

Agenda Item: 11.b.

MEMORANDUM

TO: Programs, Projects and Operations Subcommittee

FROM: Martin P. Cleveland, Construction Engineer

SUBJECT: Big Papio Creek Levee Culvert Repair Project
FYRA Engineering Professional Services Contract Amendment

DATE: July 1, 2015

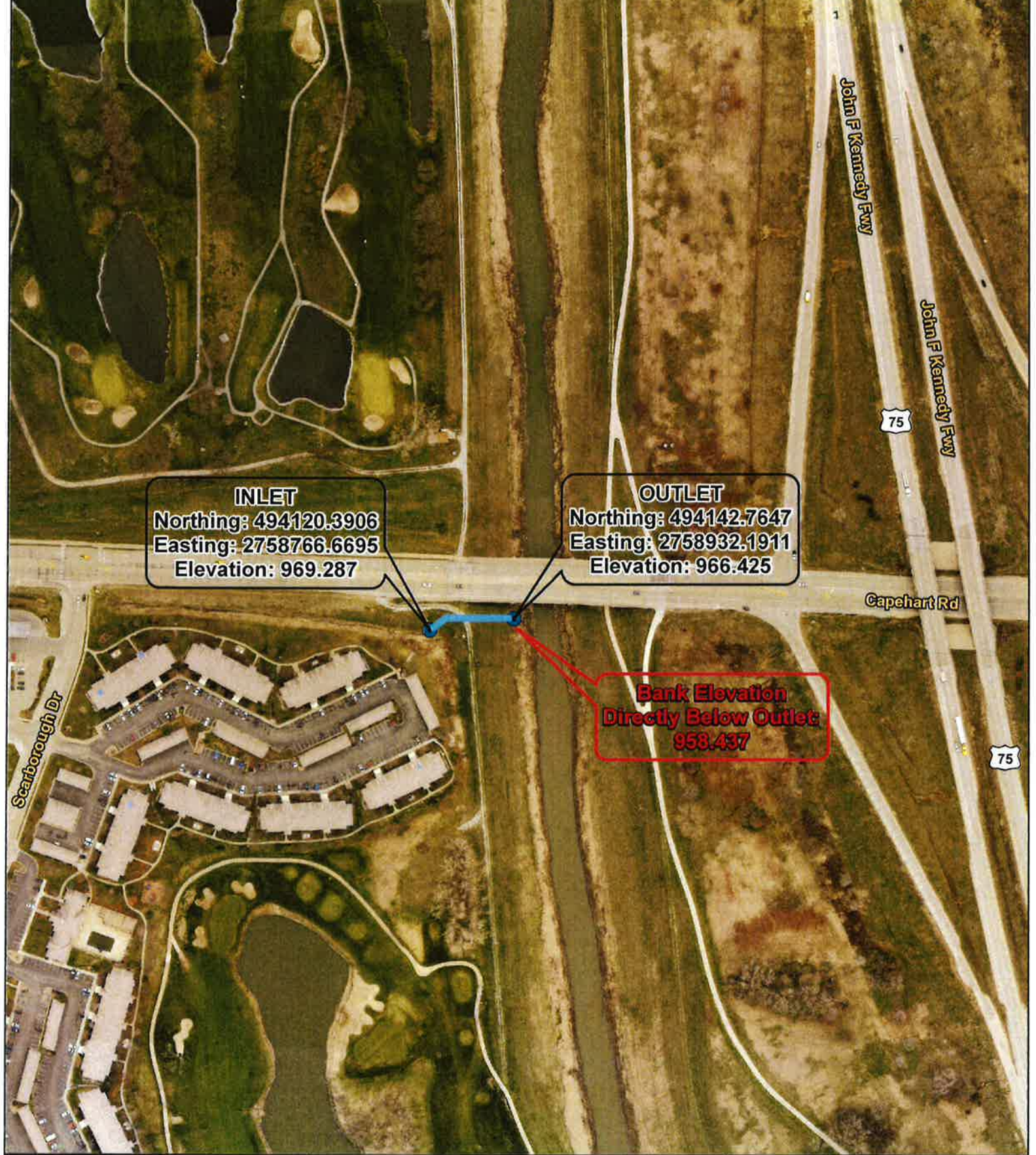
During a recent periodic inspection of channel and levee project culverts, the District has identified a culvert in the Big Papio Creek System (levee/channel projects) that needs to be repaired due to deficiencies, primarily with perforated flow line. This culvert appears to have been constructed as part of the Capehart Road facilities, which are maintained by the City of Bellevue. Enclosed is a location map that shows the culvert, which is located immediately downstream (south) of Capehart Rd and west of Hwy. 75.

The City of Bellevue has been contacted by District staff and Bellevue staff has acknowledged responsibility for this 36 inch diameter corrugated steel culvert (P-R21). Furthermore, they have agreed to reimburse the District for engineering, rights-of-way, permits, utility relocations and construction arising out the repairs of the City culvert. A planned interlocal cooperation agreement would facilitate the reimbursement of District expenses associated with the culvert repair.

FYRA Engineering is currently providing professional services associated with the repair of ten culverts located on the Big Papio Creek, upstream of the P-R21 location. A contract with FYRA was approved by the Board in March 2015 for a maximum not to exceed amount of \$208,773. They are currently working on the design of the ten culvert repairs. Enclosed is a proposed contract amendment (Exhibit K) to add design services for the P-R21 culvert that is owned by Bellevue. The contract amendment is \$15,095, bringing the total maximum not-to-exceed amount of the amended contract to \$223,868.

Management recommends that the Programs, Projects and Operations Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute the proposed amendment to the Big Papio Culvert Repair Project Professional Services Contract with FYRA Engineering, LLC, increasing the maximum not to exceed amount of the contract to \$223,868, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

File: BP culverts FYRA memo7_1_15



INLET
 Northing: 494120.3906
 Easting: 2758766.6695
 Elevation: 969.287

OUTLET
 Northing: 494142.7647
 Easting: 2758932.1911
 Elevation: 966.425

**Bank Elevation
 Directly Below Outlet:
 958.437**

Pipe Number: P-R21
36" CMP



**PAPIO-MISSOURI RIVER
 NATURAL
 RESOURCES
 DISTRICT**

8901 S. 154th Street
 Omaha, NE 68138-3621

PAPIO CREEK @ CAPEHART RD	
RIGHT BANK OF CREEK	
<i>Location Map</i>	Figure 1
	Date: 6/2/15

This is **EXHIBIT K**, consisting of 7 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated _____, 2015.

AMENDMENT TO OWNER-ENGINEER AGREEMENT

1. Background Data:

- a. Effective Date of Owner-Engineer Agreement: _____
- b. Owner: Papio-Missouri River Natural Resources District
- c. Engineer: FYRA Engineering, LLC
- d. Project: Big Papio Culvert Repairs

2. Nature of Amendment [Check those that are applicable and delete those that are inapplicable.]

- Additional Services to be performed by Engineer
- Modifications to Services of Engineer
- Modifications to Responsibilities of Owner
- Modifications to Payment to Engineer
- Modifications to Time(s) for rendering Services
- Modifications to other terms and conditions of the Agreement

3. Description of Modifications

- Attachment 1, "Additional Scope and Task Descriptions"
- Attachment 2, "Additional Tasks and Fees"

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in effect. The Effective Date of this Amendment is _____.

OWNER:

ENGINEER:

By: John Winkler

By: 
Michael K. Sotak, P.E.

Title: General Manager

Title: Owner / Principal Engineer

Date
Signed: _____

Date Signed: 24 June 2015

Attachment 1 to Exhibit K

1 PROJECT MANAGEMENT

1.1 Client Meeting

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

1.2 Monthly Invoicing & Project/Schedule Updates

Preparation of monthly project invoices, incorporation of sub-consultant invoices and a summary of work completed during the invoicing period for P-R21. Invoices will be sent to the P-MRNRD prior to the first of the month and will include task item and invoice breakouts for work done specifically on the City of Omaha culverts. Updates will include budget and schedule tracking.

1.3 USACE Levee Safety Coordination Meetings

Preparation for and attendance of one (1) meeting, exclusive of other meetings specified in this Attachment 1 to Exhibit K, with the Omaha District USACE Levee Safety and Readiness teams and P-MRNRD. This meeting will occur during Final Design to ensure that all construction documents and specifications meet the requirements and design guidelines of the USACE 408 permit (on 2 culverts that fall within Federal Levees) and the PL 84-99 program. Meeting minutes and project task lists will be prepared by FYRA and distributed after each meeting for approval by the P-MRNRD.

1.4 USACE Regulatory Coordination Meetings

Preparation for and attendance of one (1) meeting, exclusive of other meetings specified in this Attachment 1 to Exhibit K, with the Omaha District USACE Regulatory division and P-MRNRD. This meeting will be the 404 permit submittal meeting. Coordination between the consultant and the USACE Regulatory project manager will occur before this meeting, but shall occur via email and phone calls. Meeting minutes and project task lists will be prepared by FYRA and distributed after each meeting for approval by the P-MRNRD.

1.5 City of Bellevue 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 Bellevue and the P-MRNRD specifically for the P-R21 culvert. This will occur after the preliminary design phase. Meeting minutes and project task lists will be prepared by FYRA and distributed after this meeting for approval by the P-MRNRD.



1.6 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 and information gathering that is required for design of this project. This will include surveying the culvert and surrounding condition, and a site investigation.

2.2 Hydraulic Analysis

Drainage analysis to develop site hydrology at culvert location.

2.3 Preliminary Plan and Profile

Preparation of preliminary plan and profile sheets for the culvert rehabilitation and partial replacement. Preliminary plan and profile sheets will be delivered as 11x17 documents and as .pdfs on a project DVD and will include plan and profiles, construction notes, preliminary cost estimates per site and drainage basins and culvert information for each site.

2.4 Preliminary Cost Estimate

Preparation of preliminary cost estimate for project, detailing individual costs of P-R21.

3 PERMITTING

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

Wetland delineation and Ordinary High Water Mark (OHWM) determination on culvert site. This includes field work and the preparation of all documents required for wetland delineation and OHWM determination.

3.2 PL 84-99 Approvals

Preparation, review and documentation necessary under the PL 84-99 program for the culvert.

3.3 Regulatory Permitting

Preparation and submittal of one (1) 404 nationwide permit applications and any associated documents that may be required for the application package. This includes computing all wetland impacts, correspondence with USACE and updates that may be necessary for issuance of required permits.



3.4 NPDES/Stormwater Permit

This includes the preparation and submittal of all necessary permit applications as may be required on this site.

4 FINAL DESIGN

4.1 Final Hydraulic Analysis

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

4.2 Final Opinion of Project Costs

Preparation of a final cost estimate. Individual quantities shall be shown on each plan and profile sheet with a project total on the title page.

4.3 Construction Documents and Specifications

Preparation of all construction documents. This shall include plan and profile sheets, details, and SWPP plan for P-R21. Plan and profiles (P&P) sheets shall document drainage basin information, modified culvert hydraulic capacity (at full flow), erosion control measures and individual site quantities. Construction plans will be provided as electronic 24x36 sheet sets.

5 CONSTRUCTION

5.1 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. FYRA will prepare meeting minutes to be distributed to all interested parties.

5.2 Project 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 FYRA Engineering and followed by a Notice to Proceed.

5.3 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 include preparation and distribution of meeting minutes.



5.4 Construction Observation

On-site construction observation for fourteen (14) hours on this culvert. Construction observation is included for all times that contractor is doing major work items and is anticipated for 85% of the construction items and may include shop drawing reviews.

5.5 Construction Reporting

Preparation, review and distribution of construction report which documents the work performed and include photos, photo descriptions, videos (if applicable) and items of interest. These reports will be sent to the P-MRNRD and the City of Bellevue for P-R21.

5.6 Final Walkthrough

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

5.7 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.

5.8 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 and City of Bellevue 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.

5.9 O&M Modifications and Submittal

Prepare Operation & Maintenance Manual addendums for culvert alteration that falls within 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 culvert alterations to the P-MRNRD. The P-MRNRD will then submit these addendums to the USACE as the project sponsor.





Papillion Creek Levee Culvert Project - P-R21 Attachment 2 to Exhibit K
 Papio-Missouri River Natural Resources District
 Sarpy County, NE
 FYRA Project No. 001-14-05

Tasks	FYRA Engineering								LakeTech	Expenses	Total
	Prj Manager	Sr Engineer	Pj Engineer	Pj Engineer	EI	Intern	Clerical	Scientist			
	Rogers	Solax	Gregabinas	McCreary	Jonns	Kelley	Bodley	Molir			
Project Management											
Client Meeting	1	1								\$20	
Monthly Invoicing & Project/Schedule Update (3 months)	3							6			
USACE Levee Safety Coordination Meetings	1	1									
USACE Regulatory Coordination Meetings	1								2		
City of Bellevue Coordination Meeting (1 meeting)	2	1								\$20	
Project Team QA/QC		3									
Project Management Task Total	\$1,080	\$1,110	\$330	\$0	\$0	\$0	\$390	\$180	\$40	\$3,130	
Preliminary Design											
Penetration, Utilities, Site Investigation and Survey ²	1				5	5				\$350	
Hydraulic Analysis	1				4	4					
Preliminary Plan and Profiles	4	1			5	10				\$10	
Preliminary Cost Estimate	1				2						
Preliminary Design Task Total	\$945	\$185	\$0	\$0	\$1,360	\$1,235	\$0	\$0	\$360	\$4,085	
Permitting											
Wetland Delineation/Ordinary High Water Mark Field Work and Reporting								6			
PL 84-99 Approvals	3										
Regulatory Permitting	1							6			
NPDES/Stormwater Permits	1				2						
Permitting Task Total	\$675	\$0	\$0	\$0	\$170	\$0	\$0	\$1,080	\$0	\$1,925	
Final Design											
Final Hydraulic Analysis	1				2						
Final Opinion of Probable Costs	1				1						
Construction Documents and Specifications	2				5	4					
Final Design Task Total	\$540	\$185	\$0	\$0	\$680	\$260	\$0	\$0	\$0	\$1,665	
Construction											
Pre-Bid Coordination and Meeting	1	1									
Project Bidding	1										
Pre-Construction Meeting	1			1							
Construction Observation	2			12						\$50	
Construction Reporting				4							
Final Walkthrough	1	1		2							
As-Built Data				2	2					\$100	
As-Built Drawings				2	2	2					
O&M Modifications and Submittal	1			2	2						
Construction Design Task Total	\$945	\$370	\$0	\$2,185	\$510	\$130	\$0	\$0	\$150	\$4,290	
Subtotal Hours	31	10	3	23	32	25	6	14			
Subtotal Costs	\$4,185	\$1,850	\$330	\$2,185	\$2,720	\$1,625	\$390	\$1,260	\$550	\$15,095	