



**COLORADO CITY METROPOLITAN DISTRICT  
PUBLIC NOTICE  
BOARD OF DIRECTORS STUDY SESSION**

A study session for the Board of Directors of the Colorado City Metropolitan District will be held Tuesday, July 27, 2021, beginning at 6:00 p.m.

1. Michael Graber Dam Compliance Plan
2. Tabor issues
3. Up Date to Water situation over last week
4. Jetting of sewer lines
5. CCAAC Review No meeting last two weeks everyone out of town

**BOARD OF DIRECTORS REGULAR MEETING**

A regular meeting of the Board of Directors of the Colorado City Metropolitan District will be held Tuesday July 27, 2021, beginning at 6:15 p.m.

1. CALL TO ORDER.
2. PLEDGE OF ALLEGIANCE.
3. MOMENT OF SILENT REFLECTION.
4. QUORUM CHECK.
5. APPROVAL OF AGENDA.
6. APPROVAL OF MINUTES.
  
7. BILLS PAYABLE.
8. FINANCIAL REPORT.
9. OPERATIONAL REPORT.
10. READING BY CHAIRPERSON OF THE STATEMENT OF CONDUCT AND DEMEANOR.
11. CITIZENS INPUT.
12. ATTORNEYS REPORT.
  
13. AGENDA ITEMS:
  
  
14. OLD BUSINESS.      Covenants Lawyer / Security cameras proposal /Resolution for CCACC/Firewall switches
  
  
15. NEW BUSINESS:

16. CCACC

A. Review's form CCAAC

- |                           |       |
|---------------------------|-------|
| 1. 4624 E. Jefferson Blvd | House |
| 2. 5316 Isabella          | House |
| 3. 5843 Fort Garland ST   | Shed  |
| 4. 4805 Hicklin Dr        | Fence |

B. Actions

spread sheet and motion to send out letters from spread sheets.

17. CORRESPONDENCE.

18. EXECUTIVE SESSION:

19. ADJOURNMENT.

The meeting will be held at the Administration Building located at 4497 Bent Brothers Blvd., Colorado City, CO. 81019. Alternate location if so needed will be at the Recreation Center located at 5000 Cuerno Verde, Colorado City, CO. 81019.

**Colorado City Metropolitan District**

**4497 Bent brothers Blvd**

**PO Box 20229**

**Colorado City, Colorado 81019**

**Posted July 26, 2021**

**James Eccher is inviting you to a scheduled Zoom meeting.**

**Topic: Colorado City Metropolitan District Study/Meeting July 27,2021**

**Time: Jul 27, 2021 06:00 PM Mountain Time (US and Canada)**

**Join Zoom Meeting**

**<https://us02web.zoom.us/j/89139287353?pwd=L2pGNXRaU3N3N2F0YWdJd0JQUm92UT09>**

**Meeting ID: 891 3928 7353**

**Passcode: 961015**

**One tap mobile**

**+16699009128,,89139287353#,,,,\*961015# US (San Jose)**

**+12532158782,,89139287353#,,,,\*961015# US (Tacoma)**

**Dial by your location**

**+1 669 900 9128 US (San Jose)**

**+1 253 215 8782 US (Tacoma)**

**+1 346 248 7799 US (Houston)**

**+1 646 558 8656 US (New York)**

**+1 301 715 8592 US (Washington DC)**

**+1 312 626 6799 US (Chicago)**

**Meeting ID: 891 3928 7353**

**Passcode: 961015**

**Find your local number: <https://us02web.zoom.us/j/kOayVF02s>**



March 26, 2018  
Proposal 18P015

Mr. David Valdez  
District Manager  
Colorado City Metropolitan District  
P.O. Box 19390  
Colorado City, CO 81019

**Re: Proposal for Engineering Services, Lake Beckwith Dam Outlet Works  
Rehabilitation 30 Percent Design**

Dear David:

Consistent with our previous discussions, RJH Consultants, Inc. (RJH) is pleased to submit this proposal for engineering services to assist the Colorado City Metropolitan District (District) advance implementation of rehabilitation of the outlet works at Lake Beckwith Dam. Our understanding of the project, objectives, assumptions, scope, schedule, and fees are presented in the following sections.

**Background**

RJH previously completed an Outlet Works Rehabilitation Alternatives Memorandum dated January 22, 2016 that provided alternative concepts and estimated costs for rehabilitating the Lake Beckwith Dam Outlet Works. The memorandum was a first step in addressing the deficient outlet works drawdown capacity. Based on this previous work, the outlet works would be required to have a minimum discharge capacity of 35 cubic feet per second (cfs) to lower the top 5 feet of the reservoir pool in 5 days as required by the State Engineer Dam Safety Regulations for a High Hazard Dams. The current outlet works has a maximum discharge capacity of 11.5 cfs, which would require 15.5 days to lower the top 5 feet of the reservoir pool.

The District has identified grants and low interest loans available from the Colorado Water Conservation Board Construction Loan Fund (CWCB). Consistent with our discussions and discussions with the CWCB and the SEO, two documents are required to obtain CWCB grants and loans. These are:

- 30 percent complete design level documents of the selected alternative to meet the required SEO drawdown requirements. The 30 percent design will be based on Outlet Rehabilitation Alternative 1, Parallel Siphon, from the RJH Outlet Works

Rehabilitation Memorandum dated January 16, 2016. These documents will be developed and prepared by RJH.

- Loan Feasibility Study that provides the technical design and information about the District. Preparation of the Loan Feasibility Study will be a team effort between the District, the District's Water Rights Attorney, District's General Counsel, and RJH Team. RJH has included in this proposal scope and fees to lead and coordinate the overall effort of the Team, to assemble the study, and to perform the engineering related tasks. Fees for other members of the Team will be paid directly by the District and the District will need to develop contracts directly with the other Team members.

Preparation of the 30 percent complete design level documents and the CWCB Loan Feasibility Study will be performed concurrently. The information obtained from preparing the 30 percent complete design level documents will be appropriately incorporated into the applicable sections of the Loan Feasibility Study to avoid duplication of effort.

### **Basis of Scope and Fee**

We have based our scope and fee on the following:

1. Rehabilitation Alternative 1, Parallel Siphon, from the RJH Outlet Works Rehabilitation Memorandum dated January 16, 2016 will be advanced and existing concepts contained in the January 16, 2016 Memorandum will be utilized to the extent possible in the preparation of 30 percent design level documents.
2. Geotechnical investigations will only be performed along the proposed new siphon alignment and at the abandoned outlet proposed diaphragm filter location.
3. The District will provide a rubber-tired backhoe and operator to excavate test pits along the proposed new siphon alignment and at the discharge end of the existing abandoned outlet works conduit.
4. Additional topographic survey data will be required to support 30 percent design level documents.
5. A Class 3 cost opinion as defined by the Standard Classification for Cost Estimate Classification System (ASTM E 2516 - 11) is required to support budgeting and financial planning.
6. The Loan Feasibility Study requirements are detailed in an outline contained in the CWCB *Water Project Loan Program Guidelines*, revised and dated January 2006. Preparation of the Loan Feasibility Study will be a joint team effort between RJH, the District staff, the District's Water Rights Attorney, and the District's Attorney. In general, RJH will perform the work required by the "Outline" as described in the following outline sections:
  - 2.4.2 Selected Alternative
  - 2.4.3 Cost Estimate
  - 2.4.4 Implementation Schedule
  - 2.4.6 Institutional Feasibility

The District and other team members will complete the remaining items of work required by the "Outline" generally described as follows:

- Project Purpose
- Project Sponsor
- Water Demands and Water Rights
- Analysis of Project Alternatives
- Project Impacts
- Project Financial Plan

RJH will compile the work performed by RJH and the work performed by others into a single Loan Feasibility Study document. The District and other Team members will provide the information according to the schedule developed by RJH.

### **Scope of Work**

#### **Task 1 – Topographic Survey**

##### ***Subtasks:***

1. Perform topographic surveying to obtain additional topography in the reservoir, around the right dam abutment down to the water treatment plant along the proposed siphon alignment, and at the discharge end of the abandoned outlet works conduit.
2. Incorporate the additional topography into the base map that was developed from the 2016 Pueblo County topographic survey data and develop a base map to support development of the drawings. The intent is that this topography will be suitable to support development of final designs to manage overall cost of the work.

##### ***Deliverables:***

- None. Topography will be included in Task 3 - 30 Percent Design Level Plans.

#### **Task 2 – Analyses**

##### ***Subtasks:***

1. Refine previously performed hydraulic analyses to finalize selection of the new pipe and to compute the outlet works capacity and flow velocities based on new topographic data and developed outlet details. Perform analyses to confirm the combined system will meet the SEO requirements.
2. Perform hydraulic analyses to size the trash rack and structures to achieve the required hydraulic performance.
3. Perform structural analyses to support sizing and design of the concrete intake, discharge and vault structures, and trash rack.

4. Perform filter compatibility analyses and size the diaphragm filter for the abandoned outlet works conduit and confirm that the required filter materials are commercially available.
5. Prepare analyses memoranda that document the analyses and that can readily be used in later stages of design development.

***Deliverable:***

Brief technical memoranda that will be included as an appendix to the Loan Feasibility Study and Loan Application Report (Report) describing analyses performed and results of the analyses.

**Task 3 – 30 Percent Design Level Plans**

***Subtasks:***

1. Develop drawings for the selected alternative that are suitable to illustrate the required work and support development of a cost opinion. Drawings will be developed in an AutoCAD format and in a 22- by 34-inch format to facilitate advancing the drawings in later stages of design. The following drawings are anticipated:
  - a. Cover Sheet
  - b. General Plan of Modifications
  - c. Outlet Works Plan
  - d. Outlet Works Profile, Sections, and Details (3 sheets)
  - e. Abandoned Outlet Conduit Diaphragm Plan, Profile, Sections, and Details
  - f. Intake, Discharge, and Vault Structures Details and Sections (2 sheets)

***Deliverables:***

- None: Drawings to be included as an appendix to the Report prepared in Task 7. The drawings in the appendix will be presented in an 11- by 17-inch format.

**Task 4 –Opinion of Probable Costs**

***Subtasks:***

1. Develop a preliminary bid list and identify items that would be lump sum and unit price.
2. Develop an estimate of quantities of primary materials required to construct the work.
3. Using recently published cost data, recent construction project bid tabulations of similar work, our in-house database, and discussions with contractors, develop unit and lump prices.
4. Develop an Opinion of Probable Construction Cost based on the 30 percent complete drawings.
5. Develop an estimate of the cost to complete final design and construction documents suitable to obtain SEO acceptance.

6. Develop an estimate of the cost to prepare bidding documents and procure a construction contractor.
7. Develop an estimate of the cost to perform construction engineering, inspection and documentation, laboratory testing, and construction completion documents to meet SEO requirements and assist the District in managing the construction work.

***Deliverables:***

- Brief cost memoranda that will be included as an appendix to the Loan Report prepared in Task 7.

**Task 5 – Geotechnical Investigations**

***Subtasks:***

1. Perform field investigations to support development of the 30 percent design by excavating test pits to identify the subsurface soil profile and obtain materials for testing.
  - a. Dig an estimated six to eight test pits along the proposed new siphon alignment.
  - b. Dig one test pit near the anticipated location of the proposed diaphragm filter.
2. Collect bulk soil samples (cuttings) from the test pits.
3. Observe backfilling of the test pits with the excavated materials that is being completed by District staff.
4. Perform laboratory tests on representative samples from the test pits to characterize materials. The expected laboratory tests are summarized in Table 2.

**TABLE 2  
LABORATORY TESTING SCHEDULE**

Test	Number of Tests	Purpose
Atterberg Limits	2	Evaluate the plasticity of fine grained soil and bedrock and assist with sample classification.
Grain Size Analysis	3	Evaluate the particle size distribution of Site materials and assist with sample classification.
Moisture Content	4	Evaluate the natural moisture content of Site materials.
Standard Proctor Compaction	1	Evaluate the maximum dry density and optimum moisture content of Site fill materials.
Unconfined Compressive Strength	4	Evaluate the strength of bedrock.

5. Perform quality assurance review of collected samples and field logs by a senior engineer/geologist.
6. Prepare final test pit logs based on the field logs, quality assurance review, and laboratory test results.
7. Quantify expected rock excavation for new siphon construction.

8. Prepare a Geotechnical Memorandum to present the data collected from the Site investigation. The report will include text that describes the data collection methods, appendices with photographs, test pit logs, and laboratory test data and collected data. The report will not include interpreted Site conditions or recommendations.

***Deliverables:***

- Memoranda to be included as an appendix to the Loan Report in Task 7.

**Task 6 – Project Management and Coordination**

***Subtasks:***

1. Manage and coordinate work to be performed and prepare and submit monthly invoices and progress reports. RJH will actively manage the project to maintain schedules and work within budgets to achieve project objectives efficiently. This will include periodic internal team meetings.
2. Participate in one project progress meeting with the District following the submittal of the 30 percent design level documents.

***Deliverables:***

- Meeting notes provided electronically in .pdf format.
- Monthly progress reports and invoices.

**Task 7 – Prepare Loan Feasibility Study and Loan Application Report**

***Subtasks:***

1. Develop an overall schedule for implementation of the Feasibility Study Report and provide required dates for draft data to the Team members.
2. Coordinate the work that is being performed by the non-RJH Team members.
3. Manage and coordinate work to be performed by RJH and prepare and submit monthly invoices and progress reports. RJH will actively manage the project to maintain schedules and work within budgets to achieve project objectives efficiently. This will include periodic internal team meetings.
4. Participate in one project progress meeting with the District during the preparation of the feasibility study.
5. Describe the selected alternative.
6. Prepare a map of the entire project area showing locations of project components, topographic features, and floodplains.
7. Integrate the analyses, designs, and cost opinions developed in other tasks.
8. Prepare an overall project implementation schedule and define beginning and completion dates for key tasks required for project implementation.



9. Identify permits, agreements, court actions, and government agency approvals required for project implementation.
10. Compile the Loan Feasibility Study document using those "Outline" sections completed by RJH and the remaining sections supplied by other Team members.
11. Review the work of all Team members for consistency, identify if needed information is missing, and obtain clarifications and additional information where needed.
12. Prepare a draft Report and distribute to the Team for review.
13. Incorporate comments and prepare a final Report for submittal to the CWCB that incorporates the comments.

***Deliverables:***

- One electronic copy in .pdf format of the draft Report.
- One electronic copy in .pdf format and ten hard copies of the final Report.

**Fee Estimate**

We propose to complete all tasks on a time and expense basis in accordance with the attached Fee Schedule and Standard Conditions for Professional Services. Our estimated cost to complete the tasks described above is \$96,000. Actual costs could be higher or lower than estimated based on the actual level of effort required to complete an individual task. We will not exceed this estimated amount without prior authorization from the District and will invoice monthly based on the work completed.

**Schedule**

RJH can begin work within 6 weeks of receiving a signed agreement and we estimate 5 months will be required to complete the described scope of work.

We appreciate your consideration of RJH for this proposed work and look forward to assisting the District on this project. If you concur with the information included in this scope of services, please sign this proposal and return one copy.

Please call if you have any questions or require additional information.

Sincerely,

RJH CONSULTANTS, INC



Michael L. Graber, P.E.  
Senior Project Manager

MLG/jmm

**Attachments:**

Standard Conditions for Professional Services  
2018 Fee Schedule

\_\_\_\_\_  
Name (Please Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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## STANDARD CONDITIONS FOR PROFESSIONAL SERVICES

1. **CONTRACT.** This Agreement for Consulting Services (Contract) is made and executed by and between RJH CONSULTANTS, INC., a Colorado corporation (RJH), and Colorado City Metropolitan District (Client).
2. **PERFORMANCE OF SERVICES.** Client does hereby engage RJH to perform and provide the services hereinafter set forth, and RJH does hereby agree to perform such services in accordance with the terms and conditions hereof. Consultant shall provide at its sole cost and expense all materials, equipment, and personnel required to perform its services under and pursuant to this Contract.
3. **COMPENSATION FOR SERVICES AND PAYMENT TERMS.** Client agrees to pay RJH in accordance with the fee schedule and payment terms in the proposal. RJH will submit invoices monthly. Payment is due within 15 days after receipt of the invoice. Interest will accrue at the rate of 1-1/2 percent per month on the invoiced amount in excess of 30 days past the invoice date. All payments will be made by either check or electronic transfer to the address specified by RJH.
4. **STANDARD OF CARE.** RJH will perform its services under this Contract in a manner consistent with that degree of skill and care ordinarily exercised by similarly-situated members of RJH's profession currently practicing in the same locality under similar conditions. RJH makes no other warranties or representations, either expressed or implied, regarding the quality of services provided hereunder.
5. **CLIENT'S RESPONSIBILITIES.** Client shall perform the services and/or provide the materials which are identified in the proposal.
6. **EXTRA WORK.** Client agrees that an amount of money representing a contingency fund for authorized extra work is included within the funds appropriated by the Client for this project. RJH agrees that no extra work for which additional compensation will be requested shall be commenced or undertaken without the prior notice to and consent of the Client. In the event such extra work is requested and approved, the Client agrees to pay RJH at the rate and/or in the amount agreed in writing between Client and RJH.
7. **RIGHT OF ENTRY.** Client agrees to furnish RJH with the right-of-entry and a plan of boundaries of the site where RJH will perform its services. If Client does not own the site, Client represents and warrants that it will obtain permission for RJH's access to the site to conduct site reconnaissance, surveys, borings, and other explorations of the site pursuant to the scope of services in the Contract. RJH will take reasonable precautions to reduce damage to the site from use of equipment, but RJH is not responsible for damage to the site caused by normal and customary use of equipment. The cost for restoration of damage that may result from RJH's operations has not been included in its fee, unless specifically stated in the Contract.
8. **UNDERGROUND STRUCTURES.** Unless otherwise agreed upon, Client will identify locations of buried utilities and other underground structures in areas of subsurface exploration. RJH will take reasonable precautions to avoid damage to the buried utilities and other underground structures noted. If locations are not known or cannot be confirmed by Client, then there will be a risk to Client associated with conducting the exploration. In the absence of confirmed underground structure locations, Client agrees to accept the risk of any damages and losses resulting from the exploration work.



**9. CONSTRUCTION SERVICE.** If included in the scope of service in the Contract, RJH will provide personnel to observe specific aspects of construction as stated in the Contract and to ascertain that construction is being performed in general accordance with the plans and specifications.

a. RJH cannot provide its opinion on the suitability of any part of the work performed unless RJH's personnel make measurements and observations of that part of the construction. By performing construction observation services, RJH does not guarantee the contractor's work. The contractor will remain solely responsible for the accuracy and adequacy of all construction or other activities performed by the contractor.

b. In consideration of any review or evaluation by RJH of the various bidders and bid submissions and to make recommendations to the Client regarding the award of the construction Contract, the Client agrees to hold harmless and indemnify RJH for all costs, expenses, damages, and attorneys' fees incurred by RJH as a results of any claims, allegations, administrative, or court proceedings, arising out of or relating to any bid protest or such other action taken by any person or entity with respect to the review and evaluation of bidders and bid submissions and/or recommendations concerning the award of the construction Contract.

**10. INSURANCE.** RJH agrees to procure and maintain at its own cost, and for the duration of the contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by RJH, his agents, representatives, and employees. RJH will carry the types and amounts of insurance in the usual form with the following minimum limits for completed operations:

a. Workers' Compensation and Employer's Liability (statutory): Comply with the laws of the State(s) in which the project is located.

b. Comprehensive General Liability (CGL) Insurance:

- i. Bodily Injury: \$1,000,000 per occurrence and \$1,000,000 in aggregate.
- ii. Property Damage: \$1,000,000 per occurrence; \$1,000,000 in aggregate.

c. Comprehensive Automobile Insurance:

- i. Bodily Injury: \$400,000 per person; \$1,000,000 per occurrence.
- ii. Property Damage: \$1,000,000 per occurrence.
- iii. This insurance will include all owned, non-owned, and hired vehicles used in connection with the work.

d. Professional Liability Insurance: \$500,000 per claim and in aggregate.

**11. INDEMNIFICATION.** To the fullest extent permitted by law, RJH agrees to indemnify and hold Client harmless from and against any liabilities, claims, damages, and costs (including reasonable attorneys' fees) to the extent caused by the negligence or willful misconduct of RJH in the performance of services under this Contract.

**12. LIMITATION OF LIABILITY.** To the fullest extent permitted by law, the total liability, in the aggregate, of RJH and its officers, directors, employees, agents, and independent professional associates and consultants, and any of them, to Client and any one claiming by, through, or under Client, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to RJH's services, the project, or



this Contract, will not exceed the total compensation received by RJH under this Contract, or \$50,000, whichever is greater. This limitation will apply regardless of legal theory, and includes but is not limited to claims or actions alleging negligence, errors, omissions, strict liability, breach of contract, breach of warranty of RJH or its officers, directors, employees, agents, or independent professional associates or consultants, or any of them. Client further agrees to require that all contractors and subcontractors agree that this limitation of RJH's liability extends to include any claims or actions that they might bring in any forum.

**13. TERMINATION OF CONTRACT.** Should either party to this Contract violate any covenants or stipulations thereof, the Client or RJH, as the case may be, will thereupon have the right to terminate said Contract by giving ten (10) calendar days notice in writing of the fact and time of such termination to the party committing the breach. In addition:

a. Client will remain fully liable for and will promptly pay RJH the full amount for all services rendered by RJH to the date of suspension of services, plus suspension charges for putting documents and analyses in order, personnel and equipment rescheduling, or reassignment adjustments, and all other related costs and charges directly attributable to suspension.

b. If Client fails to pay undisputed invoice amounts within 30 days following invoice date, RJH may suspend further services, by providing a 10-day written notice to Client until payments are restored to a current basis. In the event RJH engages counsel to enforce overdue payments, Client will reimburse RJH for all reasonable attorney's fees and court costs related to enforcement of overdue payments, provided that client does not have a good faith dispute with the invoice. Client will indemnify and save harmless RJH from any claim or liability resulting from suspension of the work due to non-current, non-disputed payments.

**14. OWNERSHIP OF DOCUMENTS.** Drawings, diagrams, specifications, calculations, reports, processes, computer processes and software, operational and design data, and all other documents and information produced in connection with the project as instruments of service, regardless of form, will be confidential and the proprietary information of RJH, and will remain the sole and exclusive property of RJH whether the project for which they are made is executed or not.

**15. ELECTRONIC FILES.** All documents including drawings, data, plans, specifications, reports, or other information recorded on or transmitted as Electronic Files are subject to undetectable alteration, either intentional or unintentional, due to transmission, conversion, media degradation, software error, human alteration, or other causes.

a. Electronic Files are provided for convenience and informational purposes only and are not a finished project or Contract Document. The actual signed documents will remain the official copies of all documents. RJH makes no representation regarding the accuracy or completeness of any accompanying Electronic Files. RJH may, at its sole discretion, add wording to this effect on electronic file submissions.

b. Client waives any and all claims against RJH that may result in any way from the use or misuse, unauthorized reuse, alteration, addition to or transfer of the Electronic Files. Client agrees to defend, indemnify, and hold harmless RJH, its officers, directors, employees, agents, or subconsultants, from any claims, losses, damages or costs, and costs of defense, which may arise out of the use or misuse, unauthorized reuse, alteration, addition to or transfer of these Electronic Files.

**16. BINDING CONTRACT.** This Contract shall be binding upon the parties and their heirs, legal representatives, successors, and assigns.



**17. ATTORNEY'S FEES AND LEGAL EXPENSES.** If any arbitration proceeding or action shall be brought to recover any amount under this Contract, or for or on account of any breach of, or to enforce or interpret any of the terms, covenants, or conditions of this Contract, the prevailing party shall be entitled to recover from the other party, as part of the prevailing party's costs, reasonable attorney's fees, the amount of which shall be fixed by the arbitrators or by the court, and shall be made a part of any award or judgment rendered.

**18. SEVERABILITY.** If any one or more of the provisions of this Contract shall be held or found to be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

**19. FORCE MAJEURE.** Except for the obligation to pay for services rendered, neither party hereto shall be liable for its failure to perform hereunder, in whole or in part, due to contingencies beyond its reasonable control, including, but not limited to strikes, riots, war, fire acts of God injunction, compliance with any law, regulation, guideline or other of any governmental body or any instrumentality thereof, whether now existing or hereafter created.

**20. AMENDMENT AND WAIVER.** This Contract may only be amended by an instrument in writing signed by the parties to this Contract, and no provision of this Contract can be waived except by a written instrument signed by the party waiving such provision, nor shall failure to object to any breach of a provision of this contract waive the right to object to a subsequent breach of the same or any other provision.

**21. GOVERNING LAW.** This Contract shall be construed exclusively in accordance with and governed by the laws of the State of Colorado, with jurisdiction in the State of Colorado.

**22. DISPUTE RESOLUTION.** Both parties agree to submit any claims, disputes, or controversies arising out of or in relation to the interpretation, application, or enforcement of this Contract to non-binding mediation pursuant to the Rules for Commercial Mediation of the American Arbitration Association, as a condition precedent to litigation or any other form of dispute resolution.





## 2018 FEE SCHEDULE

### Professional Services

<u>Labor Category</u>	<u>Billing Rate per Hour (\$)</u>
Technical Expert	255
Principal – Grade 8	220
Senior Professional – Grade 7	205
Senior Professional – Grade 6	180
Professional – Grade 5	167
Professional – Grade 4	138
Engineer/Geologist – Grade 3	124
Engineer/Geologist – Grade 2	114
Engineer/Geologist – Grade 1	105
CAD Designer	106
Word Processor/Administrative Staff	82

These rates are billed for both regular and overtime hours in all categories.

### General Expenses

Reimbursement for general expenses, which include field and laboratory equipment; computer equipment and software; printing and reproduction; communications and mailing; local transportation, tolls and parking; field vehicles; and field equipment will be invoiced based on a percentage of labor costs and type of project as follows:

- General consulting services and planning and feasibility studies – 4%
- Design and bid document preparation and geotechnical investigations – 6%
- Construction management and field observation – 8%

### Out of Town Travel and Subsistence

Reimbursement for expenses for travel, rental vehicles, hotels, meals, and other costs associated with out of town and overnight travel will be invoiced at cost plus a 10 percent service charge.

### Subcontractors and Subconsultants

Reimbursement for work performed by subconsultants and subcontractors will be invoiced at cost plus a 15 percent service charge.

### Contract Labor

Contract labor provided by independent consultants and temporary agencies for activities such as drafting, engineering, and word processing will be invoiced at the appropriate labor category as described above for professional services.

### Payment Terms

Invoices will be submitted monthly and are due Net 30 days. Interest will accrue at the rate of 1 percent of the invoice amount per month, for amounts that remain unpaid more than 30 days after the invoice date.







December 12, 2011  
Project 11116

Mark A. Perry, P.E.  
Dam Safety Engineer  
Colorado Division of Water Resources, Div. 2  
310 E. Abriendo Ave., Suite B  
Pueblo, CO 81004

**Re: Lake Beckwith Dam Recent Dam Crest Cracking and Settlement, DAMID: 150101**

Dear Mark:

The recent formation of longitudinal cracks and vertical displacement in the asphalt pavement on the Lake Beckwith Dam Crest on November 15, 2011 has prompted your office (SEO) to require a) the Colorado City Metropolitan District (District) to implement an increased monitoring and inspection program, b) a voluntary holding of the reservoir level not to exceed reservoir gage 9.5 feet, and c) the District to retain an experienced engineer to perform a number of engineering investigations and evaluations. The required engineering items are generally described as follows:

- A geotechnical investigation plan and evaluation of the dam to include borings, sampling, and testing. The investigation plan is to be reviewed and approved by the SEO prior to commencement of work.
- Installation of at least one inclinometer and the evaluation by the Engineer if additional inclinometers would be required.
- An evaluation of the need for additional piezometers.
- Seepage and slope stability analysis to identify if the dam meets minimum required factors of safety. If it is concluded that the dam does not meet minimum factors of safety, designs plans and specifications for remedial construction must be developed to address identified deficiencies.
- The development of a comprehensive instrumentation and monitoring plan.
- Updating the Emergency Action Plan (EAP) and computing an outlet flow capacity rating curve for the existing 14-inch-diameter siphon outlet.

In response to the newly discovered condition at the dam and the above referenced requirements, RJH has implemented the following actions on behalf of the Owner:

- Retained Dan Wachob, P.L.S., to re-survey previously surveyed points on the dam crest, slope, and toe and compare the new coordinates for these points to those obtained in August 2011. It was discovered in November 2011 that piezometer P3 dropped in elevation by 0.13 foot and moved laterally downstream by 0.10 foot. There was no visually discernable movement of the downstream slope and the re-survey of the slope confirmed the visual observations.
- The piezometers across the dam crest were cleaned, purged, and allowed to recover. It appears that after subsequent measurements of the piezometers, they are functioning as intended.
- RJH also performed an initial geotechnical investigation, which included a single boring and continuous sampling using a standard driven split-spoon sampler at the point of maximum visual settlement of the dam crest. The samples were visually classified and logged at the time of the boring. Laboratory tests were then performed on the samples to obtain additional information and to verify the field soil classifications. The boring log and laboratory testing results are attached for your reference. The general embankment soil profile was found to be a poorly consolidated silty clay. Standard penetration N-values in the upper 20 feet of embankment ranged from 4 to 9 and averaged 6. The consistency of the materials was generally medium stiff. (The moisture contents generally ranged from about 24 to 28 percent. Based on visual observations and soil classifications, we estimate that the optimum water content is in the range of about 20 to 24 percent. N values and moisture content increased with depth. The increase in N values could likely be attributed to the embankment settling over time. The increase in moisture content with depth could be attributed to seepage through the embankment at the deeper locations in the embankment. Bedrock was encountered at a depth of approximately 31.0 feet and consisted of conglomerate, sandy claystone, clayey sandstone, and sandstone. Fracturing ranged from unfractured to very intensely fractured and multiple mechanical breaks were identified during drilling. Except for the conglomerate, the bedrock was generally soft. Bedrock was cored to a depth of 45.0 feet at which point the boring hole was terminated.
- RJH is currently developing an updated EAP, which will include dam breach analysis and inundation mapping. We are also developing a flow rating curve for the existing 14-inch-diameter siphon outlet works. We intend to have both the EAP and rating curve completed by December 31, 2011.

Based on visual observations of the dam embankment, updated topographic survey of previously surveyed embankment points, and limited geotechnical investigation at the point of maximum dam crest settlement, it is our initial opinion that the observed cracks and settlement is likely the result of continued settlement of the poorly consolidated upper embankment layers.

There appears to be evidence that the embankment experienced a similar incident in the past. While performing visual observations of the dam crest pavement, it appeared that the west asphalt pavement lane had been overlaid sometime in the past but the east lane had not. A conversation with the now-retired county roads foremen confirmed that the west lane had dropped in elevation approximately 10 years ago and county forces filled in the west lane depressed area with additional asphalt surfacing.

No evidence of a slide developing in the downstream slope could be observed or measured. There is a relatively low phreatic surface in the embankment cross section, and no evidence of embankment piping into open joints in the foundation bedrock was observed in the boring at the maximum vertical displacement location.

To confirm our initial opinion, we propose to perform the following additional tasks:

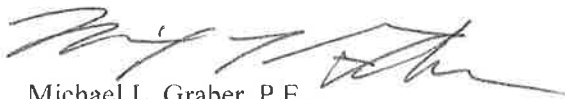
- An expanded geotechnical investigation and data collection. The scope of proposed work is attached for your reference and review.
- An embankment seepage and stability analysis of the embankment. The scope of proposed work is attached for your reference and review.
- Installation of additional survey monuments on the dam crest and downstream slope. A monument plan and detail is attached for your reference. An initial three-dimensional First Order Accuracy survey of the monuments will be performed after construction of the monuments. Subsequent first order measurements to be taken on a monthly basis with the frequency of the measurements to be adjusted as changing conditions at the dam warrant.

Once the instrumentation is installed and the initial survey is completed, we request the SEO allow the District to begin slowly refilling the reservoir at rate that does not exceed 0.5 vertical foot per day. The current monitoring and inspection schedule required by your office would continue until we have completed our geotechnical investigation, and seepage and stability analyses. We expect to have a more definitive opinion as to the cause of the observed problem and potential remediation that may be required, upon completion of the proposed tasks. The new survey monuments will be installed and initial measurements obtained within the next 30 days.

If you have any questions or would like to discuss any of these items, please contact me.

Sincerely,

RJH CONSULTANTS, INC.



Michael L. Graber, P.E.  
Project Manager

MLG/jmm

c: David Valdez, Colorado City Metropolitan District Manager

Attachments: Boring Logs  
Laboratory Test Results  
Geotechnical Investigation and Evaluation Plan  
Survey Monument Plan  
Survey Monument Detail and Section

LOG OF SOIL DRILL HOLE

BORING NO. B-101

PROJECT NAME Lake Beckwith

PROJECT NO 11116 SHEET 1 OF 7

LOCATION \_\_\_\_\_ GROUND EL \_\_\_\_\_

GW EL See p 3 DATE 11-23-11

BOTTOM OF OVERBURDEN (ft) 31.0 TOTAL DEPTH 65.0

DATE START 11-22-11 DATE FINISH 11-23-11

DRILLED BY HP-Grey LOGGED BY ABP

EL FEET	DEPTH FEET	SAMPLE				REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
		TYPE AND NO.	BLOWS PER 6 INCH	PEN INCH	REC INCH			
0						0-0.6' asphalt		<p style="text-align: center; font-size: 2em; font-weight: bold;">DRAFT</p> <p>lean clay w/ sand, mostly clay, 1/2 up!                      10-20% sand, fine gr, soft to med st. PP,                      moist, brown PP = 1#st, weak HCl rxn                      (cl) (Fill)</p> <p>similar to S-1</p> <p>similar to S-1</p> <p>similar to S-1</p> <p>similar to S-1, brown to black</p> <p>similar to S-5</p> <p>similar to S-5</p>
1						0.6-2.0' clayey sand cuttings		
2		S-1	2 2/2	1.5	0.9			
3								
4		S-2	3 8/12 2 8/6	1.5	1.0			
5								
6		S-3	1 1/3	1.5	0.9			
7								
8		S-4	2 8/12 2 8/6	1.5	1.1			
9								
10		S-5	1 1/3	1.5	0.9			
11								
12		S-6	1 2/3	1.5	0.9			
13								
						Drive through S-6 without augering to 11.0'		

BLOWS PER 6 INCH-140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2-INCH OD SPLIT SPOON SAMPLER  
 PEN-PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
 REC-RECOVERY LENGTH OF SAMPLE  
 S-SPLIT SPOON SAMPLE  
 U-UNDISTRUBED SAMPLES  
 UP-FIXED PISTON  
 UO-OSTERBERG  
 GROUNDWATER

OBSERVATIONS:  
 CME 550 buggy mounted rig and 8" HSA



LOG OF SOIL DRILL HOLE

BORING NO. B-161

PROJECT NAME Lake Beck with PROJECT NO. 11116 SHEET 2 OF     

LOCATION                      GROUND EL                      BOTTOM OF OVERBURDEN (ft)                      TOTAL DEPTH                     

GW EL                      DATE                      DRILLED BY HP Greg LOGGED BY ABP

EL FEET	DEPTH FEET	SAMPLE				REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
		TYPE AND NO.	BLOWS PER 6 INCH	PEN INCH	REC INCH			
14		S-8	1 1/3	1.5'	0.7			similar to S-5
15		S-9	2 1/4	1.5'	0.7			similar to S-1, med-stiff, black, + vegetation fibers
16		S-10	3 1/5	1.5'	0.8	Drove through S-9 without augering to 15.5'		similar to S-1, black
17		S-11	2 3/5	1.5'	0.8			similar to S-9 PP=2 + sf
18								
19		S-12	2 3/5	1.5'	0.9			similar to S-1, black
20								
21		S-13	2 3/5	1.5'	1.0			similar to S-1, black med to stiff PP=1.5 + sf
22		S-14	4 1/6	1.5'	0.8	Drove through S-13 without augering to 21.5'		similar to S-1, black, med to stiff, + organics
23								
24		S-15	2 2/3	1.5'	1.8			similar to S-1, PP=1 + sf softer with depth, black
25		S-16	2 3/4	1.5'	1.4			similar to S-1, black, PP=1 + sf + organics
26								

DRAFT

BLOWS PER 6 INCH-140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2-INCH OD SPLIT SPOON SAMPLER  
 PEN-PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
 REC-RECOVERY LENGTH OF SAMPLE  
 S-SPLIT SPOON SAMPLE  
 U-UNDISTRUBED SAMPLES  
 UP-FIXED PISTON  
 UO-OSTERBERG  
 ∇ GROUNDWATER

OBSERVATIONS:  


LOG OF SOIL DRILL HOLE

BORING NO. B-101

PROJECT NAME Lake Beckwith

PROJECT NO 11116

SHEET 3 OF

LOCATION \_\_\_\_\_ GROUND EL \_\_\_\_\_

BOTTOM OF OVERBURDEN (ft) 31.0

TOTAL DEPTH \_\_\_\_\_

GW EL \_\_\_\_\_ DATE \_\_\_\_\_

DRILLED BY HP Grey

LOGGED BY ABP

DATE START 11-22-11 DATE FINISH \_\_\_\_\_

EL FEET	DEPTH FEET	SAMPLE				REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
		TYPE AND NO.	BLOWS PER 6 INCH	PEN INCH	REC INCH			
26		S-17	5 7/9	1.5	1.5	Drove through S-16 without augering to 26.0'		similar to S-1 stiff to very stiff, black, tr organics, tr gravel, fine gr, ss/sa, max size 1/4" processed claystone
27								
28		S-18	3 6/8	1.5	1.5			similar to S-1, stiff to very stiff, black, tr organics, tr calcite veins, PP = 2.5-4 tsf
29		S-19	3 6/16	1.5	1.5			29.0-30.2 similar to S-1, black, stiff to very stiff, PP = 3.5 tsf tr organics
30								30.2-31.5 similar to S-1 brown med stiff to stiff PP = 2 tsf, tr organics
31		S-20	10 for 6" 50 for 1"	0.6	0.5	Drove through S-19 without augering to 30.5'		30.5-31.0 similar to 29.0-30.2
32	32.0	S-21	50 for 0	0	0	31.0-32.0 slow hard augering		31.0-31.1 sandstone, mostly sand, f/m gr < 10% fines, st wxd
33						Augered 32.0-33.5 without center plug		S-21 No Recovery
34								
35								
36								
37								
38								
39								

**DRAFT**

BLOWS PER 6 INCH-140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2-INCH OD SPLIT SPOON SAMPLER  
 PEN-PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
 REC-RECOVERY LENGTH OF SAMPLE  
 S-SPLIT SPOON SAMPLE  
 U-UNDISTURBED SAMPLES  
 UP-FIXED PISTON  
 UO-OSTERBERG  
 GROUNDWATER

OBSERVATIONS:  
 Bottom of hole was dry after completion of augering  
 Also dry 11-23-11 o n



water @ 15.0' upon completion of drilling  
 water @ 24.5' w 1/2 hour after drilling

LOG OF DRILL HOLE

BORING NO. B-101

PROJECT NAME Lake Beckwith

PROJECT NO. 11116 SHEET 4 OF 4

LOCATION \_\_\_\_\_ GROUND EL \_\_\_\_\_ BEARING \_\_\_\_\_ PLUNGE 90

GW EL \_\_\_\_\_ DATE \_\_\_\_\_ OVERBURDEN DEPTH \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_

DATE START 11-22-11 DATE FINISH \_\_\_\_\_ DRILLED BY HP. Grey LOGGED BY ABP

DEPTH - FEET	NOTES: GROUNDWATER DEPTH, DRILLING CONDITIONS, HOLE COMPLETION, ETC.	INTERVAL	PENETRATION (FT)	RECOVERY (FT)	RECOVERY %	ROD (FT)	ROD %	CORING TIME	NO. OF PIECES	LONGEST (FT)	SHORTEST (FT)	HARDNESS	IN-SITU TESTING	GEOLOGIC AND ENGINEERING DESCRIPTION	JOINT DESCRIPTION	JOINT SYMBOL	
32	NQ-1	32.0 - 33.0	2.5	83	1.8	60	3	0	0.6	0.1	3-4			Conglomerate, mostly sand, f/c, s/s 30-40% gravel and cobbles, f/c, s/s, max size = 2" c 10% fines, sl wxd - fresh, some gravel particles int wrd mod fxd, gray, moist	clean, rough	CL	
33	Previously augered 32.0-33.5 w/out center plug																
34	32.5-34.5 No circ																
35	NQ-2	35.0 - 40.0	2.5	25	2.5	50	6	7	0.6	0.2	2-4			35.0-36.0 conglomerate similar to NQ-1		MB	
36	No Circ													36.0-40.0 sandy claystone mostly fines, m h pl, 20-30% sand fine gr, sl-mod wxd, unfixed, H7, very soft, increasing hardness w/ depth, gray, moist to wet		MB	
37																	
38														PP = 2.5 t/sf @ 38.5' 5.0 t/sf @ 39.9'			
39														<b>DRAFT</b>			
40	NQ-3	40.0 - 42.5	2.4	48	2.4	48	7	0.5	0.1	0.1	7			40.0-42.5 similar to 36.0-40.0 based on drilling conditions		MB	
41	No circ													40.0-44.2 clayey sandstone, mostly sand, fine gr, 20-30% fines, 1/4 m pl, mod-int wxd, unfixed, H7, gray, moist		MB	
42	harder drilling w/ depth																

OBSERVATIONS:

CME SSO buggy mounted rig and NQ coring



# LOG OF DRILL HOLE

BORING NO. B-101

PROJECT NAME \_\_\_\_\_ PROJECT NO. 11116 SHEET 5 OF \_\_\_\_\_  
 LOCATION \_\_\_\_\_ GROUND EL \_\_\_\_\_ BEARING \_\_\_\_\_ PLUNGE \_\_\_\_\_  
 GW EL \_\_\_\_\_ DATE \_\_\_\_\_ OVERBURDEN DEPTH \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_  
 DATE START \_\_\_\_\_ DATE FINISH \_\_\_\_\_ DRILLED BY \_\_\_\_\_ LOGGED BY \_\_\_\_\_

DEPTH - FEET	NOTES: GROUNDWATER DEPTH, DRILLING CONDITIONS, HOLE COMPLETION, ETC.	INTERVAL	PENETRATION (FT)	RECOVERY (FT)	RECOVERY %	RQD (FT)	RQD %	CORING TIME	NO. OF PIECES	LONGEST (FT)	SHORTEST (FT)	HARDNESS	IN-SITU TESTING	GEOLOGIC AND ENGINEERING DESCRIPTION	JOINT DESCRIPTION	JOINT SYMBOL
42														44.2-50-45.0 sandstone, mostly sand & mgs, s/s f. bones, 1/m pl, v. wxd, oxidized throughout, unford, H7, orange, moist	MB's	
43																
44																
45	NQ-4	45-50	2.9	5.8	1.6	3.2	3	10	0.9	0.1	7			similar to 44.2-45.0, mod Fred		
46																
47																
48															MB	
49															tight sl rgn clean	
50															MB	

**DRAFT**

OBSERVATIONS:





# LOG OF DRILL HOLE

BORING NO. B-101

PROJECT NAME \_\_\_\_\_ PROJECT NO. 11116 SHEET 6 OF \_\_\_\_\_  
 LOCATION \_\_\_\_\_ GROUND EL \_\_\_\_\_ BEARING \_\_\_\_\_ PLUNGE \_\_\_\_\_  
 GW EL \_\_\_\_\_ DATE \_\_\_\_\_ OVERBURDEN DEPTH \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_  
 DATE START \_\_\_\_\_ DATE FINISH \_\_\_\_\_ DRILLED BY \_\_\_\_\_ LOGGED BY \_\_\_\_\_

DEPTH - FEET	NOTES: GROUNDWATER DEPTH, DRILLING CONDITIONS, HOLE COMPLETION, ETC.	INTERVAL	PENETRATION (FT)	RECOVERY (FT)	RECOVERY %	ROD (FT)	ROD %	CORING TIME	NO. OF PIECES	LONGEST (FT)	SHORTEST (FT)	HARDNESS	IN-SITU TESTING	GEOLOGIC AND ENGINEERING DESCRIPTION	JOINT DESCRIPTION	JOINT SYMBOL
50	NQ-5	50-55	5.0	2.9	58	1.9	38	4	0.8	0.1	6-7		52.1-52.9 similar to 44.2-45.0			
51													52.9-53.4 sandstone, mostly sand, f/m gr, c 5% fines, sl wxd, int-vi frxd, H6, moist gray			
52													53.4-55. sandstone w/ claystone interbeds. sandstone is mostly sand, f/m gr, c 5% fines, orange, moist claystone interbeds are mostly fines, 1/m pl, c 15% sand, fine gr, black, moist, <0.1" thick, H7	tight clean sl rgh		
53													v.i. wxd v.i frxd 53.4-53.8 unfrxd 53.8-55.0			
54																
55	NQ-6	55-60	5.0	2.1	42	5	0.3	6-7					55-59.2 similar to 53.4-55, mod to vi frxd			
56													59.2-59.8 sandy claystone similar to 36-40, sl wxd-fresh, unfrxd, H7			
57													59.8-60.0 similar to 53.4-55 52.9-53.4	tight smooth to sl rgh clean to v thin oxidation		
58													int wxd, H7, orange			
59																
60																

**DRAFT**

OBSERVATIONS:

5 min



# LOG OF DRILL HOLE

BORING NO. B-101

PROJECT NAME Lake Beckwith

PROJECT NO. 11116

SHEET 7 OF 7

LOCATION \_\_\_\_\_ GROUND EL \_\_\_\_\_

BEARING \_\_\_\_\_ PLUNGE \_\_\_\_\_

GW EL \_\_\_\_\_ DATE \_\_\_\_\_

OVERBURDEN DEPTH \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_

DATE START \_\_\_\_\_ DATE FINISH \_\_\_\_\_

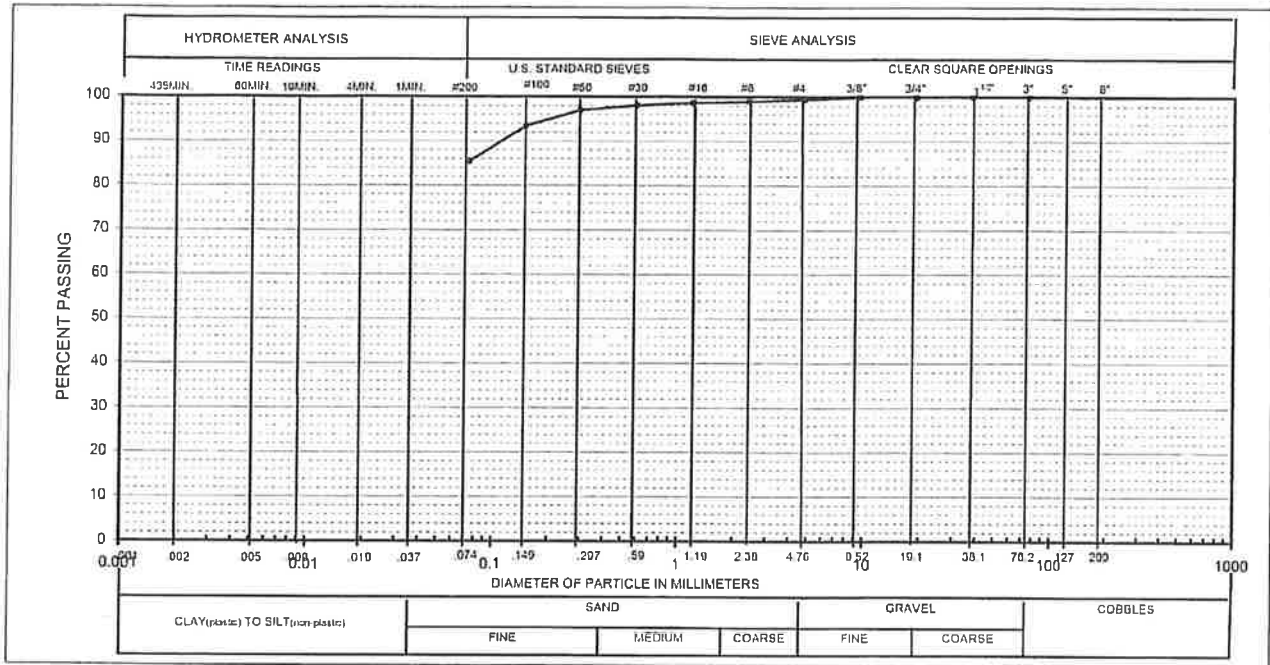
DRILLED BY \_\_\_\_\_ LOGGED BY \_\_\_\_\_

DEPTH - FEET	NOTES: GROUNDWATER DEPTH, DRILLING CONDITIONS, HOLE COMPLETION, ETC.	INTERVAL	PENETRATION (FT)	RECOVERY (FT)	RECOVERY %	ROD (FT)	ROD %	CORING TIME	NO. OF PIECES	LONGEST (FT)	SHORTEST (FT)	HARDNESS	IN-SITU TESTING	GEOLOGIC AND ENGINEERING DESCRIPTION	JOINT DESCRIPTION	JOINT SYMBOL
60	NQ-7	60-65	5	4.7	94	4.7	94	5	8	1.0	0.1	6		60-62.2 sandstone, mostly sand, slm gr, 40% fines, 1/m pl, vi wxd, sl frad, H7 orange	MB	
61														60.0-60.6 and 61.4-62.2		
62														60.6-61.4 sl wxd, sl frad, H6 gray	smooth to sl rph, clean to v thin oxidation	
63														62.2-64.7 clayey sandstone mostly sand, fine gr, 10-20% fines, 1/m pl, sl wxd-fresh, v. sl. frad, H7 moist, gray	tight, smooth v thin clay	
64																MB
65																MB

**DRAFT**

OBSERVATIONS:



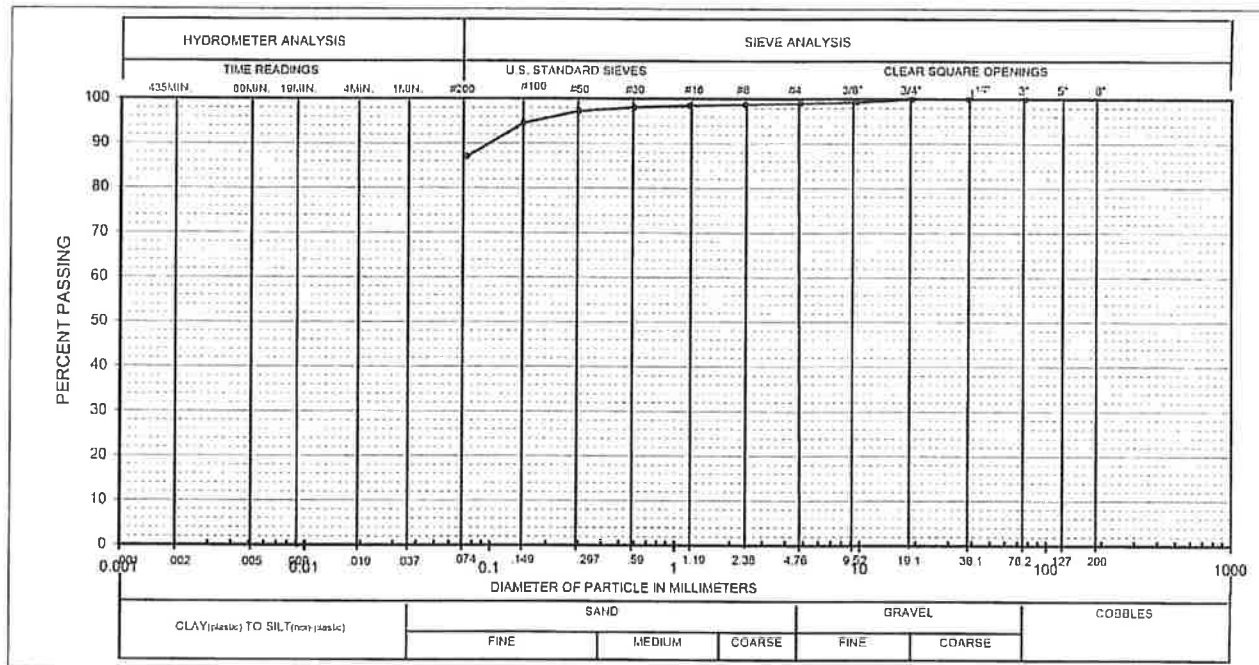


GRAVEL: 1%  
 LIQUID LIMIT:  
 SAMPLE OF: Lean Clay with Sand

SAND: 14%

SILT AND CLAY: 85%  
 PLASTICITY INDEX:  
 BORING: B-101  
 DEPTH: 6.5-8.0 ft  
 SAMPLE ID: S-4

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	100
3/8"	100
No. 4	99
No. 8	99
No. 16	99
No. 30	98
No. 50	97
No. 100	93
No. 200	85

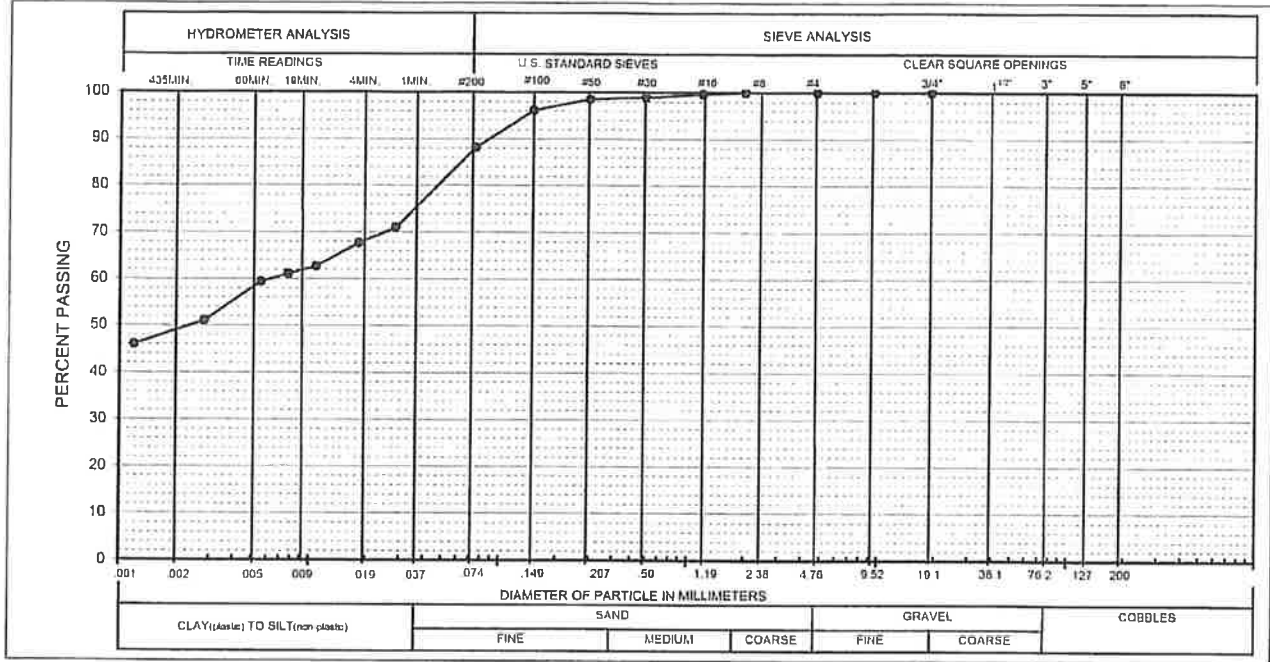


GRAVEL: 1%  
 LIQUID LIMIT:  
 SAMPLE OF: Lean Clay with Sand

SAND: 12%

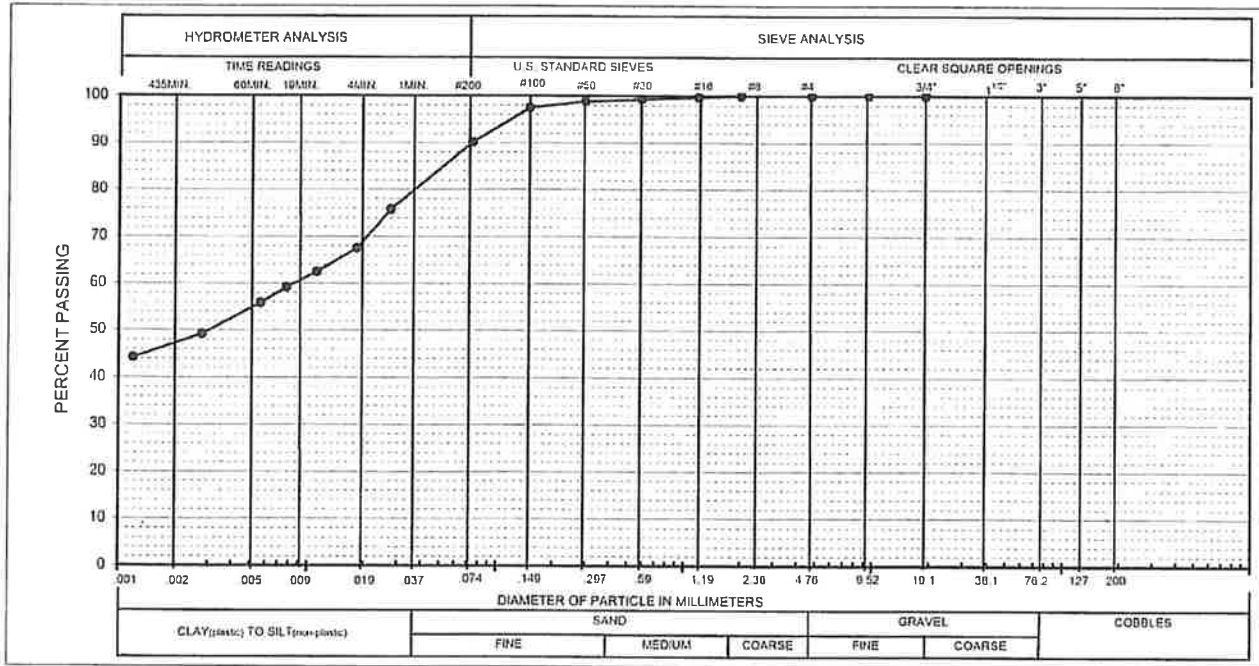
SILT AND CLAY: 87%  
 PLASTICITY INDEX:  
 BORING: B-101  
 DEPTH: 26.0-27.5 ft  
 SAMPLE ID: S-17

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	100
3/8"	99
No. 4	99
No. 8	99
No. 16	98
No. 30	98
No. 50	97
No. 100	94
No 200	87



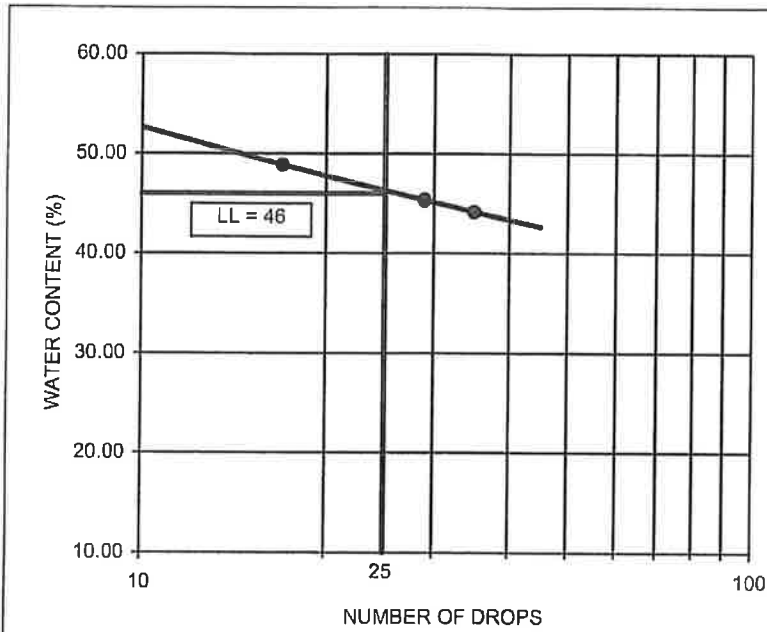
GRAVEL: 0%                      SAND: 12%                      SILT / CLAY: 88%  
 LIQUID LIMIT: -                      PLASTIC INDEX: -  
 BORING: B-101  
 DEPTH: 9.5-11 ft  
 SAMPLE ID: S-6

Sieve Size / Particle Diameter	Percent Passing
(1")	100
(3/4")	100
(1/2")	100
(3/8")	100
(#4)	100
(#10)	100
(#16)	100
(#30)	99
(#50)	98
(#100)	96
(#200)	88
0.028	71
0.018	68
0.011	63
0.008	61
0.006	59
0.003	51
0.001	46

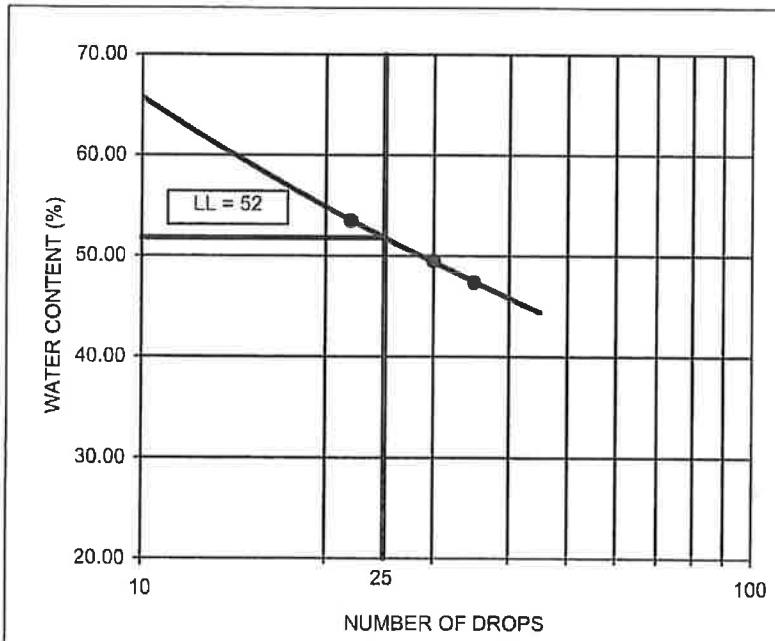


GRAVEL: 0%                      SAND: 10%                      SILT / CLAY: 90%  
 LIQUID LIMIT: -                      PLASTIC INDEX: -  
 BORING: B-101  
 DEPTH: 20.0-21.5 ft  
 SAMPLE ID: S-13

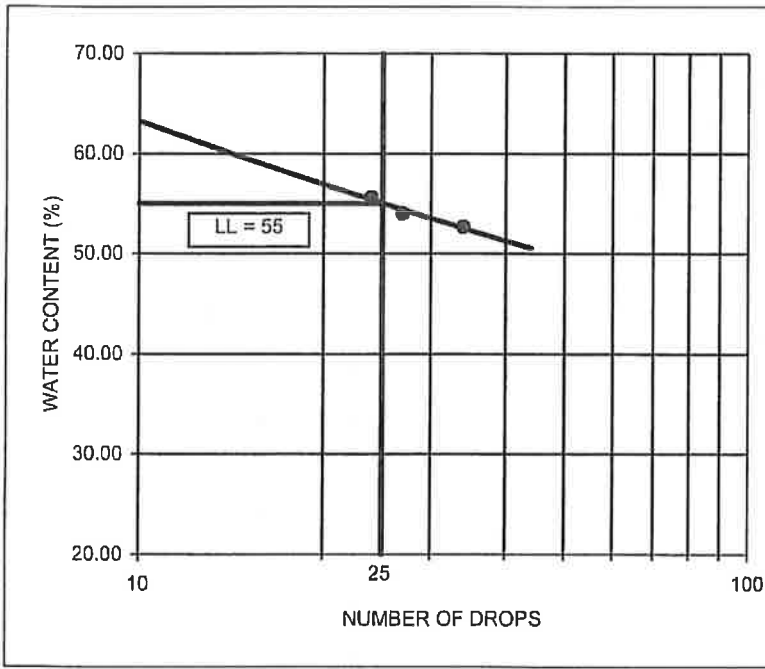
Sieve Size / Particle Diameter	Percent Passing
(1")	100
(3/4")	100
(1/2")	100
(3/8")	100
(#4)	100
(#10)	100
(#16)	100
(#30)	99
(#50)	99
(#100)	97
(#200)	90
0.027	76
0.018	67
0.011	62
0.008	59
0.006	56
0.003	49
0.001	44



Sample Location:	B-101
Sample Number:	S-4
Depth:	6.5-8.0 ft
Material Type:	Lean Clay with Sand
Liquid Limit:	46
Plastic Limit:	15
Plastic Index:	31



Sample Location:	B-101
Sample Number:	S-10
Depth:	23.0-24.5 ft
Material Type:	Lean Clay with Sand
Liquid Limit:	52
Plastic Limit:	16
Plastic Index:	36



Sample Location:	B-101
Sample Number:	S-4
Depth:	26.0-27.5 ft
Material Type:	Lean Clay with Sand
Liquid Limit:	55
Plastic Limit:	17
Plastic Index:	38





**LAKE BECKWITH GEOTECHNICAL INVESTIGATION AND EMBANKMENT  
EVALUATION PLAN  
December 12, 2011**

**Work Tasks**

The following described tasks address the investigation and evaluation phase only. If dam safety deficiencies are identified during this phase, a separate proposal will be prepared for the development of remediation alternatives and designs, plans, and specifications for construction of the preferred remediation alternative. The proposal will also include development of a long-term monitoring and instrumentation plan which will be based on the results of the completed investigation and evaluation phase.

Updating of the EAP and development of a flow capacity rating curve for the existing 14-inch-diameter siphon is included in the current work tasks RJH is performing for the District and is scheduled to be completed by December 31, 2011.

***Tasks:***

- Task 1 –Geotechnical Investigations and Data Collection
- Task 2 – Embankment Analyses

**Task 1 –Geotechnical Investigations and Data Collection.**

***Objectives:*** Collect subsurface data to evaluate safety and stability of the dam and address concerns identified in correspondence from the Colorado State Engineers Office of Dam Safety (SEO). Prepare a geotechnical data report to present the results of our work.

***Subtasks:***

- Prepare an investigation plan, as necessary, and obtain approval from the SEO to perform the work.
- Obtain all necessary permits and prepare all agreements for field exploration and testing and prepare a site-specific Health and Safety Plan prior to the start of fieldwork.
- Coordinate with the surveyor to survey the borings in the field.
- Coordinate with utility companies to obtain utility clearance for drilling.
- Advance an estimated four borings/corings to up to approximately 85 feet below the ground surface with hollow-stem augers (HSA) or coring methods as described in Table 1.

**TABLE 1**

<b>Boring</b>	<b>HSA Depth (ft)</b>	<b>Coring Depth (ft)</b>	<b>Total Depth (ft)</b>	<b>Purpose<sup>(1)</sup></b>
B-102	60	25	85	Crest at max section, install inclinometer
B-103	40	25	65	Crest at left abutment
B-104	20	30	50	Toe angled into left abutment
B-105	20	30	50	Toe angled into right abutment

Note:

1. Vertical borings through the embankment allow for sampling of embankment materials. Angled borings through the toe of the embankment into the abutment allow for evaluation of fracture orientations and joint sets. Many of the joints in adjacent outcrops are nearly vertical or horizontal and a vertical boring may not encounter several joints.

- Soil sampling will be at approximate 2.5- to 5-foot intervals. Coring will generally be continuous in rock. Soil sampling will be conducted primarily with 3-inch inside-diameter (I.D.) Shelby tube samples to obtain undisturbed samples and unlined 2.0-inch outside-diameter (O.D.) split-spoon samplers in accordance with ASTM D 1586 using an automatic hammer. In addition, 2.5-inch O.D. California samplers will be used at the discretion of the supervising field engineer. RJH will obtain pocket penetrometer/torvane readings on clay and silt samples obtained during drilling. RJH will record and report blowcounts for each 6-inch interval, report sample recovery, and calculate and report Rock Quality Designation (RQD) for all rock cores. RJH will store the soil and rock samples not subject to laboratory testing for 12 months. RJH will backfill borings with cement-bentonite grout. RJH will box all cores in wooden core boxes with lids, prepare field logs concurrent with drilling, and photograph all core and selected soil samples.
- Install one inclinometer in the boring through the maximum section of the embankment. The inclinometer will extend to the bottom of the boring.
- Perform an initial measurement of the inclinometer to obtain baseline data.
- Conduct in-situ hydraulic conductivity testing in rock using a single packer apparatus at about 10-foot intervals. RJH anticipates performing an estimated 11 Packer tests. These tests are intended to provide seepage data through bedrock to better understand estimated reservoir seepage losses.
- Perform quality assurance review of field classifications by senior engineer/geologist. Review field boring logs to develop draft boring logs.
- Perform laboratory tests in accordance with applicable ASTM standards to assist in soil/rock classification and to provide estimates of strength and compressibility. Anticipated laboratory tests (and quantities) include:

<b>Test</b>	<b>Number of Tests</b>
Moisture Content	8
Moisture Content and Density <sup>(1)</sup>	20
Atterberg Limits	8
Grain Size Analysis (without gravel)	8

Test	Number of Tests
Unconfined Compressive Strength	3
Triaxial Shear Unconsolidated Unconfined	4
Consolidation Tests	2
Crumb Test	4
Permeability	1

Note:

1. Performing moisture density tests on embankment fill allows for development of a density profile through the embankment and to evaluate settlement of the embankment.

- Prepare final boring logs based on results of laboratory testing.
- Assemble appendices including photographs, boring logs, and laboratory test data.
- Organize the collected data by general geologic units.
- Prepare a Geotechnical Data Report that will present the data collected.
- Manage and coordinate work to be performed and prepare and submit monthly invoices and progress reports. RJH will actively manage the project to maintain schedules and work within budgets to achieve project objectives efficiently. This will include periodic internal team meetings.
- Participate in an estimated one project progress meeting with the District and the SEO to discuss the data collected.

***Deliverables:***

- Three copies and an electronic version in .pdf format of the Geotechnical Data Report.
- Three copies and an electronic version in .pdf format of meeting minutes.

**Task 2 – Embankment Analyses**

***Objectives:*** Perform engineering analyses to evaluate the seepage, stability, and settlement of the embankment and the potential cause of the cracks in the embankment crest. Evaluate if remedial measures are required to maintain dam safety to meet the requirements of the SEO.

***Subtasks:***

- Evaluate the collected geotechnical field and laboratory data and develop material properties for the existing dam embankment and foundation.
- Perform seepage analyses to estimate the total expected flow from the abutments, foundation, and dam; and to support evaluation of seepage stability.
- Perform two-dimensional limit equilibrium stability analyses to evaluate the existing dam stability to determine if the embankment meets the required slope stability factors of safety.
- Perform filter compatibility analyses to evaluate filter compatibility between embankment and foundation materials.

- Perform settlement analyses to evaluate potential future settlement of the embankment.
- Prepare a Geotechnical Engineering Report to document the analyses, conclusions, and recommendations for future rehabilitation.
- Manage and coordinate work to be performed and prepare and submit monthly invoices and progress reports. RJH will actively manage the project to maintain schedules and work within budgets to achieve project objectives efficiently. This will include periodic internal team meetings.
- Participate in an estimated one project progress meeting with the District and the SEO to discuss the data collected.

***Deliverables:***

- Three copies and an electronic version in .pdf format of the Geotechnical Engineering Report.
- Three copies and an electronic version in .pdf format of meeting minutes

**Schedule**

We anticipate that we can complete the project within 4 months after we receive notice to proceed.



MONUMENT LOCATIONS

POINT NAME	NORTHING	EASTING
SM-1	1462847.87	3184379.98
SM-2	1462847.85	3184379.95
SM-3	1462847.83	3184379.93
SM-4	1462847.81	3184379.91
SM-5	1462847.79	3184379.89
SM-6	1462847.77	3184379.87
SM-7	1462847.75	3184379.85
SM-8	1462847.73	3184379.83
SM-9	1462847.71	3184379.81
SM-10	1462847.69	3184379.79
SM-11	1462847.67	3184379.77
SM-12	1462847.65	3184379.75

THE SHELLS AND THE BEAS AND BOUNDS INCORPORATED HEREIN IS THE PROPERTY OF RANGER WATER AND SEWERAGE DISTRICT NO. 10 IN WHOLE OR IN PART, FOR ANY OTHER PROJECT OR PROJECTS, THE DISTRICT HAS WATER AND SEWERAGE DISTRICT AND R/W CONSULTANT'S, INC.

NO.	DATE	ISSUE/REVISION	DES.	DRN.	CHK.	APP.

ISSUE/REVISION

RJH CONSULTANTS, INC.

COLORADO CITY LAKE BECKWITH RESERVOIR

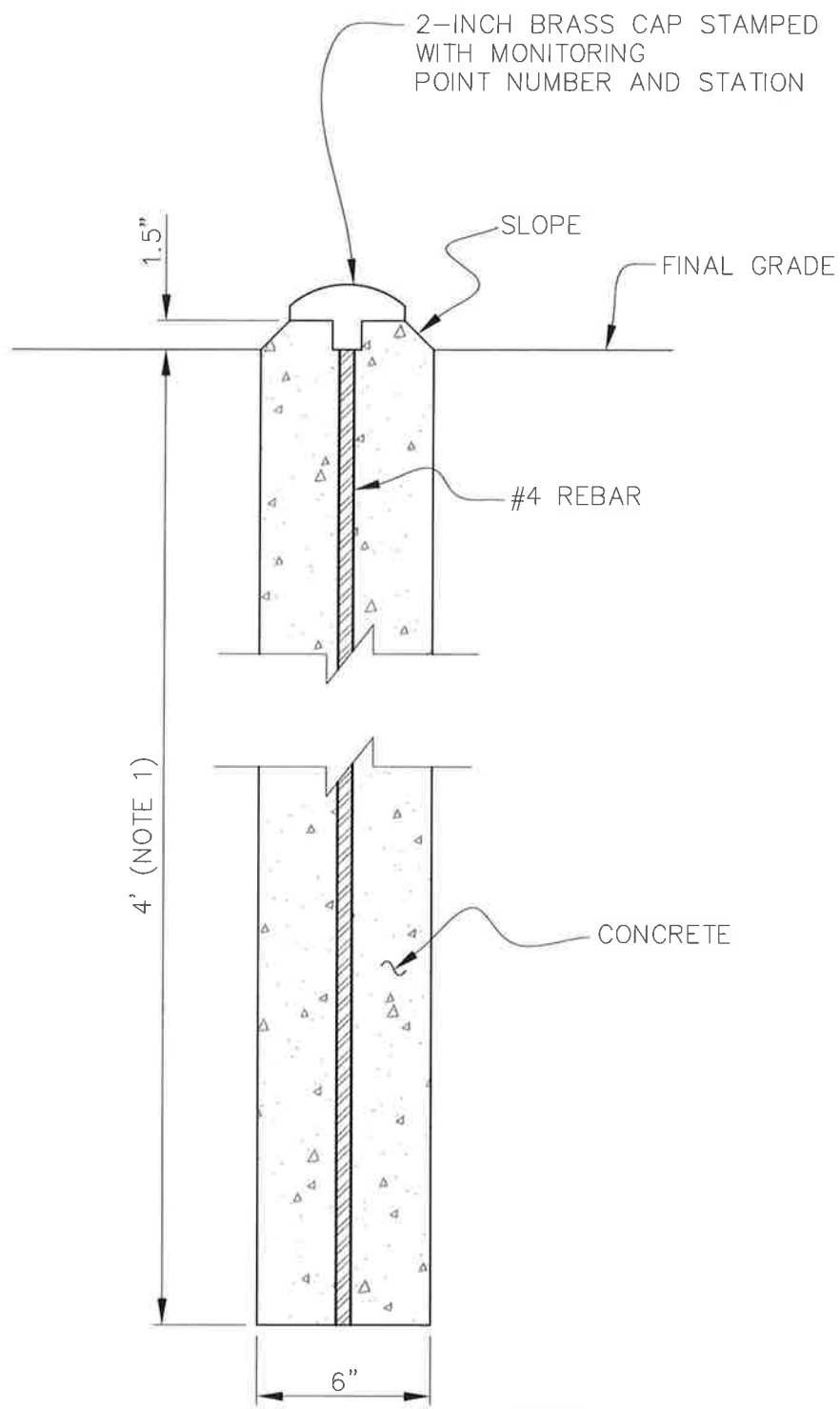
SURVEY MONUMENTATION PLAN

RJH PROJECT 11116


DWG. NO.

SHEET NO. of

P:\11116 - LAKE BECKWITH\CAD\DETAILS\MONITORING\_POINT.DWG 11/30/2011 1:43 PM



NOTE:  
1. MINIMUM 3 FEET EMBEDMENT INTO SOIL.

	LAKE BECKWITH	MONITORING POINT
	PROJECT NO. 11116	December 2011 <b>Figure 1</b>







## MEMORANDUM

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Project 15132

**TO:** David Valdez – Colorado City Metropolitan District

**FROM:** Michael Graber, P.E. - RJH Consultants, Inc. *Michael E. Graber*

**DATE:** January 22, 2016

**RE:** Lake Beckwith Dam Outlet Works Rehabilitation Project  
Alternatives Evaluation Memorandum

---

### Section 1 – Introduction

#### 1.1 Purpose

The purposes of this memorandum are to present the methodology, results, and conclusions of the alternatives evaluation performed by RJH Consultants, Inc. (RJH) for the Lake Beckwith Dam Outlet Works Rehabilitation (Project) for the Colorado City Metropolitan District (District).

#### 1.2 Objectives

The objectives of the alternatives evaluation are as follows:

- Identify conceptual-level alternatives for rehabilitation of the outlet works.
- Develop a conceptual-level Opinion of Probable Construction Cost (OPCC) for each alternative.
- Identify the general advantages and disadvantages for each alternative.
- Identify and recommend a preferred alternative to move forward into final design.

#### 1.3 Project Location and Background

Lake Beckwith Dam is a high-hazard dam located on an unnamed tributary to Greenhorn Creek. The dam is located in Colorado City, Colorado near the intersection of Cuerno Verde Boulevard and St. Vrain Drive. The site is located in Section 23, Township 24 South, Range 67 West of the 6th Principal Meridian. The Project location is shown on Figure 1.1.

The dam was constructed in circa 1911 and consists of an earthen embankment with a concrete apron spillway that discharges to Scroggs Arroyo to the north of the dam. The abandoned (original) low-level outlet works is no longer functioning and reservoir releases are controlled by a 14-inch-diameter siphon, which discharges to a water treatment plant below the dam and to the Hollydot Golf Course irrigation system. The siphon outlet works does not meet Colorado Office of the State Engineer (SEO) requirements because of inadequate hydraulic capacity and requires rehabilitation.

#### 1.4 Scope of Services

RJH performed the following services for this phase of the Project:

1. Developed rehabilitation alternatives to meet SEO requirements and District operational criteria.
2. Performed engineering analyses to identify conceptual-level sizes and configurations for each alternative.
3. Developed drawings in 11- by 17-inch format for each alternative to illustrate the concept and to support development of cost opinions.
4. Estimated quantities of primary components of each alternative.
5. Developed an OPCC for each alternative.
6. Identified and summarized the general advantages and disadvantages of each alternative.
7. Participated in a meeting with the District to discuss the alternatives.
8. Prepared this memorandum.

### **1.5 Existing Conditions**

Lake Beckwith Dam is a homogenous earthfill embankment consisting of lean clay, lean clay with sand, fat clay, and clayey sand materials. Based on design drawings reproduced by Hepworth-Pawlak Geotechnical, Inc. (HP) (1998), the original embankment was approximately 60 feet high and 510 feet long, with a 20-foot-wide crest. The upstream and downstream slopes were at about 3 horizontal to 1 vertical (H:V) and 2H:1V, respectively.

Between 1954 and 1962, the dam crest was widened approximately 16 feet by placing fill on the downstream slope to a final approximate grade of 2.5H:1V to accommodate construction and paving of Cuerno Verde Boulevard. In 1969, a bench was excavated into the downstream slope between Elevation (El.) 6070 and El. 6080 to install telephone lines. To accommodate the bench, the embankment slope above the bench was steepened to approximately 1.5H:1V. In 1992, the crest was widened upstream by an additional 15 feet by adding riprap to accommodate a multi-use trail. The exterior slope of the riprap is at approximately 2H:1V.

Cracking and deformation of the crest and Cuerno Verde Boulevard are visible and are considered to be the result of embankment settlement (*Geotechnical Data and Engineering Report*, RJH 2012). Twelve monitoring points were installed in February 2012 by Wachob & Wachob, Inc. to monitor embankment movement. Based on survey measurements since that time, the dam has moved up to several inches both horizontally and vertically at several of the monuments.

Minor seepage has historically been observed at the dam. Ten piezometers were installed in 1977 and an additional piezometer and inclinometer were installed in 2011 to measure piezometric levels and movement within the dam embankment. A 6-inch drain tile is located at the toe of the dam, and based on evaluations by Lincoln and Devore (1977), the tile significantly lowers the piezometric surface within the dam. The dam does not have filters or other seepage control systems.

The original outlet works consisted of a concrete riser structure with a 16-inch-diameter cast iron low-level outlet works pipe. In approximately 1984, a slip liner was installed in the outlet works pipe as part of a rehabilitation project. However, the liner pipe collapsed during construction and the outlet pipe filled with grout during this process. The outlet works pipe was subsequently abandoned. In approximately 2002, a half-circle steel fabrication was attached to the south side of the abandoned concrete outlet tower and a siphon was installed. The steel attachment included four selective withdrawal intake openings. Flow through the

intake openings is controlled by 14-inch slide gates. The slide gates are operated manually from the riser stem located on top of the abandoned outlet tower.

The siphon consists of a 14-inch-diameter PVC pipe. The siphon pipe extends approximately 450 feet from the intake structure to a concrete manhole located just south of the right dam abutment. An air-vacuum valve is located in the manhole and is used to prime the siphon. From the manhole, the siphon pipe extends an additional 850 feet to a wye fitting located south of the District water treatment plant. From the wye fitting, flow can either be discharged to the water treatment plant or to the Hollydot Golf Course irrigation system. For emergency discharges, a blind flange from the wye can be removed so that flow through the siphon can be discharged directly to the unnamed tributary channel north of the wye. A plan of the existing facilities is presented on Figure 1.2.

RJH previously performed a hydraulic evaluation of the existing siphon outlet works to estimate the capability for meeting the SEO requirement for evacuating the top 5 feet of reservoir storage in 5 days. Based on the results of this analysis, the existing outlet works can evacuate the top 5 feet of reservoir storage in approximately 15.5 days. The minimum capacity required to release the upper 5 feet of the reservoir within 5 days is estimated to be about 35 cubic feet per second (cfs) and the current capacity is about 11.5 cfs.

The spillway consists of a concrete apron spillway that discharges to Scroggs Arroyo to the north of the dam. The SEO performed an in-house flood hydrology and spillway routing analyses in May 2011. According to their evaluation, the general storm is passed with 0.2 foot of freeboard and the local storm is passed with 0.5 foot of freeboard. Both of these are less than the SEO residual freeboard requirement of 1 foot. The existing freeboard of the dam is approximately 4.5 feet. However, the SEO is not requiring modification at this time.

### **1.6 Key Design Considerations**

Based on RJH's understanding of the Project objectives, constraints, and site conditions, RJH has identified the following key considerations that will influence design of the Project:

- The reservoir water level will likely not be lowered for construction to facilitate continuous operation of the District's water treatment plant.
- Portions of the rehabilitation work may need to be performed with divers and underwater construction techniques.
- The abandoned outlet works pipe may intersect alluvial materials below the embankment. Significant seepage is anticipated to occur through the alluvium and erosion of alluvial soils along the existing outlet conduit is a probable failure mode that should be addressed with the rehabilitation.
- Flow measurement in the new outlet works pipe will not be required.
- Currently, the concrete manhole containing the air-vacuum valve becomes inundated at high reservoir levels and, when this occurs, the existing siphon can become difficult to operate because the manhole is not accessible.
- Limited detail and data is available regarding the condition of the existing concrete riser structure and abandoned outlet work pipe.
- Because manual operation of control valves is acceptable, automated or remote operation is not required.
- Modifications to the outlet works should accommodate discharges to the water treatment plant, golf course, and downstream channel (for emergency releases).

- A low-level outlet through the embankment is not required but would be desirable for draining the reservoir in the future.

## **Section 2 – Modifications**

### **2.1 General**

RJH developed three conceptual-level outlet works rehabilitation alternatives. The alternatives range from constructing a parallel siphon to constructing new low-level gravity outlet works. For each of the alternatives, a diaphragm sand filter collar would be installed at the downstream end of the abandoned outlet works pipe to address the potential failure mode of erosion along the abandoned conduit. A description of the each alternative is presented below.

#### **2.1.1 Alternative 1: Parallel Siphon**

Alternative 1 generally includes constructing a new HPDE siphon adjacent to the existing siphon. The combined hydraulic capacity of both siphons would meet SEO reservoir drawdown criteria. A general plan of Alternative 1 is provided on Figure 2.1. Alternative 1 would include the following components:

- Installing a new pre-cast reinforced concrete intake structure with an 18-inch manual operated slide gate located immediately adjacent to the existing concrete intake tower.
- Installing a new 18-inch-diameter HDPE siphon that generally parallels the alignment of the existing siphon pipe.
- Removing and replacing the existing concrete manhole to prevent inundation during high reservoir levels. The new manhole would be at the parking area along the right abutment to provide continuous access. Air-vacuum valves for both the existing and new siphon pipelines would be located in the manhole.
- Installing downstream control valves and necessary fittings (i.e., wyes, tees, etc.) to convey water from the new siphon pipe to the water treatment plant, golf course, or downstream channel.
- Installing a 24-inch-diameter HDPE pipe downstream of the control valves. The two siphon pipes will be combined into the single 24-inch-diameter pipe.
- Installing a new reinforced concrete outlet structure along the downstream channel.

The pre-cast intake structure would be placed, supported, and connected to the outlet works pipes using underwater construction techniques. We have successfully used this approach for several other outlet works rehabilitation projects. The intake structure would be located directly adjacent to the existing riser intake structure. This is the lowest part of the reservoir and would accommodate draining most of the reservoir through the new siphon. A manually-actuated slide gate would be located at the upstream end of the siphon pipe and the gate stem would be mounted to the exterior of the existing intake structure. This would allow the slide gate to be operated from the top of the existing intake structure. The valve stem would be mounted directly to the side of the concrete intake structure and the operator mounted to the top of the structure. A plan and section of the new intake structure are presented on Figure 2.2.

Alternatively, the new siphon pipe could be connected directly to the existing riser intake structure. This would eliminate the need for a new low-level intake structure. The pipe would be installed by drilling (i.e., coring) through a wall of the existing concrete riser structure. This may provide some costs savings; however, limited information is known about the structural

condition of the riser intake and additional underwater inspections would be required to confirm this concept is feasible and to support final design.

The upstream control gate could be closed to accommodate reservoir withdrawals through the selective withdrawal intake gates at the existing intake structure. This may be desirable from a water quality perspective.

The new siphon pipe alignment would extend across Cuerno Verde Boulevard. The road would need to be temporarily closed during construction to accommodate trench excavation and pipe installation. We anticipate the road closure would be 2 to 5 days. The road would need to be repaired following pipe installation.

Once the siphon construction is completed, initial priming of the siphons will be required. With downstream valves closed, both siphon pipes will be completely filled with water by pumping from the reservoir. Once filled, the downstream valves will be opened and water will begin to flow through the siphon pipe because of the differential head between the intake end of the siphon and the discharge end. Residual air in the siphon pipes will be discharged through the air relief valves. The siphons will remain continuously full and charged unless pressure is lost.

The new siphon would merge with the existing siphon downstream of the water treatment plant. This would accommodate a single discharge pipe to both the golf course and downstream channel (for emergency releases). Control valves would be direct bury and accessed through valve boxes. Alternative, valves could be enclosed in buried concrete vaults, but this would increase the cost.

The outlet structure would consist of a U.S. Bureau of Reclamation (USBR) type baffled outlet structure located at the downstream end of a 24-inch-diameter HDPE pipe that would convey the flow from both siphons. An outlet impact structure will be required to adequately dissipate energy from the outlet works to reduce erosion near the structure and in the downstream channel. Other energy dissipation concepts were either not appropriate for this application or, in our opinion, would be more costly to implement. A plan and section of the outlet structure are presented on Figure 2.3.

### **2.1.2 Alternative 2: New Low-Level Outlet Works through Right Abutment**

Alternative 2 generally includes constructing a new low-level outlet works through the right abutment and adjacent to the existing siphon. The combined hydraulic capacity of both the existing siphon and new low-level outlet works would meet SEO reservoir drawdown criteria. A general plan of Alternative 2 is provided on Figure 2.4. Alternative 2 would include the following components:

- Installing a new pre-cast reinforced concrete intake structure with an 18-inch manually-operated slide gate located immediately adjacent to the existing concrete intake tower.
- Installing a new 18-inch-diameter pipe through the right abutment of the dam. All flows through the pipe would be gravity flow.
- Removing and replacing the existing concrete manhole on the existing siphon pipe to prevent inundation during high reservoir levels. The new manhole would be at the parking area along the right abutment of the dam to provide continuous access. An air-vacuum valve for the existing siphon would be located in the manhole.
- Installing downstream control valves and necessary fittings (i.e., wyes, tees, etc.) to convey water from the new siphon pipe to the water treatment plant, golf course, or downstream channel.

- Installing a 24-inch-diameter HDPE pipe downstream of the control valves. The siphon and low-level outlet works pipe will be combined into the 24-inch-diameter pipe.
- Installing a new reinforced concrete outlet structure along the downstream channel.

The new pre-cast intake structure would be similar to the concept developed for Alternative 1. A plan and section of the new intake structure are presented on Figure 2.2.

The outlet works pipe through the right abutment would be installed using a “live-tap” and auger boring approach that includes the following steps:

- Constructing a drive shaft downstream of the dam. This is the primary working shaft for auger boring.
- Constructing a receiving shaft at the top of the right abutment. A significant challenge would be constructing a receiving shaft with sufficient surface area to perform the work within a limited area at the top of the right abutment.
- Performing auger boring from the drive shaft to the receiving shaft. Auger boring is a technique for trenchless pipe installation that involves excavating a bore hole while simultaneously pushing a steel pipe that will serve as both a casing pipe and carrier pipe. Spoils are transported back to the drive shaft for removal.
- Installing a plug at the upstream end of the carrier pipe.
- Performing open underwater excavation as necessary to excavate a trench from the receiving shaft to near the existing inlet structure.
- Installing the new pre-cast concrete intake structure and 18-inch-diameter HDPE pipe from the intake structure to the receiving shaft.
- Installing 18-inch-diameter HDPE pipe downstream of the drive shaft including downstream control valves.
- Removing the plug and connecting the 18-inch-diameter HDPE pipe to the 18-inch-diameter steel pipe in the receiving shaft.
- Backfilling the receiving shaft with earthfill.

The auger boring would be performed through the right abutment, which generally consists of bedrock materials. Auger boring through certain types of bedrock could be slower and more expensive. A geotechnical investigation would need to be performed in the next stage of design if this alternative is selected to move forward.

The new outlet works pipe would merge with the existing siphon downstream of the water treatment plant similar to Alternative 1. The outlet structure would be similar to the outlet structure for Alternative 1. A plan and section of the outlet structure are presented on Figure 2.3.

### **2.1.3 Alternative 3: New Low-Level Outlet Works through Dam**

Alternative 3 includes constructing a new low-level outlet works through the existing dam. This concept would require excavating a portion of the existing dam embankment, demolishing the existing (abandoned) outlet works, and constructing a new low-level outlet works. This alternative would include two significant challenges:

- A majority of the existing embankment would need to be excavated to construct a low-level outlet works, and this would require a virtually complete reconstruction of the dam.

- A large cofferdam would need to be built upstream of the existing dam to allow reservoir operations to continue during construction.

While this alternative is technically feasible, it would essentially require the construction of two new large dams. In RJH's opinion, this is not a practical option and this alternative was dismissed. A variation of this alternative would be to construct a new dam downstream of the existing dam. Benefits of this concept include:

- The existing dam could serve as a cofferdam and provide continuous reservoir operations throughout construction.
- A new low-level outlet works could be installed with sufficient capacity to meet SEO drawdown requirements and the existing siphon system could be demolished.
- The new dam could be higher to provide increased storage if desired.
- The new dam would be constructed using modern engineering and construction techniques and this would provide significantly less seepage and settlement issues than the existing dam.
- Environmental permitting requirements could be significantly less than constructing a new dam at a different location.

RJH did not perform evaluations or cost estimates for this concept because it is significantly outside the scope of work for the current project. However, in our opinion, this alternative could be desirable if the District desires additional water storage in the future and we wanted to present this concept for future consideration.

### **Section 3 – Evaluations**

#### **3.1 *Opinion of Probable Construction Costs***

RJH developed a conceptual-level OPCC for Alternatives 1 and 2. Cost opinions were developed by estimating quantities of primary elements of the work based on the conceptual-level design concepts and unit costs developed from the following sources:

- Published and non-published bid price data for similar work.
- R.S. Means Heavy Construction Cost Data for 2015.
- Manufacturer's budgetary price quotes.
- Our previous experience and judgment.

The "Base Construction Subtotal" (BCS) for each Project component is the sum of construction costs for primary work elements. The sum of the BCS, mobilization, bonds, insurance, and unscheduled items is defined as the "Direct Construction Subtotal" (DCS) and includes the following allowances:

- 5 percent of the BCS for the construction contractor's costs for mobilization and demobilization.
- 2 percent of the BCS for the construction contractor's costs for bonds and insurance.
- 20 percent of BCS for unscheduled items. Based on our experience, this percentage is appropriate for a conceptual-level design and will decrease as the Project is better defined in subsequent stages of design.

The OPPC is the sum of the DCS, construction contingencies, and engineering and administration costs and includes the following allowances:

- 10 percent of the DCS to account for construction contingencies.
- 10 percent of the DCS to account for design engineering.
- 12 percent of the DCS for construction engineering and testing.

A summary of our cost opinion is presented in Table 3.1. Additional information is presented in Appendix A.

**TABLE 3.1  
INTAKE STRUCTURE ALTERNATIVES  
OPINION OF PROBABLE CONSTRUCTION COSTS**

Alternative	Opinion of Probable Construction Costs (OPCC, 2016) (\$)
Alternative 1	590,000
Alternative 2	960,000

The OPCC for this memorandum is considered to be a Class 4 estimate as defined by the Association for the Advancement of Cost Estimating (AACE). This class is appropriate for a conceptual-design evaluation when the design is between 1 to 15 percent complete. The overall reliability of a Class 4 estimate is between about minus 15 to 30 and plus 20 to 50 percent.

**3.2 Evaluation of Alternatives**

RJH evaluated the conceptual-level alternatives for technical, operational, and economic considerations. A summary of the advantages and disadvantages for each alternative is presented in Table 3.2.

**TABLE 3.2  
OUTLET WORKS ALTERNATIVES  
SUMMARY OF ADVANTAGES AND DISADVANTAGES**

Alternative	Advantages	Disadvantages
Alternative 1	<ul style="list-style-type: none"> <li>• Costs about \$370,000 less than Alternative 2.</li> <li>• Accommodates low-level reservoir releases and allows the reservoir to be drained for maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction requires a barge and lift with divers.</li> <li>• All outlet works releases would be through siphons and require initially priming the siphon.</li> <li>• Requires a temporary closure and repair of Cuerno Verde Boulevard.</li> </ul>



Alternative	Advantages	Disadvantages
Alternative 2	<ul style="list-style-type: none"> <li>• Flows through the new low-level outlet works would be gravity flow and would not require priming another siphon.</li> <li>• Accommodates low-level reservoir releases and allows the reservoir to be drained for maintenance.</li> <li>• May not require closure of Cuerno Verde Boulevard.</li> </ul>	<ul style="list-style-type: none"> <li>• Costs about \$370,000 more than Alternative 1.</li> <li>• Construction requires a barge and lift with divers.</li> <li>• Construction risks associated with a “live-tap” approach.</li> <li>• Would require boring through bedrock along the right abutment of the dam, which may be slower and more expensive depending on the composition of the bedrock.</li> </ul>

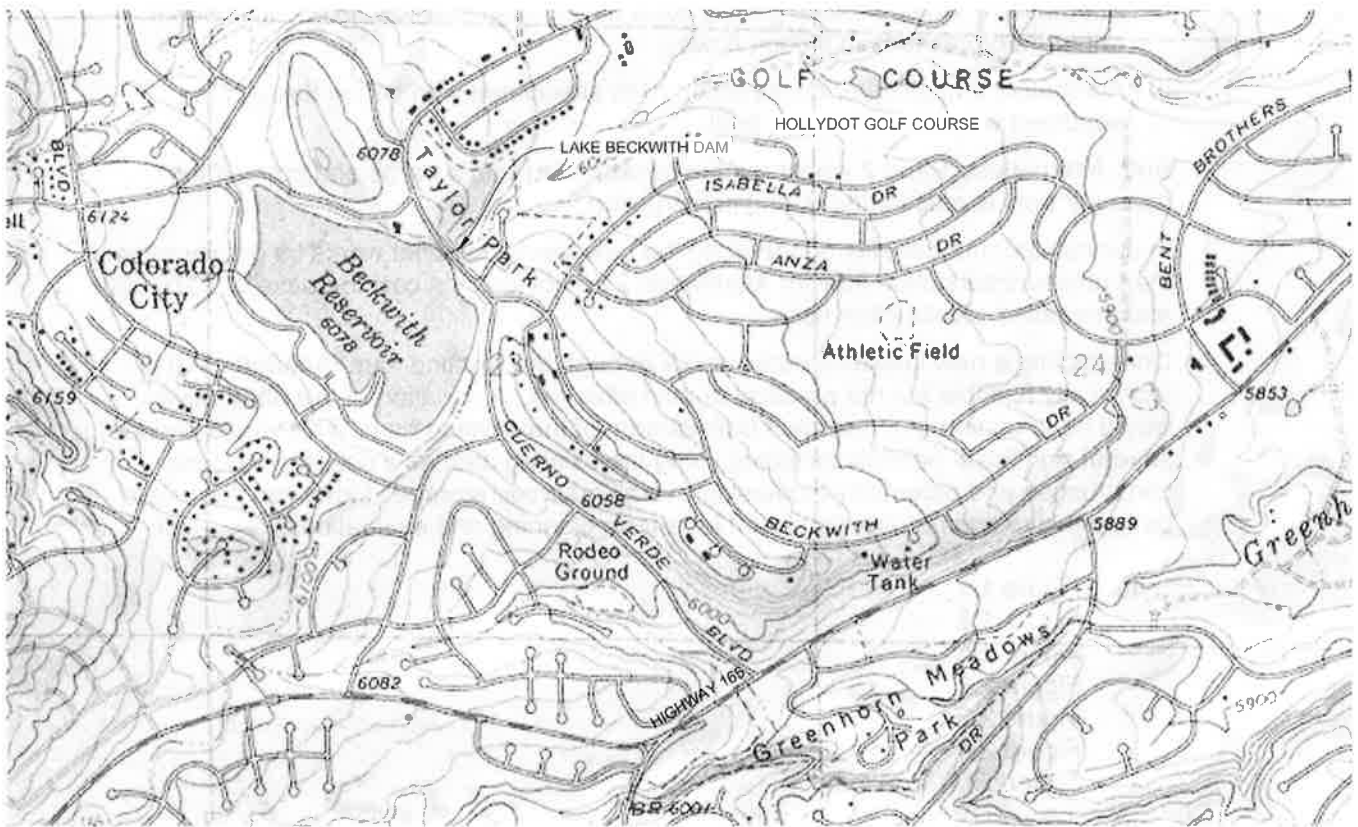
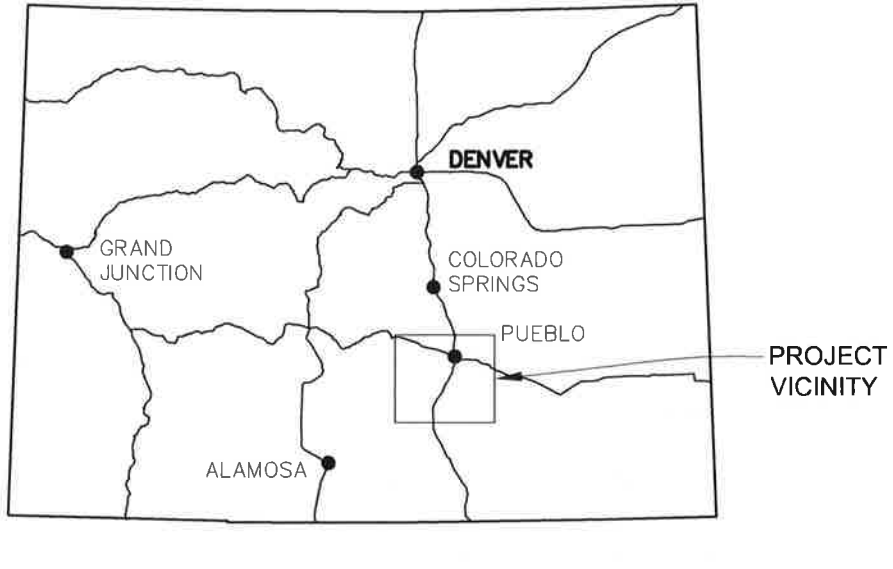
**Section 4 – Conclusions**

Based on the work completed for the conceptual-level evaluation, we offer the following general conclusions:

1. Both Alternatives 1 and 2 are technically feasible and provide relatively similar advantages and disadvantages. Primary differences between the alternatives include:
  - a. Alternative 1 is \$370,000 less expensive than Alternative 2.
  - b. Alternative 2 would provide gravity flows through the new low-level outlet works rather than pressurized siphon flows.
  - c. Alternative 2 has higher construction risks associated with boring through the abutment with a full reservoir pool.
2. Both Alternatives 1 and 2 would require construction with a barge and crane if the reservoir pool is maintained during construction.
3. In our opinion, the benefits of operating the new low-level outlet works by gravity rather than pressurized siphon flow for Alternative 2 do not justify a cost increase of \$370,000 and increased construction risks.
4. Constructing a new low-level outlet works through the existing dam (Alternative 3) is technically feasible but not practical or cost effective. A variation of this alternative would be to construct a new dam downstream of the existing dam. This would provide several significant benefits including using the existing dam as a cofferdam during construction and potentially increasing overall reservoir storage. However, this would be expensive and require significant long-term planning and evaluations.


- Attachments: Figure 1.1  
 Figure 1.2  
 Figure 2.1  
 Figure 2.2  
 Figure 2.3  
 Figure 2.4  
 Appendix A

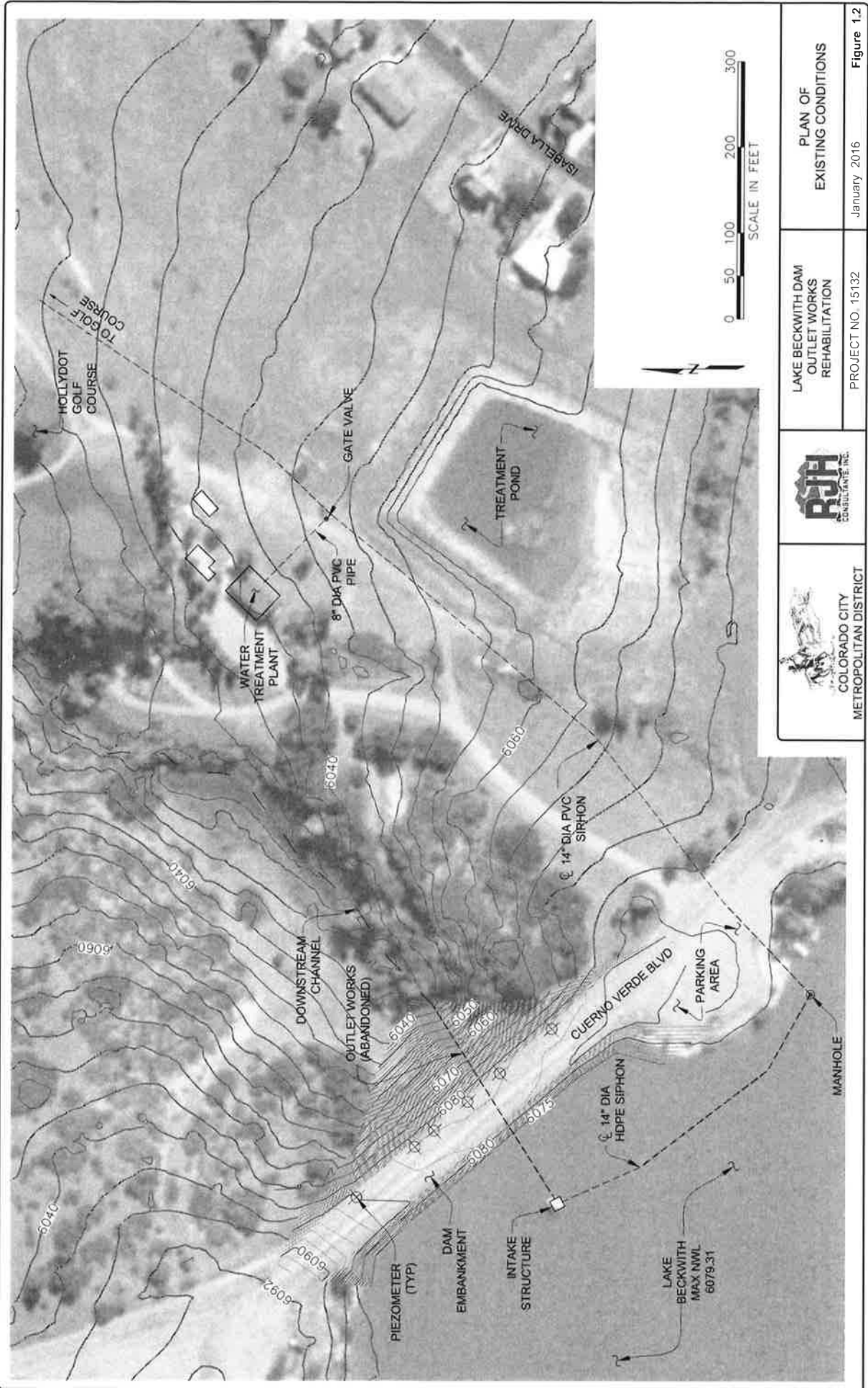
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P:\15132 - LAKE BECKWITH OUTLET WORKS\CAD\15132 FIGURE 1.1 - SITE LOCATION.DWG

	<p>LAKE BECKWITH DAM OUTLET WORKS REHABILITATION ALTERNATIVES</p>	<p>SITE VICINITY AND LOCATION MAP</p>	
	<p>PROJECT NO. 15132</p>	<p>January 2016</p>	<p>Figure 1.1</p>




  
 COLORADO CITY METROPOLITAN DISTRICT

LAKE BECKWITH DAM  
 OUTLET WORKS  
 REHABILITATION

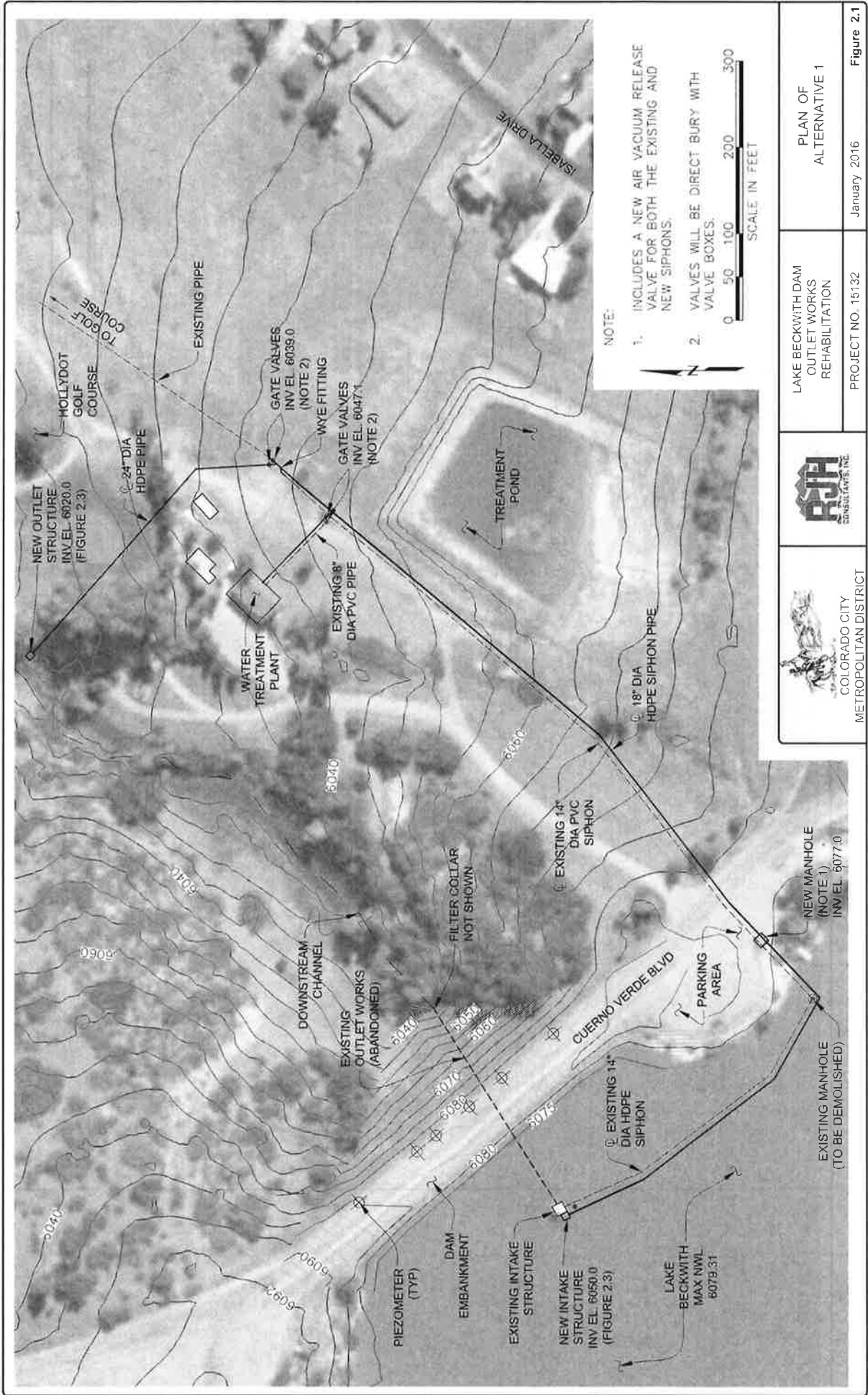
PROJECT NO. 15132

PLAN OF  
 EXISTING CONDITIONS

January 2016

Figure 1.2

P:\15132 - LAKE BECKWITH OUTLET WORKS\CAO\15132 FIGURE 1.2 - EXISTING CONDITIONS PLAN.DWG 1/22/2016 1:23 PM

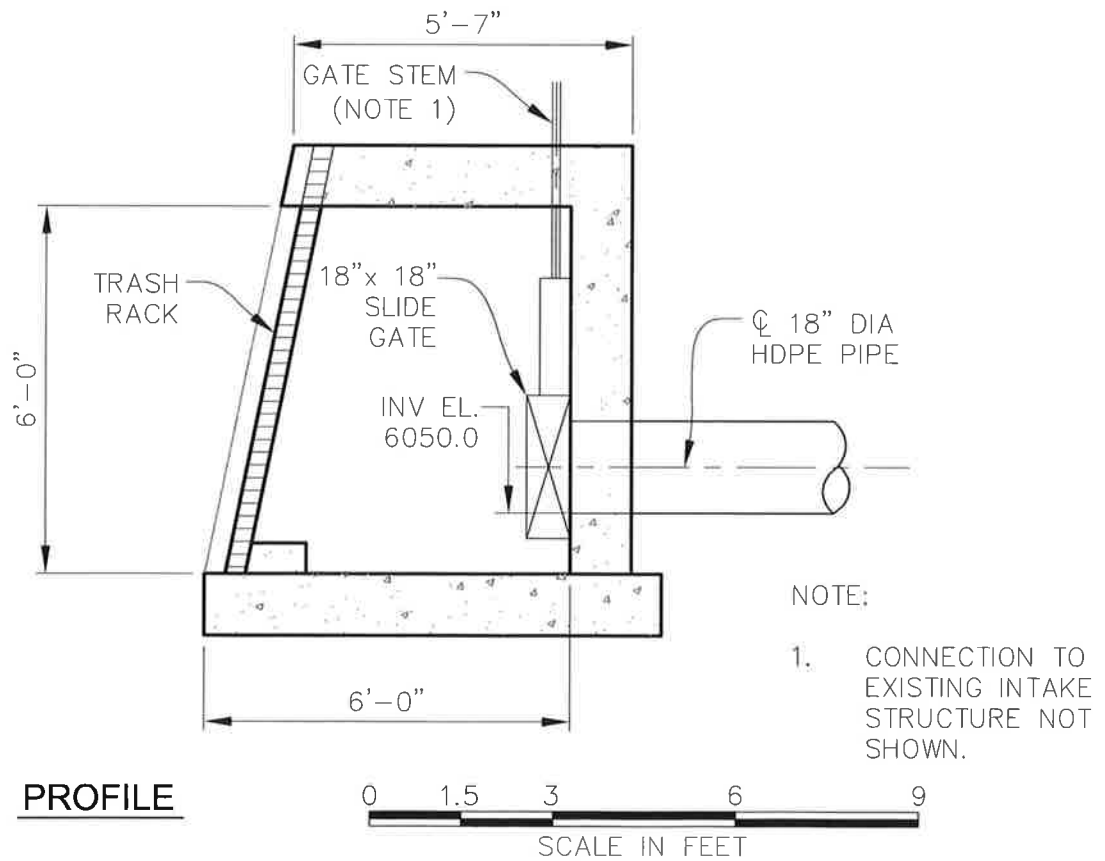
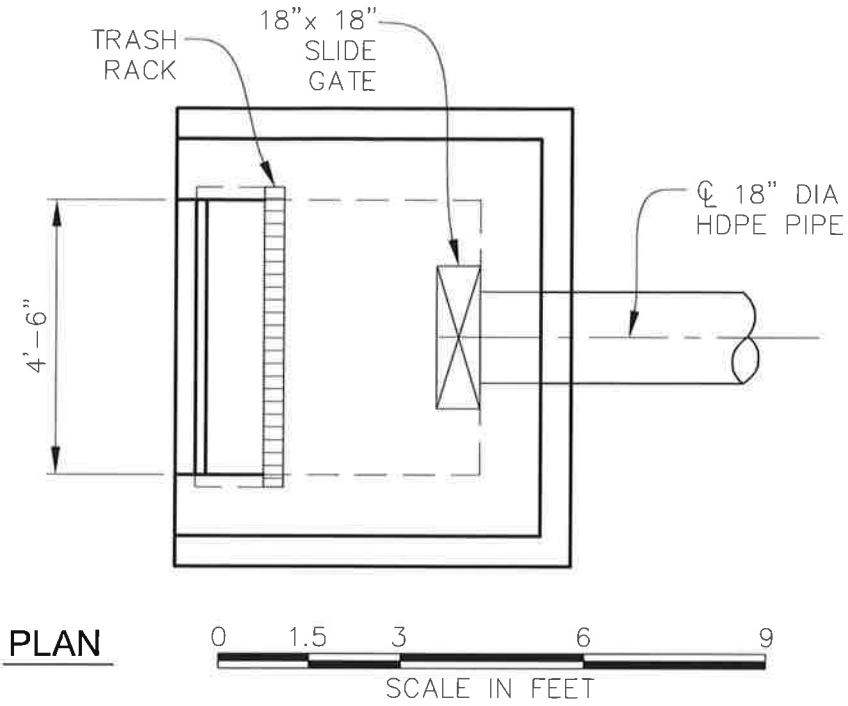



PLAN OF ALTERNATIVE 1



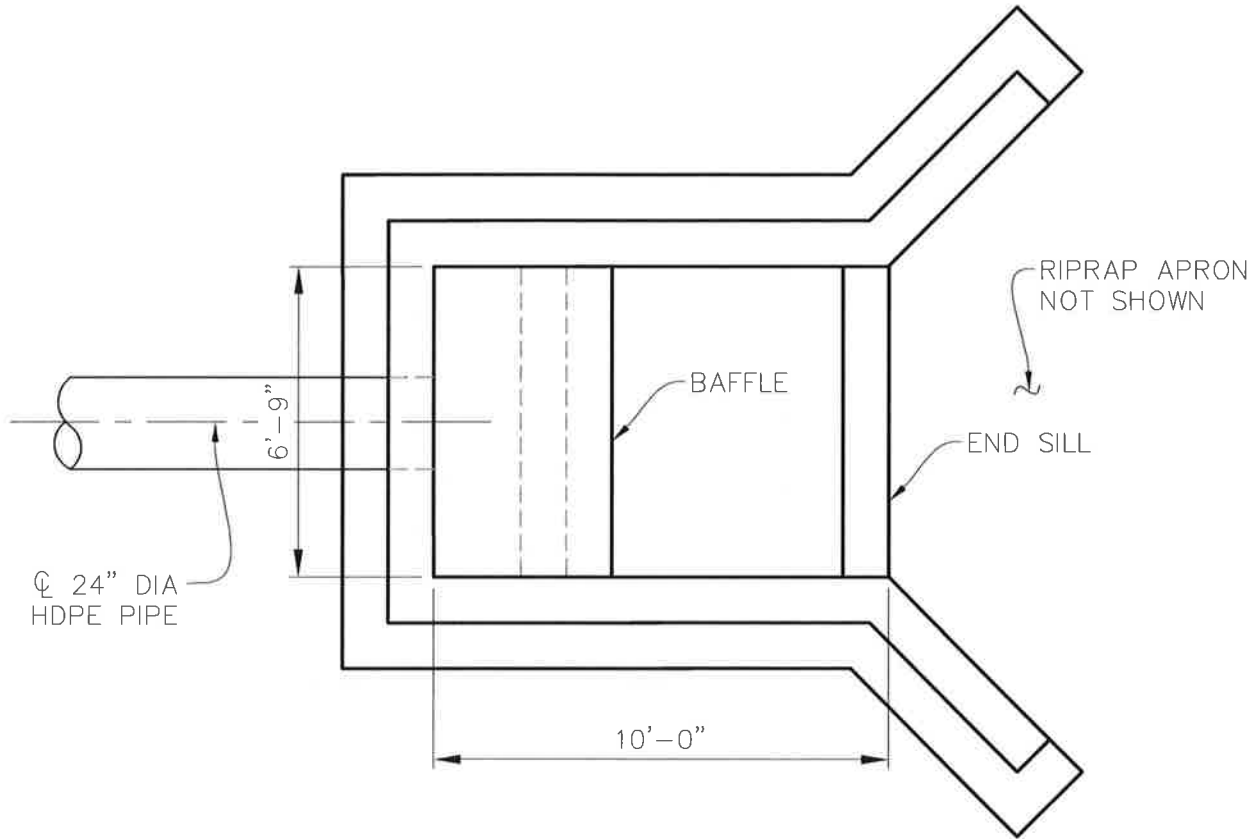
LAKE BECKWITH DAM OUTLET WORKS REHABILITATION  
PROJECT NO. 15132  
January 2016  
Figure 2.1

15132 - LAKE BECKWITH OUTLET WORKS/ALTERNATIVE FIGURE 2.1 - ALL PLAN/DWG 1/22/2016 1:21 PM

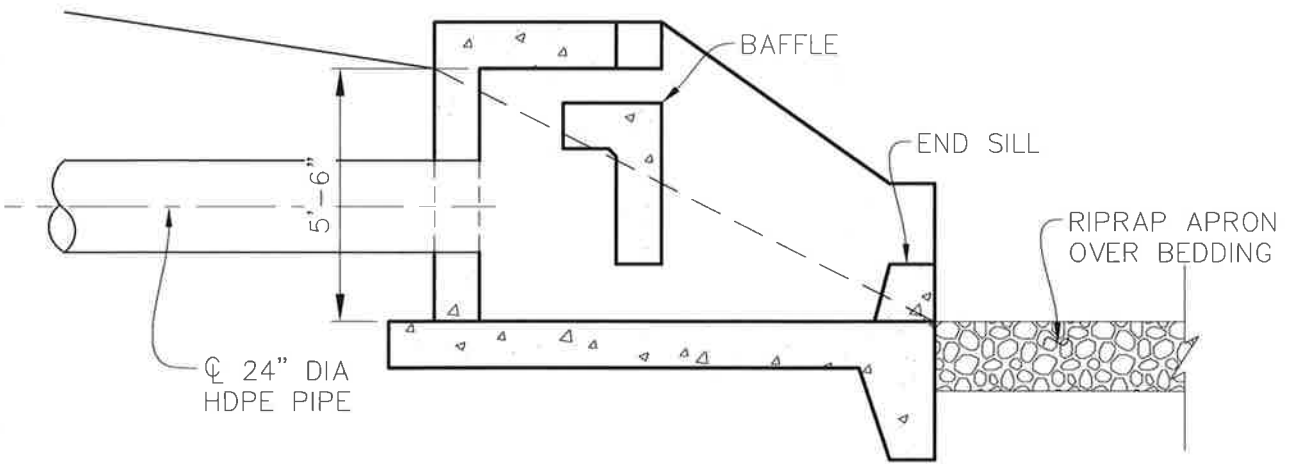


	LAKE BECKWITH DAM OUTLET WORKS REHABILITATION	INTAKE STRUCTURE PLAN AND SECTION
	PROJECT NO. 15132	January 2016

P:\15132 - LAKE BECKWITH OUTLET WORKS\CAD\15132 FIGURE 2.2 AND 2.3 - STRUCTURES.DWG 1/22/2016 1:18 PM



**PLAN**



**PROFILE**



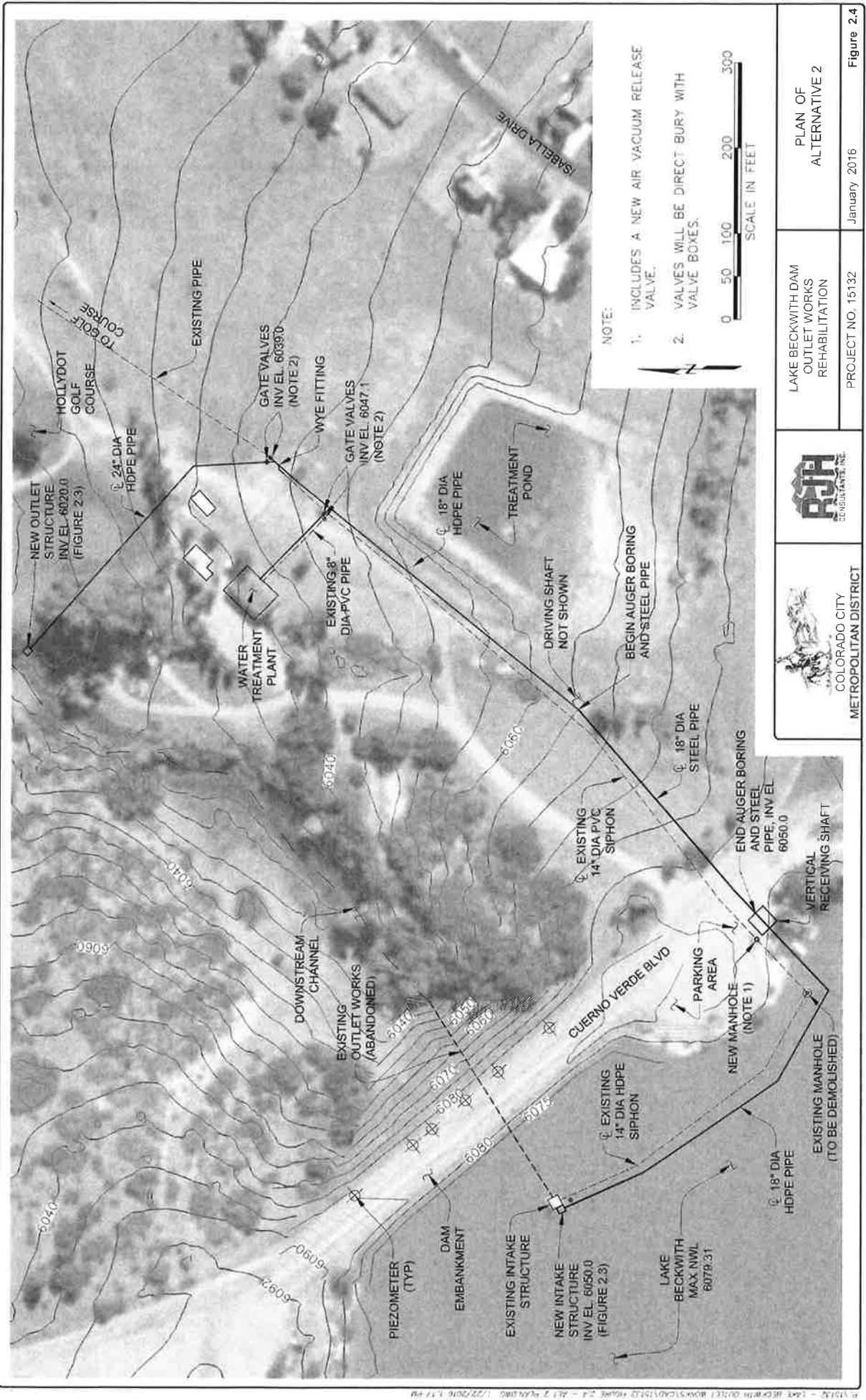
LAKE BECKWITH DAM  
OUTLET WORKS  
REHABILITATION

OUTLET STRUCTURE  
PLAN AND SECTION

PROJECT NO. 15132

January 2016

Figure 2.3



NOTE:  
 1. INCLUDES A NEW AIR VACUUM RELEASE VALVE.  
 2. VALVES WILL BE DIRECT BURY WITH VALVE BOXES.



	LAKE BECKWITH DAM OUTLET WORKS REHABILITATION	PLAN OF ALTERNATIVE 2
	PROJECT NO. 15132	January 2016



**APPENDIX A**

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**COST OPINION**



**Lake Beckwith Outlet Works Rehabilitation  
Project No. 15132**



**Alternative 1 - Parallel Siphon**

Item No.	Item	Unit	Quantity	Unit Price (\$)	Total Cost (\$)
1	Site Preparation	LS	1	\$1,500	\$ 1,500
2	Erosion Protection and Sediment Control	LS	1	\$3,000	\$ 3,000
3	Demolition	LS	1	\$1,200	\$ 1,200
4	Road Repair	LS	1	\$5,000	\$ 5,000
5	Site Reclamation	AC	1	\$2,000	\$ 2,000
6	Intake Structure	LS	1	\$10,000	\$ 10,000
7	18" Slide Gate - Manual Actuator	LS	1	\$7,500	\$ 7,500
8	18" Dia. HDPE Pipe	LF	1350	\$70	\$ 94,500
9	24" Dia. HDPE Pipe	LF	380	\$105	\$ 39,900
10	Trench Excavation	CY	675	\$8	\$ 5,400
11	Pipe Bedding	CY	570	\$60	\$ 34,200
12	HDPE Fittings	LS	1	\$9,700	\$ 9,700
13	7' x 7' Concrete Vault	LS	1	\$7,000	\$ 7,000
14	Air-Vacuum Relief Valves	EA	2	\$500	\$ 1,000
15	18" Dia. Gate Valve (to WTP)	EA	1	\$11,050	\$ 11,050
16	24" Dia. Gate Valve (to channel)	EA	1	\$28,200	\$ 28,200
17	8" Dia. Gate Valve (to golf course)	EA	1	\$2,850	\$ 2,850
18	Outlet Structure	LS	1	\$10,725	\$ 10,725
19	Riprap Apron	CY	25	\$60	\$ 1,500
20	Sand Filter	LS	1	\$10,000	\$ 10,000
21	Underwater Installation	LS	1	\$15,000	\$ 15,000
22	Barge and Crane (including mob/demob)	LS	1	\$50,000	\$ 50,000
<b>Base Construction Subtotal (BCS)</b>					<b>\$ 351,225</b>
Mob/Demob (5% of BCS)					\$ 17,561
Bonds/Insurance (2% of BCS)					\$ 7,025
Unscheduled Items (20% of BCS)					\$ 70,245
<b>Direct Construction Subtotal (DCS)</b>					<b>\$ 446,056</b>
Construction Contingencies (10% of DCS)					\$ 44,606
Design Engineering (10% of DCS)					\$ 44,606
Construction Engineering and Testing (12% of DCS)					\$ 53,527
<b>Opinion of Probable Construction Cost (OPCC, 2016)</b>					<b>\$ 588,794</b>

**Lake Beckwith Outlet Works Rehabilitation  
Project No. 15132**



**Alternative 2 - New Low Level Outlet Works through Right Abutment**

Item No.	Item	Unit	Quantity	Unit Price (\$)	Total Cost (\$)
1	Site Preparation	LS	1	\$1,500	\$ 1,500
2	Erosion Protection and Sediment Control	LS	1	\$3,000	\$ 3,000
3	Demolition	LS	1	\$2,500	\$ 2,500
4	Road Repair	LS	1	\$7,500	\$ 7,500
5	Site Reclamation	AC	1	\$2,000	\$ 2,000
6	Dewatering	LS	1	\$5,000	\$ 5,000
7	Intake Structure	LS	1	\$10,000	\$ 10,000
8	18" Slide Gate - Manual Actuator	LS	1	\$7,500	\$ 7,500
9	18" Dia. HDPE Pipe	LF	990	\$70	\$ 69,300
10	18" Dia. Steel Pipe - Auger Boring	LF	315	\$700	\$ 220,500
11	24" Dia. HDPE Pipe	LF	380	\$105	\$ 39,900
12	Trench Excavation	CY	440	\$8	\$ 3,520
13	Pipe Bedding	CY	370	\$60	\$ 22,200
14	Drive Shaft Excavation	LS	1	\$10,000	\$ 10,000
15	Vertical Receiving Shaft	LS	1	\$20,000	\$ 20,000
16	HDPE Fittings	LS	1	\$9,700	\$ 9,700
17	7' x 7' Concrete Vault	LS	1	\$7,000	\$ 7,000
18	Air-Vacuum Relief Valve	EA	1	\$500	\$ 500
19	18" Dia. Gate Valve (to WTP)	EA	1	\$11,050	\$ 11,050
20	24" Dia. Gate Valve (to channel)	EA	1	\$28,200	\$ 28,200
21	8" Dia. Gate Valve (to golf course)	EA	1	\$2,850	\$ 2,850
22	Outlet Structure	LS	1	\$10,725	\$ 10,725
23	Riprap Apron	CY	25	\$60	\$ 1,500
24	Sand Filter	LS	1	\$10,000	\$ 10,000
25	Underwater Installation	LS	1	\$15,000	\$ 15,000
26	Barge and Crane (including mob/demob)	LS	1	\$50,000	\$ 50,000
<b>Base Construction Subtotal (BCS)</b>					<b>\$ 570,945</b>
Mob/Demob (5% of BCS)					\$ 28,547
Bonds/Insurance (2% of BCS)					\$ 11,419
Unscheduled Items (20% of BCS)					\$ 114,189
<b>Direct Construction Subtotal (DCS)</b>					<b>\$ 725,100</b>
Construction Contingencies (10% of DCS)					\$ 72,510
Design Engineering (10% of DCS)					\$ 72,510
Construction Engineering and Testing (12% of DCS)					\$ 87,012
<b>Opinion of Probable Construction Cost (OPCC, 2015)</b>					<b>\$ 957,132</b>

**LAKE BECKWITH RESERVOIR**  
per Survey of July, 1981

	Water Surface ELEVATION	AREA ACRES	ACRE FEET BETWEEN CONTOURS	ACRE FEET
Dam Height Raise = 10.5 ft	6088.0	97	600 AF Storage Increase	1,550
<b>Spillway</b>	<b>6081.06</b>	<b>77.4</b>		<b>944.6</b>
	6075	60.2	68.8 x 6.06 = 416.9	527.7
	6072.28	48.3	54.3 x 2.72 = 147.6	380.1
			43.4 x 2.28 = 98.8	
Bottom of 14 inch diameter siphon intake is at approximate elevation 6066.0, based on the datum in this table. This leaves approximately 150 AF of dead storage in the reservoir.	6070	38.4	29.3 x 5 = 146.3	281.3
	6065	20.1	15.5 x 5 = 77.5	135.0
	6060	10.9	7.7 x 5 = 38.5	57.5
	6055	4.5	3.8 x 5 = 19.0	19.0
	6050	0.3		0







**COLORADO**  
Division of Water Resources  
Department of Natural Resources

Dam Safety

July 26, 2021

Mr. James P. Eccher, District Manager  
Colorado City Metro District  
4497 Bent Brothers Boulevard  
Colorado City, CO, 81019  
via email: [colocitymanager@ghvalley.net](mailto:colocitymanager@ghvalley.net)

When replying, please refer to:  
**BECKWITH DAM, DAMID 150101**  
Water Division 2, Water District 15

**SUBJECT: DAM SAFETY COMPLIANCE PLAN AND RESERVOIR STORAGE RESTRICTION ORDER**

Dear Mr. Eccher,

As you know Beckwith Dam is a High Hazard Dam and has numerous documented Dam Safety deficiencies that have went unaddressed by the Metro District:

- Beckwith Dam experienced a concerning cracking and settlement incident in November 2011; similar incidents occurred in 1978 and in 1998. In 2012 the Metro District's Engineer studied the problem and recommended a rigorous monitoring program consisting of weekly seepage readings, monthly piezometer readings, and an annual movement survey and slope inclinometer reading, with results to be submitted to our office. This Monitoring Plan was agreed to by our office and was required in the subsequent State Dam Safety Inspection Report in 2013 and every year since then. Our office has not received an annual Monitoring Report since 2014.
- In 2012 the dam's 14-inch diameter PVC siphon outlet conduit was determined to be inadequate to meet State Dam Safety requirements for emergency reservoir drawdown capacity. Industry standard of care is that a dam must be able to control storage and draw its reservoir down safely if an emergency incident should occur, such as further embankment settlement or cracking. Since 2012 our office has required submittal of engineered plans for construction of an adequate outlet works.
- Since 2013 our office has required construction of a seepage filter berm to mitigate against potential internal erosion along the dam's abandoned low level outlet conduit and at boring B-104, which was drilled at an angle into the dam's left abutment following the 2011 incident. Artesian conditions (water pressure above the ground surface) are present at B-104, representing a potential risk for internal erosion of the dam.
- Since 2011 our office has required the District to update the dam's Emergency Action Plan and review with the Pueblo County Emergency Manager since the 2011 incident.
- Finally since 2013 we have required that the District submit a plan of work and schedule for completing the above Required Actions.



Mr. James P. Eccher  
Beckwith Dam - Dam Safety Compliance Plan  
DAMID 150101  
July 26, 2021  
Page 2 of 5

No progress has been made by the Metro District on the above Required Actions since at least 2014 despite numerous meetings between our office and the District Manager and with the District's Board. We understand that major repairs to dams require time and planning; however, in a case where we see no forward progress such as Beckwith Dam, our office issues a Dam Safety Compliance Plan. We have previously communicated this to both the District Manager and District Board.

Therefore, we are issuing the attached Dam Safety Compliance Plan for Beckwith Dam. As part of the Compliance Plan you are hereby ordered to immediately restrict the reservoir level to 1.0 foot below the spillway crest, which corresponds to a restricted stage of 16.0 feet on the reservoir staff gage, due to the Metro District's failure to perform on the required Monitoring Plan, which is past due and which prevents us from confidently evaluating the dam's safety under CRS 37-87-107. The 1.0 foot storage restriction equates to a loss of 70 acre-feet of reservoir storage volume.

Failure to perform in accordance with the attached Compliance Plan by the associated deadlines will prompt further State Engineer Actions shown in the Plan. The District's Required Actions in the Plan are the minimum that you can do to improve the safety of your dam; additional actions may be necessary based upon the recommendations of your Engineer or discovery of new information. Additional storage restrictions may be issued by our office if the condition of the dam worsens.

This Order is considered a final agency action and, as such, is not subject to an adjudicatory hearing before the agency. If you wish to appeal this Order, you must proceed pursuant to the Administrative Procedures Act. As provided in Section 24-4-106(4), C.R.S.,

*"...any person adversely affected or aggrieved by any agency action may commence an action for judicial review in the district court within thirty-five days after such agency action becomes effective...The residence of a state agency for purposes of this subsection (4) shall be deemed to be the city and county of Denver."*

The Order is considered to be in full force and effect as of the above date. After you have reviewed the attached Compliance Plan please sign and return it to acknowledge receipt.

Should you have any questions about the attached Compliance Plan or other Dam Safety issues, please contact Dam Safety Engineer Mark Perry at 719-250-5606 or [mark.perry@state.co.us](mailto:mark.perry@state.co.us).

Sincerely,

Kevin G. Rein, P.E.  
Director/State Engineer

Enc: DAM SAFETY COMPLIANCE PLAN

ec: Bill Tyner, Division 2 Division Engineer  
Steve Stratman, WD 15 Water Commissioner  
Bill McCormick, Chief of Dam Safety  
Mark Perry, Dam Safety Engineer  
Greg Baily, Colorado City Public Works, [colocitypw@ghvalley.net](mailto:colocitypw@ghvalley.net)

Mr. James P. Eccher  
Beckwith Dam - Dam Safety Compliance Plan  
DAMID 150101  
July 26, 2021  
Page 3 of 5

Mike Graber, RJH Consultants, [mgraber@rjh-consultants.com](mailto:mgraber@rjh-consultants.com)  
Matt Stearns, CWCB, [matthew.stearns@state.co.us](mailto:matthew.stearns@state.co.us)

DRAFT

**DAM SAFETY COMPLIANCE PLAN  
BECKWITH DAM (DAMID 150101)**

Action No.	District's Required Actions	Deadline for Compliance	State Engineer's Actions for Non-Compliance
1	<p>Comply with the dam's Monitoring Plan:</p> <ul style="list-style-type: none"> <li>• Visual inspection twice per month</li> <li>• Measure seepage (toe drain &amp; Parshall flume) weekly</li> <li>• Measure piezometers monthly</li> <li>• Survey movement monuments annually</li> <li>• Measure slope inclinometer annually</li> </ul> <p>All data must be provided to the Metro District's Dam Engineer monthly for evaluation, and an evaluation memo must be submitted by the Dam Engineer to Colorado Dam Safety annually.</p> <p>The failed 3" Parshall flume downstream from the dam needs to be replaced and reset in order to allow measurement of total seepage flows.</p>	Past due	Immediate 1-ft storage restriction until the safety of the dam can be demonstrated
2	<p>Update and distribute the dam's Emergency Action Plan and review it with the Pueblo County Emergency Manager annually</p> <ul style="list-style-type: none"> <li>• EAP must address emergency access to pumps with at least 25 cfs capacity, capable of lowering the reservoir 5 feet in 5 days</li> </ul>	Past due	Immediate 1-ft storage restriction
3	<p>Submit engineered plans &amp; specifications for downstream filter protection against internal erosion along the abandoned outlet works and at boring B-104<sup>(1)</sup>. Consideration should be made to tying the dam's existing seepage drains into the new filter drain because the existing drain design &amp; construction are not documented but were determined to be necessary for the dam to meet slope stability factors of safety<sup>(1)</sup>.</p>	August 1, 2022	2.5-ft storage restriction in order to prevent artesian conditions at B-104 <sup>(1)</sup>
4	<p>Submit engineered plans &amp; specifications for a permanent outlet works capable of lowering the reservoir 5 feet in 5 days pursuant to State Dam Safety Rule 7.8.2.</p>	August 1, 2022	3-ft storage restriction in order to meet 5-ft/5-day reservoir drawdown requirement <sup>(2)</sup>
5	<p>Submit engineered plans &amp; specifications to address settlement of the dam's crest, as indicated by the large sag in the crest and improper drainage of surface water. Both existing and the best estimate of future settlement should be addressed. A level dam crest, freeboard and proper drainage should be provided pursuant to State Dam Safety Rule 7.4.2.</p>	August 1, 2022	3.5-ft storage restriction in order to address existing and predicted settlement <sup>(1)</sup>



6	Begin construction of new outlet works and seepage filter	August 1, 2023	3-ft storage restriction in order to prevent artesian conditions at B-104 and to allow adequate reservoir drawdown <sup>(1, 2)</sup>
7	Begin construction of dam crest rehabilitation and settlement mitigation	August 1, 2024	3.5-ft storage restriction in order to address existing and predicted settlement <sup>(2)</sup>

References:

1. *Geotechnical Data and Engineering Report Lake, Beckwith Dam*, RJH Consultants Inc., August 2012.
2. Memorandum, RE: Lake Beckwith Dam, Existing Outlet Works Rating Curve, RJH Consultants Inc., January 6, 2012.

DRAFT



**colocitymanager@ghvalley.net**

---

**From:** Dave Lewis <dave@directdischarge.com>  
**Sent:** Monday, July 26, 2021 11:33 AM  
**To:** colocitymanager@ghvalley.net  
**Subject:** Re: Jetting

Hey Jim,

This is tough to say, but I don't think you guys have the budget to get back into compliance. As far as I know, from talking with Donnie a while back, his guys have only done a few thousand feet since last year. Please tell me this is not true??

In order to get into compliance, we need to have the entire system cleaned, which is probably close to 60 miles or so. I guess the best course of action would be to ask the Board how much funds they are willing to spend and I can get you a total amount of feet we can clean for the dollar amount. My usual rate is \$0.45/LF for jetting and \$0.55/LF for root cutting (as needed) plus mobilization and per diem. I will make it right with you to get us out of the jam you are all in if I can get a budget to work with.

Thanks Jim!

On Mon, Jul 26, 2021 at 9:42 AM <[colocitymanager@ghvalley.net](mailto:colocitymanager@ghvalley.net)> wrote:

Dave

I think I might have the board talked into having you contract for work if you could give me some price to help get us in compliance for flushing that would be great and I can run it past the board.

Thanks

**JAMES P. ECCHER**

District Manager

Colorado City Metropolitan District

4497 Bent Brothers Blvd PO Box 20229

Colorado City Co 81019

Office (719) 676-3396

Cell (719) 569-5816



**From:** Dave Lewis <[dave@directdischarge.com](mailto:dave@directdischarge.com)>  
**Sent:** Monday, July 26, 2021 7:55 AM  
**To:** [colocitymanager@ghvalley.net](mailto:colocitymanager@ghvalley.net)  
**Subject:** Jetting

Hey Jim,

Gary called me this morning and said that you may want me to come do some jetting for Colorado City. Please let me know right away as I will be in Walsenburg the week of August 9 and could knock some work out for you guys if needed.

Thanks,

--

**Dave Lewis, CWP**

President

Direct Discharge Consulting, LLC

303-619-7692

[www.directdischarge.com](http://www.directdischarge.com)

Check us out on Facebook: <https://www.facebook.com/directdischarge>



Ask me about Biosolids Mobile Dewatering at BioVelocity, LLC





--  
**Dave Lewis, CWP**

President

Direct Discharge Consulting, LLC

303-619-7692

[www.directdischarge.com](http://www.directdischarge.com)

Check us out on Facebook: <https://www.facebook.com/directdischarge>



Ask me about Biosolids Mobile Dewatering at BioVelocity, LLC

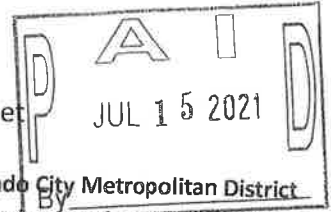








Colorado City Architectural Advisory Committee  
 P.O. Box 20229  
 Colorado City, Colorado 81019  
 719 676-3396  
 colocitymanager@ghvalley.net



Application will be considered for review only if it has been fully completed and received at the Colorado City Metropolitan District office or mailed to and received at the above address by 3p.m. on the Wednesday prior to the next regular meeting. All applications must be accompanied by a check or money order made out to "CCAAC" in the amount appropriate to the fee schedule featured on the back of this application.

Property Owner: John Moore  
 Mailing Address: P.O. Box # 20166 City: Colorado City  
 State: CO. ZIP: B1019 Telephone: 719-208-1158

CONTRACTOR

Contractor: John Moore  
 Mailing Address: all same as above City: \_\_\_\_\_  
 State: \_\_\_\_\_ ZIP: \_\_\_\_\_ Telephone: \_\_\_\_\_

Requested approval for:  Commercial building  Home  Shed  Fence  Other: \_\_\_\_\_  
*R-1cc R-2c*

Lot: <sup>1263</sup>1264 Unit: 14 Legal address, (please verify with CC Metro District): 4624 E. Jefferson Blvd.

Type construction: Site Built Home Mobile homes:  New  Used - Year built: \_\_\_\_\_

Floor area square footage: 1790# Square footage required by covenants: \_\_\_\_\_

REQUIRED ITEMS for submittal of application:

- Legal description of property with legal address defined as street name & number
- Plot plans to scale (indicate scale)
- Property line staked out corners
- Foundation plan and Building staked out **before** Excavation
- One (1) copy of blue print and One (1) electronic copy sent to manager
- Location of improvements on property - NOTE: front of house **must** face legal address
- Exterior dimensions - both primary and secondary buildings
- Elevations - front, back, sides
- Accurate setbacks drawn to scale (include easements)
- Distances between buildings
- Location of improvements (porches, decks, garages, carports, driveways, accessory buildings, landscaping)
- Location of propane tank, where applicable
- Location of street light (where required by covenants)
- Fence - type of materials, height, and locations
- Landscaping diagram (if not included in original plans, must be submitted later)
- Exterior color scheme, type of siding and roofing materials must be indicated

I have read and agree to abide by the unit's protective covenants for which this application is submitted:

Property owner's signature: John Moore Date: 7/15/2021

This application will not be accepted until you read and sign on reverse.

Application Form

Colorado City Architectural Advisory Committee

Revised July 29, 2020

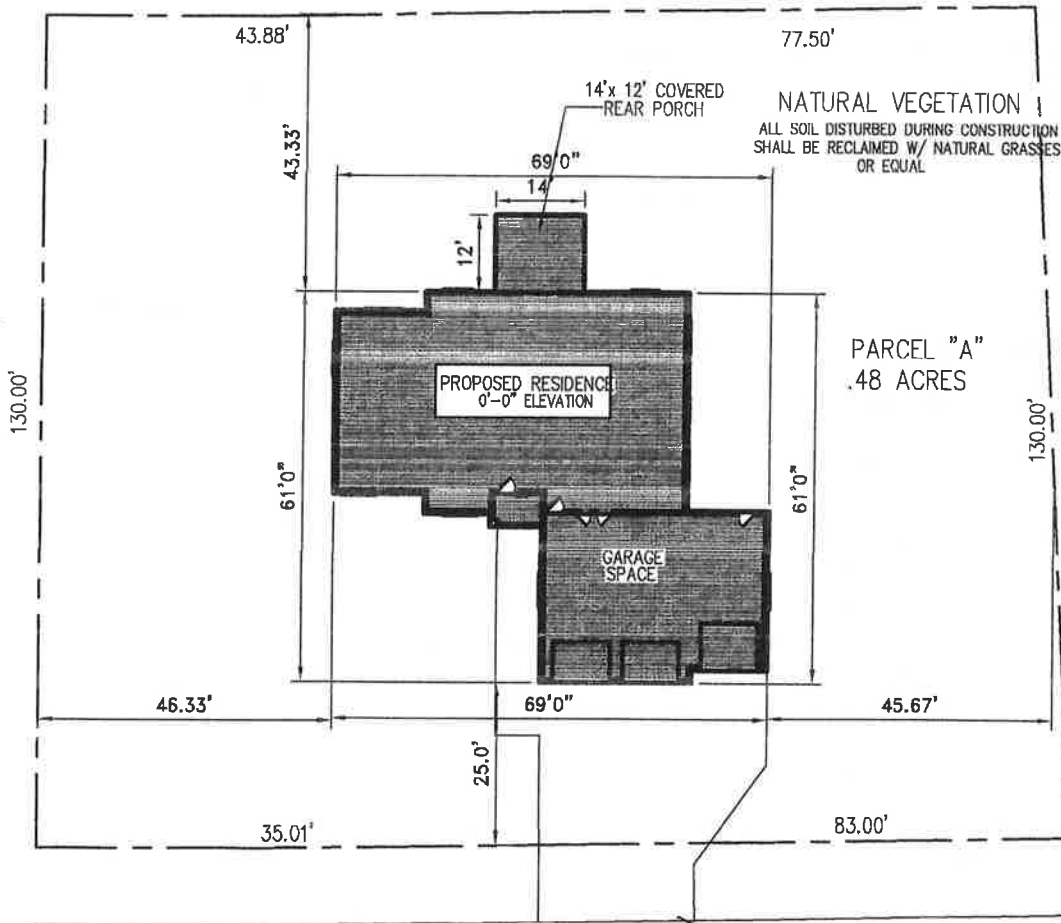
7-15-21 - Inspected/measured by Rick + Bob + Harry Hochstetler  
 Talked to Home Owner + advised him it was OK to excavate for the foundation. CCAAC members will remeasure when forms are in place.

**PUEBLO COUNTY DEPARTMENT OF PLANNING  
AND ZONING CHECKLIST**

INCLUDED	o ASSESSOR'S PARCEL NUMBER	PARCEL SCHEDULE TBD
INCLUDED	o SQUARE FOOTAGE OF PROPOSED STRUCTURE	MAIN FLOOR LIVING 1790.0'
N/A	o SQUARE FOOTAGE OF EXISTING STRUCTURE	N/A
INCLUDED	o STRUCTURE HEIGHT	21'-40FF FINISHED GRADE
N/A	o LOCATION & SIZE OF EXISTING FENCES, WALLS	N/A
INCLUDED	o DIMENSIONS OF THE PARCEL	SEE PLOT
INCLUDED	o EASEMENTS/BUILDING SETBACK LINES	SEE PLOT
INCLUDED	o LEGAL DESCRIPTION	PARCEL "A" LOT LINE
INCLUDED	o ADDRESS OF PROPERTY	4624 EAST JEFFERSON BLVD. (COLORADO CITY) COLORADO
N/A	o STREET NAME AND ADJACENT STREET	N/A
INCLUDED	o NORTH ARROW	SEE PLOT
INCLUDED	o ALL LOCATIONS & DISTANCES TO PROP. STRUCTURES	SEE PLOT
N/A	o LOCATION & DISTANCES TO EXISTING STRUCTURES	N/A



EXISTING ALLEYWAY



PROPOSED 20' FT. WIDE PAN W/  
6" MIN. CONCRETE AT RIGHT OF WAY  
DRIVE SHALL EXTEND FROM CONCRETE PAD  
TO EXISTING ROAD (SEE CONTRACTOR FOR DETAIL)

**PLOT PLAN**

SCALE: 1" = 30'-0"

BUILDER/OWNER: THE MOORE RESIDENCE

DATE: 4-2021

ADDRESS: 4624 EAST JEFFERSON BLVD. (COLORADO CITY) COLORADO

LEGAL DESCRIPTION: PARCEL "A" LOT LINE VACATION 2021  
PARCEL SCHEDULE TBD

ATT. DAVE WEIRICH  
702 POLK STREET  
PUEBLO, COLORADO 81004  
(719) 299-4784 fax  
(719) 240-9468 cell  
(719) 744-0544 office

EMAIL - dave@advanceddb.com  
EMAIL - david.weirich@yahoo.com

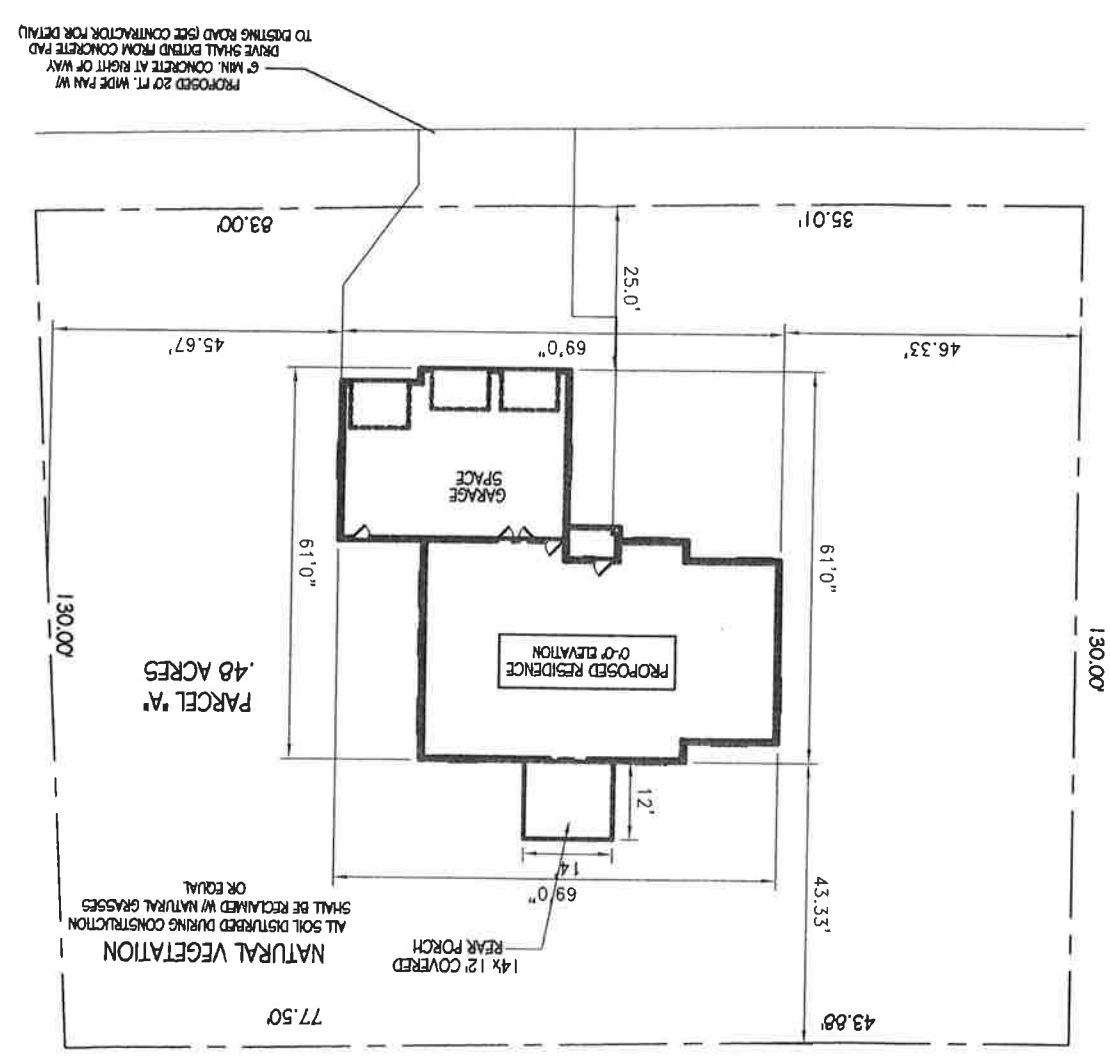




ATT. DAVE WEIRICH  
 702 POLK STREET  
 PUEBLO, COLORADO 81004  
 (719) 299-4784 fax  
 (719) 240-9468 cell  
 (719) 744-0544 office  
 EMAIL: dave@advancedb.com  
 EMAIL: dave.weirich@yahoo.com

LEGAL DESCRIPTION: PARCEL "A" LOT LINE VACATION 2021  
 ADDRESS: 4624 EAST JEFFERSON BLVD. (COLORADO CITY) COLORADO  
 DATE: 4-2021  
 BUILDER/OWNER: THE MOORE RESIDENCE  
 SCALE: 1" = 30'-0"

**PLOT PLAN**



**PUEBLO COUNTY DEPARTMENT OF PLANNING  
 AND ZONING CHECKLIST**

- INCLUDED ○ ASSESSOR'S PARCEL NUMBER PARCEL SCHEDULE TBD
- INCLUDED ○ SQUARE FOOTAGE OF PROPOSED STRUCTURE MAIN FLOOR LIVING 1790.0
- N/A ○ SQUARE FOOTAGE OF EXISTING STRUCTURE
- INCLUDED ○ STRUCTURE HEIGHT 21'0" FINISHED GRADE
- N/A ○ LOCATION & SIZE OF EXISTING FENCES, WALLS
- INCLUDED ○ DIMENSIONS OF THE PARCEL
- INCLUDED ○ EASEMENTS/BUILDING SETBACK LINES
- INCLUDED ○ LEGAL DESCRIPTION PARCEL "A" LOT LINE
- INCLUDED ○ ADDRESS OF PROPERTY 4624 EAST JEFFERSON BLVD (COLORADO CITY) COLORADO
- N/A ○ STREET NAME AND ADJACENT STREET
- INCLUDED ○ NORTH ARROW
- SET FLOT ○ ALL LOCATIONS & DISTANCES TO PROP. STRUCTURES
- N/A ○ LOCATION & DISTANCES TO EXISTING STRUCTURES IF APPL.





Colorado City Architectural Advisory Committee

P.O. Box 20229

Colorado City, Colorado 81019

719 676-3396

colocitymanager@ghvalley.net



Application will be considered for review only if it has been fully completed and received at the Colorado City Metropolitan District office or mailed to and received at the above address by 3p.m. on the Wednesday prior to the next regular meeting. All applications must be accompanied by a check or money order made out to "CCAAC" in the amount appropriate to the fee schedule featured on the back of this application.

Property Owner: MCDEVULLC  
Mailing Address: 5316 ISABELLA City: Colorado City  
State: CO. ZIP: 81019 Telephone: 719-229-0010

CONTRACTOR

Contractor: MCDEVULLC  
Mailing Address: 10739 ARNOLD LN City: PyE  
State: CO ZIP: 81069 Telephone: 719-229-0610

Requested approval for:  Commercial building  Home  Shed  Fence  Other: R-1 CC R-1 County

Lot: 1078 Unit: 1 Legal address, (please verify with CC Metro District): 5316 ISABELLA

Type construction: NEW Home. Mobile homes:  New  Used - Year built: \_\_\_\_\_

Floor area square footage: 1150 Square footage required by covenants: \_\_\_\_\_

REQUIRED ITEMS for submittal of application:

- Legal description of property with legal address defined as street name & number
- Plot plans to scale (indicate scale)
- Property line staked out corners
- Foundation plan and Building staked out before Excavation
- One (1) copy of blue print and One (1) electronic copy sent to manager
- Location of improvements on property - NOTE: front of house must face legal address
- Exterior dimensions - both primary and secondary buildings
- Elevations - front, back, sides
- Accurate setbacks drawn to scale (include easements)
- Distances between buildings
- Location of improvements (porches, decks, garages, carports, driveways, accessory buildings, landscaping)
- Location of propane tank, where applicable
- Location of street light (where required by covenants)
- Fence - type of materials, height, and locations
- Landscaping diagram (if not included in original plans, must be submitted later)
- Exterior color scheme, type of siding and roofing materials must be indicated

I have read and agree to abide by the unit's protective covenants for which this application is submitted:

Property owner's signature: [Signature] Date: JULY 19 2021

This application will not be accepted until you read and sign on reverse.

CONDITIONS APPLYING TO THIS APPLICATION

- It is clearly understood that the granting of architectural approval does not relieve the owner or building of compliance with Pueblo County Zoning Resolutions and/or Building Codes and Subdivision Regulations; It is also understood that the construction shall commence within 90 days of Colorado City Architectural Advisory Committee (CCAAC) approval. Actual construction period shall not exceed 180 days without committee approval. Failure to comply with these time limitations automatically terminates CCAAC approval. Any changes made to the submitted plans, either before or during construction, must be approved by CCAAC; or applying to the owner's unit. Copies of the covenants are available at the Colorado City Metropolitan District office or at [www.colorado.gov/coloradocitymetro](http://www.colorado.gov/coloradocitymetro).
- Preliminary plans should be brought before CCAAC for approval. One (1) complete set of plans and specifications for construction, including all required items listed on the opposite side of this page, must be submitted for approval. Drawings must be professionally prepared and acceptable for the Pueblo Regional Planning Department.
- CCAAC meets the first and last Tuesdays of each month. After reviewing plans and specifications, CCAAC will approve the submitted plans by the next regular meeting (providing all requirements have been met). The Committee will retain one {1} set of approved plans. Incomplete applications will not be placed on a meeting agenda but will be returned to property owners for completion of missing information.
- Construction must not commence until you have received a Letter of Approval from CCAAC. As stated above, omissions of any information will delay the approval process. All construction must be confined to the lot listed on the reverse side of this document. Greenbelts and adjacent lots must not be used as access or storage during construction.
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**CCACC Fee Schedule**

Please note that a check or money order for the appropriate amount must be included with your application

<u>Commercial/Industrial</u>	<u>\$400.00</u>
<u>Multifamily Residential</u>	<u>\$300.00</u>
<u>New Single Family Residential</u>	<u>\$200.00</u>
<u>Sheds/Fences/Garages/Carports/Decks</u>	<u>\$ 40.00</u>
<u>Remodeling Residential</u>	<u>\$ 50.00</u>
<u>Re-Roofing</u>	<u>\$ 25.00</u>

NOTE: A Late Fee amounting to double the original filing fee will be charged if filing application AFTER construction has begun. For instance, if filing after construction of a shed, that amount would be \$80 (\$40 application fee + \$40 late fee) and must accompany application.

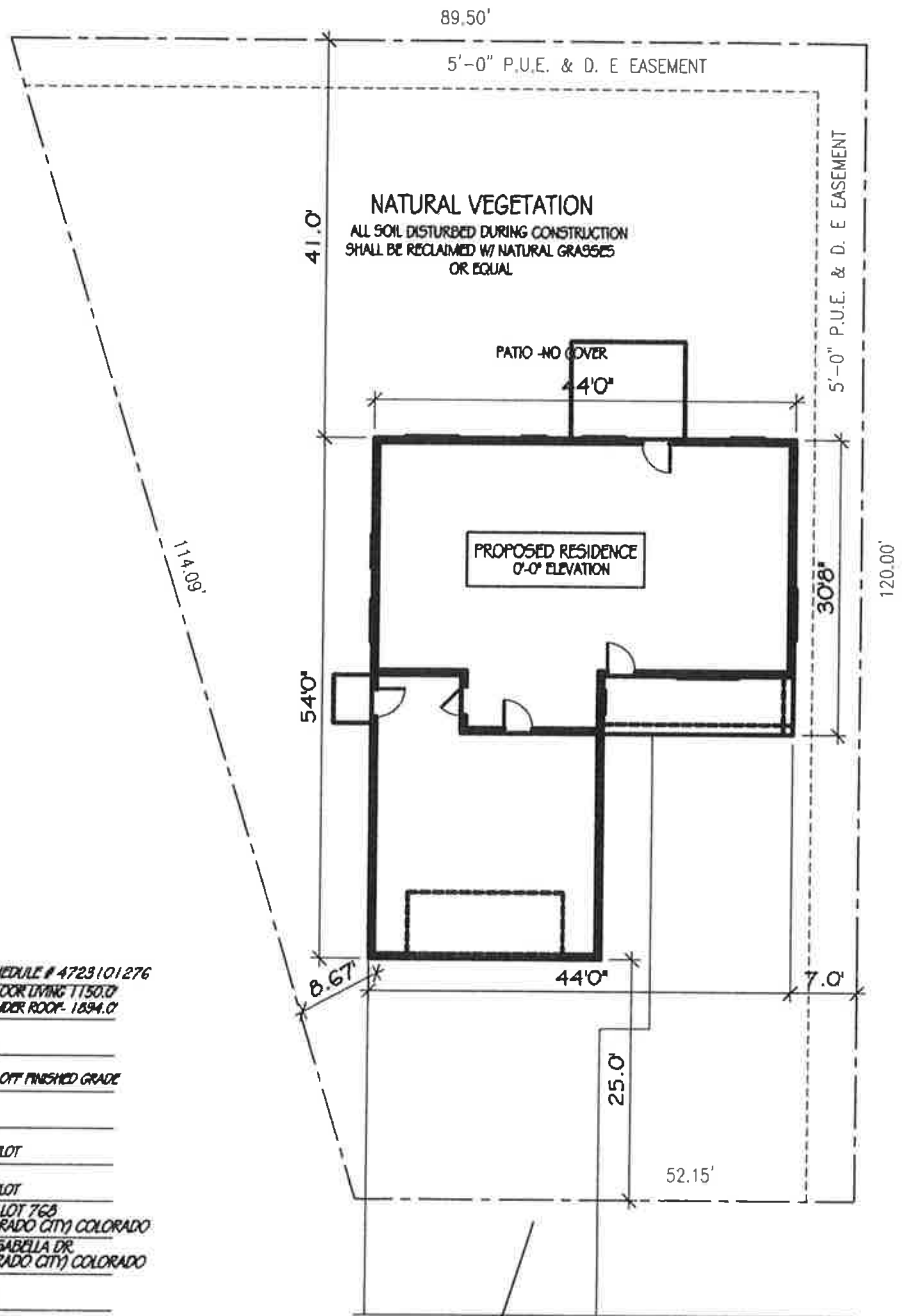
**I have read and understand the provisions of this application and understand that incomplete applications will be returned to me for the required information before being considered by CCAAC.**

Property Owner Signature:  Date: July 19 2021



**PUEBLO COUNTY DEPARTMENT OF PLANNING  
AND ZONING CHECKLIST**

INCLUDED	ASSESSOR'S PARCEL NUMBER	PARCEL SCHEDULE # 4723101276
INCLUDED	SQUARE FOOTAGE OF PROPOSED STRUCTURE	MAIN FLOOR LIVING 1150.0 TOTAL UNDER ROOF 1894.0
N/A	SQUARE FOOTAGE OF EXISTING STRUCTURE	N/A
INCLUDED	STRUCTURE HEIGHT	17'-8" OFF FINISHED GRADE
N/A	LOCATION & SIZE OF EXISTING FENCES, WALLS	N/A
INCLUDED	DIMENSIONS OF THE PARCEL	SEE PLOT
INCLUDED	EASEMENTS/BUILDING SETBACK LINES	SEE PLOT
INCLUDED	LEGAL DESCRIPTION	UNIT 1 LOT 768 (COLORADO CITY) COLORADO
INCLUDED	ADDRESS OF PROPERTY	5316 ISABELLA DR. (COLORADO CITY) COLORADO
N/A	STREET NAME AND ADJACENT STREET	N/A
INCLUDED	NORTH ARROW	SEE PLOT
INCLUDED	ALL LOCATIONS & DISTANCES TO PROP. STRUCTURES	SEE PLOT
N/A	LOCATION & DISTANCES TO EXISTING STRUCTURES IF APPL	N/A



**NATURAL VEGETATION**  
ALL SOIL DISTURBED DURING CONSTRUCTION  
SHALL BE RECLAIMED W/ NATURAL GRASSES  
OR EQUAL

PATIO - NO COVER

4'0"

PROPOSED RESIDENCE  
0'-0" ELEVATION

5'-0" P.U.E. & D. E. EASEMENT

120.00'

41.0'

54'0"

8.67'

89.50'

5'-0" P.U.E. & D. E. EASEMENT

PROPOSED 20' FT. WIDE PAN W/  
6" MIN. CONCRETE AT RIGHT OF WAY  
DRIVE SHALL EXTEND FROM CONCRETE PAD  
TO EXISTING ROAD (SEE CONTRACTOR FOR DETAIL)

**5316 ISABELLA DR. (COLORADO CITY) COLORADO**

**PLOT PLAN**

SCALE: 1" = 20'-0"

BUILDER/OWNER: MOUNTAIN HOMES, LLC- 1150 MODEL

DATE: 6-2021

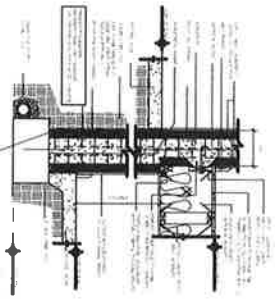
ADDRESS: 5316 ISABELLA DR. (COLORADO CITY) COLORADO

LEGAL DESCRIPTION: UNIT 1 LOT 768 (COLORADO CITY) COLORADO  
PARCEL SCHEDULE # 4723101276

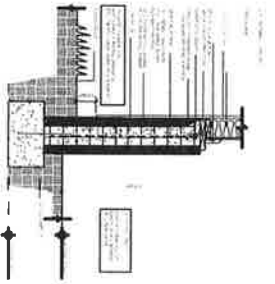
ATT. DAVE WEHRICH  
702 POLK STREET  
PUEBLO, COLORADO 81004  
(719) 299-4784 fax  
(719) 240-9468 cell  
(719) 744-0544 office

EMAIL: dave@advanceddb.com  
EMAIL: dave.wehrich@yahoo.com

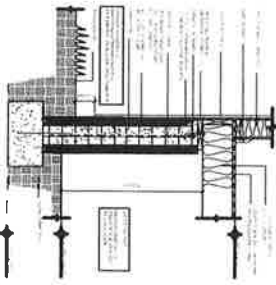




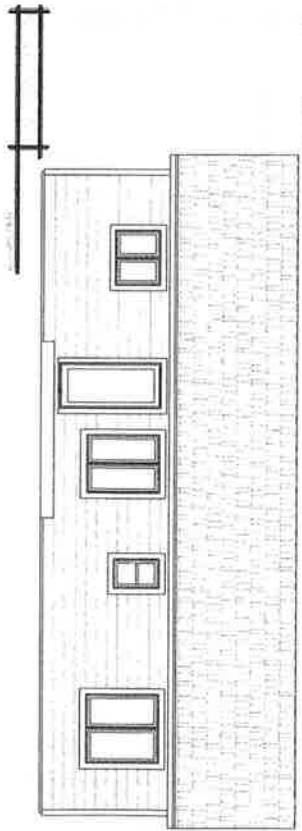
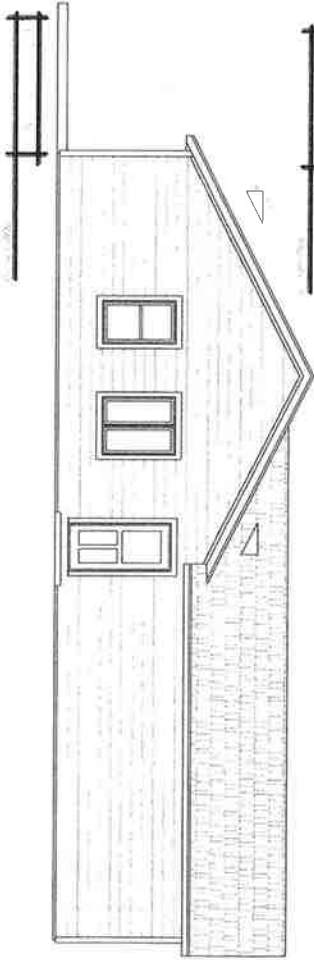
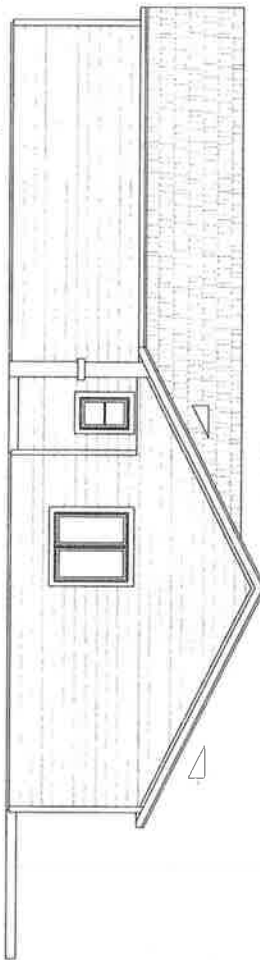
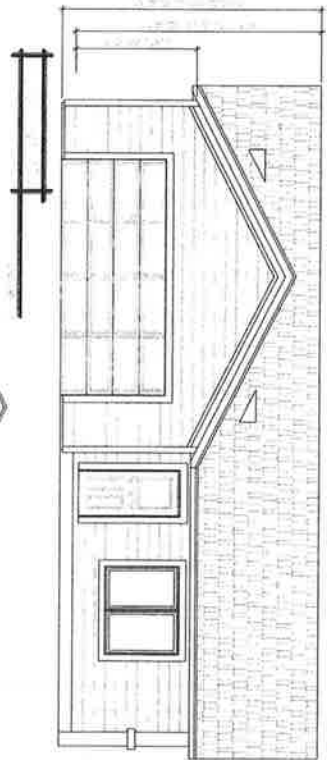
SECTION 3 @ CRAWL WALL / GARAGE  
S1 SS



SECTION 2 @ GARAGE SPACE  
S1 SS



SECTION 4 @ CRAWL SPACE  
S1 SS



ADVANCED  
 CONSTRUCTION  
 1000 S. 10th St.  
 Phoenix, AZ 85006  
 (602) 998-1111  
 www.advancedconstruction.com





**GENERAL INFORMATION**

1. Name of the organization: **Advanced Foundation for the Blind**

2. Address: **1000 North 1st Street, Suite 100, St. Petersburg, FL 33705**

3. Phone: **(813) 424-1111**

4. Fax: **(813) 424-1112**

5. Website: **www.advancedfb.org**

6. EIN: **13-1686000**

7. DUNS Number: **123456789**

8. Other: **None**

9. Description of the organization's mission: **To provide services and support to the blind and visually impaired community.**

10. Description of the organization's programs: **Orientation and Mobility, Braille, Large Print, and other assistive technologies.**

11. Description of the organization's services: **Individualized instruction and support for the blind and visually impaired.**

12. Description of the organization's impact: **Helping individuals become more independent and self-sufficient.**

13. Description of the organization's financial information: **Annual budget of \$1,000,000. Revenue primarily from grants and donations.**

14. Description of the organization's assets: **Real estate, equipment, and other assets.**

15. Description of the organization's liabilities: **None.**

16. Description of the organization's net worth: **Approximately \$500,000.**

17. Description of the organization's governance: **Board of Directors, Executive Director, and staff.**

18. Description of the organization's policies: **Non-discrimination, equal opportunity, and other policies.**

19. Description of the organization's procedures: **Standard operating procedures for all areas of the organization.**

20. Description of the organization's records: **Comprehensive records of all activities and financial transactions.**

21. Description of the organization's compliance: **Compliance with all applicable laws and regulations.**

22. Description of the organization's risk management: **Risk management policies and procedures.**

23. Description of the organization's insurance: **General liability, property, and other insurance.**

24. Description of the organization's legal counsel: **Legal counsel provided by outside law firm.**

25. Description of the organization's other information: **None.**

26. Description of the organization's future plans: **Expansion of services and programs.**

27. Description of the organization's challenges: **Competition for funding and resources.**

28. Description of the organization's opportunities: **Partnerships and collaborations.**

29. Description of the organization's strengths: **Experienced staff and strong community support.**

30. Description of the organization's weaknesses: **Limited funding and resources.**

ORGANIZATION INFORMATION		FINANCIAL INFORMATION		COMPLIANCE INFORMATION	
1. Name of the organization:	Advanced Foundation for the Blind	2. EIN:	13-1686000	3. DUNS Number:	123456789
4. Address:	1000 North 1st Street, Suite 100, St. Petersburg, FL 33705	5. Phone:	(813) 424-1111	6. Fax:	(813) 424-1112
7. Website:	www.advancedfb.org	8. Other:	None	9. Description of the organization's mission:	To provide services and support to the blind and visually impaired community.
10. Description of the organization's programs:	Orientation and Mobility, Braille, Large Print, and other assistive technologies.	11. Description of the organization's services:	Individualized instruction and support for the blind and visually impaired.	12. Description of the organization's impact:	Helping individuals become more independent and self-sufficient.
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16. Description of the organization's net worth:	Approximately \$500,000.	17. Description of the organization's governance:	Board of Directors, Executive Director, and staff.	18. Description of the organization's policies:	Non-discrimination, equal opportunity, and other policies.
19. Description of the organization's procedures:	Standard operating procedures for all areas of the organization.	20. Description of the organization's records:	Comprehensive records of all activities and financial transactions.	21. Description of the organization's compliance:	Compliance with all applicable laws and regulations.
22. Description of the organization's risk management:	Risk management policies and procedures.	23. Description of the organization's insurance:	General liability, property, and other insurance.	24. Description of the organization's legal counsel:	Legal counsel provided by outside law firm.
25. Description of the organization's other information:	None.	26. Description of the organization's future plans:	Expansion of services and programs.	27. Description of the organization's challenges:	Competition for funding and resources.
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4. Fax: **(813) 424-1112**

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6. EIN: **13-1686000**

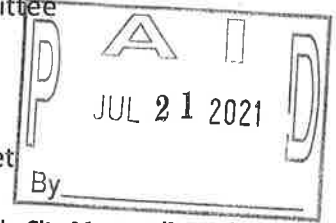
7. DUNS Number: **123456789**

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Colorado City Architectural Advisory Committee  
 P.O. Box 20229  
 Colorado City, Colorado 81019  
 719 676-3396  
 colocitymanager@ghvalley.net



Application will be considered for review only if it has been fully completed and received at the Colorado City Metropolitan District office or mailed to and received at the above address by 3p.m. on the Wednesday prior to the next regular meeting. All applications must be accompanied by a check or money order made out to "CCAAC" in the amount appropriate to the fee schedule featured on the back of this application.

Property Owner: Susan & Ronald Mahaney  
 Mailing Address: PO Box 20103 City: Colorado City  
 State: CO ZIP: 81019 Telephone: 719-676-2080

CONTRACTOR

Contractor: Home Depot  
 Mailing Address: \_\_\_\_\_ City: \_\_\_\_\_  
 State: \_\_\_\_\_ ZIP: \_\_\_\_\_ Telephone: \_\_\_\_\_

Requested approval for:  Commercial building  Home  Shed  Fence  Other: \_\_\_\_\_

Lot: 257 Unit: 11 Legal address, (please verify with CC Metro District): 6843 Fort Garland St

Type construction: Wood Mobile homes:  New  Used - Year built: \_\_\_\_\_

Floor area square footage: 1200 120 Square footage required by covenants: \_\_\_\_\_

REQUIRED ITEMS for submittal of application:

- Legal description of property with legal address defined as street name & number
- Plot plans to scale (indicate scale)
- Property line staked out corners
- Foundation plan and Building staked out **before** Excavation
- One (1) copy of blue print and One (1) electronic copy sent to manager
- Location of improvements on property - NOTE: front of house **must** face legal address
- Exterior dimensions - both primary and secondary buildings
- Elevations - front, back, sides
- Accurate setbacks drawn to scale (include easements)
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- Location of propane tank, where applicable
- Location of street light (where required by covenants)
- Fence - type of materials, height, and locations
- Landscaping diagram (if not included in original plans, must be submitted later)
- Exterior color scheme, type of siding and roofing materials must be indicated

I have read and agree to abide by the unit's protective covenants for which this application is submitted:

Property owner's signature: Susan Mahaney Date: 7-21-2021

This application will not be accepted until you read and sign on reverse.

CONDITIONS APPLYING TO THIS APPLICATION

- It is clearly understood that the granting of architectural approval does not relieve the owner or building of compliance with Pueblo County Zoning Resolutions and/or Building Codes and Subdivision Regulations; It is also understood that the construction shall commence within 90 days of Colorado City Architectural Advisory Committee (CCAAC) approval. Actual construction period shall not exceed 180 days without committee approval. Failure to comply with these time limitations automatically terminates CCAAC approval. Any changes made to the submitted plans, either before or during construction, must be approved by CCAAC; or applying to the owner's unit. Copies of the covenants are available at the Colorado City Metropolitan District office or at [www.colorado.gov/coloradocitymetro](http://www.colorado.gov/coloradocitymetro).
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<u>Commercial/Industrial</u>	<u>\$400.00</u>
<u>Multifamily Residential</u>	<u>\$300.00</u>
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<u>Sheds/Fences/Garages/Carports/Decks</u>	<u>\$ 40.00</u>
<u>Remodeling Residential</u>	<u>\$ 50.00</u>
<u>Re-Roofing</u>	<u>\$ 25.00</u>

NOTE: A Late Fee amounting to double the original filing fee will be charged if filing application AFTER construction has begun. For instance, if filing after construction of a shed, that amount would be \$80 (\$40 application fee + \$40 late fee) and must accompany application.

**I have read and understand the provisions of this application and understand that incomplete applications will be returned to me for the required information before being considered by CCAAC.**

Property Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_



You're shopping

Stapleton ▼

**OPEN** until 10 pm

Delivering to

80207 ▼

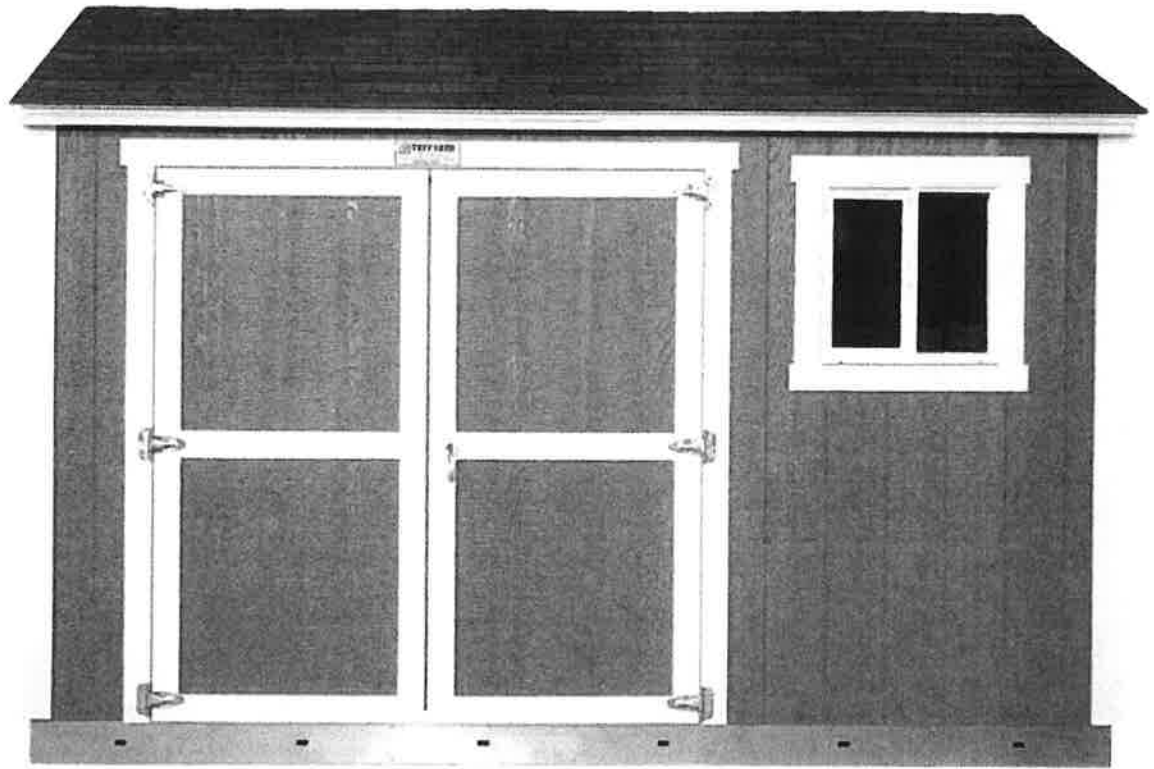
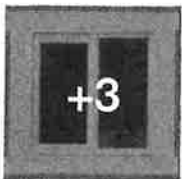
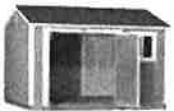
Tuff sheds



Cart | 0 items

Home / Storage & Organization / Sheds, Garages & Outdoor Storage / Outdoor Storage / Sheds / Wood St

Internet #206943702 Model #Tahoe 10x12 S



Feedback

Hover Image to Zoom

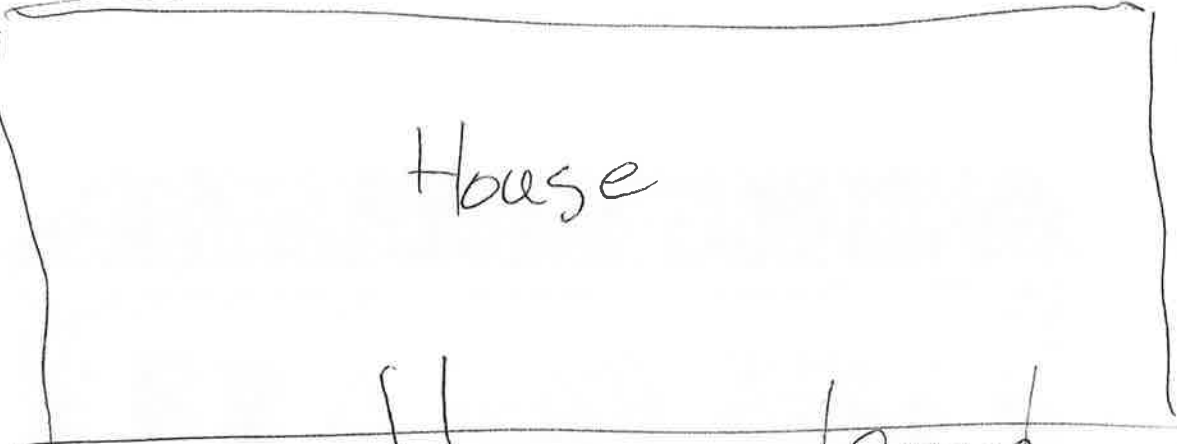
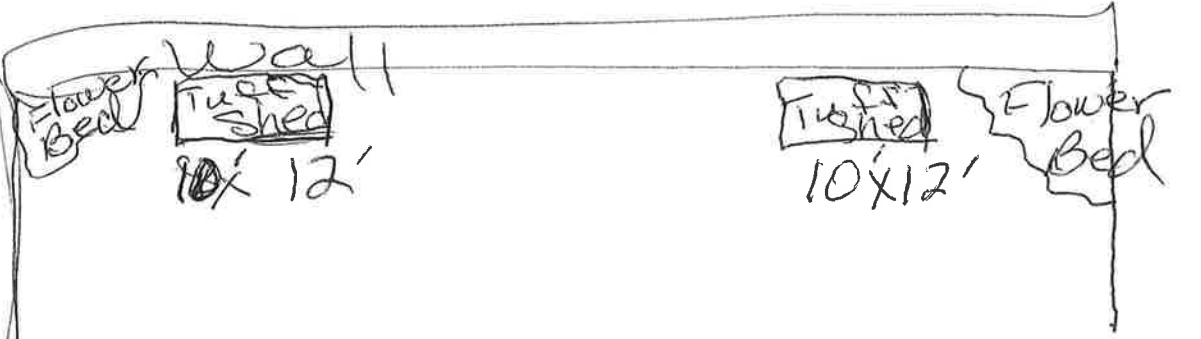
1309

Installed The Tahoe Series Tall Ranch 10 ft. x 12 ft. x 8 ft. 10 in. Painted Storage Building Shed and Sidewall Door

Road  
Fence

Fence

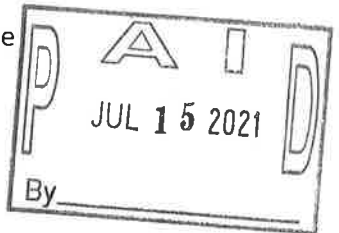
Fence



Fort Garland St



Colorado City Architectural Advisory Committee  
 P.O. Box 20229  
 Colorado City, Colorado 81019  
 719 676-3396  
 colocitymanager@ghvalley.net



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Property Owner: Linda Lewis  
 Mailing Address: 4805 Hicklin Dr. City: CO City  
 State: CO ZIP: 81019 Telephone: 676-2275

CONTRACTOR			
Contractor:	<u>Taylor Fence Company of Pueblo</u>		
Mailing Address:	<u>211 Santa Fe Drive</u>	City:	<u>Pueblo</u>
State:	<u>CO</u>	ZIP:	<u>81002</u>
		Telephone:	<u>719-542-5076</u>

Requested approval for:  Commercial building  Home  Shed  Fence  Other: \_\_\_\_\_

Lot: 1026 Unit: 1 Legal address, (please verify with CC Metro District): \_\_\_\_\_

Type construction:  Fence Wood Mobile homes:  New  Used - Year built: \_\_\_\_\_

Floor area square footage: \_\_\_\_\_ Square footage required by covenants: \_\_\_\_\_

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- Fence - type of materials, height, and locations
- Landscaping diagram (if not included in original plans, must be submitted later)
- Exterior color scheme, type of siding and roofing materials must be indicated

**I have read and agree to abide by the unit's protective covenants for which this application is submitted:**

Property owner's signature: Linda L Lewis Date: 7/15/21

**This application will not be accepted until you read and sign on reverse.**

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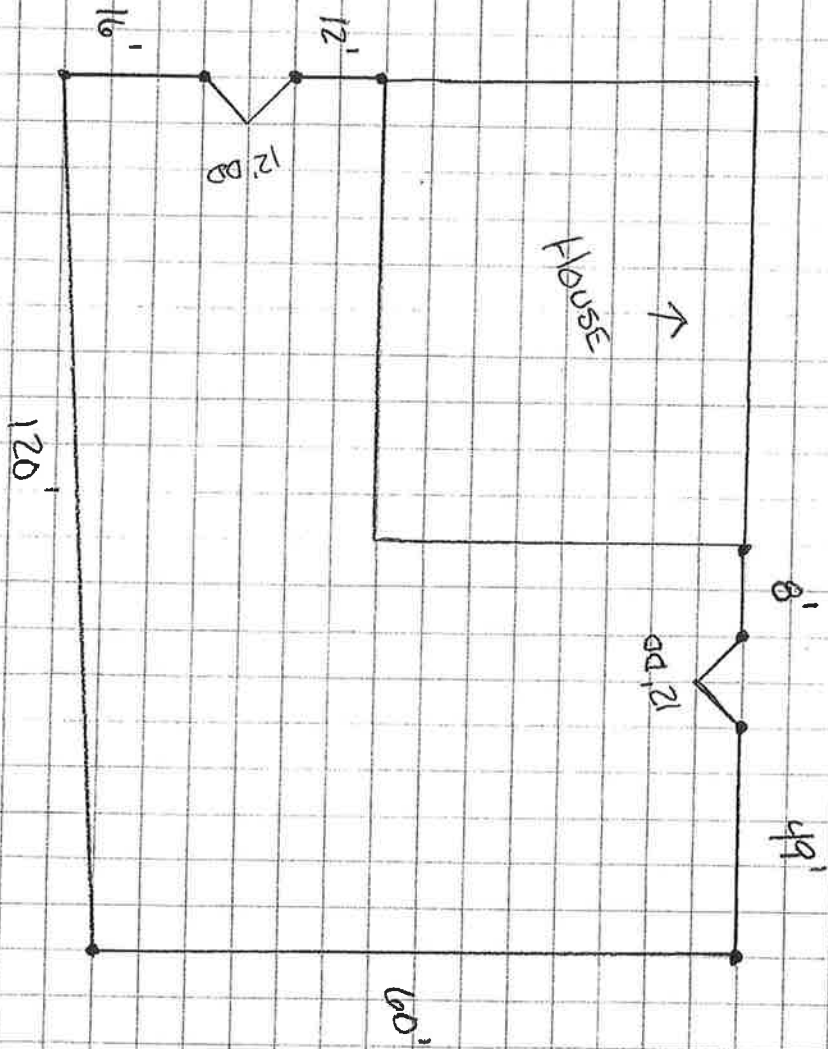
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Multifamily Residential	\$300.00
New Single Family Residential	\$200.00
* Sheds/Fences/Garages/Carports/Decks	\$ 40.00 *
Remodeling Residential	\$ 50.00
Re-Roofing	\$ 25.00

NOTE: A Late Fee amounting to double the original filing fee will be charged if filing application AFTER construction has begun. For instance, if filing after construction of a shed, that amount would be \$80 (\$40 application fee + \$40 late fee) and must accompany application.

**I have read and understand the provisions of this application and understand that incomplete applications will be returned to me for the required information before being considered by CCAAC.**

Property Owner Signature: Linda L. Lewis Date: 7/15/21





Emailed 6/23

QUOTATION / CONTRACT

# JURGENS INC. D/B/A

## Taylor Fence Company of Pueblo

211 SANTA FE DRIVE - P.O. BOX 1756 - PUEBLO, CO 81002

PHONE (719) 542-5076 - FAX (719) 542-5078

### SYMBOL OF QUALITY AND WORKMANSHIP

**SUBMITTED TO:**

LINDA LEWIS  
4805 HICKLIN DR  
COLORADO CITY, CO 81019

DATE: 6/22/2021  
PHONE: 970-769-4010  
EMAIL: [llewis43@gmail.com](mailto:llewis43@gmail.com)

WE PROPOSE TO FURNISH MATERIALS AND/OR PERFORM WORK DESCRIBED AND PRICED AS FOLLOWS:

FENCE HEIGHT:	<u>6'</u>	PICKET SIZE:	<u>1" X 6" X 6'</u>	TERMINAL POST:	<u>2 3/8" OD PIPE</u>	GATE POST:	<u>2 3/8" OD PIPE</u>
RAIL SIZE:	<u>3 - 2" X 4" X 8'</u>	GATES:	<u>2 - 12' X 6' DOUBLE DRIVE GATE</u>	FENCE TYPE:	<u>SOLID STYLE</u>		
							<u>CEDAR PRIVACY</u>

WE ARE GLAD TO QUOTE ALL MATERIAL, CONCRETE, TAX AND LABOR TO INSTALL 265 FEET OF 6' TALL CEDAR FENCE PER YOUR REQUEST.

265' 6' TALL SOLID STYLE CEDAR PRIVACY FENCE COMPLETE WITH 2 3/8" OD PIPE POSTS, 3 - 2" X 4" X 8' CEDAR RAILS, AND 1" X 6" X 6' CEDAR PICKETS.

2 12' X 6' DOUBLE DRIVE (WEDED PIPE FRAME)

**TOTAL: \$ 13,804.54**

**\*PROPERTY LINES MUST BE ESTABLISHED AND VISIBLE BEFORE INSTALLATION CAN BEGIN\***

**Terms of Purchase: 50% down at time of order.**

**Notes:**

- ~ Current lead time is 14-16 weeks from time of acceptance.
- ~ If you have any questions, please contact us.
- ~ Any changes to current landscaping may impact this estimate.
- ~ Liability & Workman's Compensation Insurance Certificate available upon request.
- ~ Licensed and Bonded.
- ~ All material and workmanship guaranteed for one year.
- ~ Pricing valid for **TEN** days.

**Customer's Responsibility:**

- ~ Acquire all building permit required. Colorad City requires a permit to build a new fence.
- ~ Locate and mark all private utility lines and property pins.
- ~ Mark sprinkler lines and/or relocate existing sprinkler lines away from proposed fence line.
- ~ Repair any damaged unmarked sprinkler lines or private utility lines.
- ~ Grade and grub the jobsite as require and to stake the proposed fence line.

THIS QUOTATION IS FOR: MATERIAL ONLY  MATERIAL & LABOR  LABOR ONLY

THIS QUOTATION IS SUBJECT TO BUYERS ACCEPTANCE WITHIN 30 DAYS.

YOUR ACCEPTANCE WILL CONSTITUTE AN ORDER WHICH, WITH OUR OFFICE APPROVAL, WILL BECOME AN AGREEMENT BETWEEN US.

PLEASE SIGN THE ORIGINAL

METHOD OF PAYMENT FINAL PAYMENT DUE UPON COMPLETION

RESPECTFULLY SUBMITTED,

DATE OF ACCEPTANCE 6/23/21

TAYLOR FENCE COMPANY OF PUEBLO

BUYER

BY:   
JAY LEILL

BY: Linda L. Lewis