DOMENICHELLI AND ASSOCIATES, INC.
CIVIL ENGINEERING

Tom Hennig
General Manager
Rancho Murieta CSD
PO Box 1050
Rancho Murieta, CA 95683

May 3, 2022

Subject: Proposal for Raw Water Conveyance BODR- Chesbro to Clementia and Clementia or Chesbro to Laguna Joaquin

Dear Tom,

Attached is our scope and fee for preparation and submittal of a Basis of Design Report (BODR) for conveying raw water between Chesbro Reservoir and Clementia Reservoir and from either Clementia or Chesbro Reservoir to the Laguna Joaquin. We understand that the District would like to abandon the existing Snyder and Stonehouse Ditch, and provide a new conveyance system from one of the storage reservoirs to Laguna Joaquin, that follows a more direct and efficient (in terms of access and reduced water loss) route.

We will base our analyses and project layout on existing LiDAR mapping of the project limits, District GIS maps and desired flow information provided by the District.

Please contact me if you have any questions regarding this proposal.

Sincerely,

Joseph Domenichelli, PE
President, Domenichelli & Associates

5180 Golden Foothill Parkway, Suite 220 El Dorado Hills, CA 95762 [916] 933-1997 [916] 933-4778 Fax

Rancho Murieta CSD
Water Conveyance Options
Raw Water Between Chesbro and Clementia and from Clementia or Chesbro to Laguna Joaquin
Basis of Design Report (BODR) Proposal
5-3-22

Scope of Services

Task 1 – Base Mapping and Gather Pertinent Information

Task 1A. Base Map of Study Area - D&A will download LiDAR generated topo files for Rancho Murieta and overlay the contours onto satellite map images for use in base mapping.

Task 1B. Review District Information- D&A will review District As-built and GIS information for extracting existing utilities and also consult with the District regarding desired flow to convey between the reservoirs and to Laguna Joaquin.

Task 2 – BODR Analysis & Report

Task 2A-Conveyance from Chesbro to Clemetia - For conveying flow from Chesbro to Clementia, we understand that there is an existing pipeline that currently connects to the two reservoirs. D&A will discuss the use of this connection with District staff, review as-built drawings and conduct a field investigation to confirm the size and configuration of the pipe connection between the two reservoirs. It is our understanding that the WTP supply comes from this same pipe and when water is allowed to flow from reservoir to reservoir, it starves the WTP of its supply.

2A.1 System Hydraulics and Pipeline Options - D&A will determine if modifications can be made to the existing system to allow the transfer of water between reservoirs while allowing the plant to receive what it needs. If an operable connecting pipeline cannot be constructed using the existing piping, a new pipeline alignment and profile will be established. The size of pipe will be determined based on desired flow rate and hydraulic profile considerations.

2A.2 Cost Estimate and Section Write Up- A cost estimate to construct an operable connection will be provided and a write up describing this project will be completed as a section of the BODR.

Task 2B - Raw Water from Clementia or Chesboro to Laguna Joaquin (abandon Snyder & Stonehouse Ditch) - This conveyance will most likely be a pipeline to convey raw water from either Clementia or Chesbro Reservoirs to Laguna Joaquin through existing streets. A portion may be conveyed in existing drainage ditches leading to Laguna Joaquin, however, water loss through a ditch system would need to be accounted for.

2B.1 Determine Flow Requirements – From information gathered in Task 1B, D&A will determine volume and maximum flow rate required to maintain water quality of Laguna Joaquin and provide local irrigation needs.

2B.2 Determine Pipeline Alignment & Size - For the pipeline conveyance alternative, DA& will assess alignment options through existing streets and other right of way to convey the require flows. D&A will also review existing ditch topography to assess possibility of ditch usage along with the pipeline alternatives, including capacity of existing culverts and ditch flow losses.

2B.3-Cost Estimates and Section Write Up- This effort will include estimating construction costs for the various options to convey flow to Laguna Joaquin and a write up of the pros and cons for each option based on cost-benefits.

Task 2C -Prepare Draft & Final BODR – D&A will write up a draft report to summarize the findings from Tasks 1 through 2B. The report will also include a description of the preferred project, compile cost estimates for this project and prepare preliminary figures showing potential project alignments. A workshop review meeting will follow District review to go over comments and questions to be answered for the final BODR.

After the draft report review workshop, D&A will incorporate all comments to complete a final report for submittal to the District.

Deliverables:

1. ***Draft BODR – PDF version and one hard copy of the draft report.***
2. ***Final BODR – PDF and three hard copies of the final report.***

Project Schedule

Based on the scope of service provided, we can complete the draft BODR within 8 weeks after notice to proceed. The final Report will be completed 3 weeks after receiving review comments from the District.

Fee Estimate

Water Conveyance Options
Chesbro to Clementia and Clementia or Chesbro to Laguna Joaquin
Basis of Design Report Proposal

RMCSD - RAW WATER CONVEYANCE Options Basis of Design Report (BODR) Fee Estimate 5/3/2022	Princ. QA/QC Joe D $190	PM Daryl H $165	PE Matt D $125	Expenses	Totals
Task					
1 Base Mapping & Gather Information					
1A-Base Mapping with LiDAR		4	20		$ 3,160
1B-Gather flow and as-built information	4	12	16	$ 120	$ 4,860
Subtotal:					**$ 8,020**
2 BODR Analysis & Report					
2A Conveyance from Chesbro to Clementia					
2A.1- System Hydraulics and Pipeline Options	4	16	20		$ 5,900
2A.2 -Prepare Cost Estimate & Section Write up	4	16	24		$ 6,400
Subtotal:					**$ 12,300**
2B-Raw Water from Clementia or Chesboro to Laguna Joaquin					
2B.1- Determine Flow Requirements	4	8	16		$ 4,080
2B.2 - Determine Pipeline Alignment & Size	8	16	32		$ 8,160
2B.3- Prepare Cost Estimate & Section Write up	8	24	40	$ 150	$ 10,630
Subtotal:					**$ 22,870**
2C- Prepare Draft & Final (BODR) Report	8	32	48	$ 150	**$ 12,950**
Project Totals:	40	128	216	$ 420	**$ 43,190**