PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Fifth Amendment to the Agreement between the Nebraska Community Foundation, Inc. and The Flatwater Group, Inc. Regarding "Sediment Augmentation Pilot-Scale Management Action"

This Fourth Amendment to the Agreement between the Nebraska Community Foundation, Inc. ("Foundation") of Lincoln, Nebraska, representing all signatories to the Platte River Recovery Implementation Program ("Program"), and The Flatwater Group, Inc. ("Consultant"), a private consultant of Lincoln, Nebraska, is made and entered into effective on the date of signing below and the final date of this Amendment will be September 30, 2013.

The purpose of this amendment is to:

(1) Compensate the Consultant for additional, unanticipated work that was necessary in order to complete the Scope of Work for this project as well as anticipated additional services. The nature of the additional effort is presented in **Exhibit A** and is related to challenges associated with implementation of the sediment augmentation pilot-scale management action and related monitoring.

(2) Increase the contract amount by **$70,167** in approved and available FY 2013 Program budget line item PD-13 funds for the purpose of compensating the Consultant for the additional effort discussed in Exhibit A. This will increase the total approved budget for this contract (Fourth Amendment + Fifth Amendment) from $374,607 to **$444,774**. This budget increase shall be effective as of the date of this Amendment and funds will become available immediately. A detailed budget breakdown of the additional effort expended by task and labor category is included in **Exhibit B**.

Important Amendment notes:

(1) This is the Fifth Amendment to the Agreement. **Exhibit C** includes the Original Agreement, the First Amendment, the Second Amendment, the Third Amendment, and the Fourth Amendment.

All other terms of the original Agreement remain in effect as originally written in the Agreement dated August 19, 2009. The following parties agree to the terms of this Amendment and the original Agreement:

For the Consultant:

_____ _____
Thomas E. Riley Date
President
The Flatwater Group, Inc.

For the Foundation:

_____ _____
Diane M. Wilson Date
Chief Operating Officer/Chief Financial Officer
Nebraska Community Foundation, Inc.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT A

Sediment Augmentation Contract 5th Amendment
Additional Budget Justification Narrative

THE FLATWATER GROUP INC.

8200 Cody Drive, Suite A
Lincoln, NE 68512-9550
Phone: 402.435.5441
Fax: 402.435.7108
www.flatwatergroup.com

12 April 2013

Mr. Chad Smith
Natural Resources Division Director
Headwaters Corporation
4111 4th Avenue Suite #6
Kearney, NE 68845-2883

Chad, we have been in discussion with you and other EDO staff regarding the additional work effort that the Project Team has expended during the implementation of the sediment augmentation project. As discussed, the additional work is directly related to persistent low flow conditions in the river during implementation. Attached, please find the justification for additional work that the Program has requested from the Project Team. If you have any questions, please contact myself, Pat Engelbert, or Rick Krushenisky.

Sincerely,

for Tom Riley, P.E., President
THE FLATWATER GROUP INC.

Cc: Pat Engelbert
Project File

Changed hydrologic conditions resulting from an ongoing drought in Nebraska and CNPPID maintenance work at Lake McConaughy resulted in lower releases from J-2 than anticipated. Scoped monitoring activities required supplemental data collection and site visits, particularly for the pump site at Dyer, in order to appropriately facilitate the understanding of the Pilot Study means and methods evaluation. But for the changed hydrologic conditions, the planned monitoring would have been sufficient; however, the adapted data collection activities were necessary to evaluate the Year 1 management action and provide recommendations for Year 2, and ultimately, full implementation. The adapted data collection efforts resulted in additional services beyond those scoped in Amendment 4. The text below provides background and justification for the additional services performed.

Background Information

The Sediment Augmentation Screening Study determined that the average annual sediment deficit in the project reach (Lexington to Odessa) is approximately 150,000 tons/year based on a 12.5 year sediment transport model simulation (hydrology from October 1, 1989 through April 1, 2002). The objective of the sediment augmentation Pilot Study is to collect and evaluate data associated with the means and methods of introducing sediment in order to provide the foundation for full scale sediment augmentation. The Pilot Study management action was designed to introduce 100,000 tons (80,000 yd^3) of additional sediment each year for two years. Two locations, and methods, were identified for the management action: Dyer Property (sand pump) and Cottonwood Ranch (mechanical placement). Approximately 50,000 tons of material was intended to be placed at each location each year.

Performance indicators and impact triggers were developed to assist with decision making during and after the management action, and decision criteria and actions were established in the event that the triggers were initiated. These decision criteria were set up on a "reach scale" basis (on the order of miles) to help guide the Program during implementation of the management action and inform decision makers whether to proceed with the action, stop the action, modify the action, or adjust the monitoring associated with the action. The performance indicators established for this project, and the methods for measurement, are listed in Table 1. A full description of the monitoring plan can be found in Appendix A, Pilot Study Monitoring Plan (TFG et al., July 2012). The location of the Dyer cross sections in the monitoring plan are shown in Figure 1, and are denoted as XS-1 through XS-5.

Table 1 – Performance Indicator Measurement Method (s), Location(s) and Frequency

Performance Indicator	Measurement Method(s)	Location(s)	Frequency
Stage-Discharge Relationship	Pressure Transducers and Gages	Upstream of discharge on south channel; Near Brown property on north channel; Overton Gage	Pre-, during, and post-augmentation for approximately 4-6 weeks
Bed Elevation	Topographic and Bathymetric Surveys; and Photographic Documentation	Five sections at Dyer Property ~1,000 ft. spacing, and Program APs 29-34.	Dyer sections: Pre- and Post augmentation, and monthly for 9 months. AP section: Pre- and Post Runoff
Bed and Bar Gradation	Bed and bar material sampling	Five sections at Dyer Property ~1,000 ft. spacing, and Program APs 29-34.	Dyer sections: Pre- and Post augmentation, and monthly for 9 months. AP section: Pre- and Post Runoff

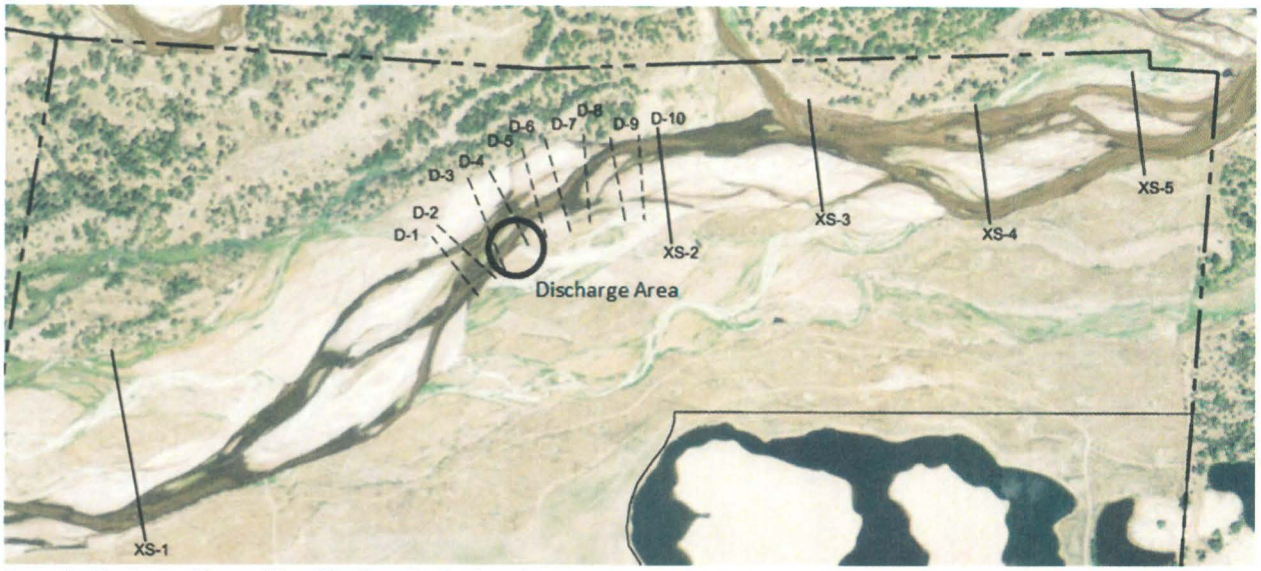

Figure 1 - Monitoring Plan and Dyer Site Cross Section Locations

Based on the monitoring plan, the TFG Team was to perform eleven (11) surveys: pre- and post-augmentation, and for nine (9) months following the management action. In addition to the monitoring associated with the management action, the TFG Team was to provide periodic construction observation. Nine (9) construction observation visits were scoped.

2012 Summary of Activities

The management action began at both Dyer and Cottonwood Ranch in mid-September, with most of work at both locations wrapping up in November. A plot of the Overton gage hydrograph shows the below median flows that occurred during the Year 1 augmentation season (Figure 2). This resulted in challenges of not only the management action implementation, but monitoring as well.

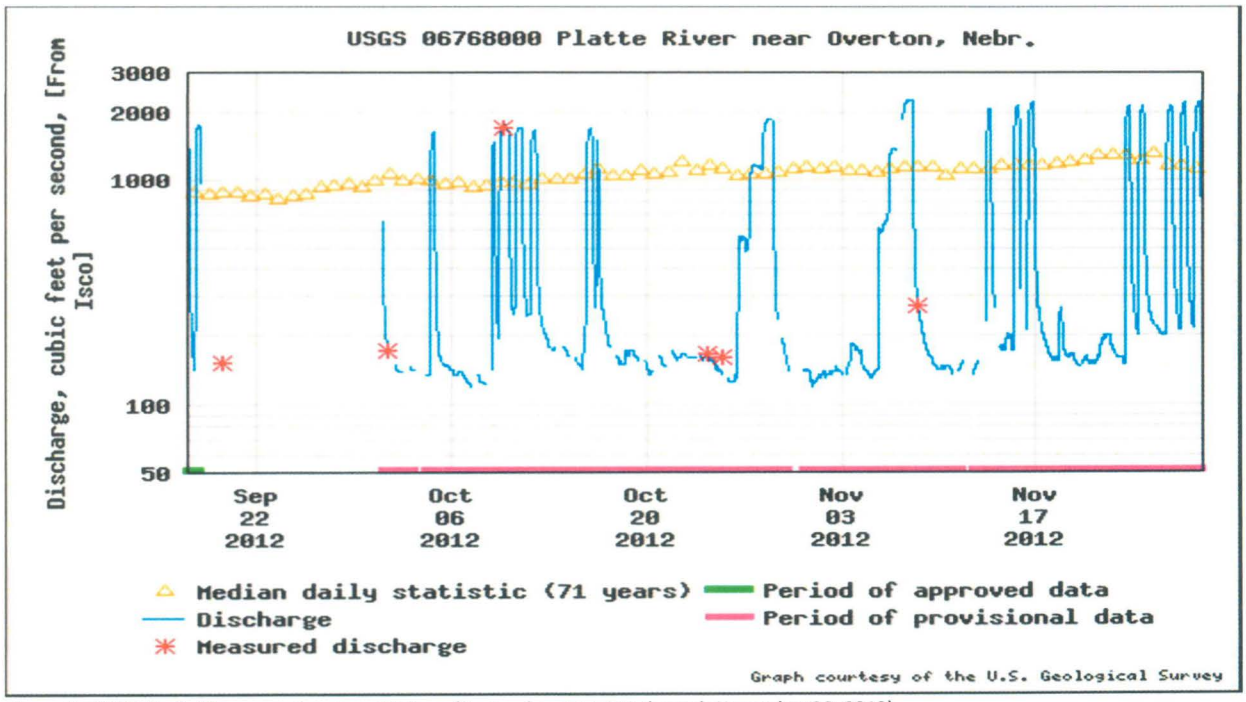

Figure 2 - USGS Platte River near Overton, NE Gage (September 17, 2012 through November 30, 2012)

The contractor began augmenting material at Cottonwood Ranch on September 17. Approximately 60,000 yd^3 (75,000 tons) of material was placed into the river by November 5, 2012. The material was pushed into the channel from an existing island at Cottonwood Ranch. Due to the lower than expected flows and greater than planned augmentation volume, the material did not mobilize as effectively as anticipated and some of the material remained as source material for higher flow periods. This resulted in some channel narrowing and deepening along the south bank. However, none of the impact triggers were initiated during augmentation at this location.

The management action began at the Dyer site in September, 2012. Approximately 20,000 yd^3 of augmentation material was pumped to the river from an onsite sand pit between September 17 and November 30, 2012. Due to persistently lower than normal flows, the sediment transport was lower than anticipated. Augmented material that was not transported downstream accumulated in the vicinity of the discharge location creating a source pile adjacent to the bank.

The monitoring plan for the Dyer portion of the augmentation project was established to collect, process, and evaluate data at the reach level by the TFG Team. However, due to the lower than expected flows, augmented material was not mobilized and moving downstream at the reach level in a timeframe conducive to the planned monitoring. Instead most of the material was moving slowly within a localized area downstream of the discharge area. In consultation with Program staff, the TFG Team modified the monitoring scope to evaluate a series of 10 closely-spaced (~100 feet) cross sections in the immediate vicinity of the discharge area where source material accumulated at the Dyer site. These Dyer Site cross sections created a "control section", with two sections upstream of the source pile, two sections crossing the source pile, and six sections located downstream of the source pile. The furthest downstream Dyer Site cross section corresponded to the first monitoring plan cross section downstream of the discharge location. The monitoring plan cross section locations as well as the Dyer Site cross section locations are shown in Figure 1. The TFG Team conducted surveys at the Dyer Site cross sections on a weekly or bi-weekly basis. The results were used to evaluate how the augmented material was being distributed within the control section.

The TFG Team conducted surveys at the Dyer Site cross sections twelve (12) times between October 23, 2012 and February 19, 2013. The raw data was reduced and detailed cross sections and areal surface plots were developed to compare cumulative aggradation and degradation tendencies. This allowed for evaluation of how the source pile changed between surveys, as well as how the areal surface plots within the control section (between section D-1 and D-10) changed between surveys. In addition, the cumulative change from October to mid-February could be evaluated. An example plot (from November 5, 2012 to January 16, 2013) is shown in Figure 3. Relying only on the monitoring plan information would not have provided the detail necessary to evaluate augmentation given the hydrologic conditions of the fall of 2012. To illustrate, cross section D-6 (Figure 4) shows significant change in the cross section between surveys, which can be attributed to the management action. However, cross section D-10 (Figure 5), which is also monitoring plan section XS-2, shows little to no changes over this time period. It is clearly shown that without the additional survey work (i.e. D-6), it would be difficult to differentiate the changes in this section between the management action and normal river processes (D-10).

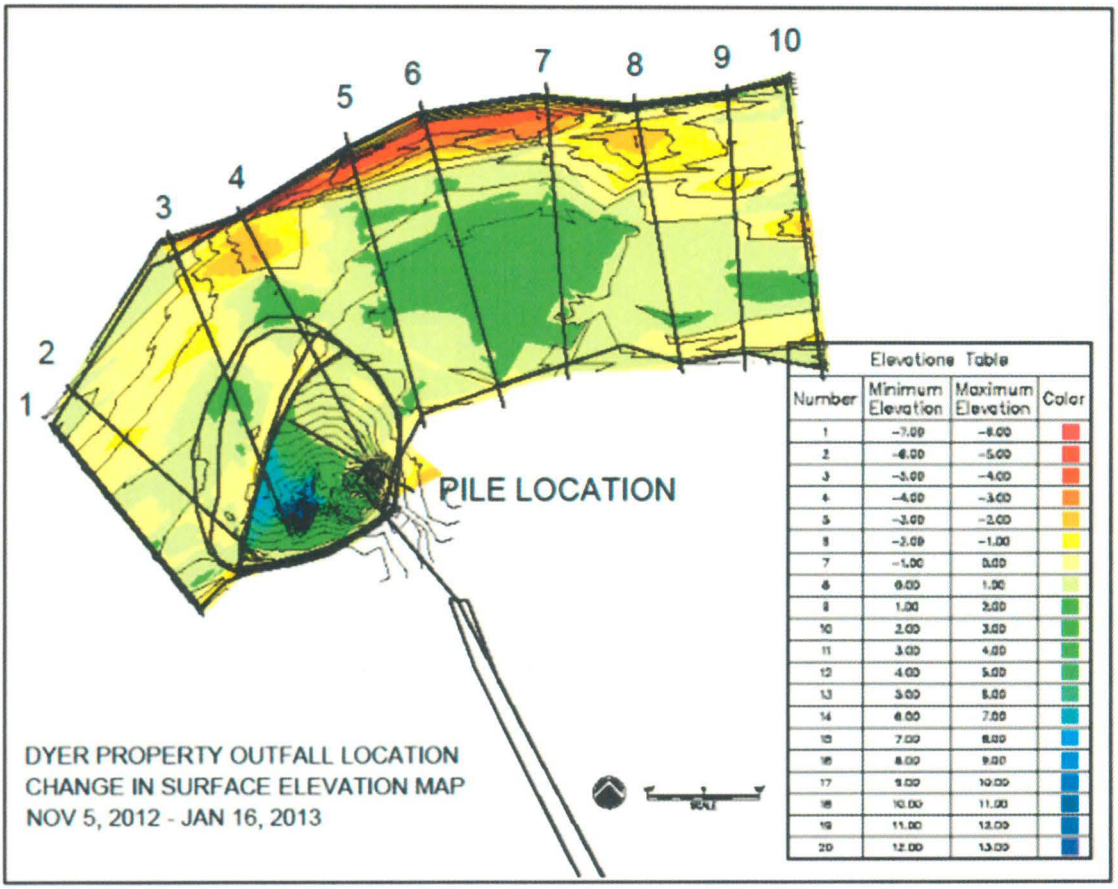

Figure 3 - Control Section Change in Surface Elevation from November 5, 2012 to January 16, 2013.

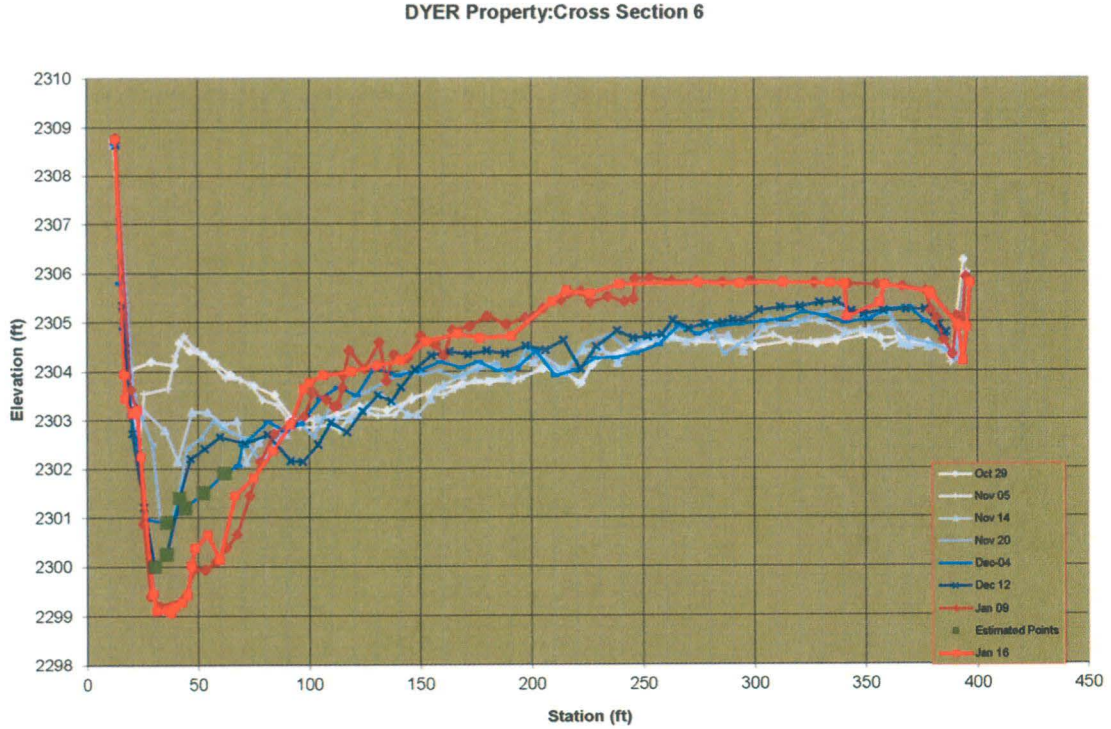

Figure 4 - Dyer Cross Section DS-6 (October 29 through January 16)

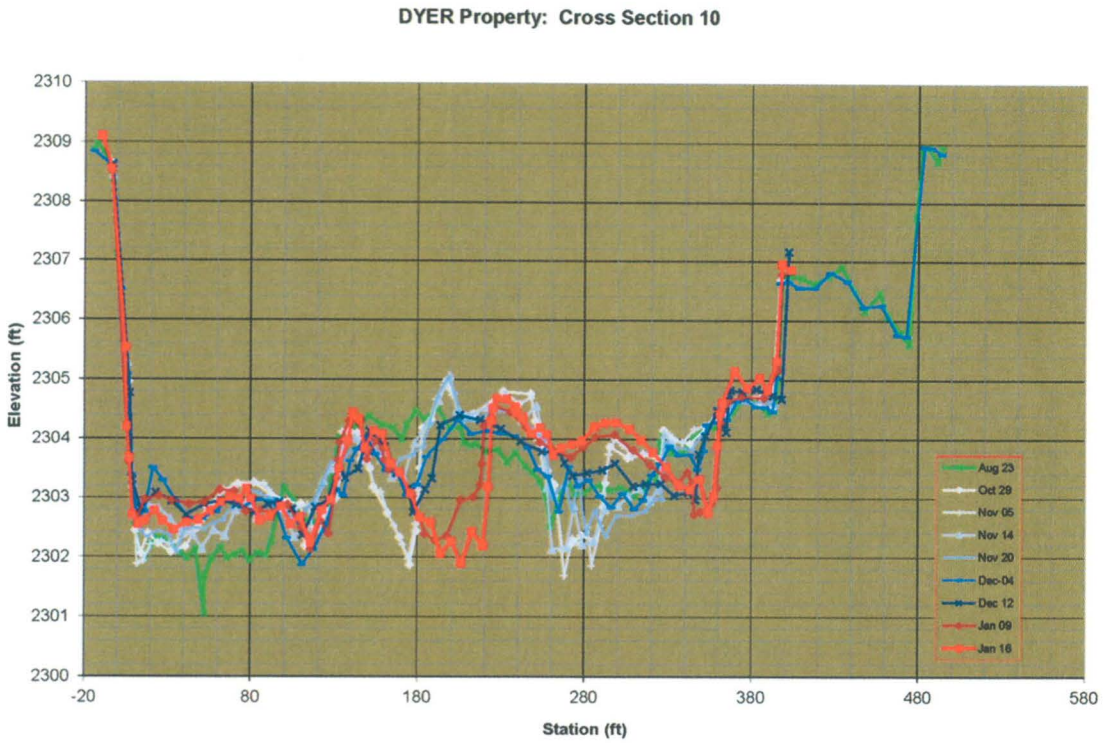

Figure 5 - Dyer Cross Section DS-10 (October 29 through January 16)

Collecting this additional detailed data allowed the Program to learn how augmented sediment moves within the system under low flow conditions and that knowledge will be beneficial in developing a long-term augmentation strategy. However, collecting and processing this information required significant additional work effort by the TFG Team outside the scope identified in Amendment 4. This additional work was directed by the Program and the results were discussed during numerous conference calls as well as presented in graphical format.

In addition to the Dyer Site survey work, the Program expressed concern during the management action regarding the quantity of material being augmented, particularly at Dyer, and whether the reports from the contractors were accurate. These concerns resulted in significant additional construction observation visits by the TFG Team. During the Year 1 management action, 16 construction observations were conducted between August (mobilization) and November 30.

In total, twelve detailed site surveys (and the associated data processing) and seven additional construction observation visits were conducted at the Dyer Site. All of these activities were additional services not covered under the Amendment 4 scope. The cost associated with these additional activities is $55,000.

Based on the data collected during Year 1, the Year 2 management action was modified in coordination with the Program. At Dyer, the contractor has been directed to move the pipe once accumulation is observed or the material exceeds the bank height. At Cottonwood Ranch, the excess material was redistributed and a channel was cut to facilitate flow through the augmented material. There is sufficient budget to cover the remaining Amendment 4 items which include Monitoring and Data Analysis and Evaluation (Task 400) and Performance Evaluation and Final Report (Task 500).

However, the Program requested a higher level of oversight during Year 2 augmentation, which is not covered under Amendment 4. Year 2 augmentation is underway and six observation visits have already been conducted. In addition, the channel alignment at Cottonwood Ranch was staked for the contractor to ensure that it was located where designed, which was not included in Amendment 4. It is anticipated that an additional seven construction observation visits at the Dyer Property will be required. This assumes that the contractor will pump approximately 900-1000 tons per day on average (calculated based on recent estimated production rates) five days per week for a ten week construction period to complete the Year 2 augmentation of 50,000 tons. This allows for biweekly construction observation visits plus two extra visits. These visits do not include the detailed cross-section surveys that were being conducted previously. The cost associated with conducting an additional seven observation visits and one quantity verification survey at Dyer is is $15,000. It is noted that work at Cottonwood Ranch was completed on April 6, 2013, so no additional activities are anticipated there.

In summary, the TFG Team requests $55,000 for additional services already performed, as well as $15,000 for anticipated additional services for a total of $70,000.

References

TFG, HDR, and TT. July 2012. Appendix A, Pilot Study Monitoring Plan, Revised Final Pilot Scale Management Action Technical Memorandum.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT B

Sediment Augmentation Contract 5th Amendment
Additional Budget Justification Spreadsheet

THE FLATWATER GROUP INC.

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Lincoln, NE 68512-9550
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Fax: 402.435.7108
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22 May 2013

Mr. Chad Smith
Natural Resources Division Director
Headwaters Corporation
4111 4th Avenue Suite #6
Kearney, NE 68845-2883

RE: Request of Reimbursement for Out of Scope Work for Amendment 4 of Sediment Augmentation

Dear Chad,

In response to your email of 13 May 2013, I am providing additional information that includes a breakdown of hours and cost for the out of scope items addressed in our 12 April, 2013 request. Attached you will find Table 1 which presents our best analysis of the costs associated with the out of scope items identified earlier in the year and memorialized in our April request. We tracked the additional site work and analysis to Task 300 so you will see the time and cost collapsed to that task. Dates for additional site visits and survey are footnoted on Table 1. Table 2 shows the overall project cost for each task along with work yet to be completed from May to August. Also, we considered any out of scope work to be associated with the Dyer pumping project, as discussed in our 12 April justification.

We appreciate you and the EDO staff working with us to present this for approval from the finance committee. If you have any questions, please contact myself, Pat Engelbert, or Rick Krushenisky.

Sincerely,

Tom Riley

Tom Riley, P.E., President
THE FLATWATER GROUP INC.

Cc: Pat Engelbert
Project File

PRRIP - Sediment Augmentation Pilot Project Design and Implementation (Out-of-Scope Amendment 4)

Out-of-Scope Items Documentation

TABLE 1

	J. Seipel Eng. Tech.		G. Coke Project Planner		J. Cermak/Oth. Water Resources Engineer		T. Riley Project Manager		R. Krush Senior Eng.		S. Dolph Data/GIS		P. Engelbert Sen Eng.		Total Hours	Total Cost
Staff:																
Rate:	$65		$85		$100		$150		$140		$85		$177			
Task 300 - Pilot Study Implementation																
Extra Site Surveys (12), Observation Visits (7), and Processing Time	402	$26,130	43	$3,655	75.5	$7,550	0	$0.00	15	$2,100	128	$10,880	8	1416	671.5	$51,731
Remaining Site Visits, Additional Surveys (quantity verification), and Processing	120	$7,800		$0		$0	8	$1,200	8	$1,120	40	$3,400	8	$1,416	184	$14,936
Other Direct Costs (ODCs)																$3,500
Project Subtotals	**522**	**$33,930.00**	**43**	**$3,655.00**	**75.5**	**$7,550.00**	**8**	**$1,200.00**	**23**	**$3,220.00**	**168**	**$14,280.00**	**16**	**$2,832.00**	**855.5**	**$70,167**

Extra site visits and Site Surveys Occurred on September 12 and 25, October 1, 10, 16, 18, and 23, November 5 and 20, and December 4 and 12, 2012 and January 9 and 16, February 8, 13, and 19, March 13 and 26, and April 16, 2013.
Extra site visits were attributable primarily to the Dyer Property portion of the project.

TABLE 2

Project Totals Through April 30, 2012	Budget	Billed	Remaining Amendment 4	Estimated Remaining Work	Net	Notes
Task 100	$69,153.00	$70,827.15	($1,674.15)	$15,000.00	($16,674.15)	Assumes 10 hours per month Each for TFG, HDR, and TT
Task 200	$0.00	$0.00	$0.00	$0.00	$0.00	
Task 300	$54,572.00	$126,468.33	($71,896.33)	$15,000.00	($86,896.33)	See summary above
Task 400	$191,157.00	$123,840.80	$67,316.20	$67,316.20	$0.00	Remaining Budget
Task 500	$59,725.00	$3,703.97	$56,021.03	$56,021.03	$0.00	Remaining Budget
Total	$374,607.00	$324,840.25	$49,766.75	$153,337.23	($103,570.48)	

Note the additional funding request is for $70,000 per our 12 April 2013 letter to Chad Smith; $55,000 for costs for out-of-scope site visits and surveys and $15,000 for funding to complete Task 300. The overage amount included TFG labor but failed to include ODCs and subcontractor costs. Thus the discrepancy in the table between the projected overage ($103,570.48) and requested amount ($70,000). The April 12, 2013 request also did not include additional project management costs. The budget for Task 100 has also been exceeded due to additional out-of-scope meetings and calls.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT C

Sediment Augmentation Contract Fourth Amendment, Including:
Original Agreement
First Amendment
Second Amendment
Third Amendment
Fourth Amendment

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Fourth Amendment to the Agreement between the Nebraska Community Foundation, Inc. and The Flatwater Group, Inc. Regarding "Sediment Augmentation Pilot-Scale Management Action"

This Fourth Amendment to the Agreement between the Nebraska Community Foundation, Inc. ("Foundation") of Lincoln, Nebraska, representing all signatories to the Platte River Recovery Implementation Program ("Program"), and The Flatwater Group, Inc. ("Consultant"), a private consultant of Lincoln, Nebraska, is made and entered into effective on the date of signing below and the final date of this Amendment will be September 30, 2013.

The purpose of this amendment is to:
(1) Extend the Agreement between Foundation and Consultant for the Sediment Augmentation Pilot-Scale Management Action from the effective date of the Agreement through September 30, 2013 to provide the services as described in **Exhibits A** and **B**.
(2) To provide Consultant Team Flatwater Group/HDR/Tetra Tech with a total budget of **$374,607** (both in approved and available FY 2012 Program budget line item PD-13 funds and FY 2013 Program budget line item PD-13 funds if approved by the Governance Committee) under this Amendment from the effective date of this Amendment through September 30, 2013 to perform Sediment Augmentation Pilot-Scale Management Action services as outlined in **Exhibit A**, with the budget to be expended in general conformance with the estimate and task outline provided in **Exhibit A**.
(3) To provide Consultant HDR with a total separate budget of **$106,048** in approved and available FY 2012 Program budget line item PD-15 funds under this Amendment from the effective date of this Amendment through September 30, 2013 to perform Permitting services as outlined in **Exhibit B**, with the budget to be expended in general conformance with the estimate and task outline provided in **Exhibit B**.

Important Amendment notes:
(1) This is the Fourth Amendment to the Agreement. **Exhibit C** includes the Original Agreement, the First Amendment, the Second Amendment, and the Third Amendment.
(2) The Sediment Augmentation Pilot-Scale Management Action is conceived as a project with two cycles of implementation. The first cycle of implementation will occur in September 2012, with another cycle of implementation in spring 2013 and final data analysis, evaluation, and reporting completed by September 2013. Consultant HDR/Flatwater Group/Tetra Tech will only perform services under this Amendment from September through December 2012 utilizing approved and available FY 2012 Program budget line item PD-13 funds totaling **$130,403**. The remaining funds authorized by this Amendment in the amount of **$244,204** will only be utilized if approved by the Governance Committee in the Program FY 2013 budget in December 2012. Notice to Proceed in 2013 will only be given to the Consultant by the Executive Director's Office at that time.
(3) Permitting activities by Consultant HDR will be conducted from the effective date of this Amendment through September 2013. Only approved and available FY 2012 Program budget line item PD-15 funds in the amount of **$106,048** will be used. FY 2012 Unliquidated Obligations from Program budget line item PD-13 will be used for any Permitting services under this Amendment not completed in 2012.

All other terms of the original Agreement remain in effect as originally written in the Agreement dated August 19, 2009. The following parties agree to the terms of this Amendment and the original Agreement:

For the Consultant:

Thomas E. Riley

10 Sep 2012
Date

Thomas E. Riley
President
The Flatwater Group, Inc.

For the Foundation:

9/14/2012
Date

Diane M. Wilson
Chief Operating Officer/Chief Financial Officer
Nebraska Community Foundation, Inc.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT A

Sediment Augmentation Contract 4th Amendment
Sediment Augmentation Scope of Work and Fee Estimate

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

Exhibit A – Amendment 4 Scope of Work

Sediment Augmentation Pilot-Scale Management Action Implementation, Monitoring, and Data Analysis and Evaluation

Background and Purpose

The purpose the pilot-scale management action is to evaluate the augmentation method and material uncertainties using the following approach:

- Refine the model to evaluate the introduction methods and material uncertainties.
- Design a pilot-scale sediment augmentation management action to reduce critical uncertainties related to sediment augmentation performance and impacts.
- Implement the pilot-scale sediment augmentation management action.
- Monitor the pilot-scale sediment augmentation management action.
- Based on the pilot-scale monitoring data, refine the model as necessary, and develop recommendations regarding the likely response of the river to full-scale implementation, including appropriate modifications to the plan to improve chances for success.

The overall objective of the pilot-scale management action (pilot study) is to reduce the uncertainties concerning the means and methods for full-scale sediment augmentation by testing and evaluating the performance of sediment augmentation using both sand pump technology and mechanical placement. The pilot study will include mechanical augmentation using dozers to augment approximately 50,000 tons of sediment at Cottonwood Ranch and hydraulic placement using sand pumps/dredging to augment approximately 50,000 tons of sediment at the Cook/Dyer property.

Design documents and construction contract documents have been developed for the pilot study. Activities associated with the design, notice to bidders, and award selection were covered under Amendment 3. Some of the preliminary monitoring was also conducted under Amendment 3. The contract expiration date for Amendment 3 is August 31, 2012. This scope of work encompasses efforts to implement, monitor, analyze and evaluate the data during the pilot scale management action.

Scope of Work

Task 100 – Project Initiation/Project Management

Project Initiation

Objectives: Development of Scope of Work. Ensure that project management and meeting needs are explicitly included in project scope and budget.

Activities: This task will include a scoping meeting with EDO staff.

Task Deliverables:

- Detailed scope, timeline, and budget documentation.

Project Management

Objectives: Ensure that project management and meeting needs are explicitly included in project scope and budget.

Activities: Our key project management and support personnel include a Contract/Project Manager and Senior Technical Review Team. The primary roles of the Project Manager will be coordination of the team's work effort and synchronization of that effort with expectations of the Program. Informal meetings, phone conferences, and electronic communication will be used to communicate and coordinate day-to-day activities with the project team.

Meetings with key Program personnel and partners will be required at key points in the development of the project in order to solicit input and coordinate work. Meetings will be conducted for the coordination of project activities and to keep the TAC, AMWG, and GC informed on project progress. Monthly cost and project reports will be submitted to communicate the progress of the project to the project team. The cost for this task assumes 4 conference calls and 2 informal meetings to communicate project efforts and milestones to the TAC, AMWG, and/or GC.

Bi-weekly conference calls with the EDO are anticipated, and will be held more frequently if necessary.

This task also includes permitting coordination for Mr. Riley with permitting subcontractor HDR.

This task also includes development of annual AMP summary report and participation in the 2013 AMP reporting session.

Task Deliverables:

- Meeting minutes from Project Management meetings (4 conference calls and 2 meetings).Draft minutes in Microsoft Word format provided to ED office for review/comment. Final Minutes provided in PDF format.
- AMP presentations and summary reports.

Task 200 – Pilot-Scale Management Action Implementation Design

Objective: The objective of this task is to develop a comprehensive pilot study.

Task completed under Amendment 3.

Task 300 – Pilot Study Implementation

Objectives: The objective of this task is to administer the construction contract and document project progress and completion.

Activities: Under this task, the Team will provide administration of the contract including periodic construction observation, progress reporting, shop drawing approval, and processing change orders, and reviewing payment requests and providing recommendation of payment. Upon completion of the project, construction contract closeout documentation will be provided.

- Conduct periodic construction observation (9 visits)

- Contract administration (process change orders, approve shop drawings, substantial completion, final completion, contract close-out)
- Periodic progress reporting.
- Process and approve payment requests.
- Conduct monitoring to verify that management actions are being implemented according to design criteria.
- Coordinate all property issues and material acquisitions with Bruce Sackett of the Program staff, including any negotiating agreements with existing sand and gravel operators

Task Deliverables: Deliverables under Task 300 will include the following:

- Meeting minutes from construction meetings.
- Copies of all questions and responses.
- Electronic site visit reports.
- Copies of all construction correspondence including change orders, submittals, substantial completion certificate, and documentation of final completion.
- Copies of payment requests and payment recommendation letters.
- Summary of site visit monitoring reports.

Task 400 – Monitoring and Data Analysis and Evaluation

Objective: The objective of this task is to collect field data and perform appropriate analyses of the monitoring data to understand the response of the project reach to the augmented sediment and mechanical grading, with the overall objective of evaluating the performance of the actions in meeting the objectives of the study. The following general types of data will be collected:

- Topographic/bathymetric changes associated with both the sand pumping and mechanical grading, including aggradation/degradation and lateral migration tendencies.
- Changes in downstream sediment loads.
- Changes in downstream bed material sediment sizes.

In meeting these objectives, data and interpretations from existing and ongoing data activities by the PRRIP and other agencies in the project reach for this specific study will be used to the maximum extent possible. These activities include:

- The PRRIP channel geomorphology and in-channel vegetation monitoring of the Central Platte River program.
- Nebraska Public Power District (NPPD) habitat enhancement activities at Cottonwood Ranch
- USGS monitoring data at Cottonwood Ranch.
- Monitoring data at the PRRIP Elm Creek Complex
- Data from the Kearney Canal Monitoring Program
- PRRIP aerial photos and LiDAR data
- Stream gage data at Overton, Cottonwood Ranch North and South Channels, Kearney Canal and Odessa, and discharge information from the J-2 Return.

Activities: The following specific activities will be completed for this task:

- Obtain and review available data from the above listed non-Pilot Study activities.

- Perform a baseline bathymetric survey of the approximately 1-mile reach of the South Channel at Jeffrey Island from about 1,000 feet upstream to about 4,000 feet downstream from the proposed pump outfall. This survey will include 5 monumented cross sections (1 upstream from the outfall, 1 immediately downstream from the outfall and 3 spaced evenly through the remainder of the one-mile reach downstream from the outfall). The initial survey was completed just before the start of sediment pumping under Amendment 3, and the cross section surveys will be repeated after completion of the pumping and at monthly intervals (conditions permitting) over the following nine months to provide information on the rate at which the injected sediment is entrained and moved downstream.
- If weather and flow conditions permit, resurvey the three primary in-channel cross sections at the Anchor Points AP32 (a and c) and AP34 after completion of the pumping and prior to pre-snowmelt runoff to provide pre-snowmelt runoff conditions. AP32 (a and c) and AP34 will also be surveyed on a similar schedule as the 5 cross-sections on the Dyer property. The Geomorphology Monitoring surveys for the Pure Panel Points AP31 and AP33 at Cottonwood Ranch and downstream from the Overton Bridge, respectively, will provide the post-runoff conditions at these locations.
- Collect bed material sediment samples along the cross section upstream of the pump outfall as well as from the most up- and downstream cross sections of the four transects downstream from the outfall. Bed samples will also be collected at the most up- and downstream cross sections during each survey at AP32 and AP34. At least 3 bed samples will be collected across each cross section surveyed.
- Collect bar material samples from the head of a typical bar in the vicinity of the upstream transect (1 location, 3 sample composite) and at least 3 typical bars in the reach encompassed by the 4 monitoring cross sections downstream of the pump outfall.
- Bed and bar samples will be analyzed by a soils laboratory according to ASTM Standard D422.
- In conjunction with each of the surveys, identify and survey the location of the green line, and survey the boundaries of the sandbars that fall within the limits of each of the Anchor Points.
- Collect data from two in-channel stage recorders (installed under Amendment 3) at Dyer and in the north channel.
- Collect, compile and evaluate the data to assess changes in suspended sediment transport rates, bed topography, bed material sediment sizes, size and height of sandbars, and location of the green line at each of the Anchor Points.
- Consider model results to determine if areas outside the system-wide Anchor Point sites are likely to respond differently from those within the Anchor Points, and therefore, should be surveyed.
- Compare measured changes in bed elevation and bed material gradations with predicted changes from the sediment transport model to assess whether adjustments need to be made to the model input parameters to improve performance.
- Adjust models, as appropriate, and re-test.
- Assess Year 1 monitoring data and model results to determine whether changes should be made to either test other options for introducing the sediment and/or improve performance during Year 2 implementation. Options that could be considered for the Cook/Dyer property include:
    - Different location or orientation of the pump outfall,
    - Different particle size gradation for the pumped material (if this can be practically achieved based on source areas or mechanical manipulation),

- Different pumping rates and/or timing
- Use of mechanical equipment in lieu of pumping.

An option that could be considered for Cottonwood Ranch includes different configurations for placing the graded material to improve entrainment, particularly if it is necessary to place the sediment during low-flow or drought periods.

- Update models to reflect proposed changes for Year 2 and re-run to predict channel response.
- Modify the plans and specifications for Year 2 implementation, as appropriate.
- Coordinate with the Program staff on the type of information that will be collected, analyzed and displayed in the final report.

Task Deliverables:

- Survey and monitoring data results.
- Annual monitoring summary report.

Key Understandings:

- Augmentation will include 2 events, one in fall 2012 and one in early spring 2013. 100,000 tons of sediment (50,000 each at Dyer and Cottonwood Ranch) will be augmented during each event.
- Depth-integrated suspended sediment and automated turbidity data at Overton, Elm Creek, Odessa and Kearney from the Programs on-going water quality monitoring program will be available and suitable for assessing the effects of the sediment augmentation on downstream suspended sediment concentrations.
- Data collection based on 10 events assuming augmentation to begin mid- September 2012 timeframe:
  - Baseline prior to implementation (completed under Amendment 3);
  - Within one week after completion of fall augmentation (anticipated to last 30-60 days);
  - Monthly intervals (conditions permitting) for nine months after completion of augmentation;

  Timeline will accommodate surveys for March/April Pre-runoff and July/August Post-runoff.

Task 500 –Performance Evaluation and Final Report

Objective: The objective of this task is to evaluate the implementation and monitoring data to assess the performance of the project relative to the specific questions posed in the introduction, and to provide recommendations that will guide management actions for full-scale implementation.

Activities: The following specific activities will be completed to meet the objectives of this task:

- Compile and evaluate the implementation and monitoring data to assess the following:
  - Changes in bed topography in the immediate vicinity of the introduced material to assess entrainment effectiveness,
  - Changes in suspended sediment concentrations at Overton and, if data from the Kearney Canal water-quality monitoring are available, the Elm Creek Bridge to assess impacts to downstream sediment loads,

    - Changes in downstream bed topography to assess the effects of the augmented material in reducing the sediment deficit
    - Changes in bed material sediment gradations.
- Prepare draft and final project reports that will include the following:
    - Statement of objectives and key questions to be answered by the project,
    - Summary of the design process and basis for the key decisions,
    - Issues encountered and lessons learned during implementation,
    - Summary of implementation and monitoring data and evaluation from the above task,
    - Identification of remaining key uncertainties,
    - Recommendations for full-scale implementation based on lessons learned and remaining uncertainties.

Deliverables

- Draft project report
- Final project report addressing Program comments

Key Understandings:

- Coordinate with Program staff to determine Final Report content.

Exhibit "B" Budget (Amendment #4)
Platte River Recovery Implementation Program
Sediment Augmentation Pilot Project Design and Implementation

TASKS	The Flatwater Group, Inc.								Tetra Tech						HDR Engineering, Inc.								
	Sr. Engineer/ PM- Riley	Sr. Engineer- R. Krush	Project Engineer - Cermak	Envir. Scientist - Coke	Designer - Dolph	Technician - Seipel/Other	Const. Engineer - D. Krush	Clerical	Sr. Technical- Mussetter	Sr. Technical- Harvey	Project Engineer - Trabant	Project Engineer - Brown	Technician	Clerical	Sr. Engineer- Engelbert	Sr. Technical - Morton	Planner Pillard	Editor	Total Hours	Total Labor Cost	Total ODCs	2012 (Sept-Dec)	2013	Estimated Total Cost
TASK 100 - PROJECT SCOPING AND KICKOFF																								
Develop Draft Scope of Services and Estimated Fee	4								4						20	2			30	$5,526		$5,526		
AMP Session Denver (2013)	32		4		8	4			16		4				32				100	$15,774			$15,774	
Permitting Coordination	53																		53	$7,950			$7,950	
Meetings, Calls, Coordination	80								48						64	6			198	$35,460		$14,184	$21,276	
ODCs																					$4,443	$1,777.32	$2,666	
Estimated Task Hours Subtotal	**169**	**0**	**4**	**0**	**8**	**4**	**0**	**0**	**68**	**0**	**4**	**0**	**0**	**0**	**116**	**8**	**0**	**0**	**381**					
Estimated Task Cost Subtotal	$25,350	$0	$380	$0	$680	$260	$0	$0	$15,062	$0	$446	$0	$0	$0	$20,532	$2,000	$0	$0		**$64,710**		**$21,487**	**$47,666**	**$69,153**
TASK 200 - PILOT SCALE MGMT. ACTION/IMPLEM./ DESIGN																								
Refine Objectives/Performance Indicators/Tech Memo																			0	$0				
Site Walk-Thru with Project Team																			0	$0				
Preliminary Design Development																			0	$0				
Land Use/Acquisition Assistance																			0	$0				
1D Modeling																			0	$0				
2D Modeling																			0	$0				
Final Design																			0	$0				
Monitoring Measures/Data Analysis Plan/Decision Tree/Impacts																			0	$0				
Prepare Technical Memorandum																			0	$0				
Review Meetings and Calls																			0	$0				
Estimated Task Hours Subtotal	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**				**0**					
Estimated Task Cost Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0		**$0**	**$0**	**$0**	**$0**	**$0**
TASK 300 - PILOT STUDY IMPLEMENTATION																								
Prepare Bid Package thru Award Recommendation																			0	$0		$0	$0	
Construction Observation and Administration/Coordination	59	120	40	8		56	80		16		8				16				403	$47,838		$47,838	$0	
ODCs																					$6,734	$6,734	$0	
Estimated Task Hours Subtotal	**59**	**120**	**40**	**8**	**0**	**56**	**80**	**0**	**16**	**0**	**8**	**0**	**0**	**0**	**16**	**0**		**0**	**403**					
Estimated Task Cost Subtotal	$8,850	$16,800	$3,800	$680	$0	$3,640	$6,800	$0	$3,544	$0	$892	$0	$0	$0	$2,832	$0	$0	$0		**$47,838**		**$54,572**	**$0**	**$54,572**
TASK 400 - MONITORING AND DATA ANALYSIS/EVALUATION																								
Data Collection for Pilot Evaluation	32	4	176	150	12	310			4		4	16	4		4				716	$59,850		$29,925	$29,925	
Sediment Data (Bed and Bar)	8		50	50		100													208	$16,700		$5,845	$10,855	
Compile and Evaluate Data to Assess Parameters	8	4	40	16		8			8		8	24	8				16		140	$15,032		$6,013	$9,019	
Evaluate Model for River Response Outside of APs	2	2	4						8		8	8	4		8				44	$6,078		$0	$6,078	
Compare Changes with Model, Assess, Update and Re-run Model as Necessary	8	8							11		32	44								$12,571		$0	$12,571	
Modify Year 2 Design Documents as Necessary (plans and specs)	8	24	16		20	8			1		2				4	2	4			$10,473		$0	$10,473	
Coordinate Data Collection, Analysis, and Presentation with Program	40	16							16						16	2			90	$15,116		$0	$15,116	
Technical Memorandum/Report	16	32	40						8		8	8	4	4	24	4		40	188	$23,936		$0	$23,936	
ODCs																					$31,402	$12,560.72	$18,841	
Estimated Task Hours Subtotal	**122**	**90**	**326**	**216**	**32**	**426**	**0**	**0**	**56**		**62**	**100**	**20**	**4**	**56**	**8**	**20**	**40**	**1,386**					
Estimated Task Cost Subtotal	$18,300	$12,600	$30,970	$18,360	$2,720	$27,690	$0	$0	$12,404	$0	$6,913	$9,650	$1,330	$306	$9,912	$2,000	$2,600	$4,000		**$159,755**		**$54,344**	**$136,813**	**$191,157**
TASK 500 - PERFORMANCE EVALUTION AND FINAL REPORT																								
Compile/Evaluate/Assess Changes	8	8							8	12	8	16	8	4	8	2			82	$11,940		$0	$11,940	
Prepare Draft Project Report	16	16								8	4	16	16	4	24	16		80	200	$26,020		$0	$26,020	
Prepare Final Project Report	8	8								2		4	2	2	24	16		80	146	$19,683		$0	$19,683	
ODCs																					$2,082	$0	$2,082	
Estimated Task Hours Subtotal	**32**	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**22**	**12**	**36**	**26**	**10**	**56**	**34**		**160**	**428**					
Estimated Task Cost Subtotal	$4,800	$4,480	$0	$0	$0	$0	$0	$0	$1,772	$4,873	$1,338	$3,474	$1,729	$765	$9,912	$8,500	$0	$16,000		**$57,643**		**$0**	**$59,725**	**$59,725**
SEDIMENT AUGMENTATION PILOT PROJECT TOTAL HOURS	**382**	**242**	**370**	**224**	**40**	**486**	**80**	**0**	**148**	**22**	**86**	**136**	**46**	**14**	**244**	**50**	**20**	**200**	**2,598**					
SEDIMENT AUGMENTATION PILOT PROJECT TOTAL COST(ROUNDED)	**57,300**	**33,880**	**35,150**	**19,040**	**3,400**	**31,590**	**6,800**	**0**	**32,782**	**4,873**	**9,589**	**13,124**	**3,059**	**1,071**	**43,188**	**12,500**	**2,600**	**20,000**		**$329,946**	**$44,661**	**$130,403**	**$244,205**	**$374,607**

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT B

Sediment Augmentation Contract 4th Amendment
Permitting Scope of Work and Fee Estimate

Platte River Recovery Implementation Program
Shoemaker, Ft. Kearny, and Cottonwood Ranch Habitat Complex
Section 404 Permitting

BACKGROUND AND BASIS FOR PROPOSAL

The Platte River Recovery Implementation Program (PRRIP) is planning to develop habitat complexes at the Shoemaker, Ft. Kearny, and Cottonwood Ranch parcels. Based on past Section 404 of the Clean Water Act permitting, it is anticipated that Individual Permits will be needed for each project. The following outlines the permitting effort for these three complexes.

TASK SERIES 100 – WETLAND DELINEATIONS

Objective: Perform wetland delineations and functional assessments for the Shoemaker, Ft. Kearny, and Cottonwood Ranch parcels.

Activities: Perform wetland delineations in accordance with the *1987 Corps of Engineers Wetland Delineation Manual* and the *Great Plains Regional Supplement*. The wetland functional assessment used for the Elm Creek Complex Individual Permit will be implemented. Coordination with the U.S. Army Corps of Engineers (Corps) for wetland delineation methods and the wetland functional assessment will be performed to confirm methods for streamlining the delineation.

Deliverables: Wetland delineation methodology, wetland delineation reports for the Shoemaker, Ft. Kearny, and Cottonwood Ranch parcels, including GIS shapefiles of delineated areas.

Meetings: One meeting with Program staff and one with the Corps to review wetland delineation methodology.

Key Understandings:

One coordination meeting will take place with the Corps for methodology coordination. This meeting is assumed to be via teleconference or in association with the first wetland delineation. It is assumed that a streamlined methodology can be implemented utilizing a reference site at each complex to represent a typical wetland type. Therefore, it is assumed that data points, including upland points, will not be required at each wetland complex that is encountered. One week, including travel, is assumed for delineation per site for two HDR scientists.

Information/Services Provided by Others:

Program staff will provide aerial imagery and survey information for delineation use. Program staff will indentify all areas of ground disturbance, including temporary impacts associated with construction. It is assumed that the Program will supply a method of access (i.e. airboat or other) to each parcel area.

TASK SERIES 200 - DEVELOPMENT OF INDIVIDUAL PERMITS

Objective: Prepare Individual Permit applications for Shoemaker, Ft. Kearny, and Cottonwood Ranch parcels.

Activities: A pre-application meeting will be held for each Individual Permit application. The following will be performed as part of the development of the applications:
All components of the Individual Permit will need to be developed:

- Project Purpose
- Nature of Activity
- Reason for Discharge
- Type and Amount of Discharge
- Impacts to Wetlands and Other Waters of the U.S. (see Task 100)
- Alternatives analysis discussion. This will focus on the alternatives developed in the EIS
- Demonstration of compliance with Section 7 of the Endangered Species Act
- Demonstration of compliance with Section 106 of the Historic Preservation Act
- General discussion of Short Term, Secondary, and Cumulative Impacts will be provided
- Develop a mitigation discussion that will focus on the fact that the functional assessment leads to the Project being a higher and better use of resources and that no mitigation is required
- Response to comments from thee public notices

Deliverables: Meeting notes from the pre-application meetings. Draft and Final Individual Permit applications, and response to comments on the public notice for three (3) Individual Permit applications.

Key Understandings:

- Two HDR scientists will attend each pre-application meeting in Kearney, NE
- The Biological Opinion will be used as the basis for compliance with Section 7 of the ESA. No informal or formal consultation is anticipated.
- Section 106 compliance is anticipated to be provided by the Program.
- Alternatives development is anticipated to be a general overview of alternatives outlined in the EIS and general description of alternatives available to the Program for in-channel habitat projects. A detailed 404(b)(1) showing document is not anticipated, but rather a discussion of compliance with the guidelines.
- No new functional assessment methodologies for assessing functional impacts to wetlands or other aquatic resources are anticipated.

- No additional wetland mitigation other than the demonstration of the net gain in overall function will be required.
- Adjacent landowner information will be provided by the Program.
- A joint public notice to include NDEQ 401 Water Quality Certification is anticipated.
- Response to comments on the public notice is not anticipated to require more than 24 hours of effort.

SCHEDULE

The following schedule is anticipated for the above Task elements:

Complex	Activity	Completion Date
Shoemaker Wetland Field Delineations	Wetland Field Delineations	October 31, 2012
	Pre-Application Meeting	Fall 2012
	Permit Application	Early Winter 2012
Ft. Kearny	Wetland Field Delineations	Spring 2013
	Pre-Application Meeting	Late Spring 2013
	Permit Application	Summer 2013
Cottonwood Ranch	Wetland Field Delineations	Late Spring 2013
	Pre-Application Meeting	Early Summer 2013
	Permit Application	Late Summer 2013

Budget
Platte River Recovery Implementation Program
Shoemaker, Ft. Kearny, and CWR Habitat Complex Permitting

TASKS		Project Manager	Sr. Env. Engineer	Sr. Scientist	Sr. Water Resources Engineer	Envir. Scientist	Technician	Tech. Editor	Administrative	Total Hours	Total Labor Cost	Computer	Printing	Travel	Misc.	Total Expenses [1]	Est. Total Cost
TASK SERIES 100 - Wetland Delinations												*$3.70*					
Task 101	**Wetland Methods Coordination Meeting**			*4*		*4*				*8*	*$920*	*$30*				*$30*	*$950*
Task 102	**Wetland Delineation - Shoemaker**	*2*	*2*	*6*		*128*	*12*	*4*	*2*	*156*	*$14,074*	*$577*	***$25***	$1,020	$400	*$2,022*	*$16,096*
Task 103	**Wetland Delineation - Ft. Kearny**	*2*	*2*	*6*		*128*	*12*	*4*	*2*	*156*	*$14,074*	*$577*	***$25***	$1,020	$400	*$2,022*	*$16,096*
Task 103	**Wetland Delineation - Cottonwood Ranch**	*2*	*2*	*6*		*128*	*12*	*4*	*2*	*156*	*$14,074*	*$577*	***$25***	$1,020	$400	*$2,022*	*$16,096*
	Estimated Task Hours Subtotal	***6***	***6***	***22***	***0***	***388***	***36***	***12***	***6***	***476***							
	Estimated Task Cost Subtotal	*$1,062*	*$1,440*	*$3,190*	*$0*	*$32,980*	*$3,060*	*$1,020*	*$390*		***$43,142***	***$1,761***	***$75***	***$3,060***	***$1,200***	***$6,096***	***$49,238***
TASK SERIES 200 - Individual Permit Development																	
Task 201	**Shoemaker**																
	a) Pre-Application Meeting	*2*	*2*	*8*		*8*				*20*	*$2,674*	*$74*		*$195*	*$50*	*$319*	*$2,993*
	b) Individual Permit Development	*2*	*4*	*16*		*60*	*16*	*12*	*2*	*112*	*$11,244*	*$414*	*$25*		$50	*$489*	*$11,733*
	c) Public Notice Response	*2*	*8*	*8*		*8*				*26*	*$4,114*	*$96*				*$96*	*$4,210*
Task 202	**Ft. Kearnyy**																
	a) Pre-Application Meeting	*2*	*2*	*8*		*8*				*20*	*$2,674*	*$74*		*$195*	*$50*	*$319*	*$2,993*
	b) Individual Permit Development	*2*	*4*	*16*		*60*	*16*	*12*	*2*	*112*	*$11,244*	*$414*	*$25*		$50	*$489*	*$11,733*
	c) Public Notice Response	*2*	*8*	*8*		*8*				*26*	*$4,114*	*$96*				*$96*	*$4,210*
Task 203	**Cottonwood Ranch**																
	a) Pre-Application Meeting	*2*	*2*	*8*		*8*				*20*	*$2,674*	*$74*		*$195*	*$50*	*$319*	*$2,993*
	b) Individual Permit Development	*2*	*4*	*16*		*60*	*16*	*12*	*2*	*112*	*$11,244*	*$414*	*$25*		$50	*$489*	*$11,733*
	c) Public Notice Response	*2*	*8*	*8*		*8*				*26*	*$4,114*	*$96*				*$96*	*$4,210*
	Estimated Task Hours Subtotal	***18***	***42***	***96***	***0***	***228***	***48***	***36***	***6***	***474***							
	Estimated Task Cost Subtotal	*$3,186*	*$10,080*	*$13,920*	*$0*	*$19,380*	*$4,080*	*$3,060*	*$390*		***$54,096***	***$1,754***	***$75***	***$585***	***$300***	***$2,714***	***$56,810***
	TOTAL HOURS	***24***	***48***	***118***	***0***	***616***	***84***	***48***	***12***	***950***							
	FEE TOTAL (ROUNDED)	***$4,248***	***$11,520***	***$17,110***	***$0***	***$52,360***	***$7,140***	***$4,080***	***$780***		***$97,238***	***$3,515***	***$150***	***$3,645***	***$1,500***	***$8,810***	***$106,048***

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT C

Sediment Augmentation Contract Third Amendment, Including:
Original Agreement
First Amendment
Second Amendment
Third Amendment

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT A

Sediment Augmentation Pilot-Scale Management Action Scope of Work

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

Exhibit A - Scope of Work

Sediment Augmentation Pilot-Scale Management Action Implementation Design and Implementation

Background and Purpose

Sediment augmentation is part of the Program's Flow-Sediment-Mechanical (FSM) management strategy. As a management action, sediment augmentation will be implemented as one of a suite of actions to help address critical Program uncertainties including:

- How do short-duration high flows (SDHF), **restoring sediment balance,** and mechanical channel alterations contribute to the maintenance of channel width and creation of a braided river channel?
- What is the relationship between SDHF, **sediment balance,** and tern and plover riverine nesting habitat in meeting Program minimum criteria?
- What is the relationship between SDHF, **sediment balance,** and whooping crane habitat in meeting Program minimum criteria?

Several Tier 1 priority hypotheses related to physical processes will be informed by sediment augmentation and related monitoring and data analysis. In particular, hypothesis Sediment #1 is a key aspect of Phase I and Phase II of this project:

Average sediment augmentation near Overton of 185,000 tons/year under the existing flow regime and 225,000 tons/year under the Governance Committee proposed flow regime achieves a sediment balance to Kearney.

A sediment augmentation management action feasibility study was performed in Phase I to verify the sediment deficiency on the Platte River between the Lexington and Odessa bridges and identify implementation alternatives to offset the existing sediment imbalance. Eight alternatives consisting of a matrix of five components were evaluated. Through hydraulic and sediment transport modeling, the significance of each component was evaluated based on the effectiveness of each alternative. Modeling results indicated that the existing sediment deficit in the reach averages about 150,000 tons/year, but varies significantly from the average value depending on runoff conditions. The model results also indicate that the augmentation location, particle size, and augmentation technology are the most significant components of each alternative. The feasibility level modeling indicates that none of the alternatives would likely fully achieve sediment balance; however, several uncertainties still exist, as listed in Section 13 of the study.

These uncertainties can be broadly grouped into two classes: (1) uncertainties in the most effective way to implement sediment augmentation and the likely response of the downstream river, and (2) uncertainties in the design, evaluation and permitting process.

Specific uncertainties under the first category include the following:

1. What is the best sediment gradation that should be used for the augmentation, considering the availability of material and the practical limits on the ability to modify the gradation of this material before introduction into the river?

- Coarser sediment will tend to accumulate in the local area and/or will not move downstream at the desired rate.
- Finer sediment will be entrained, but may simply pass through the downstream reach without eliminating the sediment deficit.

2. What are the trade-offs between introducing the augmented sediment into the river via sand pumps versus directly grading the sediment into the river using mechanical equipment?
3. What is the best location or locations within the overall reach to introduce the augmented sediment, considering material sources, infrastructure, permitting issues, and the ability to entrain and move the sediment downstream?
4. If sand pumps are used at any particular location, what are the most effective timing, pumping rate, and nozzle/outfall placement to optimize entrainment and downstream movement of the sediment?
5. If the sediment is placed via direct grading, what physical configuration will optimize entrainment and downstream movement of the sediment?
6. What is the effect of the augmented sediment on downstream sediment loads?
7. How will the downstream reaches respond to the introduced sediment in the context of reducing the sediment deficit and restoring/maintaining habitat?
8. How much sediment must be introduced through augmentation to eliminate the sediment deficit, considering the anticipated overall increase in sediment load in the river?

Uncertainties under the second category that specifically relate to the pilot study include the following:

1. Can permits be secured in a timely manner?
2. Are there adverse impacts to downstream or adjacent property owners, including increased sediment entrainment at the Kearney Canal?
3. Does the model accurately predict the response of the river to the augmented sediment, including :
    a. The rate of entrainment in the immediate vicinity of where the sediment is introduced?
    b. Downstream sediment loads?
    c. Downstream aggradation/degradation trends (i.e., the reach-wide sediment balance)?
    d. Downstream bed material gradations?

The purpose of Phase II of this project, the pilot-scale management action, is to evaluate the augmentation method and material uncertainties using the following approach:

- Refine the model to evaluate the introduction methods and material uncertainties.
- Design a pilot-scale sediment augmentation management action to reduce critical uncertainties related to sediment augmentation performance and impacts.
- Implement the pilot-scale sediment augmentation management action.
- Monitor the pilot-scale sediment augmentation management action.
- Based on the pilot-scale monitoring data, refine the model as necessary, and develop recommendations regarding the likely response of the river to full-scale implementation, including appropriate modifications to the plan to improve chances for success.

The overall objective of the pilot-scale management action (pilot study) is to reduce the uncertainties concerning the means and methods for full-scale sediment augmentation by

testing and evaluating the performance of sediment augmentation using both sand pump technology and mechanical placement. The pilot study will include mechanical augmentation using dozers of approximately 50,000 tons of sediment at Cottonwood Ranch and hydraulic placement using sand pumps of approximately 50,000 tons of sediment at the Cook/Dyer property.

Because of the quantity of sediment that is to be introduced (100,000 tons) is substantially less than the estimated deficit, and the 2-year time-frame, the pilot study will only partially address the bigger-picture questions posed under the first category discussed above. The volume of material that is anticipated to be introduced for the pilot study represents only about two-thirds of the sediment deficit, and as was clearly demonstrated by the modeling for the Screening Study, significantly more material will need to be introduced to eliminate the sediment deficit since the overall sediment load in the reach will increase. As a result, the pilot study will not eliminate the sediment deficit in the river and the aggradation/degradation response of the system will likely be limited.

Monitoring of the physical response of the river to the activities at Cottonwood Ranch will provide information on the means, methods and effectiveness of various stockpile configurations. Since the graded material will be derived from on-site sources, the information gained from this work will only apply to introduction of that gradation of material; thus, it will not provide information on effects of altering the gradation.

Although perhaps a design issue, it is understood that the sand pumps will be placed at the Cook/Dyer property for the pilot study, which will provide information on the response to introduction at that location, but not the trade-off associated with pumping at different locations. Pumping of approximately 50,000 tons of sediment at the Cook/Dyer property will permit evaluation of the river's response upstream from Cottonwood Ranch, while the reach downstream from Cottonwood Ranch will be affected by the combination of the sand pumping and the physical grading at Cottonwood Ranch.

Scope of Work

Considering the above information, the pilot study will be designed to answer at least the following primary questions:

1. What are the most effective timing, pumping rate, and nozzle/outfall placement to achieve entrainment and downstream movement of the sediment?
2. What is the rate of entrainment of the augmented sediment at the pump site based on the flows that occur during the period of the pilot study?
3. What is the effect of the combination of sand pumping at the Cook/Dyer Property and the physical grading at Cottonwood Ranch on downstream sediment loads?
4. Are there adverse effects of the increased sediment loads (if they occur) on downstream properties?
5. Does the introduction of 50,000 tons of sediment through pumping at the Cook/Dyer Property and an additional 50,000 tons of sediment at Cottonwood Ranch via direct grading cause a detectable change in aggradation/degradation tendencies through and downstream from Cottonwood Ranch?
6. Does the existing model adequately predict changes in downstream sediment load, aggradation/degradation tendencies and bed material gradations?

Phase II – Sediment Augmentation Pilot-Scale Management Action

Task 100 – Project Initiation/Project Management

Project Initiation

Objectives: Development of Scope of Work. Ensure that project management and meeting needs are explicitly included in project scope and budget.

Activities: The project initiation phase will establish the foundation for the development of the sediment augmentation pilot-scale management action. This task will include a scoping meeting with EDO staff, the AMWG, and EDO special advisors and will occur on April 12, 2011 in Kearney, NE.

Task Deliverables:

- Detailed scope, timeline, and budget documentation.

Project Management

Objectives: Ensure that project management and meeting needs are explicitly included in project scope and budget.

Activities: Our key project management and support personnel include a Contract/Project Manager and Senior Technical Review Team. The primary roles of the Project Manager will be coordination of the team's work effort and synchronization of that effort with expectations of the Program. Informal meetings, phone conferences, and electronic communication will be used to communicate and coordinate day-to-day activities with the project team.

Meetings with key Program personnel and partners will be required at key points in the development of the project in order to solicit input and coordinate work. Meetings will be conducted for the coordination of project activities and to keep the TAC, AMWG, and GC informed on project progress. Monthly cost and project reports will be submitted to communicate the progress of the project to the project team. In addition to the monthly cost reports, the cost for this task assumes 4 conference calls and 2 informal meetings to communicate project efforts and milestones to the TAC, AMWG, and/or GC.

Bi-weekly conference calls with the EDO are anticipated, and will be held more frequently if necessary.

This task also includes development of annual AMP summary report and participation in the AMP reporting sessions (2011 and 2012).

Task Deliverables:

- Meeting minutes from Project Management meetings (4 conference calls and 2 meetings).Draft minutes in Microsoft Word format provided to ED office for review/comment. Final Minutes provided in PDF format.
- AMP presentations and summary reports.

Task 200 – Pilot-Scale Management Action Implementation Design

Objective: The objective of this task is to develop a comprehensive pilot study.

Activities: This task will include review of existing information, execution of existing 1D hydraulic and sediment transport model and development of a 2D model to predict and evaluate channel response, and design of the pilot study based on the recommendations from the FS and input from the AMWG. Meetings will be conducted during the information review, decision criteria development, monitoring plan development, and other times as necessary. Four meetings are anticipated, and will be held at the EDO office in Kearney. A final meeting will be held to present the final design to the AMWG. Necessary final data review, analysis, and calculations, drawing development, technical specifications, etc. to complete the final design will be provided. Specific activities under this task include:

- Review existing information and develop and refine pilot study objectives, management actions, performance indicators, and decision criteria;
- Prepare preliminary design for the first implementation which will include timing, pumping rate, and nozzle/outfall placement. The first implementation of the Pilot Study will involve the use of slurry pumps at an appropriate location on the Cook/Dyer property to inject approximately 50,000 tons of existing sand and gravel operators spoil material (D_{50} ~ 0.5mm) into the South Channel at Jeffrey Island. In addition, approximately 50,000 tons of sediment will be added to the river through mechanical grading operations at Cottonwood Ranch.
- Assist Program staff, as appropriate, in determining the need for and negotiating the conditions for land use and/or acquisition;
- Modify the existing 1D hydraulic and sediment transport model to incorporate the sediment input and physical modifications proposed for the first implementation of the Pilot Study. Run short-term simulations for baseline and proposed conditions for a range of potential flow scenarios that could occur during the duration of the pilot study. The specific hydrology scenarios to be run will be identified through consultations with Program staff. It is tentatively suggested that the simulations include one year of a normal, wet and dry year hydrograph. The results of the 1D model will provide an estimate of channel response (aggradation/degradation trends).
- Develop and calibrate an SRH-2D hydraulic model of the project reach from just upstream from the proposed pumping point downstream through the Kearney Diversion structure, including at least the downstream 2 miles of the North Channel at Jeffrey Island, using the most recent, quality-controlled LiDAR and Anchor Point data;
- Run the baseline 2D hydrodynamic model for a range of steady-state flows up to the maximum flow in the short-term, wet-year hydrographs used in the sediment transport modeling. A maximum of 10 individual discharges will be run;
- Modify the 2D model to incorporate the physical changes that are anticipated for the mechanical grading at Cottonwood Ranch, and rerun the model for the same discharges that are used in the baseline model.
- Evaluate the velocity, depth and shear stress patterns through the project reach over the range of flows to evaluate sediment entrainment thresholds, bed material transport capacities, and the potential for lateral erosion into sandbars and islands;
- Identify action adjustments based on a range of predicted outcomes in relation to the performance indicators and decision criteria;
- Refine management actions and preliminary design including mechanical placement and sand pump placement, based on the model results;
- Develop design drawings and specifications;

- Incorporate permitting components into design;
- Final design submittal (design drawings, technical specifications, and construction cost estimate);
- Identify specific measures that can be monitored to assess the effectiveness of the management actions during implementation of the pilot study;
- Design a monitoring and data analysis plan, including working with program staff to confirm that the sampling and monitoring plan includes collecting the data that the Program requires to be presented in the final report;
- Develop and decision tree diagram that provides a graphical representation on how the means and methods will be evaluated;
- Prepare impact thresholds that will trigger modifications to the implementation plan if exceeded;
- Participate in conference calls (assume 6 scheduled conference calls).

Task Deliverables: Task deliverables will include the following:

- Technical memorandum summarizing pilot study objectives, management actions, performance indicators, the monitoring plan and decision criteria. This memorandum will also summarize identified data gaps;
- Project conditions HEC-RAS sediment transport model and results.
- Calibrated 2D hydraulic model and results for baseline and project conditions.
- Design drawings and construction specifications. Design documents will be provided as follows:

    - ½ size (11x17) copies of the preliminary design drawings (4 copies maximum)
    - ½ size (11x17) hard copies and electronic copy of the draft-final design drawings, construction specifications, and Engineer's cost estimate (4 copies maximum)
    - ½ size (11x17) hard copies and electronic copy of the final design drawings, construction specifications, and Engineer's cost estimate (4 copies maximum)

- Electronic file copy of the progress meeting minutes and conference calls.
- Monitoring and data analysis plan.
- Technical memorandum that provides a decision tree (or other tool) to aid in identifying action adjustments based on performance indicators and decision criteria.

Key Understandings:

- The following methods and material sources will be evaluated for implementation in the Pilot Study:
    - Cook/Dyer Property
        - Method: Sand Pump
        - Material Source
            - On site upland material
            - Private sand and gravel operator
            - Material within high bank
            - Existing sand pit on Dyer property
    - Cottowood Ranch
        - Method: Dozer
        - Material Source: On site materials
- The HEC-RAS model developed for the sediment augmentation feasibility study will be used to evaluate pilot study alternatives. If the HEC-RAS model indicates that significant

changes in aggradation/degradation trends and bed material gradations will occur beyond the boundaries of the HEC-RAS model, the HEC-6T model developed for the 1D modeling project will be used to evaluate these trends using output from the HEC-RAS model as the upstream boundary condition.

- The pilot study design is for the first year implementation. Upon completion of the monitoring, it may be necessary to refine the pilot study design. The activities associated with any modification for year two were assumed to require 30% of the first year effort for budgeting purposes. Current billing rates were applied. If the modification requires more than 30% of the first year effort, or billing rates increase due to annual salary adjustments, the scope and fee associated with that effort will be negotiated as an amendment to this contract.

Task 300 – Pilot Study Implementation

Objectives: The objective of this task is to prepare bid documents and select a contractor, administer the construction contract, and document project completion.

Activities: Prepare a bid package for implementation of the pilot study management actions. Under this task, the Consultant team will assist Program staff in development of advertisement text, respond to bidder's questions during the advertisement period, prepare addenda as requested by the Program, assist the Program in the review of bids, and provide recommendation of award. The Team will also assist in contractor selection and contract start-up, provide administration of the contract including periodic construction observation, progress reporting, shop drawing approval, and processing change orders, and reviewing payment requests and providing recommendation of payment. Upon completion of the project, construction contract closeout documentation will be provided.

- Prepare Bid Package (instructions to bidders, general and supplementary conditions, drawings, specifications). Existing PRRIP documents will be used, to the extent possible.
- Prepare advertisement and advertise bid.
- Distribute bid packages to prospective bidders.
- Lead onsite pre-bid meeting at the Program office.
- Respond to questions (telephone, fax, and email)
- Prepare addenda as needed.
- Lead bid opening.
- Review bids and provide recommendation of award.
- Lead preconstruction meeting (either onsite or at ED's office).
- Assist in contract start-up as necessary.
- Conduct periodic construction observation (9 visits)
- Contract administration (process change orders, approve shop drawings, substantial completion, final completion, contract close-out)
- Periodic progress reporting.
- Process and approve payment requests.
- Conduct monitoring to verify that management actions are being implemented according to design criteria.
- Coordinate all property issues and material acquisitions with Bruce Sackett of the Program staff, including any negotiating agreements with existing sand and gravel operators

Task Deliverables: Deliverables under Task 400 will include the following:

- Electronic file copy of advertisement text
- Twenty sets of bid packages for distribution and internal use.
- Meeting minutes from pre-bid and pre-construction meetings.
- Copies of all questions and responses.
- Electronic file copy of addenda, bid review summary and bid recommendation letter.
- Electronic site visit reports.
- Copies of all construction correspondence including change orders, submittals, substantial completion certificate, and documentation of final completion.
- Copies of payment requests and payment recommendation letters.
- Summary of site visit monitoring reports.

Task 400 – Monitoring and Data Analysis and Evaluation

Objective: The objective of this task is to collect field data and perform appropriate analyses of the monitoring data to understand the response of the project reach to the augmented sediment and mechanical grading, with the overall objective of evaluating the performance of the actions in meeting the objectives of the study. The following general types of data should be collected:

- Topographic/bathymetric changes associated with both the sand pumping and mechanical grading, including aggradation/degradation and lateral migration tendencies.
- Changes in downstream sediment loads.
- Changes in downstream bed material sediment sizes.

In meeting these objectives, data and interpretations from existing and ongoing data activities by the PRRIP and other agencies in the project reach for this specific study will be used to the maximum extent possible. These activities include:

- The PRRIP channel geomorphology and in-channel vegetation monitoring of the Central Platte River program.
- Nebraska Public Power District (NPPD) habitat enhancement activities at Cottonwood Ranch
- USGS monitoring data at Cottonwood Ranch.
- Monitoring data at the PRRIP Elm Creek Complex
- Data from the Kearney Canal Monitoring Program
- PRRIP aerial photos and LiDAR data
- Stream gage data at Overton, Cottonwood Ranch North and South Channels, Kearney Canal and Odessa, and discharge information from the J-2 Return.

Activities: The following specific activities will be completed for this task:

- Obtain and review available data from the above listed non-Pilot Study activities.
- Collect suspended sediment data at the Overton Bridge.
    - Install an ISCO or other suitable type automatic sampler at the Overton Bridge that will collect point samples at an appropriate location on at least a daily basis.

- Perform a baseline bathymetric survey of the approximately 1-mile reach of the South Channel at Jeffrey Island from about 1,000 feet upstream to about 4,000 feet downstream from the proposed pump outfall. This survey will include 5 monumented cross sections (1 upstream from the outfall, 1 immediately downstream from the outfall and 3 spaced evenly through the remainder of the one-mile reach downstream from the outfall.) If the Geomorphology Monitoring Program Anchor Point AP35 is in an appropriate location relative to the proposed pump outfall, the cross sections from the anchor point will be incorporated into the survey. The initial survey will be completed just before the start of sediment pumping, and the cross section surveys will be repeated after completion of the pumping and at monthly intervals (conditions permitting) over the following nine months to provide information on the rate at which the injected sediment is entrained and moved downstream.
- If weather and flow conditions permit, resurvey the three primary in-channel cross sections at the Anchor Points AP31 through AP34 within 4 months after completion of the pumping to provide pre-snowmelt runoff conditions. The Geomorphology Monitoring surveys for the Pure Panel Points AP31 and AP33 at Cottonwood Ranch and downstream from the Overton Bridge, respectively, will provide the post-runoff conditions at these locations. Rotating Panel Points AP32 and AP34 are not scheduled to be surveyed during the year after implementation of the Pilot Study; thus, the three primary cross sections at these locations will be surveyed at low flow during summer 2012 for this project.
- Collect bed material sediment samples at the central cross section at each of the Anchor Points using the protocol from the Geomorphology Monitoring Program.
- In conjunction with each of the surveys, identify and survey the location of the green line, and survey the boundaries of the sandbars that fall within the limits of each of the Anchor Points.
- Compile and evaluate the data to assess changes in suspended sediment transport rates, bed topography, bed material sediment sizes, size and height of sandbars, and location of the green line at each of the Anchor Points.
- Consider model results to determine if areas outside the system-wide Anchor Point sites are likely to respond differently from those within the Anchor Points, and therefore, should be surveyed.
- Compare measured changes in bed elevation and bed material gradations with predicted changes from the sediment transport model to assess whether adjustments need to be made to the model input parameters to improve performance.
- Adjust models, as appropriate, and re-test
- Assess Year 1 monitoring data and model results to determine whether changes should be made to either test other options for introducing the sediment and/or improve performance during Year 2 implementation. Options that could be considered for the Cook/Dyer property include:
    - Different location or orientation of the pump outfall,
    - Different particle size gradation for the pumped material (if this can be practically achieved based on source areas or mechanical manipulation),
    - Different pumping rates and/or timing
    - Use of mechanical equipment in lieu of pumping.

An option that could be considered for Cottonwood Ranch includes different configurations for placing the graded material to improve entrainment, particularly if it is necessary to place the sediment during low-flow or drought periods.

- Update models to reflect proposed changes for Year 2 and re-run to predict channel response.
- Modify the plans and specifications for Year 2 implementation, as appropriate.
- Coordinate with the Program staff on the type of information that will be collected, analyzed and displayed in the final report.

Task Deliverables:

- Survey and monitoring data results.
- Annual monitoring summary report.

Key Understandings:

- Depth-integrated suspended sediment and automated turbidity data at Overton, Elm Creek, Odessa and Kearney from the Programs on-going water quality monitoring program will be available and suitable for assessing the effects of the sediment augmentation on downstream suspended sediment concentrations.
- Data collection based on five events assuming augmentation to begin October 1 in each year:
    - Baseline prior to implementation;
    - End of October;
    - End of November;
    - March/April Pre-runoff;
    - July/August Post-runoff;.

Task 500 –Performance Evaluation and Final Report

Objective: The objective of this task is to evaluate the implementation and monitoring data to assess the performance of the project relative to the specific questions posed in the introduction, and to provide recommendations that will guide management actions for full-scale implementation.

Activities: The following specific activities will be completed to meet the objectives of this task:

- Compile and evaluate the implementation and monitoring data to assess the following:
    - Changes in bed topography in the immediate vicinity of the introduced material to assess entrainment effectiveness,
    - Changes in suspended sediment concentrations at Overton and, if data from the Kearney Canal water-quality monitoring are available, the Elm Creek Bridge to assess impacts to downstream sediment loads,
    - Changes in downstream bed topography to assess the effects of the augmented material in reducing the sediment deficit
    - Changes in bed material sediment gradations.
- Prepare draft and final project reports that will include the following:
    - Statement of objectives and key questions to be answered by the project,
    - Summary of the design process and basis for the key decisions,
    - Issues encountered and lessons learned during implementation,
    - Summary of implementation and monitoring data and evaluation from the above task,
    - Identification of remaining key uncertainties,

- Recommendations for full-scale implementation based on lessons learned and remaining uncertainties.

Deliverables

- Draft project report
- Final project report addressing Program comments

Key Understandings:
Coordinate with Program staff to determine Final Report content.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT B

Sediment Augmentation Pilot-Scale Management Action Year 1 Budget

Exhibit "B" Budget - Year 1
Platte River Recovery Implementation Program
Sediment Augmentation Pilot Project Design and Implementation

TASKS	The Flatwater Group, Inc.								TetraTech						HDR Engineering, Inc.						
	Sr. Engineer/ PM- Riley	Sr. Engineer- R. Krush	Project Engineer - Cermak	Envir. Scientist - Coke	Designer - Dolph	Technician - Seipel/Other	Const. Engineer - D. Krush	Clerical	Sr. Technical- Mussetter	Sr. Technical- Harvey	Project Engineer - Trabant	Project Engineer - Brown	Technician	Clerical	Sr. Engineer- Engelbert	Sr. Technical - Morton	Editor	Total Hours	Total Labor Cost	Total ODCs	Estimated Total Cost
TASK 100 - PROJECT SCOPING AND KICKOFF																					
Develop Draft Scope of Services and Estimated Fee	16								4						20	2		42	$7,326		
AMP Session Denver	24								12						24			60	$10,506		
Scoping Meeting (April 12, 2011)	8								8						8	4		28	$5,388		
Meetings, Calls, Coordination	36								28						44	7		115	$21,140		
Estimated Task Hours Subtotal	**84**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**0**	**0**	**0**	**0**	**0**	**96**	**13**	**0**	**245**			
Estimated Task Cost Subtotal	$12,600	$0	$0	$0	$0	$0	$0	$0	$11,518	$0	$0	$0	$0	$0	$16,992	$3,250	$0		**$44,360**	**$4,973**	**$49,333**
TASK 200 - PILOT SCALE MGMT. ACTION/IMPLEM./ DESIGN																					
Refine Objectives/Performance Indicators/Tech Memo	24	24	40						16		24				16	8		152	$21,812		
Site Walk-Thru with Project Team	8	8							12						16			44	$7,810		
Preliminary Design Development	26	32	48		24	12			8		12				8	8		178	$22,286		
Land Use/Acquisition Assistance	16	16		16		4	8											60	$6,940		
1D Modeling									12		16	48	16					92	$10,138		
2D Modeling									18		68	96	36					218	$23,227		
Final Design	34	50	76	4	56	24	8		8		8							268	$29,324		
Monitoring Measures/Data Analysis Plan/Decision Tree/Impacts	4	4	8						24		16				40	8		104	$18,100		
Prepare Technical Memorandum	4	8	16						12		24	8	8	4	16	2		102	$13,516		
Review Meetings and Calls	16	8	12						28		20	6			24	4		118	$18,919		
Estimated Task Hours Subtotal	**132**	**150**	**200**	**20**	**80**	**40**	**16**	**0**	**138**	**0**	**188**	**158**	**60**	**4**	**120**	**30**	**0**	**1,336**			
Estimated Task Cost Subtotal	$19,800	$21,000	$19,000	$1,700	$6,800	$2,600	$1,360	$0	$30,567	$0	$20,962	$15,247	$3,990	$306	$21,240	$7,500	$0		**$172,072**	**$4,769**	**$176,841**
TASK 300 - PILOT STUDY IMPLEMENTATION																					
Prepare Bid Package thru Award Recommendation	8	46	60					18	4		4							140	$15,572		
Construction Observation and Administration/Coordination	46	107	32	8		36	73		14		8							324	$38,138		
Estimated Task Hours Subtotal	**54**	**153**	**92**	**8**	**0**	**36**	**73**	**18**	**18**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**464**			
Estimated Task Cost Subtotal	$8,100	$21,420	$8,740	$680	$0	$2,340	$6,205	$900	$3,987	$0	$1,338	$0	$0	$0	$0	$0	$0		**$53,710**	**$2,878**	**$56,588**
TASK 400 - MONITORING AND DATA ANALYSIS/EVALUATION																					
Data Collection for Pilot Evaluation	10	4	47	36		243			2		3	10	3					358	$27,322		
Sediment Data (Suspended and Bed)	4			4		30			1									39	$3,112		
Compile and Evaluate Data to Assess Parameters	4	2	20	8		2			4		4	12	4					60	$6,346		
Evaluate Model for River Response Outside of APs	1	1	2						4		4	4	2		4	1		23	$3,289		
Evaluate Performance Data and Recommend Changes to Year 2 Augmentation Plan																		0	$0		
Coordinate Data Collection, Analysis, and Presentation with Program	12	4							8						8	1		33	$5,798		
Technical Memorandum/Report	4	8	20						4		4	4	2	2	12	2	10	72	$9,248		
Estimated Task Hours Subtotal	**35**	**19**	**89**	**48**	**0**	**275**	**0**	**0**	**23**	**0**	**15**	**30**	**11**	**2**	**24**	**4**	**10**	**585**			
Estimated Task Cost Subtotal	$5,250	$2,660	$8,455	$4,080	$0	$17,875	$0	$0	$5,095	$0	$1,673	$2,895	$732	$153	$4,248	$1,000	$1,000		**$55,115**	**$12,118**	**$67,232**
TASK 500 - PERFORMANCE EVALUTION AND FINAL REPORT																					
Compile/Evaluate/Assess Changes																		0	$0		
Prepare Draft Project Report																		0	$0		
Prepare Final Project Report																		0	$0		
Estimated Task Hours Subtotal	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**			
Estimated Task Cost Subtotal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0		**$0**	**$0**	**$0**
SEDIMENT AUGMENTATION PILOT PROJECT TOTAL HOURS	**305**	**322**	**381**	**76**	**80**	**351**	**89**	**18**	**231**	**0**	**215**	**188**	**71**	**6**	**240**	**47**	**10**	**2,630**			
SEDIMENT AUGMENTATION PILOT PROJECT TOTAL COST(ROUNDED)	**45,750**	**45,080**	**36,195**	**6,460**	**6,800**	**22,815**	**7,565**	**900**	**51,167**	**0**	**23,973**	**18,142**	**4,722**	**459**	**42,480**	**11,750**	**1,000**		**$325,257**	**$24,738**	**$349,994**

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT C

Sediment Augmentation Original Agreement

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Contract for Services
Agreement between Nebraska Community Foundation, Platte River Recovery and Implementation Program, and The Flatwater Group, Inc., Private Consultant

1. Parties
This Agreement is made and entered into by and between the Nebraska Community Foundation, Inc. ("Foundation") of Lincoln, Nebraska, representing all signatories to the Platte River Recovery Implementation Program ("Program") and The Flatwater Group ("Consultant"), a private consultant.

2. Purpose
The purpose of this Agreement is to allow the Foundation, acting as fiscal agent for the Governance Committee of the Program, and the Consultant to enter into a cost not to exceed contract for the project "Sediment Augmentation Experiment Feasibility Analysis, Design, and Permitting."

TERMS AND CONDITIONS

3. Scope of Services
The Consultant will complete the scope of work as described in the Program's Sediment Augmentation Experiment Feasibility Analysis, Design, and Permitting Request for Proposals (RFP) and the Consultant's Scope of Work (Exhibit A). The Program's Executive Director Office (ED Office) will issue a Notice to Proceed to the Consultant prior to the Consultant proceeding with the project.

The Foundation shall be responsible only for the financial aspects of the Consultant's relationship with the Governance Committee. Technical aspects of the Consultant's relationship with the Governance Committee will be the sole responsibility of the Program's Technical Point of Contact.

4. Compensation
Compensation will occur for work in accordance with the approved Scope of Work and will **not exceed a total of $400,000** unless the scope and budget are modified and mutually agreed upon by the parties. A task by task project budget is included in Exhibit B. The cost breakdowns by Project Task in Exhibit B cannot be exceeded without the prior written consent of the Program's ED Office.

Documented and authorized expenses will be fully reimbursed. Consultant shall provide written requests for payment with appropriate documentation regarding hours and expenses to the Program's Billing Point of Contact (contact information below). Upon receiving a reimbursement request from the Consultant, the Program's Billing Point of Contact will advise the Foundation of approval. The Foundation will make payment of these funds to the Consultant within 30 days. Bills are due within 60 days of the billing date.

Billing Point of Contact (Program):
Dr. Jerry F. Kenny, Executive Director
Platte River Recovery Implementation Program
Headwaters Corporation
3710 Central Avenue, Suite E
Kearney, Nebraska 68847
Phone: (308) 237-5728
Fax: (308) 237-4651
Email: kennyj@headwaterscorp.com

5. Deliverables and Schedule
A milestone schedule for the Sediment Augmentation Experiment Feasibility Analysis, Design, and Permitting Project is included in Exhibit B.

Other deliverables will include any photographs, raw data, models, and other documents or materials collected and /or developed as part of this project. Data will be reported in accordance with guidelines outlined in the Program's AMP and the Program's Database Management System. Draft reports will be provided to the Program Executive Director's Office in Microsoft Word format for distribution and review. Final reports will be provided to the Program Executive Director's Office in PDF format.

6. Other Space, Equipment, and Supplies
The Consultant will supply its own office space, equipment, and supplies.

7. Amendments and Termination
This Agreement, scope, and budget may be amended by mutual written consent of the parties pursuant to the Program. This agreement may be terminated with 30 days notice by any party.

8. Agreement Contingent Upon Available Funding
This Agreement is contingent upon funding availability and continuation of the Platte River Recovery Implementation Program.

9. Insurance
Proof of insurance will be required before a contract is issued. Minimum insurance requirements will include $1,000,000 general liability per occurrence. To the extent authorized by law, the Consultant shall indemnify, save, and hold harmless the Nebraska Community Foundation; the states of Colorado, Wyoming, and Nebraska; the Department of the Interior; members of the Governance Committee; and the Program Executive Director's Office, their employees, employers, and agents; against all claims, damages, liability, and court awards including costs, expenses, and attorney fees incurred as a result of any negligent act or omission by the Consultant or its employees, agents, subcontractors, or assignees pursuant to the terms of this project.

10. Inspection and Acceptance
All deliverables furnished by the Consultant shall be subject to rigorous review by the Program's Technical Point of Contact prior to acceptance.

11. Time Frame
The initial date of this agreement shall be the date of signing. The final date of this agreement shall be approximately 31 December 2010. This time frame may be extended upon mutual agreement of the parties and pursuant to the Program.

12. Independent Contractor
The parties intend that the Consultant will not be considered employees of the Foundation but will act as independent parties for the Foundation. As independent parties, the Consultant will be responsible for all applicable taxes and are not eligible for any benefits provided by the Foundation.

13. The Flatwater Group, Inc. Terms and Conditions for Professional Services
The attached The Flatwater Group, Inc. Terms and Conditions for Professional Services shall be incorporated by reference to this Agreement. If any term in this Agreement shall conflict with the terms of the attached Terms and Conditions (Exhibit C), the terms of this Agreement shall prevail.

14. Confidentiality.
All documents, data compilations, reports, computer models, photographs, and any other work provided to or produced by the Consultant in the performance of this Agreement shall be kept confidential by the Consultant unless written permission for release is granted by the Program.

15. Publicity.
Any publicity or media contact associated with the Consultant's services and the result of those services provided under this Agreement shall be the sole responsibility of the Program. Media requests of the Consultant should be directed to the Director of Outreach and Operations in the ED Office.

16. Publication
It is understood that the results of this work may be available to the Consultant for publication and use in connection with related work. Use of this work for publication and related work by the Consultant must be conducted with full disclosure to and coordination with the Program's Technical Point of Contact.

17. Contacts

Administrative Point of Contact (Foundation):
Diane M. Wilson, Chief Financial & Admin. Officer
Nebraska Community Foundation
PO Box 83107
Lincoln, Nebraska 68501-3107
Phone: (402) 323-7330
Email: dwilson@nebcommfound.org

Admin. Point of Contact (Program):
Dr. Jerry F. Kenny, Executive Director
Platte River Recovery Implementation Prog.
3710 Central Avenue, Suite E
Kearney, Nebraska 68847
Phone: (308) 237-5728
Email: kennyj@headwaterscorp.com

Technical Point of Contact (Program):
Chadwin B. Smith, Director of Natural Resources
Headwaters Corporation
6512 Crooked Creek Drive
Lincoln, Nebraska 68516
Phone: (402) 261-3185
Email: smithc@headwaterscorp.com

Media Point of Contact (Program):
Dr. Bridget M. Barron, Director of Outreach
Headwaters Corporation
3710 Central Avenue, Suite E
Kearney, Nebraska 68847
Phone: (308) 237-5728
Email: barronb@headwaterscorp.com

Administrative and Technical Point of Contact (Consultant)
Thomas E. Riley, P.E., President
The Flatwater Group, Inc.
8200 Cody Drive, Suite A
Lincoln, NE 68512
Phone: (402) 435-5441, ext. 2232
Email: triley@flatwatergroup.com

IN WITNESS WHEREOF, the Parties have executed this Agreement.

Nebraska Community Foundation

By _____
DIANE M. WILSON, Chief Financial and Administrative Officer

Date: 8/19/09

The Flatwater Group, Inc.

By _____
THOMAS E. RILEY, President

Date: 13 Aug 2009

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT D

Sediment Augmentation First Amendment

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
First Amendment to the Agreement between Nebraska Community Foundation, Inc., Platte River Recovery Implementation Program, and The Flatwater Group, Inc.

This First Amendment to the Agreement dated August 19, 2009 between the Nebraska Community Foundation, Inc. ("Foundation") of Lincoln, Nebraska, representing all signatories to the Platte River Recovery Implementation Program ("Program") and The Flatwater Group, Inc. ("Consultant") is made and entered into effective on the date of signing below and the final date of this Amendment will be November 1, 2010.

The purpose of this Amendment is to:

- Expand the Scope of Work of the original Agreement to include the model extension and permitting tasks described below.
- Stipulate the cost of these additional tasks.

Amendment to Consultant's 2010 Scope of Work and Original Agreement Cost

A. The Consultant's Fiscal Year **2010 Scope of Work** is modified, as per **Attachment A**, to include the following model extension tasks:
- Extend the 1-D model now in development for the Sediment Augmentation Feasibility Analysis from the Kearney Canal Diversion east to Odessa.
- Model calibration for the extension.

B. The Consultant's Fiscal Year **2010 Scope of Work** is modified, as per **Attachment B**, to include the following permitting tasks:
- Agency meeting assistance for a permitting coordination field visit.
- Wetland delineations at Program complexes – Cottonwood Ranch and Elm Creek.
- Pre-Construction Notification (PCN) development for Program activities at Cottonwood Ranch Complex and Elm Creek Complex.
- Additional tasks to secure proper permits for Sediment Augmentation.

C. The Consultant's original Agreement was for **$400,000**. That Agreement is modified by this Amendment to a total of **$460,000**, which is accompanied by the following FY 2010 Program budget shifts and billing instructions:
- Program Budget Line Item PD-12 (Model Application) is reduced from $400,000 to $390,000.
- Program Budget Line Item PD-13 (Sediment Augmentation Feasibility Analysis, Design, and Permitting) is increased from $200,000 to $210,000.
- The Consultant will distinctly bill all permitting tasks described in Section B of this Amendment and the Program will invoice those tasks against Program Budget Line Item PD-15 (AMP Permits), approved for $50,000 in FY 2010.

All other terms of the original Agreement remain in effect as originally written.

IN WITNESS WHEREOF, the Parties have executed this Amendment.

Nebraska Community Foundation	The Flatwater Group, Inc.
By _____	By _____
DIANE M. WILSON, Chief Financial and Administrative Officer	THOMAS E. RILEY, President
Date: 3/15/2010	Date: 22 Feb 2010

ATTACHMENT A

January 29, 2010 Letter from Thomas E. Riley (The Flatwater Group) to Chad Smith (Headwaters Corporation) – Includes Task and Cost Details

THE FLATWATER GROUP INC.

8200 Cody Drive, Suite A
Lincoln, NE 68512-9550
Phone: 402.435.5441
Fax: 402.435.7108
www.flatwatergroup.com

29 January 2010

Chad Smith, Director of Natural Resources
PRRIP Executive Director's Office
6512 Crooked Creek Drive
Lincoln, NE 68516

RE: CONTRACT AND SCOPE-OF-WORK FOR EXTENSION OF SEDIMENT AUGMENTATION MODEL FROM KEARNEY CANAL TO ODESSA

Dear Mr. Smith:

The Flatwater Group, Inc. (TFG) is pleased to present the enclosed Scope and Fee for extending the model being developed under Task 700 under our current Sediment Augmentation contract. Based on our discussions, the scope is to extend the Platte River model downstream from the Kearney Canal diversion to the Odessa Bridge (~5.2 miles). The Program staff requires this extension to the model so that planned design and construction activities for early in 2010 can be evaluated for potential hydraulic affects.

TFG proposes to conduct these additional services in accordance with the Scope of Work for Task 700 described in our original contract. We have assumed that management costs and the additional data collection can be absorbed under those existing tasks. Also, based on our discussions with the Executive Directors office, we have not included costs for reporting other ancillary costs as those will not be required. The cost is detailed in the table below. We are focusing on this effort now to accommodate the Program's time critical need for this portion of the model. This work will be performed by our project partner, Tetra Tech as part of their function as developing model components. This addition to our existing contract would be $10,010 and will be added as a modification to our existing contract upon your notification to proceed. I will follow up with a contract modification at that time.

Staff Level	Rate	Hours	Cost
Labor			
Modeling Expert	$220	8	$ 1,760
QA/QC	$200	2	$ 400
Sen Eng	$110	32	$ 3,520
Mid Eng	$85	48	$ 4,080
Subtotal			$ 9,760
Direct Costs			$ 250
Total Cost			**$ 10,010**

Should you have any questions do not hesitate to contact us at (402) 435-5441.

Sincerely,

Thomas E. Riley

Thomas E. Riley, P.E.
THE FLATWATER GROUP INC.

ATTACHMENT B

January 25, 2010 Scope and Fee Estimate from HDR – Includes Task and Cost Details

PART 1.0 SCOPE OF SERVICES:

Consistent with the Scope of Services, HDR and The Flatwater Group proposes to supplement the existing contract (dated August 11, 2009) to provide the following additional professional services. HDR and The Flatwater Group proposes the following professional services. Overall project management activities (monthly status reports, invoicing, staff management) are included in each task.

TASK SERIES 100 – Agency Meeting Assistance

Task Objective: Coordinate and participate at one (1) agency scoping meeting.

Activities: The following activities will be performed:

- Develop agency contact list typical of Section 404 review agencies, preliminarily to include the U.S. Fish and Wildlife Service, EPA, Nebraska Game and Parks Commission, and NDEQ.
- Coordination with USACE on meeting
- Provide meeting notification to all agencies
- Develop an agency scoping packet that will consist of an agenda, project information, general project location mapping, and PowerPoint presentation slide.
- Provide meeting minutes

Task Deliverables: Agency contact list, agency meeting notification, agency scoping packet, and meeting notes.

Meetings: Two meetings with Program staff to discuss agenda and finalize meeting materials. (one HDR professional). These are assumed to be conference calls.

Agency coordination meeting would be attended by two HDR professionals and one from The Flatwater Group.

Key Understandings: It is anticipated that the Project Information matrix, PowerPoint presentation, and subsequent mapping used at the December 22, 2009 meeting with the U.S. Army Corps of Engineers would be applicable for the agency coordination meeting. HDR will provide all copies of meeting materials. Program staff will be responsible for meeting logistics (location/refreshments) and field trip transportation and access.

Information/Services Provided by Others: Program staff will be responsible for meeting logistics and costs and field trip transportation and access.

TASK SERIES 200 – Wetland Delineations

Task Objective: Develop and implement wetland delineation methodology and performance of dormant seasons and routine method delineations.

Activities: A wetland mitigation methodology will be developed that will include a method for dormant season delineations utilizing existing Program information for performing wetland delineations for Cottonwood Ranch Complex and the Elm Creek Complex. This methodology will be coordinated with the Corps for concurrence due to the need to perform dormant season delineations.

Implement wetland delineation methodology for Cottonwood Ranch Complex and the Elm Creek Complex. Activities will include aerial imagery review, compilation and

review of land cover survey information and other survey information as available. On-site delineations will be performed per developed methodology.

Task Deliverables: Wetland delineation methodology, wetland delineation reports for Cottonwood Ranch Complex and Elm Creek Complex, and GIS shapefiles of delineated areas.

Meetings: One meeting with Program staff and one with the Corps to review wetland delineation methodology.

Key Understandings: On-site delineations for Cottonwood Ranch and Elm Creek Complexes will be completed by the end of February. Limited snow cover is required to meet this deadline. Assumes 30 acres total area per site and 15 data forms per site. Assumes one team will be utilized for all field delineations with two trained delineators provided by HDR. Assumes field work and mobilization will require no more than two days. All meetings will be conference calls.

Information/Services Provided by Others: Program staff will provide LiDAR imagery and survey information for delineation use. Program staff will indentify all areas of ground disturbance, including temporary impacts associated with construction.

TASK SERIES 300 – Pre-Construction Notification Development

Task Objective: Prepare and submit two (2) independent pre-construction notifications (PCN) for island building activities to be performed in 2010.

HDR Activities: Prepare PCNs for island building activities at Cottonwood Ranch Complex and Elm Creek Complex. PCNs to include:

- Location, extent, quantities, source of fill, means and methods of impacts to Waters of the U.S.
- Identification of the goals as identified in the FEIS being met by the proposed project
- Wetland delineation and identification of other waters of the U.S. in the project areas (to include Cowardin classification and associated land form descriptions); includes wetland delineation report and GPS shapefiles (sub-meter accuracy), of delineated areas
- Documentation that ESA and has been satisfied

Task Deliverables: Two (2) draft and final PCNs.

Meetings: Two conference call progress meetings with Program staff during permit development. Two HDR professionals will attend each meeting.

Key Understandings: Assumes all projects will qualify for a Nationwide Permit #27.

Assumes that State 401 Water Quality Certification is automatically granted under the NWP #27 authorization. If forested wetlands are encountered, separate 401 water quality certification will be required.

Assumes that the USFWS will provide documentation that compliance with the Endangered Species Act (ESA) has been achieved.

Program staff will supply any available information concerning historic properties needed to demonstrate compliance with Section 106 of the National Historic Preservation Act.

TASK SERIES 400 – Sediment Augmentation Permitting

Task Objective: Obtain Section 404 Permit Authorization for sediment augmentation project.

HDR Activities: The following tasks will be preformed:

- Identification of the goals as identified in the FEIS being met by the proposed project
- Wetland delineation and identification of other waters of the U.S. in the project areas (to include Cowardin classification and associated land form descriptions); includes wetland delineation report and GPS shapefiles (sub-meter accuracy), of delineated areas
- Development of PCN

Task Deliverables: Wetland delineation report and GIS shapefiles of delineated areas. One PCN.

Meetings: Coordination with Program staff as necessary to obtain information relevant to development of the PCN.

Key Understandings: Assumes that locations for sediment augmentation are separate from areas delineated as part of Task 200. Areas requiring delineations will be identified as part of the sediment augmentation feasibility study. For purposes of level of effort, on-site delineations is assumed to require two days for two people (including mobilization) and would be conducted separately from other wetland delineation work. Wetland delineations will be completed by October 1, 2010.

Assumes this project will qualify for a Nationwide Permit #27.

Pre-Application meeting is to be conducted as part of Task 900 of the Sediment Augmentation Feasibility contract

Assumes that State 401 Water Quality Certification is automatically granted under the NWP #27 authorization. If forested wetlands are encountered, separate 401 water quality certification will be required.

Assumes that the USFWS will provide documentation that compliance with the Endangered Species Act (ESA) has been achieved.

Program staff will supply any available information concerning historic properties needed to demonstrate compliance with Section 106 of the National Historic Preservation Act.

PART 2.0 PERIODS OF SERVICE:

HDR proposes to implement this Project within the following schedule:

Activity	Anticipated Completion Date
Notice-To-Proceed	February 1, 2010
Dormant Season Wetland Delineation Method	February 15 ,2010
Field Delineations (weather dependant) – 2010 projects	February 28, 2010
Agency Coordination Meeting Materials	March 1, 2010
Agency Coordination Meeting	March 9, 2010
PCN for Cottonwood Ranch and Elm Creek	April 1, 2010
PCN for Sediment Augmentation	October 30, 2010

PART 3.0 PROFESSIONAL SERVICES FEE:

Professional services fee to complete the Services as outlined in Part 1.0 is cost not-to-exceed fee of forty nine thousand and sixty nine dollars ($49,069). See Attachment A.

Platte River Recovery Implementation Program
Section 404 Permitting for 2010 Island Building Activities and Sediment Augmentation

STAFF-HOUR TABULATION

TASK		Proj. Man.	Sr. Env. Engineer	Env. Scientist	Jr. Env. Scientist	Engineering Technician	TFG Engineer	Total
Task 100	Agency Meeting Assistance	2	26	24	12	0	0	**64**
Task 200	Wetland Delineations	6	4	44	140	0	0	**194**
Task 300	Pre-Construction Notification Development	0	2	8	32	8	0	**50**
Task 400	Sediment Augmentation Permitting	4	2	10	72	8	24	**120**
TOTAL HOURS		**12**	**34**	**86**	**256**	**16**	**24**	**428**

FEE SUMMARY

ESTIMATED DIRECT LABOR

TASK	RATE	TOTAL HOURS	LABOR COST
Senior Engineer/QA	$ 175.00	12	$ 2,100
Senior Environmental Engineer	$ 250.00	22	$ 5,500
Environmental Scientist	$ 130.00	86	$ 11,180
Junior Environmental Scientist	$ 85.00	256	$ 22,210
Technician	$ 65.00	16	$ 1,040
Flatwater Sr. Engineer	$ 150.00	12	$ 1,800
Flatwater Engineer	$ 85.00	24	$ 2,040
	Total Hours:	**428**	
	Total Direct Labor Cost:		**$ 45,870**

ESTIMATED DIRECT EXPENSES

	QUANT	UNIT	UNIT COST	TOT. COST
GPS (per day)	3	Days	75.00	$ 225
Lodging (per day per person)	7	Nights	75.00	$ 525
Per Diem (per day per person)	11	Days	$ 15.00	$ 165.00
Fuel (gallon)	80	Gallons	$ 2.45	$ 196.00
Rental Vehicle)	6	Days	$ 60.00	$ 360.00
Copies Color	30	Pages	$ 0.39	$ 11.70
Copies	750	Each	$ 0.07	$ 52.50
Prints (color, 11x17)	83	Each	$ 0.75	$ 62.25
Technology Charge (per labor hour)	416	Hour	$ 3.70	$ 1,539.00
Misc. Office Supplies	3	LS	$ 25.00	$ 63
	Total Direct Expenses Cost:			**$ 3,199**

ESTIMATED TOTAL : $49,069

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

EXHIBIT E

Sediment Augmentation Second Amendment

Platte River Recovery Implementation Program
Second Amendment to the agreement between the Nebraska Community Foundation, Inc., Platte River Recovery Implementation Program, and The Flatwater Group, Inc., Private Consultant

This Second Amendment to the Agreement between the Nebraska Community Foundation, Inc. ("Foundation") of Lincoln, Nebraska and The Flatwater Group, Inc. Corporation ("Consultant"), a private consultant of Lincoln, Nebraska is made and entered into effective on the date of signing below and the final date of this Amendment will be December 31, 2011. The work described in this amendment will be performed by HDR as sub-consultant to The Flatwater Group, Inc. for Sediment Augmentation Feasibility, Design, and Permitting. Contractual arrangements between HDR and The Flatwater Group, Inc. are not contained in this document.

The purpose of this amendment is to:

(1) Extend the contract between Foundation and Consultant for permitting services from the effective date of the contract to December 31, 2011 to provide the services as described in Exhibit A
(2) To provide Consultant with a budget of $115,200 to perform the services, with the budget to be expended in general conformance with the estimate and description provided in Exhibit B.
(3) To modify billable labor rates and direct expense unit rates as described in Exhibit C.

All other terms of the original agreement remain in effect as originally written.

The following parties agree to the terms of this Agreement.

For the Consultant:

Thomas E Riley 24 Feb 2011

Thomas E. Riley
President
The Flatwater Group, Inc.

For the Foundation:

Diane M. Wilson
Chief Financial & Administrative Officer
Nebraska Community Foundation, Inc.

Exhibit A

Platte River Recovery Implementation Program for Permitting Regional General Permit and General Permitting Assistance Scope of Services

TASK SERIES 100 - DEVELOPMENT OF REGIONAL GENERAL PERMIT

The Program intends to implement various projects that will involve work within Waters of the U.S. These projects include in-channel habitat projects and activities associated with sediment augmentation and flow consolidation within the Platte River. Due to the nature of these projects, the United States Army Corps of Engineers (USACE) has expressed their opinion that these types of in-channel projects do not meet the requirements for a Nationwide Permit authorization. Therefore, the discharge will need to be authorized under either individual permits or under a new regional general permit. Because projects will be on-going activities during the first increment of the Program, the Program proposes to pursue the development of a Regional General Permit (GP) that would address these projects and provide an efficient means of meeting Section 404 requirements. The following tasks will be performed as part of the development of a Regional General Permit:

Objective: **Coordinate and develop a Regional General Permit for Program in-channel habitat, sediment augmentation, and flow consolidation activities.**

Activity: **Task 101 - Agency Coordination**

Agency coordination will be required with USACE and other resources agencies through the development of a GP. A series of USACE Pre-Application Meetings will be necessary during the development of the GP. Program, USACE, and other agencies (such as USFWS and NDEQ) as determined by USACE will meet to discuss the approach for GP development.

Meetings: Four coordination meetings (two HDR professionals to attend each meeting):

- Initial pre-application
- Two meetings during draft GP development
- One meeting post-public notice and USACE review of submitted GP

Deliverables: Agenda, meeting materials, and meeting notes for each meeting.

Key Understandings:

- Two HDR attendees will participate in each meeting
- Meetings are anticipated to be face-to-face. Two of which would be in Kearney, two in Omaha. Kearney meetings are anticipated to be held at Program office and Omaha meetings are anticipated to be held and the Lake Wehrspann Field Office.

Activity: **Task 102 – Regional General Permit Development**

- Review of Program documents to identify compliance with NEPA and ESA requirements
- Definition and establishment of purpose and need
- Identification of the nature of the activities to be covered by the GP
- Discussion of the range of alternatives available to the Program
- Practicability screening of the range of alternatives and a discussion of Program's interpretation for compliance with Section 404(b)(1) guidelines
- Identification of the nature and type of impacts associated with the activities
- Review of avoidance and minimization measures available and/or process to apply for identification of these measures
- Description of the conditions associated with the activities to be covered under the GP, including the submittal and review process of activities prior to implementation
- Description of the monitoring activities associated with the Program
- Response to comments from GP public notice

Meetings: Three Program staff coordination meetings in Kearney

Deliverables:

- Preliminary, Draft, and Final GP
- Response to public notice comments on GP

Key Understandings:

- Purpose and need will be reviewed from the NEPA documents.
- The Biological Opinion will be used as the basis for compliance with Section 7 of the ESA. No in-formal or formal consultation is anticipated.
- Alternatives development is anticipated to be a general overview of alternatives outlined in the EIS and general description of alternatives available to the Program for in-channel habitat projects. A detailed 404(b)(1) showing document is not anticipated, but rather a discussion of compliance with the guidelines.
- Description of nature of activities will use existing information from the Preconstruction Notifications developed for the Cottonwood Ranch and Elm Creek in-channel habitat projects.
- Monitoring activities will be developed in conjunction with existing monitoring activities planned for the Program
- No new functional assessment methodologies for assessing functional impacts to wetlands or other aquatic resources are anticipated. The functional assessment methodology developed for the Cottonwood Ranch and Elm Creek in-channel habitat projects is assumed to be applicable for future Program in-channel habitat projects.

- No field data collection is anticipated.
- In addition to the three Program staff coordination meetings, it is anticipated that other coordination meetings via conference call will be conducted as needed.
- After submittal of the GP request, it is anticipated that USACE will publish a 30 day public notice. Effort for response to comments is expected to be a maximum of 24 hours.
- A joint public notice to include NDEQ 401 Water Quality Certification is anticipated.

TASK SERIES 200 - DEVELOPMENT OF PROGRAMMATIC AGREEMENT – *DELETED FROM THIS AMENDMENT*

The Record of Decision signed by the Secretary of Interior committed to the development of a Section 106 Programmatic Agreement (PA) for the Program. HDR will provide professional cultural resource support to the Program and the Governance Committee (GC) to develop the PA. Because of the complexities and competing priorities associated with obtaining multiple parties reviews, comments and ultimately obtaining consensus on the specific language of the PA, HDR has identified several sub-tasks that will be undertaken in a linear fashion. If possible HDR will evaluate the potential for combining some of the steps, but in general envision that the services provided under this task will take approximately one year to complete.

TASK SERIES 300 – ON-CALL PERMITTING SUPPORT

The Platte River Recovery Implementation Program (Program) is undertaking activities to recover certain species on the Platte River. Some of the activities undertaken by the Program include the discharge of dredged or fill material into the Platte River or other waters of the U.S. and therefore trigger the requirement for permitting under Section 404 of the Clean Water Act, and possible evaluation under the National Environmental Policy Act (NEPA). Because of complexities associated with the permitting process the Program is looking to obtain the services of HDR, and specifically Mr. John Morton of HDR, to provide an additional resource for a potential array of technical matters and to fill potential gaps in expertise in support of permitting efforts.

Objective: **Provide professional engineering and consulting services to the Program to support the acquisition of Corps of Engineers' Section 404 permits and other related federal and state authorizations for various Program activities.**

Activity: **Task 301 – Develop Permit Strategy**

- Meet with Program staff to evaluate future Program activities and related permitting efforts.

- Update the general inventory of permits potentially required for future program related activities, which was prepared in support of the March 2010 USACE/agency coordination site visit.
- Based on the updated inventory, HDR will prepare a draft permit strategy for review by the Program staff. The permit strategy will identify the potential program activities that may require permits, will discuss the potential permit type (nationwide or individual permit), will describe the regional general permit application data requirements, provide a format for regional general permit applications, provide the schedule for permit acquisition, and describe any related federal requirements that may need to be addressed as part of the permit effort.
- Based on the comments received the strategy will be updated and finalized.

Meetings: Two meetings with Program staff in Kearney and two conference calls.

Deliverables: Draft and final permit strategy.

Key Understandings:

- Two HDR attendees will participate in each meeting.
- Meeting location to be determined via coordination with agencies. It is anticipated that meetings may be held in conjunction with regularly scheduled GC meetings.

Activity: **Task 302 – On-Call Support**

HDR will provide on-call support by permitting professionals at the request of the Program. Specifically, Mr. John Morton will be available on a case-by-case basis to respond to specific permitting and NEPA compliance requests by the Sponsors. On an as-needed basis, the Program will discuss an issue or topic with Mr. Morton and provide their requests to him for technical support. Consulting services to be provided includes the development of permitting strategies, reviewing and commenting on the completeness of permit applications and drawings, and preparing advice on applicability of Corps of Engineers' regulations and permits on specific Program activities. HDR understands that, at the discretion of the Program, services under this task could include preparing permit applications, functional assessments, wetland delineations, and drawings for Program related activities. This agreement will be supplemented if the Program requires the permitting services. The Program will advise HDR if it perceives that preparing a permit application, or providing guidance on permit related issues would present a conflict of interest in HDR pursuing future engineering and design work.

Key Understandings:

It is envisioned that on-call advice and support will require up to ten hours of services per month from Mr. Morton, and ten hours per month for support staff.

Activities requiring greater than 10 hours per month shall be described and set forth in separate, numbered Task Authorizations, issued pursuant to the terms of this Agreement. HDR anticipates that services will be preformed over the next 9 to 12 months.

Platte River Recovery Implementation Program
Regional General Permit and Progammatic Agreement Development and General Permitting Assistance

TASKS		Project Manager - Pillard	Sr. Env. Engineer - Morton	Sr. Scientist - Pillard	Sr. Water Resources Engineer - Engleberti Engol	Senior Archaeologist - Stanfill	Project Archaeologist - Madson	Envir. Scientist - Hall	Technician - Mertz	Admin. - Gruwell	Total Hours	Total Labor Cost	Printing	Travel	Misc.	Total Expenses [1]	Est. Total Cost
TASK SERIES 100 - Development of Regional General Permit																	
Task 101	Agency Coordination		28	28				16	8	8	88	$13,620		$420	$326	$746	$14,366
Task 102	Regional General Permit Development																
	a) Program Document Review		2	12	2						16	$2,594			$59	$59	$2,653
	b) Purpose and Need/Alternatives		4	8	4						16	$2,868			$59	$59	$2,927
	c) Range of Alternatives/Practicability Screening		8	16	8			16	4		52	$7,435			$192	$192	$7,628
	d) Environmental Impact		4	16	4			8	4		36	$5,048			$133	$133	$5,181
	e) Avoidance/Minimization, Conditons, Monitoring		2	8							10	$1,660			$37	$37	$1,697
	f) Permit Assembly		2	8				16	4	4	34	$3,620	$50		$126	$176	$3,796
	g) Response to Comments		8	12				4			24	$4,080			$89	$89	$4,169
	h) Program Staff Meetings		24	24	8			8			64	$11,576		$725	$237	$962	$12,538
	Estimated Task Hours Subtotal	0	82	132	26	0	0	68	20	12	340	$52,502					
	Estimated Task Cost Subtotal	$0	$20,500	$19,140	$4,602	$0	$0	$5,780	$1,700	$780		$52,502	$50	$1,145	$1,258	$2,453	$54,955
TASK SERIES 200 - Development of Programmatic Agreement																	
Task 201	Agency Coordination Meetings			8		30	24										
Task 202	Advisory Council on Historic Preservation Notification					10	2										
Task 203	SHPO Notification					20	4										
Task 204	Public Notification of PA					10	2										
Task 205	Coordination of Consulting Parties					24	32										
Task 206	Draft PA		8			120	80										
Task 207	Coordination of Final PA					24	24										
Task 208	Notification of Executed PA					4	8										
	Estimated Task Hours Subtotal	0	8	8	0	242	176	0	0								
	Estimated Task Cost Subtotal	$0	$2,000	$1,100	$0	$41,140	$22,880	$0	$0								
TASK SERIES 300 - SUPPLEMENTAL DATA COLLECTION																	
Task 301	Develop Permit Strategy		20	40							60	$10,800	$20	$369	$222	$611	$11,411
Task 302	On-Call Suport		120	120	3						243	$47,931			$899	$899	$48,830
	Estimated Task Hours Subtotal	0	140	160	3	0	0	0	0	0	303	$58,731					
	Estimated Task Cost Subtotal	$0	$35,000	$23,200	$531	$0	$0	$0	$0	$0		$58,731	$20	$369	$1,121	$1,510	$60,241
	TOTAL HOURS	0	230	300	29	242	176	68	20	12	643						
	FEE TOTAL (ROUNDED)	$0	$57,500	$43,500	$5,133	$41,140	$22,880	$5,780	$1,700	$780		$111,233	$70	$1,514	$2,379	$3,963	$115,196

EXHIBIT "C"
HOURLY RATE AND REIMBURSABLE EXPENSES
PRICE SCHEDULE 2011

HDR Engineering, Inc. Labor Rates

Name	Title/Responsibility	Office	2011* Billable Rate
Professional			
Pillard, Matt	Project Manager	HDR	$145.00
Senior Technical			
Engel, John	Senior Water Resources Engineer	HDR	$177.00
Engelbert, Pat	Senior Water Resources Engineer	HDR	$177.00
Morton, John	Senior Environmental Engineer	HDR	$250.00
Stanfill, Alan	Senior Archaeologist	HDR	$170.00
Project Scientist/Technician			
Pillard, Matt	Senior Scientist	HDR	$145.00
Madson, Mike	Project Archaeologist	HDR	$130.00
Hall, Meagan	Scientist	HDR	$85.00
Mertz, John	Technician	HDR	$85.00
Clerical			
Gruwell, Lindsey	Administrative	HDR	$65.00

HDR Estimated Standard Expenses

Description	Est. Cost	Unit
Lodging per person	$105	per day
Meals (lunch) per coordination me	$40	per meeting
Rental Car per person	$55	per day
Ground Travel	$0.500	per mile
Report Binders and Shipping	$5	per copy
Printing (HDR Laser B/W, Letter $	$0.10	per sheet
Printing (HDR Laser B/W, 11 x 17	$0.20	per sheet
Printing - Print Shop (Color Laser	$0.75	per sheet
Printing - Print Shop (Color, 11" x	$1.50	per sheet
Printing - Print Shop Report Tab I	$0.65	each
Printing - Print Shop Report 3-Ho	$0.01	per sheet
CD-ROM Production + Label and	$25.00	per disc
Presentation Boards (plot and mo	$150.00	each
Color Plotting for Maps (E-Size C	$50	per sheet
Computer time for Engineering w	$10	per hour
Computer time for CADD/GIS wo	$15	per hour
Film and Photo Processing	$12	per roll

* Billing rates will be updated January 1st of each year to refect HDR's annual salary adjustments