022-0003 Title: 260400004_CELRC_2022_A_0003_1_20220607T130514.jpg Rated Item: 7. Pumps Caption: Minimally Acceptable - PS- GE: Sump pump is out of service. Plan already in place to replace pump.

Inspect ID: 2022-0024 Title: 2604000004_CELRC_2022_A_0024_1_20220607T132645.jpg Rated Item: 7. Pumps Caption: Acceptable - PS-GW: Pump SWP-2 was ran and operated as planned. Not enough water to run more pumps.
Inspect ID: 2022-0036 Title: 260400004_CELRC_2022_A_0036_1_20220607T134441.jpg Rated Item: 7. Pumps Caption: Minimally Acceptable - PS- CL: Sump pump piping discharges back into intake of station. Should be shutoff during flooding situations.

Inspect ID: 2022-0048 Title: 2604000004_CELRC_2022_A_0048_1_20220607T144828.jpg Rated Item: 7. Pumps Caption: Acceptable - PS-BW: Pumps could not be run since the wet well is very dry. Local sponsor noted this station does not get much water and pumps run infrequently
Inspect ID: 2022-0006 Title: 260400004_CELRC_2022_A_0006_1_20220607T130737.jpg Rated Item: 11. Non-Mechanical Trash Racks Caption: Minimally Acceptable - PS-GE: Some debris buildup.

Inspect ID: 2022-0033 Title: 2604000004_CELRC_2022_A_0033_1_20220607T134105.jpg Rated Item: 11. Non-Mechanical Trash Racks Caption: Minimally Acceptable - PS-CL: vegetation around trash rack intake
Inspect ID: 2022-0042 Title:
2604000004_CELRC_2022_A_0042_1_20220607T144326.jpg <b>Rated Item:</b> 11. Non-Mechanical Trash Racks <b>Caption:</b> Minimally Acceptable - PS-BW: Some debris on trash rake intake.

Inspect ID: 2022-0045 Title: 260400004_CELRC_2022_A_0045_1_20220607T144718.jpg Rated Item: 17. Intake and Discharge Pipelines Caption: Minimally Acceptable - PS-BW: Discharge pipes coming from pumps are very corroded.
Inspect ID: 2022-0012 Title: 2604000004_CELRC_2022_A_0012_1_20220607T131150.jpg Rated Item: 19. Flap Gates/ Flap Valves/ Pinch Valves Caption: Minimally Acceptable - PS-GE: Right flap gate stuck open a little. Recommend monitoring and addressing if it becomes problematic.



## Flood Damage Reduction System 2605000003 / Segment 2604000004 **Public Sponsor Pre-Inspection Form**

## of Engineers ®

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

1. Levee segment / system and sponsor: (name of the	e segment / system and leve	e sponsor)
System 2605000003 / Segment 2604000004 CELRC		
2. Reporting period: (month/day/year to month/day	y/year)	
05/31/2021	to	05/31/2022
3. Summary of maintenance required by last inspec	ction report:	
Beginning in April the grass is cut approximately every levee for issues. Pump Stations are checked monthly. R	•	ised twice a year which includes greasing gears as well. Regular monitoring of the t via email
4. Summary of maintenance performed this reporti	ng period:	
Continue our regular maintenance schedule		
5. Summary of maintenance planned next reporting	g period:	
5. Summary of maintenance planned next reporting None	g period:	
None		

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

#### A. **Purpose of USACE Inspections**

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

#### B. Types of Inspections:

The Corps conducts several types of inspections of Flood Damage Reduction systems, as outlined below:

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

#### C. Inspection Boundaries:

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

Project	System	Segment
A flood damage reduction project is	A flood damage reduction system is made up of one or more flood	
1	<b>c c f 1</b>	discrete portion of a flood damage reduction system
5	damage reduction to a defined area. Failure of one segment within	1 5 6 5
the same authorization.	a system constitutes failure of the entire system. Failure of one	flood damage reduction segment can be made up of
	system does not affect another system.	one or more features (levee, floodwall, pump stations,
		etc).

#### D. Land Use Definitions:

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

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

#### E. Use of the Inspection Report Template:

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

#### E Individual Item / Component Ratings:

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

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
The inspected item is in satisfactory condition, with		The inspected item has one or more serious
no deficiencies, and will function as intended during		deficiencies that need to be corrected. The serious
		deficiency or deficiencies will seriously impair the
	the functioning of the item as intended during the	functioning of the item as intended during the next
	next flood event.	flood event.

#### G. Overall Segment / System Ratings:

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

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

#### H. Eligibility for PL84-99 Rehabilitation Assistance:

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

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
	are eligible for rehabilitation assistance. However, if	The system is Inactive in the RIP, and the status will remain Inactive until the sponsor presents USACE with proof that all items rated Unacceptable have been corrected. Inactive systems are ineligible for rehabilitation assistance.

#### I. Reporting:

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

- a. All sections of the report template used during the inspection, including the cover and pre-inspection materials. (Supplemental data collected, and any sections of the template that weren't used during the inspection do not need to be included with the report.)
- b. Photos of the general system condition and noted deficiencies.
- c. A plan view drawing of the system, with stationing, to reference locations of items rated less than acceptable.
- d. The relative importance of the identified maintenance issues should be specified in the transmittal letter.
- e. If the Overall System Rating is Minimally Acceptable, the report needs to establish a timeframe for correction of serious deficiencies noted (not to exceed two years) and indicate that if these items are not corrected within the required timeframe, the system will be rated as Unacceptable and made Inactive in the Rehabilitation Inspection Program.

#### J. Notification:

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

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



LEVEE INSPECTION MAPBOOK

### For Official Use Only

# Levee Segment Gary South

NLD Levee Segment ID 2604000004

Location Gary

Inspection Type Routine

Start Date 07-Jun-2022

End Date 10-Jun-2022

Inspected By Chris Schaal, Jonathan Lombardi



## SHEET INDEX

## Levee: Gary South

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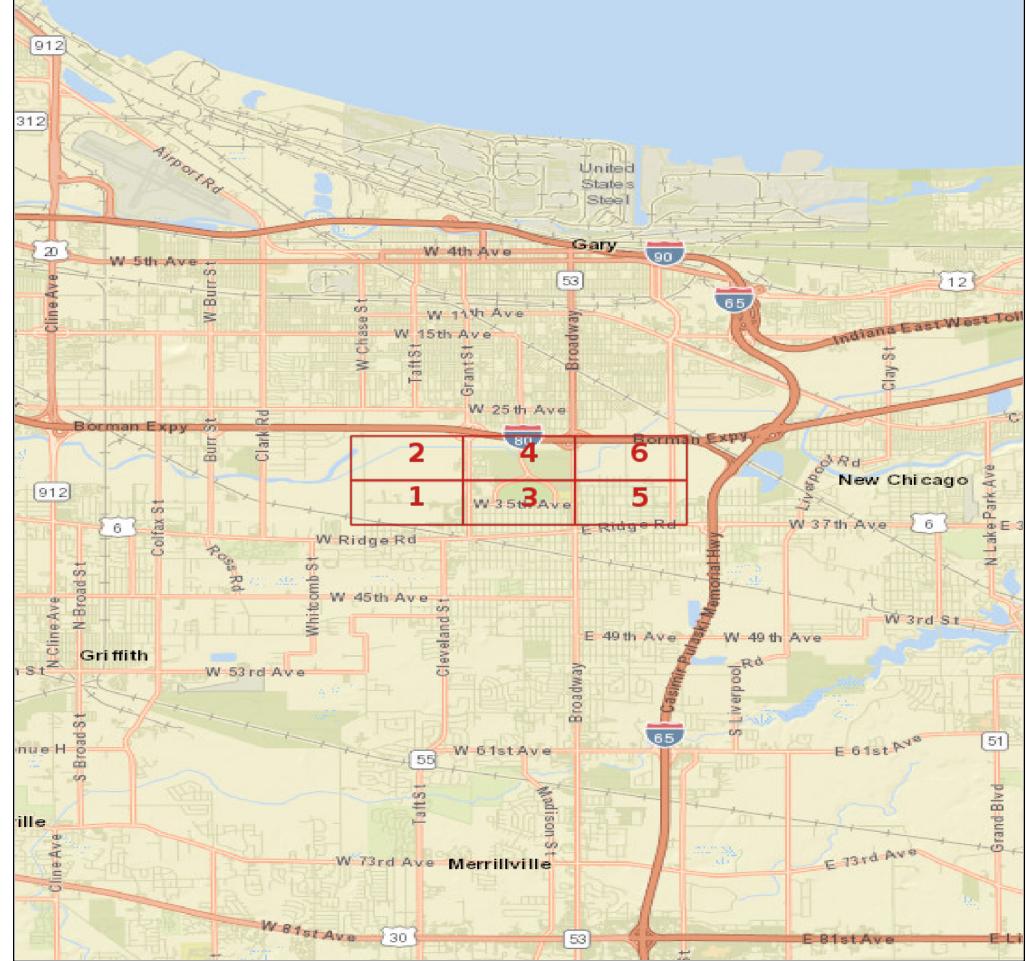


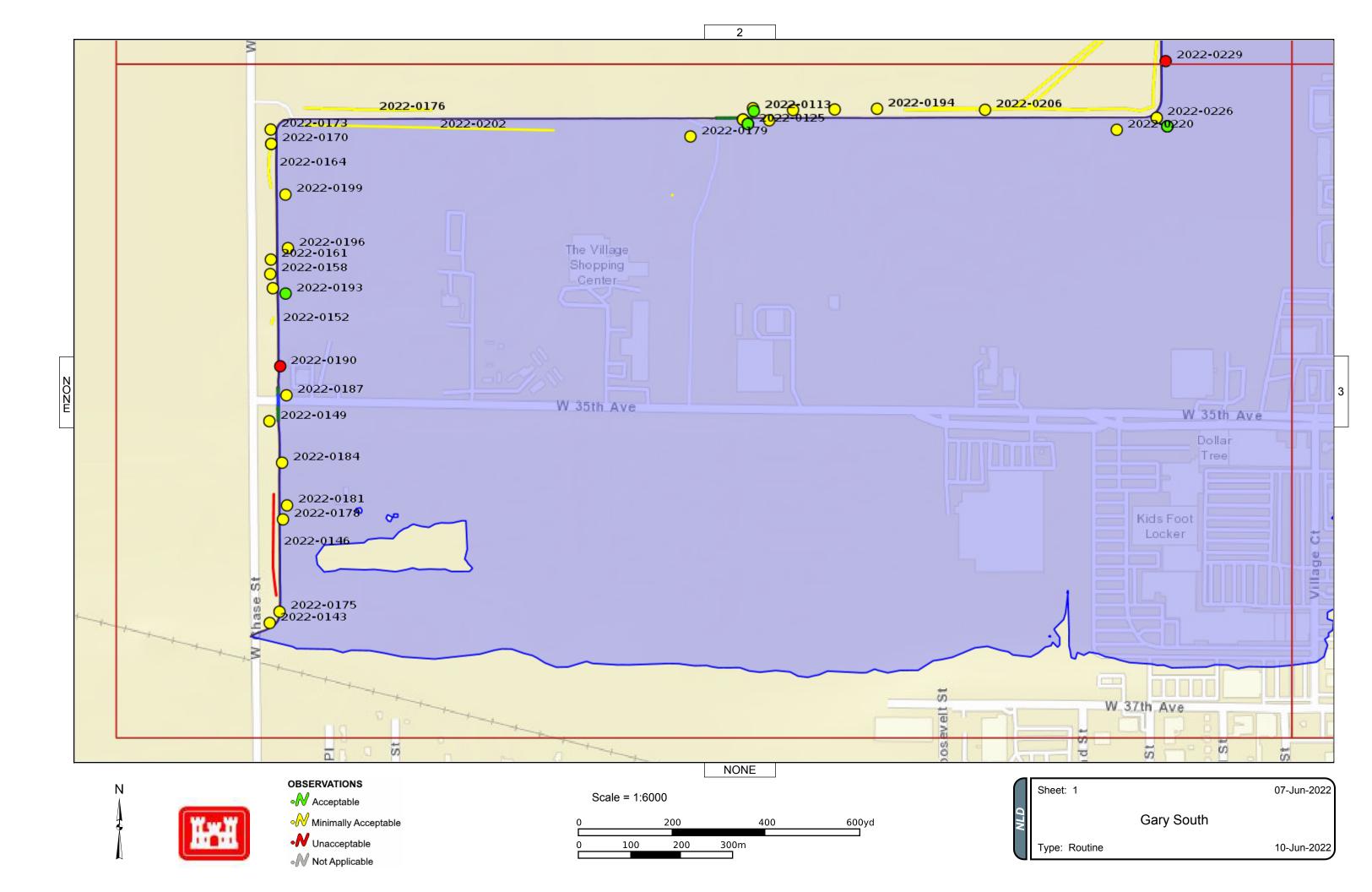
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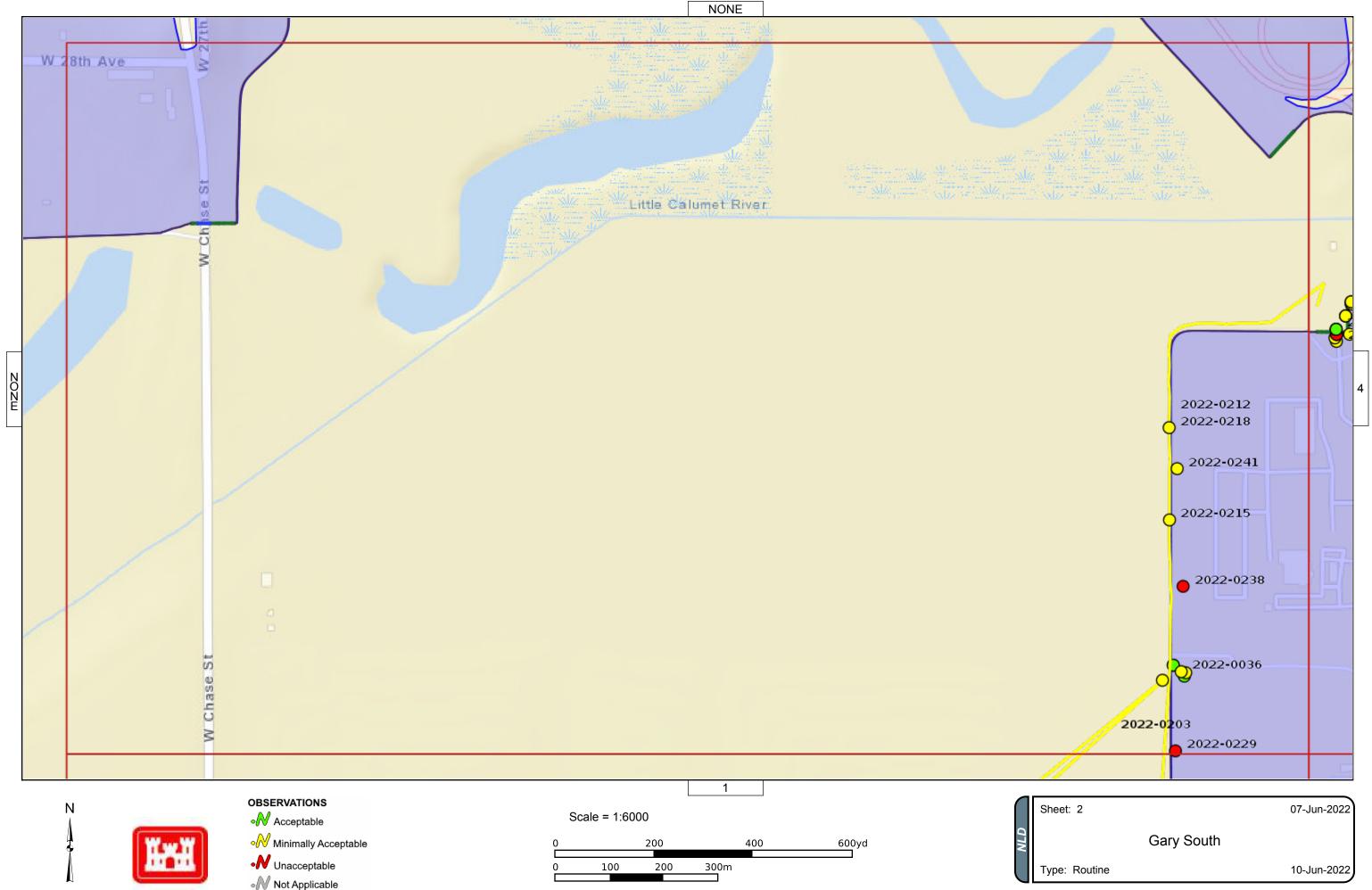
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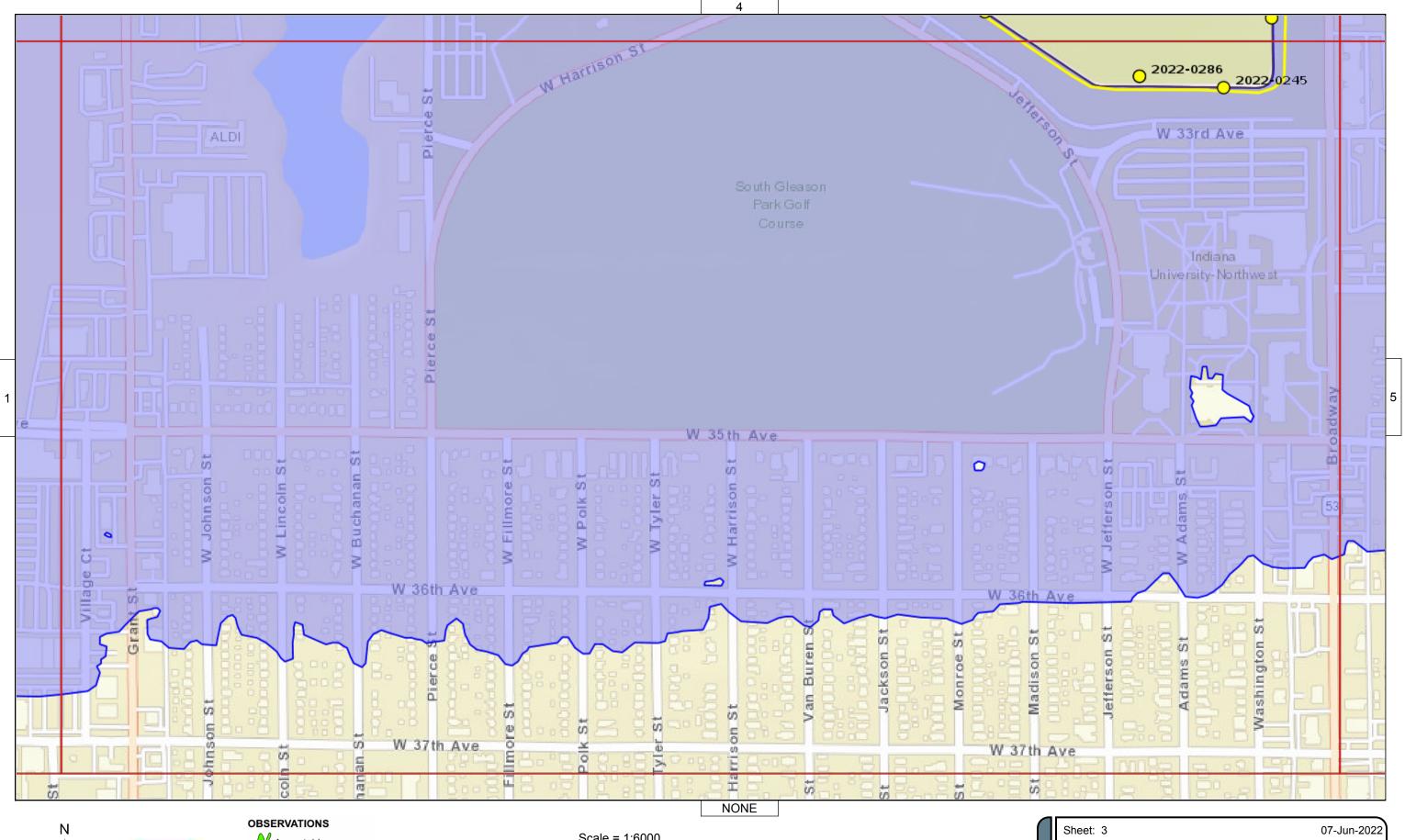
6 Standard Sheets













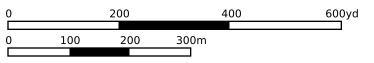
# • Acceptable

• Minimally Acceptable

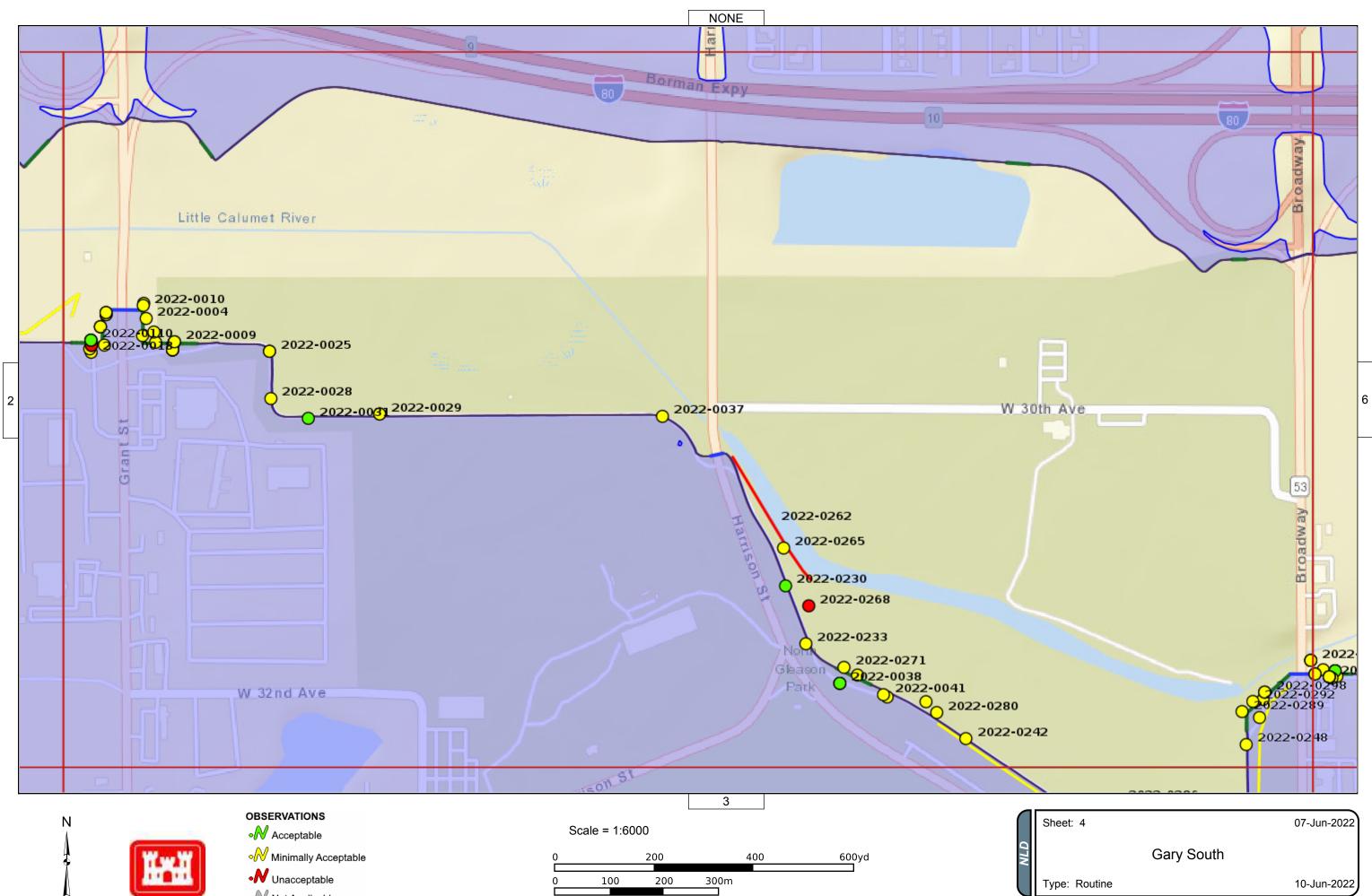
• Unacceptable

• Not Applicable

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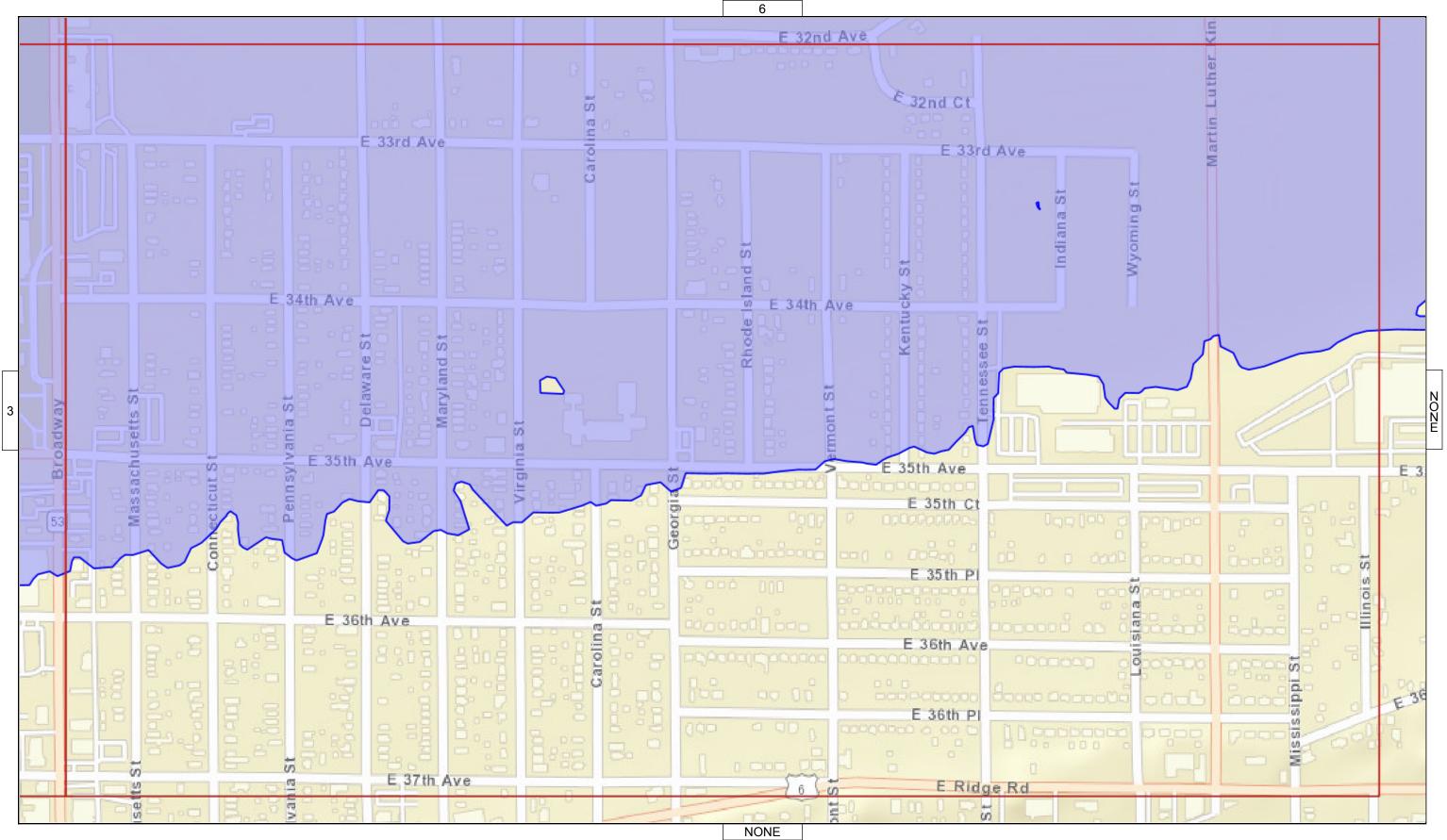






• Not Applicable

10-Jun-2022





Ν

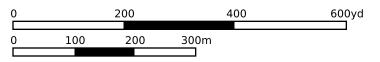
#### OBSERVATIONS • Acceptable

• Minimally Acceptable

• Unacceptable

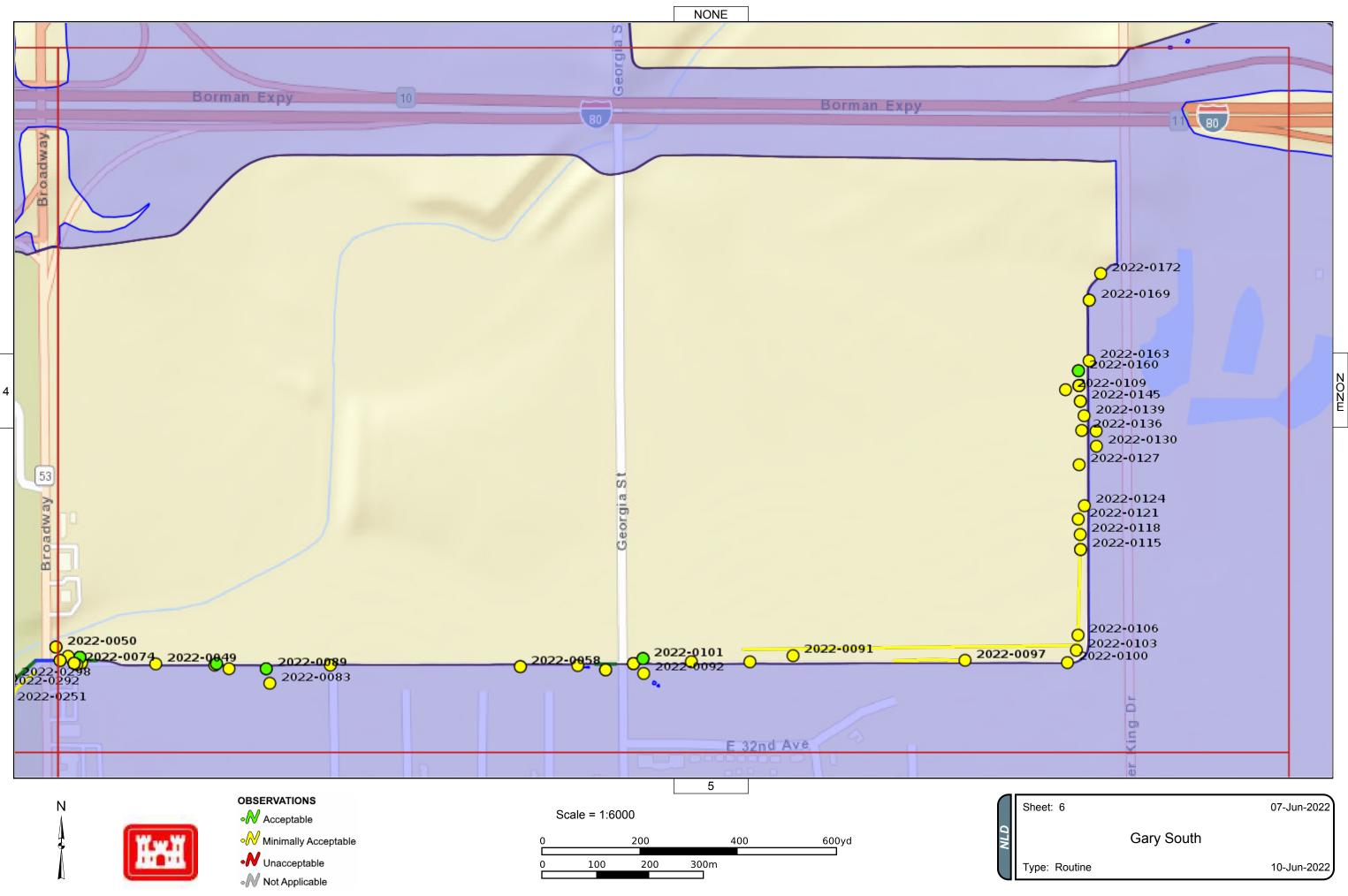
• Not Applicable

Scale = 1:6000





10-Jun-2022



### Subset of Inspection Items for Rehabilitation Program Eligibility Determination

In order to be eligible, all of the following items must be rated A, M, N/A or Yes. Note: Item numbers listed below refer to their placement in the Inspection Checklist for the Munster Levee.

Rehabilitation Program Eligibility Determination				
Yes	$\boxtimes$	Public sponsor provided maintenance information per the Public Sponsor Pre-		
No		Inspection Form.		
Yes		··· · · · · · · · · · · · · · · · · ·		
No		Non-federal levee system meets Initial Eligibility criteria.		
N/A	$\boxtimes$			
		he above items is marked "No" the levee system is not eligible.		
Ratin	g	Rated Item		
Leve	e Emba	ankments		
Α				
М	$\overline{\boxtimes}$	3. Encroachments		
U	Π			
A	$\overline{\Box}$			
U		4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag		
N/A	$\boxtimes$	Closures)		
A		,		
M	$\square$	5. Slope Stability		
U				
A				
M		6. Erosion/ Bank Caving		
U		0. Erosion/ Dank Gaving		
A				
		10. Animal Control		
M				
U A				
		11 Culverte/Discharge Dines (This item includes both concrete and		
M		<ol> <li>Culverts/Discharge Pipes (This item includes both concrete and corrugated metal pipes.)</li> </ol>		
U		contugated metal pipes.)		
N/A				
A		1.4. Underseens va Dalief Walls/Tas Dusing va Quaterna		
M		14. Underseepage Relief Wells/Toe Drainage Systems		
U				
N/A				
Floodwalls – N/A				
А				
М	$\boxtimes$	2. Encroachments		
U				
А	$\boxtimes$			
U		3. Closure Structures (Stop Log Closures and Gates)		
N/A				
А				
М	$\boxtimes$	5. Tilting, Sliding, or Settlement of Concrete Structures		
U				
A				
M	$\boxtimes$	6. Foundation of Concrete Structures		
U	$\square$			

A M		8. Underseepage Relief Wells/Toe Drainage Systems		
U				
N/A	$\square$			
Interio	Interior Drainage System			
А	$\boxtimes$			
M	Ц	9. Culverts/Discharge Pipes		
U				
N/A				
A M		10. Sluice/Slide Gates		
U				
N/A	$\square$			
A	$\boxtimes$			
Μ		11. Flap Gates/Flap Valves/Pinch Valves		
U				
N/A				
Pump	Static	ons – N/A		
А	$\boxtimes$			
Μ		17. Intake and Discharge Pipelines		
U				
A	$\boxtimes$			
M		18. Sluice/Slide Gates		
U				
N/A				
A M		19. Flap Gates/Flap Valves/Pinch Valves		
U		19. Thap Gales/Thap valves/Fillen valves		
N/A				
	oilitatio	n Program Status		
		System meets all interim eligibility criteria, including having received a rating of A,		
Active	$\bowtie$	M, N/A or Yes for all subset items and is therefore eligible for rehabilitation		
		assistance.		
Inactiv	/e 🗌	System does not meet interim eligibility requirements.		
Comm	nents:			
	_			
Only r	ninor is	ssues noted for the system.		
1				