

Memorandum

To: PPO Subcommittee

Re: Rumsey Station West Channel/Wetland Mitigation Bank and Monitoring Professional Services Contract

Date: April 1, 2010

From: Amanda Grint, Water Resources Engineer

The Rumsey Station West property was purchased in 2008. The property was purchase as an expansion of the District's wetland mitigation bank, but also would incorporate a children's nature center as conceived by the nonprofit organization, Green Hearts. A preliminary design of the Green Hearts nature center was completed by Big Muddy Workshop and a feasibility study was completed by Jacobson Satchell.

A scope of services was prepared by HDR Engineering which outlines the necessary steps to complete the design of the Rumsey Station wetland mitigation bank expansion. The proposal includes:

- Project Management and Quality Control
- Wetland and channel mitigation design including coordination with Green Hearts
- Final Plans and specifications
- Bid documents and construction administration
- Coordination with the Interagency Review Team (IRT) on design for wetland and channel mitigation bank
- Five years of monitoring

The total cost of the HDR proposal for Rumsey Station West wetland/stream channel mitigation bank design and monitoring is not to exceed \$94,869. The five years of monitoring accounts for approximately \$26,000 of the contract total.

Staff recommends that the District's consultant selection procedure be waived in this case. Should the consultant selection process be followed per District Policy 15.2, it is likely that HDR would be selected due to their familiarity with the project area as it is an extension of the Rumsey Station wetland mitigation bank. HDR planned, designed and monitored the original Rumsey Station wetland mitigation bank and has ongoing work at Rumsey Station allowing for some cost savings in monitoring and project visits. Having two different consulting firms doing work in this same area would be less efficient. Waiving the consultant selection process also would allow for construction to e complete in 2010.

Staff recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute the proposed professional services contract with HDR Engineering for the Rumsey Station West Channel/Wetland Mitigation Bank Project in an amount not to exceed \$94,869, subject to changes deemed necessary by the General Manager and approved as to form by District Legal Counsel.

**Papio-Missouri River Natural Resources District
Rumsey Station Wetland Mitigation Bank
Rumsey West Wetland Mitigation Design and Monitoring**

ENGINEERING PROPOSAL

STATEMENT AND OBJECTIVES

The following engineering proposal is to perform a wetland mitigation design at the Rumsey Station West Wetland Mitigation Bank Site (Site), completion of a Site Development Plan for submittal to the Interagency Review Team (IRT), complete permitting required for the Project, and perform five (5) years of monitoring at both the Rumsey East and Rumsey West wetland mitigation sites.

BACKGROUND AND BASIS OF PROPOSAL

As Owner acquired property to the west of the existing Rumsey Station Wetland Mitigation Site, a preliminary design was completed to incorporate wetland areas as part of an overall children's nature center as conceived by the non-profit organization, Green Hearts. Owner has requested Engineer to develop final plans and technical specifications for the Rumsey West site with an emphasis to incorporate the existing conceptual design while achieving maximum practicable wetland credits available for inclusion into the Owner's wetland mitigation bank. The following describes these additional work tasks.

Task 100 – Project Management and Quality Control

- Task Objective:** Confirm that Project elements are being completed and have been reviewed.
- HDR Activities:** Conduct general project management tasks. Includes development of project initiation forms including the development of a project guide, monthly invoicing, progress report, project close out activities and other administration project activities. Also includes document reviews for quality control.
- Task Deliverables:** Monthly invoices and progress reports.
- Key Understandings:** Assumes a four (4) month project schedule.

Task 200 – Wetland Mitigation Design

- Task Objective:** Prepare plans and specifications for the final design of the mitigation site.
- Task 201 – Site Visit**
- HDR Activities:** Conduct a field visit of the Rumsey West Wetland Mitigation Site. Verify existing wetland areas and water sources of wetland. Analyze general site and surrounding area topography. Arrange and conduct on-site meeting to verify project objectives and identify/determine future management objectives for the proposed wetland area (e.g. grazing, water level control etc.).
- Meetings:** Meeting between NRD, Green Hearts, and HDR to be done in conjunction with the site visit.

Key Understandings: All necessary property right of entry will be acquired by NRD. Assumes four HDR professionals.

Task 202 –Hydraulic/Hydrology Analysis

Task Objective: Determination of hydrology and hydraulics of the mitigation site will be used as the basis for preliminary design of control structures and hydrologic functions.

HDR Activities: Review feasibility study prepared by Jacobson Satchell (April 2009) for incorporation into concept design of water supply and control structures. Determine storm discharges and design for inlet structure, water control structures within the site, and outlet structure. The following provides specific information relative to these activities:

- ▶ HDR would perform hydrologic analysis of stream to determine the flows through stream DR-1 for the 2-, 10-, and 100-year flood events.
- ▶ HDR will design an intake diversion structure to divert a portion of the baseflow from stream DR-1 at a location upstream of the abandoned railroad embankment such that gravity flow through a pipe can supply water into the wetland. Analyze performance of the intake structure and pipe system at 2-, 10-, and 100-year flood events.
- ▶ Design an energy dissipater structure at the outlet of the diversion pipe inside the mitigation/wetland area.
- ▶ Design of the pipe culvert, in the location shown in the concept layout, under the road inside the mitigation area.
- ▶ Design of an outlet structure from the current site to the existing wetlands in the east (assuming we will need one unless it is determined that it will be sheet flow from the site to the existing wetlands to the east).

Key Understandings: The following assumptions were considered for this task:

- ▶ Assumes feasibility study information contains all data needed for preliminary structure sizing and location.
- ▶ It is assumed that existing topographic survey is suitable. Any additional survey needed is not included in this proposal.
- ▶ If HEC- HMS hydrologic model for stream DR-1 is not available then regression equations will be utilized for hydrologic analysis of stream DR-1.
- ▶ Detailed hydraulic models of the area under existing and proposed conditions are not necessary as the site is located within the floodfringe of a Zone AE.
- ▶ The average baseflow in the stream DR-1 and the required amount of water to be diverted into the wetlands as listed in the April 2009 feasibility study are assumed to be acceptable values and will be used in the design of the intake structure.
- ▶ An HY-8 model will be used for sizing on-site culvert.
- ▶ Conflict resolution of the alignment of the diversion pipe with other utilities (if present) will be considered supplemental work.
- ▶ Right-of-way and other easement issues will be resolved by P-MRNRD and not considered as a part of this scope.
- ▶ This task does not include any roadway, trail or bridge design. These services can be performed as an additional service.
- ▶ This task does not include preparation of bidding documents (Divisions 0 and 1). NRD will prepare final bid documents and solicit bids from prospective bidders. The task deliverables will be developed to a detail level sufficient for bidding and suitable as attachments for a Section 404 permit application.
- ▶ Permitting services are not included in this task. Manipulation or design of existing levees or structures is not included in this scope of services.

Task Deliverables: Preliminary location, layout, and sizing of hydraulic structures to be incorporated in conceptual design plan identified in Task 204.

Task 203 – Grading and Landscape Plan

Task Objective: Prepare grading and landscape plan.

HDR Activities: Develop grading plan for proposed wetland areas and conveyance of drainage from proposed water control structure to proposed wetland areas. Develop seeding and planting plan. Develop a memorandum to ascertain the status of the various project features including the relevant materials and data provided and listing any additional required information and recommendations for progressing with the final design of the project.

Key Understandings: Grading plan would be developed from existing topographic mapping. No new survey will be conducted.

Meetings: One meeting with NRD and Green Hearts to review 60% design.

Task Deliverables: Conceptual grading and planting plan on 11"x17" sheets and memorandum.

Task 204 – Final Plans and Specifications

Task Objective: Prepare plans and specifications for the final design of the mitigation site.

HDR Activities: HDR would prepare final design documents for the wetland mitigation site features:

- ▶ Diversion and water control structures – includes determination of storm discharges and design for inlet structure, water control structures within the site, and outlet structure.
- ▶ Final Grading
- ▶ Seeding/planting
- ▶ Quantities
- ▶ Prepare Section 404 Permit Application. Assumes the project will qualify for NWP #27 and that only a form 4345 will need to be completed.
- ▶ Prepare SWPPP plan narrative and drawing and grading permit in accordance with PCWP guidance to comply with NE NPDES stormwater general permit. Prepare grading application for NPDES and PCWP permits. This includes completion of final grading plan and erosion control plan suitable for submittal to PCWP.

HDR will prepare 11" x 17" construction drawings (8 sheets assumed using HDR drafting standards) and technical specifications (5 sections assumed using NRCS standards) to describe the work necessary. An opinion of probable construction costs will also be prepared. HDR and NRD to meet to review draft plans and technical specifications.

Key Understandings: Grading plan would be developed from existing topographic mapping. No new survey will be conducted by HDR. NPDES permit application assumes a maximum of 10 sheets will be developed. Construction monitoring for compliance with SWPPP is not included but can be performed as additional services.

Meetings: One (1) plan review meeting with NRD staff with two HDR professionals.

Task Deliverables: Final plan drawings and technical specifications.

Task 300 – IRT Coordination

Task Objective: Coordinate with IRT

HDR Activities: Develop the components of a Site Development Plan generally following the outline provided in Exhibit B of the April 2000 Final Mitigation Banking Instrument. Includes one on-site visit to document existing site conditions.

Task Deliverables: Site development plan.

Meetings: One meeting with IRT.

Key Understandings: Existing information for on-site wetlands will be used to document presence of existing wetlands. No wetland delineations are anticipated. One site visit is anticipated (one HDR scientist).

As part of coordination with the IRT on the Rumsey Station East Corrective Actions (Task 300 of Amendment #3 to the August 11, 2003 agreement), HDR would include discussions of the Rumsey West Design concurrent with this meeting. Any additional work required as a result of IRT consultation is not included in this proposal but can be performed as Additional Services.

Task 400 – Wetland Monitoring

Task Objective: Perform field investigations in accordance with the Protocol to assess the progress of wetland development at the Rumsey Station wetland mitigation bank sites (east and west) and prepare report detailing the findings of field investigations for submittal to the Papio-Missouri River Natural Resources District (PMRNRD). This Task is for five (5) years of monitoring.

HDR Activities: The progress of the development of the Rumsey Station wetland mitigation bank site will be assessed by determining post-construction vegetative communities at the site and existing and/or visible evidence of hydrology at the site. Soils profiles in the upper eighteen (18) inches will be examined for changes in hydric characteristics at the hydrology sample points. Vegetation community and hydrology boundaries will be mapped through the use of sub-meter accuracy GPS instrumentation. One site visit will be made between April 15 and June 15 to document hydrology at the site. One site visit will be made between August 15 and October 15 to identify and map vegetation communities. Established ground-level photography photo points will be used.

The report will provide a qualitative and quantitative assessment of the development of the Rumsey Station wetland mitigation bank site. The following components will be included in the report and meet the conditions of Section V, Part C – Monitoring Reports, from the final Banking Instrument:

- ▶ Project History
- ▶ Review of Project Goals and Objectives
- ▶ Site Hydrology Assessment (including hydrology figure)
- ▶ Vegetative Assessment (including vegetation community figure)
- ▶ Wetland Boundaries

- ▶ Evaluation of Success Criteria (vegetation diversity and percent cover)
- ▶ Proposed Credit Production
- ▶ Summary/Conclusions
- ▶ Attachment containing wetland monitoring data forms, site photographs, and monitoring protocol

Meetings: None anticipated.

Task Deliverables: One draft and two final Wetland Mitigation Bank Monitoring Reports, one electronic copy of the final report, ArcView shapefiles of vegetative communities, hydrology boundaries, wetland boundaries, credit producing areas, and ground-level photography point locations for each Rumsey East and Rumsey West.

Key Understandings: It is anticipated that only fall monitoring will be required for both Rumsey East and West in 2010.

PERIOD OF SERVICE

HDR proposes to implement this Project within the following schedule:

<u>Activity</u>	<u>Anticipated Completion Date</u>
Task 100	December 2014
Task 200	August 1, 2010
Task 300	June 1, 2010
Task 400	December 2014

PROFESSIONAL SERVICES FEE

The professional services fee estimate (Exhibit A), level-of-effort projections, and schedule, represent HDR's professional judgment at this time. HDR proposes to perform these Services under the terms and conditions of the referenced agreement on the basis of per diem with a maximum fee not to exceed \$94,869. No subconsultants will be used.

EXHIBIT A: LEVEL OF EFFORT AND FEE ESTIMATES

STAFF HOUR TABULATION										
TASK	PM	QA/QC	Civil Engineer	Water Resource Engineer	Sr. Scientist	Scientist	Landscape Architect	Technician	Admin	Total
Task 100	48	24	0	0	0	0	0	0	8	80
Task 200			96	86	4	0	60	200	0	446
Task 300			8	0	24	40	0	8	2	82
Task 400			0	0	66	200	0	0	20	286
	48	24	104	86	94	240	60	208	30	894
FEE SUMMARY										
ESTIMATED DIRECT LABOR										
CLASSIFICATION	TOTAL HOURS	HOURLY RATE	DIRECT LABOR COST							
PM	48	\$133.97	\$6,431							
QA/QC	24	\$190.89	\$4,581							
Civil Engineer	104	\$129.81	\$13,500							
Water Resource Tech	86	\$104.74	\$9,007							
Sr. Scientist	94	\$133.97	\$12,593							
Scientist	240	\$77.24	\$18,537							
Landscape Architect	60	\$119.70	\$7,182							
Technician	208	\$77.24	\$16,066							
Administrative	30	\$85.21	\$2,556							
	894									
		TOTAL DIRECT LABOR COST:		\$90,454						
ESTIMATED DIRECT EXPENSES										
	QUANT	UNIT	UNIT COST	TOT. COST						
Technology Charge	894	Hours	\$3.70	\$3,308						
Mileage	340	Miles	\$0.50	\$170						
Equipment/day	7	Man-days	\$10	\$70						
Camera	7	Man-days	\$15	\$105						
GPS	7	Days	\$75	\$525						
Copies/Page	700	Pages	\$0.07	\$49						
Color Prints	114	Pages	\$0.34	\$39						
Miscellaneous	3	Each	\$50.00	\$150						
		TOTAL ESTIMATED DIRECT EXPENSE:		\$4,416						
		TOTAL ESTIMATED FEE:		\$94,869						