

EXHIBIT A

SCOPE OF WORK FOR RIO GRANDE BASIN PLAN

The State Water Supply Initiative (SWSI) 2010, as part of the needs assessment, determined that every basin has a gap between available water supply and projected water demands. The fundamental purpose of the Basin Implementation Plans is to develop projects and methods to meet municipal, industrial and agricultural (consumptive) and environmental and recreational (nonconsumptive) needs across Colorado. This involves review of the Identified Projects and Processes (IPPs) from previous statewide planning efforts and the development of new projects and methods that can meet each basin's future water supply needs as identified in SWSI 2010 and other planning efforts. As part of this work, this is a proposal for the Rio Grande Basin Implementation Plan. We propose that a Basin Planning Team, led by DiNatale Water Consultants (DWC), will work with the Rio Grande Basin Round Table (RGBRT) to develop goals and measurable outcomes, and to identify needs, constraints and opportunities in the basin. In addition, the Basin Plan will identify specific implementation strategies and projects for achieving the desired goals and necessary outcomes.

The Rio Grande Basin Plan will focus on projects and methods recommended by the RGBRT to address the consumptive and non-consumptive needs. The Plan is intended to help the basin proactively meet water needs, through completion of currently planned projects, re-prioritized projects, and development of new projects, operational agreements, flow protections, or other methods as needed. The Basin Plan will also utilize existing information developed for the Rio Grande Decision Support System (RGDSS) Groundwater modeling, the ongoing Rio Grande Cooperative and Radar Projects and other information that is available and relevant to the process. Additionally, more detailed surface water and stream-flow modeling analyses will be conducted that will build on these efforts. The approach will be compatible with Colorado Water Conservation Board's (CWCB) data centered approach for its DSS modeling so that the work can be incorporated into a future RGDSS surface water model. A major objective will be to identify additional and support current approaches to achieve aquifer sustainability throughout the basin.

It is also critical for the Plan to develop, in conjunction with the US Forest Service and other federal and state agencies, watershed protection (short-term) and watershed restoration (short and long-term) implementation plans to address the areas of the basin being impacted by the recent fires in the headwaters region. Watershed protection and restoration will take into account all natural resource attributes of the watershed including consumptive and non-consumptive elements (land, plants, water and wildlife). Long-term watershed health and the identification and analysis of methods and projects to achieve this health are vital to the ability to meet both future consumptive and non-consumptive basin needs and will be a focus of the Plan. The restoration plan will dove-tail with and augment the Forest Service Burned Area Response (BAER) Team and Rio Grande Watershed Emergency Action (RWEACT) watershed restoration effort that has been underway since July 2013.

Relation to Other Pieces: The Rio Grande Basin Plan will be a fundamental component in SWSI, as it will focus on strategies to meet the basin's consumptive and non-consumptive water supply needs. The Colorado Water for 21st Century Act established the Basin Roundtables and tasked them to develop a water supply needs assessment, conduct a water supply analysis and propose projects and methods to meet those needs. This Rio Grande Basin Plan will provide a more detailed analysis and will be directed towards developing and implementing projects to meet those needs and to address the basin's gap in a meaningful way. The Plan will function as a standalone basin plan, but will be a foundational component of the update to SWSI and provide critical inputs into Colorado's Water Plan.

DiNatale Water and members of the Rio Grande Basin Roundtable have a strong presence in the RWEACT and BAER Team efforts associated with the West Fork Complex Fire. As such, the connection of the Rio Grande Basin Water Plan to the watershed restoration efforts related to the impacts of the fire will be seamless.

DEFINITIONS

Goals and Measureable Outcomes (goals and outcomes) - a specific statement that defines a program area of interest with a quantitative milestone. Examples might be; "to protect and preserve 80% of mapped Rio Grande Cutthroat trout habitat within the Rio Grande Basin" or "implement erosion control in X % of the area impacted by the 2013 fires and successfully revegetate those lands within X years."

TASK 1 – DEVELOP GOALS AND MEASURABLE OUTCOMES

Purpose

- Review the CWCB developed initial draft of basin goals and measurable outcomes
- Work with basin representatives to review and update the initial CWCB draft
- Work with Basin Roundtable (BRT) to further update draft and present the revised draft to CWCB
- Finalize basin goals and outcomes

Tasks

1. Develop goals and measurable outcomes
 - 1.1. Review and compile data from all previous and existing Rio Grande Basin projects as to: goals and outcomes, grant approvals, project updates and goals and outcomes met. Utilize meeting minutes and in-basin subcontractors to assist in this effort.
 - 1.2. Review initial draft of basin goals and measurable outcomes for the Basin Roundtable provided by the CWCB (as described in the Guidance document) for review and modification by the BRT
 - 1.3. Work with basin representatives to review and modify CWCB submittal and to revise and/or add goals and outcomes.
 - 1.4. Meet with RGBRT to solicit comments and feedback from the BRT [Meeting #1- as part of a regularly scheduled RGBRT meeting]

- 1.5. Based on decisions made at Meeting #1, and with assistance from basin representatives develop draft-final list of basin goals and measureable outcomes that effectively represents all basin stakeholders.
- 1.6. Review updated list of basin goals and measurable outcomes with CWCB to inform them of changes made by the RGBRT.
- 1.7. Present draft-final list of basin goals and measurable outcomes to RGBRT and make minor modifications for finalization and present to CWCB [Meeting #2]

Deliverable

- Drafts and final version of Goals and Measurable Outcomes (GMO) document

Assumptions

- As outlined in the Draft Basin Implementation Plan Guidance, CWCB proposes to develop an initial draft of basin goals and measurable outcomes based on the 2011 Basin Report, SWSI 2010, SWSI 1, and Interbasin Compact Committee efforts. To the extent that CWCB develops and provides this information in a timely manner, it will be used as a basis for the initial development of basin goals and measurable outcomes.
- CWCB does not have significant comments or modifications to the updated goals and measurable outcomes list developed by the BRT and will accept the final submission developed as part of the Plan.
- Basin representatives will assist in review and updates of the GMO document.

TASK 2 – EVALUATE CONSUMPTIVE AND NONCONSUMPTIVE NEEDS**Purpose**

- Evaluate how well the Goals and Measurable Objectives are being met for both consumptive and nonconsumptive needs

Tasks

2. Evaluate Consumptive and Nonconsumptive Needs
 - 2.1. Nonconsumptive needs evaluation
 - 2.1.1. Evaluate existing project and method information from nonconsumptive database, state planning documents provided by CWCB
 - 2.1.2. Augment nonconsumptive information with local planning documents and information provided by basin representatives, including habitats for species of concern or threatened and endangered species issues
 - 2.1.3. Match project and method information to each GMO and evaluate the degree of success and any remaining needs
 - 2.1.4. Reporting (including relevant mapping)
 - 2.2. Consumptive needs evaluation

- 2.2.1. Evaluate existing project and method information from state planning documents provided by CWCB (SWSI 2010, State Drought Plan etc.)
- 2.2.2. Augment consumptive information with local planning documents and information provided by basin representatives, organized by localized needs.
- 2.2.3. Match project and method information to each GMO and evaluate the degree of success and any remaining needs
- 2.2.4. Reporting (including relevant mapping)
- 2.3. Present results to CWCB and incorporate feedback

Deliverable

- Technical Memorandum (TM) describing process and results of the nonconsumptive and consumptive needs evaluation, including relevant mapping.
- TM can be incorporated into Basin Plan Section 2.

Assumptions

- CWCB will provide the State planning documents (SWSI 1, SWSI 2, SWSI 2010, Basin Reports, Identified Projects and Processes Database, State Drought Plan, any other relevant documents) and supporting documentation in usable format (e.g. spreadsheets of tables and figures) for incorporation into Task 2 deliverable.
- Basin representatives will assist in acquisition and review of local planning documents and information relevant to goals and outcomes.
- Feedback from CWCB on the draft T M can be addressed with minimal editing.

TASK 3 – EVALUATE OPPORTUNITIES AND CONSTRAINTS**Purpose**

- Understand the constraints and opportunities that exist within the basin to meet the needs identified in Tasks 1 and 2.
- Understand current operations under varying hydrology (dry/avg/wet)
- Provide a common understanding on water administration and the constraints and opportunities of the Rio Grande Compact
- Incorporate lessons learned on coordinated operations from the Rio Grande Cooperative Project
- Evaluate how the Radar Project can enhance streamflow forecasts through the reduction of uncertainty
- Develop hydrologic modeling to quantify imbalances of supply and demand and compare potential options
- Use hydrologic modeling to quantify water supply and flows under various scenarios and identify opportunities for water management strategies that can enhance nonconsumptive needs such as water for wetlands and in stream flows while protecting water rights
- Develop a current and future shortages analysis, which identifies shortages that vary with hydrology instead of the firm yield gap that has been used in previous planning efforts

- Review and consider, and if appropriate incorporate planning documents associated with the BAER Team Assessment Report and with the RWEACT watershed restoration planning efforts.

Tasks

3. Evaluate Opportunities and Constraints

3.1. Current basin water operations and hydrology

3.1.1. Meet with Division 3 Engineer and water commissioners and other key water users representatives (Municipal & Industrial (M&I), Agricultural, non-consumptive) and discuss major operations, such as diversions, storage, exchanges, groundwater use and upcoming Plans of Water Management for Subdistricts 2 and 4, Expected Rules and Regulations for the Rio Grande Basin, key nonconsumptive locations, reaches and trends, Rio Grande Compact administration and other key water rights administration information and challenges. Discuss variability of all operational and administrative aspects with respect to different hydrologic conditions, and identify key decision variables that drive operational decision making.

3.2. Develop an Operations and Administration Technical Memorandum that can be incorporated into Basin Plan, summarizing the operations and administration of the Rio Grande and identifying constraints and opportunities to meeting the needs identified in Tasks 1 and 2

3.3. Develop hydrologic model, using existing Rio Grande Cooperative Model as a basis

3.3.1. Develop dry, average and wet hydrologic inputs, and current and future conditions demands using data-centered methods compatible with existing Decision Support Systems (DSS) datasets. Incorporate results from the Radar Project into hydrology inputs

3.3.2. Model Configuration - water rights, return flows and calibration. Reliance on information developed for the RGDSS groundwater model and any available data from the Rio Grande Decision Support System (RGDSS) surface water model development.

3.3.3. Quantify local level supply and demand imbalances under varying input conditions (hydrology and demands) to provide technical support for locations of constraints and opportunities identified in the Operations and Administration TM.

3.3.4. Simulate Projects and Methods developed in Task 4 to evaluate the effectiveness of the project or method at meeting goals and outcomes and needs. Results will be presented with each Project and Method (Task 4) and summarized in Task 6.

3.3.5. Develop simulation of likely hydrology impacts from climate change and 2013 fires.

3.3.6. Analyze the potential to maintain or increase soil water holding capacity in the basin overall and changes in water application requirements for crops and prospects of improvements on rangelands through enhanced grazing management and monitoring.

3.3.7. Develop an implementation plan, incorporating the results of the hydrologic modeling, for minimizing agricultural water use with the objective of achieving aquifer sustainability, while still maximizing agricultural production using the methods, crop selection, and other approaches outlined in 3.3.6.

3.4. Current and future shortages analysis

3.4.1. Analyze the water supply gap or local level supply and demand imbalances.

3.4.2. Summarize municipal and industrial, agricultural, and nonconsumptive shortages under varying hydrology including wet, dry and average conditions.

Deliverables

- Operations and Administrative Technical Memorandum (TM) that can be incorporated into overall Plan report, including appropriate mapping and use of existing data
 - Descriptions of history, development, surface water resources, groundwater resources, environmental and nonconsumptive resources, unique characteristics of the Rio Grande Basin, other background information
 - Water administration practices, including Compact administration and its impact on water users
 - Description of river flows, dry up locations and river gains and losses
 - Discussion of competition or conflict between identified goals or measureable outcomes
 - Mapping as appropriate
- Hydrologic model, based on the Rio Grande Cooperative Project model files
 - Utilize RGDSS inputs where appropriate, and develop DSS-compatible outputs
 - Evaluate necessary model simplifications such that the model is a valuable planning tool that allows decision makers to balance the basin needs, but does not replace or duplicate previous RGDSS modeling efforts
 - Incorporate simplified water rights and observed gains and losses
 - Incorporate potential modifications to hydrology as a result of climate change and 2013 fires.
 - Incorporate findings from the Radar Project and quantify, through modeling, the basin benefits of reducing uncertainty in forecasting streamflows and improved accuracy of snowfall and snowpack estimations.
 - Configure model for various decision variables identified through Task 3.1
 - General model documentation and model configuration descriptions for various simulations used for Tasks 4 and 6.
 - Analysis of potential for land/soil health (e.g., land management methods) to contribute to long-term hydrology and effective use of limited water.
- Current and Future Shortages Technical Memorandum (TM) that can be incorporated into overall Plan report, including appropriate mapping and use of existing data
 - Description of where municipal and industrial, agricultural and nonconsumptive needs may have shortages
 - Mapping as appropriate
- Draft approach for increasing soil water holding capacity in the basin and achieving aquifer sustainability while optimizing agricultural production.

Assumptions

- CWCB will provide existing RGDSS surface and groundwater model inputs for use in the updated hydrologic model

- Information and data from various sources will be used to evaluate how to maintain or increase soil water holding capacity to assist in ongoing and future efforts to achieve aquifer sustainability and maximize the beneficial use of water applied to lands and maintain or improve stream and river function, wetlands and overall resiliency of the system. Sources will include the NRCS-sponsored soil health group, the USFS pilot monitoring project in the Saguache Ranger District, and other soil health and rangeland management resources available in the Rio Grande basin and region.

TASK 4 – BASIN PROJECTS AND METHODS

Purpose

- Update existing IPPs
- Develop new projects or methods to meet the goals and outcomes, needs and plans identified in Task 1
- Prioritize projects to meet basin needs
- Education and outreach to promote community awareness

Tasks

4. Basin Projects and Methods

4.1. BRT Education Liaison to develop Education Action Plan

- 4.1.1. Reach out to decision makers about status of basin's consumptive and nonconsumptive needs, planned projects, current river operation and opportunities and constraints associated with different hydrological cycles.

4.2. Develop detailed project descriptions (PD) for multi-use projects through direct input from project proponents (see deliverables section for more detail). Include hydrologic model results (from Task 3). Includes stakeholder workshops to solicit input.

4.3. Develop detailed project descriptions (PD) for M&I projects through direct input from project proponents (see deliverables section for more detail). Include hydrologic model results (from Task 3). Includes stakeholder workshops to solicit input.

4.4. Develop detailed project descriptions (PD) for agricultural projects through direct input from project proponents (see deliverables section for more detail). Include hydrologic model results (from Task 3). Includes stakeholder workshops to solicit input.

4.5. Develop detailed project descriptions (PD) for nonconsumptive projects through direct input from project proponents (see deliverables section for more detail). Include hydrologic model results (from Task 3). Includes stakeholder workshops to solicit input.

For Tasks 4.2 - 4.6 the following will be done:

- Solicit and obtain PDs from proponents via RGBRT, phone calls, and letters.
- Stakeholder workshops to identify other projects and potential collaborations.

- Develop a scoring system based on criteria established by stakeholders, such as total project cost, cost per AF of need met, timeliness, species habitat needs met, specific and overall watershed health and/or other factors
- In conjunction with RGBRT, score projects and prioritize based on scoring results
- Present information and scoring results to stakeholders, basin representatives and CWCB

4.6. Draft Basin Plan Section 4: Project and Method descriptions

4.6.1. Coordinate with project proponents to revise project descriptions.

4.6.2. Incorporate previous TMs into Sections 1-3 of Basin Plan.

Deliverable

- Section 4 of the Basin Report to include:
 - Summary of education, participation and outreach efforts by the IBCC and BRT Education Liaison as conducted through the IBCC
 - Detailed project descriptions that include
 - Potential for multi-use benefits and/or potential combinations with other projects to meet multiple goals and outcomes
 - Identification of goal, measurable outcome or shortages and/or gap being met
 - Discussion of model results (from Task 3) to quantify project benefits
 - Evaluation of potential challenges, issues or benefits to existing operations or administration
 - Reconnaissance level estimate of costs and funding and financing options
 - Description of permitting requirements
 - Project schedule
 - Appropriate mapping
 - Identification of strategies for implementation
 - Listing of next steps (e.g. feasibility study partners/sponsors, etc.)
 - Fact-sheets for each project that efficiently convey the key benefits of the project

Assumptions

- Rio Grande Basin participants will provide existing IPP lists and information and will help host stakeholder workshops. CWCB will assist in these efforts.
- Where possible, dovetail Basin projects with fire-related BAER Team or RWEACT watershed restoration projects which promote watershed yield and long-term health.

TASK 5 – BASIN IMPLEMENTATION STRATEGIES

Purpose

- Identify water management challenges and opportunities
- Provide framework for meeting the challenges

Tasks

5. Basin Implementation Strategies
 - 5.1. Identify strategies to ensure public education and acceptance
 - 5.2. Identify funding mechanisms and strategies for implementing water supply projects and methods
 - 5.3. Develop timelines for identified projects and key tasks and milestones/metrics for progress and adaptations as needed
 - 5.4. Present strategies and results to stakeholders, basin representatives and CWCB. Draft Basin Plan Section 5: Implementation Strategies
 - 5.5. Where possible, combine funding strategies with those already in place related to the West Fork Fire to leverage dollars for watershed restoration.

Deliverable

- Section 5 of the Basin Report to include:
 - Implementation strategies including:
 - Identification of strategies for implementation
 - Timeline and milestones/metrics for progress and adaptations as needed
 - Listing of next steps (e.g. feasibility study partners/sponsors, etc.) identified in Tasks 4.2 - 4.6.

Assumptions

- CWCB will help host stakeholder workshops

TASK 6 – HOW THE PLAN ADDRESSES THE ROUNDTABLE’S GOALS AND MEASURABLE OUTCOMES**Purpose**

- Inform SWSI and Colorado’s Water Plan on how the Basin is addressing municipal, industrial, agricultural, environmental and recreational needs

Tasks

6. How Plan Meets goals and outcomes
 - 6.1. Identify how the projects and methods in the plan to help meet the gaps and water supply shortages in relation to goals and measurable outcomes from Section 2.
 - 6.2. Coordination with CWCB on initial draft and enhancement of document.

Deliverable

- Section 6 of the Basin Report to include:
 - goals and outcomes being met through projects and methods
 - Shortages and/or gap to be met through projects and methods

Assumptions

- CWCW will provide an initial draft to BRT and work with it to further refine section.

TASK 7 – STAKEHOLDER PARTICIPATION AND PROJECT MANAGEMENT

Purpose

- Develop positive, working relationships with Basin stakeholders to develop trust, cooperation, and transparency in the Basin plan process and document content and direction.
- Establish project management duties such as coordination of meetings, review of draft documents, communications, documents and grant reimbursements.
- Establish and maintain coordination with CWCW staff for consistency with other Basin Plans
- Establish a community-wide outreach and education effort through the various media

Tasks

7. Stakeholder Participation and Project Management
 - 7.1. Attend RGBRT meetings
 - 7.2. Schedule broad-based stakeholder meetings to obtain the necessary information for deliverables and to establish an environment of cooperation.
 - 7.3. Establish regular conference calls and/or web-based meetings with stakeholders
 - 7.4. Coordinate early and often with CWCW staff to establish common technical platform methods and procedures for consistency with other basins and incorporation into Colorado's Water Plan
 - 7.5. General project management, including basin subcontractor coordination and contracting.
 - 7.6. Develop and implement a community outreach strategy through press, interviews, etc., to inform larger community and provide accurate information and status updates

Deliverables

- Meeting minutes
- Regular updates to sponsoring agency

Assumptions

- DWC will attend up to 6 RGBRTs
- Meetings with stakeholders can be coordinated with BRT meetings and scheduled to minimize direct costs associated with travel to the basin.

PROPOSED BUDGET

		\$ 175	\$ 145	\$ 145	\$ 110	\$ 55	\$ 35		
Totals	Task	Senior Engineer	Senior Consultant	Water Resources Engineer II	Water Resources Engineer I	Water Resources Analyst /GIS	Basin Subs	Other Direct Costs and Subs	TOTAL
Task 1	Goals and Measurable Outcomes	51	45	7	6	2	82	\$ 895.00	21,000.00
Task 2	Evaluate Needs	35	51	55	0	30	97	\$ 460.00	27,000.00
Task 3	Evaluate Constraints and Opportunities	148	71	222	264	100	148	\$ 11,895.00	120,000.00
Task 4	Basin Projects and Methods	76	78	58	58	42	223	\$ 10,485.00	60,000.00
Task 5	Basin Implementation Strategies	18	17	14	14	0	28	\$ 835.00	11,000.00
Task 6	How Plan Meets Goals and Outcomess	33	33	16	8	0	26	\$ 1,330.00	16,000.00
Task 7	Stakeholder Participation and Project Management	94	92	20	14	0	142	\$ 1,800.00	41,000.00
	Subtotal	455	387	392	364	174	746	\$ 27,700	\$ 296,000.00
	Rio Grande Basin Program Sponsor Fee 5%								\$ 14,800.00
	Total								\$ 310,800.00

Note that the CWCBC funds could potentially be used as match to help raise additional funds for related, complementary work to enhance the information base and effectiveness of this plan.

	Rio Grande Basin Implementation Plan Project Schedule															
Task No.	Task Description	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Goals and Measurable Outcomes															
2	Evaluate Needs															
3	Evaluate Constraints and Opportunities															
4	Basin Projects and Methods															
5	Basin Implementation Strategies															
6	How Plan Meets Goals and Outcomess															
7	Stakeholder Participation and Project Management															
8	Summary Report															
9	Meetings and Project Management															

GLOSSARY OF ACRONYMS

BAER: Burned Area Emergency Response

RWEACT: Rio Grande Watershed Emergency Action Coordination Team

GMO Doc: Goals and Measurable Outcomes Document

IBCC: InterBasin Compact Committee

M&I: Municipal and Industrial

DWC: DiNatale Water Consultants