Memorandum

Apple Canyon Lake

To: ACL Board

Date: April 5, 2021

From: Megan Shamp

Memo #: 2021-29

Topic: April committee/commission changes

Recommendation: To appoint Jody Ware as Chair and Marge Clark as Secretary of the Board Policy Ad Hoc Commission; to appoint Mary Hannon and Fern Tribbey as Co-Chairs of the Recreation Commission; and to appoint Tom Ohms and Todd Kintop as Co-Chairs and Penny Diehl as Secretary of the Trails Commission; and to accept the resignation of Allen Hendren from the Trails Commission.

Plan on a Page: High Performing Operations and Management – **To operate at full efficiency and effectiveness for the benefit of the Association**

Memorandum

Apple Canyon Lake

To: ACL Board

Date: April 5, 2021

From: Rules & Regulations Commission

Memo #: 2021-25

Topic: Rules & Regulations: Clubhouse – 1st Reading

Analysis: Staff brought revisions to section I Clubhouse to the Rules & Regulations Commission at their February 5, 2021 meeting. The job title of the Communication/Recreation Manager was corrected and a section on Open Clubhouse was added. Minor changes were recommended by Rules & Regulations at that February meeting, and the Rules & Regulations Commission motioned to recommend the revised section to the Board of Directors for approval at their March 5, 2021 meeting.

This section was presented to the Board for first reading at the March 20 meeting. One small grammatical correction was made to D. 2. No other changes were recommended.

Recommendation: To approve the Rules & Regulations section Clubhouse as included in the April Board packet.

I. CLUBHOUSE

Preamble: The clubhouse is maintained for use of all members and is available on a limited basis for private parties. Contact the Communications & ~~/~~Recreation Manager for information.

A. General

1. Members wishing to schedule the use of space and/or serve food at the Clubhouse are to verify the date and time with the Communications & ~~/~~Recreation Manager.
2. Maximum capacity for the clubhouse is 250 persons.

B. Attire

1. The wearing of proper attire (shirts and shoes) is required in social areas.

C. Private Parties

NOTE: A detailed Rental Rules and Agreement must be signed by Property Owners when renting the clubhouse prior to any rental being permitted.

1. All reservations are to be made through the Communications & ~~/~~Recreation Manager and approved by the General Manager.
2. Reservations are to be made at least one month in advance of event. Association events take precedence.
3. A damage deposit is required upon reservation confirmation. See fee schedule. Refunds of the damage deposit are dependent upon the extent of damage, if any, to the facility occurring during the event.
4. There is a six (6) hour time limit on private parties.

D. Open Clubhouse

1. The Clubhouse serves as a quiet place for members to relax, socialize, watch TV, and use free Wi-Fi provided by the Association.
2. The hours that the Clubhouse is open for owners are posted in the ~~Typically, the Clubhouse is open for use Monday – Saturday 8:00am – 5:00pm, and Thursday evenings from 7:00 – 11:00pm.~~ lobby. However, Association events and meetings take precedence.
    - Regularly scheduled events and meetings can be found on the web calendar on the website – www.applecanyonlake.org.

Amended: March 17, 2018 *Amended: July 18, 2020*

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Amended: March 17, 2018 *Amended: July 18, 2020*

Apple Canyon Lake Property Owners Association
Rules & Regulations Commission Minutes
March 5, 2021

UNAPPROVED

The following Commission members were present: Chair Vickie Sershon, Co-Chair Fern Tribbey, Bob Fitzjerrells, George Drogosz, Mike Harris, Fred Pfeiffer and Bob Stanger (Zoom). Guests: General Manager Shaun Nordlie and Security/Aquatics Manager Julie Janssen.

1.0 Call to Order – Chair Vickie Sershon called the Rules & Regulations Commission meeting to order on March 5, 2021 at 10:00am.

2.0 Approve Minutes of February 5, 2021 – The February 5, 2021 minutes were approved as presented with a motion from George Drogosz and seconded by Bob Stanger. Motion passed.

3.0 Unfinished Business
3.1 Amenity Tags – ACL Board approved at the February meeting.
3.2 Noise Nuisance – Some discussion was held by the ACL Board in February; a second reading will be held at the March meeting.
3.3 Unregistered vs Illegal Vehicles – ACL Board had a first reading in February. A second reading will continue at the March meeting.
3.4 Dear Management Request to Use Practice Broadheads – ACL Board approved at the February meeting.
3.5 Campground – ACL Board will have a second reading at the March meeting.
3.6 Snowmobiles – Mr. Nordlie reviewed with the Commission Section XIII Snowmobiles. Under C. Operation, No. 7 was added regarding that ACL assumes no liability for individuals operating snowmobiles on the lake when frozen. After discussion, George Drogosz made a motion and Bob Fitzjerrells seconded, "Rules & Regs recommends to the ACL Board to approve Section XIII Snowmobiles per the attached document as written." Motion passed.
3.7 Clubhouse – Mr. Nordlie reviewed with the Commission Section I. Clubhouse regarding new language. Another point was added as D. Open Clubhouse which covers the hours the clubhouse would be open for owners to use. After a discussion, George Drogosz made the motion, and Fern Tribbey seconded, "Rules & Regs recommends to the ACL Board to approve Section I. Clubhouse per the attached document as written." Motion passed.
3.8 Guests – Mr. Nordlie reviewed the language with the Commission. It will come back to Rules & Regs in April for a second reading.

4.0 New Business – Julie Janssen brought up the topic for April's meeting regarding what constitutes a sunrise/sunset no wake time on the lake. Discussion will continue at the next meeting.

5.0 Next Meeting Date - Second Friday, April 9, 2021 at 10:00am (due to Easter holiday).

6.0 Adjournment – Fern Tribbey made a motion to adjourn at 10:35am.

Respectfully Submitted,
Karen Drogosz

Apple Canyon Lake Property Owners Association Committee/Commission Motion Card

Rules + Regs. Committee/Commission Date 3-5-21

I move:

Rules + Regs recommends to the ACL Board to approve Sect. XIII Snowmobiles the attached document as written

Action Taken approved

MOTION MADE BY: George Drogosz
DROGOSZ
MOTION SECONDED BY: Bob Fitzjerrells
FITZJERRELS
CHAIR: Vickie Sershon
VICKIE

VOTE RECORDED:
YEA: 5
NAY: 0
ABSTAIN: –

Date Received ______ Given to ______ Date Completed ______

Apple Canyon Lake Property Owners Association Committee/Commission Motion Card

Rules + Regs Committee/Commission Date 3-5-21

I move:

Rules + Regs recommends to the ACL Board to approve Sect 1. Clubhouse attached document as written

Action Taken approved

MOTION MADE BY: George Drogosz
DROGOSZ
MOTION SECONDED BY: Fern Tribbey
~~FITZJERRELS~~ TRIBBEY
CHAIR: Vickie Sershon
VICKIE

VOTE RECORDED:
YEA: 5
NAY: 0
ABSTAIN: –

Date Received ______ Given to ______ Date Completed ______

Memorandum

Apple Canyon Lake

To: Board of Directors

Date: April 5, 2021

From: Joe Wiener, Building Inspector

Memo: 2021-32

Topic: Lot Combination 05-106 and 05-107

Issue & Analysis: Michael & Ann Yorke have requested a Lot Combination of lots 106 and 107 in the Big Spirit (5) subdivision. This request was reviewed and approved by the Architectural and Environmental Control Committee at their April 3, 2021 meeting.

Recommendation: To approve the Lot Combination Agreement requested by Michael & Ann Yorke for lots 106 and 107 in the Big Spirit (5) subdivision. Once recorded, the Lot Combination Agreement may not be revoked or rescinded.

Plan on a Page: Improvement of Infrastructure – To develop, maintain and improve the existing infrastructure.
High Performing Operations and Management - 1YAP – **Provide on-going training of Board of Directors and staff on governing documents for consistency in decision-making.**

12.2

Memorandum

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-40

Topic: Concessionaire Agreement with The Cottrell Group, Inc.

Issue & Analysis: Legal counsel has developed a concessionaire agreement that the Association will use going forward with food trucks that sell their products on ACL property. The agreement details the products that can be sold by the concessionaire, signage, hours of operation, financial arrangements, location, insurance (as detailed by the Association Insurance Agent), and terms of the agreement among other items. The Agreement with the Cottrell Group states that breakfast and lunch food may be served along with non-alcoholic beverages. The hours of operation shall be 7 am to 11 am one weekend per month. Additional dates can be added with approval of the Board of Directors. The Cottrell Group can also be open for events and activities as determined by the Communications and Recreation Manager. The cost will be $25 per weekend with the location for non-events and activities being in the Firehouse Fitness parking lot.

Recommendation: To approve the proposed Concessionaire Agreement with the Cottrell Group, Inc.

Memorandum

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-41

Topic: Concessionaire Agreement with That One Place Bean

Issue & Analysis: Legal counsel has developed a concessionaire agreement that the Association will use going forward with food trucks that sell their products on ACL property. The agreement details the products that can be sold by the concessionaire, signage, hours of operation, financial arrangements, location, insurance (as detailed by the Association Insurance Agent), and terms of the agreement among other items. The Agreement with That One Place Bean states that coffee, non-alcoholic beverages and certain pre-made baked goods may be served. The hours of operation shall be 8 am to 1 pm one weekend per month. The cost will be $25 per weekend with the location for sales being in the Firehouse Fitness parking lot.

Recommendation: To approve the proposed Concessionaire Agreement with That One Place Bean

12.4

Memorandum

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-42

Topic: Concessionaire Agreement

Issue & Analysis: Legal counsel has developed a Concessionaire Agreement that the Association will use going forward with food trucks that sell their products on ACL property. The agreement details the products that can be sold by the concessionaire, signage, hours of operation, financial arrangements, location, insurance (as detailed by the Association Insurance Agent), and terms of the agreement among other items. This agreement can be used in the future for other food trucks or vendors that sell their goods on ACL grounds.

Recommendation: To approve the proposed Concessionaire Agreement to be used in the future for food trucks or vendors that sell their goods on ACL grounds.

CONCESSION AGREEMENT

THIS CONCESSION AGREEMENT ("Agreement") is entered into this day of_____, 2021 by and between Apple Canyon Lake Property Owners' Association., an Illinois not-for-profit corporation, having its principal office at 14A157 Canyon Club Drive, Apple River, Illinois 61001 ("Apple Canyon"), and_____having its principal office at _____("Concessionaire").

WITNESSETH:

WHEREAS, Apple Canyon is an Illinois not-for-profit corporation, subject to the terms of the Illinois General Not-for-Profit Corporation Act (805 ILCS 105/101 et. seq.) and the Illinois Common Interest Community Association Act (765 ILCS 160/1 et. seq.) that is responsible for the maintenance and administration of certain common areas and facilities for the benefit of its members;

WHEREAS, one of the common facilities under the jurisdiction of Apple Canyon is a certain Firehouse Fitness parking lot (the "Facility");

WHEREAS, Apple Canyon and Concessionaire desire that Concessionaire enter into this Agreement pursuant to which Concessionaire shall be granted the right to park a food truck that provides certain services and products upon the Facility, or upon any other area designated by Apple Canyon's Communications and Recreation Manager, in accordance with the terms and conditions set forth below; and

WHEREAS, Concessionaire represents that it possesses the necessary qualifications to provide the services and products described herein.

NOW, THEREFORE, Apple Canyon and Concessionaire agree as follows:

ARTICLE 1: CONCESSIONAIRE RIGHTS

1.1 Sale of Products. Apple Canyon grants to Concessionaire the right to park a food truck for the purposes of conducting the sale of food and beverages at the Facility, which shall include the right to sell_____. The sale of alcoholic beverages is prohibited.

1.2 Intentionally omitted.

1.3 Equipment; Signage. Concessionaire shall be solely responsible for providing all equipment and products in connection with its rights under this Agreement. All equipment shall be removed by Concessionaire at the close of each day Concessionaire is upon the Facility. Any repairs necessary to Concessionaire's equipment shall be performed by Concessionaire at its sole expense. Concessionaire shall provide, at its own cost, all equipment, serving pieces, utensils, storage containers, point of sale terminals, and

all other supplies and equipment necessary for the sale of all products. The style, size, form, content, materials and location of all signs and advertising used by Concessionaire at the Facility shall be subject to the prior written approval of Apple Canyon.

1.4 Facility Alterations. No modifications or alterations to the Facility may be made by Concessionaire.

ARTICLE 2: COMPLIANCE WITH LAWS

Concessionaire shall be responsible for compliance with all federal, state and local safety and health laws and regulations with respect to its operations. Concessionaire shall, at its expense, obtain all permits and licenses required for the conduct of its operations hereunder.

ARTICLE 3: CLEANING RESPONSIBILITIES/TRASH REMOVAL

Concessionaire shall be responsible for maintaining a high standard of service, hygiene, cleanliness and sanitation in the Facility and the immediately surrounding areas. Concessionaire shall be responsible for trash and garbage removal.

ARTICLE 4: INVENTORY

Concessionaire shall be responsible for maintaining sufficient inventory to meet anticipated demand. Concessionaire shall be solely responsible for ordering and transporting products to and from the Facility. All products shall be of a high quality.

ARTICLE 5: PERSONNEL; INDEPENDENT CONTRACTOR

5.1 Concessionaire's Personnel. Concessionaire will maintain a staff of its employees on duty at the Facility at a level and in a manner consistent with the operating standards required by Apple Canyon. Concessionaire's employees shall be employed by Concessionaire, and not Apple Canyon, for all purposes hereunder. Concessionaire and its management, supervisors and employees must behave in a professional manner at all times while in or around the Facility. No smoking is permitted at the Facility, unless specifically permitted by Apple Canyon. Concessionaire agrees that it will comply with all of Apple Canyon's rules, policies and procedures. Apple Canyon reserves the right to ban any Concessionaire's employee(s) from the Facility, in its sole discretion. Concessionaire hereby agrees that it will inform its employees that they must abide by Apple Canyon's policies and procedures.

5.2 Independent Contractors. Concessionaire shall be an independent contractor of Apple Canyon and not a joint venture, partner, agent or employee of Apple Canyon. Concessionaire, and not Apple Canyon, shall be responsible for the payment of all wages, payroll taxes, fringe benefits and severance for its employees. Concessionaire shall indemnify Apple Canyon and all of its officers, directors, members, employees, agents and representatives against any and all liability which may be asserted against them in connection with this Agreement and Concessionaire's performance hereunder.

5.3 Representations. Concessionaire hereby warrants and represents that it shall comply with all federal, state and wage and hour law requirements and obligations. Concessionaire hereby warrants and represents that it is solely responsible for the following: (i) paying its employee's at least the applicable minimum wage; (ii) withholding all applicable taxes for its employees; (iii) providing unemployment and workers' compensation coverage for its employees; (iv) keeping all required record keeping documents pertaining to its employees; and (v) properly completing all appropriate paperwork for the employment of such individuals, including, but not limited to, the I-9 form and applicable tax forms.

ARTICLE 6: HOURS OF OPERATION

The Facility shall be open for business and able to serve customers, with Apple Canyon approval, as follows:

(A) The Facility shall be open _____ _____ _____;

(B) The Facility may be open for additional dates, subject to the approval of Apple Canyon's Board of Directors;

(C) The Facility may be open for events and activities, beyond those described in 6(A) and 6(B), subject to the approval of Apple Canyon's Communications and Recreation Manager.

ARTICLE 7: FINANCIAL ARRANGEMENTS

The Concessionaire shall pay Apple Canyon $_____ per weekend described in Section 6(A), $_____ per additional date described in Section 6(B) and $_____ per event and activity described in Section 6(C). Payment shall be made each weekend or on the date of the additional event or activity. Concessionaire shall be considered to have been open for business and able to serve customers on any given weekend if it is open for at least a total of 2 hours during the weekend.

ARTICLE 8: REIMBURSEMENT OF ADDITIONAL SUMS/UTILITIES

8.1 If Apple Canyon has paid any sums or has incurred any expense for which Concessionaire agreed to pay Apple Canyon, or if Apple Canyon is required to pay any sums or incurs any expense arising from this Agreement or arising from the failure or neglect of Concessionaire to perform or fulfill any of the terms or conditions of this Agreement, such amounts shall be deemed additional payments due hereunder; and Concessionaire shall reimburse Apple Canyon for the amount(s) thereof within ten (10) days following such demand(s).

8.2 Concessionaire shall be responsible and shall pay 100% of all costs related to its use of the Facility. Apple Canyon is not providing any electricity or any other utility

services for Concessionaire. Concessionaire shall be solely responsible for procuring and paying for all electricity and other utility costs and expenses related to its use of the Facility.

ARTICLE 9: INSURANCE; INDEMNIFICATION

9.1 Insurance: Concessionaire shall procure, and shall maintain in full force and effect at all times during the term of this agreement, insurance against risks as is customarily carried with respect to properties similar to the Facility, paying as the same become due all premiums thereof, including, without limitation:

(A) Workers' Compensation (statutory limits), including Employers' Liability for limits not less than $500,000.00 each accident, $500,000.00 disease-policy limit, and $500,000.00 disease-each employee.

(B) Commercial General Liability coverage including Products-Completed Operations coverage, Personal Injury Liability and Advertising Liability. The policy shall afford protection on a combined single limit of not less than $1 million per occurrence. The general aggregate shall have a limit of not less than $1 million and the Products Liability aggregate shall not be less than $1 million.

(C) Business Automobile Liability coverage with a combined single limit of not less than $1 million.

(D) Apple Canyon, its officers, directors, mangers, agents and members shall name as additional insured with respect to Employers' Liability coverage, Commercial General Liability coverage and Business Automobile coverage.

(E) Upon execution of this agreement, Concessionaire shall deliver a Certificate of Insurance to Apple Canyon evidencing the required insurance coverages, which shall all include Apple Canyon's interest as an additional insured. All coverages are subject to Apple Canyon's review and approval, which shall not unreasonably be withheld.

9.2 Indemnification. Concessionaire hereby agrees to indemnify, defend, protect and forever hold Apple Canyon and all of its, officers, directors, members, employees, agents and representatives harmless from any and all acts, claims, liabilities, demands, litigation, actions, lawsuit and other proceedings, judgments, awards, taxes, costs, losses, penalties, fees and expenses (including, but not limited to, attorneys' fees) and liabilities, arising by reason of, or in any way related to, (i) Concessionaire's activities or services at the Facility, (ii) any condition in or upon or any occurrences in or upon the Facility, (iii) for damage to any property or persons (including, but not limited to, injury or death) arising by reason of any of the foregoing and (iv) for any and all tax liability arising

from the Concessionaire's activities at the Facility, including, but not limited to, all retail sales taxes and other direct taxes imposed upon receipts collected from consumers or imposed on any amounts related to Concessionaire's use of the Facility.

ARTICLE 10: TERM; TERMINATION; LIQUIDATED DAMAGES

10.1 Term. The term of this Agreement (the "Term") shall commence April 1, 2021 and shall terminate on November 1, 2021. The parties may, but are not obligated, agree to extend the Agreement beyond the initial Term. Any such extension of the Term shall be in writing, executed by both parties hereto.

10.2 Early Termination. Apple Canyon may, in its sole discretion, terminate this Agreement prior to the expiration of the Term by giving five (5) days' advance written notice to Concessionaire. Apple Canyon may terminate this Agreement for no reason or any reason, including convenience. Concessionaire shall permit Apple Canyon to monitor the quality and control level of services provided by Concessionaire. If Apple Canyon determines that any aspect of Concessionaire's services do not meet Apple Canyon's quality or service standards, Apple Canyon shall be entitled to immediately terminate this Agreement.

ARTICLE 11: ASSIGNMENT

This Agreement shall not be assigned by either party.

ARTICLE 12: NO GUARANTEES; LIMITATION OF LIABILITY

12.1 No Guarantees. Concessionaire acknowledges that Apple Canyon has made no guarantees with respect to the level of revenue or profitability of the Facility.

12.2 Limitation of Liability. Concessionaire hereby agrees that in all events, regardless of the nature of the claim or dispute, the maximum liability that Apple Canyon shall have to Concessionaire under this Agreement, shall be limited to the total sums paid to Apple Canyon in a single calendar year, and as described in Article 7. Notwithstanding anything in this Agreement to the contrary, Concessionaire shall not be entitled to seek, claim or collect damages in excess of the actual and direct damages actually incurred or sustained as a result of a breach or violation of this Agreement. Accordingly, Concessionaire hereby expressly waives any right to seek, claim or collect any punitive, indirect, special, speculative or consequential damages in connection with, or related to, a breach or violation of this or any other agreement entered into between the parties (or their respective affiliated or related entities) to this Agreement.

ARTICLE 13: MISCELLANEOUS

This Agreement contains the entire understanding between the parties and may not be amended other than by a written instrument executed by both parties. This Agreement shall be binding upon the parties hereto and their permitted successors and assigns. This Agreement shall be governed by, construed under and interpreted and enforced in

accordance with the laws of the state in which the Facility is located. Furthermore, the parties consent that the courts located in the county and state in which the Facility is located shall have exclusive jurisdiction over all legal proceedings of any nature, brought by either party, to enforce any right or obligation under this Agreement.

ARTICLE 14: PREVAILING PARTY

In the case of the failure of either party to perform and comply with any of the covenants and conditions hereof within the time herein specified, whether suit be brought or not, the party so failing to perform and comply hereby agrees to pay to the other party hereto all costs, charges and expenses of such collection or other enforcement of rights in any suit or otherwise, including its reasonable attorneys' fees. The prevailing party in any litigation arising out of this Agreement, including any appellate proceedings and bankruptcy proceedings, shall be entitled to the award of its reasonable attorneys' fees and costs.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed by their duly authorized representatives the day and year first set forth above.

APPLE CANYON LAKE PROPERTY.,
OWNERS' ASSOCIATION, an
an Illinois not-for-profit corporation

By:_____ By: _____

Name:_____ Name:_____

Its:_____ Its: _____

EXHIBIT "A"

12.5

Memorandum

To: Board of Directors

Date: April 5, 2021

From: Shaun Nordlie

Memo: 2021-33

Topic: Legal services against Utilities, Inc. Services

Issue & Analysis: Utilities, Inc. Services (USI) sent a letter to all customers in March 2021 explaining a request for change of services for meter size and water usage. According to USI, the rate increase is "needed to finance ongoing operations, capital investments, and allow the Company the opportunity to earn a reasonable return on its investment." The proposed increases include a reduction in rates for meter size, but their proposed increases for usage are 86% for residential and 155% for commercial. A group of lake associations is joining together to hire John Albers of Peoria, IL to join with the Illinois Attorney General to fight these proposed increases. This same group worked together on the 2018 rate increase proposal, at that time ACL spent $5,760.

Recommendation: To join other lake associations to hire John Albers of Shay Law of Peoria, Illinois to represent them in fighting the proposed increases by Utilities, Inc, Services for an amount not to exceed $10,000 to come out of the Operating Fund. The money will go towards attorney fees for John Albers and expert witnesses.

Plan on a Page: High Performing Operations and Management – **1YAP – Cooperate with other Lake Associations on common interest issues, legislations, or events**

Proposed Rate Change Information

Utility Services of Illinois, Inc. ("USI") hereby gives notice to the public that it has filed with the Illinois Commerce Commission ("ICC") proposed changes in the rate schedules for water and sewer services. Assuming the ICC utilizes the 11-month administrative review process under the Illinois Public Utilities Act, the changes shall go into effect by approximately January 2022. The estimated bill impact may vary based on multiple factors, including, but not limited to, meter size and usage volume.

Background

USI understands that no one likes rate increases and makes every effort to keep operating expenses to a reasonable minimum while maintaining a system that produces safe and reliable service. However, a rate increase is needed to finance ongoing operations, capital investments, and allow the Company the opportunity to earn a reasonable return on its investment. USI has invested over $9.4 million in capital improvements, since September 2019. Further, USI plans to invest an additional $16.8 million by December 31, 2022 to, among other things, improve water quality, lessen service disruptions due to main breaks, and reduce inflow and infiltration to wastewater treatment plants. Existing rates do not reflect rising costs that result from increased investment, inflation and compliance with stringent environmental and regulatory requirements.

Capital Investment Benefits

USI is a consolidated Illinois company and all USI's customers share the cost of upkeep and upgrades to USI's infrastructure and the expenses incurred to operate it. This ultimately benefits all USI customers and protects small standalone groups of ratepayers from bearing the cost of large capital investments. If a small standalone utility requires a significant capital improvement these investment costs can be spread over a larger base of customers. Consolidated rates are common place in other regulated utilities like gas and electric and, in the long-term, consolidated rates strengthen USI and allow all USI ratepayers to enjoy lower rates via fewer rate cases and lower rate case expense.

Customers should be advised that the ICC may alter or amend the rates or conditions of service after hearings held pursuant to 83 Illinois Administrative Code Part 200, and may increase or decrease individual rates in amounts other than those requested by the Company. An interested party may file a petition to intervene in the hearings pursuant to 83 Ill. Admin. Code Part 200.

Contact Us

By calling USI's customer service number (800-831-2359), a member of the USI team can explain how the proposed rate changes might impact your individual bill. Customers can find tips on water conservation at the following link on our website:

https://www.uiwater.com/illinois/education/water-conservation

A copy of the proposed change in rate schedules may be inspected by any interested party at the business office of the Company at 500 West Monroe Street Suite 3600 Chicago, Illinois. All parties interested in the matter may obtain information with respect thereto either directly from Utility Services of Illinois, Inc., or by addressing the Chief Clerk of the Illinois Commerce Commission, 527 East Capitol Avenue, Springfield, Illinois 62701. In addition, customers have a right to request a public forum. Pursuant to 8-306(n) of the Illinois Public Utilities Act, a customer or group of customers must make written request to the Commission for a public forum and must also provide written notification of the request to the customer's municipal or, for unincorporated areas, township government.

Bill Impact

The proposed changes in rates from the rates shown in your current bill are shown below.

Water

Water Fixed Charges

Meter Size	Existing Rates	Proposed Rates
5/8"	$ 24.73	$ 14.76
3/4"	$ 36.25	$ 14.76
1"	$ 59.30	$ 14.76
1.5"	$ 116.91	$ 29.53
2"	$ 186.05	$ 47.24
3"	$ 347.38	$ 88.58
4"	$ 577.85	$ 147.63
6"	$ 1,154.03	$ 295.26
8"	N/A	$ 472.42
10"	N/A	$ 679.10
12"	N/A	$ 1,269.62

Water Volumetric Rates (per 1000 gal)

Class	Existing Rates	Proposed Rates
Low-Income Residential	$ 10.070	$ 5.777
Regular Residential	$ 10.070	$ 18.738
Commercial	$ 10.070	$ 25.704

Sewer

Sewer Residential Rates

	Low Use		
Meter Size	Existing Rates	Proposed - Low-Income	Proposed
5/8"	$ 49.44	$ 60.93	$ 61.61
3/4"	$ 49.44	$ 60.93	$ 61.61
1"	$ 49.44	$ 60.93	$ 61.61
1.5"	$ 49.44	$ 121.56	$ 122.24
2"	$ 49.44	$ 194.32	$ 195.00
3"	$ 49.44	$ 364.09	$ 364.77
4"	N/A	$ 606.61	$ 607.29
6"	N/A	$ 1,212.91	$ 1,213.59
8"	N/A	$ 1,940.47	$ 1,941.15
10"	N/A	$ 2,789.30	$ 2,789.98
12"	N/A	$ 5,214.51	$ 5,212.19

	High Use		
Meter Size	Existing Rates	Proposed - Low-Income	Proposed
5/8"	$ 54.47	$ 61.87	$ 64.65
3/4"	$ 54.47	$ 61.87	$ 64.65
1"	$ 54.47	$ 61.87	$ 64.65
1.5"	$ 54.47	$ 122.50	$ 125.28
2"	$ 54.47	$ 195.26	$ 198.03
3"	$ 54.47	$ 365.02	$ 367.80
4"	N/A	$ 607.54	$ 610.32
6"	N/A	$ 1,213.84	$ 1,216.62
8"	N/A	$ 1,941.41	$ 1,944.19
10"	N/A	$ 2,790.23	$ 2,793.01
12"	N/A	$ 5,215.45	$ 5,218.22
Residential Unmetered	$ 53.30		$ 64.60

Sewer

Sewer Commercial Rates

	Low Use	
Meter Size	Existing Rates	Proposed
5/8"	$ 91.90	$ 200.44
3/4"	$ 91.90	$ 200.44
1"	$ 91.90	$ 200.44
1.5"	$ 91.90	$ 399.91
2"	$ 91.90	$ 639.27
3"	$ 91.90	$ 1,197.78
4"	N/A	$ 1,995.66
6"	N/A	$ 3,990.36
8"	N/A	$ 6,384.00
10"	N/A	$ 9,176.58
12"	N/A	$ 17,155.38

	High Use	
Meter Size	Existing Rates	Proposed
5/8"	$ 99.43	$ 239.11
3/4"	$ 99.43	$ 239.11
1"	$ 99.43	$ 239.11
1.5"	$ 99.43	$ 438.58
2"	$ 99.43	$ 677.95
3"	$ 99.43	$ 1,236.46
4"	N/A	$ 2,034.34
6"	N/A	$ 4,029.04
8"	N/A	$ 6,422.68
10"	N/A	$ 9,215.26
12"	N/A	$ 17,194.06
Commercial Unmetered	$ 98.67	$ 210.30

Rates approved by the PSC and full tariff can be located on our website: https://www.uiwater.com/illinois/regulations/tariff-rates

Below is a list of projects included in USI's proposed rates that will benefit USI ratepayers regardless of location:

USI Systemwide Upgrades	Service Type	Investment ($000's)
AMR Installation 1	Water	$ 478
Transportation	Water & Sewer	$ 385
Ferson Creek - Hydrotank recondition*	Water	$ 318
AMR Installation 2	Water	$ 184
Illinois - Smoke testing	Sewer	$ 93

*not applicable to all systems

For additional system-specific investments, by system, please refer to the below appendix. Please be advised that this list of improvements is not all-inclusive.

Charmar Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 24

Del Mar Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 10

Killarney Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 94

Lake Marian Upgrades	Service Type	Investment ($000's)
Lake Marian - Main replacement (2019)	Water	$ 9
Lake Marian - Main replacement (2022)	Water	$ 216
General Annual Replacements	Water	$ 95

Valentine Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 42

Walk Up Woods Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 85

Whispering Hills Upgrades	Service Type	Investment ($000's)
Whispering Hills Water main replacement (2021)	Water	$ 458
General Annual Replacements	Water	$ 643

Holiday Hills Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 142

Harbor Ridge Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water & Sewer	$ 130

Apple Canyon Upgrades	Type	Investment ($000's)
General Annual Replacements	Water	$ 169

Galena Territory Upgrades	Service Type	Investment ($000's)
Galena 2020 SCIP	Sewer	$ 91
Galena - District meters	Water	$ 125
Galena - Lift Station #1 Replacement	Sewer	$ 259
Galena - Generators (water)	Water	$ 159
General Annual Replacements	Water & Sewer	$ 392

Northern Hills Upgrades	Service Type	Investment ($000's)
Northern Hills - Chlorine contact tank	Sewer	$ 145
Northern Hills - Headworks	Sewer	$ 179
General Annual Replacements	Water & Sewer	$ 81

Wildwood Upgrades	Service Type	Investment ($000's)
General Annual Replacements		$ 47

Westlake Upgrades	Service Type	Investment ($000's)
Westlake - exterior tower recondition	Water	$ 208
General Annual Replacements	Water & Sewer	$ 253

Great Northern Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 176

Camelot Upgrades	Service Type	Investment ($000's)
Camelot 2020 SCIP	Sewer	$ 43
Camelot - Brine tank	Water	$ 175
General Annual Replacements	Water & Sewer	$ 278

Cherry Hill Upgrades	Service Type	Investment ($000's)
General Annual Replacements	Water	$ 107

Clarendon Upgrades	Service Type	Investment ($000's)
Clarendon Hills - main replacement	Water	$ 28
General Annual Replacements	Water	$ 161

Ferson Creek Upgrades	Service Type	Investment ($000's)
Ferson Creek GST & Booster Station - Construction	Water	$ 5
Ferson Creek 2020 SCIP	Sewer	$ 37
Ferson Creek WWTP - Phase 1	Sewer	$ 1,871
General Annual Replacements	Water & Sewer	$ 199

Lake Holiday Upgrades	Service Type	Investment ($000's)
Lake Holiday new WTP/Iron Removal	Water	$ 2,707
General Annual Replacements	Water	$ 561

Lake Wildwood Upgrades	Service Type	Investment ($000's)
Lake Wildwood Main Looping Wildwood Dr	Water	$ 316
General Annual Replacements	Water	$ 163

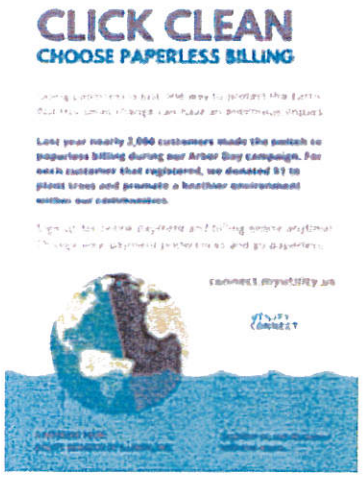
Medina Upgrades	Service Type	Investment ($000's)
Medina WWTP Study/Rehab	Sewer	$ 25
Medina 2020 SCIP	Sewer	$ 45
Medina Sludge Removal	Sewer	$ 229
General Annual Replacements	Sewer	$ 68

Cedar Bluff Upgrades	Service Type	Investment ($000's)
Cedar Bluff - Tank Recondition	Water	$ 318
General Annual Replacements	Sewer	$ 26

Oakwood Upgrades	Service Type	Investment ($000's)
Oakwood 2020 SCIP	Sewer	$ 117
General Annual Replacements	Water & Sewer	$ 520

Low Income Rate – Apply Now!

USI understands the burden that customers experience in affording essential goods like housing, food, and clean water. As your water and sewer service provider, we wish to be part of the solution to these challenges. We are dedicated to ensuring our customers have safe, clean, and affordable water and sewer service. As part of our efforts to do just that, we have proposed a low-income rate for our residential customers who are at or below the federal poverty level, to ensure our entire community of customers has access to and can afford the services required to remain healthy. This low-income rate is available to residential customers on an application-only basis. Customers need only apply once every 12 months to verify that they remain eligible for the lower rate. To apply, USI will enlist the help of a 3rd party to verify our applicants' incomes on our behalf, ensuring your continued privacy. To check eligibility for our low-income rate before applying, please go to https://aspe.hhs.gov/poverty-guidelines and look for information about a family of your size. For water service, if your income is at or below the applicable level, you will be eligible for a lower rate on typical monthly water usage, up to 3,414 gallons per month. Should you use over the 3,414, any additional gallons will be charged at the regular residential rate. For sewer service, a schedule of rates for customers who are eligible can be found at https://www.uiwater.com/illinois/regulations/tariff-rates.



Steve Lubertozzi, Senior Vice President

Manage your account from anywhere and stay informed through our Mobile App, My Utility Connect

Memorandum

Apple Canyon Lake

To: Board of Directors

Date: April 6, 2021

From: Shaun Nordlie

Memo: 2021-34

Topic: Flood Mitigation Engineering Services

Issue & Analysis: CMT (Crawford, Murphy & Tilly) has proposed a labyrinth weir as the most effective option for getting more water over the spillway during a heavy rain event. There are some preliminary procedures that can be done prior to approving the weir project that will help determine the scope of the final project as well as final cost.

- The first task is for evaluation of rock removal at the spillway and potential for impact on existing area. The first task includes hiring a geotechnical subconsultant from Intertek PSI of Springfield, IL to perform an initial site visit, review of existing data, meeting with ACL personnel and a written report with discussions on the proposed alternatives suggested by CMT and methods/means of construction of new spillway and general discussion of rock excavations using various equipment.
- The second task is evaluation of higher discharges in the area downstream of Apple Canyon Dam. The task includes an initial site visit, discussion with the Jo Daviess County Engineer about the potential impact to the bridge, regulatory responsibilities for the bridge, obtain the bridge plans and hydraulic design report, compare peak flows to bridge design flows and evaluate potential erosion concerns at the bridge.

The proposed cost for the services of CMT and Intertek PSI is on a time and expense basis not to exceed $18,700. This amount includes a 10% contingency for unanticipated work.

Recommendation: To approve the proposal for engineering services of CMT of Springfield, IL to do an evaluation of rock removal at the spillway and potential impact on the existing area and an evaluation of higher discharges in the area downstream of Apple Canyon Dam for a price not to exceed $18,700.

Plan on a Page: Improvement of Infrastructure – 1YAP **– Develop and communicate an engineering concept, plan of action, and implementation timeline for flood mitigation.**

CMT

February 5, 2021

Mr. Shaun Nordlie, General Manager
Apple Canyon Lake Property Owners Association
14A157 Canyon Club Drive
Apple River IL 61001

Shaun:

As you requested, we are submitting a proposal for engineering services for two tasks identified by the Property Owners Association Board as preliminary to design of the new labyrinth spillway.

- Evaluation of rock removal at the spillway and potential for impact on existing area
- Evaluation of higher discharges in the area downstream of Apple Canyon Dam

CMT will guide the overall project and perform the services associated with the second task. CMT will have a geotechnical subconsultant Intertek PSI who will perform the services associated with the first task. A copy of the proposal from Intertek PSI is attached.

The services include a site visit to Apple Canyon Lake dam by CMT and Intertek PSI. The visit will include observation of the existing spillway and dam and a meeting with the Jo Daviess County Engineer. We will then follow with the tasks listed on the attached scope of work and follow with a letter report of the findings and recommendations to the POA for use d in the subsequent design phase of the spillway.

We propose to provide the services for the first proposal on a time and expense basis not to exceed $18,700 including the services of CMT and Intertek PSI. The amount includes a 10% contingency for unanticipated work.

Please contact us if you have any questions. Following acceptance of the proposal, we will submit a Professional Services Agreement (similar to the Planning Report agreement) for signature by the POA.

Sincerely,
Crawford Murphy and Tilly Engineers

Edward LaBelle

Edward LaBelle P.E., CFM, Env SP
Senior Project Manager

APPLE CANYON LAKE DAM

PRELIMINARY DESIGN PHASE

FEBRUARY 5, 2021

SCOPE OF WORK

1. SITE VISIT TO APPLE CANYON LAKE

   Site meeting at Apple Canyon Lake dam with POA, CMT and Intertek PSI
   - Close look at existing principal spillway and dam
   - Look at dam crest and potential borrow sources
   - Meet with Jo Daviess County Engineer

2. EVALUATION OF ROCK REMOVAL FOR SPILLWAY

   Review existing data from construction drawing soil logs and inspection reports.

3. IMPACT OF HIGHER FLOWS FROM SPILLWAY ON COUNTY BRIDGE AND DOWNSTREAM AREA

   South Apple Canyon Road Bridge
   - Contact Jo Daviess County Engineer about potential impact to bridge
   - Discuss regulatory responsibilities for bridge
   - Obtain bridge plans and hydraulic design report if available
   - Compare peak flood flows to bridge design flows
   - Evaluate potential erosion concerns at bridge

   Floodplain downstream of South Apple Canyon Road
   - Contact Floodplain Officer regarding county floodplain regulations for project

4. PREPARE LETTER SUMMARY REPORT

   Impact of rock removal
   - Evaluation of potential impact on dam from rock removal in spillway.
   - Recommendations on rock removal methods for spillway construction.
   - Discussion of geotechnical aspects of proposed improvements in CMT Planning Report.

   Impact of higher flows downstream
   - South Apple Canyon Road bridge.
   - Describe modeling of bridge hydraulics if needed.
   - Describe modeling which could be done for downstream floodplain if needed.

5. CONFERENCE CALL(S) WITH BOARD AND GENERAL MANAGER OF FINDINGS

Note: Soil borings are not included in the Scope of Work.

Proposal Number No.: 0026-333948
February 5, 2021

Professional Service Industries, Inc.
480 North Street, Springfield, IL 62704
Phone: (217)544-6663
Fax: (217) 544-6148

Crawford Murphy & Tilly, Inc. (CMT)
2750 West Washington Street
Springfield, Illinois 62702

Attn: Mr. Ted Labelle, P.E.
tlabelle@cmtengr.com

Re: Proposal for Geotechnical Engineering Services
Apple Canyon Lake Dam
Jo Daviess County, Illinois
PSI Proposal Number: 0026-333948 **Page 1 of 6**

Dear Mr. Labelle:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to submit this proposal for providing geotechnical engineering services for the Apple Canyon Lake Dam in Jo Daviess County Illinois. Presented herein is an outline of the proposed scope of services, the anticipated schedule to perform the work and the associated fees.

PROJECT UNDERSTANDING

Mr. Ted Labelle, P.E. with CMT provided the project information to PSI through multiple emails from December 15, 2020 through January 27, 2021. Attached to the emails, PSI received the following documents.

- Apple Canyon Lake Dam and Spillway Planning Report by CMT dated June 2020
- Apple Canyon Lake Dam and Spillway Construction Plans with completed soil borings at the Dam and Lake site, prepared by Bauer Engineering, Inc. dated April 1969
- Army Corp of Engineering Inspection Report dated July 1978
- Apple Canyon Lake Dam and Spillway Phase-II investigation Report by Hanson Engineering Inc. dated 10/1/1982

Based on the provided information, PSI understands that the Apple Canyon Lake Dam is an 80-feet high and 1,100 feet in length, earth and rock fill Dam. The Dam was constructed during 1969, and was classified as the "high hazard potential", intermediate size, Dam under Illinois Department of Natural Resources (IDNR) regulations.

The Dam is owned by Apple Canyon Lake Property Owner's Association and the reservoir is used by the Association members for recreational purposes. The appurtenant work consists of a concrete broad-crested weir chute spillway cut in rock and discharging into a vertical drop plunge pool located at the right abutment and a steel-lined concrete conduit outlet works located at the approximate midpoint of the Dam. The weir is a concrete wall with overall length of 95.7 feet long and height of 4 feet. The crest of the wall has an elevation 800.00 for a length of 82 feet and a low flow notch at elevation 799.42 for a length of 13.7 feet long. The spillway

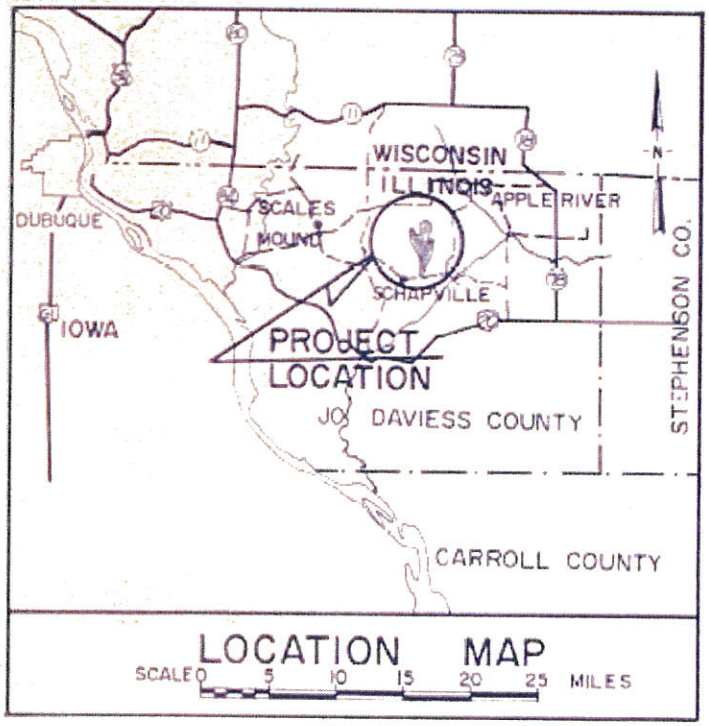
channel is a combination of natural rock floor and walls, followed by concrete floor and walls. Apple Canyon Lake has experienced three unusually high flood levels since 2010 with the highest level occurring in July 2017. The peak water level was within 1 to 2 feet of the top of the Dam according to information from Apple Canyon Lake Property Owners Association (ACLPOA).

Based on recently completed planning report by CMT, it was discussed that if water had over topped the Dam, erosion of the Dam could have occurred with the risk of washing out and breaching the Dam. Such an occurrence would have been more detrimental than the property damage which occurred around the lake. A report titled Flood Mitigation Investigation Summary was prepared in June 2019 with options to reduce peak lake levels during flood events. This Planning Report provides additional alternatives to consider which will result in lower peak lake levels for the same flood events. The results of flood modeling of the existing spillway and proposed changes to the spillway are presented in the June 2019 report to demonstrate the changes that would occur for various degrees of flooding.

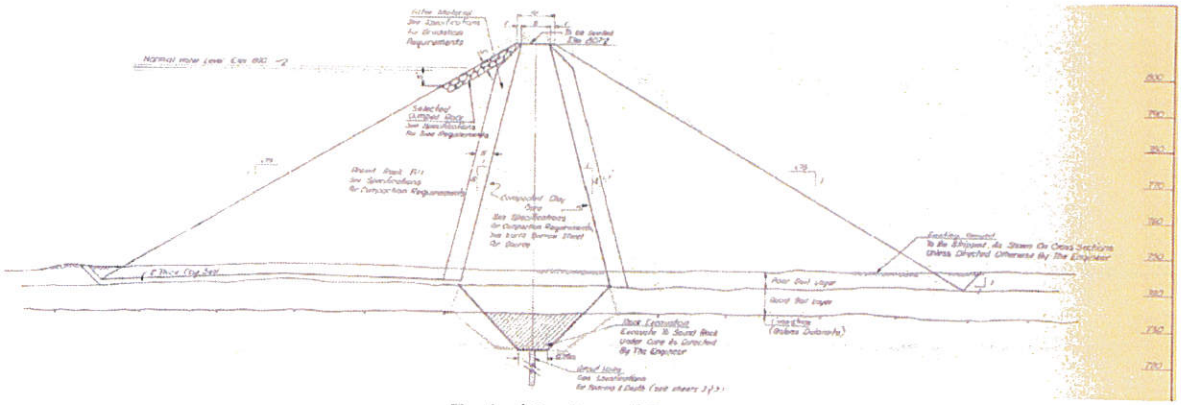
CMT is in the planning phase and proposing two spillway alternatives to increase the discharge capacity, and these alternatives are discussed below:

- Alternative No. 1 is a labyrinth spillway with a total wall length of 434 feet, overall length of 93 feet and height of 6 feet. The existing spillway channel will be widened from 28 feet to 60 feet. The channel floor would remain at the same elevation.

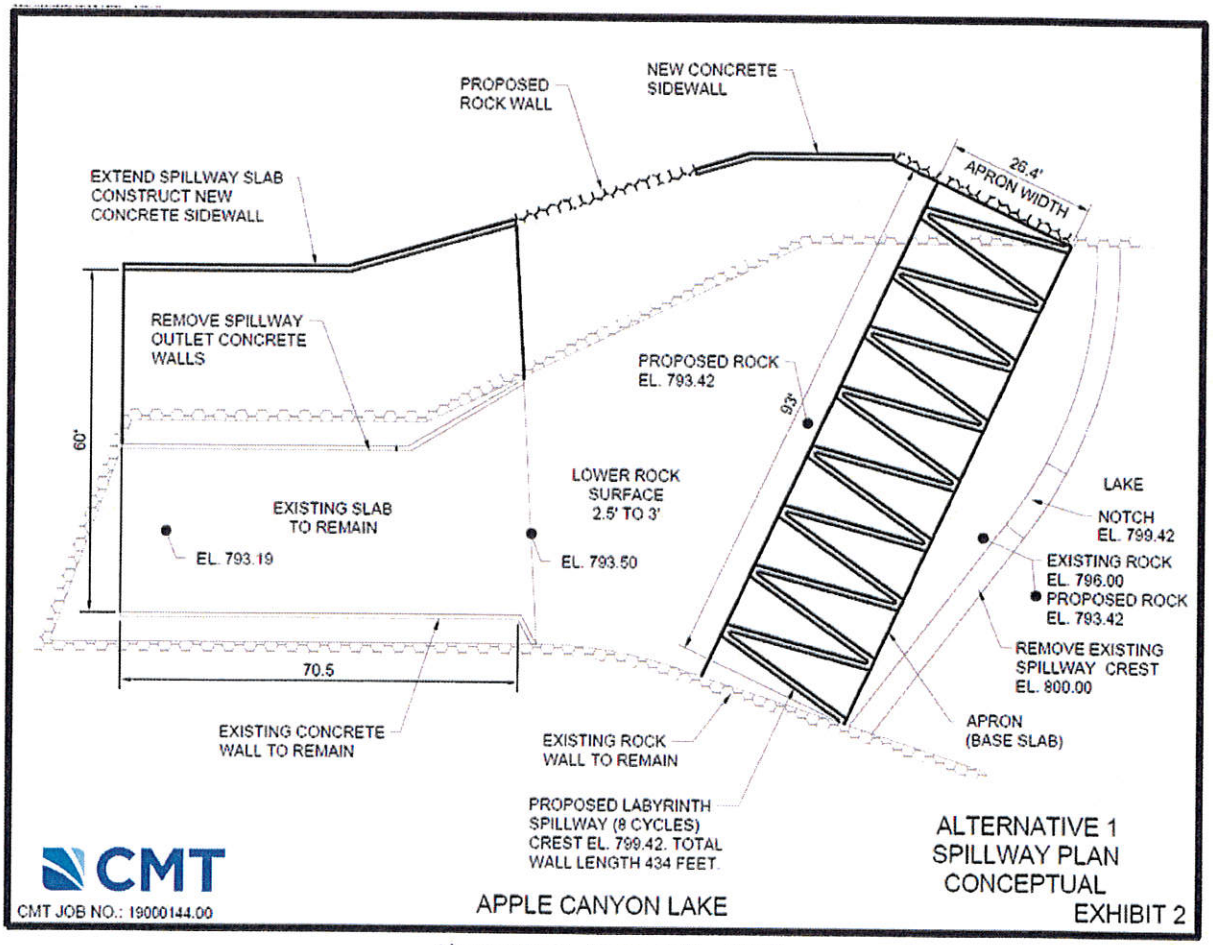
- Alternative No. 2 is a labyrinth spillway with a total wall length of 434 feet, overall length of 93 feet and height of 10 feet. The spillway channel will be widened from 28 feet to 70 feet and lowered by 4 feet.



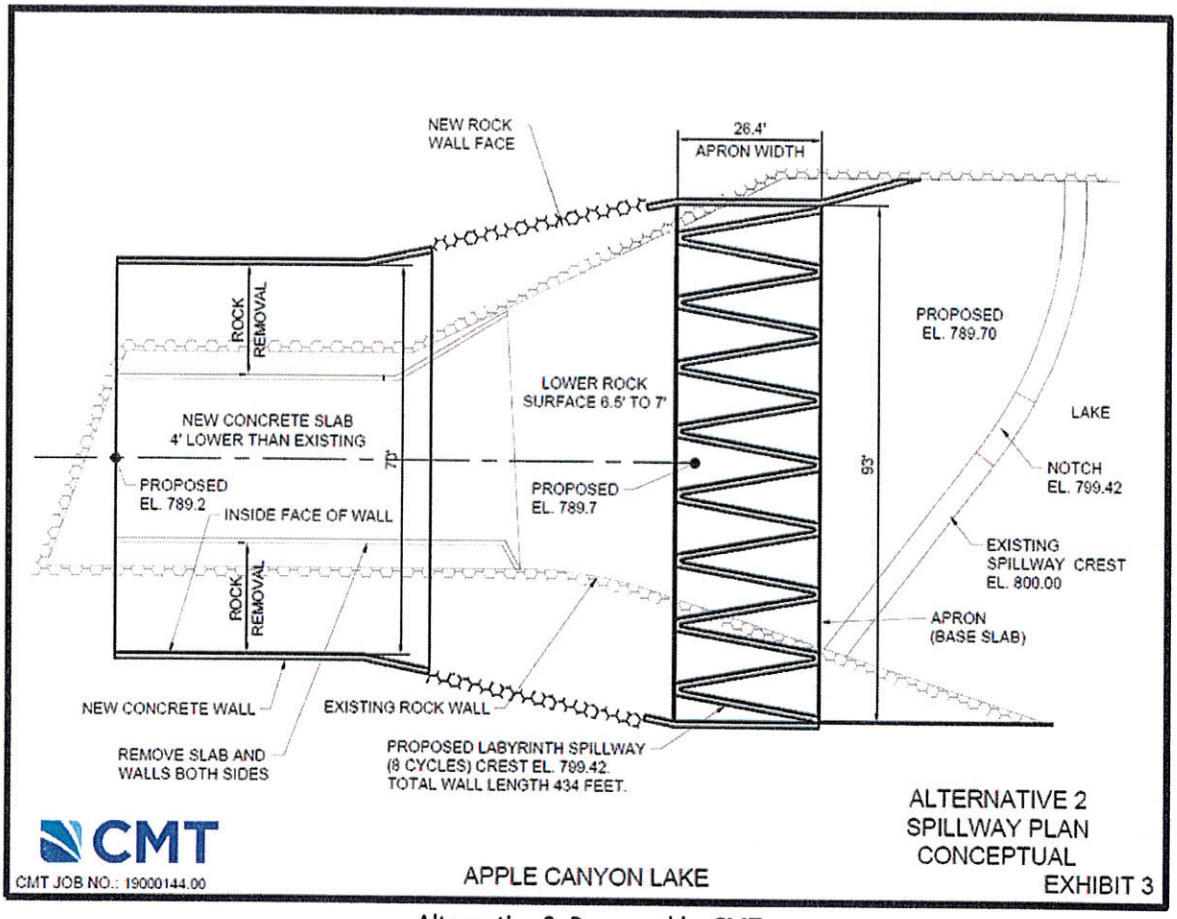
Approximate Location of the Dam/Spillway



Typical Section of Dam



Alternative 1, Proposed by CMT



Alternative 2, Proposed by CMT

SCOPE OF SERVICES

The project is in the preliminary phase of the design, and PSI proposes to complete the scope in two phases. This proposal is only for the Phase-I, and will submit a separate proposal for the Phase-II:

PHASE-I

The Phase-I will include initial site visit and meeting(s) with CMT and Apple Canyon Lake Association personnel, review existing data including construction drawings, inspections reports and historical soil borings logs. Upon completion of the site visit and reviewing available documents, PSI will submit a written report with discussions of the proposed alternatives suggested by CMT and methods/means of construction of new spillway and general discussion of rock excavations using various equipments.

PHASE-II

Upon completion of the Phase-I report, PSI will discuss the findings and opinions about construction of the two alternatives suggested by CMT, and will include the additional explorations including:

- Complete soil borings at the proposed spillway location including rock coring, to identify the subsurface strata and bedrock properties, and laboratory testing of retrieved soil/rock samples.
- Perform geotechnical engineering analyses to be used in the schematic design of the two proposed spillways.

SCHEDULE

Upon written contract and execution of this Phase-I proposal, PSI will coordinate with representatives of CMT and Apple Canyon Lake Association for an initial site visit.

FEES

It is proposed that the fee for performance of the Phase-I scope of services be determined on unit price basis. Based on the proposed scope of services the estimated fee for the Phase-I will be **$8,220.00**, and detailed in following Table 1.

TABLE 1: Estimated Fees Phase-I

Field Reconisensnce/Meeting	Unit	Qty	Rate	Cost
Mobilization	lump sum	1	$1,000.00	$1,000.00
Senior Engineer	per hour	12	$139.00	$1,668.00
Chief Engineer	per hour	12	$185.00	$2,220.00
			Subtotal	*4,888.00*
Phase-I Report	**Unit**	**Qty**	**Rate**	**Cost**
Senior Engineer	per hour	8	139.00	1,112.00
Chief Engineer	per hour	12	185.00	2,220.00
			Subtotal	*$ 3,332.00*
			PHASE-I: Total Fee	*8,220.00*

AUTHORIZATION

PSI will proceed with the work upon receipt of a signed copy of this proposal intact or Task Order. PSI will perform the work in accordance with the Master Service Agreement between PSI and CMT. PSI appreciates this opportunity to submit this proposal and looks forward to working with you on this project. If you have any additional questions concerning our proposal or if PSI can be of additional services, please contact our office at 217-544-6663.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

Eram Iqbal
Department Manager - Geotechnical Services

Reviewed By:
Kevin C. Miller, P.E.
Chief Engineer

Attachments: Proposal Acceptance

From: Kevin Miller
To: Ted LaBelle
Cc: Eram Iqbal
Subject: Apple Canyon Dam
Date: Tuesday, March 16, 2021 3:56:31 PM
Attachments: image002.png

Ted,

I apologize I was on a conference call when you called.

Phase 1 from PSI is indeed a walk around of the site to better understand what we will need to do. Again part of the answers will come from how much freeboard will be required for the spillway system to adequately route the design storm. If it is a minor increase of freeboard (3-5 foot range) we may be able to have a lessor geotechnical exploration than if we need in excess of 5 feet of additional freeboard. Seeing the dam in its configuration and looking at things like access and the connections of the existing dam to the abutments will assist in developing the phase 2 exploration. Typical of dam remediation project we will have to answer the questions of how will the changes affect the abutments, the dam itself, the foundation materials and the appurtenances that service the existing structure. Preliminarily, I would anticipate, but not be limited to, a couple of borings in the dam, one in each abutment and at least one in the downstream foundation area. It will be important to allow for the range of potential permanent pool elevations, emergency spillway activations, and maximum pool height considerations.

Questions on sonic testing are something that we should discuss before talking to the HOA folks there to make sure we all are talking the same thing. There is such things as shallow sonic testing for near surface integrity evaluation and deeper testing that may consider a larger overall consideration. Not sure what scope is being questioned here, so I do not want to confuse the issue.

Again, sorry I was on the phone when you called. I believe I am unscheduled for calls the rest of the afternoon and will be working till at least 6:30 this evening.

Kevin C. Miller, PE, PG
Chief Engineer – Geotechnical Engineering Services
Building & Construction
Intertek-PSI

Office 314.432.8073 (ext. 19)
Direct 314.696.1239
Mobile 314.409.9414
Email kevin.c.miller@intertek.com
www.intertek.com/building

ACLPOA
Flood Mitigation – CMT Proposal Questions & Clarifications
February 21, 2021

Responses in red from CMT ahead of call with Shaun Nordlie on March 16, 2021

CMT Engineering Quote and Scope – Raising the top of the Dam $13,000TS / $14,800CL

1. The proposal is for just Engineering Costs. In trying to determine which alternative to proceed with, we would like to estimate the Costs of Construction. In CMT's June 2020 Planning Report there is a line item costs for "Raise Dam Crest to El 807.8 – Earth Fill $8,000". This cost appears in both Labyrinth Spillway Alternatives. What is included in this cost? Mobilization, Material, Labor, Transportation? Or put another way, Can we get an Estimated Total Costs of Construction for both the use of **top soil**, & the use of **clay** alternatives? In the Planning Report, the leveling of the dam was a relatively minor construction cost compared to the overall project and was estimated by calculating the quantity of fill times a unit price without delving deeply into the details. The construction cost will depend on how the work is accomplished between POA employees and local contractors. There are a couple things to note about separating the work from the spillway project. First, it is more costly to do the work separately than as part of the larger project. Second the proposal includes surveying the top of the dam because it has not been surveyed since the dam was constructed (excluding the few points surveyed with each dam inspection.) Third, the work will likely require a separate dam construction permit which would have been included with the spillway project. We will prepare a construction cost opinion for the two soil options if the POA proceeds with the proposal if requested by the POA to help select one of the options.

2. Access to the top of the dam can be challenging. Can you provide a brief explanation on how you plan to get the material to the top of the dam? Shaun: We are working on this.

CMT Engineering Quote and Scope – Rock Removal & Impact on Existing Area SEE EMAIL FROM INTERTEK

1. The PSI quote within your quote is only for what they are calling Phase I. Can we get an estimate of their Phase II cost, including soil boring? Shaun: Soil boring will depend on how many they think we need, which I assume can not be determined prior to their site visit
2. PSI's Phase II proposal refers to geotechnical engineering analysis. Does that include performing sonic testing? Analysis will be based on the information gathered from Phase 1 including the field visit and the available drawings as well as evaluation from the experience of the geotechnical engineer. There is no field testing included in this phase

1. The goal of Phase 1 is to assess the impact of rock removal on the existing dam and to get a field visit to the site.

3. Is sonic testing something you recommend doing? If so, would it be in conjunction with soil borings, or replacing soil borings?
4. Please confirm whether sonic testing could indeed show us the severity of crevices or fractures in the rock structure near the spillway and the cost to do the testing.

CMT Engineering Quote and Scope – Impact of Higher Flows Downstream

1. Can you provide a brief explanation of the **tools** you will be using to obtain accurate results for providing the following deliverables in your Summary Report: Impact on Road & Bridge? Impact on lower 80 property? Impact on neighbors downstream? Other Counties downstream? We view the work in this proposal as preliminary design to provide information to the Board prior to proceeding with design of the spillway. The purpose is to look at what the potential impacts are downstream of the dam. We will make a site visit, be in contact with the county offices, review county regulations, review flood analysis from previous dam breach analyses, gather information from 2017 flood and have discussions with our bridge structural engineer. We are not doing detailed analysis with this proposal.

CMT Labyrinth Spillway

1. Please confirm that if the Association proceeds with the new Labyrinth Spillway there are additional costs for the removal of rock from the new spillway to the road. Can we get a construction estimate on this removal? We do not know yet if removal of rock from the downstream channel will be required. We would evaluate available information to determine if the channel hydraulic capacity is known or not, and whether it should be evaluated. If rock removal is required, then there would be additional cost. We can add scope to the proposal to include evaluation of the channel and the cost of the rock removal.

2. After the new spillway is complete, Are there any other costs that may be incurred in order for the new spillway to properly perform at optimal levels? Please list and then if possible, provide ballpark estimated costs or at least an educated cost range for each. The labyrinth spillway has no operational costs because there is no operating equipment. That is a benefit of this design. The only anticipated cost will be maintenance for personnel and equipment to occasionally remove debris which can catch on the labyrinth spillway. Other types of spillways can require operation such as having metal gates or fuse gates which have to be reset after a large flood. Estimating the maintenance cost would depend on the frequency of debris accumulation which is not known at this time.

3. Please provide a brief explanation of the challenges we face with keeping the Labyrinth Spillway clear of debris, especially larger trees and branches. Debris can get caught on the spillway because of its geometry. This also occurs with straight wall spillways but to a lesser degree. There is a published paper titled Debris and Maintenance of Labyrinth Spillways which I can provide if requested.

4. Please provide a tentative or preliminary timeline on the lake level drop. Please include the time you expect it will take to drop the level once the drain has been open, the time we can expect the lake level to be down with your best guess on when the lake will be back to normal. We would be glad to determine this information as part of the current planning proposal or as part of the project design. This would involve estimating the flow rate through the drain as well as estimating the time period for construction.

Fehr Graham Proposal

1. Please provide a brief explanation as to why you discourage their Secondary Spillway proposal. If you are referring to Option 2 in the report, the labyrinth spillway provides far more discharge capacity than Option 2. The labyrinth spillway provides about 480 lineal feet of spillway wall compared to the Fehr Graham Option 2 which provides a total of about 200 feet with the existing spillway and Option 2 spillway. Furthermore, the POA will not meet the current standard of passing the 60% PMF with Option 2.

   Aside from the lesser capacity, the second option in the Fehr Graham report is a concrete structure constructed in the earth fill dam. We see potential hydraulic issues with the high velocity of the flow due to the geometry of the spillway plan, as well as potential for leakage under or around the concrete structure.

Other

1. If the decision was made to never move forward on any proposal that included a significant reduction in Lake Level (say more than 1 foot), What other improvements would you recommend we still proceed with in order to at least minimize the effects of heavy rains?
   A. Dam leveling Minor improvement
   B. Raising the current dam height Raising the dam significantly has a couple considerations. First, flow through the existing spillway is limited by the constriction in width at the waterfall. Second raising the 1100-foot long dam with either earth fill or a concrete wall could have substantial cost.
   C. Increasing the length of the notch at the top of the current spillway (Currently about 13' long, could be extended to 80') Minor
   D. Dry Dams See below
   E. Raising the Marina Building This does not improve the safety of the dam.
   F. Other

2. Can a combination of several non-spillway enhancements significantly effect the risk of the Dam being breached? The Fehr Graham report looked at distributed impoundments at upstream tributaries and found that they were not very effective at reducing peak flows. I am not aware of anything that would be nearly as effective as substantially increasing spillway capacity without doing any research. I would say though that the lack of spillway capacity is a nationwide problem for dams that were constructed more than about 30 or 40 years ago. Owners of dams are experiencing issues with high water levels or being pressed by regulating agencies to increase capacity. The Bureau of Land Reclamation in the western states have pursued increasing spillway capacity at many dams.

3. Does the current leakage around the current dam's drain pose a problem that should be addressed during this Flood Mitigation process? The work could be included in the construction contract. However, it is specialized work different from spillway construction.

4. How necessary is the Datalogger you proposed? Please provided a list of benefits for adding this to our lake. Many large lakes monitor lake level for a variety of reasons. The data is very useful for determining the response of the lake to various rainfall events and can be used for modeling the lake response in computer programs. The lake levels can also be used for a water balance or drought analysis. We recommended and the City of Litchfield installed one about 8 years ago. They are relatively inexpensive devices and provide a permanent record of lake levels. Models are available which download data manually or by wireless signal.

THANK YOU!

Apple Canyon Lake Dam Questions for PSI:

***Q.1**: "Can you explain or have Kevin Miller explain his comment in the last sentence of the first paragraph, "It will be important to allow for the range of potential permanent pool elevations..."*

Response:

In the preliminary stages of evaluating an existing dam and the existing spillway system, often times the regulatory requirements for routing a design storm through the dam become more challenging. Sometimes this can require additional freeboard or elevation changes in the dam or having a lower operating pool or a combination. Not knowing what the freeboard requirements are for routing the currently required design storm through the modified spillway, my comment was based on being able to look at all potential solutions either through the spillway or increase or different storage capacity in the reservoir. If all regulatory requirements will be met with the spillway modifications and the current pool can be sustained at its current elevation, that is very good. Not knowing that, I was commenting on our ability to look at embankment solutions as well.

***Q.2:** "I noticed in your March email that you recommend taking soil borings of the dam embankment. I had not anticipated this and it was not in the Planning Report. I did anticipate borings for the rock in the spillway area. What is the reason for doing borings on the dam? If borings are done, we will need to consider whether to collect data useful for a slope stability analysis because IDNR has suggested it be done (but not required it).*

Response:

Following on to the previous comment, the borings on the dam are only required if we are to either change the configuration of the dam or address current issues to the existing embankment such as stability, seepage issues, or regulatory requirements. If there are no current physical issues, no changes in elevation of the crest, and no regulatory questions to respond to, they there will be no need to perform embankment, abutment or downstream borings.

***Q.3:** Sonic Testing*

Response:

I do not know what specifically is being referred to as "sonic testing". If we are talking about geophysical testing of the rock spillway to look for fractures and discontinuities in the rock, we can perform MASW type refraction surveys in the spillway. These would not entail any borings. We could also perform resistivity geophysical survey in the spillway channel. This would look for areas of water flow (increased conductivity). For budgetary purposes, these survey and data reduction could cost $6,500 to $12,000.

12.7

Memorandum

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-35

Topic: Engineering Services for Raising the Top of the Dam

Issue & Analysis: CMT (Crawford, Murphy & Tilly) has submitted a proposal for Engineering Services for raising the top of the dam. The scope of the construction is to add clay to the clay core of the dam such that the crest is level along the entire length of the 1100 foot dam equal to the highest point at the west end of the dam. Construction work will include removal of the vegetation on the crest of the dam, followed by placement and compaction of suitable earth fill. Rip rap will then be placed on the upstream face to protect the dam to the maximum water level. This proposal will be compatible with the labyrinth spillway by containing the lake up to the peak water level of 60% Probable Maximum Flood (PMF) with 2' of freeboard. IDNR State regulation for existing High Hazard dams is 60% of the PMF. The proposal for this option is bases on a time and expenses basis not to exceed $14,900.
An alternative option for leveling the crest would be to place loose earth fill on the top of the existing grass which will provide freeboard but is not designed to contain higher lake levels. This work may not require a construction permit by the IDNR, but they have requested drawing be submitted for final determination. There is no stripping of vegetation, ordinary fill instead of clay will be used and lower degree of compaction. The proposal for this option is based on a time and expenses basis not to exceed $12,900.

Recommendation: To approve the proposal for engineering services of CMT of Springfield, IL for Engineering services for raising the top of the dam with clay material at a cost not to exceed $14,900 to be paid out of the Capital Fund.

Plan on a Page: Improvement of Infrastructure – 1YAP – **Develop and communicate an engineering concept, plan of action, and implementation timeline for flood mitigation.**

CMT

December 15, 2020

Mr. Shaun Nordlie, General Manager
Apple Canyon Lake Property Owners Association
14A157 Canyon Club Drive
Apple River IL 61001

Shaun:

As you requested, we are submitting a proposal for engineering services for raising the top of the earthen dam at Apple Canyon Lake. We are submitting two proposals as we discussed by phone. The proposals include design, bidding and construction engineering phases.

In the first proposal, the scope of construction is to add clay to the clay core of the dam such that the crest is level along the entire length of the 1100-foot dam equal to the highest point at the west end of the dam. (See attached drawing from original plans.) Construction work will include removal of the vegetation on the crest of the dam, followed by placement and compaction of suitable earth fill. Riprap will then be placed on the upstream face to protect the dam to the maximum water level.

The first proposal will be compatible with the new labyrinth spillway by containing the lake up to the peak water level of the 60% Probable Maximum Flood (PMF) with 2" of freeboard. IDNR State regulation for existing High Hazard dams is 60% of the PMF. The level is based on the analysis in the Planning Report.

We propose to provide the services for the first proposal on a time and expense basis not to exceed $14,900. The amount includes a 10% contingency for unanticipated work. A breakdown of the costs for the three phases (design, bidding and construction) is shown on the attachment.

In the alternate proposal, the scope of construction is to place loose earth fill on top of the existing grass which will provide freeboard but is not designed to contain higher lake levels. IDNR has indicated that this work may not require a construction permit. However, IDNR has requested that the drawings be submitted for a final determination whether a construction permit is required. The alternate construction method will have a lower construction cost because the following work is not required: stripping of vegetation, ordinary fill instead of clay fill and a lower degree of compaction.

We propose to provide the services for the alternate proposal on a time and expense basis not to exceed $12,900. The amount includes a 10% contingency for unanticipated work. Breakdown of the costs for the three phases (design, bidding and construction) is shown on the attachment and excludes IDNR permit.

CMT recommends that the POA select the first proposal because the dam will contain a higher water level and protect the dam from a larger flood which meets current State of Illinois standards.

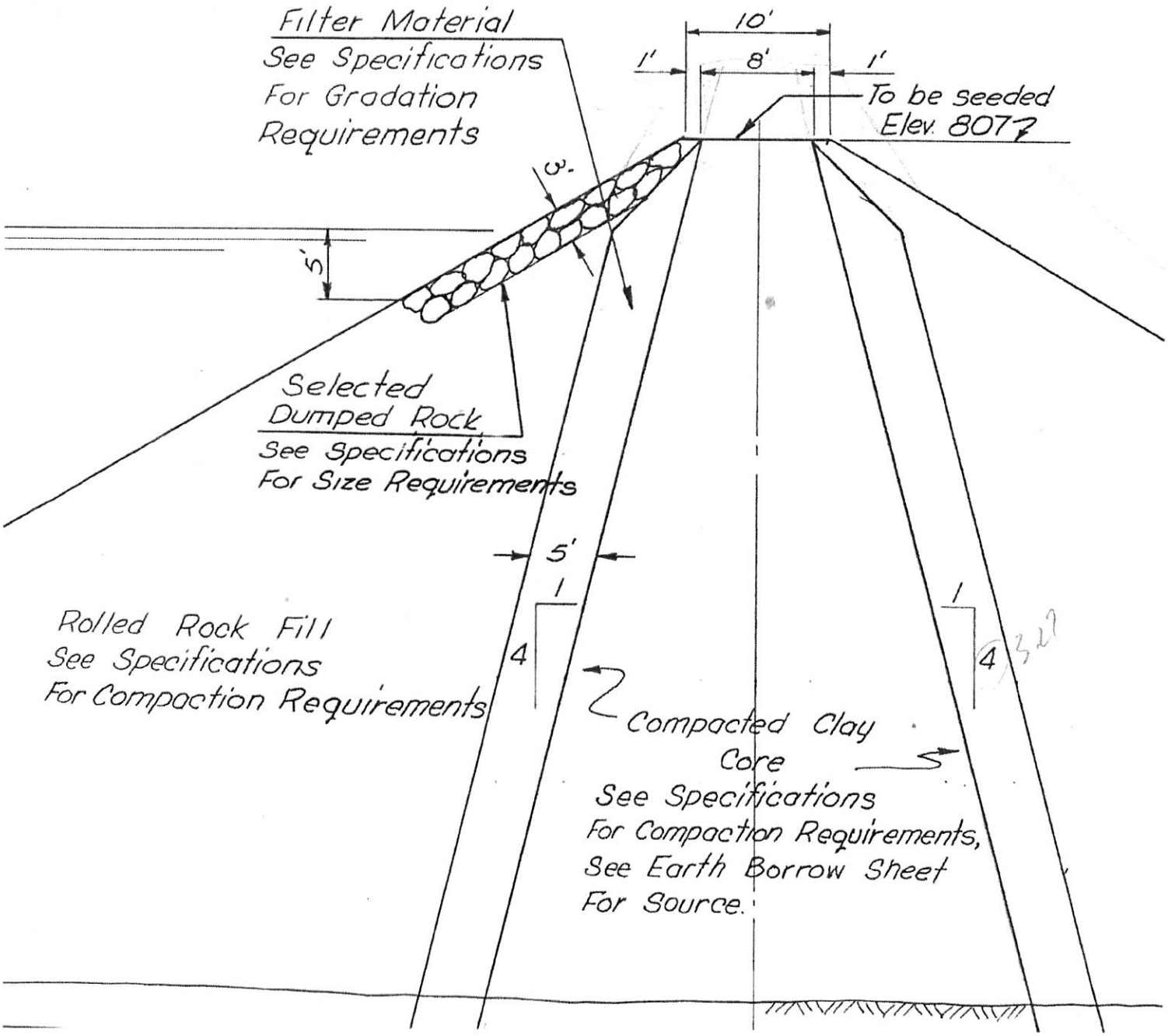
In our recent communication with IDNR, IDNR asked if ACL POA has authority for potentially higher flood levels upstream of the dam if the low point of the dam is raised. Note that this would only occur in an extreme flood condition. You indicated that you will be checking on the properties which surround the lake. The CMT proposal does not include engineering effort related to investigating this matter.

Please contact us if you have any questions. Let us know how you wish to proceed.

Sincerely,
Crawford Murphy and Tilly

Edward LaBelle

Edward LaBelle P.E., CFM, Env SP
Senior Project Manager


Filter Material
See Specifications
For Gradation
Requirements
10'
1'
8'
1'
To be seeded
Elev. 8077
3'
5'
Selected
Dumped Rock
See Specifications
For Size Requirements
5'
1
4
Rolled Rock Fill
See Specifications
For Compaction Requirements
Compacted Clay
Core
See Specifications
For Compaction Requirements,
See Earth Borrow Sheet
For Source.
1
4

APPLE CANYON LAKE DAM AND SPILLWAY
SCOPE OF ENGINEERING SERVICES
December 15, 2019

CONSTRUCTION SCOPE: STRIP VEGETATION AND TOPSOIL, RAISE TOP OF DAM WITH CLAY FILL AND PLACE RIPRAP ON UPSTREAM FACE OF FILL.

ITEM OF WORK	TIME AND EXPENSE NOT TO EXCEED
1. Design and Permit Application Phase a. Coordinate with ACL general manager. b. CMT Project Management. c. Field survey of 1100 foot length of dam crest and 10 foot down both slopes at 50' spacing. d. Prepare drawings i. Location map and notes ii. Typical section of dam iii. Existing & proposed longitudinal profile e. Calculate total stripping and fill volume with Civil 3D f. Prepare technical specifications g. Prepare Request for Proposal with limited contract conditions. h. Send to POA for review. i. Revise RFP documents. j. Submit application to IDNR for construction permit. Respond to IDNR questions.	$8,900
2. Bidding Phase a. Send RFP to selected contractors. b. Respond to bidders' questions upon request from Apple Canyon Lake. c. Assist in review of proposals. d. Recommend award of construction contract	$1,400
3. Construction phase a. Coordinate with contractor during construction b. Review submittals from Contractor i. Borrow source location ii. Soil properties and lab compaction results iii. Review shop drawings for filter fabric and riprap c. Site visits – 3 total i. After soil stripping ii. Midpoint of fill and compaction iii. Final completion d. Prepare record drawings with Contractor survey data e. Assemble and submit completed work documents to IDNR and POA	$4,800
TIME AND EXPENSES NOT TO EXCEED	**$14,800**

APPLE CANYON LAKE DAM AND SPILLWAY
SCOPE OF ENGINEERING SERVICES
December 15, 2019

ALTERNATE CONSTRUCTION SCOPE: RAISETOP OF DAM WITH ORDINARY FILL. EXCLUDES STRIPPING VEGETATION AND TOPSOIL, AND RIPRAP ON UPSTREAM FACE.

ITEM OF WORK	TIME AND EXPENSE NOT TO EXCEED
1. Design and Permit Application Phase a. Coordinate with ACL general manager. b. CMT Project Management. c. Field survey of 1100 foot length of dam crest and 10 foot down both slopes at 50' spacing. d. Prepare drawings i. Location map and notes ii. Typical section of dam iii. Existing & proposed longitudinal profile f. Calculate total stripping and fill volume with Civil 3D g. Prepare technical specifications h. Prepare Request for Proposal with limited contract conditions. i. Send to POA for review. j. Revise RFP documents. k. Application to IDNR is not anticipated nor included.	$8,700
2. Bidding Phase a. Send RFP to selected contractors. b. Respond to bidders' questions upon request from Apple Canyon Lake. c. Assist in review of proposals. d. Recommend award of construction contract	$1,400
3. Construction phase a. Coordinate with contractor during construction b. Review submittals from Contractor i. Borrow source location ii. Soil properties and lab compaction results iii. Review shop drawings for filter fabric and riprap c. Site visits – 2 total i. Midpoint of fill and compaction ii. Final completion d. Prepare record drawings with Contractor survey data e. Assemble and submit completed work documents to IDNR and POA	$3,000
TIME AND EXPENSES NOT TO EXCEED	**$13,000**

Memorandum

Apple Canyon Lake

To: Board of Directors

Date: April 9, 2021

From: Shaun

Memo: 2021-36

Topic: Engineering Services for Construction Costs for Leveling the Dam

Issue & Analysis: CMT (Crawford, Murphy & Tilly) has submitted a proposal for preparing a cost opinion for two options to raise the dam crest. The proposal includes coordinating with POA's efforts to locate clay material and trucking, following IDNR guidelines for the option to raise the crest with clay material, estimate the earth quantities for each option, develop line-item construction costs for each option and provide a cost differential if this work was performed in conjunction with the labyrinth spillway construction.

Recommendation: To approve the proposal for engineering services of CMT of Springfield, IL for construction costs opinions for two options to level the dam crest at a cost not to exceed $2,000 to be paid out of the Capital Fund.

Plan on a Page: Improvement of Infrastructure – 1YAP – **Develop and communicate an engineering concept, plan of action, and implementation timeline for flood mitigation.**

See backup after memo 12.11

Memorandum

Apple Canyon Lake

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-37

Topic: Engineering Services for Evaluation of the downstream channel and cost for rock removal

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Issue & Analysis: CMT (Crawford, Murphy & Tilly) has submitted a proposal for preparing an evaluation of the downstream channel and the cost of rock removal. For perspective on the change in flows, the peak flow over the waterfall from the 100-year storm with the new labyrinth spillway will be 75% greater than with the existing spillway. The flow from the design storm (60% of the Probable Maximum Flood PMF) will be 5 times as great as the peak discharge of the 100-year storm with the existing spillway.

There are two methods to analyze the channel hydraulically.
Method 1 - The first method is to analyze the first 500 feet of channel from the waterfall to a point past the channel bend downstream of the bridge. This method is effective if there are no backwater effects from the stream channel further downstream. However major flood events such as the ones we are analyzing could result in flooding of the downstream creek and thus backing up water to the bridge.
Method 2 - The second method is to analyze a longer length of stream which would extend from the waterfall to the original stream channel which is about 1000 feet downstream of the bridge (total length about 1300 feet). The type of analysis is similar to determining the peak water level for a new bridge or bridge replacement project. The results will show the water level at the bridge and the water level at the low point of the roadway. The low point of the roadway is only a couple feet higher than the bottom of the creek at the bridge. The effort for this method is more costly and more involved than Method 1.
Both methods will involve field surveying of the channel and computer modeling of the stream. Both methods will involve analyzing the existing conditions and then modeling the proposed conditions if the channel and/or bridge opening are not large enough

Recommendation: To approve the proposal for engineering services of CMT of Springfield, IL for evaluation of the downstream channel and cost of rock removal method 2, on a time and expense basis not to exceed $36,000 to paid out of the Capital Fund.

Plan on a Page: Improvement of Infrastructure – 1YAP – Develop and communicate an engineering concept, plan of action, and implementation timeline for flood mitigation.

See backup after memo 12.11

12.10

Memorandum

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-38

Topic: Engineering Services for Time Estimates to Draw Down the Lake

Issue & Analysis: CMT (Crawford, Murphy & Tilly) has submitted a proposal for preparing an evaluation of the time estimates to draw down the lake for construction of the labyrinth weir spillway. Included with the estimate is confirming the valve size and type, utilizing existing drawings for conduit to the outlet valve, determine the range of drawdown levels, develop elevation flow rating curve for outlet valve, determine volume of water between normal level and multiple drawdown levels and to calculate the time for drawdown at multiple levels.

Recommendation: To approve the proposal for engineering services of CMT of Springfield, IL for time estimates to draw down the lake, on a time and expense basis not to exceed $3,400 to paid out of the Capital Fund.

Plan on a Page: Improvement of Infrastructure – 1YAP **– Develop and communicate an engineering concept, plan of action, and implementation timeline for flood mitigation.**

See backup after memo 12.11

12.11

Memorandum

To: Board of Directors

Date: April 9, 2021

From: Shaun Nordlie

Memo: 2021-39

Topic: Engineering Services for Time Estimates for Labyrinth Spillway Construction

Issue & Analysis: CMT (Crawford, Murphy & Tilly) has submitted a proposal for preparing an evaluation of the time estimate for Labyrinth Spillway construction. The estimate will take into consideration all facets of the project as well as the estimated start time frame of the project.

Recommendation: To approve the proposal for engineering services of CMT of Springfield, IL for Time estimates for Labyrinth Spillway construction, on a time and expense basis not to exceed $1,500 to paid out of the Capital Fund.

Plan on a Page: Improvement of Infrastructure – 1YAP – **Develop and communicate an engineering concept, plan of action, and implementation timeline for flood mitigation.**

Crawford, Murphy & Tilly

2750 W Washington Street
Springfield, Illinois 62702

April 8, 2021

Mr. Shaun Nordlie, General Manager
Apple Canyon Lake Property Owners Association
14A157 Canyon Club Drive
Apple River IL 61001

Shaun:

As you requested, we are submitting a proposal for engineering services for four separate items identified by the Property Owners Association Board.

Item 1 - Construction cost opinions for two options to level the dam crest.
Item 2 - Evaluation of the channel and the cost of rock removal. Additional information is provided on following page.
Item 3 - Time estimates to draw down the lake
Item 4 – Estimate time period for labyrinth spillway construction.

The work will be performed in conjunction with the work proposed for the other two proposals previously submitted for raising the dam crest and for rock removal and downstream impacts. We propose to provide the services for the four items on a time and expense basis not to exceed the amounts shown in the table on the following pages. The Board can select any or all four items with the upper limit shown for each item.

We recommend involving a contractor that specializes in rock removal to assist in developing the cost opinion for rock removal in the channel. We will be in contact with the contractor and provide additional information later.

Please contact us if you have any questions. Following acceptance of the proposal, we will submit a Professional Services Agreement for signature by the POA.

Sincerely,
Crawford Murphy and Tilly Engineers

Edward LaBelle

Edward LaBelle P.E., CFM, Env SP
Senior Project Manager

WORK ITEM	AMOUNT
ITEM 1 **Construction Cost Opinion for Two Options to Raise Dam Crest** Prepare cost opinion after field survey and before selecting an option. Coordinate with POA's efforts to locate borrow source and trucking to site. Follow IDNR guidelines for Option 1 to raise dam with compacted clay. Estimate earth quantities for each option. Develop line-item construction cost estimates for each option. Cost differential if work performed in conjunction with labyrinth spillway construction. Send estimates to POA.	**$2,000**
ITEM 2 – METHOD 1 – Evaluate 500 feet of channel. Rock removal cost. Field survey 9 sections from waterfall to downstream of channel bend. Develop stream cross sections from field survey. Prepare and run HEC-RAS water surface profile model for creek and bridge for peak flood flows of 100-year flood and 10%, 20%, 30% 40%, 50% and 60% PMF. Evaluate results. Discuss with POA and County Engineer. **If channel is to be enlarged:** Develop new channel cross sections to meet water level requirements. Run HEC-RAS computer model for trial sections until water level criteria are met. Prepare cost opinion for construction to enlarge channel. (EXCLUIDNG bridge replacement) Prepare letter report and exhibits. Present results to POA.	$16,500 $7,000 **TOTAL $23,500**
ITEM 2 – METHOD 2 – Evaluate 1300 feet of channel. Rock removal cost. Field survey 18 sections from waterfall to downstream of channel bend. Develop stream cross sections from field survey. Prepare and run HEC-RAS water surface profile model for creek and bridge for peak flood flows of 100-year flood and 10%, 20%, 30% 40%, 50% and 60% PMF. Evaluate results. Discuss with POA and County Engineer. **If channel is to be enlarged:** Develop new channel cross sections to meet water level requirements. Run HEC-RAS computer model for trial sections until water level criteria are met. Prepare cost opinion for construction to enlarge channel. (EXCLUIDNG bridge replacement) Prepare letter report and exhibits. Present results to POA.	$26,000 $10,000 **TOTAL $36,000**
ITEM 3 **Time estimates to draw down the lake for construction of labyrinth spillway** Field confirm valve size and type Utilize existing drawings for conduit to outlet valve Determine range of drawdown levels Develop elevation flow rating curve for outlet valve Determine volume of water between normal level and multiple drawdown levels. Calculate time for drawdown to multiple levels	$3,400
ITEM 4 **Estimate time period for labyrinth spillway construction**	$1,500

ADDITIONAL INFORMATION

ITEM 2 - Evaluation of Channel Downstream of Waterfall

The POA Board requested a proposal for evaluation of the channel downstream of the waterfall to determine if it needs to be enlarged because of the new spillway. If the channel is to be enlarged, then provide an opinion of construction cost.

For perspective on the change in flows, the peak flow over the water fall from the 100-year storm with the new labyrinth spillway will be 75% greater than with the existing spillway. The flow from the design storm (60% of the Probable Maximum Flood PMF) will be 5 times as great as the peak discharge of the 100-year storm with the existing spillway.

There are two methods to analyze the channel hydraulically.

Method 1 - The first method is to analyze the first 500 feet of channel from the waterfall to a point past the channel bend downstream of the bridge. This method is effective if there are no backwater effects from the stream channel further downstream. However major flood events such as the ones we are analyzing could result in flooding of the downstream creek and thus backing up water to the bridge.

Method 2 - The second method is to analyze a longer length of stream which would extend from the waterfall to the original stream channel which is about 1000 feet downstream of the bridge (total length about 1300 feet). The type of analysis is similar to determining the peak water level for a new bridge or bridge replacement project. The results will show the water level at the bridge and the water level at the low point of the roadway. The low point of the roadway is only a couple feet higher than the bottom of the creek at the bridge. The effort for this method is more costly and more involved than Method 1.

Both methods will involve field surveying of the channel and computer modeling of the stream. Both methods will involve analyzing the existing conditions and then modeling the proposed conditions if the channel and/or bridge opening are not large enough.

A hydraulic computer model HEC-RAS will be utilized for surface water profiles of the peak flows of several floods (100-year frequency and 10%, 20%, 30%, 40%, 50% and 60% PMF). County bridges in rural areas typically are designed for the 20-year frequency flood which is a much smaller flood.

If the water level tops the bridge for existing channel conditions, we would then discuss the results with the POA and Jo Daviess County engineer about the desired water levels in the channel. The channel would then be enlarged to meet the desired criteria for the channel and the bridge.

After review of the results and sizing of the larger channel, the quantity of rock removal will be calculated and the construction cost will be estimated. We will coordinate with the POA for locations to haul the rock removed to include in the cost opinion.

We propose to contact a rock removal contractor to assist in estimating the cost of the rock removal.

The POA could select either Method 1 or Method 2. Method 1 may or may not provide an accurate hydraulic result depending on the channel characteristics. If we determine that the model is not accurate, then we will recommend to the POA to add the other section of the stream to the model and simulate Method 2. Method 2 will be useful for future analysis of the bridge because the same method is used by highway engineers for bridge design.

12.12

Open discussion about COVID-19

12.13

Capital Projects Update