

# Memorandum

To: Big Papio and Tributaries Culverts Rehabilitation Project  
Ad-Hoc Consultant Selection Subcommittee  
From: Martin P. Cleveland, Construction Engineer  
Date: March 29, 2024  
Re: Contract with Houston Engineering for Big Papio and Tributaries Culverts Rehabilitation Project

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On March 7, 2024, the Subcommittee interviewed and selected Houston Engineering, Inc with which to negotiate a professional services agreement to provide services necessary to design, permit, acquire temporary right-of-way and replace or rehabilitate twenty-four (24) City of Omaha, City of Papillion, and Papio NRD Big Papio Channel Culverts to meet US Army Corps of Engineers (USACE) PL84-99 requirements. Six of the twenty-four culverts are owned by the City of Omaha, two are owned by City of Papillion and the remaining sixteen culverts are owned by the Papio NRD. It is anticipated that interlocal cooperation agreements with the City of Omaha and City of Papillion for reimbursement of expenses for City owned culverts will be presented to the Board in upcoming months.

Houston Engineering and Papio NRD staff have worked together to prepare the enclosed professional services agreement, scope of services, time schedule and fee. The agreement has an hourly basis format with a not to exceed total of \$880,769 and will include professional services necessary to complete the design, permitting, right-of-way, and construction phases.

**Management recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute a professional services agreement for design, permitting, right-of-way and construction services between the Papio NRD and Houston Engineering, Inc. for the Big Papio and Tributaries Culverts Rehabilitation Project, for a not to exceed fee of \$880,769, subject to changes deemed necessary by the General Manager and approval as to form by District legal counsel.**

## **Attachment 1 to Exhibit A – Proposed Scope of Services**

### **1 PROJECT MANAGEMENT**

#### **1.1 Client Meetings**

Preparation for and attendance of up to six (6) meetings, exclusive of other meetings specified in this Attachment 1 to Exhibit A, with the Papio-Missouri River Natural Resources District (P-MRNRD). Project review meetings will occur before and after the Preliminary Design phase, during and after the Final Design phase and before the Construction phase and at the request of the P-MRNRD. Meeting minutes and project task lists will be prepared by Houston Engineering and distributed after each meeting for approval by the P-MRNRD.

#### **1.2 Monthly Invoicing & Project/Schedule Updates**

Preparation of monthly project invoices and a summary of work completed during the invoicing period. Invoices will be sent to the P-MRNRD prior to the first Thursday of the month and will include task item and invoice breakouts for any project partners (City of Omaha and City of Papillion) as required. Updates will include budget and schedule tracking.

#### **1.3 USACE Levee Safety Coordination Meetings**

Preparation for and attendance of up to two (2) meetings, exclusive of other meetings specified in this Attachment 1 to Exhibit A, with the Omaha District USACE Levee Safety and Readiness teams and P-MRNRD. First meeting will occur prior to the Preliminary Design phase to review the project and determine all methods of rehabilitation that will be considered for the project. A second meeting will occur before Final Design to ensure that all construction documents and specifications meet the requirements and design guidelines of the USACE 408 approval and the PL 84-99 program. Meeting minutes and project task lists will be prepared by Houston Engineering and distributed after each meeting for approval by the P-MRNRD.

#### **1.4 USACE Regulatory Coordination Meetings**

Preparation for and attendance of up to two (2) meetings, exclusive of other meetings specified in this Attachment 1 to Exhibit A, with the Omaha District USACE Regulatory division and P-MRNRD. The first meeting will be the pre-application meeting and the second will be the 404 permit submittal meeting that will occur toward the end of the 408 review process. Coordination between the engineer and the USACE Regulatory project manager will occur between the first and second meetings but shall occur via email and phone calls. Meeting minutes and project task lists will be prepared by Houston Engineering and distributed after each meeting for approval by the P-MRNRD.

#### **1.5 City of Omaha Coordination Meeting**

Preparation for and attendance of up to one (1) meeting, exclusive of other meetings specified in this Attachment 1 to Exhibit A, with the City of Omaha and the P-MRNRD. This will occur after the preliminary design phase. Meeting minutes and project task lists

will be prepared by Houston Engineering and distributed after this meeting for approval by the P-MRNRD.

### **1.6 City of Papillion Coordination Meeting**

Preparation for and attendance of up to one (1) meeting, exclusive of other meetings specified in this Attachment 1 to Exhibit A, with the City of Papillion and the P-MRNRD. This will occur after the preliminary design phase. Meeting minutes and project task lists will be prepared by Houston Engineering and distributed after this meeting for approval by the P-MRNRD.

### **1.7 Project Team QA/QC**

Internal review of all preliminary design, analysis, cost estimates, final design, permitting documents, final design, final design documents, construction reports, as-built data and Operation and Maintenance (O&M) manual updates. All reviews will be completed by a professional engineer registered in the State of Nebraska.

## **2 PRELIMINARY DESIGN**

### **2.1 Penetration, Utilities, Site Investigation and Survey**

Project investigation, video review and information gathering that is required for design of this project. It is anticipated that some minimal information (inlet of the culverts and surrounding utility information) will need to be gathered on these 24 culverts. This includes the use of Houston's crawler to gather detailed measurements on up to 10 culverts. This does not include any additional videoing of the remaining culverts. If updated videos are required, this will be completed by the P-MRNRD.

### **2.2 Alternatives Analysis and Constructability Review**

Review of each of the selected alternatives and conducting reviews with supplier representatives and/or contractors to determine the constructability of the selected alternative at each location.

### **2.3 Hydrologic and Hydraulic Analysis**

Drainage analysis to develop drainage basins, site hydrology and hydraulic capacities of existing and proposed modifications at each culvert location. This includes preliminary ponding analysis but does not include developing in depth stormwater models of upstream conditions.

### **2.4 Preliminary Plan and Profiles**

Preparation of preliminary plan and profile sheets for each of the culvert rehabilitations and/or replacements within the project. Preliminary plan and profile sheets will be delivered as 11x17 documents and as .pdfs on a project thumb drive and will include plan and profiles, construction notes, and hydrologic discharges for each site assuming full flow culvert capacity.

## **2.5 Preliminary Cost Estimate**

Preparation of preliminary engineering estimate of project construction costs detailing individual costs of all sites. The P-MRNRD has requested that the preliminary project cost estimate is delivered by 1 May 2024 for fiscal year 2025 budgeting purposes.

## **3 PERMITTING**

### **3.1 Wetland Delineation/Ordinary High Water Mark Field Work and Reporting**

Wetland delineation of up to twenty-four (24) project sites and Ordinary High Water Mark (OHWM) determination on all sites. This includes field work and the preparation of all documents required for wetland delineation and OHWM determinations. This also includes the preparation of one (1) final report outlining all the project findings which will be included with the permit applications for all sites.

### **3.2 408 Permitting**

Preparation of all required 408 documents required for the alteration of a federal project and may include technical review on all culverts that are not in a federal project area. This includes correspondence with USACE, response to all Requests for Information and updates that may be necessary.

### **3.3 Regulatory Permitting**

Preparation of a pre-construction notification letter and accompanying figure(s) as required, and the preparation and submittal of up to twenty-four (24) separately submitted 404 nationwide permit applications and any associated documents that may be required for the application package. This includes computing all wetland impacts, correspondence and coordination with USACE and updates that may be necessary for issuance of required permits.

### **3.4 City of Omaha/NPDES Stormwater Permit**

This includes the preparation and submittal of all necessary permit applications as may be required on any cut and cover replacement sites.

## **4 FINAL DESIGN, RIGHT-OF-WAY AND BIDDING**

### **4.1 Final Hydrologic and Hydraulic Analysis**

Final drainage analysis for the site and proposed modifications to culverts. A brief memorandum will be prepared for each site and pertinent information will be included on the construction document plan and profile sheets for each of the sites.

### **4.2 Construction Documents and Specifications**

Preparation of all construction documents. This shall include project title sheets, project notes and overall project quantities sheet, site access and staging sheets, plan and profile sheets, details, SWPP plan, technical specifications and all bidding documents. Construction plans will be provided as electronic 24x36 sheet sets.

#### **4.3 Final Opinion of Costs**

Preparation of a final Engineer's Opinion of Probable Construction Cost (EOPCC) for each of the sites. Individual quantities shall be shown on each plan and profile sheet with a project total for each shareholder on the quantity sheets.

#### **4.4 Landowner Coordination and Review**

Preparation for and attendance of up to twenty (20) meetings, exclusive of other meetings specified in this Attachment 1 to Exhibit A, with individual landowners as may be needed for this project. These meetings may include coordination for project licenses for construction. Meeting minutes will be prepared by Houston Engineering and distributed after each meeting for review by the P-MRNRD.

#### **4.5 Easement License Descriptions**

Preparation of temporary licenses for construction easements as may be required on up to twenty-four (24) project sites with multiple property owners. It is estimated that up to thirty (30) licenses may be required for this project. The temporary licenses will not be prepared by a licensed land surveyor and are not intended to be used for permanent easements or land rights.

#### **4.6 Pre-Bid Coordination and Meeting**

Preparation for and attendance of one (1) pre-bid meeting with interested contractors. Meeting will occur at one of the representative project sites and include review of the plans and addressing any inquiries about the project. Houston Engineering will prepare meeting minutes to be distributed to all interested parties.

#### **4.7 Project Bidding**

Answering all questions during bidding, preparation for and attendance of the bid opening, collection of bids, verification of bids and bonds and recommendation of contractor to the P-MRNRD. Upon award of the project by the P-MRNRD board, a Notice of Award will be prepared by Houston Engineering and followed by a Notice to Proceed.

### **5 CONSTRUCTION**

#### **5.1 Pre-Construction Meeting**

Preparation for and attendance of a pre-construction meeting with the selected contractor and the P-MRNRD to discuss all pertinent construction-related project issues. This includes preparation and distribution of meeting minutes.

#### **5.2 Construction Observation**

On-site construction observation for a nine (9) month long construction time. Construction observation is included for all times that contractor is doing major work items and is anticipated for 85% of the construction items. This task includes shop drawing and submittal reviews.

### **5.3 Construction Reporting**

Preparation, review and distribution of weekly construction reports which document the work performed daily and include photos, photo descriptions, videos (if applicable) and items of interest from the past week. These reports will be sent to the P-MRNRD and any other project stakeholders electronically on a weekly basis. This task also includes preparation, review and submittal of contractor payment applications to the P-MRNRD.

### **5.4 Final Walkthrough**

Final walkthrough with the contractor and the P-MRNRD after substantial completion to generate a final “punch list” for the contractor to address prior to final payment being issued.

### **5.5 As-Built Data**

Data collection of all as-built data including as required for the as-built drawings including, but not limited to inlet and outlet elevations, top of levee/channel surveying for cut and cover replacement sites and extents of riprap placement.

### **5.6 As-Built Drawings**

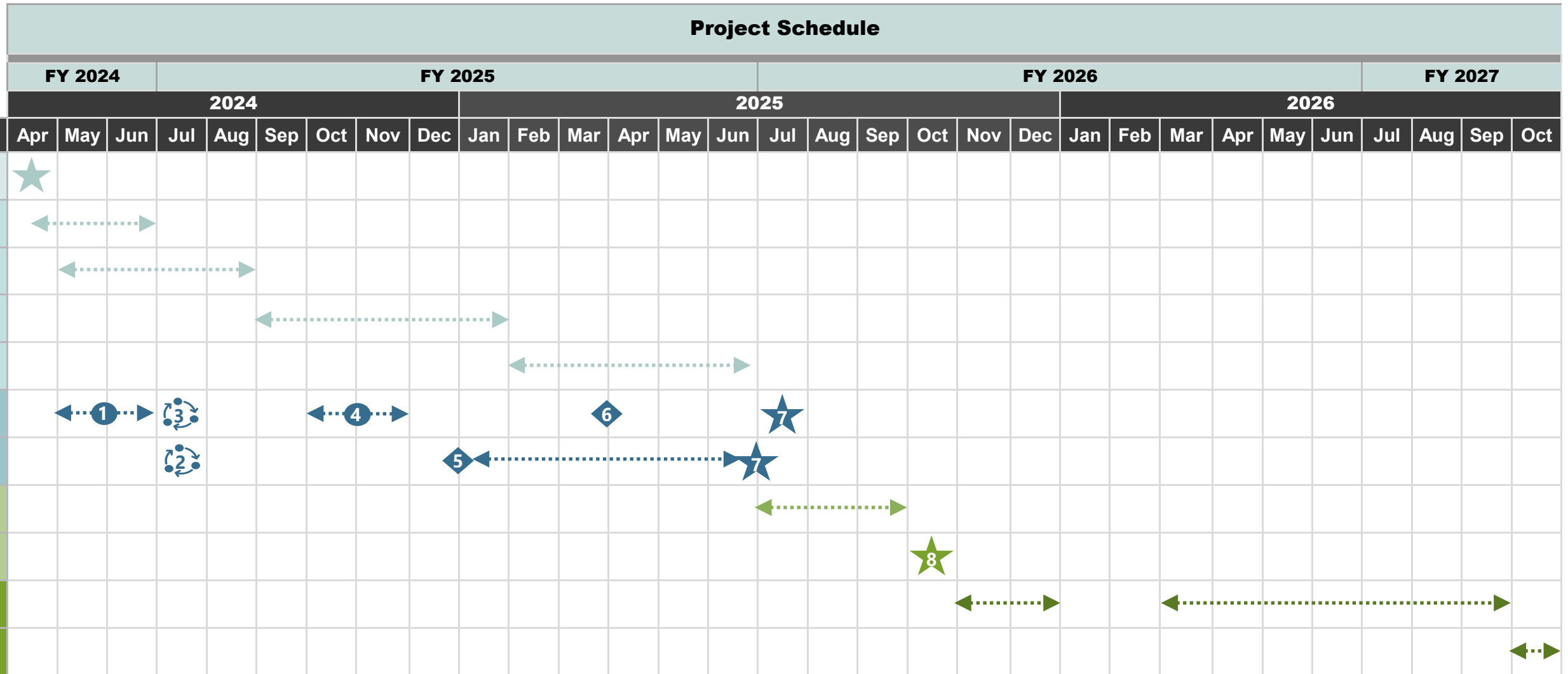
Preparation of final as-built drawings to document the constructed rehabilitation and/or replacement. As-built drawings will be given to the P-MRNRD as 11x17 sheets, .pdfs and in shapefile format that the P-MRNRD can integrate into their GIS database. The shapefile shall show attributes for pipe length, size, type, inlet elevation, outlet elevation and other pertinent culvert information and be hyperlinked to the as-built plan and profile sheets.

### **5.7 O&M Modifications and Submittal**

Prepare Operation & Maintenance Manual addendums for twenty-four (24) culvert alterations that fall within a federal project and/or the PL 84-99 program as per Omaha District USACE *Guidance on Operation & Maintenance Manual Addendums for Flood Risk Reduction Projects* (January 2013). This includes preparation and submittal of a preliminary and final addendum for twenty-four (24) culvert alterations to the P-MRNRD. The P-MRNRD will then submit these addendums to the USACE as the project sponsor.



**Exhibit A - Attachment 2**  
**Time Schedule Chart**  
**Big Papio & Tributaries Culvert Rehabilitations Project**  
 Papio-Missouri River Natural Resources District  
 Douglas and Sarpy Counties, Nebraska  
 3/29/24



- 1 Wetland & OHWM Delineation
- 2 USACE 408 Consultation Meeting
- 3 USACE 404 Pre-Application Meeting
- 4 USACE 404 Permit Applications Preparation
- 5 USACE 408 Application Submittal
- 6 USACE 404 Applications Submittal
- 7 USACE 404 & 408 Permit Issuance
- 8 NRD Board Approval of Construction Contract



**Exhibit C - Attachment 2**  
**Payments to Engineer for Services and Reimbursable Expenses**  
**Big Papio & Tributaries Culvert Rehabilitations Project**  
 Papio-Missouri River Natural Resources District  
 Douglas and Sarpy County, Nebraska  
 3/29/2024

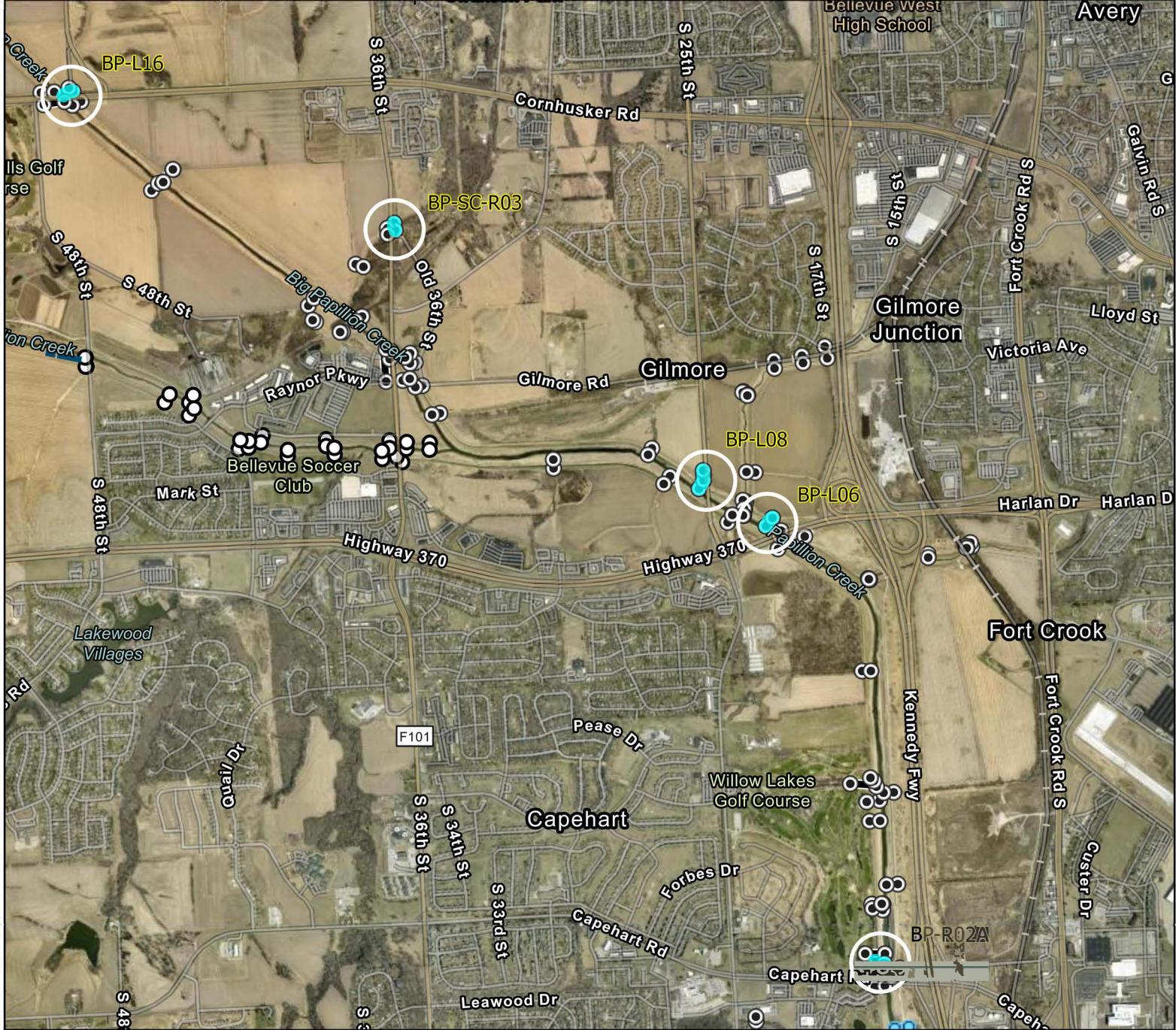
Tasks	Houston Engineering									Task Total
	Prj Manager	PIC	Prj Engineer	Prj Engineer	Prj Engineer	EI	EI	Admin	Houston Expenses	
	Rogers	Sotak	Gregalunas	Kaufman	Miller	Furman, Van Hove, Garder	Winkel	\$85		
<b>No. Project Management</b>										
1.1 Client Meeting ( Up to 6 meetings)	30	2				36				\$200
1.2 Monthly Invoicing & Project/Schedule Update (39 months)	78							39		
1.3 USACE Levee Safety Coordination Meetings (2 meetings)	10					10				\$40
1.4 USACE Regulatory Coordination Meetings (2 meetings)	2			10			15			\$40
1.5 City of Omaha Coordination Meeting (1 meeting)	4					8				\$20
1.6 City of Papillion Coordination Meeting (1 meeting)	4					8				
1.7 Project Team QA/QC		16	10		30					
<b>Project Management Task Total</b>	\$33,152	\$5,130	\$2,500	\$2,380	\$6,240	\$11,532	\$2,700	\$3,315	\$300	\$67,249
<b>No. Preliminary Design</b>										
2.1 Penetration, Utilities, Site Investigation and Survey	30					80	90			\$3,000
2.2 Alternatives Analysis and Constructability Review	40		4			64				\$75
2.3 Hydrologic and Hydraulic Analysis (24 culverts)	16		20			100				\$50
2.4 Preliminary Plan and Profiles	20				20	75	50			\$85
2.5 Preliminary Cost Estimate	10	4			10	10	50			
<b>Preliminary Design Task Total</b>	\$30,044	\$1,140	\$6,000	\$0	\$6,240	\$61,194	\$34,200	\$0	\$3,210	\$142,028
<b>No. Permitting</b>										
3.1 Wetland Delineation/Ordinary High Water Mark Field Work and Reporting	20			24		70	120			\$1,600
3.2 408 Permitting	40			24	10	70	24			\$800
3.3 Regulatory Permitting (Up to 24 404 permit applications)	16			72			192			
3.4 City of Omaha/NPDES/Stormwater Permits	10					40				
<b>Permitting Task Total</b>	\$22,274	\$0	\$0	\$28,560	\$2,080	\$33,480	\$60,480	\$0	\$2,400	\$149,274
<b>No. Final Design, Right-of-Way and Bidding</b>										
4.1 Final Hydrologic and Hydraulic Analysis	32		20			50				
4.2 Construction Documents and Specifications	80	8			10	200	100			\$700
4.3 Final Opinion of Costs	10					30	30			
4.4 Landowner Coordination and Review (Up to 20 meetings)	40									
4.5 Easement License Descriptions (Up to 24 documents) <sup>1</sup>	8					50		8		\$20
4.6 Pre-Bid Coordination and Meeting	20					16				
4.7 Project Bidding	30					20				
<b>Final Design Task Total</b>	\$56,980	\$2,280	\$5,000	\$0	\$2,080	\$68,076	\$23,400	\$680	\$720	\$159,216
<b>No. Construction</b>										
5.1 Pre-Construction Meeting	10					14				
5.2 Construction Observation <sup>2</sup>	160	20				1200				\$15,600
5.3 Construction Reporting	52					104				
5.4 Final Walkthrough	16					40				
5.5 As-Built Data						24				\$900
5.6 As-Built Drawings	8					40				
5.7 O&M Modifications and Submittal	16				4	20	20			\$300
<b>Subtotal Hours</b>	\$67,858	\$5,700	\$0	\$0	\$832	\$268,212	\$3,600	\$0	\$16,800	\$363,002
<b>Subtotal Costs</b>	812	50	54	130	84	2,379	691	47	23,430	\$210,308
	\$210,308	\$14,250	\$13,500	\$30,940	\$17,472	\$442,494	\$124,380	\$3,995	\$23,430	\$880,769

Assumptions:

- <sup>1</sup> Land rights and permanent easements are not anticipated to be required for this project. It is understood that the preparation of licenses will be sufficient for temporary access and easements to be requested from private land owners for the project.
- <sup>2</sup> Assumes a construction timeline of 9 months full time.



Pipe Number	Length	Size	Type	CREEK	REACH	OM Station
BP-L06	183.7	42"	CMP	BIG PAPIO	HWY 370 - 36TH ST.	113+50
BP-L08	261	36"	CMP	BIG PAPIO	HWY 370 - 36TH ST.	126+80
BP-L16	188.8	72"	CMP	BIG PAPIO	CORNHUSKER RD. - HARRISON ST.	264+50
BP-L18	140	48"	CMP	BIG PAPIO	CORNHUSKER RD. - HARRISON ST.	335+40
BP-L44A	223	36"	RCP	BIG PAPIO	F ST. - 84TH ST.	381+48
BP-R58	102.4	18"	RCP	BIG PAPIO	84TH ST. - W CENTER RD.	436+45
BP-SC-R03	132.5	48"	CMP	BIG ELK CREEK	BIG ELK CREEK	18+32
BP-R52	112.6	36"	RCP-CMP	BIG PAPIO	84TH ST. - W CENTER RD.	406+30
BP-L29	385.4	48"	RCP-CMP	BIG PAPIO	Q ST. - L ST.	474+00
BP-R02A	180.7	8"	STEEL-CMP	BIG PAPIO	CAPEHART RD. - HWY 370	28+30

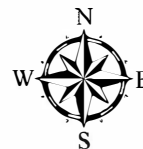


# Big Papio

12/13/2023

Sheet 1

## Overview

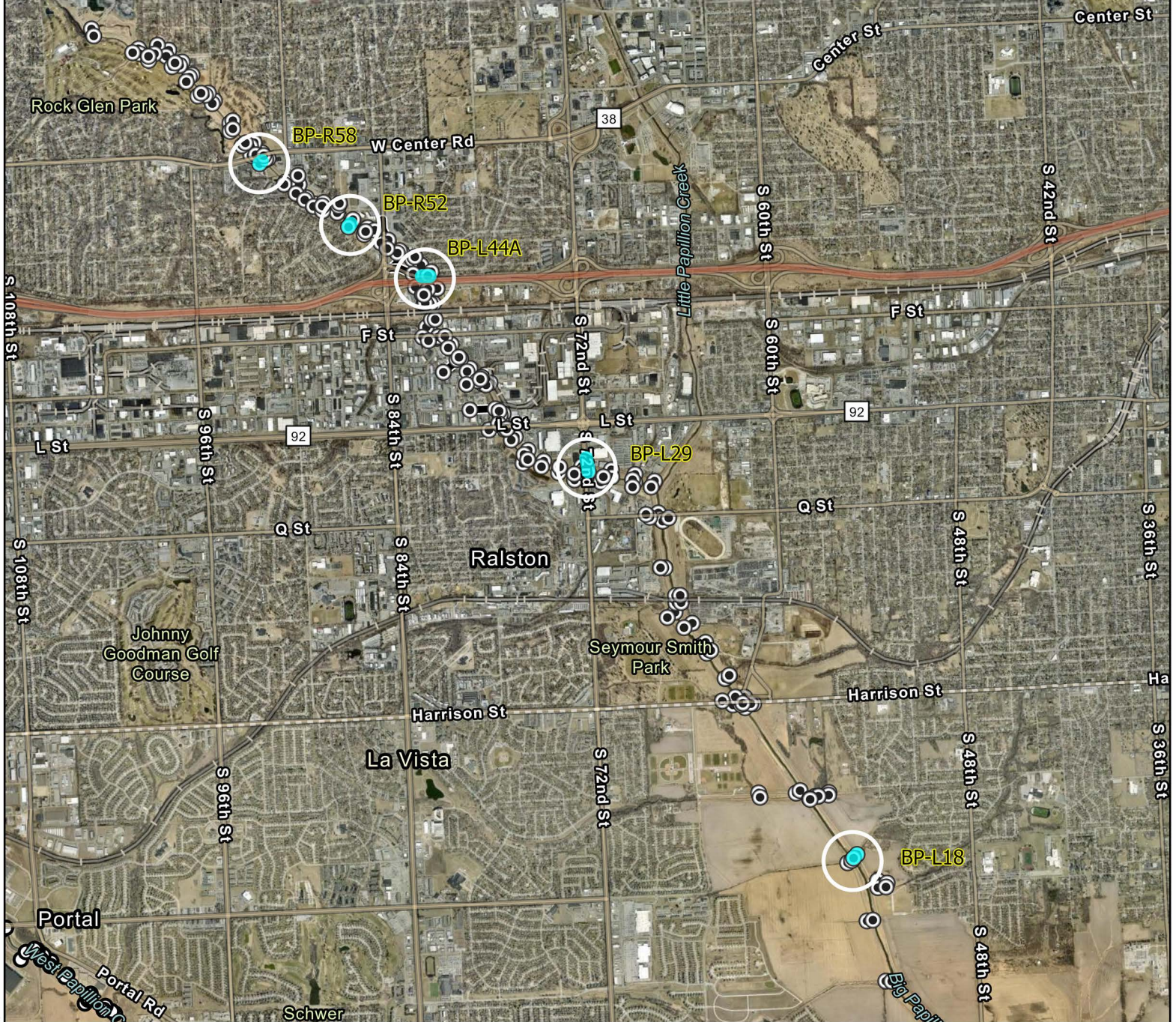


**PAPIO**  
MISSOURI RIVER

NATURAL RESOURCES DISTRICT

(402) 444-6222 8901 S 154th St, Omaha, NE 68138

Pipe Number	Length	Size	Type	CREEK	REACH	OM Station
BP-L06	183.7	42"	CMP	BIG PAPIO	HWY 370 - 36TH ST.	113+50
BP-L08	261	36"	CMP	BIG PAPIO	HWY 370 - 36TH ST.	126+80
BP-L16	188.8	72"	CMP	BIG PAPIO	CORNHUSKER RD. - HARRISON ST.	264+50
BP-L18	140	48"	CMP	BIG PAPIO	CORNHUSKER RD. - HARRISON ST.	335+40
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BP-L29	385.4	48"	RCP-CMP	BIG PAPIO	Q ST. - L ST.	474+00
BP-R02A	180.7	8"	STEEL-CMP	BIG PAPIO	CAPEHART RD. - HWY 370	28+30



**Big Papio**  
 12/13/2023  
 Sheet 2

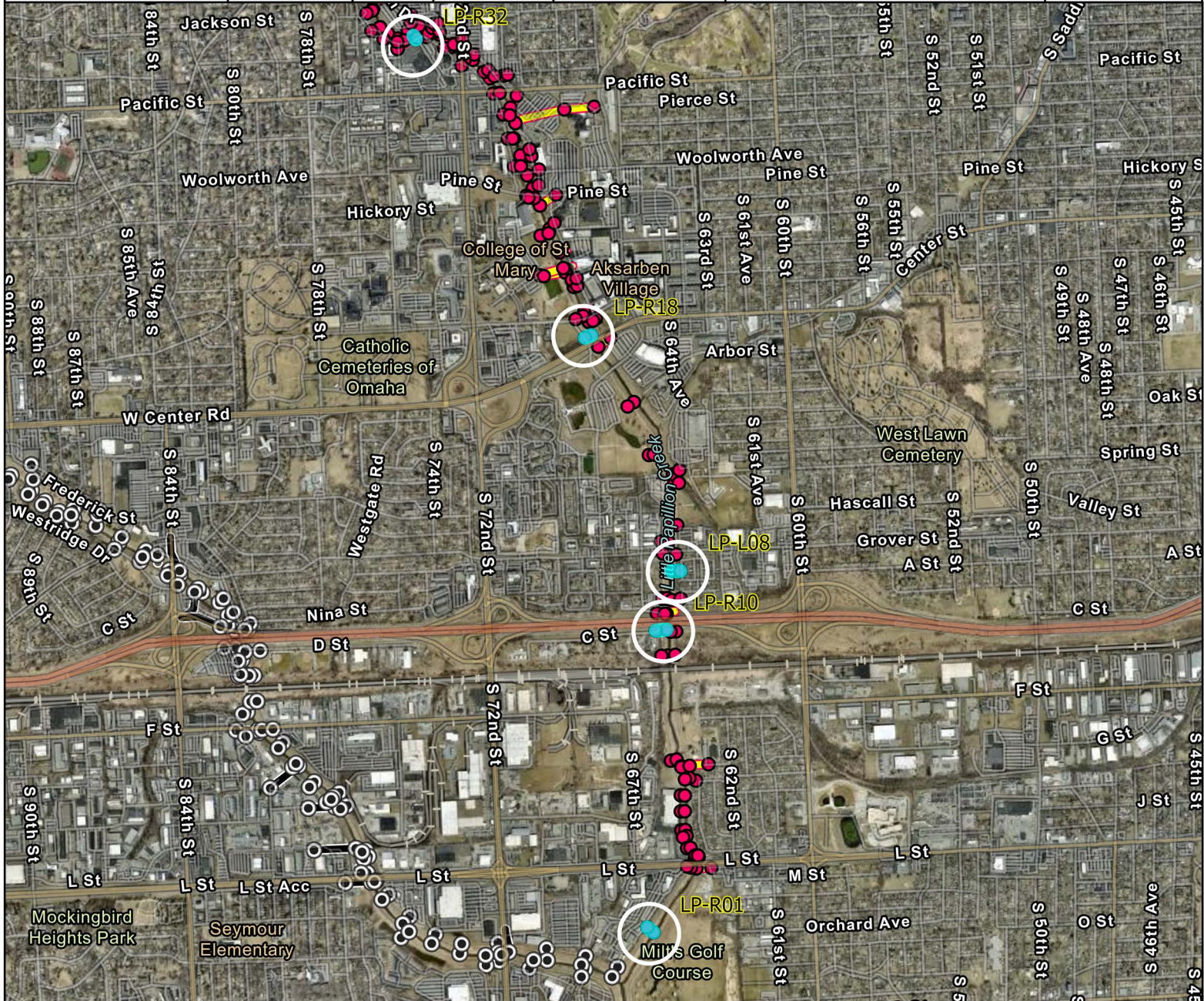
Overview



**PAPIO**  
 MISSOURI RIVER  
 NATURAL RESOURCES DISTRICT

(402) 444-6222 8901 S 154th St, Omaha, NE 68138

Pipe_number	Length	Size	Type	CREEK	REACH	STATION
LP-R10	185.6	24"	RCP	LITTLE PAPIO	UPRR - GROVER ST.	335+60
LP-L08	146.9	18"	CMP	LITTLE PAPIO	UPRR - GROVER ST.	325+70
LP-R18	115.4	42"	RCP-CMP	LITTLE PAPIO	CENTER ST. - PACIFIC ST.	281+10
LP-L65	251.3	36"	RCP-CMP	LITTLE PAPIO	BLONDO ST. - MAPLE ST.	101+10
LP-L46	53	12"	CMP	LITTLE PAPIO	HOWARD ST. - DODGE ST.	185+80
LP-L42	138.6	18"	CMP	LITTLE PAPIO	HOWARD ST. - DODGE ST.	195+00
LP-L40	60	15"	RCP-CMP	LITTLE PAPIO	HOWARD ST. - DODGE ST.	199+70
LP-R32	83.6	15"	CMP	LITTLE PAPIO	PACIFIC ST. - HOWARD ST.	218+25
LP-R01	134.5	36"	RCP-CMP	LITTLE PAPIO	CONFLUENCE - UPRR	389+85
LP-R59	56.3	30"	CMP	LITTLE PAPIO	BLONDO ST. - MAPLE ST.	91+95



# Little Papio

## Overview

12/13/2023

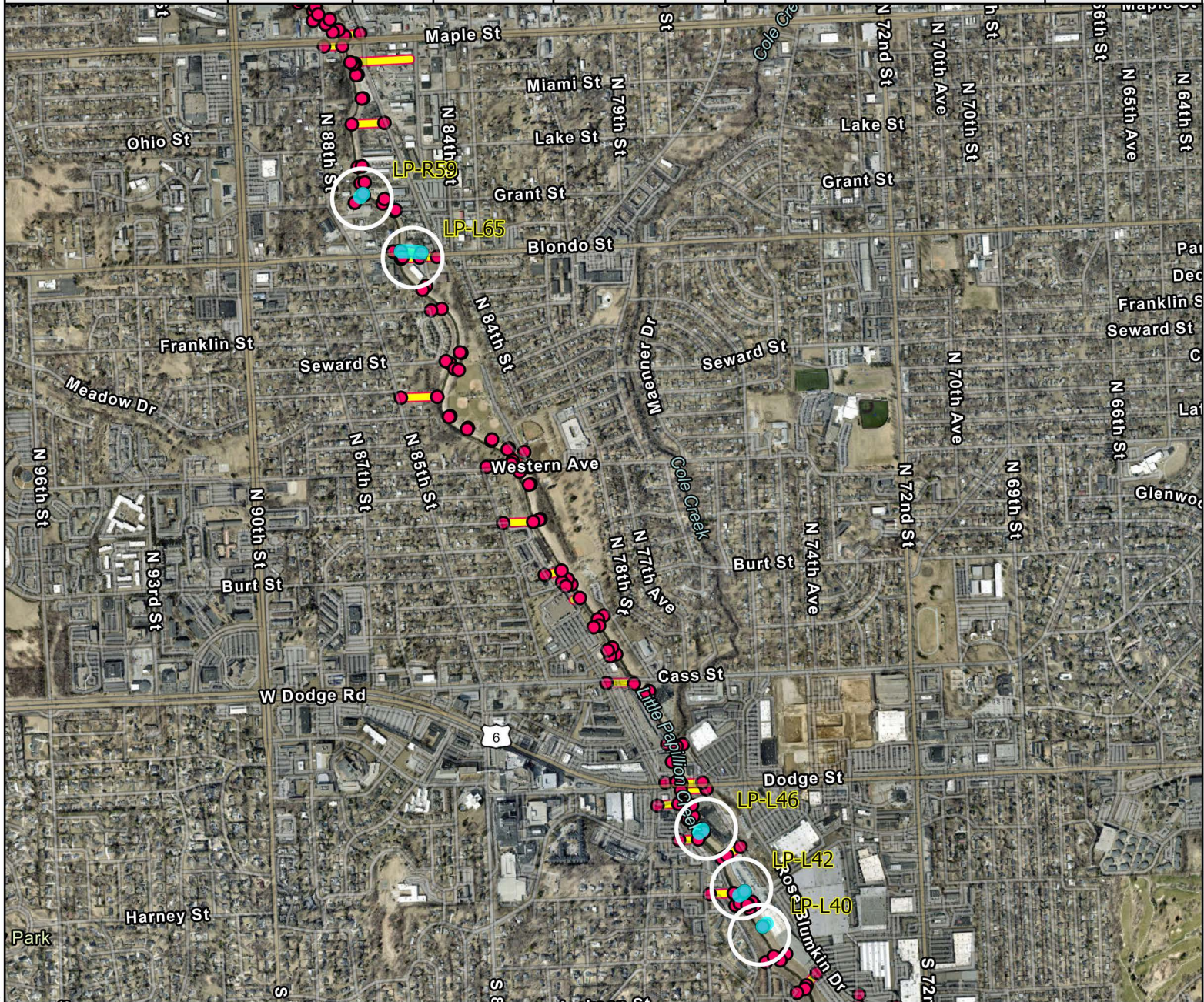
Sheet 1



**PAPIO**  
MISSOURI RIVER  
NATURAL RESOURCES DISTRICT

(402) 444-6222 8901 S 154th St, Omaha, NE 68138

Pipe_number	Length	Size	Type	CREEK	REACH	STATION
LP-R10	185.6	24"	RCP	LITTLE PAPIO	UPRR - GROVER ST.	335+60
LP-L08	146.9	18"	CMP	LITTLE PAPIO	UPRR - GROVER ST.	325+70
LP-R18	115.4	42"	RCP-CMP	LITTLE PAPIO	CENTER ST. - PACIFIC ST.	281+10
LP-L65	251.3	36"	RCP-CMP	LITTLE PAPIO	BLONDO ST. - MAPLE ST.	101+10
LP-L46	53	12"	CMP	LITTLE PAPIO	HOWARD ST. - DODGE ST.	185+80
LP-L42	138.6	18"	CMP	LITTLE PAPIO	HOWARD ST. - DODGE ST.	195+00
LP-L40	60	15"	RCP-CMP	LITTLE PAPIO	HOWARD ST. - DODGE ST.	199+70
LP-R32	83.6	15"	CMP	LITTLE PAPIO	PACIFIC ST. - HOWARD ST.	218+25
LP-R01	134.5	36"	RCP-CMP	LITTLE PAPIO	CONFLUENCE – UPRR	389+85
LP-R59	56.3	30"	CMP	LITTLE PAPIO	BLONDO ST. - MAPLE ST.	91+95

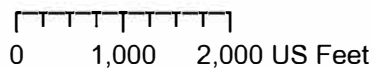


# Little Papio

## Overview

12/13/2023

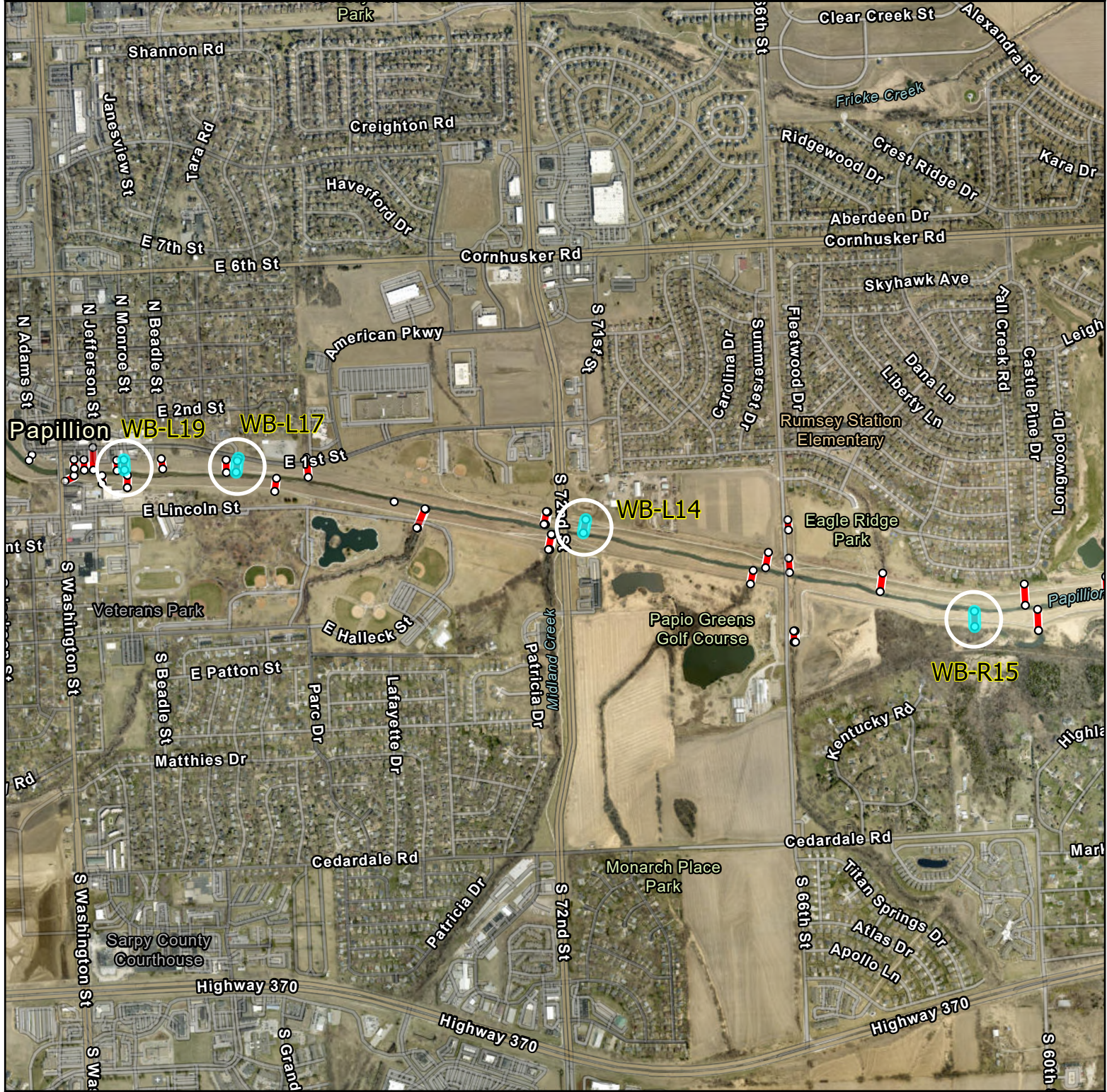
Sheet 2



**PAPIO**  
MISSOURI RIVER  
NATURAL RESOURCES DISTRICT

(402) 444-6222 8901 S 154th St, Omaha, NE 68138

Pipe Number	Length	Size	Type	CREEK	REACH	Station
WB-L17	157	24"	RCP-CMP	WEST BRANCH	72ND ST. - 84TH ST.	208+25
WB-L14	149.8	60"	CMP	WEST BRANCH	48TH ST. - 72ND ST.	169+35
WB-L19	112	24"	CMP	WEST BRANCH	72ND ST. - 84TH ST.	220+55
WB-R15	169.9	54"	CMP	WEST BRANCH	48TH ST. - 72ND ST.	125+20

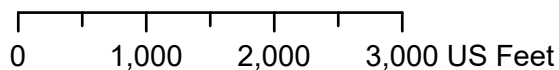


# West Branch

## Overview

12/13/2023

Sheet 1



**PAPIO**  
MISSOURI RIVER

NATURAL RESOURCES DISTRICT

(402) 444-6222 8901 S 154th St, Omaha, NE 68138