REGULAR BOARD MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CALIFORNIA
VIDEO/AUDIO BROADCAST MEETING
MARCH 17, 2021 AT 7:00 PM

BOARD OF DIRECTORS
Don Chadd, President
Stephen Dopudja, Vice President
Glenn Acosta, Director
Edward Mandich, Director
Michael Safranski, Director

DISTRICT STAFF
Fernando Paludi, General Manager
Michael Perea, District Secretary
Cindy Byerrum, District Treasurer
Atkinson, Andelson, Loya, Ruud & Romo
District General Legal Counsel

AGENDA NOTE:
*Due to the spread of COVID-19 and as authorized by the Governor's Executive Order, Trabuco Canyon Water District will be holding this Regular Board Meeting by video broadcast via **Go To Meeting**, and the meeting will be available live by video conference and telephone audio as follows:*

***Video Conferencing:** You can join the meeting from your computer, tablet, or smartphone by clicking on the following link: https://zoom.us/j/91386811652*

Telephone Audio: *1 (669) 900-6833 (Toll Free)*
Access Code: *913-8681-1652*

*Persons desiring to monitor the Board meeting agenda items may download the Board meeting agenda and documents on the internet at **www.tcwd.ca.gov.***

*You may submit public comments by email to the Board at **mperea@tcwd.ca.gov**. In order to be part of the record, emailed comments on meeting agenda items must be received by the District, at the referenced e-mail address, not later than 6:00 p.m. (PDT) on the day of the meeting. Public comments may also be submitted by teleconference during the meeting.*

CALL MEETING TO ORDER

PLEDGE OF ALLEGIANCE

ITEMS RECEIVED TOO LATE TO BE AGENDIZED
Determine need and take action on item(s) that arose subsequent to posting the Regular Board Meeting agenda.

VISITOR PARTICIPATION
*Members of the public wishing to address the Board regarding a particular item on the agenda are requested to submit public comments by email to the Board at **mperea@tcwd.ca.gov**. Public comments may also be submitted by teleconference during the meeting. The Board President will call on the visitor following the Board's discussion about the matter. Members of the public will be given the opportunity to speak prior to the Board taking action on that item. For persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.*

ORAL COMMUNICATION

Members of the public who wish to make comment on matters not appearing on the agenda are requested to submit oral communication by email to the Board at ***mperea@tcwd.ca.gov****. Public comments may also be submitted by teleconference during the meeting. Under the requirements of State Law, Directors cannot take action on items not identified on the agenda and will not make decisions on such matters. The Board President may direct District Staff to follow up on issues as may be deemed appropriate. For persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.*

DIRECTORS' COMMENTS AND MEETING REPORTS

REPORT FROM THE GENERAL MANAGER

CONSENT CALENDAR

All matters under the Consent Calendar will be approved by one motion unless a Board member or staff member requests a separate action on a specific item.

ITEM 1: APPROVAL OF MINUTES OF BOARD MEETING(S)

RECOMMENDED ACTION

Approve the minutes of the following Board Meetings:

1. *February 17, 2021 Regular Board Meeting*

ITEM 2: TREASURER'S REPORT

a. *FINANCE/AUDIT COMMITTEE MEETING*

RECOMMENDED ACTION:

Receive and file the following Finance/Audit Committee Meeting Recap(s):

1. *February 10, 2021*

b. *PRESENTATION OF FINANCIALS*

RECOMMENDED ACTION:

Receive and file the preliminary statement(s) of revenues and expenses and preliminary unaudited financials for the following month(s):

1. *January 2021*

c. *PAYMENT OF BILLS FOR CONSIDERATION*

RECOMMENDED ACTION:

Ratify the payment of bills for consideration, Payroll and Payroll Taxes for February 2021.

ITEM 3: ENGINEERING/OPERATIONAL COMMITTEE MEETING

RECOMMENDED ACTION:
Receive and file the following Engineering/Operational Committee Meeting Recap(s):
1. February 3, 2021

ITEM 4: EXECUTIVE COMMITTEE MEETING

RECOMMENDED ACTION:
Receive and file the following Executive Committee Meeting Recap(s):
1. July 23, 2020

ITEM 5: RATIFICATION OF DIRECTORS' FEES AND EXPENSES, AND TENTATIVE FUTURE MEETINGS/ ATTENDANCE

RECOMMENDED ACTION:
Ratify the Directors' expenses and fees from February 2021 and approve tentative future meetings/attendance.

ACTION CALENDAR

All matters under the Action Calendar have been reviewed by the General Manager and Staff prior to the Board's consideration.

ADMINISTRATIVE MATTERS

ITEM 6: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING THE CORONAVIRUS, INCLUDING SAFETY OF DISTRICT SERVICES AND EMPLOYEES, AND IMPACT TO BOARD & COMMITTEE MEETINGS

RECOMMENDED ACTION(S):
Receive information at the time of the Board meeting and take action(s) as deemed appropriate.

ITEM 7: DISCUSSION AND POSSIBLE ACTION(S) RELATED TO THE PROPOSED PALOMA SQUARE DEVELOPMENT (DOVE CANYON PLAZA) AND OTHER RELATED MATTERS

RECOMMENDED ACTION:
Receive information at the time of the Board meeting and take action(s) as deemed appropriate.

FINANCIAL MATTERS

ITEM 8: APPROVAL OF ROOF REPAIR PROPOSAL FOR DISTRICT ADMINISTRATION FACILITY

RECOMMENDED ACTION:
Receive information at the time of the Board meeting and approve the roof repair proposal from JRT Roofing & Waterproofing for a not to exceed amount of $52,600.

ITEM 9: DISCUSSION CONCERNING THE PURCHASE OF A NEW HEAVY EQUIPMENT VEHICLE – ONE FORKLIFT

RECOMMENDED ACTION:
Receive information at the time of the meeting and authorize the General Manager to purchase one Toyota forklift from Southwest Toyota Lift for an amount not to exceed $35,000.

ENGINEERING MATTERS

ITEM 10: DISCUSSION AND POSSIBLE ACTIONS(S) CONCERNING APPROVAL OF AN OPERATING LICENSE AGREEMENT WITH ORANGE COUNTY PUBLIC WORKS (OCPW) FOR DISTRICT ONSITE SCADA EQUIPMENT (JOPLIN PROPERTY)

RECOMMENDED ACTION:
Receive information at the time of the Board meeting and take action(s) as deemed

ITEM 11: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING TCWD'S DOMESTIC WATER STORAGE AND RESERVOIR SITING STUDY

RECOMMENDED ACTION:
Receive information at the time of the Board meeting and take action(s) as deemed

LEGISLATIVE, ADMINISTRATIVE AND OTHER MATTERS

ITEM 12: LOCAL GOVERNMENTAL AND LEGISLATIVE INFORMATIONAL MATTER(S)

RECOMMENDED ACTION(S):
Review and discuss local government and legislative informational matter(s) and take action(s) as deemed appropriate.

CLOSED SESSIONS:
CLOSED SESSION NO. 1: CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION
Significant exposure to legal proceedings and/or litigation
Government Code Sections 54956.9(d)(2) and 54954.5(c)
Number of Potential Cases: 1

CLOSED SESSION NO. 2: CONFIDENTIAL INFORMATION – PUBLIC EMPLOYEE PERFORMANCE EVALUATION
TITLE: GENERAL LEGAL COUNSEL
Pursuant to California Government Code Sections 54957(b) and 54954.5(e), the Board will meet in Closed Session to review and discuss confidential information concerning the District's General Legal Counsel (Public Employee Performance Evaluation)

ITEM 13: REPORT OF ACTION(S) TAKEN IN CLOSED SESSIONS

RECOMMENDED ACTION(S):
Provide announcement(s) of action(s) taken in Closed Session(s), if any.

ITEMS RECEIVED TOO LATE TO BE AGENDIZED

ITEM 14: _____

ITEM 15: _____

OTHER INFORMATION/MATTERS
Reports or comments from the General Manager and/or Staff

ADDITIONAL DIRECTORS' COMMENTS
Additional reports or comments from Directors

END ACTION CALENDAR & ADJOURNMENT

AVAILABILITY OF AGENDA MATERIALS
Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Trabuco Canyon Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection at the Trabuco Canyon Water District Administrative Facility, 32003 Dove Canyon Drive, Trabuco Canyon, California (District Administrative Facility) and will be posted online on the District's website located at www.tcwd.ca.gov. If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available online at www.tcwd.ca.gov at the same time as they are distributed to the Board Members, except that, if such writings are distributed immediately prior to or during the meeting, they will be posted online on the District's website located at www.tcwd.ca.gov.

COMPLIANCE WITH THE REQUIREMENTS OF CALIFORNIA GOVERNMENT CODE SECTION 54954.2
In compliance with California law and the Americans with Disabilities Act, if you need special disability-related modifications or accommodations, including auxiliary aids or services in order to participate in the meeting, or if you need the agenda provided in an alternative format, please contact the District Secretary at (949) 858-0277, at least 48 hours in advance of the scheduled Board meeting. Notification at least 48 hours prior to the meeting will assist the District in making reasonable arrangements to accommodate your request. The Board Meeting Room is wheelchair accessible.

FUTURE SCHEDULED REGULAR BOARD MEETINGS OF THE BOARD OF DIRECTORS
Upcoming Regular Meetings of the Board are expected to be held at the District Administrative Facility (Board Meeting Room) located at 32003 Dove Canyon Drive, Trabuco Canyon, California 92679 and are currently scheduled as follows:

April 21, 2021| May 19, 2021| June 16, 2021

The District may conduct future meetings via teleconferencing and/or video during the current ongoing emergency situation.

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

CONSENT CALENDAR
ITEM 1: APPROVAL OF MINUTES OF BOARD MEETING(S)

RECOMMENDED ACTION
Approve the minutes of the following Board Meetings:

1. *February 17, 2021 Regular Board Meeting*

CONTACTS (staff responsible): PALUDI/PEREA/SANGI

MINUTES OF THE REGULAR BOARD MEETING OF THE BOARD OF DIRECTORS OF TRABUCO CANYON WATER DISTRICT | FEBRUARY 17, 2021

The Regular Meeting of the Board of Directors of the Trabuco Canyon Water District (TCWD or District) conducted on February 17, 2021 was called to order by President Chadd at 7:00 p.m., via conference call in the Board Room at the District Administrative Facility, located at 32003 Dove Canyon Drive, Trabuco Canyon, California. Mr. Michael Perea, District Secretary, transcribed the minutes thereof.

DIRECTORS PRESENT ON CONFERENCE CALL
President Don Chadd
Vice President Stephen Dopudja
Director Glenn Acosta
Director Edward Mandich
Director Michael Safranski

STAFF PRESENT
Fernando Paludi, General Manager
Michael Perea, Assistant General Manager/District Secretary

STAFF PRESENT ON CONFERENCE CALL
Karen Warner, Senior Accountant
Lisa Marie Sangi, Administrative Assistant
Lorrie Lausten, District Engineer

DISTRICT CONSULTANTS PRESENT
Rob Anslow, District General Legal Counsel (Atkinson, Andelson, Loya, Ruud & Romo - AALRR)

DISTRICT CONSULTANTS PRESENT ON CONFERENCE CALL
Cindy Byerrum, District Treasurer (Eide Bailey)
Doug Johnson, Ralph Anderson & Associates

PUBLIC PRESENT ON THE CONFERENCE CALL
Beth Heard, Resident
There were other members of the public on the conference call.

PLEDGE OF ALLEGIANCE
Director Acosta led the Board of Directors, District staff, and audience in the Pledge of Allegiance.

ITEMS TOO LATE TO BE AGENDIZED
None

VISITOR PARTICIPATION VIA CONFERENCE CALL
None

ORAL COMMUNICATION
None

DRAFT

DIRECTOR'S COMMENTS

Director Mandich provided a brief report on his attendance at the Finance/Audit Committee Meeting.

Director Acosta provided a brief report on his attendance at the City of Rancho Santa Margarita City Council Meeting.

Director Safranski provided a brief update on the South Orange County Agencies Group MET Director Nomination Committee process, and he reported that the Committee has nominated South Coast Water District (SCWD) Director Dennis Erdman for the MET Director position.

Vice President Dopudja reported on his attendance at the South Orange County Wastewater Authority (SOCWA) Regular Board Meeting.

President Chadd provided a brief report on the South Orange County Agencies Group.

REPORT FROM THE GENERAL MANAGER

Mr. Paludi provided an update on District staff efforts on virtual meeting technology.

Mr. Perea provided a brief update on District recruitment efforts and highlighted the following:

- The District has filled two vacant full-time employee (FTE) positions Customer Service Representative I and Administrative Assistant I.
- Wastewater Operations and Maintenance staff will be conducting interviews at the end of the week for a vacant Wastewater Operator in Training position.
- The District will begin the recruitment process for a vacant Wastewater Operations Superintendent position.

CONSENT CALENDAR

President Chadd indicated that all matters under the Consent Calendar would be approved by one motion unless a Board member or staff member requests a separate action on a specific item.

Action: A motion was made by Director Acosta and seconded by Director Mandich to approve the Consent Calendar. There was no further discussion.
The motion was approved by a vote of 5 – 0.

ADMINISTRATIVE MATTERS

ITEM 5: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING THE CORONAVIRUS, INCLUDING SAFETY OF DISTRICT SERVICES AND EMPLOYEES, AND IMPACT TO BOARD & COMMITTEE MEETINGS

Mr. Paludi provided a brief update on COVID-19 related matters throughout the County, and he reported that the County was currently in the "Purple" Tier with significant restrictions. Mr. Paludi briefly reported on the vaccination prioritization throughout the County. Discussion occurred concerning COVID-19 impacts to water agencies and vaccination availability.

Action: No action concerning this matter was taken.

DRAFT

ITEM 6: DISCUSSION AND POSSIBLE ACTION(S) RELATED TO THE PROPOSED PALOMA SQUARE DEVELOPMENT (DOVE CANYON PLAZA) AND OTHER RELATED MATTERS

Mr. Paludi reported that District staff has not had any contact with the developer or property owner concerning this proposed development since the prior Regular Board Meeting. Director Safranski reported on his attendance at the Paloma Square Ad Hoc Committee, and he commended District staff for their work to date concerning this matter.

Action: No action concerning this matter was taken.

FINANCIAL MATTERS

ITEM 7: DISCUSSION CONCERNING DRAFT DISTRICT CLASSIFICATION COMPENSATION REVIEW AND PROPOSED SALARY ADJUSTMENTS

Mr. Paludi introduced this matter for Board consideration, and he reported that this matter was reviewed with the District Organization Ad Hoc Committee and the Finance/Audit Committee. Mr. Paludi provided a brief review of the Classification Compensation Review (salary survey) process to date, and he highlighted the base criteria approved by the Ad Hoc Committee which was utilized to develop the proposed classification benchmarks. Mr. Paludi introduced Mr. Doug Johnson of Ralph Anderson & Associates (consultant) who delivered a PowerPoint presentation that provided an overview of the review process for Board consideration. Discussion occurred concerning the salary survey results and associated fiscal impacts of the proposed adjustments to the District's salaries and benefits budget. Mr. Paludi recommended additional salary alignments for certain Water and Wastewater Operations positions in addition to the benchmarked salary adjustments to preserve internal departmental equity based on the District's unique characteristics, including, but not limited to, the operation of filtration and treatment facilities. Mr. Paludi presented and reviewed a fiscal impact report prepared by District staff for Board consideration, and he indicated that the total salary adjustment fiscal impact is approximately nine percent as reflected in the Proposed Classifications Adjustments Impact Report included with the staff report.

Director Acosta expressed his support for the staff recommendation, and he highlighted the importance of the District to retain quality employees and to remain competitive with neighboring agencies.

Director Mandich expressed his support for the staff recommendation.

Director Safranski recounted the prior salary survey performed in 2016, and he commended District staff and the consultant for their work on this matter. Director Safranski inquired as to whether staff had considered phasing in the recommended salary adjustments over time; Mr. Paludi indicated that the recommendation was for salary adjustments to implemented upon approval by the Board and retroactive to January 1, 2021 based on the discussions with the District Organization Ad Hoc Committee, and he highlighted the strong financial position of the District at this point of the fiscal year. Director Safranski expressed his support for the adjustments as recommended by staff.

Vice President Dopudja expressed his support for the staff recommendation and the transparency of the process, including the level of staff involvement and input in comparison to the 2016 salary survey.

Action: A motion was made by Director Safranski and seconded by Director Acosta as follows:

- Receive and file DRAFT Classification Compensation Review Report prepared by Ralph Anderson & Associates.

DRAFT

- Authorize the General Manager to implement the proposed salary adjustments consistent with the Proposed Salary Range Table included with the staff report and supported by the DRAFT Classification Compensation Review Report.

The motion was approved by a vote of 5 – 0.

ENGINEERING MATTERS

ITEM 8: DISCUSSION AND POSSIBLE ACTIONS(S) CONCERNING THE DIMENSION WATER TREATMENT PLANT BACKWASH SETTLING TANK IMPROVEMENTS

Mr. Paludi introduced this project for Board consideration, and he mentioned this matter was reviewed with the Engineering/Operational Committee. Ms. Lausten delivered a PowerPoint presentation which highlighted the current condition of the backwash settling tanks at the Dimension Water Treatment Plant (DWTP), and she provided an overview of the demolition plan and construction of a single backwash settling tank. Discussion occurred concerning the cathodic protection and onsite paving costs. Ms. Lausten recommended Superior Tank for the facility improvements for a not to exceed amount of $274,876.

Action: A motion was made by Director Mandich and seconded by Director Acosta to ratify a construction contract with Superior Tank for the Dimension Water Treatment Plant Backwash Settling Tank Improvements in the amount of $249,876, with a contingency of $25,000, for a not to exceed amount of $274,876.

LEGISLATIVE, ADMINISTRATIVE AND OTHER MATTERS

ITEM 9: LOCAL GOVERNMENTAL AND LEGISLATIVE INFORMATIONAL MATTER(S)

Mr. Paludi reported on the following items:

- Municipal Water District of Orange County (MWDOC) Regular Board Meeting: The MWDOC Board received the South Orange County Agencies Group nomination of SCWD Director Dennis Erdman for the vacant MET Director position.
- The Los Angeles Times has published an article concerning allegations of sexual harassment against certain employees at Metropolitan Water District of Southern California (MET) desert facilities.
- Senate Bills 222 and 223 have been introduced by Senator Bill Dodd as Water Access Equity Bills which propose more stringent language for water service shut offs and the establishment of a water assistance fund for low-income rate payers.

Action: The Board took no action on this matter.

OTHER INFORMATION/MATTERS

There were no other information or matters received.

ADDITIONAL DIRECTORS' COMMENTS

Director Safranski thanked District staff for their hard work related to the salary survey.

Director Mandich echoed Director Safranski's comment, and he expressed his appreciation to the District Organization Ad Hoc Committee for their work on the process and District staff for their hard work for the District.

Director Dopudja expressed his appreciation to District staff for their hard work.

DRAFT

Director Acosta thanked District staff for their hard work.

ADDITIONAL GENERAL MANAGER COMMENTS

Mr. Paludi thanked District staff for their patience during the salary survey review process.

Mr. Perea thanked the Board of Directors for approving the salary survey results, and he thanked District staff for their patience during the process and their hard work.

ADJOURNMENT

President Chadd adjourned the February 17, 2021 Regular Board Meeting at 8:15 p.m.

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TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

CONSENT CALENDAR
ITEM 2: TREASURER'S REPORT

a. *FINANCE/AUDIT COMMITTEE MEETING*

RECOMMENDED ACTION:
Receive and file the following Finance/Audit Committee Meeting Recap(s):
1. February 10, 2021

b. *PRESENTATION OF FINANCIALS*

RECOMMENDED ACTION:
Receive and file the preliminary statement(s) of revenues and expenses and preliminary unaudited financials for the following month(s):
1. January 2021

c. *PAYMENT OF BILLS FOR CONSIDERATION*

RECOMMENDED ACTION:
Ratify the payment of bills for consideration, Payroll and Payroll Taxes for February 2021.

EXHIBITS:
1. Revenue Report – February 2021
2. Disbursement Report – February 2021
3. Summary of Disbursements – February 2021
4. General Fund Warrant Register – February 2021
5. General Fund Payroll Warrant Register – February 2021

CONTACTS (staff responsible): PALUDI/PEREA/WARNER

TRABUCO CANYON WATER DISTRICT
FINANCE/AUDIT COMMITTEE MEETING RECAP | FEBRUARY 10, 2021

DIRECTORS PRESENT VIA CONFERENCE CALL
Director Don Chadd, Committee Chair
Director Ed Mandich, Committee Member

STAFF PRESENT VIA CONFERENCE CALL
Fernando Paludi, General Manager
Michael Perea, Assistant General Manager/Board Secretary
Lorrie Lausten, District Engineer
Karen Warner, Senior Accountant
Lisa Marie Sangi, Administrative Assistant

PUBLIC PRESENT VIA CONFERENCE CALL
Cindy Byerrum, Consultant Eide Bally

CALL MEETING TO ORDER
Director Chadd called the February 10, 2021 Finance/Audit Committee Meeting to order at 1:03 P.M.

VISITOR PARTICIPATION
No visitor participation was received.

ORAL COMMUNICATION
No oral communication was received.

COMMITTEE MEMBER COMMENTS
Director Chadd welcomed Director Mandich to the Finance Committee.

Director Mandich stated it was a pleasure to be back on the Committee.

REPORT FROM THE GENERAL MANAGER
No comments were received.

ITEM 1: FINANCE/AUDIT COMMITTEE MEETING RECAP

Mr. Paludi presented the Finance/Audit Committee Meeting Recap for Committee review in accordance with the agenda.

RECOMMENDED ACTION:
Director Chadd and Mr. Perea recommended that the Finance/Audit Committee Meeting Recap be forwarded to the Board of Directors for approval (Consent Calendar).

ITEM 2: RATIFICATION OF DIRECTORS' FEES AND EXPENSES, TENTATIVE FUTURE MEETINGS/ATTENDANCE

Mr. Paludi presented the Directors' Fees and Expenses Report and Tentative Future Meetings/Attendance Report for Committee consideration and review.

DRAFT

Director Chadd asked to remove the attendance for the Independent Special Districts of Orange County (ISDOC) meeting; Mr. Perea indicated that it would be amended as such.

Director Mandich suggested that all District Board members be sent the South Orange County Agencies Group meeting invite. Discussion occurred concerning Brown Act compliance on actionable groups and meetings.

RECOMMENDED ACTION:
The Committee recommended that the Directors' Fees and Expenses Report for January 2021, and the Tentative Future Meetings/Attendance Report be forwarded to the Board of Directors for ratification (Consent Calendar).

ITEM 3: DISCUSSION CONCERING DISTRICT CLASSIFICATION COMPENSATION REVIEW

Mr. Paludi introduced this matter for Committee consideration, and he mentioned that this matter has been reviewed by the District Organization Ad Hoc Committee. Mr. Paludi provided a brief review of the Classification Compensation Review (salary survey) process to date as performed by Ralph Anderson & Associates (Consultant), and he highlighted the base criteria approved by the Ad Hoc Committee which was utilized to develop the proposed classification benchmarks. Discussion occurred concerning the salary survey results and associated fiscal impacts of the proposed adjustments to the District's salaries and benefits budget. Mr. Perea presented and reviewed a fiscal impact report prepared by District staff for Committee consideration. Mr. Paludi reported that the Consultant has identified certain classifications for new titles, and he recommended implementing the proposed changes. Mr. Paludi added that District staff recommends additional salary alignments for certain Water and Wastewater Operations classifications in addition to the benchmarked salary adjustments to preserve internal departmental equity based on the District's unique characteristics. Director Chadd recommended that District staff present this recommendation to the District Organization Ad Hoc Committee for additional review prior to the Regular Board Meeting.

RECOMMENDED ACTION(S):
The Committee recommended District staff to meet with the District Organization Ad Hoc Committee to review additional classification compensation information, and to forward the Classification Compensation Review Report completed by Ralph Anderson & Associates to the Board of Directors for their consideration (Action Calendar).

ITEM 4: OTHER MATTERS

Mr. Paludi indicated there were no other matters.

RECOMMENDED ACTION:
No action was taken.

ITEM 5: FINANCIAL REPORT

Mr. Paludi presented this matter for Committee review, and he provided a brief review of the financial impacts related to COVID-19.

Ms. Warner presented the preliminary unaudited financials for December 2020 for Committee consideration and reviewed the following items:

DRAFT

STATEMENT OF REVENUES AND EXPENSES

Operating Revenue, Residential Water Revenue

Ms. Warner reported that this line item was lower than the prior month, but it was trending ten percent higher than anticipated year to date due to more customers working from home.

Operating Revenue, Baker Treatment Plant Water Sales

Ms. Warner reported that this line item was higher than the prior month due to more water sales to the City of San Clemente.

Operating Expenses, Total Operating Expenses

Ms. Warner reported that this line item was trending two-percent higher than anticipated due to operating expenses.

RESTRICTED ASSETS REPORT & INVESTMENT SCHEDULE

Ms. Warner highlighted the Local Agency Interest Fund (LAIF) rate of return on District investments.

Discussion occurred concerning the planned reinstatement of utility bill penalty payment assessments and a process for customer assistance for high past due balances.

RECOMMENDED ACTION:

The Committee signed the bills for consideration and the warrant register and recommended that the Board ratify payment of the bills for consideration for February 10, 2021 as presented (Consent Calendar).

ADJOURNMENT

Director Chadd adjourned the February 10, 2021 Finance/Audit Committee Meeting at 2:08 PM.

DRAFT

Trabuco Canyon Water District
Statement of Revenues & Expenses
FY 2020-21 (Unaudited)

		January 2021	December 2020	Current YTD	Annual Budget	58% YTD	Prior YTD
1	**Operating Revenue**						
2	Residential Water	$ 284,465	$ 257,320	$ 2,374,523	$ 3,497,400	68%	$ 2,029,650
3	Business & Industrial Water	10,015	11,429	100,619	150,300	67%	80,207
4	Irrigation Water	70,719	64,793	650,893	823,400	79%	469,262
5	Stand-by	3,417	3,417	23,917	41,000	58%	16,391
6	Sanitation Revenue	143,267	143,832	1,006,530	1,859,400	54%	977,843
7	Recycled & Reclaimed Revenue	30,090	35,691	564,057	725,000	78%	522,105
8	Baker Treatment Plant Water Sales *	82,984	179,318	768,840	1,469,100	52%	700,491
9	Other Operating Revenue	307	300	3,246	164,600	2%	140,274
10	**Total Operating Revenue**	**625,263**	**696,100**	**5,492,624**	**8,730,200**	**63%**	**4,936,224**
11	**Non-Operating Revenue**						
12	Property Tax Unrestricted	142,283	142,283	995,983	1,707,400	58%	976,500
13	Interest Revenue	1,386	11,414	27,270	100,600	27%	68,307
14	Development Services	-	-	-	-	0%	100
15	Sale of Fixed Asset	-	3,206	46,158	50,000	92%	-
16	Other Non-Operating Revenue	5,071	12,860	33,660	70,600	48%	41,897
17	**Total Non-Operating Revenue**	**148,740**	**169,763**	**1,103,070**	**1,928,600**	**57%**	**1,086,804**
18	**Total Revenues**	**774,002**	**865,863**	**6,595,694**	**10,658,800**	**62%**	**6,023,028**
19	**Operating Expenses**						
20	Source of Supply	174,060	184,826	1,526,089	2,198,100	69%	1,322,822
21	Baker Treatment SOS Costs	83,103	157,329	691,045	1,155,300	60%	586,160
22	Water Related Expense	185,083	128,712	1,144,187	1,946,900	59%	1,063,229
23	Sanitation Expense	197,370	65,366	834,701	1,168,400	71%	839,705
24	Recycled Expense	22,972	16,691	147,062	225,300	65%	149,875
25	Reclaimed Expense	21,067	14,786	133,717	221,400	60%	131,129
26	Salaries & Benefits	296,614	297,142	2,061,700	3,684,700	56%	2,009,371
27	OPEB Trust Contributions & Paygo	7,218	7,063	49,921	91,000	55%	51,766
28	Board Expense	8,813	8,398	62,919	114,400	55%	65,333
29	**Total Operating Expenses**	**996,300**	**880,312**	**6,651,341**	**10,805,500**	**62%**	**6,219,391**
30	**Non-Operating Expenses**						
31	Principal and Interest Expense	19,198	19,198	134,389	230,300	58%	134,224
32	Non-Operating Expense	208	1,548	3,423	3,600	95%	4,353
33	**Total Non-Operating Expenses**	**19,407**	**20,746**	**137,811**	**233,900**	**59%**	**138,576**
34	**Net Income (Loss) Before OPEB, Depreciation & Capital Contributions**	**(241,704)**	**(35,195)**	**(193,458)**	**(380,600)**	**51%**	**(334,939)**
35	WRES Fees for Capital	68,600	68,561	479,374	834,300	57%	491,781
36	Developer Impact Fees	-	-	-	-	0%	-
37	Other Capital Contributions	-	-	-	-	0%	-
38	**Total Capital Contributions**	**68,600**	**68,561**	**479,374**	**834,300**	**57%**	**491,781**
39	**Net Income**	**$ (173,103)**	**$ 33,366**	**$ 285,916**	**$ 453,700**	**63%**	**$ 156,842**

No assurance is provided on these financial statements. The financial statements do not include a statement of cash flows. Substantially all disclosures required by accounting principles generally accepted in the U.S. are not included.

**Baker Treatment Plant O&M revenues and expenses are billed quarterly. As a result the % of budget may appear skewed until billing occurs.*

Trabuco Canyon Water District
Balance Sheet - Comparative
As of January 31, 2021
(Unaudited)

		January 2021	December 2020	January 2020
1	**Assets**			
2	**Current Assets**			
3	Cash	$ 666,033	$ 1,558,363	$ 672,103
4	Accounts Receivable, Net	2,072,880	2,037,314	2,745,437
5	Property Tax Receivable	587,404	664,122	538,375
6	Prepaid Expenses	261,886	300,266	247,610
7	**Total Current Assets**	**3,588,204**	**4,560,065**	**4,203,525**
8	**Total Restricted Assets (see Schedule A)**	**7,563,150**	**7,667,234**	**5,572,183**
9	**Utility Plant**			
10	Utility Plant, at Cost	115,840,103	115,755,212	114,426,238
11	Accumulated Depreciation	(73,042,332)	(72,744,246)	(70,204,465)
12	Construction in Progress	3,971,587	3,783,530	1,872,053
13	**Total Utility Plant**	**46,769,358**	**46,794,496**	**46,093,827**
14	**Other Assets**			
15	Due from BTP	1,246,297	1,278,056	1,620,932
18	Deferred Outflow (Pension Related)	1,179,514	1,179,514	1,126,151
19	**Total Other Assets**	**2,425,811**	**2,457,570**	**2,747,084**
20	**Total Assets**	**$ 60,346,523**	**$ 61,479,364**	**$ 58,616,618**
21	**Liabilities & Retained Earnings**			
22	**Current Liabilities**			
23	Accounts Payable	$ 1,011,625	$ 1,456,141	$ 1,447,282
24	Due to Internal Financing Fund	1,246,297	1,278,056	1,620,932
25	Accrued Expenses	418,108	426,363	374,644
26	Deferred Property Tax Revenue	728,500	874,200	709,209
27	**Total Current Liabilities**	**3,404,529**	**4,034,759**	**4,152,068**
28	**Liabilities to be Paid from Restricted Assets**			
29	Accrued Interest	4,243	26,473	4,579
30	Current Portion-Long Term Debt	178,449	178,449	172,473
31	Refundable Deposits	13,500	13,500	9,500
32	Developer Deposits	75,590	66,608	415,658
33	**Total Liabilities to be Paid from Restricted Assets**	**271,782**	**285,029**	**602,210**

*No assurance is provided on these financial statements. Substantially all disclosures required by accounting principles generally accepted in the U.S. are not included.

Trabuco Canyon Water District
Balance Sheet - Comparative
As of January 31, 2021
(Unaudited)

34	**Long Term Debt**			
35	Accrued Post Employment Benefits	533,587	533,587	570,267
36	Accrued Pension Liaiblity	3,301,860	3,301,860	3,089,532
37	State Revolving Fund Loan	2,140,052	2,140,052	2,320,470
39	**Total Long Term Debt**	**5,975,499**	**5,975,499**	**5,980,269**
40	**Total Liabilities**	**9,651,811**	**10,295,287**	**10,734,547**
41	**Fund Balance**			
42	Invested in Capital Net of Related Debt	44,446,614	44,449,522	43,596,304
43	Restricted for Debt Service	231,085	346,334	207,249
44	Legally Restricted	3,808,062	3,806,229	2,419,321
45	Designated by Board	3,402,609	3,402,609	2,645,154
46	Unrestricted	(1,193,659)	(820,617)	(985,958)
47	**Total Fund Balance**	**50,694,713**	**51,184,077**	**47,882,071**
48	**Total Liabilities and Fund Balance**	**$ 60,346,523**	**$ 61,479,364**	**$ 58,616,618**

*No assurance is provided on these financial statements. Substantially all disclosures required by accounting principles generally accepted in the U.S. are not included.

District
Restricted Assets Report
As of January 31, 2021
(Unaudited)

		January 2021	December 2020	January 2020
1	**LAIF Accounts (at Cost)**			
2	Internal Financing	$ (1,236,026)	$ (1,207,447)	$ (3,669,567)
3	Capital Improvement Charges	-	-	634,430
4	Water Storage Facilites	1,051,427	1,051,427	1,051,427
5	Sanitation Capital Improvement	129,985	142,181	691,366
7	WRES - Rose Canyon/Lang Wells	1,177,637	1,141,353	1,097,073
8	WRES - Reservoir/Distribution Improvements	2,608,662	2,602,454	2,539,240
9	RD#5	76,378	76,261	75,353
10	Developer Deposits	-	-	216,427
11	LAIF Interim Sewage	121,393	112,062	111,583
12	Water Rate Stabilization Funds	684,080	684,080	607,500
13	Sewer Rate Stabilization Funds	726,160	726,160	265,000
14	Working Capital Funds	1,975,776	1,975,776	1,733,144
15	Market Value Over/(Under) Cost	16,593	16,593	11,960
16	**State Revolving Fund**			
17	Cash in CB&T Reserved for SRF Loan	231,085	346,334	207,249
18	**Total Restricted Assets**	**$ 7,563,150**	**$ 7,667,234**	**$ 5,572,183**

*No assurance is provided on these financial statements. Substantially all disclosures required by accounting principles generally accepted in the U.S. are not included.

District
Investment Schedule
As of January 31, 2021
(Unaudited)

	DESCRIPTION	RATE		COST		MARKET	% OF TOTAL
	District Investments in the California Local Agency Investment Fund (LAIF)						
1	Water Storage Fees	0.458%	$	1,051,427		1,053,815	14%
2	Sanitation Capital Improvement	0.458%		129,985		130,281	2%
3	Trabuco Creek Wells	0.458%		1,177,637		1,180,312	16%
5	Reservoir/Distribution	0.458%		2,608,662		2,614,587	36%
6	RD#5	0.458%		76,378		76,551	1%
7	LAIF Interim Sewage	0.458%		121,393		121,669	2%
8	Water Rate Stabilization Funds	0.458%		684,080		685,634	9%
9	Sewer Rate Stabilization Funds	0.458%		726,160		727,809	10%
10	Working Capital Funds	0.458%		1,975,776		1,980,264	27%
11	Internal Financing	0.458%		(1,236,026)		(1,238,834)	-17%
	Total District Investments		**$**	**7,315,471**	**$**	**7,332,087**	**100%**

** A negative number indicates the use of reserves to fund operations.*

*** Market values are adjusted on a quarterly basis and recorded in the District's financials statements at the end of the fiscal year.*

CERTIFICATION

I certify that (1) all investment actions executed since the last report have been made in full compliance with the District's Investment Policy and, (2) the District will meet its expenditure obligations for the next six months as required by California Government Code Sections 53646(b)(2) and (3), respectively.

Cindy Byerrum, CPA

Contract CPA and Treasurer

*No assurance is provided on these financial statements. Substantially all disclosures required by accounting principles generally accepted in the U.S. are not included.

Trabuco Canyon Water District
Checking Account Activity
January 2021
(Unaudited)

Inflows	Current Month	Year to Date
Utility Billing Collections	$ 559,745	$ 5,150,694
Tax Receipts	77,346	1,181,312
Transfer From LAIF	-	1,600,000
FEMA Reimbursement	-	2,528,981
Miscellaneous	48,730	5,164,673
Total Inflows	**685,820**	**15,625,659**
Outflows		
Vouchers	901,195	6,620,419
Payroll	284,481	1,793,225
Transfer to LAIF	-	5,500,000
Transfer/payments for State Loan	-	121,191
Miscellaneous & Online Payments	113,347	1,708,122
Total Outflows	**1,299,023**	**15,742,956**
Net Change in Checking Account	(613,202)	(117,297)
Beginning Checking Account	1,551,324	1,055,418
Ending Checking Account	**$ 938,121**	**$ 938,121**

*No assurance is provided on these financial statements. Substantially all disclosures required by accounting principles generally accepted in the U.S. are not included.

Trabuco Canyon Water District
General Fund Warrant Register
2/10/2021

Summary of Disbursements

Computer Checks	265,101.15
UB Refund Checks	2,286.05
Bank Drafts	326,042.23
Bank EFTs	200,883.53
Voided Checks	-
Total Disbursements	**794,312.96**

I hereby certify that the claims or demands covered by the above listed warrants have been audited as to accuracy and the availability of funds for payment thereof; and that the said claims or demands are accurate and that the funds are available.

General Manager / Assistant General Manager

This is to certify that claims or demands covered by the above listed warrants have been audited by the Finance/Audit Committee of the Trabuco Canyon Water District and that all of the said warrants are approved for payment.

Donald S. Chadd
Donald S. Chadd (Feb 11, 2021 10:21 PST)

By: Date:

Ed Mandich
Ed Mandich (Feb 11, 2021 10:34 PST)

By: Date:

Trabuco Canyon Water District, CA

Check Report

By Check Number

Date Range: 01/12/2021 - 02/08/2021

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Bank Code: APBNK-APBNK						
MWDO0001	MWDOC	01/27/2021	EFT	0.00	193,941.04	25
SYNO0001	Synoptek, LLC	01/27/2021	EFT	0.00	5,695.63	26
ACWA0002	ACWA/JPIA	01/29/2021	EFT	0.00	1,246.86	27
TRUE0001	ALS - Truesdail Laboratories	01/27/2021	Regular	0.00	774.00	9783
AT&T0001	AT&T	01/27/2021	Regular	0.00	818.42	9784
AUTO0003	Auto Plus Auto Parts	01/27/2021	Regular	0.00	51.70	9785
MONS0001	Brent Monson	01/27/2021	Regular	0.00	90.00	9786
BUTI0001	Butier Engineering, Inc.	01/27/2021	Regular	0.00	2,725.00	9787
CARQ0001	Carquest of Orange County	01/27/2021	Regular	0.00	370.65	9788
CINT0001	Cintas	01/27/2021	Regular	0.00	455.11	9789
COMO0001	Comoso	01/27/2021	Regular	0.00	234.82	9790
CPSI0001	CPSI	01/27/2021	Regular	0.00	550.00	9791
CWEA00001	CWEA Membership	01/27/2021	Regular	0.00	192.00	9792
EAGL0001	Eagle Communications	01/27/2021	Regular	0.00	382.89	9793
FERR0002	Ferreira Construction Company	01/27/2021	Regular	0.00	53,325.78	9794
GRAI0001	Grainger	01/27/2021	Regular	0.00	212.21	9795
HAAK0001	Haaker Equipment Company	01/27/2021	Regular	0.00	1,222.49	9796
HARR0001	Harrington Industrial Plastics	01/27/2021	Regular	0.00	104.46	9797
HYDR0002	Hydrotech Electric	01/27/2021	Regular	0.00	13,899.13	9798
IRVI0001	Irvine Ranch Water District	01/27/2021	Regular	0.00	90,636.19	9799
LAHA0001	La Habra Fence Co., Inc.	01/27/2021	Regular	0.00	15,149.00	9800
OCSU0001	OC Superior Cleaning Services	01/27/2021	Regular	0.00	1,225.00	9801
OLIN0001	Olin Chemicals	01/27/2021	Regular	0.00	8,872.63	9802
ORAN0004	Orange County Pumping, Inc.	01/27/2021	Regular	0.00	2,130.00	9803
POWE0001	Powers Bros. Machine Inc.	01/27/2021	Regular	0.00	4,206.17	9804
QUIN0001	Quinn Company	01/27/2021	Regular	0.00	740.00	9805
RAIN0001	Rain for Rent Long Beach	01/27/2021	Regular	0.00	10,470.75	9806
S&JS0001	S & J Supply Company	01/27/2021	Regular	0.00	1,636.73	9807
SIER0001	Sierra Springs	01/27/2021	Regular	0.00	82.25	9808
SOUT0009	SouthWest Hydro Tech ACV Systems	01/27/2021	Regular	0.00	1,990.18	9809
TABA0001	TAB AnswerNetwork	01/27/2021	Regular	0.00	145.82	9810
TESC0001	Tesco Controls, Inc.	01/27/2021	Regular	0.00	34,653.50	9811
TRUC0001	TrucParCo	01/27/2021	Regular	0.00	654.59	9812
TYLE0001	Tyler Technologies, Inc.	01/27/2021	Regular	0.00	63.70	9813
UNDE0001	Underground Service Alert/SC	01/27/2021	Regular	0.00	117.52	9814
USAE0001	USA Express Tire & Service	01/27/2021	Regular	0.00	24.99	9815
USAB0001	USABlueBook	01/27/2021	Regular	0.00	569.61	9816
VAUG0001	Vaughan's Industrial Repair Co., Inc.	01/27/2021	Regular	0.00	6,194.55	9817
VITU0001	Vituity - Urgent Care Services	01/27/2021	Regular	0.00	342.00	9818
WECK0001	Weck Laboratories, Inc.	01/27/2021	Regular	0.00	332.40	9819
WICK0001	Wicked Weld	01/27/2021	Regular	0.00	1,950.00	9820
MONS0001	Brent Monson	01/28/2021	Regular	0.00	692.51	9821
STRO0001	Jason Stroud	01/28/2021	Regular	0.00	152.12	9822
QUIN0002	Juan A. Quinonez	01/28/2021	Regular	0.00	27.16	9823
WARN0001	Karen Warner	01/28/2021	Regular	0.00	94.93	9824
KESS0001	Kessler, Gary	01/28/2021	Regular	0.00	2,057.36	9825
PERE0001	Michael Perea	01/28/2021	Regular	0.00	3,334.14	9826
SERP0001	Serpas, Phil	01/28/2021	Regular	0.00	62.64	9827
NGUY0003	Thinh Nguyen	01/28/2021	Regular	0.00	1,050.04	9828
VALD0001	Valdez, Fernando	01/28/2021	Regular	0.00	34.01	9829
UMPQ0001	Umpqua Bank	01/12/2021	Bank Draft	0.00	9,909.56	DFT0001869
TOLL0001	The Toll Roads	01/12/2021	Bank Draft	0.00	140.00	DFT0001870
ADP0001	ADP	01/12/2021	Bank Draft	0.00	10.00	DFT0001871
SHRE0001	Shred-it USA LLC	01/12/2021	Bank Draft	0.00	120.00	DFT0001872

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
COXC0001	Cox Communications	01/15/2021	Bank Draft	0.00	114.99	DFT0001873
COXC0001	Cox Communications	01/19/2021	Bank Draft	0.00	689.96	DFT0001874
ADP0001	ADP	01/19/2021	Bank Draft	0.00	92,073.34	DFT0001875
CALP0001	CalPERS	01/19/2021	Bank Draft	0.00	6,819.89	DFT0001876
CALP0001	CalPERS	01/19/2021	Bank Draft	0.00	13,492.11	DFT0001877
CALP0001	CalPERS	01/19/2021	Bank Draft	0.00	3,445.50	DFT0001878
XERO0001	Xerox Corporation	01/19/2021	Bank Draft	0.00	364.86	DFT0001879
TOLL0001	The Toll Roads	01/22/2021	Bank Draft	0.00	140.00	DFT0001880
ADP0001	ADP	01/29/2021	Bank Draft	0.00	108.00	DFT0001881
TOLL0001	The Toll Roads	02/02/2021	Bank Draft	0.00	140.00	DFT0001882
SANT0003	Santa Margarita Water District	02/02/2021	Bank Draft	0.00	3,115.46	DFT0001883
CALP0001	CalPERS	02/02/2021	Bank Draft	0.00	40,558.73	DFT0001884
CALP0001	CalPERS	02/02/2021	Bank Draft	0.00	5,266.36	DFT0001885
VSP0001	VSP	02/02/2021	Bank Draft	0.00	816.03	DFT0001886
GUAR0001	Guardian	02/02/2021	Bank Draft	0.00	4,150.84	DFT0001887
EXXO0001	Exxon/Mobil	02/02/2021	Bank Draft	0.00	2,863.72	DFT0001888
SHEL0001	Shell Fleet Plus	02/02/2021	Bank Draft	0.00	572.33	DFT0001889
SOUT0001	South Coast AQMD	02/02/2021	Bank Draft	0.00	421.02	DFT0001890
SOUT0001	South Coast AQMD	02/02/2021	Bank Draft	0.00	136.40	DFT0001891
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	49.26	DFT0001892
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	36.70	DFT0001893
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	36.70	DFT0001894
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	36.70	DFT0001895
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	36.70	DFT0001896
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	78.57	DFT0001897
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	78.57	DFT0001898
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	78.57	DFT0001899
CINT0001	Cintas	02/02/2021	Bank Draft	0.00	78.57	DFT0001900
ADP0001	ADP	02/08/2021	Bank Draft	0.00	1,763.89	DFT0001901
ADP0001	ADP	02/04/2021	Bank Draft	0.00	103,416.78	DFT0001902
ADP0001	ADP	02/04/2021	Bank Draft	0.00	-103,416.78	DFT0001902
ADP0001	ADP	02/04/2021	Bank Draft	0.00	95,911.87	DFT0001906
EPX0001	EPX	02/02/2021	Bank Draft	0.00	3,184.67	DFT0001907
CALP0001	CalPERS	02/03/2021	Bank Draft	0.00	6,819.89	DFT0001908
CALP0001	CalPERS	02/03/2021	Bank Draft	0.00	13,390.75	DFT0001909
CALP0001	CalPERS	02/03/2021	Bank Draft	0.00	3,462.80	DFT0001910
UMPQ0001	Umpqua Bank	02/08/2021	Bank Draft	0.00	15,444.37	DFT0001911
ADP0001	ADP	02/08/2021	Bank Draft	0.00	64.55	DFT0001912
ADP0001	ADP	02/08/2021	Bank Draft	0.00	20.00	DFT0001913

Bank Code APBNK Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	78	47	0.00	265,101.15
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	93	43	0.00	326,042.23
EFT's	7	3	0.00	200,883.53
	178	**93**	**0.00**	**792,026.91**

All Bank Codes Check Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	78	47	0.00	265,101.15
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	93	43	0.00	326,042.23
EFT's	7	3	0.00	200,883.53
	178	**93**	**0.00**	**792,026.91**

Fund Summary

Fund	Name	Period	Amount
99	Pooled Cash	1/2021	593,412.89
99	Pooled Cash	2/2021	198,614.02
			792,026.91

Trabuco Canyon Water District, CA

Refund Check Register

Refund Check Detail

UBPKT05236 - Refunds 02 UBPKT05219 Regular

Account	Name	Date	Check #	Amount	Code	Receipt	Amount	Type
100-0532-003	SIMON, FRANKLYN	1/29/2021	9830	117.63			117.63	Deposit
400-0217-006	NASR, SHADI	1/29/2021	9831	161.82			161.82	Deposit
500-0034-005	OBARA, EMILY	1/29/2021	9832	15.08			15.08	Generated From Billing
500-0035-012	CERNIGLIA, CATHERINE	1/29/2021	9833	22.38			22.38	Generated From Billing
800-0019-001	PAVING, CHAMPION	1/29/2021	9834	1,969.14			1969.14	Generated From Billing
Total Refunds: 5			**Total Refunded Amount:**	2,286.05				

Revenue Code Summary

Revenue Code	Amount
996 - UNAPPLIED CREDITS	2286.05
Revenue Total:	2286.05

General Ledger Distribution

Posting Date: 01/29/2021

	Account Number	Account Name	Posting Amount	IFT
Fund:	10 - Water Fund			
	10-000-1010	Claim on Cash	-2,286.05	Yes
	10-000-2501	Customer Credit	2,286.05	
		10 Total:	0.00	
Fund:	99 - Pooled Cash			
	99-000-1004	Bank of the West Checking (Pooled Cash)	-2,286.05	
	99-000-2120	Due to Other Fund	2,286.05	Yes
		99 Total:	0.00	
		Distribution Total:	0.00	

Warrant Registry
Trabuco Canyon Water District
County of Orange
State of California

GENERAL FUND PAYROLL WARRANT REGISTER

For the Month of: February 2021 **$ 214,755.42**

I hereby certify that the claims or demands covered by the above listed warrants have been audited as to accuracy and the availability of funds for payment thereof; and that the said claims or demands are accurate and that the funds are available.

General Manager / Assistant General Manager

This is to certify that claims or demands covered by the above listed warrants have been audited by the Finance/Audit Committee of the Trabuco Canyon Water District and that all of the said warrants are approved for payment.

Donald S. Chadd
Donald S. Chadd (Mar 10, 2021 14:39 PST)

By Date

Ed Mandich
Ed Mandich (Mar 10, 2021 14:44 PST)

By Date

Net Pay	Checks				1,736.48	
	Direct Deposits				56,526.74	
	Subtotal Net Pay					**58,263.22**
	Adjustments				.00	
	Total Net Pay Liability (Net Cash)					**58,263.22**

Taxes			You are responsible for Depositing these amounts		Amount debited from your account		
Federal	**Agency**	**Rate**	**EE withheld**	**ER contrib.**	**EE withheld**	**ER contrib.**	
	Federal Income Tax				9,846.26		
	Earned Income Credit Advances						
	Social Security				5,641.25	5,641.28	
	Medicare				1,319.30	1,319.33	
	Medicare Surtax						
	Federal Unemployment Tax						
	Subtotal Federal				**16,806.81**	**6,960.61**	**23,767.42**
	Families First FMLA-PSL Payments Credit						
	Families First ER Medicare Credit						
	Families First Health Care Premium Credit						
	CARES Retention Qualified Payments Credit						
	CARES Retention Qualified Health Care Cre						
	Cobra Premium Assistance Payments						
	Total Federal				**16,806.81**	**6,960.61**	**23,767.42**
State	CA State Income Tax				4,428.63		
	CA State Unemployment Insurance-ER	3.0000				39.37	
	CA State Disability Insurance-EE				1,089.53		
	Subtotal CA				**5,518.16**	**39.37**	**5,557.53**
	Total Taxes		**.00**	**.00**	**22,324.97**	**6,999.98**	**29,324.95**

Amount ADP Debited From Account XXXXX6939 **Tran/ABA XXXXXXXXX** **29,324.95**

Excludes Taxes That Are Your Responsibility

Other Transfers	ADP Direct Deposit		56,526.74	
	ADP Check		1,736.48	
	Amount ADP Debited From Account XXXXX6939	**Tran/ABA XXXXXXXXX**		**58,263.22**

23 Employee Transactions

Total Amount ADP Debited From Your Accounts **87,588.17**

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Preview Preview

Net Pay	**Checks**	**5,953.34**	
	Direct Deposits	**75,686.03**	
	Subtotal Net Pay		81,639.37
	Adjustments	**.00**	
	Total Net Pay Liability (Net Cash)		81,639.37

Taxes			You are responsible for Depositing these amounts		Amount debited from your account		
Federal	Agency	Rate	EE withheld	ER contrib.	EE withheld	ER contrib.	
	Federal Income Tax				**16,890.51**		
	Earned Income Credit Advances						
	Social Security				**7,942.65**	**7,942.63**	
	Medicare				**1,857.57**	**1,857.55**	
	Medicare Surtax						
	Federal Unemployment Tax						
	Subtotal Federal				26,690.73	9,800.18	36,490.91
	Families First FMLA-PSL Payments Credit						
	Families First ER Medicare Credit						
	Families First Health Care Premium Credit						
	CARES Retention Qualified Payments Credit						
	CARES Retention Qualified Health Care Cre						
	Cobra Premium Assistance Payments						
	Total Federal				26,690.73	9,800.18	36,490.91
State							
	CA State Income Tax				**7,383.07**		
	CA State Unemployment Insurance-EE	**R 0000**				**155.11**	
	CA State Disability Insurance-EE				**1,498.79**		
	Subtotal CA				8,881.86	155.11	9,036.97
	Total Taxes		.00	.00	35,572.59	9,955.29	45,527.88
	Amount ADP Debited From Account	XXXXX6939	Tran/ABA XXXXXXXXX				45,527.88

Excludes Taxes That Are Your Responsibility

Other	**ADP Direct Deposit**	**75,686.03**	**48 Employee Transactions**
Transfers	**ADP Check**	**5,953.34**	
	Amount ADP Debited From Account XXXXX6939	Tran/ABA XXXXXXXXX	81,639.37
Total Amount ADP Debited From Your Accounts			127,167.25

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

CONSENT CALENDAR
ITEM 3: ENGINEERING/OPERATIONAL COMMITTEE MEETING

RECOMMENDED ACTION:
Receive and file the following Engineering/Operational Committee Meeting Recap(s):
1. *February 3, 2021*

CONTACTS (staff responsible): PALUDI/PEREA/SANGI

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | FEBRUARY 3, 2021

DIRECTORS VIA CONFERENCE CALL
Ed Mandich, Committee Chair
Stephen Dopudja, Committee Member

STAFF PRESENT
Fernando Paludi, General Manager
Michael Perea, Assistant General Manager/District Secretary
Gary Kessler, Water Department Superintendent
Jason Stroud, Maintenance Superintendent

STAFF PRESENT VIA CONFERENCE CALL
Lorrie Lausten, District Engineer
Karen Warner, Senior Accountant
Lisa Marie Sangi, Administrative Assistant

DISTRICT CONSULTANTS PRESENT VIA CONFERNECE CALL
Mike Swan, PSOMAS Engineering
Kyle Bohn, Tetra Tech Engineers
Joey Gutierrez, JIG Consultants

PUBLIC PRESENT VIA CONFERNECE CALL
None

CALL MEETING TO ORDER
Director Mandich called the February 3, 2021 Engineering/Operational Committee Meeting to order at 7:00 AM. Public access to the meeting was made available by video broadcast.

VISITOR PARTICIPATION
No comments were received.

ORAL COMMUNICATION
No comments were received.

COMMITTEE MEMBER COMMENTS
None

REPORT FROM THE GENERAL MANAGER
Mr. Paludi had no comments

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP

Mr. Paludi presented the Engineering/Operational Committee Meeting Recap for Committee review in accordance with the agenda. Director Mandich requested that the recap be updated to reflect his comments concerning Hunsaker and Associates contract with the William Lyon Company is closed and has had no contact with Taylor Morrison.

DRAFT

RECOMMENDED ACTION
The Committee recommended that the Engineering/Operational Committee Meeting Recap be forwarded to the Board of Directors for approval as amended (Consent Calendar).

ITEM 2: DISCUSSION AND POSSIBLE ACTION(S) RELATING TO TCWD'S DOMESTIC WATER STORAGE AND RESERVOIR SITING STUDY UPDATE

Ms. Lausten presented this matter for Committee review, and she provided a brief overview of the District's 2016 Domestic Water Storage Siting Study (Study). Ms. Lausten introduced Mr. Mike Swan to the Committee, and she reported that Mr. Swan has prepared an update for the Study. Mr. Swan delivered a PowerPoint presentation which provided an overview of the District's domestic water storage needs throughout the service area. Discussion occurred concerning system demand changes since the original Study from 2016 and the methodology used to determine total days of storage. Director Dopudja recommended that District staff identify storage capacity and user demands on the east and west sides of the District respectively. Ms. Lausten reported that District staff will return with the information at the following Committee meeting.

RECOMMENDED ACTION:
Committee to receive information at the time of the Committee Meeting.

ITEM 3: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING PORTER PROPERTY RESERVOIR PLANNING LEVEL CONSTRUCTION COST ESTIMATE

Ms. Lausten provided an update on this matter to the Committee, and she reported that District staff worked with Tetra Tech to incorporate the Committee's comments from the prior meeting. Mr. Kyle Bohn, Tetra Tech, delivered a PowerPoint presentation which provided a planning level construction cost estimate for an onsite reservoir at the District's Porter Property. Discussion occurred concerning certain alternative cost items and environmental impacts. The Committee recommended District staff work with Tetra Tech to finalize the report.

RECOMMENDED ACTION:
The Committee received the status update. There was no action taken.

ITEM 4: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING BELL CANYON SEWER LIFT STATION REHABILITATION PROJECT

Ms. Lausten provided a brief update on this project, and she reported that there has been a minor schedule delay due to temporary electrical power provisions from Southern California Edison (SCE). Ms. Lausten added that the scheduled project completion date is currently June 2021. Ms. Lausten mentioned that she has reached out to surrounding affected customers concerning vibration testing associated with the project, and she reported that certain customers have retained legal counsel concerning the matter.

RECOMMENDED ACTION:
The Committee received the status update. There was no action taken.

ITEM 5: DISCUSSION AND POSSIBLE ACTIONS(S) CONCERNING THE DIMENSION WATER TREATMENT PLANT BACKWASH WASTE TANK REPLACEMENTS

Ms. Lausten provided a brief update on this project, and she introduced Mr. Joey Gutierrez, JIG Consultants, to the Committee. Mr. Gutierrez provided a brief review of the findings in the technical memorandum, and he highlighted the planned improvements at the Dimension Water Treatment Plant (DWTP). Ms. Lausten reported that District staff is procuring quotes for the onsite backwash tank, and that she will receive them prior to the

DRAFT

Regular Board Meeting. Mr. Gutierrez reported that the engineer's estimate for the onsite tank is approximately $150,000 to $175,000. The Committee recommended agendizing this matter for Board consideration at the following Regular Board Meeting.

RECOMMENDED ACTION:
The Committee received the status update. Take to Board.

ITEM 6: OTHER ENGINEERING AND OPERATIONS PROJECTS

1. Saddle Crest Development
Mr. Paludi presented this project for Committee review, and he provided a brief report on recent discussions with the developer concerning the acceptance of the onsite facilities.

2. Saddleback Meadows Development
Ms. Lausten provided a brief update on this project, and she reported that District staff is currently in discussion with the developer concerning the potential for onsite storage to meet the projected water demands.

3. Joplin Property/SCADA Upgrade
Mr. Paludi reported that District staff is currently in discussion with Orange County Public Works (OCPW) staff on an operating licensing agreement related to the SCADA upgrades at the Joplin Youth Camp Reservoir.

4. Policy and Procedures for Commercial Communication Facilities Located on District Property
Ms. Lausten reported that District staff is working with its consultant ATS Communications to prepare a Policy and Procedures for current and future commercial communications facilities on District properties. Ms. Lausten added that this matter will be agendized for the following Committee meeting.

5. Other Projects
None

RECOMMENDED ACTION
The Committee received the status update. There was no action taken.

ITEM 7: WATER SYSTEM UPDATES

Mr. Kessler reviewed the projects and repairs for January 2021, and he provided the additional highlights:

1. Water Operations staff repaired the struck water service lines, responsible by the resident on Rose Canyon Road in the Canyon Community.
2. Water Operations staff worked with Ferriera Construction to repair a 10-inch water main line to the Cooks reservoir.
3. Water Operations staff worked with Ferriera Construction to replace a 12"x10" transition coupling on High Country in the Trabuco Highlands Community.
4. Water Operations staff replaced an influent valve and an actuator on Filter #2 at Dimension Water Treatment Plant.

Mr. Kessler reviewed the Monthly Water System Operations Summary with the Committee, and he reported that there are some system anomalies associated with the meter at Ridgeline Booster Pump Station that will be adjusted in a future summary.

RECOMMENDED ACTION
The Committee received the status update. There was no action taken.

DRAFT

ITEM 8: WASTEWATER SYSTEM UPDATES

Mr. Perea reviewed the projects and repairs for January 2021, and he provided the additional highlights:

1. Wastewater Operations staff drained, cleaned, and repaired the aeration system of the aerobic digester at the Robinson Ranch Wastewater Treatment Plant (WWTP).
2. Wastewater Operations staff worked with Maintenance Department to repair the Hoffman Blower motor for the East Sequencing Batch Reactor (SBR) at the WWTP.
3. Wastewater Operations staff cleaned the Bell Canyon Sewer Lift Station wet well and station general area prior to Ferreira Construction beginning the rehabilitation project.
4. Wastewater Operations staff received, reviewed, and provided input on the Wastewater Operator I recruitment process.

Mr. Perea reviewed the Monthly Wastewater System Operations Summary and he provided a brief update on the installation of a new odor control system at the Bell Canyon Sewer Lift Station the prior week. Discussion occurred concerning the sanitary sewer system characteristics and the production of hydrogen sulfide gas.

RECOMMENDED ACTION

The Committee received the status update. There was no action taken.

ITEM 9: MAINTENANCE DEPARTMENT UPDATES

Mr. Stroud reviewed the projects and repairs for December 2020, and he provided the additional highlights:

1. Maintenance Department staff sent the crane truck in for electrical repair.
2. Maintenance Department staff worked with TESCO Controls on upcoming SCADA upgrades.
3. Maintenance Department staff worked with Flo Service to install a small backwash pump at Dimension Water Treatment Plant.
4. Maintenance Department staff completed the Maintenance office remodel.
5. Maintenance Department staff assisted the Water Department on the water main break on High Country Drive in the Trabuco Highlands Community.
6. Maintenance Department staff performed investigative work on the Hofmann Blower on the West SBR at Wastewater Water Treatment Plant.
7. Maintenance Department staff assisted with staging of public awareness for the asphalt work done by Champion Paving at the Dove Recycle Booster Station.
8. Maintenance Department staff assisted with staging of public awareness for the slurry done by Mission Paving at the Robinson Ranch Wastewater Treatment Plant access road.

RECOMMENDED ACTION

The Committee received the status update. There was no action taken.

ITEM 10: OTHER MATTERS/REPORTS

None

RECOMMENDED ACTION

There was no action taken.

ADJOURNMENT

Director Mandich adjourned the February 3, 2021 Engineering/Operational Committee Meeting at 8:34 AM.

DRAFT

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

CONSENT CALENDAR
ITEM 4: EXECUTIVE COMMITTEE MEETING

RECOMMENDED ACTION:
Receive and file the following Executive Committee Meeting Recap(s):
1. July 23, 2020

TRABUCO CANYON WATER DISTRICT
EXECUTIVE COMMITTEE MEETING RECAP | JULY 23, 2020

DIRECTORS PRESENT
Vice President Don Chadd, Committee Chair
President Mike Safranski, Committee Member

STAFF PRESENT
Fernando Paludi, General Manager
Michael Perea, Assistant General Manager/District Secretary

CONSULTANTS PRESENT
None

PUBLIC PRESENT
There were no members of the public present

CALL MEETING TO ORDER
Vice President Chadd called the July 23, 2020 Executive Committee Meeting to order at 1:01 PM.

VISITOR PARTICIPATION
No visitor participation was received.

ORAL COMMUNICATION
No oral communication was received.

COMMITTEE MEMBER COMMENTS
President Safranski had no comments.

Vice President Chadd had no comments.

REPORT FROM THE INTERIM GENERAL MANAGER
Mr. Paludi had no comments.

BOARD AGENDA MATTERS
ITEM 1: EXECUTIVE COMMITTEE MEETING RECAP

The January 8, 2020 Executive Committee Meeting Recap was presented to the Committee. No comments or changes were presented or made.

RECOMMENDED ACTION:
The Committee recommended that the January 8, 2020 Executive Committee Meeting Recap be received and filed by the Board (Consent Calendar Item).

DRAFT

DISCUSSION MATTERS

ITEM 2: DISCUSSION CONCERNING PENDING AND FUTURE BOARD AGENDA TOPICS

Mr. Paludi presented this matter for Committee consideration and provided a brief review of the pending and future Board Meeting agenda topics for the next six months. The topics included a brief update on the Water, Wastewater, and Non-Domestic Water Rates and Charges analysis and other items listed on the outline as presented to the Executive Committee. Mr. Paludi reported that more information concerning this matter would be reviewed with the Board at the Special Board Meeting – Rates Workshop scheduled for January 28, 2020.

RECOMMENDED ACTION:
The Committee recommended that the reviewed matters be agendized by District staff as presented.

OTHER MATTERS

ITEM 3: OTHER MATTERS OR COMMENTS FROM INTERIM GENERAL MANAGER AND/OR STAFF

There were no other matters presented or discussed.

RECOMMENDED ACTION:
There was no action.

ADJOURNMENT

Vice President Chadd adjourned the July 23, 2020 Executive Committee Meeting at 1:53 PM.

DRAFT

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

CONSENT CALENDAR
ITEM 5: RATIFICATION OF DIRECTORS' FEES AND EXPENSES, AND TENTATIVE FUTURE MEETINGS/ ATTENDANCE

FEES AND EXPENSES
Consistent with Board policy, Directors are reimbursed for expenses incurred while serving in their capacity as Directors. Additionally, Directors earn a per diem stipend for attendance at meetings or functions in a Director capacity. The attached spreadsheet provides a recap of the meetings, seminars, conferences attended by Directors along with expenses recorded to date.

TENTATIVE FUTURE MEETINGS
The attached spreadsheet provides a schedule of the tentative future meetings and attendance items.

FUNDING SOURCE:
General Fund

FISCAL IMPACT
FY 2020/2021 Budgeted Board Expenses: $39,600

ENVIRONMENTAL COMPLIANCE:
Not applicable

COMMITTEE STATUS:
This matter was reviewed with the Finance/Audit Committee.

RECOMMENDED ACTIONS:
Ratify the Directors' expenses and fees from February 2021 and approve tentative future meetings/attendance.

EXHIBIT(S):
1. Directors Fees and Expenses Monthly Report for February 2021
2. Directors Future/Tentative Meeting/Attendance Schedule for Calendar Year 2021

CONTACTS (staff responsible): PALUDI/PEREA/SANGI

TRABUCO CANYON WATER DISTRICT
DIRECTORS' FEES AND EXPENSES MONTHLY REPORT | FEBRUARY 2021

MEETING DESCRIPTION	ACOSTA	CHADD	DOPUDJA	MANDICH	SAFRANSKI
DISTRICT MEETINGS					
Engineering/Operational Committee Meeting			02/03/21	02/03/21	
Finance/Audit Committee Meeting		02/10/21		02/10/21	
District Organization Ad Hoc Committee		02/11/21	02/11/21		
District Property Ad Hoc Committee Meeting			02/02/21		02/02/21
Individual Meeting with General Manager	02/16/21	02/16/21	02/16/21	02/16/21	02/16/21
Special Board Meeting	02/01/21	02/01/21	02/01/21	02/01/21	02/01/21
Regular Board Meeting	02/17/21	02/17/21	02/17/21	02/17/21	02/17/21
REPRESENTATIVE MEETINGS					
City of Rancho Santa Margarita Council Meeting	02/10/21				
City of Rancho Santa Margarita Council Meeting					CXL
City of Rancho Santa Margarita City Planning Commission Meeting	02/03/21				
MWDOC Water Policy Meeting					02/24/21
South County Nominating Committee					02/04/21
South Orange County Wastewater Authority (SOCWA) Regular Board Meeting			02/04/21		
Water Advisory Committee of Orange County Meeting (WACO)	02/05/21				
NUMBER OF MEETINGS ATTENDED	**6**	**5**	**7**	**5**	**6**
FEES ($125 per each meeting*)	**$750.00**	**$625.00**	**$875.00**	**$625.00**	**$750.00**
DIRECT REIMBURSABLE EXPENSES					
DIRECT REIMBURSABLE EXPENSES TOTALS	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
INDIRECT REIMBURSABLE EXPENSES TOTALS					
TOTAL	**$750.00**	**$625.00**	**$875.00**	**$625.00**	**$750.00**

**** Maximum per diem per day is one; maximum per diems per month is 10***

_____

DIRECTOR SIGNATURE

TRABUCO CANYON WATER DISTRICT | 2021 PUBLIC MEETING AND CONFERENCE CALENDAR

LINE ITEM	MEETING DESCRIPTION	2021 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
DISTRICT PUBLIC MEETINGS													
1	Executive Committee Meeting	TBD			TBD			TBD			TBD		
2	Engineering/Operational Committee Meeting	01/06/21	02/03/21	03/03/21	04/07/21	05/05/21	06/02/21	07/07/21	08/04/21	09/01/21	10/06/21	11/03/21	12/01/21
3	Finance/Audit Committee Meeting	01/13/21	02/10/21	03/10/21	04/14/21	05/12/21	06/09/21	07/14/21	08/11/21	09/08/21	10/13/21	11/10/20	12/08/21
4	Regular Board Meeting	01/20/21	02/17/21	03/17/21	04/21/21	05/19/21	06/16/21	07/21/21	08/18/21	09/15/21	10/20/21	11/17/21	12/15/21
5	District Properties Ad Hoc Committee Meeting	-	-	-	-	-	-	-	-	-	-	-	-
PUBLIC MEETINGS													
6	City of RSM City Council Meeting - Meeting No. 1	01/13/21	02/10/21	03/10/21	04/14/21	05/12/21	06/09/21	07/14/21	08/11/21	09/08/21	10/13/21	11/10/21	12/08/21
7	City of RSM City Council Meeting - Meeting No. 2	01/27/21	02/24/21	03/24/21	04/28/21	05/26/21	06/23/21	07/28/21	08/25/21	09/22/21	10/27/21	11/24/21	12/22/21
8	Independent Special Districts of Orange County Meeting	01/05/21	02/02/21	03/02/21	04/06/21	05/04/21	06/01/21	07/06/21	08/03/21	09/07/21	10/05/21	11/02/21	12/07/21
9	Independent Special Districts of Orange County Meeting	01/28/21	-	-	04/29/21	-	-	07/29/21	-	-	10/28/21	-	-
10	Orange County Local Agency Formation Commission (OC LAFCO)	01/13/21	02/10/21	03/10/21	04/14/21	05/12/21	06/09/21	07/14/21	08/11/21	09/08/21	10/13/21	11/10/21	12/08/21
11	Santiago Aqueduct Commission Meeting	-	-	03/18/21	-	-	06/17/21	-	-	09/16/21	-	-	12/16/21
12	South Orange County Integrated Regional Watershed Management Executive Committee	-	-	03/04/21	-	05/06/21	-	-	08/05/21	-	-	11/04/21	-
13	South Orange County Water Agenicies Group Meeting*	01/28/21	-	03/25/21	-	05/27/21	-	07/22/21	-	09/23/21	-	11/25/21	-
14	South Orange County Wastewater Authority Regular Board Meeting	01/07/21	02/04/21	03/04/21	04/07/21	05/06/21	06/03/21	07/01/21	08/05/21	09/02/21	10/07/21	11/04/21	12/02/21
15	Water Advisory Committee of Orange County	01/01/21	02/05/21	03/05/21	04/02/21	05/07/21	06/04/21	07/02/21	08/07/21	09/03/21	10/01/21	11/06/21	12/04/21
CONFERENCES													
16	ACWA Spring Conference - Monterey, CA					5/11 - 5/14							
17	ACWA Fall Conference - Pasadena, CA											11/30 12/3	
18	CSDA Annual Conference -Monterey, CA								8/3 - 9/2				
19	CSDA GM Leadership Summit - Olympic Valley, CA						6/27 - 6/29						
20	CSDA SDLA Conference - Lake Tahoe, CA									9/26 - 9/29			

LEGEND

District Observed Holiday - Reschedule Meeting

**4th Tuesday of the Odd Numbered Month*

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
ADMINISTRATIVE MATTERS
ITEM 6: DISCUSSION AND POSSIBLE ACTION(S) CONCERNING THE CORONAVIRUS, INCLUDING SAFETY OF DISTRICT SERVICES AND EMPLOYEES, AND IMPACT TO BOARD & COMMITTEE MEETINGS

LOCAL STATUS
As of March 11, 2021, water and wastewater workers throughout the state are eligible for vaccinations in Tier 1b as emergency services. District staff have been advised to register for vaccinations if they wish to receive one.

DISTRICT RESPONSE EFFORTS
Pursuant to Governor Newsom's Executive Order N-29-20, and direction from the Board President, effective December 1, 2020 and until further notice, all public meetings involving the Board of Directors will be held remotely, with public participation via the District's current virtual meeting platform or by phone. District customer service functions continue to be limited to phone and on-line access (no physical access to Administration Facility except for exterior payment drop boxes). District staff understands the potential for the pandemic situation to change negatively and well as positively and is now well-positioned to adapt as necessary to continue ensuring a safe and secure workplace for its employees while providing essential services to its customers. District staff will continue to closely monitor guidance from both the state and the County of Orange and coordinate with Water Emergency Response Organization of Orange County (WEROC). More information may be presented at the time of the meeting.

WATER TRANSMISSION & COVID-19
According to the CDC, "The COVID-19 virus has not been detected in drinking water. Conventional water treatment methods that use filtration and disinfection, such as those in most municipal drinking water systems, should remove and/or inactivate the virus that causes COVID-19." The District owns and operates the Dimension Water Treatment Plant (DWTP) which uses multi-media filters and disinfects raw surface water with sodium hypochlorite (free chlorine) and therefore meets the CDC's definition of conventional water treatment methods.

FUNDING SOURCE:
Unknown at this time

FISCAL IMPACT
Unknown at this time

ENVIRONMENTAL COMPLIANCE:
Not applicable

COMMITTEE STATUS:
This matter was not reviewed at the Committee level.

RECOMMENDED ACTIONS:
Receive information at the time of the Board meeting and take action(s) as deemed appropriate.

EXHIBIT(S):
None
CONTACTS (staff responsible): PALUDI/PEREA

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
ADMINISTRATIVE MATTERS
ITEM 7: DISCUSSION AND POSSIBLE ACTION(S) RELATED TO THE PROPOSED PALOMA SQUARE DEVELOPMENT (DOVE CANYON PLAZA) AND OTHER RELATED MATTERS

Trabuco Canyon Water District (TCWD or District) owns the Administration Facility and the property upon which it resides; the property is adjacent to the Dove Canyon Plaza commercial center. On July 24, 2019, Dove Canyon Recovery Acquisition, LLC (DCRA), the owner of Dove Canyon Plaza, with their consultant William Lyon Homes (now Taylor Morrison) submitted a proposal to the City of Rancho Santa Margarita (City) for a change in use from commercial to residential. The proposed project is titled "Paloma Square." The initial submittal to the City, and all subsequent submittals, project information, and correspondence between City and William Lyon Homes/Taylor Morrison related to Paloma Square are available on the City's website. The District's website, under the "Community" tab, also includes information and correspondence regarding proposed project.

FUNDING SOURCE:
General Fund

FISCAL IMPACT:
None

ENVIRONMENTAL COMPLIANCE:
Not applicable

COMMITTEE STATUS:
This matter was reviewed with the Engineering/Operational Committee.

RECOMMENDED ACTIONS:
Receive information at the time of the Board meeting and take action(s) as deemed appropriate.

EXHIBIT(S):
None

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
FINANCIAL MATTERS
ITEM 8: APPROVAL OF ROOF REPAIR PROPOSAL FOR DISTRICT ADMINISTRATION FACILITY

The District owns and operates the Administrative Facility located in the Dove Canyon Center, which serves at the primary hub for all administrative, engineering, and customer service functions. The original building was purchased in 1996 which includes the customer service area and the Board Room. In 2001, the District expanded the facility and constructed another building to house the District's administrative and engineering staff (Admin Wing). Over the last two years, the District has contracted for minor roof repairs on the Admin Wing building, but the recent storm and wind events have caused significant damage to the overall roof.

District staff has procured two quotes for roof repair from qualified contractors that listed on the Department of Industrial Relations (DIR) list of approved contractors:

CONTRACTOR	PROPOSAL
J.L. Ray Company	$49,500
JRT Roofing & Waterproofing	$46,800

During the onsite inspection, JRT Roofing & Waterproofing recommended additional repairs/improvements to the flat roof area for the corridor between the two buildings for an additional $5,800, which would increase the total repair to $52,600; this was not identified by J.L. Ray Company. District staff recommends contracting with JRT Roofing & Waterproofing for the repair work, including the corridor roof area.

FUNDING SOURCE:
General Fund

FISCAL IMPACT:
$52,600

ENVIRONMENTAL COMPLIANCE:
Not applicable.

COMMITTEE STATUS:
This matter was reviewed with the Executive Committee

RECOMMENDED ACTION:
Receive information at the time of the Board meeting and approve the roof repair proposal from JRT Roofing & Waterproofing for a not to exceed amount of $52,600.

EXHIBITS:
1. J.L. Ray Company Quote
2. JRT Roofing & Waterproofing Quote

CONTACTS (staff responsible): PALUDI/PEREA/SANGI

1447 N El Camino Real
San Clemente, CA 92672
Phone: (949) 498-2274
Fax: (949) 498-3744
License# B/C-39 567238
DIR# 1000001619
www.jlray.com

Estimate

Date: **3/8/2021**

Client: Trabuco Canyon Water District (Office)

(949) 480-7016
lsangi@tcwd.ca.gov

Site Address: 32003 Dove Canyon Dr Trabuco Canyon, CA 92679

Subject: Roof Repair Proposal

JL Ray Company, here in after called Contractor, agrees to provide all labor and material necessary to complete the following scope of work;

Lift and Relay Entire Roof (main office building)

Lift existing concrete S-tile and store on roof
Inspect plywood roof deck, starter board, fascia, and other roof components; replace as needed* (wood replacement rates shown below)
Furnish and install (2) new layers of 30 pound felt underlayment over exsiting felt
Furnish and install new pipe flashings, valley metal, and other roof related sheet metal as needed
Reinstall existing roof tile, replacing broken tiles as needed
Color coat flashings to match roof
Final clean up
7-year craftsmanship warranty included

A

TOTAL COST $49,500.00 *

*Base bid includes the removal of one layer of material. Any additional layer(s) of material will be an additional cost. Owner agrees to pay contractor to replace bad wood at the rate of $9.85 per foot for fascia, $4.75 per foot for starter board, and current market rate for plywood. Shop rate for other client approved repairs is $89 per man hour. All proposals are good for 30 days from the day of creation. Please note we will add 15% oversight to any additional work needed from subcontractors. Building permits are not included unless otherwise specified. Contractor is not responsible for water ponding unless otherwise stated. Upon acceptance of contract, a 10% deposit (no greater than $1,000) is required to be added to our schedule. Upon material delivery, 75% of the total contract amount is required to be paid in full. The remaining 25% balance will be paid in full at the completion of the project. Invoices are due upon receipt. There will be a 1.5% interest charge per month after the first 30 days.

Submitted By: Brandon Decker 949-751-7321

PO Box 3688
San Clemente, CA 92672
949.742.2892
JRTROOFING.COM
CA 1070037
DIR 100574920

JRT ROOFING & WATERPROOFING
★ QLTY CRAFTSMANSHIP ★

Quote

Date: 3/10/2021
Job Number:

Client: **Trabuco Canyon Water District**
32003 Dove Canyon Drive,
Trabuco Canyon, Ca 92679
lsangi@tcwd.ca.gov
Site Address: **32003 Dove Canyon Drive, Trabuco Canyon, Ca 92679**

Subject: **Roof**

JRT ROOFING AND WATERPROOFING, INC.. agrees to provide all labor and material necessary to complete the following scope of work;

Lift and Relay and Flat Roof

Concrete Auburn Flat Tile, Please see highlight overhead view

Set up barricades for safe working conditions, as required. Supply on site porta potty bathroom for site crew. All tools and ground laid material will be kept in a specific lay down location approved by client. All on site breaks and lunches will be held away from offices and front entry area. Scope of work as follows; Remove existing tiles and store on roof. Remove, haul and dispose of existing cap sheet roof on flat roof.
Remove, haul and dispose of (1) layer of existing felt underlayment. (*)
Inspect wood and replace, as required
Furnish and install (2) layers of 30# felt underlayment. Furnish and install hot applied base, smooth ply and cap sheet on flat roof.
Furnish and install roof related sheet metal; 24" valley metal, tile pan, 2x4 drip edge, bird stop, eve riser, pipe flashings. Where required, furnish and install copper

flashing to tie into exising gutter system.
Backfill existing Concrete flat tile. Remove, haul and dipsose any unusable or broken tiles.
Broken or unuseable tiles will be replaced with as close matching of a tile as possible. New tiles will be backfilled to an area of the roof that is less visible. There are approx. 180 broken tiles at the time of bidding, but we expect to lose more tiles during the course of construction. This quote includes the replacement of 180 tiles. All addional replacement tiles will be an added cost and be billed at a rate of $5 per tile.
Final clean up.
8 year craftsmanship warranty included on pitched roof, 5 year craftsmanship warranty included on flat.

Cost :	Tile	$46,800.00	*
Cost :	Flat Roof	$5,800.00	*

Interior T bar Ceiling Tile Replacement and Back Corner Roof Repair

Upon completion of the roof repair; Furnish and install ceiling tile replacements. Pull tiles from the back corner area. Furnish and install rake tiles for back area. Repair fascia board as required. Reinstall tiles over corner section of roof.

Cost :		$4,800.00	*

TOTAL COST $57,400.00 *

General Conditions. Unless otherwise stated, *Base bid includes; (If roof is being removed) the removal of one layer of material. Any additional layer(s) of material will be an additional cost. Owner agrees to pay contractor to replace bad wood at the rate of $12.95 per foot for first story fascia, second story fascia TBD, $4.95 per foot for starter board, and $70-$90 per sheet of plywood based on current market value. Shop rate for other client approved repairs is $89 per man hour. Contractor will add 15% oversight to any additional work required from subcontractors. All proposals are good for 30 days from the day of creation, excluding sheeting or framing bids which are good for 24 hours. Building permits are not included unless otherwise stated. Building permits can be acquired on behalf of the owner at contractors cost, plus $150. Flat roofs and decks; JRT ROOFING AND WATERPROOFING, INC. is not responsible for ponding water on flat roofs or decks. Client is responsible for moving all furniture, satellite dishes, internet cables, wind dials, and any other obstructions from the roof or deck before work begins. JRT ROOFING AND WATERPROOFING, INC. is not responsible for satellite and internet dishes. Upon acceptance of contract, a 10% deposit (no greater than $1,000) is required in order to be added to our schedule. Upon material delivery, 75% of the total contract amount is required to be paid in full. The remaining 25% balance will be paid in full at the completion of the project. Any approved change order will be billed upon completion of that change order.

Submitted By: Joey Trucksess (949) 290-9662

JRT ROOFING AND WATERPROOFING, INC..

Accepted By: _____Date_____

ROOF SCHEMATIC REPORT

Order ID : G090321232383 10/Mar/2021

JRT ROOFING & WATERPROOFING
* QLTY CRAFTSMANSHIP *

PO Box 3688

Name : Joey Trucksess

Location : 32003 Dove Canyon Dr Trabuco Canyon CA 92679 USA

Table Of Contents

Page 1	Cover Page
Page 2	Edge Identification
Page 3	Face Identification
Page 4	Face Area
Page 5	Edge Length
Page 6	Pitch
Page 7	Measurement Grid

		Overage Table					
Roof Facets	5	5%	10%	12%	15%	18%	20%
Area(sq.ft.)	11021	11572	12124	12344	12675	13005	13226
Squares	110.21	115.72	121.24	123.44	126.75	130.05	132.26

Notes :

rooforders.com
ROOF PLANS FROM AERIAL IMAGERY

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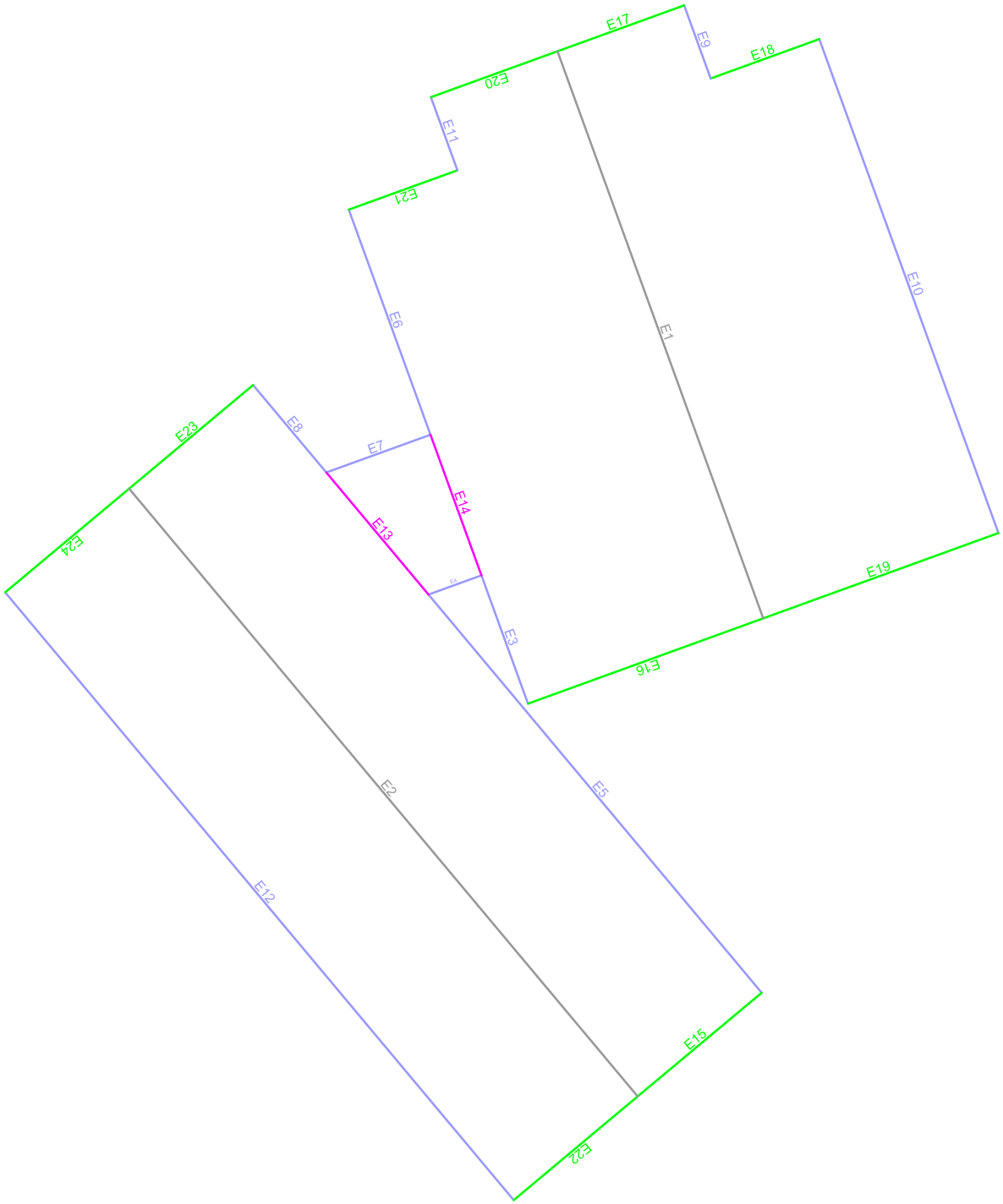
rooforders.com
ROOF PLANS FROM AERIAL IMAGERY

Edge Length Summary

Edge Type	Length(Ft.)
Eave	363.03
Rake	240.15
Hip	0.00
Valley	0.00
Ridge	191.22
StepFlashing	0.00
ApronFlashing	0.00
SlopeTransition	42.31

Roof Area Summary

Pitch	Area(Sq. Ft.)
0/12	235
4/12	10787
Total	**11022**



JRT ROOFING & WATERPROOFING
* QLTY CRAFTSMANSHIP *

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32003 Dove Canyon Dr Trabuco Canyon CA 92679 USA

rooforders.com
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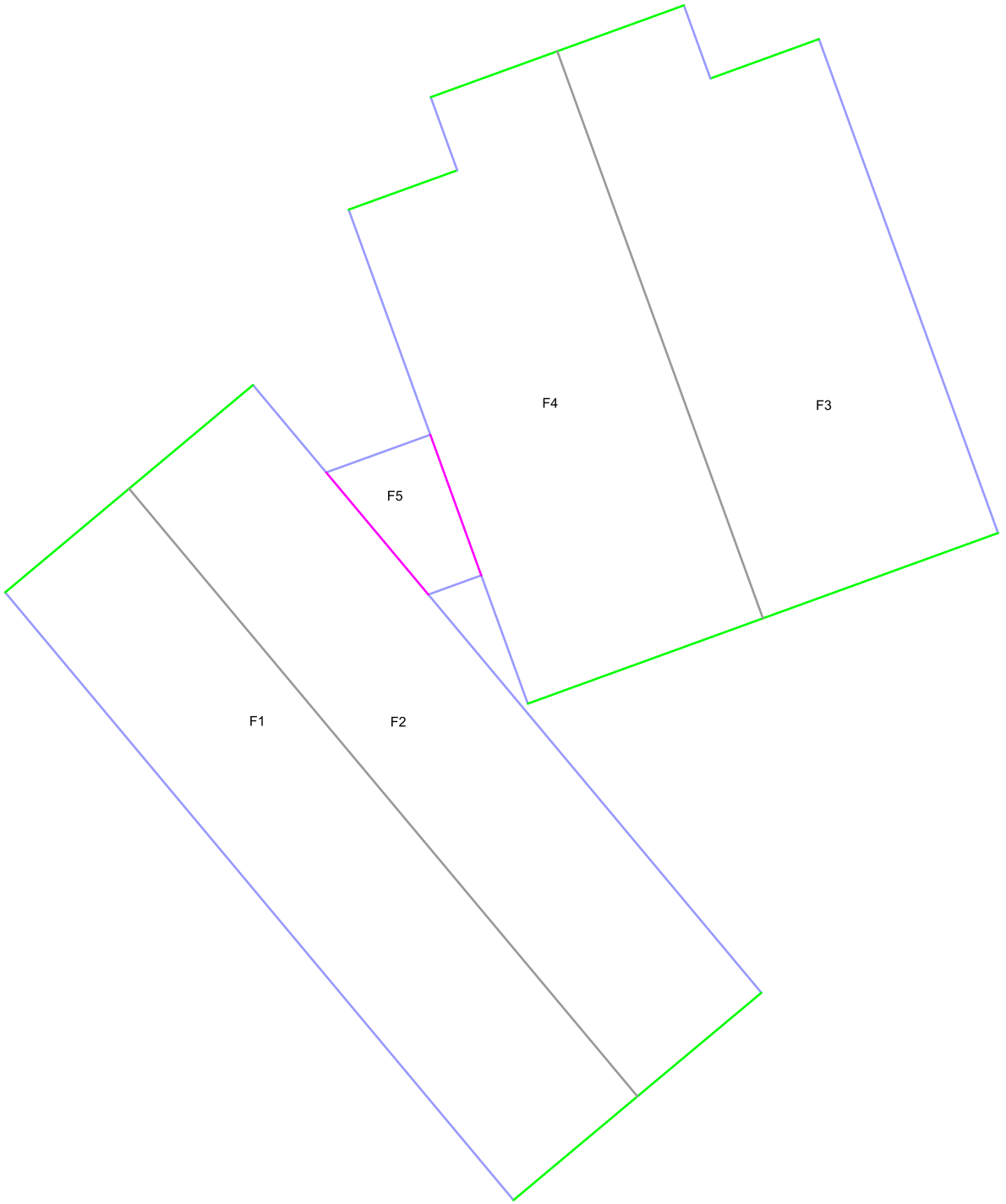

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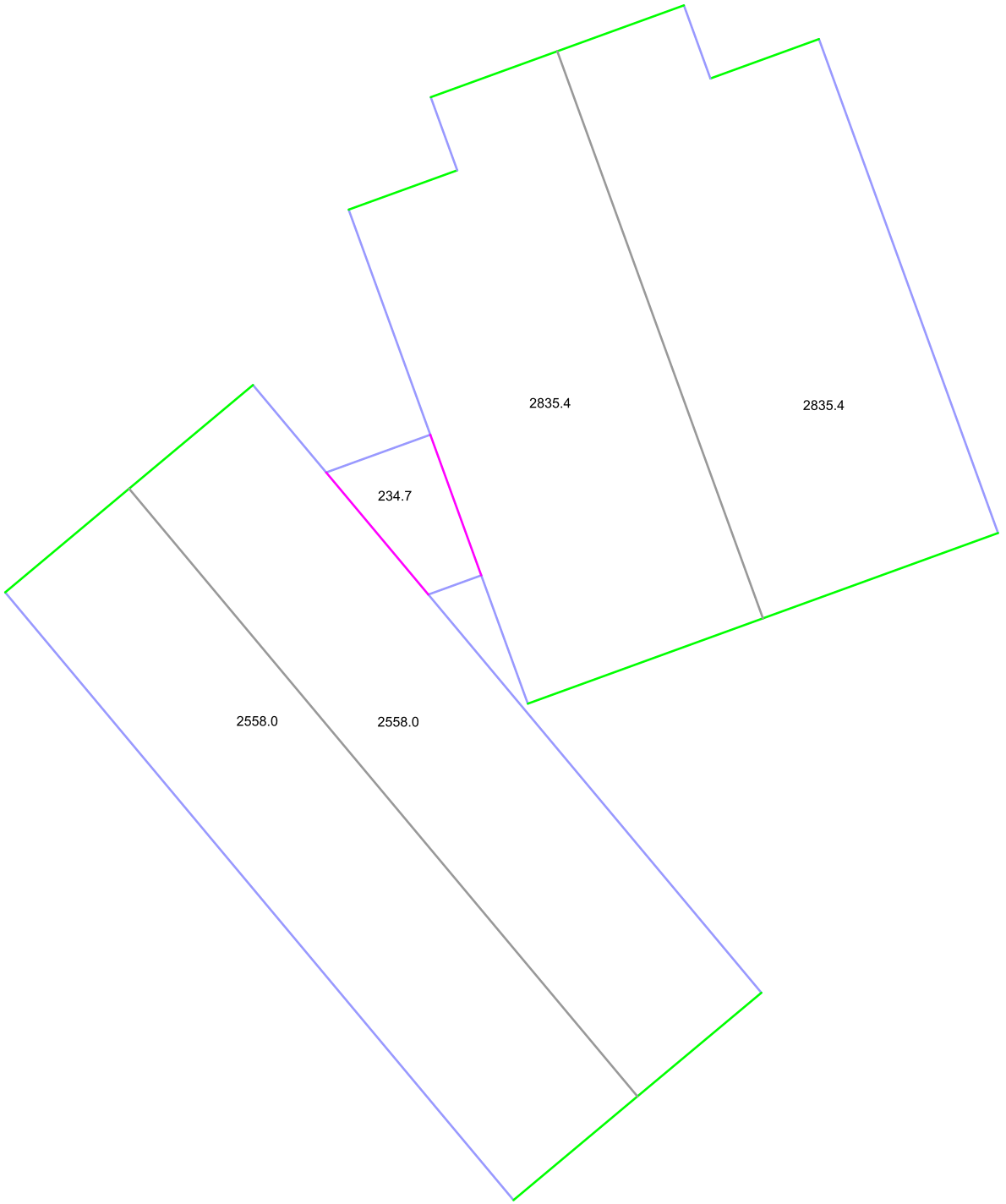

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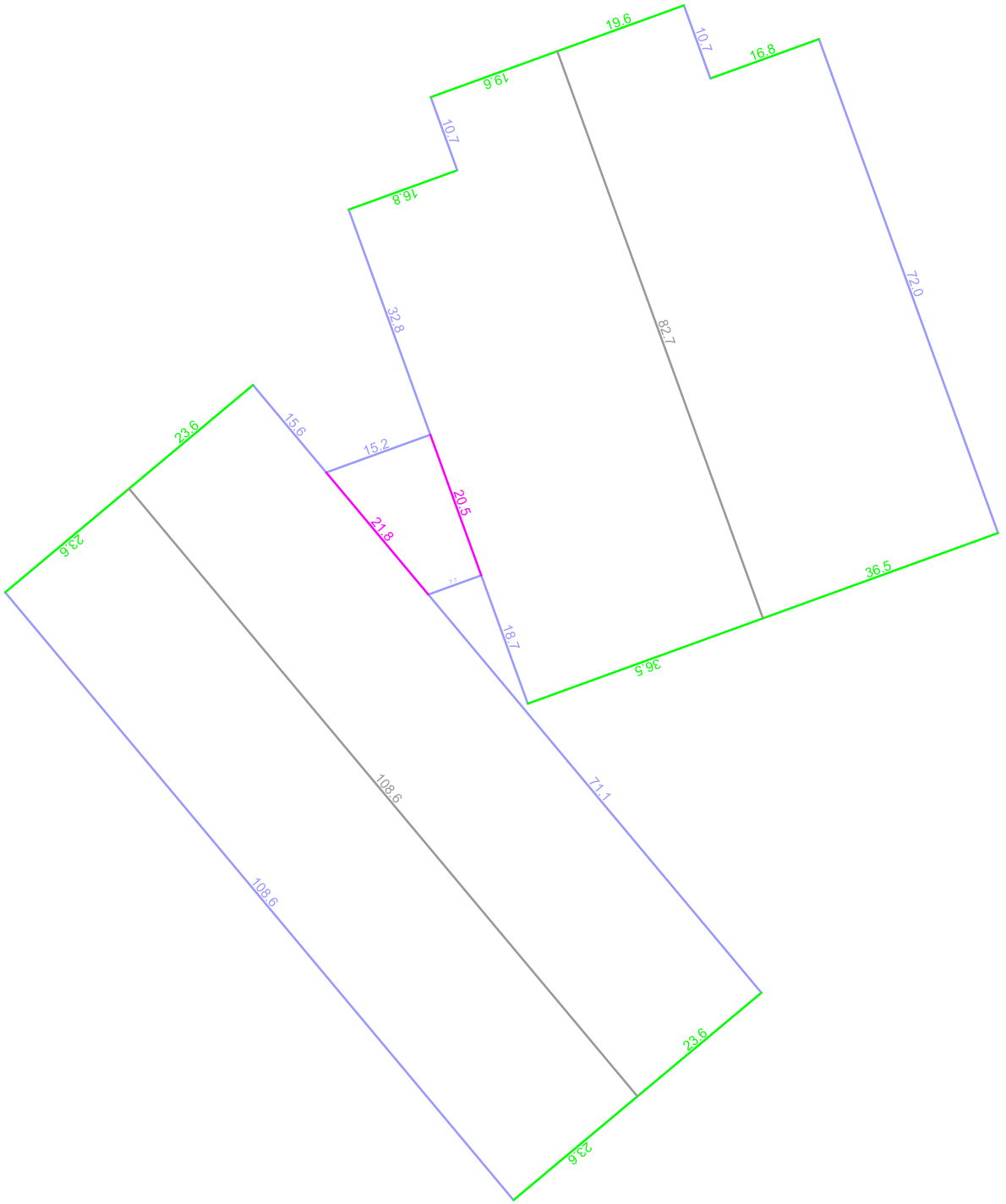

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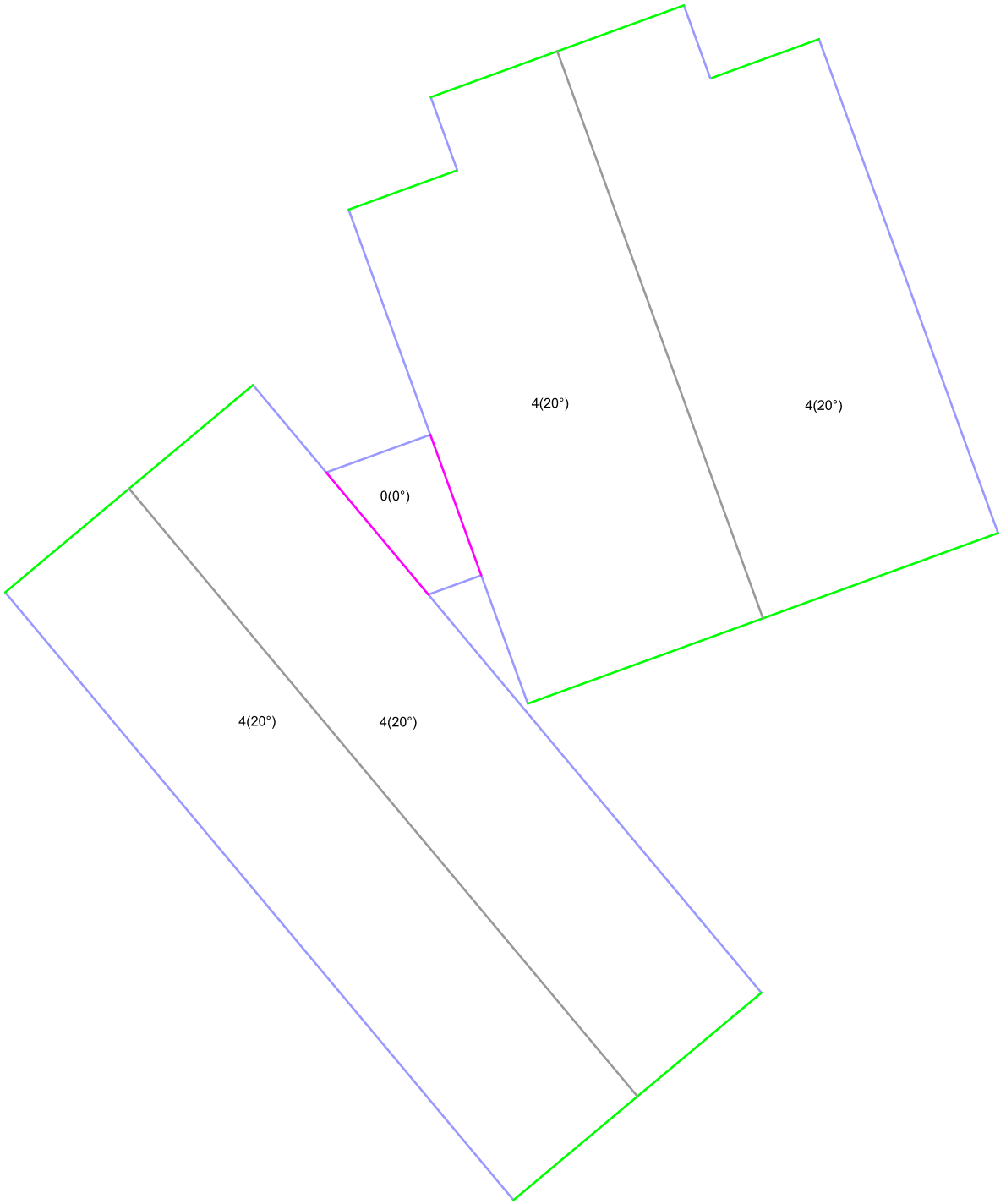

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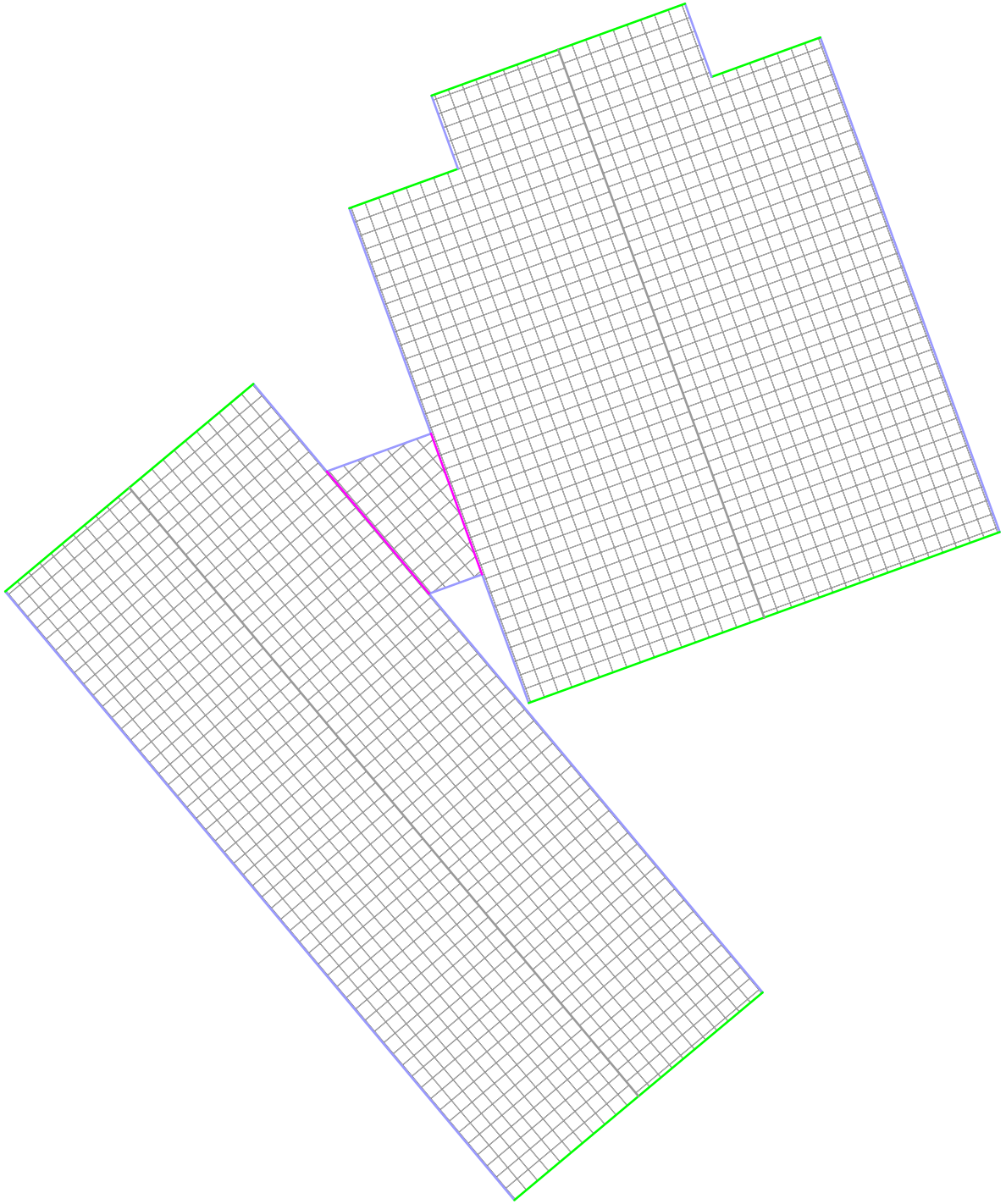

Note : Grid size is 2 feet, pitch adjusted.

JRT ROOFING & WATERPROOFING
* QLTY CRAFTSMANSHIP *

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TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
FINANCIAL MATTERS
ITEM 9: DISCUSSION CONCERNING THE PURCHASE OF A NEW HEAVY EQUIPMENT VEHICLE – ONE FORKLIFT

Trabuco Canyon Water District (District) owns and operates the Robinson Ranch Wastewater Treatment Plant (WWTP) which also serves as a yard for equipment and fleet vehicles. In the past, staff have used District-owned backhoe tractors with forks for the movement and relocation of large items, but this practice is not ergonomically sound nor safe as the forks are heavy and have pinch points that can cause serious injury. District staff have rented a forklift for the last nine months as a trial to determine the overall value to their daily workload, which includes offloading deliveries of pumps, pipes, etc. and the relocation of other large items. Based on the positive experience with the rental forklift, District staff have procured the following three quotes for the purchase of one new forklift:

LINE ITEM	VENDOR	DESCRIPTION	PRICE
1	Southwest Toyota Lift	Toyota Model 8FGU25	$ 33,734
2	Cal-Lift	Clark Model S25	$ 27,354
3	Select Equipment	Unicarriers/Nissan PF50LP	$ 28,505

District staff recommends the purchase of the Toyota Model from Southwest Toyota Lift for a not to exceed amount of $35,000. At the September 9, 2020 Finance/Audit Committee Meeting, District staff presented a Property and Equipment Survey Report of vehicles identified as surplus equipment for public auction. The District received approximately $92,000 in revenue for the old fleet vehicles and recommends using a portion of these funds to purchase the new forklift. More information may be presented at the time of the meeting.

FUNDING SOURCE:
General Fund – Funds recuperated from the disposal of surplus equipment in accordance with District policy.

FISCAL IMPACT:
$33,734

ENVIRONMENTAL COMPLIANCE:
Not applicable

COMMITTEE STATUS:
This matter was reviewed with the Finance/Audit Committee

RECOMMENDED ACTION(S):
Receive information at the time of the meeting and authorize the General Manager to purchase one Toyota forklift from Southwest Toyota Lift for an amount not to exceed $35,000.

EXHIBITS:
1. District Property and Equipment Survey Report dated September 2, 2020
2. Forklift Quotes

CONTACTS (staff responsible): PALUDI/PEREA/STROUD

TRABUCO CANYON WATER DISTRICT

Property and Equipment Survey Report

Prepared by: Jason Stroud, Maintenance Superintendant

Date Prepared: September 2, 2020

LINE ITEM	POLICY CLASSIFICATION	MAKE/MODEL	EQUIPMENT TYPE	YEAR	ESTIMATED VALUE	REPLACED?	NOTES
1	Class D	Kenworth T300	Dump Truck	2007	$25k	N	Determined to be Uneconomical for Use
2	Class D	Ford/New Holland	Backhoe	1995	$5-8k	Y	Determined to be Uneconomical for Use
3	Class D	Zieman	Eq. Trailer	1990	$10k	N	Determined to be Uneconomical for Use
4	Class D	International 7400	Vactor Truck	2007	$65k	Y	Determined to be Uneconomical for Use
5	Class D	Sullivan	Towable Compressor	1995	$3k	Y	Determined to be Uneconomical for Use
6	Class D	Ford F150 4x4	Truck	2008	$3k	Y	Determined to be Uneconomical for Use
7	Class D	Ford Ranger	Truck	2005	$1k	Y	Determined to be Uneconomical for Use

TCWD POLICY CLASSIFICATIONS

- **A** Scrap material, the value of which consists only of intrinsic material content and which has no commercial value for its original purpose as fabricated.
- **B** Items have been abandoned, lost, stolen, destroyed or otherwise disposed of.
- **C** Items to be exchanged for new units.
- **D** All other property such as materials, articles or worn equipment not classified as scrap material.

SOUTHWEST TOYOTALIFT
A DIVISION OF SOUTHWEST MATERIAL HANDLING, INC.

Southwest Toyotalift
1311 N Blue Gum St
Anaheim, CA 92806-1750
Phone: 714-727-0477
Fax: 714-632-1678

February 3, 2020

Mr. Tony Quinonez
TRABUCO CANYON WATER DISTRICT
21397 Heritage Dr
Trabuco Canyon, CA 92679

Dear Tony:

We are pleased to submit the attached Toyota Internal Combustion Lift Truck quotation for your review and approval.

As an authorized Toyota dealer, Southwest Toyotalift can provide the high-quality equipment and service you would expect from the world's leading forklift manufacturer. This quotation reflects our understanding of your forklift needs, combined with a careful configuration of the appropriate equipment and options.

To place your order, please sign and date the quotation where indicated and return to me. If you have any questions, please contact me.

Thank you for your interest in our company and our Toyota products. We look forward to being of valuable service to you for your material handling needs.

Sincerely,

Kathryn Ross
Account Manager
Cell: 714-240-6634
Phone: 714-727-0477
Fax: 714-632-1678
E-mail: kathrynr@swtoyotalift.com

SOUTHWEST TOYOTALIFT
A DIVISION OF SOUTHWEST MATERIAL HANDLING, INC.

Southwest Toyotalift
1311 N Blue Gum St
Anaheim, CA 92806-1750
Phone: 714-727-0477
Fax: 714-632-1678

To:	TRABUCO CANYON WATER DISTRICT 32003 Dove Canyon Dr Trabuco Canyon, CA 92679-3715	Date: Our Ref:	February 3, 2020 40929988
Attn:	Mr. Tony Quinonez	Phone:	949-858-0277

We respectfully submit this quotation for the following NEW Toyota Internal Combustion Lift Truck (1 each):

Toyota...Proud to be the world's #1 forklift manufacturer!

TOYOTA MODEL 8FGU25, Internal Combustion Lift Truck, quality engineered with the following specification:

- Pneumatic Tires
- LP Gas Powered - UL Type "LP" Rating

This forklift is equipped with a 3-Way Catalytic Muffler System as standard equipment, and conforms to current Federal EPA and California ARB regulations for off-road large spark ignited engines.

SYSTEM OF ACTIVE STABILITY™ (SAS)

Toyota's industry exclusive System of Active Stability (SAS) helps reduce lift truck instability by electronically monitoring and controlling various functions of the lift truck.

- **Active Control Rear Stabilizer:** Various lift truck sensors simultaneously monitor vehicle speed, fork height, load weight, and vehicle yaw (or angular acceleration). Should the operator inadvertently place the truck in a potentially unstable lateral condition, the sensors trigger the SAS controller to activate the Active Control Rear Stabilizer to help reduce the likelihood of a lateral tip over. (Note: Does not apply to dual drive configured models)
- **Active Mast Function Controller (AMC):** Should the operator inadvertently place the lift truck in a potentially unstable longitudinal condition, these same sensors trigger the SAS controller to activate the AMC, which limits forward tilt and/or tilt back speed to help reduce the likelihood of a longitudinal tip over.

Photo may portray optional equipment not included in your quotation.

AUTOMATIC FORK LEVELING

Toyota's Automatic Fork Leveling feature increases productivity while reducing damage with a push of a button. By depressing the Automatic Fork Leveling button during forward tilt, operators are quickly and easily able to level the forks.

TOYOTA ENGINE

Engineered to the highest standards of quality, durability, and reliability, your Toyota 8-Series lift truck is outfitted with the industry's most respected industrial engines.

ULTRA COMFORT 4-WAY ADJUSTABLE, FULL SUSPENSION SEAT WITH NON CINCHING SEAT BELT

Operator comfort is taken to a new level with Toyota's Ultra Comfort 4-way adjustable, full suspension vinyl seat. With lumbar, weight, tilt, and almost 6 inches of fore/aft adjustability, your operators will be comfortable and productive throughout their shift. Standard Non-cinching seat belts provide additional comfort in applications requiring frequent reverse travel.

LCD MULTI-FUNCTION DISPLAY II
Features on the new MFD II include data log functions, fuel information, & operation data log all with QR code output; fuel gauge (excluding LP); and password protected administrator level access that can manipulate functions such as travel, vehicle management, and operation data log functions.

Mast	3-Stage (FSV) mast with full free lift provides excellent visibility to load and fork tips, while providing smooth, quiet and consistent operation. Mast specifications: Maximum Fork Height - **189"** Overall Lowered Height - 84.5" (Overhead Guard Height - 83.10") Free Lift - 36.4" with standard Load Backrest
Lifting Capacity	**Base Model Capacity - 5,000 lbs.** @ 24" load center **Actual Capacity,** based on quoted specifications, - **4,500 lbs.** @24" load center to 189" MFH *Actual capacity ratings stated above are based on standard features, options, and attachments available through Toyota at the time of quoting. Non-standard features, options, and attachments may affect actual capacity ratings. Please contact your Toyota sales representative for additional information.*
Tilt	6 degrees forward and 6 degrees backwards
Carriage	ITA Hook Type, 40" Carriage
Load Backrest	48" High Load Backrest
Attachments	**4 Way Valve (With 3rd & 4th Function Internal Hosing)** **Cascade Hang-on Sideshifting Fork Positioner (Requires 4-Way Valve w/ 3rd and 4th Function Hydraulics)**
Speeds	Travel Speed: 11.20 mph Lift Speed: 118 fpm
Engine	Toyota 2.2L 4Y-ECS Industrial Gasoline Engine 136 cubic inch displacement, 4 cylinder, overhead valve (OHV) Net Torque Rating: 118 @ 2100 rpm SAE ft-lb (gasoline system) Net Horsepower Rating: 51 @ 2570 rpm SAE HP
Transmission	Automatic Transmission 1 speed forward, 1 speed reverse standard.
Steering	Load Sensing Hydrostatic Power Steering with Tilt Steering Column
Wheels and Tires	Front Tires: 7.00-12-12PR (Pneumatic, Wide Tread) Rear Tires: 6.00-9-10PR (Pneumatic)
Additional Equipment	**2020 New Standards** **Strobe Light - Yellow** **LED Rear Combination Lights** **LED Rear Working Light** **Cyclone Air Cleaner - Dual Element** **Adjustable Volume Back-up Alarm (Smart Alarm)** **Rear Assist Grip with Horn Button**

33 lb. LP Steel Tank
Solid Pneumatic Tires - Front
Rear Solid Pneumatic Tires - Including Rear Side Ring Wheels
UL Approved Model Type "LP"
Forks: 42" x 5" x 1.75"

Other Outstanding Toyota Features

- EPA/CARB Certified Engine with 3-Way Closed loop catalytic muffler system
- Operator Presence Sensing System (OPSS)
- Fully Stamped Steel Side Panels
- Electronic Speed Control
- Weather Protected Electrical System
- Unparalleled Fork Tip Visibility
- Foot Activated Park Brake with High Mount Release
- Electronic Shift Control
- 7" Cyclone Air Cleaner
- Fully Insulated Stamped Steel Engine Hood
- Dual Operator Assist Grips
- Oversized Cup Holder
- Heavy Duty, Non-Slip Rubber Floor Mat
- LED Headlights
- Key Off/Headlight Off System

Some standard items listed within this quotation may be replaced or altered due to optional equipment.

Warranty

12 Months or 2,000 hours whichever occurs first: Basic
36 Months or 6,000 hours whichever occurs first: Powertrain

Warranty coverage for non-standard option components will be covered by the manufacturer of that component and not covered under the Toyota forklift standard or powertrain warranty.

We offer a Toyota factory authorized warranty on all new Toyota Industrial Equipment.

Investment

Price-Toyota Model 8FGU25 as specified above:	$33,734	Each
Net Price (plus applicable taxes, delivered):	$33,734	Each

Financing and Maintenance

A broad range of competitive and flexible financing options are available through Toyota. Financing requires credit approval. Terms and conditions are subject to change.

In addition, Full Maintenance and Planned Maintenance programs are available.

Terms and Conditions

Payment: Net 10 days / Cash or Financed
Delivery: Will advise at time of order.
Quote valid for 30 days.
F.O.B.: Delivered
Prices are exclusive of any sales or use taxes now in force or which may be made effective in the future by any federal, state, or local governments.

Lease offerings subject to credit approval
Performance and specifications stated are based on specific testing and operating conditions. Actual performance and specifications may vary based on application, option configuration, operating conditions, and environmental factors.
Some options and configurations may void UL.
All orders are firm and cannot be cancelled without approval from Southwest ToyotaLift
Cancellation will result in a restocking charge of 20% of the sale price.
Net Terms and Lease offerings subject to credit approval.
Any additional costs associated with cancellation will be charged to the customer.
Special order equipment may require down or full payment at the time of order.
A processing fee of 3.5% will be applied to credit card transactions.

Sincerely,
Southwest Toyotalift

By: _____

Name: Kathryn Ross

Title: Account Manager

Accepted:
TRABUCO CANYON WATER DISTRICT

Cash Price $_____

Financed Payment $_____ *Per Month* _____ *Months*

By: _____

Name: _____

Title: _____

Date: _____

Quantity_____ Initials_____

13027 Crossroads Pkwy South
City of Industry, CA 91746

www.cal-lift.com

12/9/2020

Quote #: KyleHughes-20201209-1055

Trabuco Canyon Water District
CC: Mr. Jason Stroud

32003 Dove Canyon Dr
Trabuco Canyon, CA 92679

CLARK S-series-Pneumatic

Dear Mr. Jason Stroud,

Thank you for considering Cal-Lift for your material handling equipment needs. We are pleased to offer the following for your review.

Model	**S25 -Triple** **Clark® Model S25 - LPG - Triple**
Class	**Class - V**
Quantity	**1**
Base Capacity	**5,000 (lbs)**

Options Included In This Proposal:

Qty	Category	Factory ID	Description
1	Engine	60-212	FORD 2.5L, balanced, multi-port LPG fuel injection engine, EPA Compliant
1	Masts	23-189	189" MFH 85.2" OHL 37.2" FL (5B / 6F)
1	Carriages	32-041	41" wide / hook type / ITA class II
1	Load Backrest	42-005	Load Backrest - 48" High (for 41" Class II carriage)

1	Forks	52-048	Forks Class II - 48" long x 4" wide x 1.75" thick
1	Auxiliary Valves	61-421	Single for two hoses (3 spool, 1 lever)
1	Engine/Fuel System	68-104	Air Cleaner Safety Element
1	Engine/Fuel System	68-162	Maximum travel speed
1	Operator Compartment	68-117	Convenience console – drink holder, tool tray, paperwork clip. Mounted right side of seat
1	Operator Compartment	68-255	Hip Restraints
1	Operator Compartment	65-147	Rear Handle with Horn Button
1	Operator Compartment	63-860	Safety Seat – full-suspension vinyl
1	Operator Compartment	68-102	Steering Wheel Spinner Knob
1	Operator Compartment	61-391	Orange Seat Belt
1	Operator Compartment	68-101	Two Rear View Convex Mirrors (OHG mtd)
1	Hose Adaptations	78-031	Hose Adaptions - Single - two hoses internal
1	Side Shifter	71-241	Side Shifter - Sideshifters - 41" FS/41" OW/8" total sideshift, Class II
1	Drive Tires	61-605	Drive Tires - Solid Pneumatic – Single Drive -7.00 x 12 – 14 ply
1	Steer Tires	61-903	Steer Tires - Solid Pneumatic 6.00 x 9
1	Paint	68-002	Clark Green
1	Lights	61-730	LED Front Blue Safety Light – forward only
1	Lights	62-127	Back-Up Alarm – Smart Type
1	Lights	65-305	LED Rear Blue Safety Light – reverse only
1	Lights	63-303	LED Rear Work Light
1	Lights	63-004	LED Headlights (OHG mounted)
1	Lights	63-406	LED Strobe Light (yellow)
1	Fuel		New 33.5 Lb propane tank
1	Warranty		**Clark extended carriage to counterweight warranty, 5 years or 8,000 hours, whichever comes first**

Standard Features	FORD 2.5L, balanced engine with EPA compliant multi-port LPG fuel injection system, single speed powershift transmission, force-cooled wet disc brakes, automatically-applied parking brake, single auxiliary valve, two overhead guard mounted LED headlights, hood mounted control levers, power steering, tilt steering wheel, rear grab handle with horn button, steering wheel spinner knob, full suspension vinyl safety seat with hip restraints, orange seatbelt, drink holder, convenience console, speed limiter, traction disable seat switch, operator presence system, raised air intake, aluminum open-core radiator and high capacity cooling system, 5" color LCD digital full featured instrument display with digital and audible warnings of engine functions, automatic engine shutdown system, low fuel warning, automotive style fuse box, draw bar pin, 48" load backrest, 41" class II carriage on S20/25, 41" class III carriage

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Quote Price:

Model Cost (Pre Tax)	$27,354.00
Excise Tax:	$0.00
Freight:	Included
Sales Tax:	Not Included
Total Per Unit:	**$27,354.00**
Quantity Selected (1):	**$27,354.00**
Grand Total	**$27,354.00**

*** All prices reflect equally distributed credit(s) for trade in(s)**

CA tire recycling fee (non-taxable) @ $1.75/tire $7.00

Additional Dealer Options Available:

** These items not included in lease option pricing or total investment*

Qty	Factory ID	PRICE
1	On-site scheduled maintenance	$95/trip + Parts

TERMS FOR ACCEPTANCE OF PROPOSAL AND ATTACHMENTS

The proposal in this quote is property of Cal-Lift and is confidential and proprietary. Unauthorized disclosure could be harmful to Cal-Lift and by acceptance, prospective buyer agrees not to publish, copy or reproduce the contents without the express written consent of Cal-Lift. Trabuco Canyon Water District will not use such information for any other purpose than for the consideration of a Cal-Lift supplied system and will return any or all information contained herein to Cal-Lift upon request.

ACCEPTANCE AS CONTRACT OF SALE

Acceptance:
Company: Trabuco Canyon Water District

Name: Mr. Jason Stroud

Authorized Dealer:

Kyle Hughes

_____ _____

Authorized Signature | Account Manager

Date: _____

PO No.: _____

Terms: Net on delivery or lease

Delivery: In stock, 2-3 days from order

FOB: Customer

Expires: 1/8/2021 10:55:03 AM

SELECT EQUIPMENT

UNICARRIERS FORKLIFT

QUOTATION

PREPARED FOR	REFERENCE
Attention: Jason Stroud Trabuco Canyon Water District Dove Canyon Drive Trabuco Canyon, California 92679 949-858-0277	**Date:** 12/9/2020 Quote Valid for 30 Days **Quotation:** JH 00013 **Prepared By:** Jeff Howard **Direct Phone:** **Email:** jhoward@selectequipment.com

UNICARRIERS/ NISSAN PF50LP - LP GAS - 5,000# CAPACITY @ 24" LC, PNEUMATIC TIRE

STANDARD EQUIPMENT

Rear Work Light	LED Rear Drive Light - Reverse Activated
Combination Lights	LED Turn, Stop, and Backup Lights (Rear OHG Pillar Mounted)
Warning Light	LED Strobe Light - Amber
Travel Alarm	Back-Up Alarm

GCT Electronic Fuel Injected Engine - LP
3-Way Catalytic Converter - LP
Electronic Engine Control System - LP
Enhanced Engine and Transmission Protection System - LP
Cushioned Stability Control
Seat Actuated Operator Presence System
Auto-Mast Lock and Return-to-Neutral
Seat Belt Warning System
Horn and Backup Alarm
Parking Brake With Warning Buzzer
5-Piece Reinforced Overhead Guard
LED Headlights - OHG Mounted
Multi Function LCD Display
Hour Meter, Clock, and Calendar
On-board Diagnostics and Programmable Service Reminder
Operator Security PIN Access
Speedometer and F/N/R Transmission Indicator
Warning Lights and Engine Coolant Temperature Gauge
Air Cleaner and Low Coolant Level Warning
Low Fuel Warning Light (LP)
Full Suspension Seat with Operator Restraint and Adjustable Lumbar Support
Infinitely Adjustable Tilt Steering Wheel
Hydrostatic Power Steering
Automatic Transmission
Drawbar Pin
24 Months/Unlimited Hours Warranty

BEST IN CLASS UNICARRIERS 2 YEAR UNLIMITED HOURS LIMITED WARRANTY

CONFIGURED OPTIONS

UNICARRIERS FORKLIFT

Category	Detail
Mast	Triplex OHL 84.4" MFH 187.0" FL 59.0"
Tilt	6° Forward / 6° Back
Side Shifter	40.2" Wide - Hang-On Type
Carriage	High Visibility - 40.2" Wide
Forks	Standard Length 48" Thick 1.5" Width 4.0"
Load Backrest	48" High
Hose Reeving	Single Internal Hose Reeving
Hydraulic Control Lever	Separate Lift and Tilt Control Levers
Control Valve	3 Spool Valve
Overhead Guard	Standard Height - 83.5"
Tires	Solid Pneumatic (Drive 7.00x12 - Steer 6.00x9)
Acceleration Control	Power/Economy - Key Switch
Seat	Full Suspension - Vinyl
Seat Belt Interlock	Seatbelt Warning Light and Buzzer
Rear Work Light	LED Rear Drive Light - Reverse Activated
Combination Lights	LED Turn, Stop, and Backup Lights (Rear OHG Pillar Mounted)
Warning Light	LED Strobe Light - Amber
Travel Alarm	Back-Up Alarm
Mirrors	Rearview Mirrors (2)
Radiator	Standard
Operator Access	Key Switch
LP Fuel Tank Bracket	Swing-Out with Open Bracket Alarm
LP Fuel Tank	33 lbs. Steel Tank with Quick Fill Valve
Paint	Standard Color
Warranty	Standard Warranty - 2 Year / Unlimited Hours - Platinum

Configured Accessory Options:

Air Pre-Cleaner - Overhead Guard Mounted
Headlights - LED - OHG Mounted
Parking Brake / Transmission Interlock
Steering Wheel Spinner Knob
Assist Grip with Horn Button on Right Rear Pillar
LPMax - Enhanced Low LP Fuel Warning
Seat Belt - Orange

Other Equipment & Accessories

Prep & Local Delivery
Freight

INVESTMENT SUMMARY

Total Sale Price per Each Unit: **$ 28,504.31**
Quantity (1) Total Price : **$ 28,504.31**

TAX NOT INCLUDED. PRICE INCLUDES FREIGHT, DEALER PREP, LOCAL DELIVERY

UNICARRIERS FORKLIFT

Fair Market Value Lease Option, 60 months - (0 – 1,000 Hrs/yr) - $34177/mo. + Tax ea.
Lessee may purchase the equipment at the end of the lease period at the fair market value.

Full Payout Lease Option ($1 option), 60 months $509.67/mo. + Tax ea.
Lessee will own the equipment at the end of the lease period.

**All rates and quotations subject to credit approval and lease terms and conditions. A down payment may be required. $175 doc fee not included*

Avalibilty: Good in-stock 6-8 working days/ If sold allow 18-20 weeks

Terms: COD Terms on request/Finance OAC

ACCEPTANCE AS CONTRACT OF SALE

Trabuco Canyon Water District	Select Equipment

Authorized agent understands and agrees to the Terms and Conditions as included with this Quote

_____ Authorized Agent Signature	Jeff Howard Authorized Agent Signature
_____ Date Signed	12/08/2020 Date Signed
_____ Printed Name	Jeff Howard Printed Name
_____ Title/Position	Title/Position
_____ Customer Purchase Order Number	

Please consult with your accountant, tax professional or equivalent to confirm characterization of equipment and tax implications. Other financing options and terms may be available (including financing sales tax). Please consult with your product specialist representative for additional financing options.

Available Maintenance Programs

☐ **PM – PLANNED MAINTENANCE STANDARD SERVICE** Initial _____

QTY:_____ Electric / Internal Combustion *Plus cost oil, filters & Misc. parts $ 110.00 per Service*

You May Also Need:

- New WLX45S Electric Pallet Jack $4,500.00 ea.

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
ENGINEERING MATTERS
ITEM 10: DISCUSSION AND POSSIBLE ACTIONS(S) CONCERNING APPROVAL OF AN OPERATING LICENSE AGREEMENT WITH ORANGE COUNTY PUBLIC WORKS (OCPW) FOR DISTRICT ONSITE SCADA EQUIPMENT (JOPLIN PROPERTY)

Trabuco Canyon Water District currently maintains data communications equipment on a County of Orange parcel within the District's service territory commonly known as the "Joplin Property." A District antenna is mounted to one of two water tanks on the property. The District supplies domestic water to the property although the on-site tanks are owned by the County. In researching the history of the District's presence on the Joplin Property, staff has learned that the District has no existing license to operate and maintain its facilities.

The District is currently undertaking a major upgrade to its Supervisory Control and Data Acquisition (SCADA) system and has identified the Joplin Property site as a critical location for an enhanced antenna. Given its location and altitude, the Joplin Property is unique within the District's service area to provide "line of sight" to most other District SCADA installations. Alternative locations to the Joplin Property would be significantly more expensive and/or infeasible due to the antenna height required.

Staff has been working with the County Executive Office - Real Estate (County Real Estate) to secure a license for its equipment on the Joplin Property. County Real Estate has presented the District with a License Agreement (included as Exhibit A) that can be executed by the Chief Real Estate Officer without approval of the County Board of Supervisors. This could save the District valuable time needed to move forward with the SCADA upgrade project, which has been delayed pending resolution of this matter. However, because the License Agreement can be granted administratively, its standard terms and conditions could be more favorable to the District's need for the long-term security of its SCADA infrastructure. Staff is recommending that License Agreement, as currently drafted, be executed and that more favorable terms be subsequently pursued with the County.

FUNDING SOURCE:
General Fund

FISCAL IMPACT (PROJECT BUDGET):
The License Fee to be charged to the District by the County for the use of the license area is $1,000 per month.

ENVIRONMENTAL COMPLIANCE:
Not applicable.

COMMITTEE STATUS:
This matter was reviewed with the Engineering/Operational Committee.

RECOMMENDED ACTION:
That the Board of Directors authorize the General Manager to execute the License Agreement between the Trabuco Canyon Water District and the County of Orange

EXHIBIT(S):
1. Draft License Agreement

CONTACTS (staff responsible): PALUDI/LAUSTEN

Trabuco Canyon Water District
Former Joplin Youth Center, Trabuco Canyon

LICENSE AGREEMENT

THIS LICENSE (**"License"**) is made and entered into _____, 2021 ("**Commencement Date**") by and between the TRABUCO CANYON WATER DISTRICT, a county water district organized and existing pursuant to the laws of the State of California~~,~~ (hereinafter referred to as **"LICENSEE"**), and the COUNTY OF ORANGE, a political subdivision of the State of California~~,~~ (hereinafter referred to as (**"COUNTY"**), without regard to number and gender. COUNTY and LICENSEE may sometimes hereinafter be referred to individually as "Party" or jointly as "**Parties**."

RECITALS

I. The COUNTY owns that certain property located generally at 19480 Rose Canyon Road, Trabuco Canyon, a former Probation Department facility also known as the Joplin Youth Center, in Unincorporated County of Orange ("**Property**"), State of California.

II. LICENSEE wishes to obtain from the COUNTY the right of non-exclusive and revocable access to, and use within, the License Area (defined herein) for the purposes set forth herein.

III. The COUNTY is willing to grant LICENSEE this License, as more fully set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants, benefits, and promises contained herein, LICENSEE and COUNTY do hereby as of the Commencement Date agree as follows:

1. DEFINITIONS (AMLC-2.1 N)

The following words in this License shall have the significance attached to them in this Clause 1 (DEFINITIONS), unless otherwise apparent from context:

"Board of Supervisors" means the Board of Supervisors of the County of Orange, a political subdivision of the State of California.

"Chief Real Estate Officer" means the Chief Real Estate Officer, County Executive Office, Real Estate Section, County of Orange, or upon written notice to LICENSEE, such other person as shall be designated by the County Executive Officer.

"County Executive Officer" means the County Executive Officer, County Executive Office, County of Orange, or designee, or upon written notice to LICENSEE, such other person or entity as shall be designated by the Board of Supervisors.

"Risk Manager" means the Manager of County Executive Office, Risk Management, for the County of Orange, or upon written notice to LICENSEE, such entity as shall be designated by the County Executive Officer.

2. TERM (AMLC-3.1 N)

This License shall become effective as of the Commencement Date and shall continue in effect for an initial 5-year term ("**Term**") unless otherwise terminated earlier in accordance with Clause 3 (TERMINATION) of this License. The License is renewable for one additional 5-year term upon written request by the Licensee to the Chief Real Estate Officer.

3. TERMINATION (AMLC-3.3 S)

Either COUNTY or LICENSEE may terminate this License at any time upon thirty (30) days prior written notice, consistent with Clause 17 (Notices) hereof. The License may also terminate prior to the expiration of the Term set forth in Section 2 (Term) if the Parties enter into any subsequent agreement to establish an alternative right of access by LICENSEE.

4. LICENSE AREA (AMLC-4.2 S)

COUNTY grants to LICENSEE, LICENSEE'S employees and contractors, the non-exclusive right to access and travel over the Property and to install, construct, inspect, removal, reconstruct, repair, maintain, refurbish and operate the SCADA System (as defined herein) together with supporting electrical connections and supporting equipment on the designated site, as more particularly described in Exhibit A and shown on Exhibit B attached hereto and by this reference made a part hereof ("**License Area**"). This right includes, but it not limited to, the non-exclusive right for access to and from the License Area ("**Access Area**"). Notwithstanding the foregoing, access to the License Area and Access Area by LICENSEE may be restricted by COUNTY with reasonable discretion, and upon written notice to LICENSEE, if feasible, because of, and during, the occurrence of natural disasters, or other "events" deemed by COUNTY to be of an emergency nature.

5. USE (AMLC-5.1 S)

LICENSEE shall have vehicular and pedestrian access to, and use of, the License Area and the License Area's use shall be limited to: the installation, removal, construction, reconstruction, repair, inspection, maintenance and operation of LICENSEE's supervisory control and data acquisition ("**SCADA**") antenna and its attachment to the water tank (as shown on Exhibit C attached hereto) ("**SCADA Systems**") together with supporting electrical connections and supporting equipment. The LICENSEE may not allow any third party, except for contractors performing work directly on behalf of the LICENSEE, to access or use the License Area for any purposes other than those authorized in this section of the License. Access to the License Area by contractors of LICENSEE shall be under the supervision of LICENSEE'S employees. All such contractors of LICENSEE shall maintain insurance at levels and terms and conditions deemed satisfactory to County and shall name County as an additional insured party. Sublicensees shall indemnify the County to the same extent LICENSEE indemnifies COUNTY herein.

LICENSEE agrees not to use the License Area for any other purpose nor to engage in or permit any other activity within or from the License Area. LICENSEE further agrees not to conduct or permit to be conducted any public or private nuisance in, on, or from the License Area, not to commit or permit to be committed waste on the License Area, and to comply with all governmental laws and regulations in connection with its use of the License Area.

Exclusive of the SCADA System, together with supporting electrical connections and supporting equipment, any and all improvements, modifications and structures erected, altered or made within the License Area, including, but not limited to, installment of lighting, conduit and new or relocated electrical service connections (collectively, "**Improvements**") must be approved by COUNTY. LICENSEE shall submit any and all requests for Improvement(s) to the Chief Real Estate Officer or designee for approval, which approval shall not be unreasonably withheld.

LICENSEE shall remove, at its sole cost and expense, all approved Improvement(s) from the License Area at the expiration or termination of this License. Should LICENSEE fail to remove the Improvement(s) as stated herein, COUNTY may remove the Improvement(s) and LICENSEE shall reimburse the COUNTY for the cost it may incur for such removal. All Improvements by LICENSEE within the License Area shall be made in strict compliance with detailed plans and specification approved in writing by the Chief Real Estate Officer.

6. LICENSE FEE (AMLC-6.1 S)

LICENSEE agrees to pay COUNTY from and after the Commencement Date the sum of $1,000 per month as a fee for the use of the License Area ("**License Fee**"). Said License Fee shall be payable in advance, without prior notice or demand, on the first day of each calendar year while this License is in effect, without deduction or offset, in lawful money of the United States.

In the event the obligation to pay the License Fee begins or terminates on some day other than the first or last day of the month, the fee shall be prorated to reflect the actual period of use based on a thirty (30) day month. The License Fee for any partial calendar month during which this License becomes effective will be payable on such effective date.

7. LICENSE PROCESSING COST (N) – Intentionally Omitted

8. PAYMENT PROCEDURE (AMLC-7.1 N)

License Fee payments shall be delivered to:

County of Orange
County Executive Office – Real Estate
333 West Santa Ana Blvd., 3rd Floor
Santa Ana, CA 92701-4084
Thomas A. Miller, Chief Real Estate Officer

COUNTY may change the designated place of payment at any time upon ten (10) calendar days written notice to LICENSEE. License Fee payments shall be made by check payable to the County of Orange. LICENSEE assumes all risk of loss if payments are made by mail.

No payment by LICENSEE or receipt by COUNTY of a lesser amount than the payment due shall be deemed to be other than on account of the payment due, nor shall any endorsement or statement on any check or any letter accompanying any check or payment as payment be deemed an accord and satisfaction, and COUNTY shall accept such check or payment without prejudice to COUNTY's right to recover the balance of said payment or pursue any other remedy in this License.

All sums due under this License shall be paid in lawful money of the United States of America, without offset or deduction or prior notice or demand. No payment by LICENSEE or receipt by COUNTY of a lesser amount than the payment due shall be deemed to be other than on account of the payment due, nor shall any endorsement or statement on any check or any letter accompanying any check or payment be deemed an accord and satisfaction, and COUNTY shall accept such check or payment without prejudice to COUNTY's right to recover the balance of the amount due or pursue any other remedy in this License.

9. CHARGE FOR LATE PAYMENT (AMLC-7.2 S)

LICENSEE hereby acknowledges that late payment of sums due hereunder will cause COUNTY to incur costs not contemplated by this License, the exact amount of which will be extremely difficult to ascertain. Such costs include but are not limited to costs such as administrative processing of delinquent notices, increased accounting costs, etc.

Accordingly, if any payment pursuant to this License is not received by COUNTY by the due date, a late charge of 1.5% of the payment due and $100 shall be added to the payment, and the total sum shall become immediately due and payable to COUNTY. An additional charge of 1.5% of said payment, excluding late charges, shall be added for each additional month that said payment remains unpaid.

LICENSEE and COUNTY hereby agree that such late charges represent a fair and reasonable estimate of the costs that COUNTY will incur by reason of LICENSEE's late payment.

Acceptance of such late charges (and/or any portion of the overdue payment) by COUNTY shall in no event constitute a waiver of LICENSEE's default with respect to such overdue payment or prevent COUNTY from exercising any of the other rights and remedies granted hereunder.

10. INSURANCE (AMLC 10.1 S)

LICENSEE agrees to purchase all required insurance at LICENSEE's expense and to deposit with the COUNTY certificates of insurance, including all endorsements required herein, necessary to satisfy the COUNTY that the insurance provisions of this License have been complied with and to keep such

insurance coverage and the certificates and endorsements therefore on deposit with the COUNTY during the entire term of this License. This License shall automatically terminate at the same time LICENSEE's insurance coverage is terminated. If within ten (10) business days after termination under this Clause LICENSEE obtains and provides evidence of the required insurance coverage acceptable to Chief Real Estate Officer, this License may be reinstated at the sole discretion of Chief Real Estate Officer. LICENSEE shall pay COUNTY for processing the reinstatement of this License.

LICENSEE agrees that LICENSEE shall not operate on the License Area at any time the required insurance is not in full force and effect as evidenced by a certificate of insurance and necessary endorsements or, in the interim, an official binder being in the possession of Chief Real Estate Officer. In no cases shall assurances by LICENSEE, its employees, agents, including any insurance agent, be construed as adequate evidence of insurance. Chief Real Estate Officer will only accept valid certificates of insurance and endorsements, or in the interim, an insurance binder as adequate evidence of insurance. LICENSEE also agrees that upon cancellation, termination, or expiration of LICENSEE's insurance, COUNTY may take whatever steps are necessary to interrupt any operation from or on the License Area until such time as the Chief Real Estate Officer reinstates the License.

If LICENSEE fails to provide Chief Real Estate Officer with a valid certificate of insurance and endorsements, or binder at any time during the term of the License, COUNTY and LICENSEE agree that this shall constitute a material breach of the License. Whether or not a notice of default has or has not been sent to LICENSEE, said material breach shall permit COUNTY to take whatever steps necessary to interrupt any operation from or on the License Area, and to prevent any persons, including, but not limited to, members of the general public, and LICENSEE's employees and agents, from entering the License Area until such time as Chief Real Estate Officer is provided with adequate evidence of insurance required herein. LICENSEE further agrees to hold COUNTY harmless for any damages resulting from such interruption of business and possession, including, but not limited to, damages resulting from any loss of income or business resulting from the COUNTY's action.

All contractors performing work on behalf of, or under contract with, LICENSEE within the License Area shall obtain insurance subject to the same terms and conditions as set forth herein for LICENSEE. LICENSEE shall not allow contractors or subcontractors to access the License Area if such contractors have less than the level of coverage required by the COUNTY from the LICENSEE under this License. It is the obligation of the LICENSEE to provide written notice of the insurance requirements to every contractor and to receive proof of insurance prior to allowing any contractor to begin work within the License Area. Such proof of insurance must be maintained by LICENSEE through the entirety of this License and be available for inspection by a COUNTY representative at any reasonable time.

All self-insured retentions (SIRs) and deductibles shall be clearly stated on the Certificate of Insurance. If no SIRs or deductibles apply, indicate this on the Certificate of Insurance with a zero (0) by the appropriate line of coverage. Any self-insured retention (SIR) or deductible in excess of $25,000 ($5,000 for automobile liability), shall specifically be approved by the County Executive Office (CEO)/Office of Risk Management upon review of LICENSEE's current audited financial report.

Qualified Insurer

The policy or policies of insurance must be issued by an insurer with a minimum rating of A- (Secure A.M. Best's Rating) and VIII (Financial Size Category as determined by the most current edition of the Best's Key Rating Guide/Property-Casualty/United States or ambest.com). It is preferred, but not mandatory, that the insurer be licensed to do business in the state of California (California Admitted Carrier).

If the insurance carrier does not have an A.M. Best Rating of A-/VIII, the CEO/Office of Risk Management retains the right to approve or reject a carrier after a review of the company's performance and financial ratings.

The policy or policies of insurance maintained by the LICENSEE shall provide the minimum limits and coverage as set forth below:

Coverages	Minimum Limits
Commercial General Liability	$1,000,000 per occurrence
	$2,000,000 aggregate
Automobile Liability including coverage for owned, non-owned and hired vehicles	$1,000,000 limit per occurrence
Workers' Compensation	Statutory
Employers' Liability Insurance	$1,000,000 per occurrence

Required Coverage Forms

The Commercial General Liability coverage shall be written on Insurance Services Office (ISO) form CG 00 01, or a substitute form providing liability coverage at least as broad.

The Business Auto Liability coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing liability coverage as broad.

Required Endorsements

The Commercial General Liability policy shall contain the following endorsements, which shall accompany the Certificate of insurance:

1) An Additional Insured endorsement using ISO form CG 2010 or CG 2033 or a form at least as broad naming the County of Orange, its elected and appointed officials, officers, employees, agents as Additional Insureds.

2) A primary non-contributing endorsement evidencing that the Licensee's insurance is primary and any insurance or self-insurance maintained by the County of Orange shall be excess and non-contributing.

All insurance policies required by this contract shall waive all rights of subrogation against the County of Orange, its elected and appointed officials, officers, agents and employees when acting within the scope of their appointment or employment.

The Workers' Compensation policy shall contain a waiver of subrogation endorsement waiving all rights of subrogation against the County of Orange, its elected and appointed officials, officers, agents and employees.

LICENSEE shall notify County in writing within thirty (30) days of any policy cancellation and ten (10) days for non-payment of premium and provide a copy of the cancellation notice to County. Failure to provide written notice of cancellation may constitute a material breach of the LICENSE, upon which the County may suspend or terminate this LICENSE.

The Commercial General Liability policy shall contain a severability of interests clause, also known as a "separation of insureds" clause (standard in the ISO CG 001 policy)

Insurance certificates should be forwarded to the COUNTY address provided in the Clause (NOTICES) below or to an address provided by Chief Real Estate Officer. LICENSEE has ten (10) business days to provide adequate evidence of insurance or this License may be cancelled.

COUNTY expressly retains the right to require LICENSEE to increase or decrease insurance of any of the above insurance types throughout the term of this License. Any increase or decrease in insurance will be as deemed by Risk Manager as appropriate to adequately protect COUNTY.

COUNTY shall notify LICENSEE in writing of changes in the insurance requirements. If LICENSEE does not deposit copies of acceptable certificates of insurance and endorsements with COUNTY incorporating such changes within thirty (30) days of receipt of such notice, this License may be in breach without further notice to LICENSEE, and COUNTY shall be entitled to all legal remedies.

The procuring of such required policy or policies of insurance shall not be construed to limit LICENSEE's liability hereunder nor to fulfill the indemnification provisions and requirements of this License, nor in any way to reduce the policy coverage and limits available from the insurer.

11. OPERATIONS (AMLC-11.1 S)

LICENSEE shall keep and maintain the SCADA System and all Improvements in good condition and in substantial repair. It shall be LICENSEE's responsibility to take all steps necessary or appropriate to maintain such standard of condition and repair. COUNTY shall have the right to enter upon the License Area to inspect LICENSEE'S property and facilities for safety purposes and compliance with the terms of this License.

LICENSEE shall designate in writing to COUNTY a representative who shall be responsible for the condition and repair of LICENSEE'S property in the License Area.

If LICENSEE fails to maintain or make repairs or replacements as required herein, COUNTY may notify LICENSEE in writing of said failure. Should LICENSEE fail to correct the situation within five (5) business days thereafter, COUNTY may make or cause to be made the necessary correction, and the cost thereof, including, but not limited to, the cost of labor, materials, and equipment and administration, shall be paid by LICENSEE within ten (10) days of receipt of a statement of said cost from COUNTY. In addressing the requirements of this paragraph, COUNTY may, at COUNTY's option, choose other remedies available under the terms hereof, or by law.

Any spillage of fuel, oil, hazardous or other material must be immediately and properly cleaned up and removed by LICENSEE and at LICENSEE's expense at the termination of this License. The Property must be returned to its original condition and the LICENSEE is solely responsible for any damages.

12. HAZARDOUS MATERIALS

Definition of Hazardous Materials. For purposes of this License, the term "**Hazardous Material**" or "**Hazardous Materials**" shall mean any hazardous or toxic substance, material, product, byproduct, or waste, which is or shall become regulated by any governmental entity, including, without limitation, the COUNTY acting in its governmental capacity, the State of California or the United States government.

Use of Hazardous Materials. Except for those Hazardous Materials which are customarily used in connection with any permitted use of the License Area under this License (which Hazardous Materials shall be used in compliance with all applicable Laws), LICENSEE or LICENSEE's employees, agents, independent contractors or invitees (collectively "**LICENSEE Parties**") shall not cause or knowingly permit any Hazardous Materials to be brought upon, stored, kept, used, generated, released into the environment or disposed of on, under, from or about the License Area (which for purposes of this Clause shall include the subsurface soil and ground water).

Licensee Obligations. If the presence of any Hazardous Materials on, under or about the License Area caused or permitted by LICENSEE or LICENSEE Parties results in (i) injury to any person, (ii) injury to or contamination of the License Area (or a portion thereof), or (iii) injury to or contamination of any adjacent real or personal property, LICENSEE, at its sole cost and expense, shall promptly take all actions necessary or appropriate to return the License Area to the condition existing prior to the introduction of such Hazardous Materials to the License Area and to remedy or repair any such injury or contamination. Without limiting any other rights or remedies of COUNTY under this License, LICENSEE shall pay the cost of any cleanup or remedial work performed on, under, or about the License Area as required by this License or by applicable laws in connection with the removal, disposal, neutralization or other treatment of such Hazardous Materials caused or permitted by LICENSEE or LICENSEE Parties. Notwithstanding the foregoing, LICENSEE shall not take any remedial action in response to the presence, discharge or release, of any Hazardous Materials on, under or about the License Area caused or permitted by LICENSEE or LICENSEE Parties, or enter into any settlement agreement, consent decree or other compromise with any governmental or quasi-governmental entity without first obtaining the prior written consent of the Chief Real Estate Officer. All work performed

or caused to be performed by LICENSEE as provided for above shall be done in good and workmanlike manner and in compliance with plans, specifications, and other requirements for such work reasonably approved by COUNTY.

13. BEST MANAGEMENT PRACTICES (PMF9.2S) – Intentionally Omitted

14. WATER QUALITY MANAGEMENT PLAN (N) – Intentionally Omitted

15. TERMINATION OF PRIOR AGREEMENTS (AMLC-12.1 S)

It is mutually agreed that this License shall terminate and supersede any prior agreements between the parties hereto concerning access to the Property, the License, the License Area, Access Area or the rights and duties contained herein. Notwithstanding the foregoing, this provision shall not release Licensee from any obligations under any prior agreements between LICENSEE and COUNTY to be performed through the Commencement Date of this License affecting the License Area and the Access Area or from any resulting obligations of indemnification based upon events occurring prior to the effective date of this License.

16. LIMITATION OF THE LICENSE (AMLC-13.1 S)

This License and the rights and privileges granted LICENSEE in and to the License Area and Access Area are subject to all covenants, conditions, restrictions, and exceptions of record or apparent from a physical inspection of the License Area and the Access Area. Nothing contained in this License or in any document related hereto shall be construed to imply the conveyance to LICENSEE of rights in the License Area and Access Area which exceed those owned by COUNTY.

17. NOTICES (AMLC-14.1 S)

All notices pursuant to this License shall be addressed as set forth below or as either party may hereafter designate by written notice and shall be sent through the United States mail in the State of California duly registered or certified with postage prepaid. If any notice is sent by registered or certified mail, as aforesaid, the same shall be deemed served or delivered twenty-four (24) hours after mailing thereof as above provided. Notwithstanding the above, COUNTY may also provide notices to LICENSEE by personal delivery or by regular mail and any such notice so given shall be deemed to have been given upon receipt.

TO: COUNTY

County of Orange
County Executive Office
333 West Santa Ana Blvd., 3rd Floor
Santa Ana, CA 92701-4084
Thomas A. Miller, Chief Real Estate Officer

TO: LICENSEE

Trabuco Canyon Water District
32003 Dove Canyon Drive
Trabuco Canyon, CA 92679
Attn: Fernando Paludi, General Manager

18. ATTACHMENTS TO LICENSE (AMLC-15.1 S)

This License includes the following, which are attached hereto and made a part hereof:

I. General Conditions
II. Exhibit A – Description of Property
III. Exhibit B – Location Map
IV. Exhibit C – Equipment List

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the Parties have executed this License on the date first above written.

LICENSEE

Trabuco Canyon Water District

By_____

Title_____

By_____

Title_____

COUNTY

APPROVED AS TO FORM:
OFFICE OF COUNTY COUNSEL
ORANGE COUNTY, CALIFORNIA

COUNTY OF ORANGE

By: _____
Deputy

By: _____
Thomas A. Miller, Chief Real Estate Officer
County Executive Office
Per Resolution No. 19-002 of the Board of Supervisors and Minute Order dated January 28, 2019

Date: _____

GENERAL CONDITIONS (AMLC-GC l-17 S)

1. **PERMITS AND LICENSES (AMLC - GC2 S)**

LICENSEE shall be required to obtain any and all permits and/or licenses which may be required in connection with the operation of LICENSEE'S property within the License Area as set out herein, **as well as follow and obey all applicable laws, regulations, best management practices or instructions required by any state, federal, or local agency with appropriate jurisdiction**. No permit, approval, or consent given hereunder by COUNTY, in its governmental capacity, shall affect or limit LICENSEE's obligations hereunder, nor shall any approvals or consents given by COUNTY, as a party to this License Agreement, be deemed approval as to compliance or conformance with applicable governmental codes, laws, rules, or regulations.

2. **SIGNS (AMLC-GC3 S)**

LICENSEE agrees not to construct, maintain, or allow any signs, banners, flags, etc., upon License Area except as approved by the Chief Real Estate Officer. Unapproved signs, banners, flags, etc., may be removed.

3. **LICENSE ORGANIZATION (AMLC-GC4 S)**

The various headings and numbers herein, the grouping of provisions of this License into separate clauses and paragraphs, and the organization hereof, are for the purpose of convenience only and shall not be considered otherwise.

4. **AMENDMENTS (AMLC-GC5 S)**

This License is the sole and only agreement between the parties regarding the subject matter hereof; other agreements, either oral or written, are void. Any changes to this License shall be in writing and shall be properly executed by both parties.

5. **UNLAWFUL USE (AMLC-GC6 S)**

LICENSEE agrees no improvements shall be erected, placed upon, operated, nor maintained on the License Area, nor any business conducted or carried on therein or therefrom, in violation of the terms of this License, or of any regulation, order of law, statute, bylaw, or ordinance of a governmental agency having jurisdiction.

6. **INSPECTION (AMLC-GC7 S)**

COUNTY or its authorized representative shall have the right at all reasonable times to inspect the operations of LICENSEE on the Property to determine if the provisions of this License are being complied with.

7. **INDEMNIFICATION (AMLC-GC8 S)**

LICENSEE hereby waives all claims and recourse against COUNTY including the right of contribution for loss or damage of persons or property arising from, growing out of, or in any way connected with or related to this License and the use of the License Area by either the LICENSEE or its contractors, including, but not limited to, any damages to the vehicles LICENSEE parks on the License Area, except

claims arising from the concurrent active or sole negligence of COUNTY, its officers, agents, and employees. LICENSEE hereby agrees to indemnify, hold harmless, and defend with counsel acceptable to COUNTY, its officers, agents, and employees against any and all claims, loss, demands, damages, cost, expenses, or liability costs arising out of the operation, use, or maintenance of the property described herein, and/or LICENSEE's exercise of the rights under this License, except for liability arising out of the concurrent active or sole negligence of COUNTY, its officers, agents, or employees, including the cost of defense of any lawsuit arising therefrom.

In the event COUNTY is named as co-defendant, LICENSEE shall notify COUNTY of such fact and shall represent COUNTY with counsel acceptable to COUNTY in such legal action unless COUNTY undertakes to represent itself as co-defendant in such legal action, in which event LICENSEE shall pay to COUNTY its litigation costs, expenses, and attorney's fees. In the event judgment is entered against COUNTY and LICENSEE because of the concurrent active negligence of COUNTY and LICENSEE, their officers, agents, or employees, an apportionment of liability to pay such judgment shall be made by a court of competent jurisdiction. Neither party shall request a jury apportionment.

8. **TAXES AND ASSESSMENTS (AMLC-GC9 S)**

Although not anticipated, should this License create a possessory interest which is subject to the payment of taxes levied on such interest, it is understood and agreed that all taxes and assessments (including but not limited to said possessory interest tax) which become due and payable in connection with this License or upon fixtures, equipment, or other property used in connection with this License, shall be the full responsibility of LICENSEE, and LICENSEE shall cause said taxes and assessments to be paid promptly.

9. **PARTIAL INVALIDITY (AMLC-GC10 S)**

If any term, covenant, condition, or provision of this License is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

10. **WAIVER OF RIGHTS (AMLC-GC11 S)**

The failure of COUNTY to insist upon strict performance of any of the terms, covenants, or conditions of this License shall not be deemed a waiver of any right or remedy that COUNTY may have, and shall not be deemed a waiver of the right to require strict performance of all the terms, covenants, and conditions of the License thereafter, nor a waiver of any remedy for the subsequent breach or default of any term, covenant, or condition of the License. Any waiver, in order to be effective, must be signed by the party whose right or remedy is being waived.

11. **CONDITION OF LICENSE AREA UPON TERMINATION (AMLC-GC12 S)**

Except as otherwise agreed to herein, upon termination of this License, LICENSEE shall redeliver possession of said License Area to COUNTY in substantially the same condition that existed immediately prior to LICENSEE's entry thereon, reasonable wear and tear, flood, earthquakes, war, and any act of war excepted.

12. **DISPOSITION OF ABANDONED PERSONAL PROPERTY (AMLC-GC13 S)**

If LICENSEE abandons the License Area or is dispossessed thereof by process of law or otherwise, title to any personal property belonging to LICENSEE and left on the License Area 10 days after such event shall be deemed, at COUNTY's option, to have been transferred to COUNTY. COUNTY shall have the right to remove and to dispose of such property without liability therefor to LICENSEE or to any person claiming under LICENSEE, and shall have no need to account therefor.

13. **TIME OF ESSENCE (AMLC-GC14 S)**

Time is of the essence of this License Agreement. Failure to comply with any time requirements of this License shall constitute a material breach of this License.

14. **ASSIGNMENT AND SUBLICENSE (N)**

The License granted hereby is personal to LICENSEE and any assignment of said License by LICENSEE, voluntarily or by operation of law, shall automatically terminate the License granted hereby.

LICENSEE may sublicense the License Area, or a portion thereof, only upon written notice to and consent granted by COUNTY, whose consent remains in the sole and absolute discretion of County. No such sublicense shall release LICENSEE of its obligations hereunder and any sublicensee shall maintain insurance at levels and terms and conditions deemed satisfactory to County and shall name County as an additional insured party. Sublicensees shall indemnify the County to the same extent LICENSEE indemnifies County herein.

15. **RIGHT TO WORK AND MINIMUM WAGE LAWS (AMLC-GC17 S)**

In accordance with the United States Immigration Reform and Control Act of 1986, LICENSEE shall require its employees that directly or indirectly service the License Area or terms and conditions of this License, in any manner whatsoever, to verify their identity and eligibility for employment in the United States. LICENSEE shall also require and verify that its contractors or any other persons servicing the License Area or terms and conditions of this License, in any manner whatsoever, verify the identity of their employees and their eligibility for employment in the United States.

Pursuant to the United States of America Fair Labor Standard Act of 1938, as amended, and State of California Labor Code, Section 1178.5, LICENSEE shall pay no less than the greater of the Federal or California Minimum Wage to all its employees that directly or indirectly service the License Area, in any manner whatsoever. LICENSEE shall require and verify that all its contractors or other persons servicing the License Area on behalf of the LICENSEE also pay their employees no less than the greater of the Federal or California Minimum Wage.

LICENSEE shall comply and verify that its contractors comply with all other Federal and State of California laws for minimum wage, overtime pay, record keeping, and child labor standards pursuant to the servicing of the License Area or terms and conditions of this License.

Notwithstanding the minimum wage requirements provided for in this clause, LICENSEE, where applicable, shall comply with the prevailing wage and related requirements pursuant to the provisions of Section 1773 of the Labor Code of the State of California.

//

EXHIBIT A

LICENSE DESCRIPTION (10.1 S)

PROJECT: Joplin Youth Center
LOCATION: Trabuco Canyon, CA

WRITTEN BY: George Cardenas
DATE: January 1, 2021

All the License Area shown on a map marked Exhibit B, attached hereto, which is located on the three hundred and thirty eight acre (338 ac.) parcel at the facility's two water tanks near the main campus at the former Orange County Probation Department facility, also known as Joplin Youth Center, in unincorporated Trabuco Canyon, County of Orange, State of California.

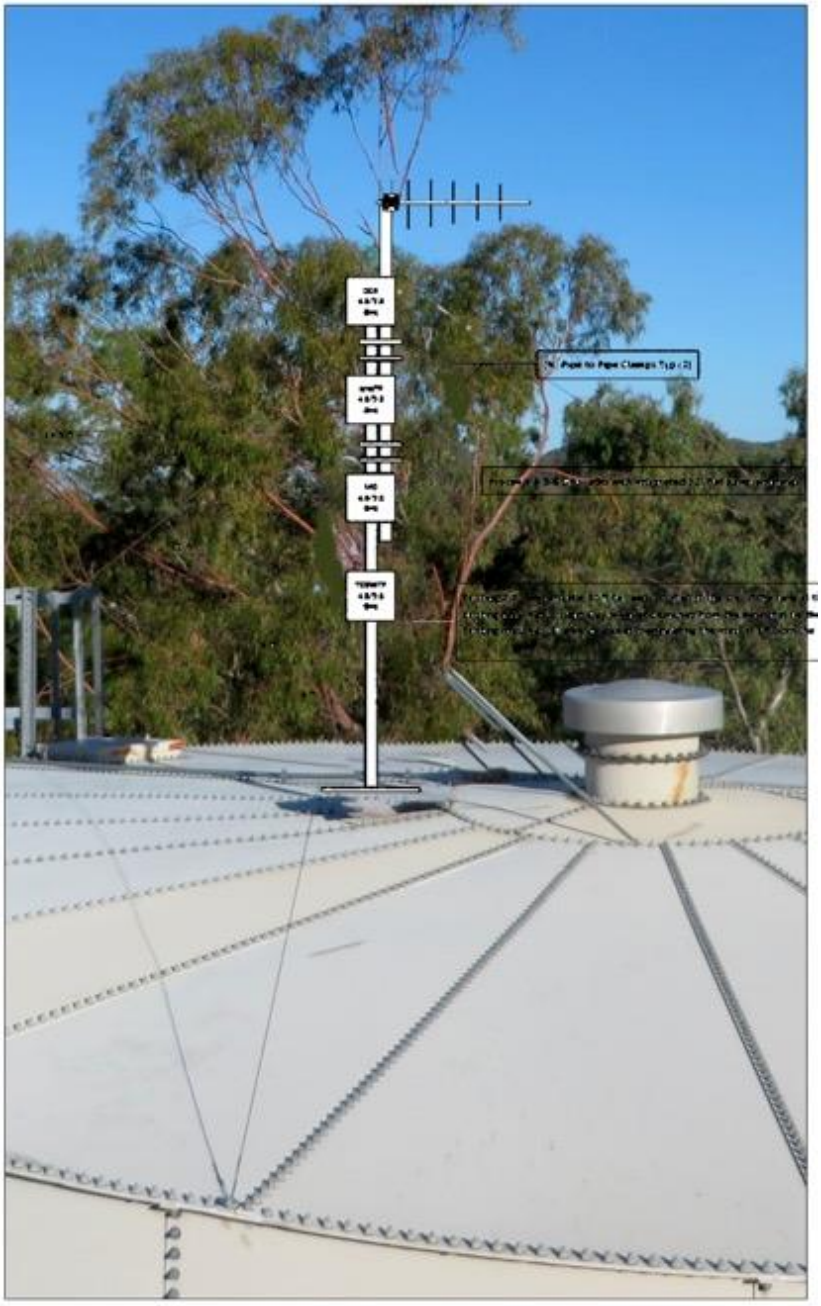
NOT TO BE RECORDED

EXHIBIT B

Water Tank
Access Road
Licensee (TCWD)
Antenna Mount
Water Tanks
Joplin Youth Center

EXHIBIT C

As of the COMMENCEMENT DATE of this License, Licensee will remove the two existing parabolic dishes and radios, and will install updated data communication equipment to support the District's Supervisory Control And Data Acquisition control (SCADA) network to manage the Licensee's regional water resources. Installation includes maintaining guy-wires, installing a new 2" x 10 ft antenna mast at 2 locations on the new mast. The new mast shall not extend beyond 15 ft above the existing mast base at the top of the tank. The installation will also include 4 new 4.9/5.8 Ghz radios and two new antennae.



TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
ENGINEERING MATTERS
ITEM 11: DISCUSSION AND POSSIBLE ACTION(S) CONCERING TCWD'S DOMESTIC WATER STORAGE AND RESERVOIR SITING STUDY

In January 2010, the Water Reliability and Emergency Storage (WRES) Fees went into effect and included the construction of a new 2.0 MG domestic water storage reservoir (along with distribution improvements) to increase the District's storage capacity and to provide reliability and redundancy should an existing reservoir need to be taken out of service for maintenance or emergency repairs. Since then, the District purchased 0.62 MG of storage in the Saddle Crest Reservoir.

Recently, staff has worked with Tetra Tech to determine the feasibility of putting the additional storage requirements at the District's Harris Grade Site (Exhibit 1). This study was partially funded by the Saddleback Meadows residential development (Development) on El Toro Road as part of the preparation of the development's Sub-Area Master Plan to evaluate whether new storage at Harris Grade could accommodate the needs of both the District and the development. The feasibility study estimated the cost of joint storage at this site to be $7,900,000.

With unused funds from the Harris Grade feasibility study, the Engineering/Operational Committee recommended that staff also evaluate the feasibility of constructing a reservoir on the District's Porter Property which is in the same zone as Harris Grade but on the east side of Plano Trabuco Rd (Exhibit 2). The feasibility level cost estimate for joint storage at the Porter Property site is a range of roughly $9,000,000 to $11,600,00 depending on whether the adjacent nursery property would be developed and the cost of infrastructure connecting the site to the District's system could be shared.

Both siting studies, which were reviewed by the Engineering/Operational Committee over the course of several months and edited to incorporate Committee feedback, are considered final. Below is the summary of the alternatives studied:

SITE	SIZE	COST [2]
HARRIS GRADE	2.7 MG[1]	$7,900,000
PORTER PROPERTY	2.25 MG	[3] $9,115,000-$11,600,000

1. 2.7 MG includes replacing the smaller tank volume
2. Includes 30% Contingency
3. Alternative-developed Nursery

The District continues to evaluate options for District storage as well as potential joint storage opportunities with the developer of Saddleback Meadows.

FUNDING SOURCE:
General Fund

FISCAL IMPACT (PROJECT BUDGET):
General Fund and Developer Fees

FISCAL IMPACT:
$131,091

ENVIRONMENTAL COMPLIANCE:
Not applicable

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

COMMITTEE STATUS:
This matter was reviewed with the Engineering/Operational Committee

RECOMMENDED ACTION:
Receive information at the time of the Board meeting and take action(s) as deemed appropriate.

EXHIBIT(S):
1. Harris Grade Reservoir Siting Study
2. Porter Property Planning Level Study and Cost Estimate

CONTACTS (staff responsible): PALUDI/LAUSTEN

Trabuco Canyon Water District

Harris Grade Reservoir Siting Study

TETRA TECH

January 2021

Harris Grade Reservoir Siting Study

January 2021

PREPARED FOR

Trabuco Canyon Water District
32003 Dove Canyon Drive
Trabuco Canyon, CA 92679

PREPARED BY

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1/29/2021

Kyle Bohn, PE
Project Manager

Date

1/29/2021

Mark Bush, PE
Principal-in-Charge

Date

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Appendix C. Anticipated Environmental Permits

Tables

Table 1: Existing Harris Grade Reservoir Characteristics
Table 2: Design Criteria Summary
Table 3: Geotechnical Characteristics
Table 4: Summary of Tank Alternatives
Table 5: Reservoir Type Advantages and Disadvantages
Table 6: Reservoir Alternative Cost Analysis
Table 7: Alternative Analysis

1. PROJECT OBJECTIVES AND BACKGROUND

1.1 PURPOSE

In 2016 the Trabuco Canyon Water District (District) completed the "Domestic Water Storage and Reservoir Siting Study" to determine ideal locations within the District's service area for additional water storage for future planned developments and emergencies. The study determined that the Harris Grade Reservoir site is one of four locations for adding potable water storage within the District.

The District retained Tetra Tech to conduct a Reservoir Siting Study evaluating the feasibility of demolishing an existing 0.42 MG steel reservoir and constructing a new 2.0 to 2.7 MG reservoir, including upgrading of the inlet and outlet piping leading up the slope to the site. This siting study will present alternatives on the location, shape, and size for a new reservoir at the existing Harris Grade Site. Additionally, this siting study will address the reservoir type (prestressed concrete, steel, or conventional cast in place concrete), interconnections with the existing facilities, inlet and outlet piping, drainage impacts, site access, and any required site modifications or relocations.

1.2 BACKGROUND

The Harris Grade Pressure Zone (HGL 1504-feet) is the largest pressure zone within the District and receives water from the Cooks Pressure Zone (HGL 1250-feet) via the Ridgeline Booster Pump Station, which boosts the water through 14-inch and 10-inch pipelines on Live Oak Canyon Road. The Harris Grade site sits on a hill, with slopes as great as 2:1, above Live Oak Canyon Road and is connected to the waterlines in the road with an existing 10-inch and 14-inch pipeline running in a 20-foot wide easement down the hillside.

The site is located within the Cleveland National Forest on land leased to the District from the United States Forest Service. The site can be accessed from Live Oak Canyon Road through a 10-foot wide access road within a 20-foot wide easement. The grade of the existing access road to the reservoir site varies from flat to 16 to 17 percent. Overhead electrical lines coming from Live Oak Canyon Road provide the site power. The overall site is shown on Figure 1-1.

The District owns and operates two reservoirs within the Harris Grade Reservoir Site, one 2.0 MG steel reservoir constructed in 1981 (Reservoir No. 1) and one 0.42 MG steel reservoir, constructed in 1965 (Reservoir No. 2). Summarized below are the characteristics of the existing Harris Grade Reservoirs. The existing Harris Grade Reservoir site is shown on Figure 1-2.

Table 1 – Existing Harris Grade Reservoir Characteristics

	Reservoir No. 1	Reservoir No. 2
Material	Steel (Circular)	Bolted Steel (Circular)
Capacity	2.0 MG	0.42 MG
Year Constructed	1981	1965
Finished Floor **High Water Level (HWL)**	1473 feet 1504 feet	1473 feet 1496 feet

Due to the high water elevation difference between the two tanks; they are unable to float off each other. The District operates an on-site bypass pump to pump water from the small tank to the larger tank.

2. DESIGN CRITERIA

Design criteria for the new tank and appurtenances is summarized in the table below:

Table 2 – Design Criteria Summary
Reservoir Design Standards: The new tank shall be designed to the following design standards. 1. California Department of Drinking Water (DDW) requirements outlined in the California Code of Regulations Title 22 "Design and Construction of Water Distribution Reservoirs." 2. American Water Works Association (AWWA). a. For pre-stressed concrete tanks: Standard D110; "Wire and Strand-Wound Circular Prestressed Concrete Water Tanks." b. For steel tanks: Standard D100; "Welded Carbon Steel Tanks for Water Storage." 3. Trabuco Canyon Water District Standard Plans and Specifications.
Storage Volume: 1. Minimum Storage Volume: 2.0 MG. 2. Desired Storage Volume: 2.7 MG.
Floor Elevation (Match Existing): 1473-feet (record drawings – NGVD29) / 1475.4 (survey – NAVD88).
High Water Level Elevation (Match Existing): 1504-feet (record drawings – NGVD29) / 1506.4 (survey – NAVD88).
Sidewater Depth: 31-feet.
Inlet/Outlet Piping and Valves: 16-inch separate inlet and outlet connections.
Overflow and Drain Piping: • Overflow and drain pipes of the existing reservoirs empty to the surface and sheet flow off site to the adjacent natural terrain. It is anticipated the new overflow and drains will similarly sheet flow off the site. • The overflow size of the new reservoir will be confirmed during preliminary design based on the maximum anticipated fill rate of the reservoir. It is anticipated the proposed tank overflow will go through the tank wall and feature an air gap facility to meet California Department of Drinking Water (DDW) requirements. • A tank drain should be provided to remove unusable water from the reservoir and feature an air gap facility to meet California Department of Drinking Water (DDW) requirements.
Tank Intertie Piping: Tank intertie piping is assumed to be 16-inches to match the new piping from Live Oak Canyon Road (size to be based on the system fill and draw rates and should be confirmed during preliminary design).
Minimum Required Clearance Around Tank: 12-feet.
Assumed Temporary Cantilever Shoring Height: 14-feet.
Assumed Permanent Retaining Wall Height: 12-feet.
Site Access Design Vehicle Size (Interim Site): Single Unit Truck – 30-feet long x 8-feet wide; 42-foot turning radius.
Site Access Design Vehicle Size (Final Site): Pickup truck.

2.1 STORAGE REQUIREMENTS

The District has the following storage requirements for the Harris Grade Site:

1. A minimum of 1.38 million gallons (MG) of additional storage is required within the District to meet the requirements of the Water Reliability Emergency Storage (WRES) fund. District customers are contributing to the WRES fund, which is reserved for an additional 2.0 MG storage within the District. A portion of the required storage has been built at the Saddlecrest development (0.62 MG) in 2019, but the remaining 1.38 MG is still pending.

2. A minimum of 0.87 MG of storage is required for the future Saddleback Meadows development.
3. A minimum of 0.42 MG of storage is required to replace the existing steel Reservoir No. 2 to be demolished to make room for a new tank.

In order to meet the storage requirements above a minimum 2.7 MG tank is needed.

2.2 PIPING AND APPURTENANCES

The existing piping and appurtenances at the Harris Grade Reservoirs consists of combined tank inlet/outlet pipes, overflow pipes, drain pipes, tank intertie piping, and combined inlet/outlet piping to Live Oak Canyon Road as shown on Figure 1-2. Currently the Reservoirs No. 1 and 2 are operated as follows to promote tank mixing:

1. Flow is let into Reservoir No. 2 through a 6-inch altitude valve and 8-inch inlet/outlet pipeline.
2. Flow is pumped out of Reservoir No. 2 into Reservoir No. 1 through a 6-inch tank intertie. A pump is required because the high water level (HWL) of Reservoir No. 2 is 8-feet higher than that of Reservoir No. 1.
3. Flow to the distribution system is conveyed through a 14-inch outlet on Reservoir No. 1.

The new tank will be designed to float with the existing Reservoir No. 1, therefore both tanks will have identical HWL and finished floor elevations, and a pumped tank intertie will not be required. The proposed tank will have separate inlet and outlet connections, overflow structure, drain line, and intertie piping. Proposed tank piping layouts are shown on Figures 4-1.1, 4-2.1, and 4-3.1. The proposed piping will be configured to accommodate the following:

1. System fills and draws from either tank, while the other tank is isolated.
2. System fills one tank and draws from the other.
3. System fills and draws from both tanks simultaneously.

2.2.1 Piping to Live Oak Canyon Road

Currently the District has a 20-foot wide easement containing existing 10-inch and 14-inch steel pipelines connecting the Harris Grade Reservoirs No. 1 and No. 2 to 10-inch (steel) and 14-inch (ACP) waterlines in Live Oak Canyon Road. The District has determined that the existing 10-inch pipeline will need to be upsized to 16-inches to meet the expected increased system demands.

Constructability of the new 16-inch pipeline is discussed further in Section 5.

2.2.2 Tank Inlet Outlet Piping

Reservoir No. 1

The existing 2.0 MG Reservoir No. 1 was originally designed with a 14-inch combined inlet/outlet pipeline. A 12-inch outlet connection was constructed as a modification to the original design intended to be used as a separate outlet, but is no longer used. The no longer used 12-inch outlet connection contains above grade piping, pump, gate valve, double ball expansion joint, and Cla-Val and is shown in the photo following this paragraph.

Photo 1 – Existing Reservoir No. 1 Inlet Piping Modification

The 12-inch tank outlet was originally intended to boost water approximately 10 psi to give higher pressures at the outskirts of the system, but is no longer in use.

There are two below grade pipe penetrations coming off the 12-inch tank connections. Record drawings are not available showing how the piping from the 12-inch tank connection ties back to the main line. It is recommended that during preliminary design the below grade pipes be located to determine how they are connected to the system.

Currently the District fills to Reservoir No. 2 and draws from Reservoir No. 1. When Reservoir No. 2 is out of service during construction all Reservoir No. 1 will need to operate independently. It is recommended that the unused 12-inch connection be converted to a separate inlet connection with an altitude valve to protect the tank against overfilling.

New Harris Grade Reservoir

The design of the new tank should include the following inlet and outlet design features:

- Separate inlet and outlet connections designed to fill and draw from the tank at opposite sides to promote tank mixing.
- The size of the inlet and outlet lines has been assumed to be 16-inchs to match the diameter of the new pipeline from Live Oak Canyon Road. The size should be confirmed during preliminary design and based on the anticipated tank fill and draw rates.
- A new altitude valve should be sized during preliminary design and be placed on the inlet pipe to prevent overfilling the tank.

- Flexible expansion joints installed at all tank connections to protect the piping and tank against differential settlement or movement during a seismic event.

2.2.3 Tank Overflow and Drain Piping

Overflow and drain pipelines of the existing reservoirs empty to the surface and sheet flow to a riprap pad then off site to the adjacent natural terrain. It is anticipated the new overflow and drain pipelines will also be directed to riprap and sheet flow off the site in a similar manner.

The overflow size of the new reservoir will be confirmed during preliminary design based on the maximum anticipated fill rate of the reservoir. It is anticipated the proposed tank overflow will penetrate through the tank wall and feature an air gap to meet California Department of Drinking Water (DDW) requirements.

A tank drain should be provided to remove unusable water from the reservoir. This is usually the last few feet that cannot be sent to the system and/or any wash down water due to tank cleaning. On a concrete tank the drain will penetrate through the floor and collect in a manhole, where the water can be dechlorinated and released to sheet flow to riprap and then offsite to the natural terrain. On a steel tank a flush type cleanout will be provided through the tank wall, near the bottom of the tank wall.

The required size and connection points of the drain and overflow facilities should be studied in more detail during the preliminary design phase to determine the environmental mitigation measures related to draining the tank.

2.2.4 Tank Intertie Connection

The existing tank intertie connection and pump will be removed and replaced. The new tank will be designed to float off the existing Reservoir No. 1. The new tank intertie should be designed for the maximum tank fill and draw rates in order to fill through one tank and draw from the other. Isolation valves and flexible expansion joints should be placed at each tank connection.

2.3 SITE DESIGN REQUIREMENTS

The following site design elements were considered when developing the tank siting alternatives.

Construction clearance: A minimum of 12-feet of clearance is required around the tank during construction.

Site access (Final): The final site will have similar vehicle accessibility as the existing. The existing site has space for a pickup truck to enter the site and drive around the existing reservoir.

Site access (Interim): The interim construction site will have access for large a single unit truck, approximately the size of a concrete truck or crane (30-feet long x 8-feet wide; 42-foot turning radius).

Final site grading: The site will be graded so that the surface slopes away from the tanks, to avoid ponding adjacent to the tank foundation.

Cantilever shoring: A maximum 14-foot high cantilever shoring was assumed for the purposes of this siting study. Ultimately the shoring design is part of the Contractor's means and methods, however it is recommended that a conceptual shoring plan be developed in the preliminary design phase of the project.

On-site retaining wall: A maximum 12-foot high retaining wall was assumed for the purposes of this siting study. The final retaining wall height and design will be developed during the preliminary design phase of the project.

3. GEOTECHNICAL INVESTIGATION

A "Preliminary Geotechnical Exploration Report" for the project was completed by Leighton Consulting, dated June 18, 2020. As part of the preliminary investigation two hollow-stem auger borings were taken at the site, ranging in depths from 33 to 41 feet below the existing grade. Both borings were terminated due to auger refusal. The complete geotechnical report can be found in Appendix A of this report.

This section summarizes the findings of the preliminary geotechnical report and outlines additional geotechnical investigations required for final design.

3.1 GEOTECHNICAL FINDINGS

Summarized below are geotechnical characteristics of the site and recommendations outlined in the preliminary geotechnical report.

Table 3 – Geotechnical Characteristics
Subsurface Conditions: In general, the borings at the site consisted of artificial fill, alluvium, and bedrock. The southern side of the site consisted of deeper artificial fill and alluvium layers (up to 25 feet below grade), while bedrock was encountered as high as 1 foot below grade at the northern side of the site.
Groundwater: Groundwater was not encountered during the field exploration to a maximum depth of 41-feet. Groundwater is not anticipated to adversely impact the proposed project.
Expansive Soil Characteristics: The expansion potential of the near-surface onsite soils is considered to be low; however, variability in the expansion potential of the near surface onsite soils should be anticipated.
Soil Corrosivity: • Soils exhibit negligible potential for sulfate attack on concrete. • Soils exhibit low corrosion potential to buried ferrous metal in direct contact with the soils.
Rippability: • Near surface bedrock is expected to be excavatable using conventional heavy duty earth moving equipment. • Deeper bedrock excavations may require special ripping techniques such as jackhammers or other percussion devices.
Faulting and Seismicity: There are no known active or potentially active faults traversing the site.
Secondary Seismic Hazards: • Liquefaction Potential is very low. • Seismically-Induced Landslides: The western portion of the site and northerly ascending slope are located within an area that has been identified by the State of California as being potentially susceptible to the occurrence of seismically-induced landslides. • Earthquake-Induced Flooding: The site is not located within an inundation area for dam failure, however the potential for earthquake-induced flooding may exist if the existing reservoir does not meet the current seismic design standards.

3.2 FUTURE GEOTECHNICAL INVESTIGATIONS

Based on the preliminary geotechnical investigation the proposed project is feasible from a geotechnical standpoint. The geotechnical report provided in the attached Appendix A provides recommendations on foundation design parameters, concrete slab on grade design, retaining wall and shoring design parameters, seismic design parameters, and pavement design.

The report found that the potential for seismically-induced landslides exists and should be further evaluated during final design, once a site plan is developed for the project. For this reason it is recommended that a supplemental geotechnical report be prepared during a future phase of design to conduct additional slope stability analysis and confirm geotechnical subsurface conditions.

4. SITING ALTERNATIVES

Based on the design criteria and geotechnical information outlined in the previous sections Tetra Tech has developed the following reservoir siting alternatives shown in Table 4 below.

Table 4 – Summary of Tank Alternatives

Alternative	Description	Material/Shape	Capacity
1A	• 0.42 MG Reservoir No. 2 is demolished, making room for a new reservoir cut into the northern slope of the site. • Retaining wall (12-feet high max). • 2:1 and 1:1 permanent slopes.	Steel / Circular (97-feet ID)	1.7 MG
1B	Same layout and requirements as Fig 4-1A.	Concrete / Circular (97-feet ID)	1.7 MG
2	• 0.42 MG Reservoir No. 2 is demolished, making room for a new reservoir cut into the northern slope of the site. • Partially buried tank. • Temporary shoring required (assumed 14-feet max high cantilever shoring).	Concrete / Circular (109-feet ID)	2.0 MG
3	• 0.42 MG Reservoir No. 2 is demolished, making room for a new reservoir cut into the northern slope of the site. • Partially buried tank. • Temporary shoring required (assumed 14-feet max high cantilever shoring). • Temporary construction easement from US Forest Service.	Concrete / Circular (125-feet ID)	2.7 MG
4	• 2.0 MG Reservoir No. 1 and 0.42 MG Reservoir No. 2 are demolished for a new reservoir, using the whole site. • Requires both tanks to be out of service during construction (approx. 18 months). • Partially buried tank. • Temporary shoring required (assumed 14-feet max high cantilever shoring).	Concrete / Rectangular (200-feet x 91-feet, inside wall dimensions)	4.0 MG

As shown in the table above, the only alternative that meets the District's desired 2.7 MG storage volume is Alternative 3. Conceptual final grading and site plan, interim grading plan, and sections are shown in Figures 4-3.1, 4-3.2, and 4-3.3, respectively. As shown in the conceptual grading plans, this alternative requires a temporary easement from the US Forest Service for interim grading operations. The grade around the tank wall varies from 17 feet along the north side and tapers to the finished floor grade along the south of the tank). An AWWA D-110 steel tank is not a feasible tank material for this alternative because steel tanks cannot have differential fill around the tank wall.

The largest tank that can be provided, keeping all grading operations within the limits of the District's lease limits is 2.0 MG, shown in Alternative 2. Similar to Alternative 3, an AWWA D-100 Steel Tank is not a feasible material because the final grading plan requires the north portion of the tank to be partially buried. Conceptual final grading and site plan, interim grading plan, and sections are shown in Figures 4-2.1, 4-2.2, and 4-2.3, respectively.

The largest AWWA D-100 Steel Tank that can be provided on the site is a 1.7 MG tank, as shown in Alternative 4-1. Alternative 4-1 can accommodate circular welded steel AWWA D-100 tank or a prestressed concrete cylinder tank per AWWA D-110 because either tank can be constructed with the clearances shown.

The rectangular concrete tank, Alternative 4-4, can provide approximately 4.0 MG of storage. However, this alternative does not meet District storage requirements when an additional 2.0 MG is included to account for the existing Reservoir No. 1 that will need to be removed for the 4.0 MG tank to be constructed. Additionally, this alternative takes all storage away from the Harris Grade site for the duration of construction. For these reasons, this alternative is not favorable, and has not been developed further in this study.

Alternatives 1, 2, and 3 each meet the District's WRES storage requirement, however Alternatives 1 and 2 do not meet the Saddleback Meadows storage requirement. Additional storage within the District is still required for the Saddleback Meadows development if Alternatives 1 or 2 are selected.

5. CONSTRUCTION CONSIDERATIONS

The three feasible alternatives (1, 2, and 3) presented in Section 4 have been further developed in this section. The three alternatives all have relatively similar impacts and challenges as described below.

5.1 CONSTRUCTION ACCESS, CONTRACTOR STAGING AREA, AND HAUL ROUTES

During construction of the new tank and demolition of the existing 0.42 MG tank construction equipment will need access to and around the construction site. The existing construction access road is single lane, 10-feet wide, with grades as steep as 16 to 17 percent. We evaluated the existing access road for access by large trailered vehicles. A program was used to simulate the following two design vehicles:

- Tractor trailer: 69-feet long x 8-feet wide and has a 50-foot turning radius.
- Single unit truck: 30-feet long x 8-feet wide and has a 42-foot turning radius.

Based on the results of this analysis, the larger tractor trailer cannot stay within the 20-foot limits of the access lease and cannot turn onto the access road from Live Oak Canyon. Large delivery vehicles will need to deliver materials to a staging area at the bottom of the access road, then the materials will need to be taken to the reservoir site using a smaller vehicle. This results in increased handling of materials, increased staging, and increased overall project costs. We recommend that the improvements be made and confirmed in preliminary design to widen the access road entrance at Live Oak Canyon Road to accommodate a tractor trailer delivery vehicle. If this improvement is not done the Contractor will be required to limit delivery vehicle size, resulting in additional deliveries and increased project costs.

There are portions of the access road that we recommend localized improvements to widen the roadbed to a 16-feet to accommodate the smaller single unit truck. This additional width at these localized areas are to facilitate the turning radius of the vehicle. Localized improvements to the road width as well as clearing of brush and overhanging trees is recommended and should be confirmed during the preliminary design phase of the project. Additionally, as shown on Figures 4-1.1, 4-2.1, and 4-3.1 a widened site entrance is recommended at the top of the access road near the gate. The widened sit entrance will allow a single unit truck to more easily enter the site and turn around the tanks. If the improvements are not done, then the Contractor will be required to limit the vehicle size and this will result in increased staging, increased handling of material and increased costs.

The local improvements to the access road and pruning of overhanging brush and trees can be completed by the District or the Contractor. If completed by the District time should be built into the contract for the District to meet with the Contractor to determine the limits of grading and pruning. The District may also consider performing the grading and pruning activities in advance, however there is some risk as these will be based on assumptions and not on the specific Contractor's needs and requirements for their equipment and means and methods. If the District performs the work in advance, the Contractor may still need to make modifications.

Due to the steep grade of the access road it is expected concrete trucks will not be able to carry full loads up to the site, resulting in increased construction costs.

There is an existing hiking/biking trail that crosses the access road, as shown in Figure 1-1. Coordination with the Forest Service will be required during preliminary design and construction to provide a trail detour or closure.

Three potential Contractor staging area have been identified below, and shown in Figure 5-1.

1. ***Lower staging area:*** The proposed lower staging area closes a portion of the private access road to provide approximately 6,000 square feet for Contractor staging area. A detour can be provided, as shown in Figure 5-1, through the Hamilton Oaks Private Community gates to reach the area blocked by the proposed staging area. Further coordination with the community will be required to secure this staging area. If this staging area cannot be secured the Contractor will need to find an offsite storage and staging area, increasing the cost of the overall project.
2. ***Upper staging area (east of tank):*** It is recommended that a working pad be built up to the east of the site within the lease area. This will act as a temporary laydown area for the Contractor. The Contractor will need a minimum of approximately 5,000 square feet of laydown area adjacent to the proposed tank. Assuming a 2:1 grade can be built up along the east side of the lease area, approximately 2,500 square feet of Contractor staging area can be provided. Due to the reduced staging area near the tank it is anticipated that the Contractor will be required to double handle materials, increasing the overall project costs.
3. ***Upper staging area (outside of lease boundary):*** Due to the limited working area within the lease boundary, additional Contractor laydown area, outside of the lease boundary was investigated. A flat pad can be graded to the south of Reservoir No. 1 providing the Contractor up to an additional 10,000 SF of laydown area, as shown in Figures 5-1 and 5-2. This laydown area will require the removal of approximately 4,000 cubic yards of material, but will decrease tank construction costs and increase the contractors production rate while constructing the tank. This laydown area will require a temporary construction easement from the Forest Service and should be investigated further during preliminary design.

The anticipated haul route to the site from the Interstate 5 Freeway, is north along El Toro Road, then east along Live Oak Canyon Road.

5.2 IMPACTS TO EXISTING FACILITIES

The three reservoir alternatives all have relatively similar site impacts and challenges as follows:

- Demolition of Reservoir No. 2 (0.42 MG): Each alternative requires the demolition of the existing Reservoir No. 2. In addition to the removal of the steel tank, the removal of the 6-inch altitude valve vault, 8-inch inlet piping, tank intertie piping and pump, tank overflow and drain piping will be required.
- During demolition activities the existing Reservoir No. 1 must stay in service. An isolation valve on the Reservoir No. 2 8-inch inlet/outlet pipeline and a valve on the 6-inch tank intertie can be closed to isolate the 0.42 MG Reservoir No. 2 from the system.
- Reservoir No. 2 will need to be drained before demolition. The District should plan to drain the tank to the system as much as possible to prepare for the Contractor's demolition. The Contractor will drain any remaining water through the tank's drain line to the existing surface which will sheet flow off the site.
- Overhead Electrical Line and Power Poles: Two power poles are located within the site, both to the east of the tank. A smaller power pole containing the site's electrical service will need to be relocated, as shown in the grading figures. A large transmission pole serving the site, located north of the site entrance must be protected in place. The conceptual grading figures keep a 10-foot clear buffer around the existing transmission pole, however SCE clearance requirements will need to be confirmed during preliminary design. The transmission pole serving the site contains overhead lines that go down to Live Oak Canyon Road. These overhead lines cross the site access road and will need to be considered during construction and clearance requirements will need to be coordinated with SCE. The overhead line will limit the height of the Contractor's equipment that can pass under it.
- Site fencing: The site fencing will need to be revised to enclose the larger site.

- Tree and brush pruning and/or removal is anticipated and will need to be coordinated with the Forest Service. Further investigation during primary design should be completed to determine environmental requirements.

5.3 SITE GRADING AND DRAINAGE IMPACTS

The site grading and drainage impacts for Alternatives 1, 2, and 3 are all similar and they do not significantly alter how the site is graded and drains. These three alternatives all feature a built-up pad on the north east of the site, and a widened entrance at the access gate. These features will allow for more room when constructing the tank and provide additional useable space at the site. Overall site drainage patterns will be maintained, sending runoff away from the tanks, off site.

Alternative 2 and 3 (shown in Figures 4-2.1 and 4-2.3) feature a final grading concept with a partially buried concrete tank. In order to maintain drainage away from the tank a concrete v-ditch will need to be constructed around the northern perimeter of the tank. The concrete v-ditch will catch runoff coming towards the tank from the adjacent hillside and direct it around the tank and off site.

The amount of runoff from a new, larger tank will decrease the overall site permeability consequently increasing overall site runoff. During final design the District may be required to provide an on-site BMP to treat runoff prior to discharging it.

5.4 PIPELINE CONSTRUCTION TO LIVE OAK CANYON

The District has requested that the existing 10-inch steel pipeline located within the 20-foot wide easement from Live Oak Canyon Road up to the Harris Grade Reservoir site be upsized to a 16-inch pipeline to meet future demands. The following two conceptual alignments and cross sections were developed and shown in Figure 5-3.

- Alternative A: This alignment uses the available 10-foot wide corridor between the existing 10-inch pipeline and the edge of easement.
- Alternative B: This alignment uses the same corridor as the existing 10-inch pipeline and requires replace-in-place construction.

Both alignments have the following construction considerations:

- **Environmental:** Similar to the adjacent areas surrounding the site and access road, the existing 20-foot wide easement is covered in mature trees and brush. Before construction can begin clearing and grubbing of the existing surface will be required. During preliminary design additional environmental investigations should determine any environmental mitigation measures required during construction.

- **Pipe Construction in Slope:** The existing 20-foot wide easement extends from the Harris Grade Site down the hill to Live Oak Canyon Road. Grades on the hill side are as much as 2:1. It is recommended that concrete slope anchors are be constructed at intervals throughout the trench to hold backfill in place, and to achieve good compaction over the pipe. It is unknown if concrete slope anchors were installed on the existing 10-inch and 14-inch lines. If slope anchors were installed on the existing pipe, the Contractor may encounter them during excavation and have difficulty constructing the proposed trench.

  The geotechnical report determined that this area was susceptible to seismically induced landslides. During preliminary design additional slope stability investigations should be conducted by a geotechnical engineer to confirm any bedding and backfill, trenching, shoring, or construction requirements to mitigate seismically induced landslides.

- **Utility separation:** The ideal minimum trench-to-trench horizontal clearance from the proposed water pipeline to parallel existing utilities is 3-feet. As excavation activities get closer to existing utilities, the Contractor runs the risk of running into unstable, previously disturbed soils, resulting in the trench caving in. The 20-foot easement only allows space for a 2 foot to 2.5 foot trench to trench clearance. The minimal clearance will likely slow the Contractor's production rate, as they will need to excavate carefully to avoid impacting the adjacent trench.

- **Work area:** The ideal work area to install the proposed pipeline is approximately 24 feet wide, however the existing easement limits the work area to 20-feet. During preliminary design the District may want to investigate an additional 10 to 15 foot temporary construction easement, which will allow the Contractor additional staging and laydown area, resulting in an increased production rate and lower installation costs.

  If a temporary easement cannot be obtained the existing 20-foot easement can be utilized. The existing easement limits the available staging area for materials and slows the production rate because work will need to be sequenced.

Advantages and disadvantages to each alternative are summarized below:

Alternative A:

- Does not require removal of existing 10-inch.
- More room on the south east side of the pipe staging of materials and spoils.
- Farther away from the existing 14-inch water and therefore, a lower risk of disturbing the existing 14-inch pipe to be protected in place.
- Without the temporary easement Alternative A is only 5-feet from the edge of the existing easement. The Contractor will not have access to the north west side of the pipe trench, this will require additional sequencing of material, resulting in a slower production rate.
- Excavating in undisturbed soil, may lead to less ripable soils and less favorable production rates.

Alternative B:

- Excavation in previously disturbed soil, can lead to more favorable production rates.
- Requires removal and disposal of the existing 10-inch steel pipe.
- Typically, concrete slope anchors are constructed for pipeline construction along steep grades. It is unknown based on record drawings if concrete slope anchors were constructed over the existing 10-inch. If they were the contractor would need to remove the existing concrete slope anchors.

5.5 PERMITTING

It is anticipated that permitting and coordination with the following agencies will be required:

- County of Orange.
- Regional Water Quality Control Board.
- California Department of Drinking Water.
- US Forest Service: Temporary construction easements will be required for Alternative 3, and the upper contractor staging area shown in Figures 4-3.1 and 5-1 (if the District elects to pursue this additional staging area).
- Environmental permits (a table of anticipated environmental requirements is given in Appendix C).

Continued permit coordination and development should continue in preliminary and final design.

5.6 CONSTRUCTION PHASING

Planning, sequencing, and phasing of construction activities will be critical to keep the Reservoir No. 1 in service during construction. In general, the following construction sequencing is recommended.

1. Site access road improvements: Tree and brush removal and pruning along the access road to accommodate construction vehicles.
2. Site preparation: clearing of the site and preparing the site for grading activities.
3. Construct piping modifications to Reservoir No. 1: Install altitude valve on inlet piping; remove pump and abandoned equipment.
4. Close valves and isolate Reservoir No. 2 from the system.
5. Demolish Reservoir No. 2 and appurtenances.
6. Construct temporary shoring/retaining walls and site grading.
7. Construct new tank, onsite piping, new 16-inch pipe to Live Oak Canyon Road, valving, drains, overflow, electrical, etc.
8. Construct the tank intertie connection and connect the new 16-inch pipeline to Live Oak Canyon Road to the existing 14-inch.
9. Disinfect and hydrotest new tank.
10. Fill tank and bring new reservoir online.
11. Complete final site grading, landscaping, and miscellaneous site work.

Further refinement of the construction sequencing and phasing should be undertaken during the preliminary and final design phases of this project.

5.7 CONSTRUCTION DURATION

Each alternative is anticipated to have a similar construction duration. The construction duration of this project is expected to require approximately 24 months with the following required durations:

1. Site preparation and clearing of access road – 1 month.
2. Reservoir No. 1 piping modifications – 2 months.
3. Demolition of Reservoir No. 2 – 2 months.
4. Reservoir construction, including grading operations, shoring, piping and appurtenances, and pipeline construction to Live Oak Canyon Road – 15 months.
5. Piping connections – 2 weeks.
6. Reservoir disinfection and testing – 2 weeks.
7. Final grading, site work, landscaping, and miscellaneous work – 2 months.

5.8 RESERVOIR TYPE

The reservoir types under consideration in this study are:

1. Circular pre-stressed (wire-wrapped) concrete reservoir per AWWA D110.
2. Welded steel reservoir per AWWA D100.

A welded steel reservoir is not feasible for Alternatives 2 and 3 because the conceptual final grading plan includes a partially buried tank. Steel tanks are typically are only buried if the loading can be distributed equally around the tank. In these alternatives the partially buried, north portion of the tank would have additional dead load on the tank wall. A welded steel reservoir is only feasible for Alternative 1. The structural/construction advantages and disadvantages of the two reservoir types are listed below:

Table 5 – Reservoir Type Advantages and Disadvantages		
	Prestressed Concrete Reservoir	**Steel Reservoir**
Construction Cost	Higher capital cost.	Lower capital cost.
Useful Life	75 to 100 years.	50 to 75 years.
Maintenance Cost	Lower maintenance cost.	Typically higher maintenance (re-painting tank outside; re-coating inside surfaces; and replacement of underside floor cathodic protection and interior anodes).
Water Quality	In an unmixed tank 9-inch to 12-inch thick walls provide enhanced insulation, keeping water cooler and a more consistent temperature within the tank.	In an unmixed tank thinner walls result in warmer water and dead zones near the top of the tank, leading to poor tank circulation and water quality issues.
Fire Resistance	Enhanced fire resistance.	More susceptible to fire damage.
Appurtenances	Tank connections are below grade through the reservoir floor slab. This leaves more useable space above the site for vehicle access around the tank.	Tank connections are above grade through the reservoir wall. This leaves less space for vehicle access round the tank.

6. CONSTRUCTION COST

Construction cost estimates were prepared for each of the four feasible alternatives and are presented in the table below.

Table 6 – Reservoir Alternative Cost Analysis

Alternative	Estimated Construction Cost
1A – 1.7 MG Steel Tank.	$4,500,000
1B – 1.7 MG Concrete Tank.	$5,100,000
2 – 2.0 MG Concrete Tank.	$7,100,000
3 – 2.7 MG Concrete Tank.	$7,900,000

The cost estimates above include a 30% contingency.

7. ALTERNATIVES ANALYSIS

The advantages and disadvantages of each of the three reservoir siting alternatives are presented below.

Table 7 – Alternative Analysis

Alternative	Advantages	Disadvantages	Construction Cost
1A/1B – 1.7 MG Steel or Concrete Tank (Material Analysis in Table 5)	1. Requires least amount of temporary grading/shoring. 2. More contractor work area is available at the site. 3. Largest feasible steel tank. 4. Temporary construction easements from USFS are not required.	1. Does not meet minimum storage requirement, additional storage at Saddleback Development is required.	$4,500,000 (Steel) $5,100,000 (Concrete)
2 – 2.0 MG Concrete Tank	1. Temporary construction easements from USFS are not required. 2. Requires less grading/shoring than Alternative 3.	1. Does not meet minimum storage requirement, additional storage at Saddleback Development is required. 2. Steel tank not feasible.	$7,100,000
3 – 2.7 MG Concrete Tank	1. Meets minimum storage requirement.	1. Requires temporary construction easement from USFS. 2. Requires the most amount of temporary grading and shoring. 3. Steel tank not feasible.	$7,900,000

8. CONCLUSION AND RECOMMENDATION

Based on the information presented herein Alternatives, 1, 2, and 3, are feasible reservoir siting alternatives. Alternative 4 is not recommended because construction of the rectangular tank will require the demolition of both existing reservoirs on the site, taking 2.42 MG of storage out of the District's system for the duration of construction. Additionally, the rectangular tank does not meet the District's storage requirements when additional volume is added to make up for both demolished tanks.

Alternatives 1, 2, and 3 each meet the District's WRES storage requirement, however Alternative 3 is the only one to meet the total storage required for the WRES and Saddleback Meadows development. Alternatives 1 and 2 both require additional storage within the District to meet the demands of the Saddleback Meadows development.

The District's preferred alternative is Alternative 3. Alternative 3 will maximize the storage at the Harris Grade site, so that additional storage does not need to be developed elsewhere within the District's service area. Alternative 3 consists of partially buried, AWWA D110, circular concrete tank, with 125-feet inside diameter. This alternative requires an easement from the US Forest Service, temporary shoring and extensive site grading for construction, and has an estimated construction cost of $7,900,000

Appendix A. Preliminary Geotechnical Exploration Report

PRELIMINARY GEOTECHNICAL EXPLORATION REPORT
TRABUCO CANYON WATER DISTRICT
HARRIS GRADE RESERVOIR REPLACEMENT
FEASIBILITY STUDY
18975 LIVE OAK CANYON ROAD
TRABUCO CANYON, ORANGE COUNTY, CALIFORNIA

Prepared for:

TETRA TECH, INC.

17885 Von Karman Avenue, Suite 500
Irvine, California 92614

Project No. 12753.001

June 18, 2020

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

June 18, 2020

Project No. 12753.001

Tetra Tech, Inc.
17885 Von Karman Avenue, Suite 500
Irvine, California 92614

Attention: Mr. Kyle Bohn, PE

Subject: Preliminary Geotechnical Exploration Report
Trabuco Canyon Water District
Harris Grade Reservoir Replacement Feasibility Study
18975 Live Oak Canyon Road
Trabuco Canyon, Orange County, California

In accordance with your request, Leighton Consulting, Inc. has performed a preliminary geotechnical exploration as your subconsultant for the Trabuco Canyon Water District (District) Harris Grade Reservoir Replacement Feasibility Study. This report is prepared in accordance with our revised proposal dated January 29, 2019, and information provided by you.

Earth materials encountered during the field exploration consisted mostly of bedrock of the Silverado Formation (clayey sandstone, sandstone and siltstone). At the southern portion of the site, Quaternary-aged alluvium/colluvium consisting of medium stiff clay and medium dense to dense clayey sand was encountered to a depth of 25 feet. Groundwater was not encountered in any of our borings drilled to a maximum depth of 41 feet below the existing grade.

Geotechnical aspects of the site that should be considered in the feasibility study include potential for seismically-induced landslides on the northerly and westerly slopes, the presence of undocumented fill and alluvium/colluvium at the southern portion of the site, and the potential presence of hard rock concretions within the bedrock if deep excavations are planned.

17781 Cowan ▪ Irvine, CA 92614-6009
949.250.1421 ▪ 949.250.1114 Fax

The proposed project is feasible from a geotechnical standpoint, provided the findings and preliminary recommendations presented in this report are considered in development of the project plan and preliminary design. Additional subsurface exploration and analysis may be required when a site plan is available to verify the geotechnical conditions throughout the site are generally consistent with the conditions encountered during our limited field exploration. This report presents the results of our field exploration, laboratory testing, and geotechnical analyses, and provides our preliminary recommendations for the proposed project.

Our professional services were performed in accordance with the prevailing standard of professional care as practiced by other geotechnical engineers in the area. We do not make any warranty, either expressed or implied. The report may not be used by others or for other projects without the expressed written consent of our client and our firm.

We appreciate the opportunity to work with you on this project. If you have any questions or if we can be of further service, please contact us at your convenience.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

Christian Delgadillo, PE, GE 3144
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Leighton

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Appendix A – Boring Logs
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1.0 INTRODUCTION

1.1 Site Location and Proposed Project

The Harris Grade Reservoir site is located in the unincorporated community of Trabuco Canyon in the foothills of the Santa Ana Mountains in eastern Orange County. The site location (latitude N33.6869° and longitude W117.6061°) and immediate vicinity is shown on Figure 1, *Site Location Map.*

The project site is occupied by a 2.0 million gallon (MG) steel reservoir built in 1981 and a 0.42 MG steel reservoir built in 1965. The site for the existing facility appears to have been partially cut down into the ridgelines on the northern and southwestern sides of the existing reservoirs.

The District plans to replace the 0.42 MG reservoir with a new 2.0 to 2.55 MG reservoir and upgrade the inlet/outlet pipe leading up the slope to the site in a northeasterly direction from Live Oak Canyon Road.

1.2 Purpose and Scope of Exploration

The purpose of our preliminary geotechnical exploration was to evaluate the subsurface conditions and general soil/bedrock characteristics at the project site in order to assist Tetra Tech in identifying project constraints and preparation of preliminary layouts of the new reservoir. The scope of this exploration included the following tasks:

- *Background Review* – A background review was performed of readily available, relevant geotechnical and geological literature pertinent to the site. References reviewed in preparation of this report are listed in Section 4.0.

- *Pre-Field Exploration Activities* – Exploration locations were coordinated with Tetra Tech and the District, and marked in the field. Underground Service Alert (USA) was then notified to locate and mark existing underground utilities prior to our subsurface exploration.

- *Field Exploration* – We advanced two hollow-stem auger borings (LB-1 and LB-2) to depths ranging from 33 to 41 feet below existing grade on May 7, 2020. Both borings were terminated due to auger refusal. The approximate boring locations are shown on Figure 2, *Boring Location Map*. The borings were geotechnically logged and sampled using Standard Penetration Test (SPT) and

California Ring samplers at selected intervals. The SPT and Ring samplers were driven with a 140-pound hammer, free falling 30 inches. The number of blows was noted for every 6 inches of sampler penetration. Relatively undisturbed samples were collected from the borings using the Ring sampler. The sampling procedures generally followed ASTM D 1586 for SPT and D 3550 for split-barrel ring sampling. In addition to driven samples, representative bulk soil samples were also collected from the borings. Each sample collected was described in general conformance with the Unified Soil Classification System (USCS). The samples were sealed, packaged, and transported to our laboratory for testing. The soil and bedrock descriptions and depths are noted on the boring logs included in Appendix A, *Boring Logs*.

- *Laboratory Tests* – Laboratory tests were performed on selected soil and bedrock samples obtained during our field investigation. The laboratory testing program was designed to evaluate the physical and engineering characteristics of the onsite soil and bedrock. Tests performed during this exploration include:

  - Moisture Content and Dry Density (ASTM D 2216 and ASTM D 2937);
  - Consolidation (ASTM D 2435);
  - Direct Shear (ASTM D 3080);
  - R-Value (California Test Method 301); and
  - Corrosivity Suite – pH, Sulfate, Chloride, and Resistivity (California Test Methods 417, 422, and 643).

  Results of moisture content and dry density testing are presented on the boring logs in Appendix A. Other laboratory test results are presented in Appendix B, Laboratory Test Results.

- *Engineering Analysis* - The data obtained from our background review, field exploration, and laboratory testing program were evaluated and analyzed to develop the preliminary recommendations presented in this report for the proposed project.

- *Report Preparation* - The results of the exploration are summarized in this report presenting our findings, conclusions and recommendations.

2.0 FINDINGS

2.1 Geologic Setting

Regionally, the subject property lies within the central northwesterly portion of the Peninsular Ranges Geomorphic Province of California, one of eleven distinctly separate areas designated within the general boundaries of California. The provinces are defined on the basis of similarities in their topographic, geomorphic, tectonic and other geologic characteristics. The Peninsular Ranges are composed of an uplifted, westerly-tilted structural block that is manifest in an alternating series of northwest-trending mountain ranges and intervening valleys. Locally, the subject site lies within an area of foothills that flank the southwestern margin of the Santa Ana Mountains.

While the Santa Ana Mountain range is underlain by cretaceous age batholithic and metasedimentary bedrock units, the foothills are underlain by a well-mapped sequence of marine to non-marine sedimentary geologic formations of Cenozoic age through Quaternary age.

Three major northwest-trending blocks are recognized within the province, which are separated by major active paralleling fault systems including the Whittier-Elsinore Fault Zone, Newport-Inglewood Fault Zone, and the San Jacinto and San Andreas Fault systems. While interior areas of the structural blocks contain numerous faults, including the nearby Cristianitos and Mission Viejo faults, they are not classified as active by the California Geologic Survey (Bryant and Hart, 2007).

2.2 Surficial Geology

The site is mapped to be underlain by sedimentary bedrock of the Tertiary age Silverado Formation (Morton and Miller, 2006; Schoellhamer et al., 1981). This formation is mapped as a narrow zone of bedrock at the site in fault contact to the north and south with Cretaceous-age bedrock units and other Tertiary-age bedrock units trending in a northwest-southeast direction consistent with the ridgeline located immediately south of the existing reservoirs. The inclination of the bedrock is steeply dipping (roughly 50 degrees from horizontal) and is reported to have been overturned due to local tectonic movement. An overview of regional geology of the area is presented on Figure 3, *Regional Geology Map.*

2.3 Subsurface Conditions

Geologic units encountered in the borings at this site consist of undocumented artificial fill, Quaternary-aged alluvium/colluvium and Tertiary age Silverado Formation bedrock, as described in the following sections. Variations in subsurface geologic materials should be considered. Care should be exercised in interpolating or extrapolating geologic conditions between or beyond borings as the bedrock and soils generated from weathering of the units can vary widely with respect to geotechnical properties.

Artificial Fill (Af): The fill encountered in our borings varied from approximately 1 to 6 feet in thickness, and consisted generally of grayish brown and olive brown clay and sandy clay. The fill material is assumed to have been placed during grading of the existing reservoir site and associated improvements. Localized deeper accumulations of fill associated with the development of the site should be anticipated.

Quaternary Alluvium/Colluvium (Qa/Qcol): Alluvium/colluvium was encountered in the southern portion of the site in boring LB-2 at approximately 6 feet deep below existing grade, and consisted of brown and olive brown, medium stiff clay and medium dense to dense clayey sand. The alluvium/colluvium extends to a depth of approximately 25 feet below existing grade at the location of boring LB-2.

Silverado Formation (Tsi): Bedrock of the Silverado Formation underlies the site at depths varying from 1 to 25 feet. The Silverado Formation consists of non-marine and marine basal conglomerate overlain by relatively thin sequence of sandstone and siltstone. As encountered in our borings, the Silverado Formation generally consisted of yellow brown, olive reddish brown and blue-gray, fine- to medium-grained sandstone, clayey sandstone, and siltstone. Minor conglomerate lenses and locally hard and cemented zones should be anticipated within the formation.

2.4 Groundwater

Groundwater was not encountered during our field exploration to a maximum depth of 41 feet. Since the project site is located in an area mapped to be underlain by sedimentary bedrock, there is no historic high groundwater level information available for the site (CGS, 2002a). Groundwater may exist at greater depths in more granular layers of bedrock or in fractures within the bedrock. Based on our

field exploration and our experience in the project vicinity, groundwater is not anticipated to adversely impact the proposed project.

Fluctuations of the groundwater level, localized zones of perched water, and an increase in soil moisture should be anticipated during and following the rainy seasons or periods of locally intense rainfall or storm water runoff.

2.5 Expansive Soil Characteristics

Based on our exploration, the near-surface onsite soils are variable and generally consist of sand, clayey sand and sandy clay. Expansion Index (EI) testing conducted on a representative bulk sample of the near-surface onsite soils from boring LB-2 (i.e. upper 5 feet below ground surface) yielded an EI of 32 (see Appendix B). The expansion potential of the near-surface onsite soils is considered to be low; however, variability in the expansion potential of the near-surface onsite soils should be anticipated.

2.6 Soil Corrosivity

In general, soil environments that are detrimental to concrete have high concentrations of soluble sulfates and/or pH values of less than 5.5. Soils with chloride content greater than 500 ppm per California Test 422 are considered corrosive to steel, either in the form of reinforcement protected by concrete cover or plain steel substructures, such as steel pipes. Additionally, soils with a minimum resistivity of less than 1,000 Ohm-cm are considered corrosive to ferrous metal (Caltrans, 2018). Corrosivity test results are included in Appendix B of this report and summarized in Table 1.

Table 1 – Summary of Corrosivity Test Results

Test Parameter	Test Results	General Classification of Hazard
Water-soluble sulfate content	49 to 53 ppm	Negligible sulfate exposure to buried concrete (per ACI 318-14)
Water-soluble chloride Content	40 to 110 ppm	Non-corrosive to buried concrete (per Caltrans Specifications)
pH	7.2 to 8.0	Neutral to moderately alkaline, relatively passive to buried metals
Minimum resistivity (in saturated condition)	1,260 to 1,498 Ohm-cm	Non-corrosive to buried ferrous pipes (per Caltrans Specifications)

Based on the laboratory test results, the near-surface (upper 5 feet) soils at the site exhibit “negligible” potential for sulfate attack on concrete, and have low corrosion potential to buried ferrous metal in direct contact with the soils.

2.7 Rippability

Bedrock of the Silverado Formation (Tsi) was encountered in borings LB-1 and LB-2 at depths of 1 and 25 feet, respectively. However, refusal of the 8-inch diameter hollow-stem auger was encountered in both borings LB-1 and LB-2 at depths of 41 and 33 feet, respectively.

The near-surface bedrock can generally be excavated using conventional heavy-duty earth moving equipment in good working order. Localized hard and cemented zones may also exist and should be expected. As such, excavation difficulties should be anticipated where deeper excavations are planned into the bedrock. These localized areas may require special ripping techniques such as jackhammers or other percussion device and may produce oversized material that will require processing if the material is to be used as general site fill for structural support.

2.8 Faulting and Seismicity

Our review of available in-house literature indicates that there are no known active or potentially active faults traversing the site and the site is not located within a State of California designated Alquist-Priolo Earthquake Fault Zone (Bryant and Hart, 2007). The principal seismic hazard that could affect the site is ground shaking resulting from an earthquake occurring along any one of several major active faults in the region. Known regional active faults that could produce significant ground shaking at the site include the Whittier-Elsinore, San Joaquin Hills Blind Thrust and Chino faults located approximately 7.1 miles, 8.5 miles and 9.7 miles, respectively, from the site. The San Andreas fault is the largest fault in the region and is located approximately 38 miles from the site. Major regional faults with surface expression in proximity to the site are shown on Figure 4, *Regional Fault Map*.

The intensity of ground shaking at a given location depends primarily upon the earthquake magnitude, the distance from the source, and the site response characteristics. Peak horizontal ground accelerations are generally used to evaluate the intensity of ground motion. Using the SEAOC/OSHPD Seismic

Design Maps Tool (https://seismicmaps.org/) to obtain seismic design parameter values from the United States Geological Survey (USGS), the peak ground acceleration for the Maximum Considered Earthquake (MCE_G) adjusted for the Site Class effects (PGA_M) is 0.61g. Based on the USGS online interactive deaggregation program (USGS, 2020a), the modal seismic event is Moment Magnitude (M_W) 6.5 at a distance of 13 miles.

2.9 Secondary Seismic Hazards

Secondary seismic hazards in the region could include soil liquefaction and associated surface manifestations, earthquake-induced landsliding and flooding, seiches, and tsunamis. The potential for these secondary seismic hazards at the site is discussed below.

Liquefaction Potential - Review of the Seismic Hazard Zone Map for the Santiago Peak 7.5 Minute Quadrangle (CGS, 2002b) indicate the subject site is not located within an area that has been identified by the State of California as being potentially susceptible to the occurrence of liquefaction (see Figure 5, *Seismic Hazard Map*). In addition, the presence of relatively shallow bedrock and lack of groundwater at the site also indicate that the liquefaction potential is very low.

Seismically-Induced Landslides - Review of the Seismic Hazard Zone Map for the Santiago Peak 7.5 Minute Quadrangle (CGS, 2002b) indicate that the western portion of subject site and the northerly ascending slope are located within an area that has been identified by the State of California as being potentially susceptible to the occurrence of seismically-induced landslides (see Figure 5). Therefore, the potential for seismically-induced landslides exists at the site and should be further evaluated once a site plan is developed for the project. Additional subsurface exploration and analysis may be required to evaluate slope stability and the potential for seismically-induced landslides.

Earthquake-Induced Flooding - Earthquake-induced flooding can be caused by failure of water-retaining structures as a result of earthquakes. According to the California Department of Water Resources Division of Safety of Dams (DSOD) Dam Breach Inundation Maps website (https://fmds.water.ca.gov/maps/damim/), the site is not located within an inundation area for dam failure. With regard to the subject site, the potential for earthquake-induced flooding depends on conditions and design of the existing reservoirs. The potential for earthquake-induced flooding

may exist if the existing reservoirs do not meet the current seismic design standards.

Seiches and Tsunamis - Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Under certain seismic conditions, a seiche could form within the newly constructed and existing reservoirs. The new reservoir should be designed to meet the current code for seismic requirements to reduce the potential for a seiche. Tsunamis are waves generated in large bodies of water by fault displacement or major ground movement. Based on the inland hilltop location of the site, tsunami risks at the site are not a consideration.

3.0 PRELIMINARY RECOMMENDATIONS

Based on our study, the proposed project is feasible from a geotechnical standpoint. Presented below are the preliminary geotechnical recommendations for the project. Additional subsurface exploration and analysis may be required once a site plan is developed and the recommendations may need to be revised and/or amended.

3.1 Site Grading

The northern portion of the site by boring LB-1 is underlain by a thin layer of fill and bedrock. If the new reservoir is located in this area and the finish pad elevation is at or close to the existing elevation, minor grading is required for site preparation and the reservoir foundation is expected to be supported entirely on bedrock. Shallow fill or alluvium/colluvium, if exposed within the reservoir footprint, may be removed and replaced with two sack sand/cement slurry or the foundation may be partially deepened to bedrock. Localized hard concretion of the bedrock may be encountered if deep excavations are planned. Depending on the footprint and layout of the new reservoir, a retaining wall may be needed at the toe of the ascending slope to the north and the reservoir may encroach into the landslide susceptibility zone. Moving the reservoir to the east is favorable from a slope stability standpoint but it would require placement of roughly 10 to 20 feet of fill to achieve the pad grade of the existing reservoirs.

Placing the new reservoir on the southern portion of the site would require cuts on the order of 10 to 20 feet into the existing ascending ridgeline that is located to the south. It would also require removal and recompaction of the existing fill and unsuitable alluvium/colluvium. The depth of removal is expected to be 5 to 10 feet below the existing grade.

The onsite soils are suitable for use as compacted structural fill provided that they are free of organic material, construction debris, and oversized materials larger than 6 inches. Imported fill soil, if any, should be noncorrosive with Expansion Index less than 50 and be approved by the geotechnical engineer prior to placement as fill. Fill soils should be placed in loose lifts not exceeding 8 inches, moisture-conditioned to at least 2 to 4 percentage points above optimum moisture content, and compacted to a minimum of 90 percent of the maximum dry density as determined by ASTM D 1557.

3.2 Foundation Design Parameters

The proposed reservoir may be supported on a mat foundation system bearing on either undisturbed, competent bedrock or compacted fill. Appurtenant structures such as office/equipment building may be supported on a conventional shallow foundation system such as spread footings bearing on undisturbed, competent bedrock or compacted fill.

Mat Foundation – Mat foundation bearing on undisturbed, competent bedrock or properly compacted structural fill may be designed using a maximum allowable bearing capacity 3,000 psf and a modulus of subgrade reaction of 150 pounds per cubic inch (pci). Total and differential settlements of the mat foundation due to the static loads are expected to be on the order of 1 inch and ½ over a distance of 30 feet, respectively. The bearing capacity may be increased by one-third for wind or seismic loading. The mat foundation should have a thickened edge of at least 12 inches below the lowest adjacent grade.

Conventional Shallow Foundation – Conventional shallow foundations may be used to support the loads of other proposed structures. Footings should have a minimum embedment depth of 12 inches and a minimum width of 12 inches. An allowable bearing pressure of 2,200 psf may be used based on the minimum embedment depth and width. The allowable bearing value may be increased by 300 psf per foot increase in depth or width to a maximum allowable bearing pressure of 3,000 psf. The allowable bearing pressures are for the total dead load and frequently applied live loads and may be increased by one third when considering loads of short duration, such as those imposed by wind and seismic forces. The allowable bearing pressures are net values; the weight of the footing may be neglected for design purposes. All continuous footings should be reinforced with top and bottom steel to provide structural continuity and to permit spanning of local irregularities.

The recommended allowable bearing capacity for shallow footings is generally based on a total allowable static settlement of 1 inch. Since settlement is a function of footing size and contact bearing pressure, differential settlement can be expected between adjacent columns or walls where a large differential loading condition exists. The differential settlement Is expected to be less than approximately ½ inch, assuming no more than 50 percent variation in dead plus sustained live load between adjacent columns.

Lateral Load Resistance – Resistance to lateral loads will be provided by a combination of friction between the soils and foundation interface and passive pressure acting against the vertical portion of the foundation. A friction coefficient of 0.35 may be used at the soil-concrete interface for calculating the sliding resistance. A passive pressure based on an equivalent fluid pressure of 390 pounds per cubic foot (pcf) may be used for calculating the lateral passive resistance. The lateral passive resistance can be taken into account only if it is ensured that the soils against embedded structures will remain intact with time. The above values do not contain an appreciable factor of safety, so the structural engineer should apply the applicable factors of safety and/or load factors during design.

3.3 Slab-On-Grade

Concrete slabs-on-grade subjected to special loads should be designed by the structural engineer. Where conventional light floor loading conditions exist, the following minimum recommendations for conventional slabs-on-grade should be used. More stringent requirements may be required by local agencies, the structural engineer, the architect, or the CBC.

- A minimum slab thickness of 5 inches. Slab reinforcement should be designed by the structural engineer but as a minimum should consist of No. 3 rebar placed at 24 inches on center in each direction and provided with adequate concrete cover.

- A vapor barrier, 10-mil or thicker, should be placed below slabs where moisture-sensitive floor coverings or equipment is planned. The vapor barrier should be properly sealed at all joints and any penetrations.

- To reduce the potential for excessive cracking, concrete slabs-on-grade should be provided with construction or weakened plane joints at frequent intervals. Joints should be laid out to form approximately square panels.

- The subgrade soil should be wetted prior to placing the vapor barrier, steel, or concrete.

Our experience indicates that use of reinforcement in slabs can generally reduce the potential for drying and shrinkage cracking. Some cracking should be expected as the concrete cures. Minor cracking is considered normal; however, it is often aggravated by a high water/cement ratio, high concrete temperature at the

time of placement, small nominal aggregate size, and rapid moisture loss due to hot, dry, and/or windy weather conditions during placement and curing. Cracking due to temperature and moisture fluctuations can also be expected. The use of low slump concrete can reduce the potential for shrinkage cracking.

3.4 Lateral Earth Pressures

Retaining walls may be backfilled with onsite or imported non-expansive soils. The following lateral earth pressures may be used for the design of retaining walls with a level backfill.

Table 2 – Equivalent Fluid Pressure

Condition	Level Backfill
Active	37 pcf
At-Rest	57 pcf
Passive	390 pcf (Maximum of 3,900 psf)

Walls retaining bedrock may be designed using active lateral earth pressures of 29 pcf and 38 pcf for level and 2:1 (horizontal:vertical) slope, respectively.

Walls retaining more than 6 feet of soil should consider a seismic earth pressure increment with an inverted triangular distribution of 22 psf/foot in addition to the active earth pressure provided above. The above values do not contain an appreciable factor of safety, so the structural engineer should apply the applicable factors of safety and/or load factors during design.

Cantilever walls that are designed to yield at least 0.001H, where H is equal to the wall height, may be designed using the active condition. Rigid walls and walls braced at the top should be designed using the at-rest condition.

In addition to the above lateral forces due to retained earth, surcharge due to improvements, such as an adjacent structure or traffic loading, should be considered in the design of the retaining wall.

Lateral earth pressure design parameters recommended above are based upon drained conditions. Design and construction of the walls will, therefore, require some form of permanent subsurface drainage system behind the wall. If no drainage is provided, hydrostatic pressure should be considered in the wall design.

3.5 Seismic Design Parameters

Design parameters for minimum seismic load based on the 2019 California Building Code are included in Table 3 below.

Table 3 - 2019 CBC Based Seismic Design Parameters (Mapped Values)

Categorization/Coefficient	Design Value
Site Latitude	33.6869°
Site Longitude	-117.6061°
Site Class	C
Mapped Spectral Response Acceleration at Short Period (0.2 sec), S_S	1.424g
Mapped Spectral Response Acceleration at Long Period (1 sec), S_1	0.501g
Short Period (0.2 sec) Site Coefficient, F_a	1.2
Long Period (1 sec) Site Coefficient, F_v	1.499
Adjusted Spectral Response Acceleration at Short Period (0.2 sec), S_{MS}	1.708g
Adjusted Spectral Response Acceleration at Long Period (1 sec), S_{M1}	0.751g
Design Spectral Response Acceleration at Short Period (0.2 sec), S_{DS}	1.139g
Design Spectral Response Acceleration at Long Period (1 sec), S_{D1}	0.501g
Mapped Geometric Mean MCE_G Peak Ground Acceleration, PGA	0.509g
Site Coefficient, F_{PGA}	1.2
PGA adjusted for Site Class, $PGA_M = F_{PGA}$ *PGA	0.611g

3.6 Pavement Design

New pavements for the subject project may be constructed using conventional asphalt concrete (AC) over aggregate base (AB). We have designed the pavement sections using a design R-value of 10 for different Traffic Indices (TI) and the minimum pavement thickness is presented in Table 4 below. The pavement design was performed using the method in the *Caltrans Highway Design Manual*.

Table 4 - Pavement Sections

Traffic Index	Flexible Pavement (inches)	
	AC	AB
5 or less	4	7
6	4½	10½
7	5	12½

Concrete pavement, if used, may consist of 6 inches of Portland Cement Concrete (PCC) over 6 inches of AB. Because concrete will crack, the PCC pavement sections should be provided with crack-control joints spaced no more than 10 feet on-center each way, to control where cracks develop. As a minimum, we suggest concrete pavement be reinforced using No. 3 rebar, 18 inches on center in both directions, placed at mid-thickness. Concrete reinforcement should be designed by the structural engineer for appropriate loading conditions.

3.7 Cement Type and Corrosion

Based on the results of laboratory testing, concrete structures in contact with the onsite soil are expected to have negligible exposure to water-soluble sulfates in the soil. Common Type II cement may be used for concrete construction onsite and the concrete should be designed in accordance with CBC requirements. However, Type V cement should be used for concrete expected to be in contact with recycled water.

Based on our laboratory testing, the onsite soils are not considered corrosive to ferrous metals.

3.8 Surface Drainage

Ponding of water adjacent to structures should be avoided. During and after construction, positive drainage should be provided to direct surface water away from structures towards suitable, non-erosive drainage devices. Drainage of surface water away from the proposed structures should be provided by adequate slopes to all graded and paved surfaces. Where good surface drainage is not possible, subdrains should be provided, such as within planter areas to prevent accumulation of water within the upper soils.

3.9 Future Geotechnical Investigation

Findings and recommendations presented in this report are preliminary based on the information gained from our limited field exploration and review of available documents as well as our understanding of the current project plan. The nature of many sites is such that differing geotechnical or geological conditions can occur within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. A supplemental geotechnical investigation may be necessary during future phase of the project to develop

additional recommendations and update the preliminary recommendations in this report based on the actual soil condition and any modification of the current plans.

Future field exploration may consist of exploratory borings to verify the geotechnical conditions throughout the site are generally consistent with the conditions encountered during our limited field exploration. The borings may include a bucket auger boring downhole logged by a Certified Engineering Geologist to further evaluate slope stability and the potential for seismically-induced landslides. California Ring and Standard Penetration Test (SPT) samples should be obtained at selected depth intervals within the borings. Laboratory testing should be performed on the collected soil samples to determine the in-place moisture and density, consolidation and strength characteristics, corrosion potential, and R-value for pavement design. Site-specific recommendations for design and construction of the proposed project should be developed based on geotechnical analyses of the borings and laboratory test results.

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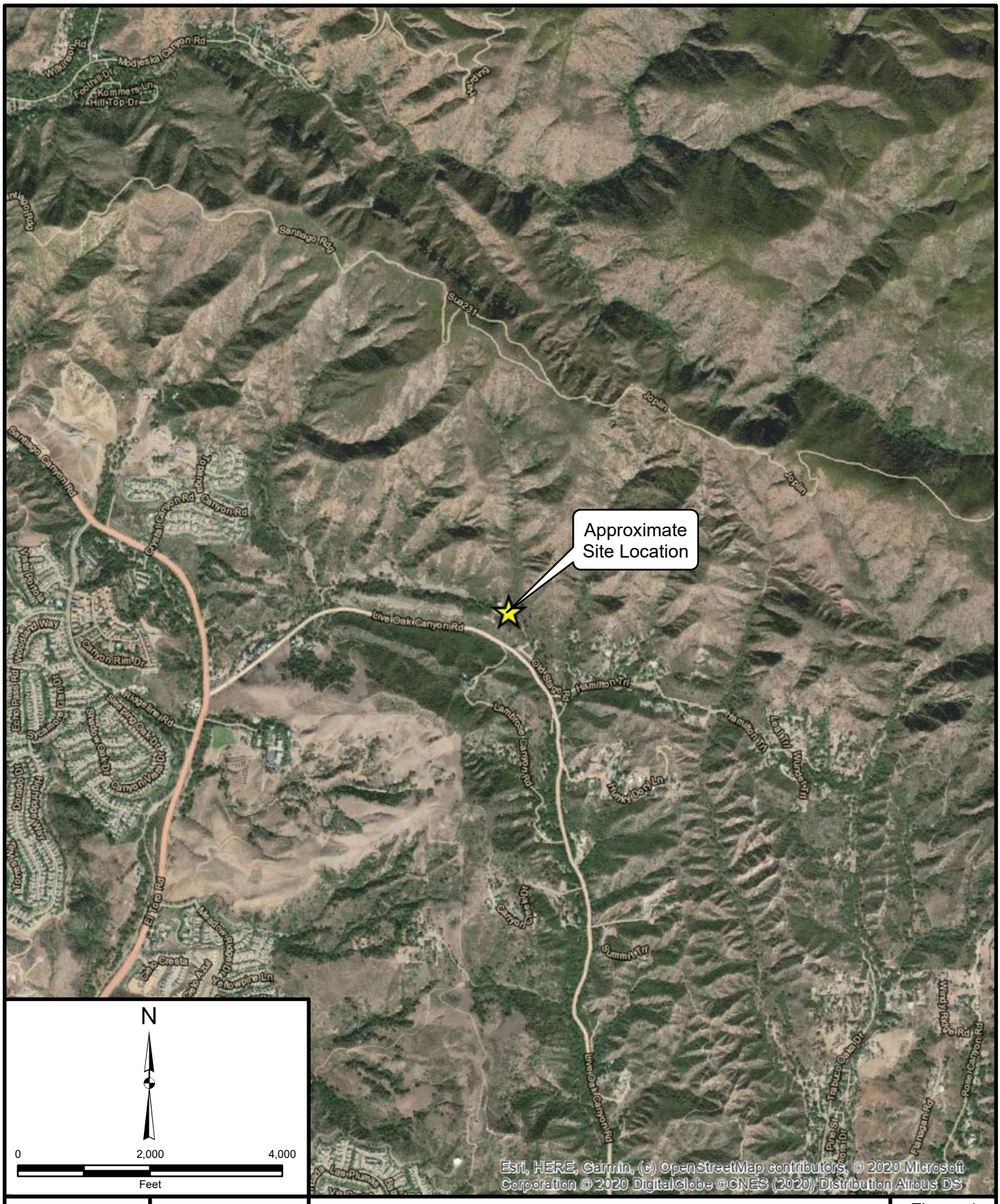

Project: 12753.001	Eng/Geol: DJC/JMP
Scale:1 " = 2,000 '	Date: June 2020

Base Map: ESRI ArcGIS Online 2020
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE LOCATION MAP

Harris Grade Reservoir Replacement
18975 Live Oak Canyon Road
Trabuco Canyon, California

Figure 1

Leighton

Map Saved as V:\Drafting\12753\001\Maps\2753-001_F01-SLM_2020-06-10.mxd on 6/9/2020 4:45:27 PM

Legend

Approximate location of hollow-stem auger boring showing total depth in feet below existing ground surface and groundwater (GW) conditions at the time of drilling (Leighton, 2020)

Project: 12753.001	Eng/Geol: DJC/JMP
Scale: 1 " = 50 '	Date: June 2020

Base Map: ESRI ArcGIS Online 2020
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

BORING LOCATION MAP

Harris Grade Reservoir Replacement
18975 Live Oak Canyon Road
Trabuco Canyon, California

Figure 2

Leighton

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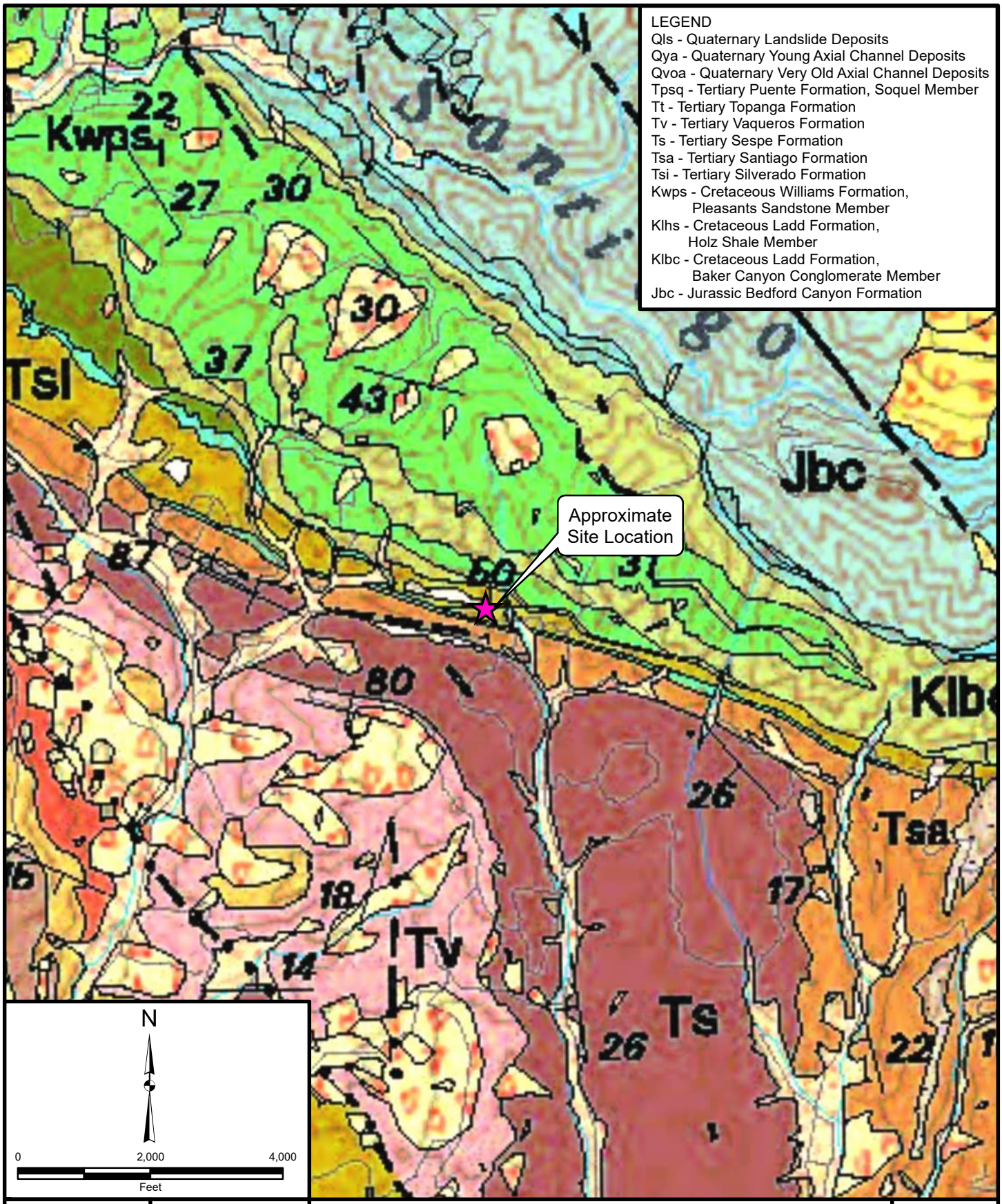

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Scale:1 " = 2,000 '	Date: June 2020

Base Map: Geologic Map of The San Bernardino and Santa Ana Quadrangles, California.
Compiled by Douglas M. Morton and Fred K. Miller
Thematic Information: Leighton, USGS
Author: Leighton Geomatics (btran)

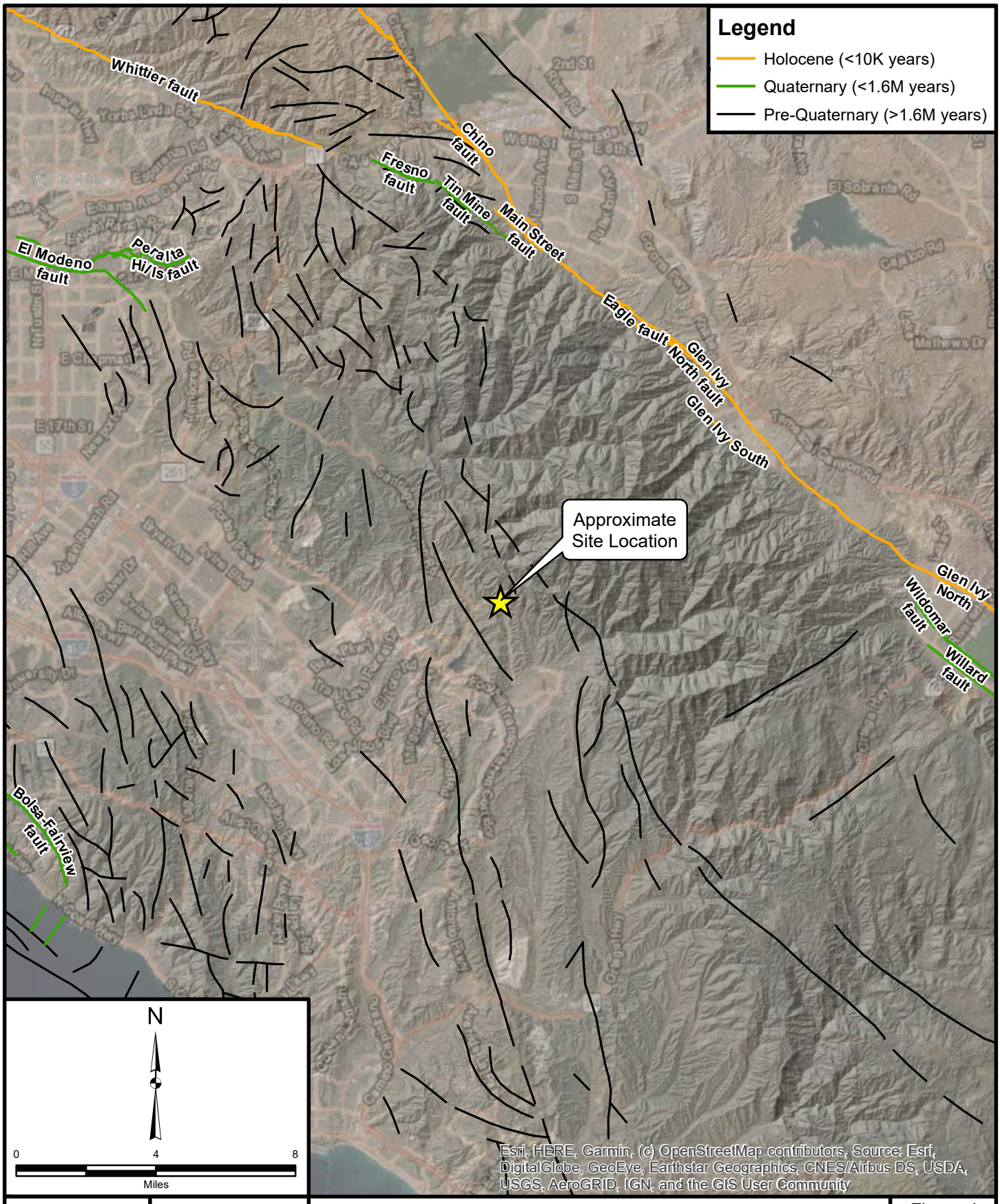
REGIONAL GEOLOGY MAP

Harris Grade Reservoir Replacement
18975 Live Oak Canyon Road
Trabuco Canyon, California

Figure 3

Leighton

Map Saved as V:\Drafting\12753\001\Maps\12753-001_F03-RGM_2020-06-15.mxd on 6/11/2020 3:36:01 PM



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Scale:1 " = 4 miles	Date: June 2020

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Thematic Information: Leighton, Bryant, W. A. (compiler), 2005, Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0: CGS
Author: Leighton Geomatics (btran)

REGIONAL FAULT MAP

Harris Grade Reservoir Replacement
18975 Live Oak Canyon Road
Trabuco Canyon, California

Figure 4

Leighton

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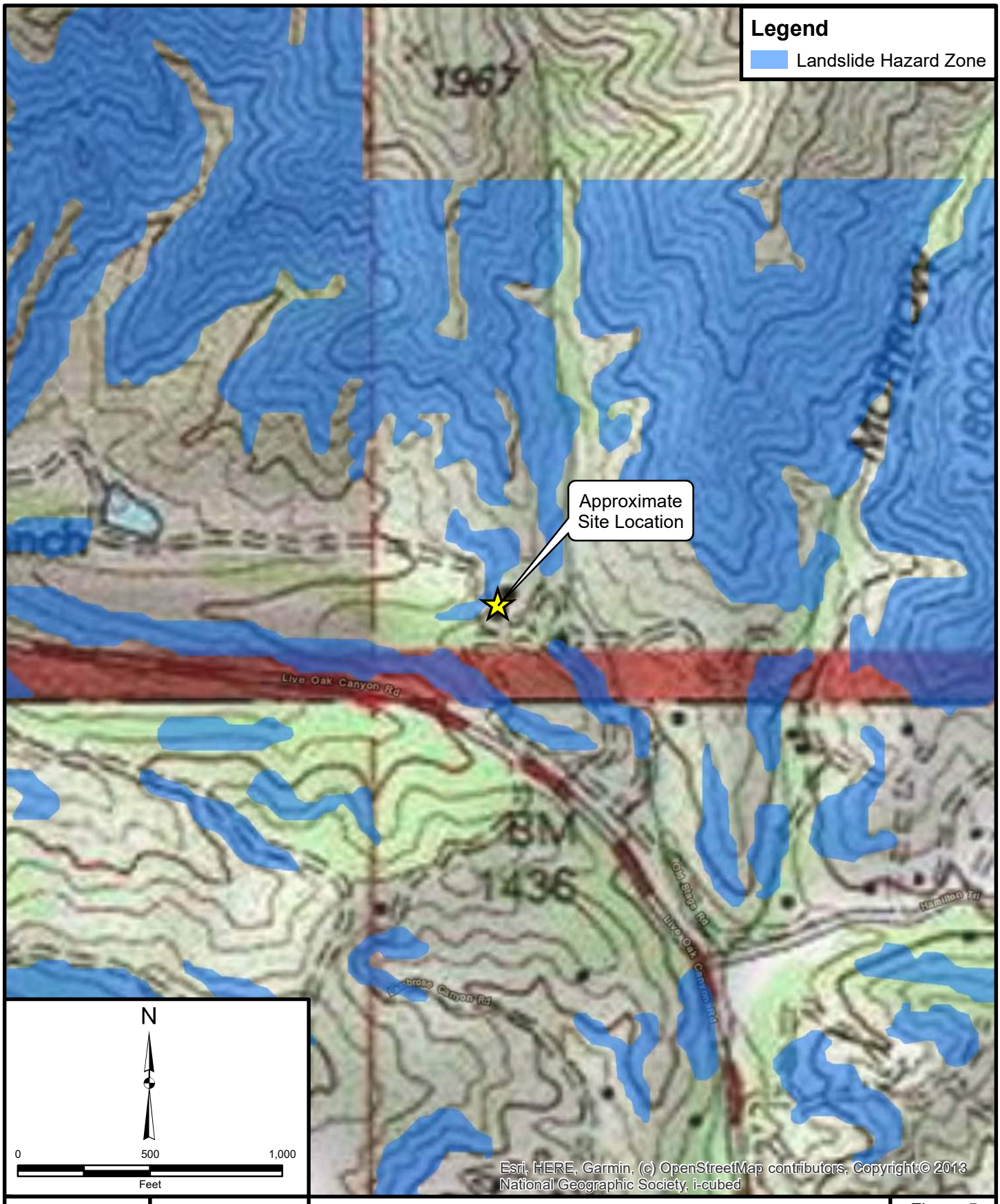

Project: 12753.001	Eng/Geol: DJC/JMP
Scale:1 " = 500 '	Date: June 2020

Base Map: ESRI ArcGIS Online 2020
Thematic Information: Leighton, CGS
Author: Leighton Geomatics (btran)

SEISMIC HAZARD MAP

Harris Grade Reservoir Replacement
18975 Live Oak Canyon Road
Trabuco Canyon, California

Figure 5

Leighton

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APPENDIX A

BORING LOGS

Leighton

GEOTECHNICAL BORING LOG LB-1

Project No.	12753.001	**Date Drilled**	5-7-20
Project	Harris Grade Reservoir Replacement	**Logged By**	JMP
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Figure 2- Boring Location Map	**Sampled By**	JMP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1				ML/CL	**Artificial Fill (Af):** @0': Sandy SILT to Lean CLAY; orange brown to gray brown; moist; fine to medium sand.	CR
									Tertiary Silverado Formation (Tsi):	
				R1	27 50/5"	122	13		@2.5': Clayey SANDSTONE; hard; yellow brown; moist; fine to medium sand; moderately cemented; micaceous.	
	5			R2	50/6"	121	10		@5': Clayey SANDSTONE; hard; yellow brown; moist; fine to medium sand; micaceous; moderately cemented.	
				R3	18 38 50/5"	127	9		@7.5': Clayey SANDSTONE; hard; yellow brown to olive; moist; fine to medium sand; moderately cemented.	
	10			S1	17 30 42				@10': Clayey SANDSTONE; hard; yellow brown to olive; moist; fine to medium sand; moderately cemented.	
	15			R4	50/4"				@15': SANDSTONE; hard; light yellow brown; slightly moist; fine to medium sand; moderately cemented.	
	20			S2	12 18 40				@20': SILTSTONE; hard; olive brown to blue gray; slightly moist.	
	25			R5	50/6"				@25': SANDSTONE; hard; light yellow brown to orange brown; slightly moist; fine to coarse sand; oxidized; moderately cemented.	
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-1

Project No.	12753.001	**Date Drilled**	5-7-20
Project	Harris Grade Reservoir Replacement	**Logged By**	JMP
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Figure 2- Boring Location Map	**Sampled By**	JMP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			S3	24 28 38				@30': SANDSTONE; hard; reddish brown; slightly moist; fine to medium sand.	
	35			S4	20 50/3"				@35': SANDSTONE; hard; reddish brown; slightly moist; fine to medium sand.	
	40			S5	50/6"				@40': SANDSTONE; hard; blue gray; slightly moist; fine to medium sand; unoxidized. @41': Refusal, very difficult drilling.	
	45								**Total Depth: 41 feet** **No groundwater encountered.** **Backfilled with cuttings.**	
	50									
	55									
	60									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-2

Project No.	12753.001	**Date Drilled**	5-7-20
Project	Harris Grade Reservoir Replacement	**Logged By**	JMP
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Figure 2- Boring Location Map	**Sampled By**	JMP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1				CL	**Artificial Fill (Af):**	EI, RV, CR
				R1	4 4 5	107	13		@2.5': Sandy CLAY; medium stiff; mottled medium brown and dark brown; very moist; fine to medium sand.	
	5			R2	4 5 6	115	14		@5': Lean CLAY; medium stiff; mottled olive brown and dark brown; very moist; fine to medium sand.	DS
									Colluvium/Alluvium (Qcol//Qal): @6': Lean CLAY; medium stiff; dark brown; very moist; trace sand.	
				R3	3 6 10	115	17		@7.5': Stiff; dark olive brown; very moist; trace sand.	CN
	10			R4	10 18 30	122	12	SC	@10': Clayey SAND; dense; dark brown; moist; fine sand.	
	15			S1	4 5 6				@15': Clayey SAND; medium dense; medium brown; moist; fine to medium sand.	
	20			R5	7 12 12	115	11	SC-SM	@20': Silty Clayey SAND; medium dense; medium brown with pockets of light brown; moist; fine to medium sand.	
	25			S2	8 12 14				**Tertiary Silverado Formation (Tsi):** @25': SILTSTONE; moderately hard; olive yellow brown; moist; moderately weathered.	
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
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- R RING SAMPLE
- S SPLIT SPOON SAMPLE
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TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
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- DS DIRECT SHEAR
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- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-2

Project No.	12753.001	**Date Drilled**	5-7-20
Project	Harris Grade Reservoir Replacement	**Logged By**	JMP
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Figure 2- Boring Location Map	**Sampled By**	JMP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R6	50/6"				@30': SANDSTONE; hard; light yellow brown with orange oxidation; slightly moist; fine to medium sand; moderately cemented.	
				S3	24 50/6"				@32': SANDSTONE; hard; light yellow to light olive; slightly moist; fine to medium sand; moderately cemented. Very difficult drilling. Auger refusal. Stopped drilling and drove SPT sampler.	
	35								**Total Depth: 33 feet** **No groundwater encountered.** **Backfilled with cuttings.**	
	40									
	45									
	50									
	55									
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

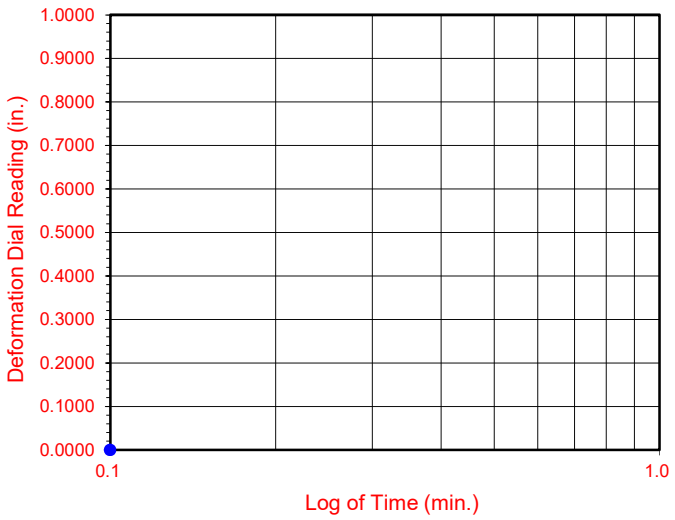
*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

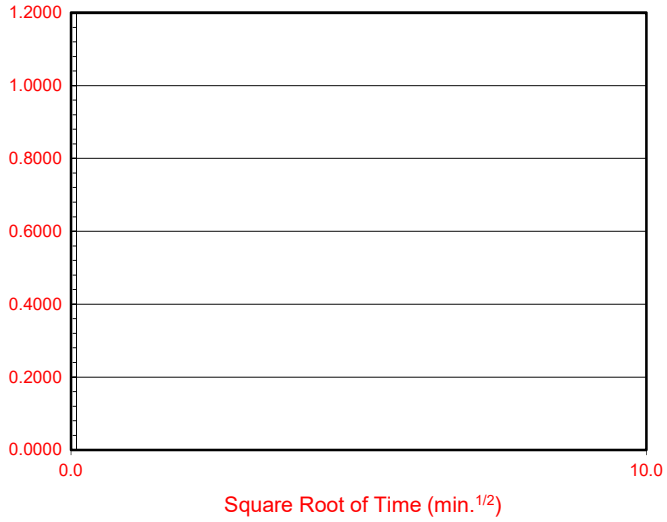
APPENDIX B

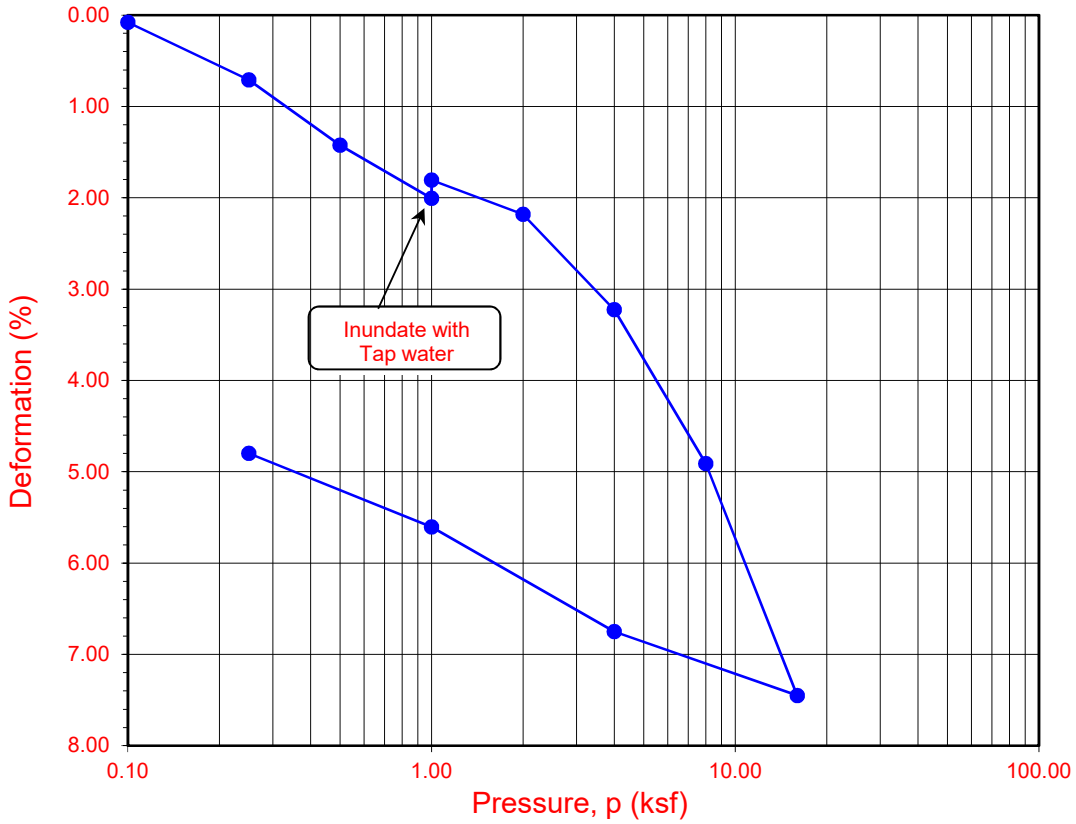
LABORATORY TEST RESULTS

Leighton

Time Readings







Boring No.	Sample No.	Depth (ft.)	Moisture Content (%)		Dry Density (pcf)		Void Ratio		Degree of Saturation (%)	
			Initial	Final	Initial	Final	Initial	Final	Initial	Final
LB-2	**R3**	**7.5**	**16.9**	**15.5**	**115.0**	**120.8**	**0.465**	**0.395**	**98**	**106**

Soil Identification: Dark olive brown lean clay (CL)

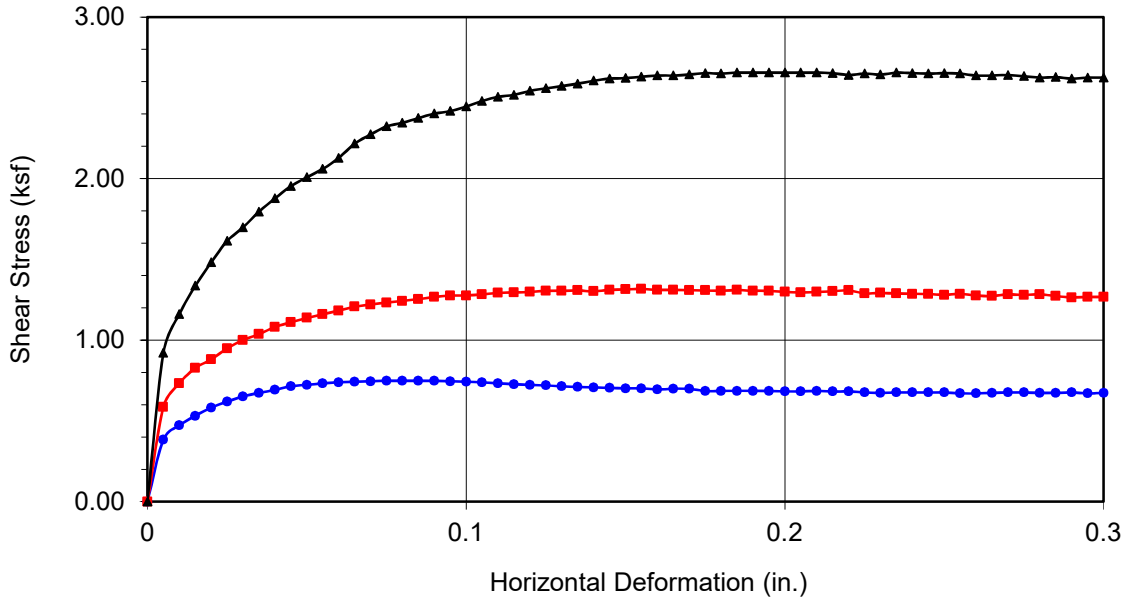
Leighton

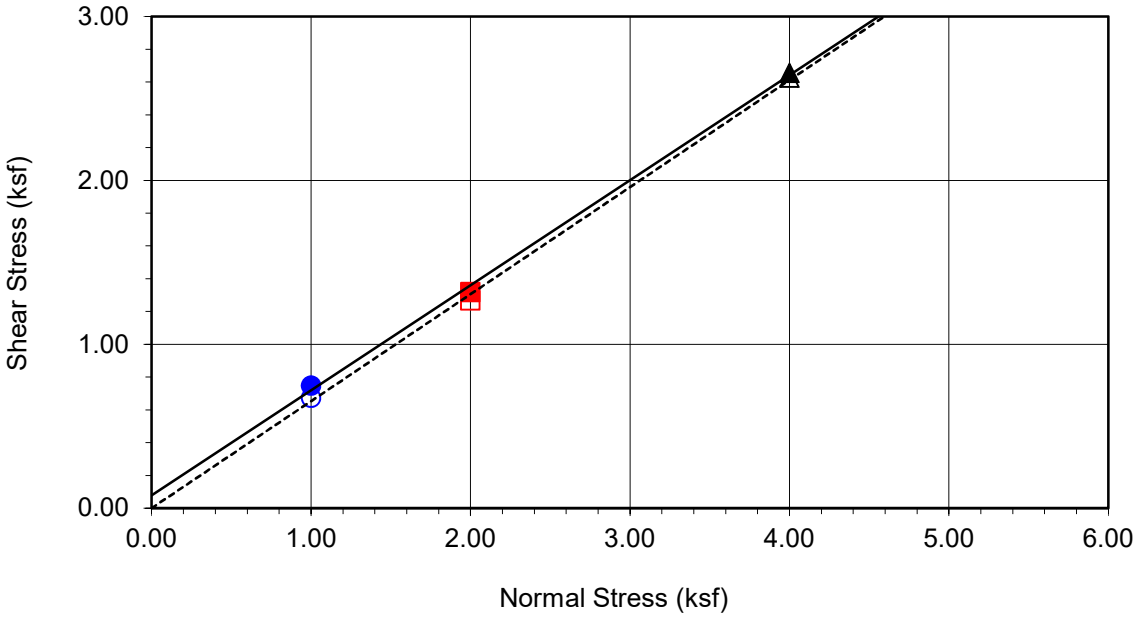
ONE-DIMENSIONAL CONSOLIDATION PROPERTIES of SOILS
ASTM D 2435

Project No.: 12753.001

Harris Grade Reservoir Replacement

05-20





Boring No.	**LB-2**
Sample No.	**R2**
Depth (ft)	**5**
Sample Type:	Ring
Soil Identification:	Olive brown lean clay (CL)

Strength Parameters

	C (psf)	ϕ (°)
Peak	78	33
Ultimate	0	33

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.748	■ 1.317	▲ 2.656
Shear Stress @ End of Test (ksf)	○ 0.673	□ 1.267	△ 2.625
Deformation Rate (in./min.)	0.0017	0.0017	0.0017
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	13.92	13.92	13.92
Dry Density (pcf)	113.9	114.3	116.4
Saturation (%)	78.4	79.2	83.9
Soil Height Before Shearing (in.)	0.9870	0.9735	0.9510
Final Moisture Content (%)	16.0	15.3	14.2

Leighton

DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 12753.001

Harris Grade Reservoir Replacement

05-20

EXPANSION INDEX of SOILS

ASTM D 4829

Leighton

Project Name:	Harris Grade Reservoir Replacement	Tested By:	S. Felter	Date:	05/12/20
Project No.:	12753.001	Checked By:	A. Santos	Date:	05/26/20
Boring No.:	LB-2	Depth (ft.):	0-5		
Sample No.:	B1				
Soil Identification:	Dark brown lean clay with sand (CL)s				

Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0310
Wt. Comp. Soil + Mold (g)	600.20	432.70
Wt. of Mold (g)	201.80	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	787.90	634.50
Dry Wt. of Soil + Cont. (g)	713.10	562.35
Wt. of Container (g)	0.00	201.80
Moisture Content (%)	10.49	20.01
Wet Density (pcf)	120.2	126.6
Dry Density (pcf)	108.8	105.5
Void Ratio	0.550	0.598
Total Porosity	0.355	0.374
Pore Volume (cc)	73.4	79.9
Degree of Saturation (%) [S_{meas}]	**51.5**	90.3

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
05/12/20	9:50	1.0	0	0.6240
05/12/20	10:00	1.0	10	0.6230
Add Distilled Water to the Specimen				
05/12/20	10:15	1.0	15	0.6380
05/13/20	6:50	1.0	1250	0.6550
05/13/20	8:00	1.0	1320	0.6550

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**32**

Leighton

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Harris Grade Reservoir Replacement		Tested By :	A. Lopez	Date: 05/14/20
Project No. :	12753.001		Checked By:	A. Santos	Date: 05/26/20
Boring No.:	LB-1		Depth (ft.) :	0-5	
Sample No. :	B1				

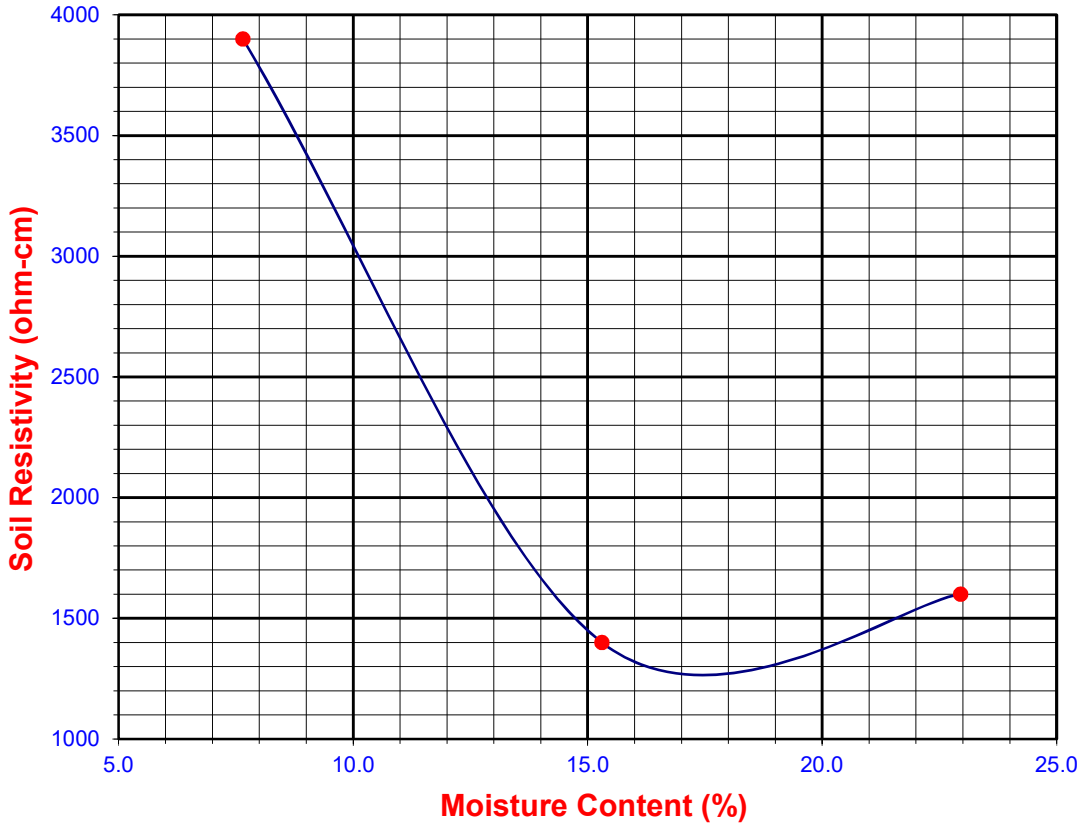
Soil Identification:* Yellowish brown (CL-ML)s

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	10	7.65	3900	3900
2	20	15.30	1400	1400
3	30	22.95	1600	1600
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.70
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
1260	**17.5**	**49**	**40**	**7.98**	**20.6**



Leighton

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Harris Grade Reservoir Replacement		Tested By :	A. Lopez	Date: 05/14/20
Project No. :	12753.001		Checked By:	A. Santos	Date: 05/26/20
Boring No.:	LB-2		Depth (ft.) :	0-5	
Sample No. :	B1				

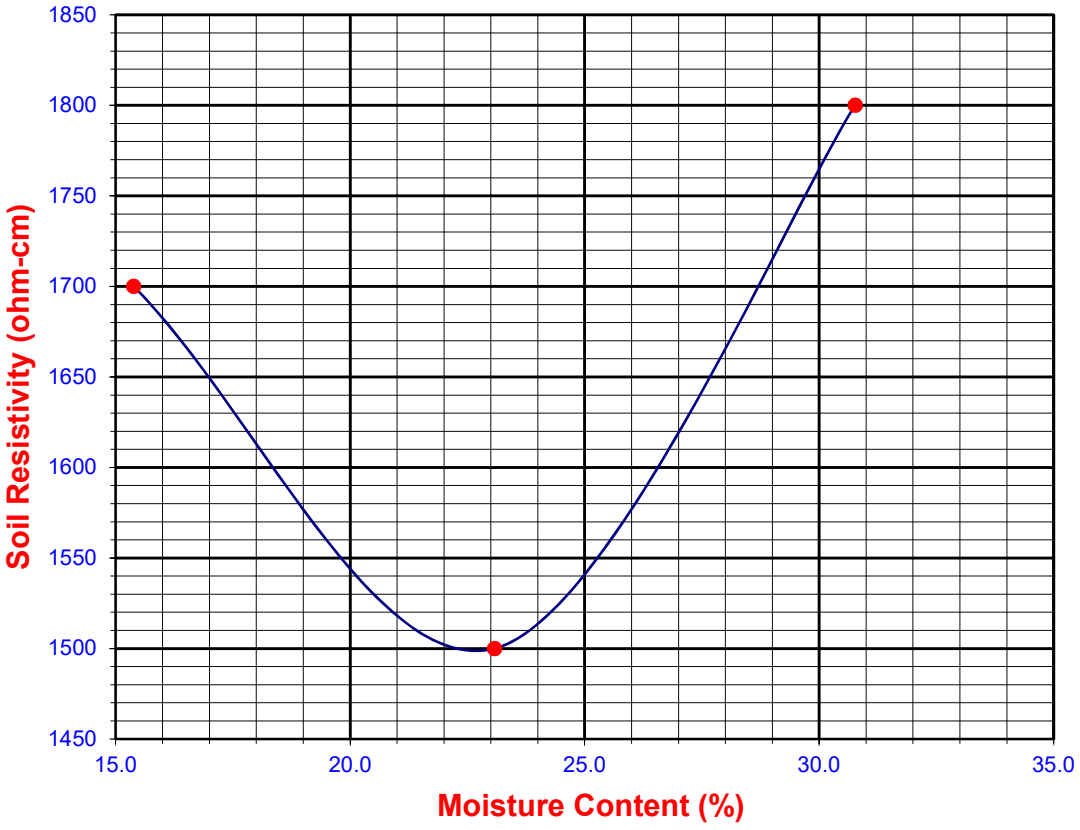
Soil Identification:* Dark brown (CL)s

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	15.38	1700	1700
2	30	23.08	1500	1500
3	40	30.77	1800	1800
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
1498	**22.7**	**53**	**110**	**7.24**	**21.0**



Leighton

R-VALUE TEST RESULTS

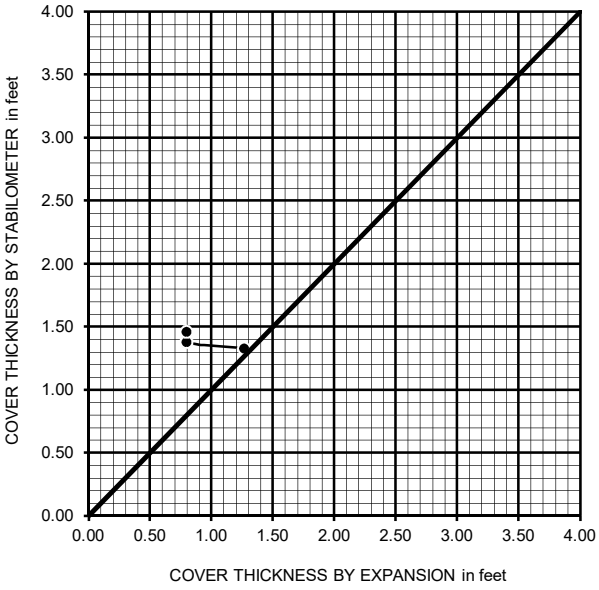
DOT CA Test 301

PROJECT NAME:	Harris Grade Reservoir Replacement	PROJECT NUMBER:	12753.001
LOCATION:	LB-2	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O.Figueroa
SAMPLE DESCRIPTION:	Dark brown lean clay with sand (CL)s	DATE COMPLETED:	5/15/2020

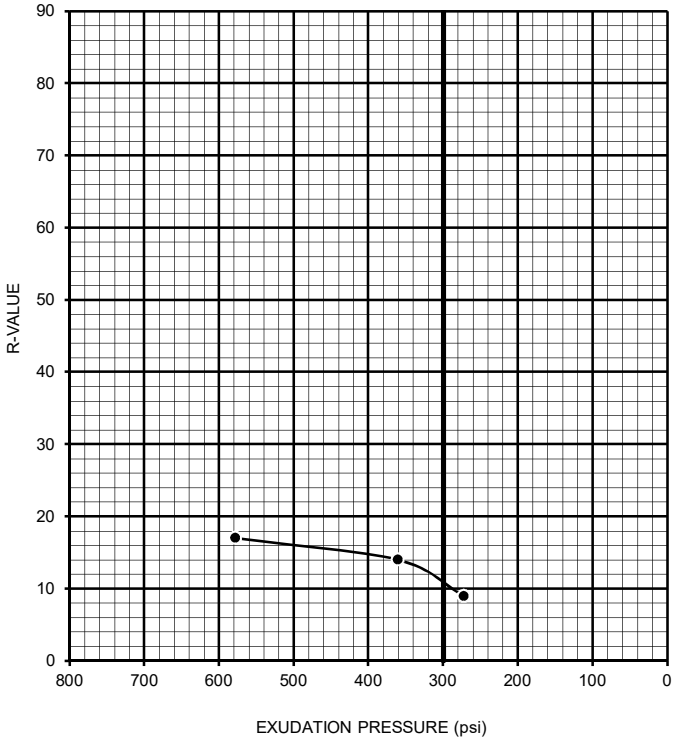
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	14.5	14.7	15.6
HEIGHT OF SAMPLE, Inches	2.42	2.59	2.57
DRY DENSITY, pcf	117.7	115.3	113.7
COMPACTOR PRESSURE, psi	75	50	50
EXUDATION PRESSURE, psi	579	361	273
EXPANSION, Inches x 10exp-4	38	24	24
STABILITY Ph 2,000 lbs (160 psi)	120	130	137
TURNS DISPLACEMENT	3.76	3.95	4.18
R-VALUE UNCORRECTED	18	13	9
R-VALUE CORRECTED	17	14	9

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	1.33	1.38	1.46
EXPANSION PRESSURE THICKNESS, ft.	1.27	0.80	0.80

EXPANSION PRESSURE CHART

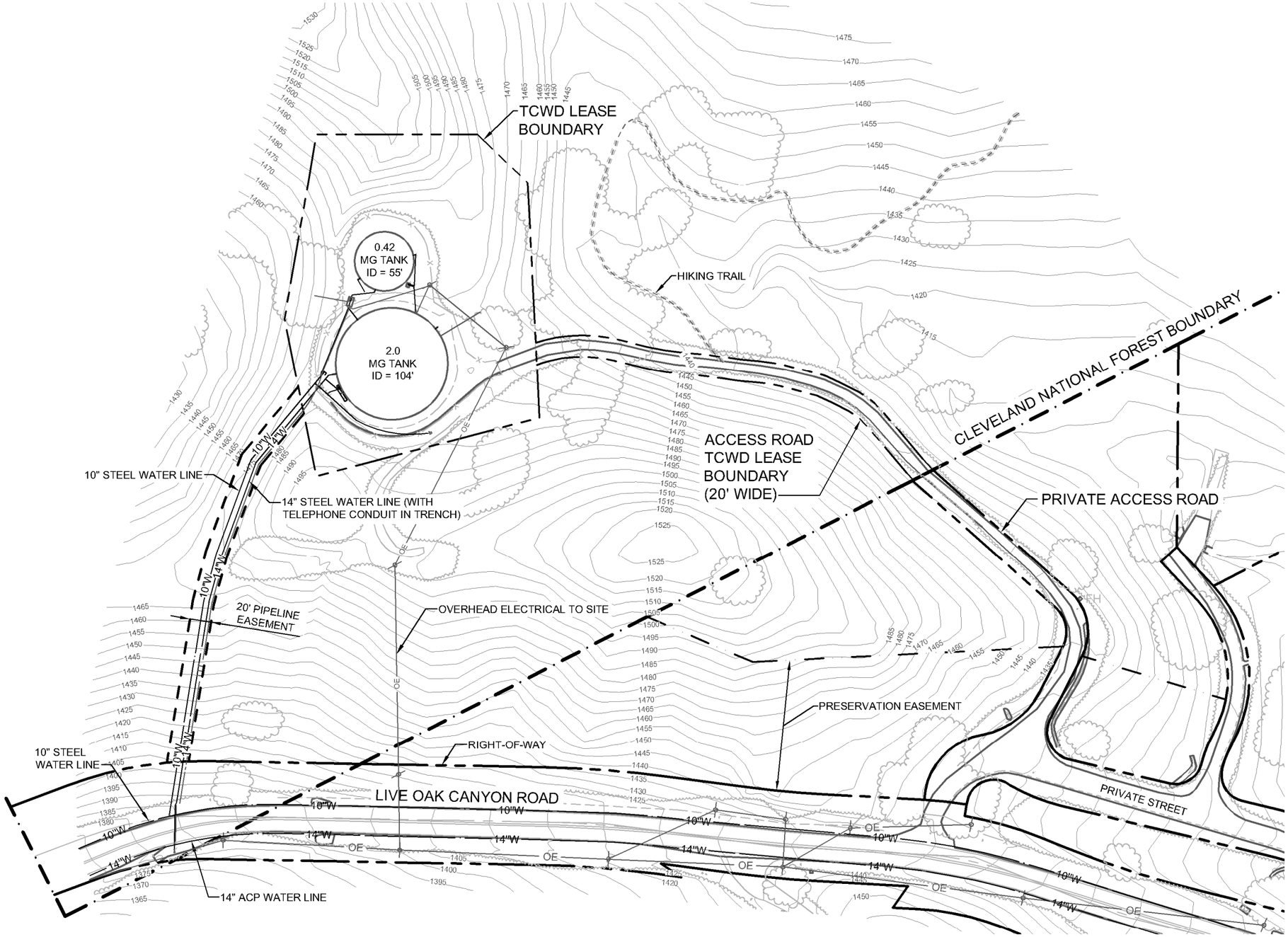


EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	16
R-VALUE BY EXUDATION:	11
EQUILIBRIUM R-VALUE:	11

Appendix B. Figures



8/26/2020 2:08:35 PM - O:\PROJECTS\IRVINE\09339\200-09339-20001\CAD\CONCEPTUAL\C-702A- (FIG 1-1) EXISTING-SITE.DWG - LERMA, JACKIE

TETRA TECH
www.tetratech.com
17885 VON KARMAN AVENUE, SUITE 500
IRVINE, CA 92614
(949) 809-5000

TRABUCO CANYON WATER DISTRICT

HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

HARRIS GRADE EXISTING SITE, PIPING, AND ACCESS TO LIVE OAK CANYON RD.

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
1-1

Bar Measures 1 inch

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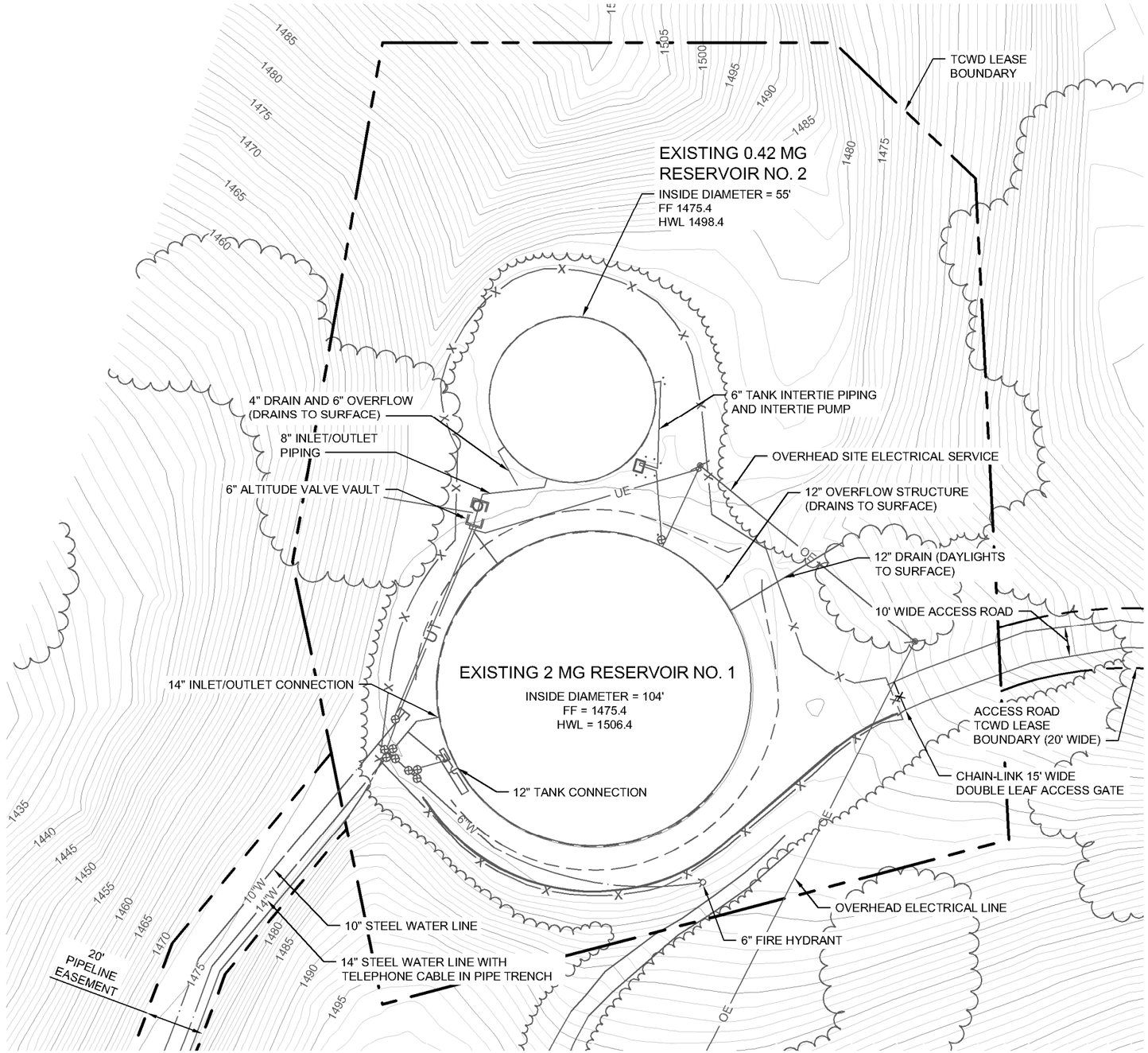

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TRABUCO CANYON WATER DISTRICT

HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

HARRIS GRADE EXISTING SITE PLAN

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

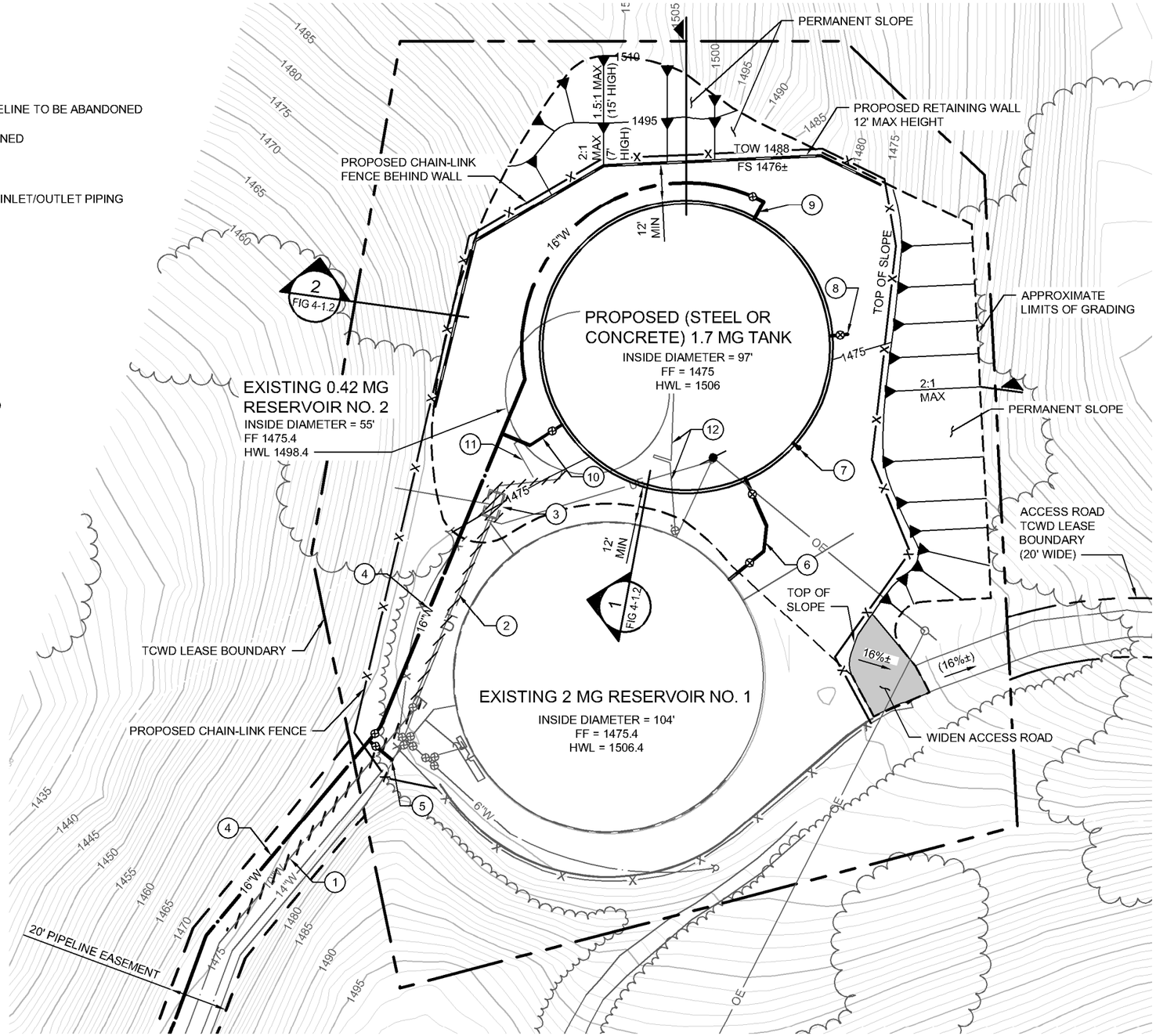
FIGURE
1-2

Copyright: Tetra Tech

Bar Measures 1 inch

PIPING NOTES:

1. EXISTING 10"W TO BE ABANDONED
2. EXISTING 8" RESERVOIR NO. 2 INLET/OUTLET PIPELINE TO BE ABANDONED
3. EXISTING ALTITUDE VALVE VAULT TO BE ABANDONED
4. PROPOSED 16" INLET/OUTLET PIPING
5. PROPOSED POINT OF CONNECTION TO EXIST 14" INLET/OUTLET PIPING
6. PROPOSED 16" TANK INTERTIE
7. PROPOSED TANK OVERFLOW
8. PROPOSED TANK DRAIN
9. PROPOSED 16" TANK INLET CONNECTION
10. PROPOSED 16" TANK OUTLET CONNECTION
11. EXISTING RESERVOIR DRAIN TO BE REMOVED
12. EXISTING TANK INTERTIE PIPING TO BE REMOVED



LEGEND:

- PROPOSED VALVE
- EXISTING VALVE
- 16"W — PROPOSED WATERLINE
- X"W — EXISTING WATERLINE
- PROPOSED RETAINING WALL
- EXISTING POWER POLE (RELOCATION REQUIRED)
- EXISTING POWER POLE PROTECT IN PLACE

NOTES:

1. ALL NEW TANK PIPING CONNECTIONS SHALL HAVE FLEXIBLE EXPANSION JOINT COUPLINGS.
2. CONCRETE TANK ALTERNATIVE SHALL HAVE BELOW GRADE FLOOR PENETRATIONS ON THE INLET, OUTLET, TANK INTERTIE, AND DRAIN PIPING CONNECTIONS.
3. STEEL TANK ALTERNATIVE WILL HAVE ABOVE GRADE WALL PENETRATIONS AT ALL PIPING CONNECTIONS.

TETRA TECH
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TRABUCO CANYON WATER DISTRICT

HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

ALTERNATE 1
1.7 MG TANK CONCEPTUAL FINAL GRADING, YARD PIPING, AND SITE PLAN

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
4-1.1

Bar Measures 1 inch

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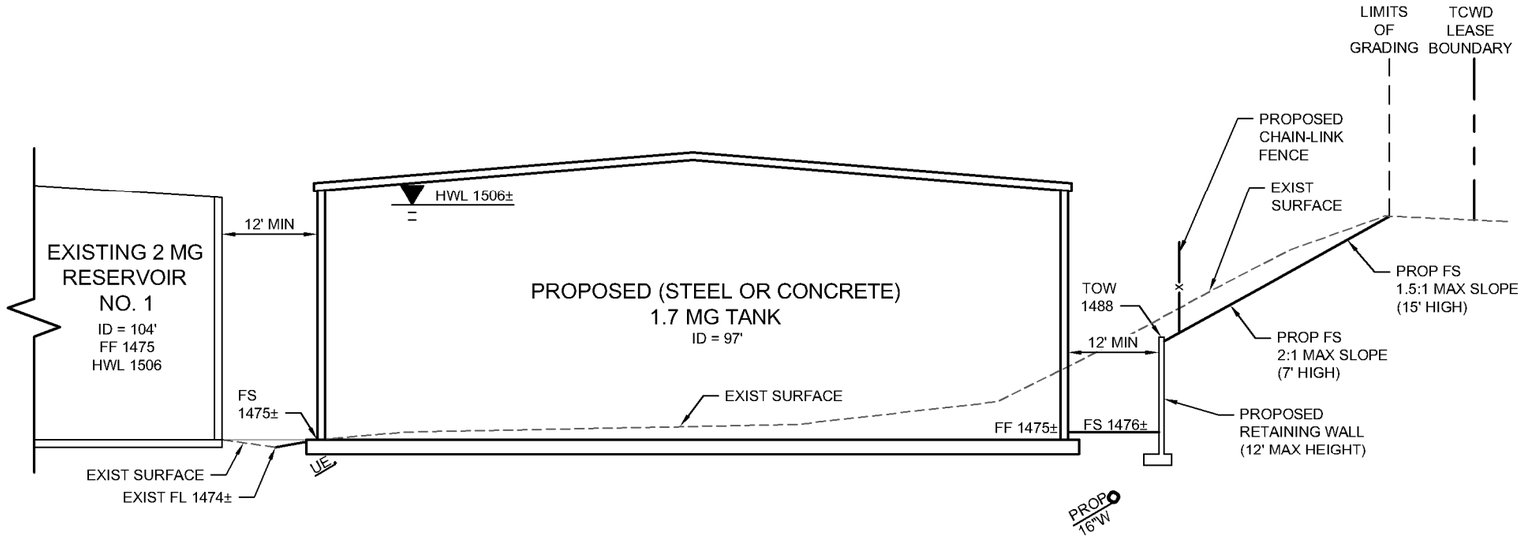
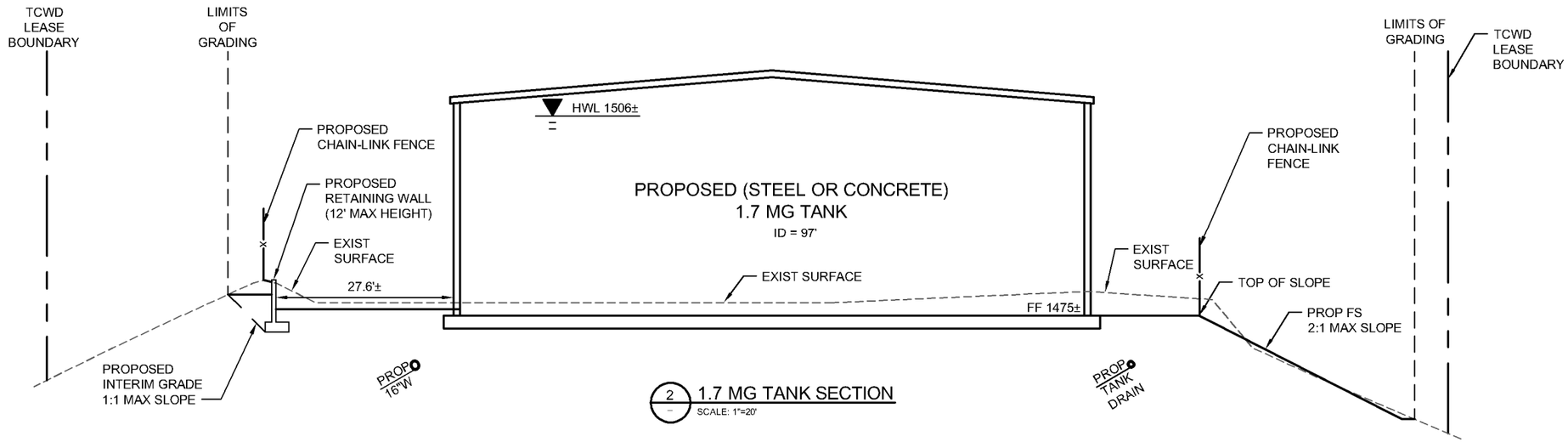


1 — 1.7 MG TANK SECTION
SCALE: 1"=20'



2 — 1.7 MG TANK SECTION
SCALE: 1"=20'

TETRA TECH www.tetratech.com 17885 VON KARMAN AVENUE, SUITE 500 IRVINE, CA 92614 (949) 809-5000	TRABUCO CANYON WATER DISTRICT HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY ALTERNATIVE 1 1.7 MG TANK CONCEPTUAL GRADING SECTIONS	Project No.: 200-09339-20001 Date: AUGUST 2020 Designed By: KMB FIGURE 4-1.2

Bar Measures 1 inch

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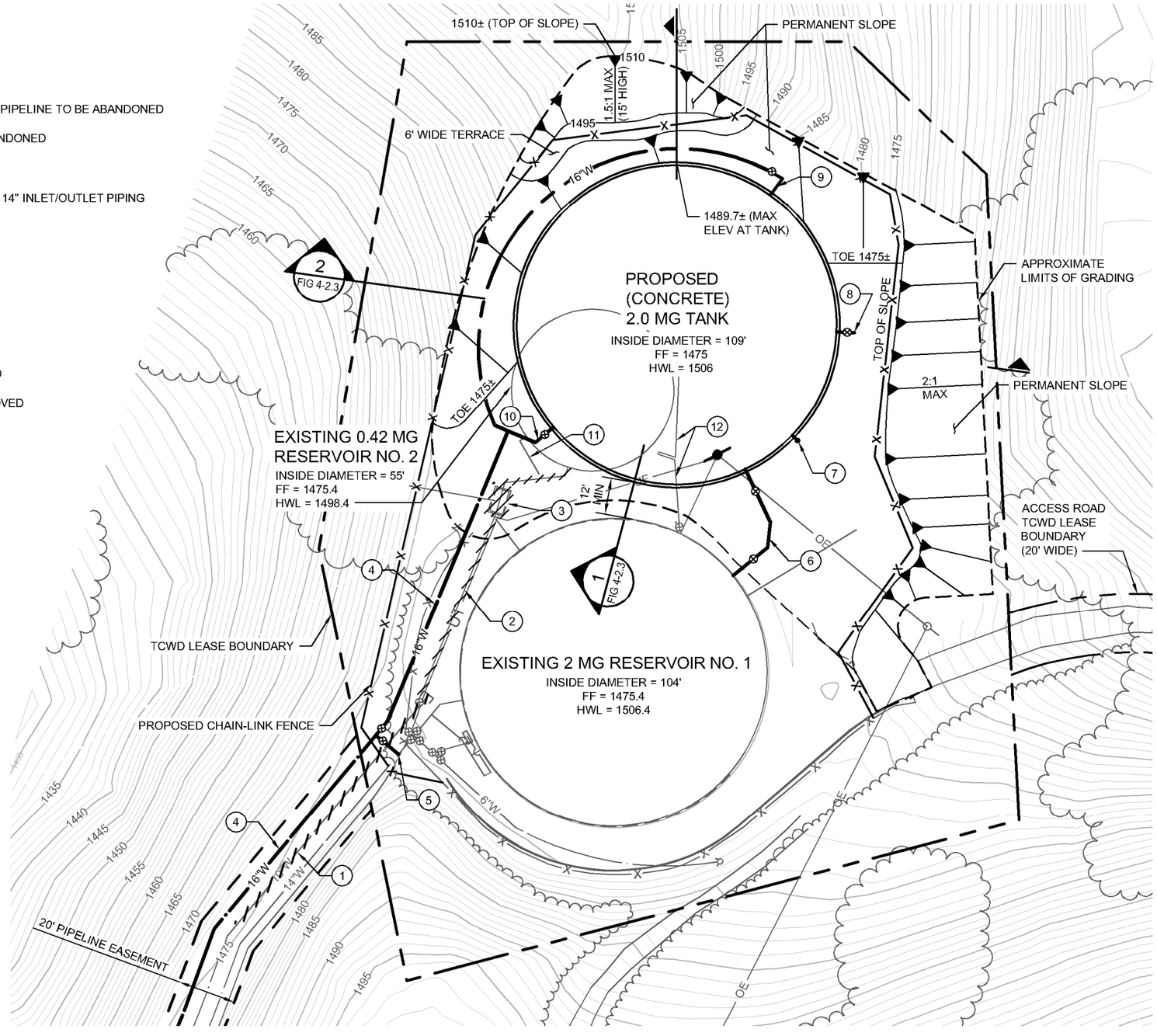
8/26/2020 2:11:55 PM - O:\PROJECTS\IRVINE\09339\200-09339-20001\CAD\CONCEPTUAL\C-704B- (FIG 4-1.2) 1.7 MG TANK SECTIONS.DWG - LERMA, JACKIE

PIPING NOTES:

1. EXISTING 10"W TO BE ABANDONED
2. EXISTING 8" RESERVOIR NO. 2 INLET/OUTLET PIPELINE TO BE ABANDONED
3. EXISTING ALTITUDE VALVE VAULT TO BE ABANDONED
4. PROPOSED 16" INLET/OUTLET PIPING
5. PROPOSED POINT OF CONNECTION TO EXIST 14" INLET/OUTLET PIPING
6. PROPOSED 16" TANK INTERTIE
7. PROPOSED TANK OVERFLOW
8. PROPOSED TANK DRAIN
9. PROPOSED 16" TANK INLET CONNECTION
10. PROPOSED 16" TANK OUTLET CONNECTION
11. EXISTING RESERVOIR DRAIN TO BE REMOVED
12. EXISTING TANK INTERTIE PIPING TO BE REMOVED



LEGEND:

- PROPOSED VALVE
- EXISTING VALVE
- 16"W — PROPOSED WATERLINE
- X"W — EXISTING WATERLINE
- EXISTING POWER POLE (RELOCATION REQUIRED)
- EXISTING POWER POLE PROTECT IN PLACE

NOTES:

1. ALL NEW TANK PIPING CONNECTIONS SHALL HAVE FLEXIBLE EXPANSION JOINT COUPLINGS.

0 20' 40'
SCALE: 1" = 40'

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TRABUCO CANYON WATER DISTRICT

HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

ALTERNATIVE 2
2.0 MG TANK CONCEPTUAL FINAL GRADING, YARD PIPING, AND SITE PLAN

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
4-2.1

Bar Measures 1 inch

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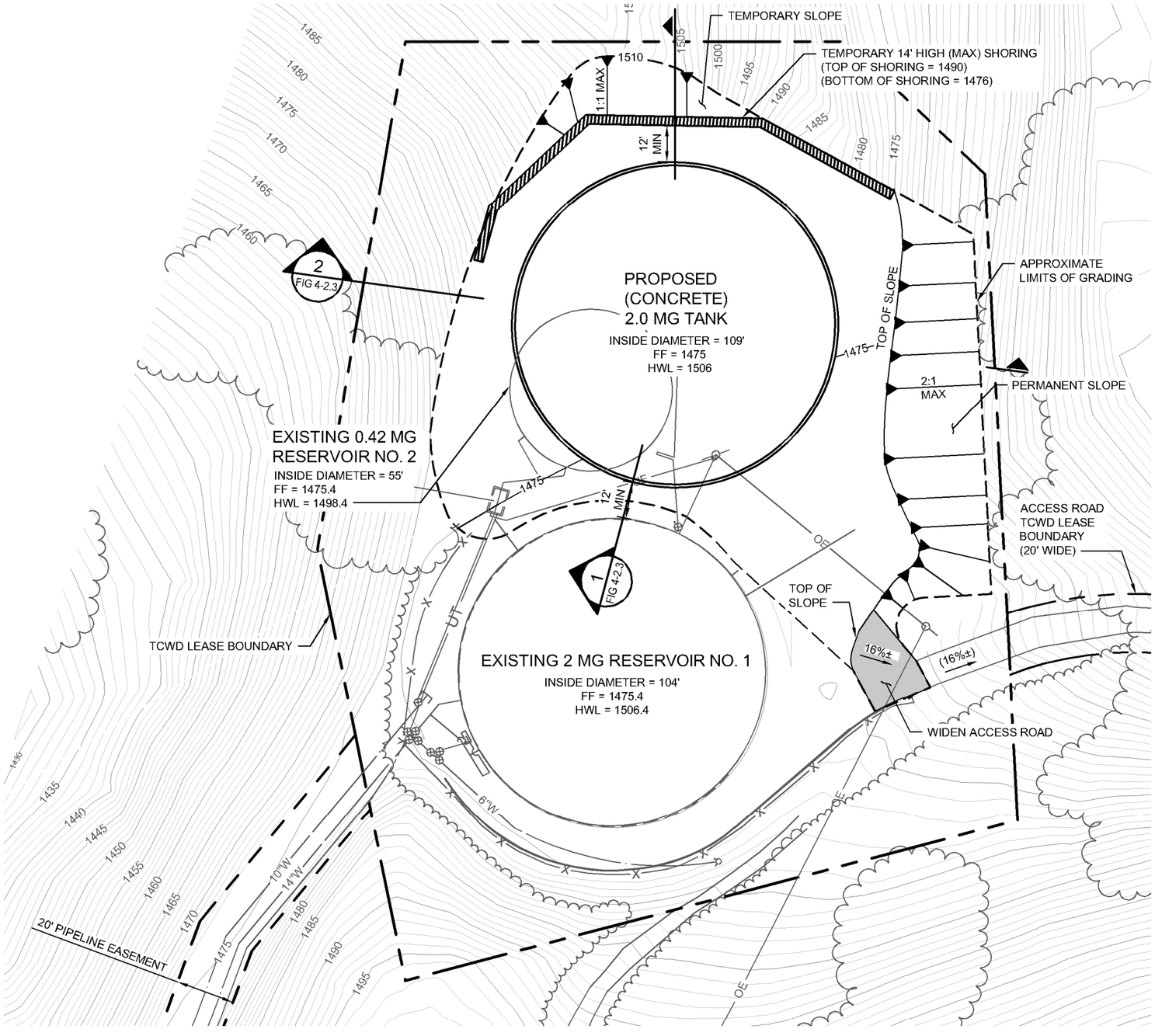
8/26/2020 2:16:07 PM - O:\PROJECTS\IRVINE\09339\200-09339-20001\CAD\CONCEPTUAL\C-704D- (FIG 4-2.1) 2.0 MG TANK (FINAL).DWG - LERMA, JACKIE



0 20' 40'

SCALE: 1" = 40'

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HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

ALTERNATIVE 2
2.0 MG TANK CONCEPTUAL INTERIM GRADING

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
4-2.2

Bar Measures 1 inch

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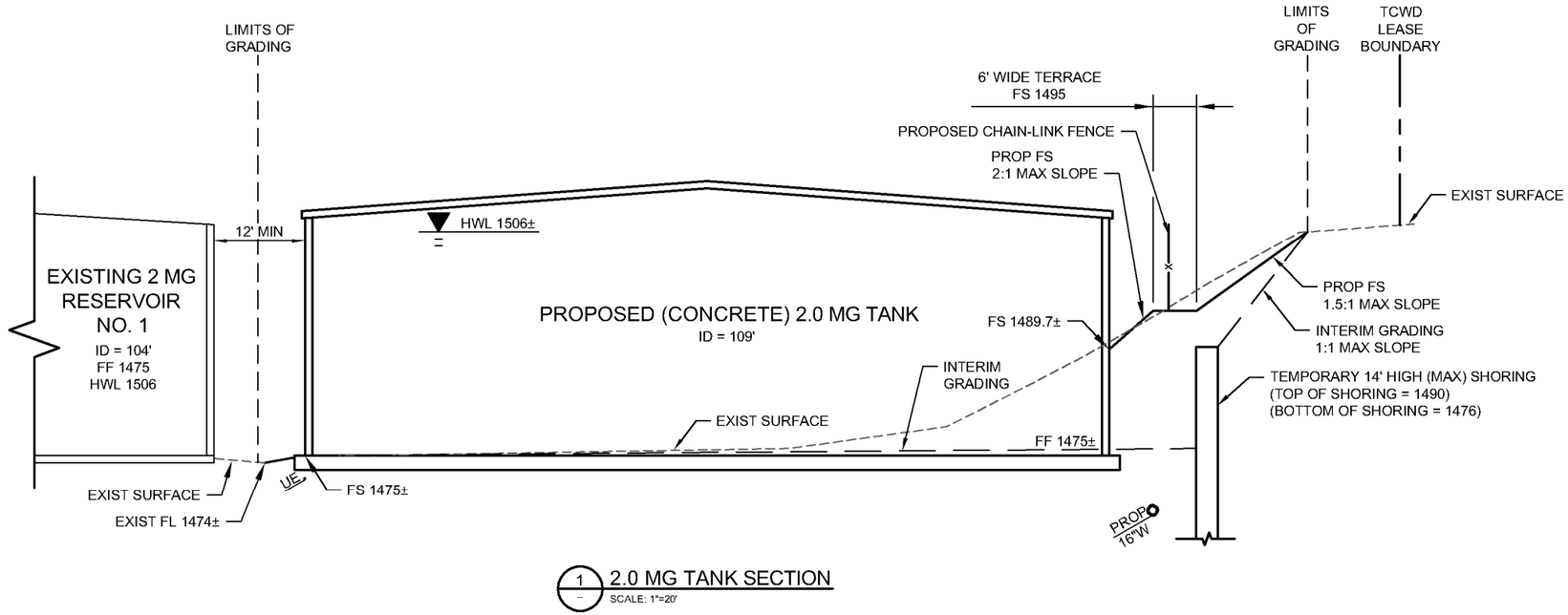
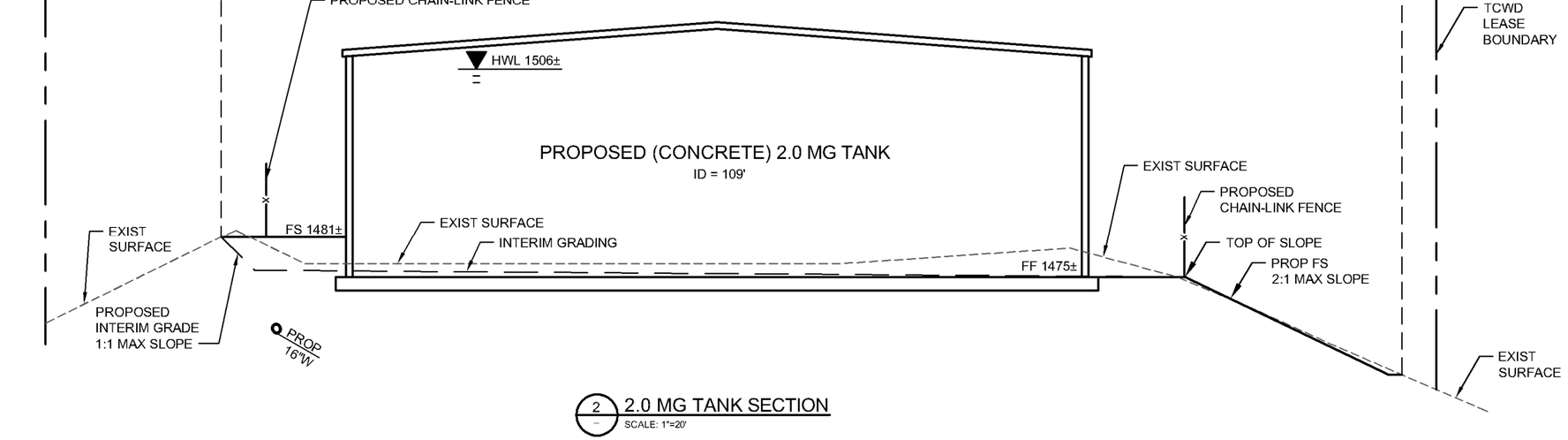


1 — 2.0 MG TANK SECTION
SCALE: 1"=20'



2 — 2.0 MG TANK SECTION
SCALE: 1"=20'

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Bar Measures 1 inch

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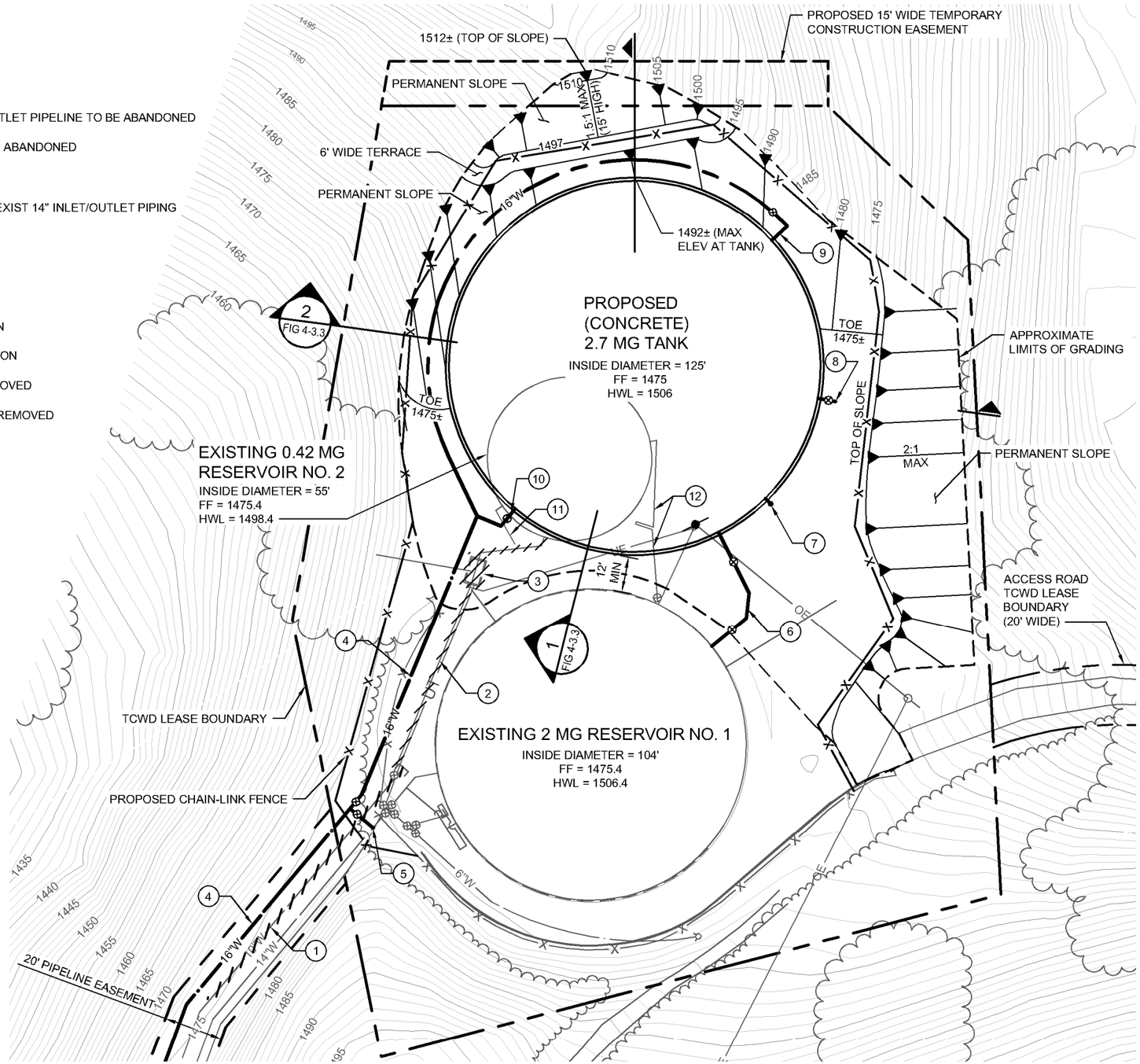
PIPING NOTES:

1. EXISTING 10"W TO BE ABANDONED
2. EXISTING 8" RESERVOIR NO. 2 INLET/OUTLET PIPELINE TO BE ABANDONED
3. EXISTING ALTITUDE VALVE VAULT TO BE ABANDONED
4. PROPOSED 16" INLET/OUTLET PIPING
5. PROPOSED POINT OF CONNECTION TO EXIST 14" INLET/OUTLET PIPING
6. PROPOSED 16" TANK INTERTIE
7. PROPOSED TANK OVERFLOW
8. PROPOSED TANK DRAIN
9. PROPOSED 16" TANK INLET CONNECTION
10. PROPOSED 16" TANK OUTLET CONNECTION
11. EXISTING RESERVOIR DRAIN TO BE REMOVED
12. EXISTING TANK INTERTIE PIPING TO BE REMOVED



LEGEND:

- PROPOSED VALVE
- EXISTING VALVE
- 16"W — PROPOSED WATERLINE
- X"W — EXISTING WATERLINE
- EXISTING POWER POLE (RELOCATION REQUIRED)
- EXISTING POWER POLE PROTECT IN PLACE

NOTES:

1. ALL NEW TANK PIPING CONNECTIONS SHALL HAVE FLEXIBLE EXPANSION JOINT COUPLINGS.

0 20' 40'

SCALE: 1" = 40'

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TRABUCO CANYON WATER DISTRICT

HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

ALTERNATIVE 3
2.7 MG TANK CONCEPTUAL FINAL GRADING, YARD PIPING, AND SITE PLAN

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
4-3.1

Bar Measures 1 inch

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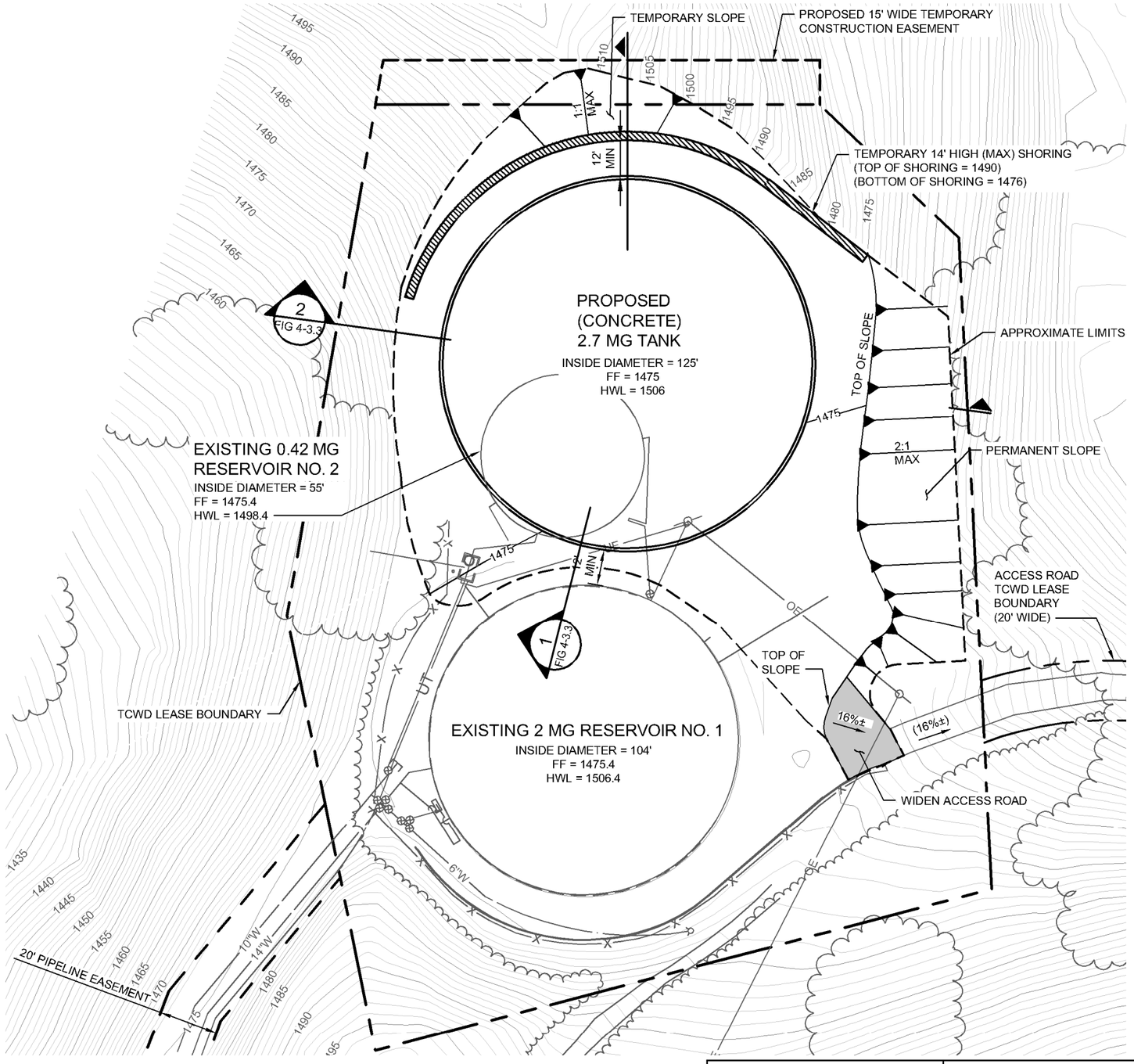

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HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

ALTERNATIVE 3
2.7 MG TANK CONCEPTUAL INTERIM GRADING

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
4-3.2

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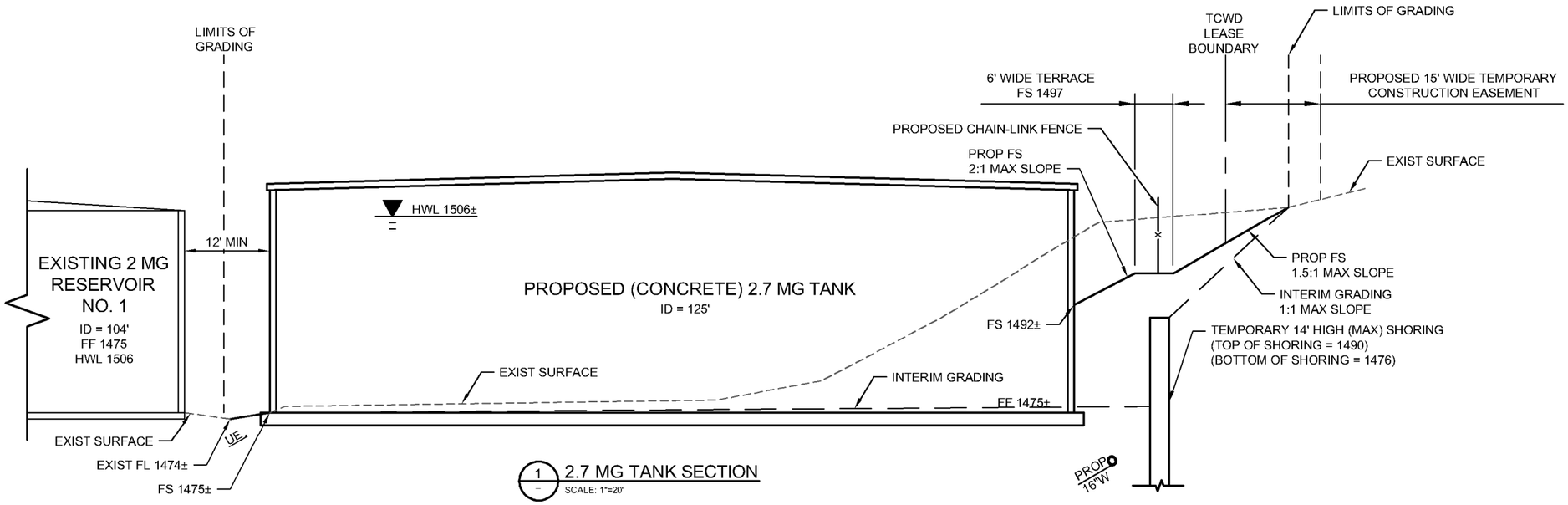
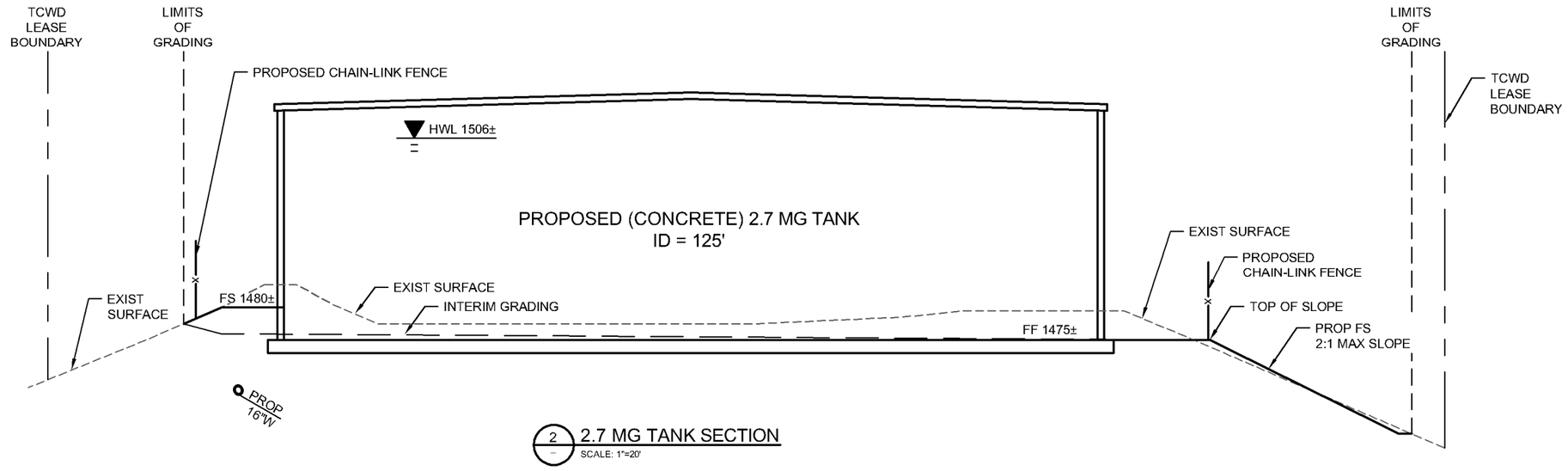
Bar Measures 1 inch





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TRABUCO CANYON WATER DISTRICT

HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

ALTERNATIVE 3
2.7 MG TANK CONCEPTUAL GRADING SECTIONS

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
4-3.3

Bar Measures 1 inch

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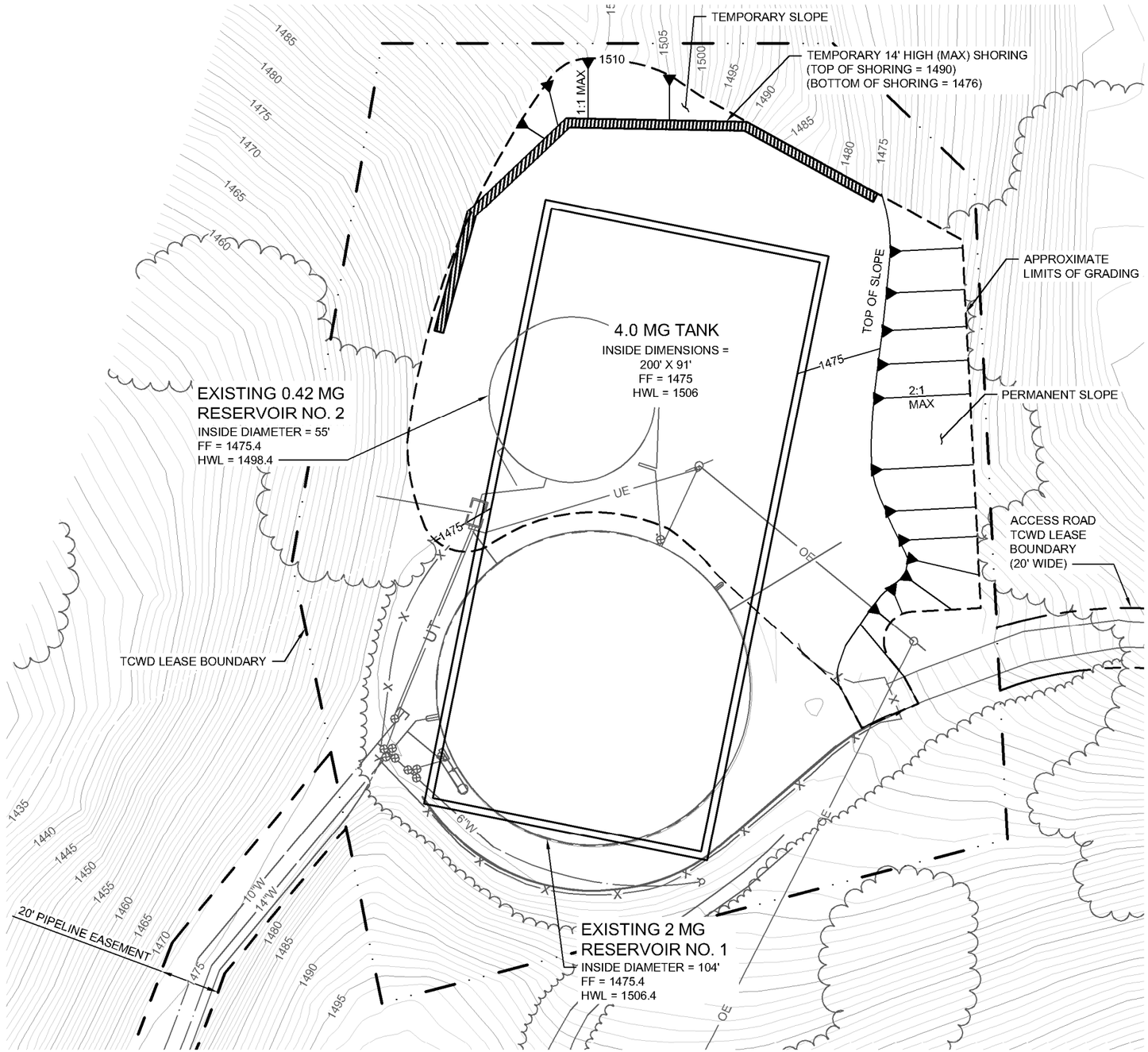

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Bar Measures 1 inch

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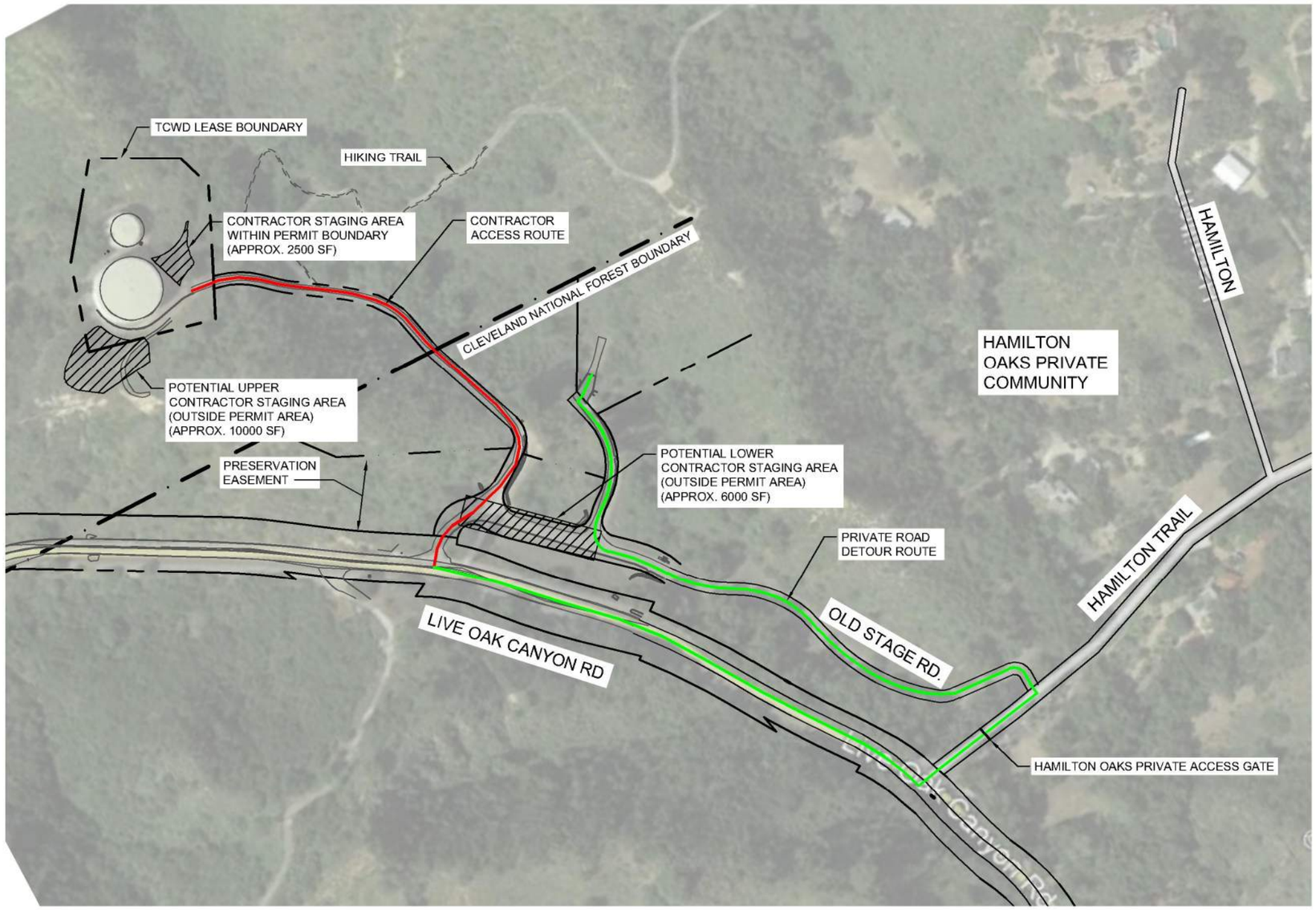

LEGEND:

CONTRACTOR ACCESS

POTENTIAL DETOUR

0 100' 200'

SCALE: 1" = 200'

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Bar Measures 1 inch

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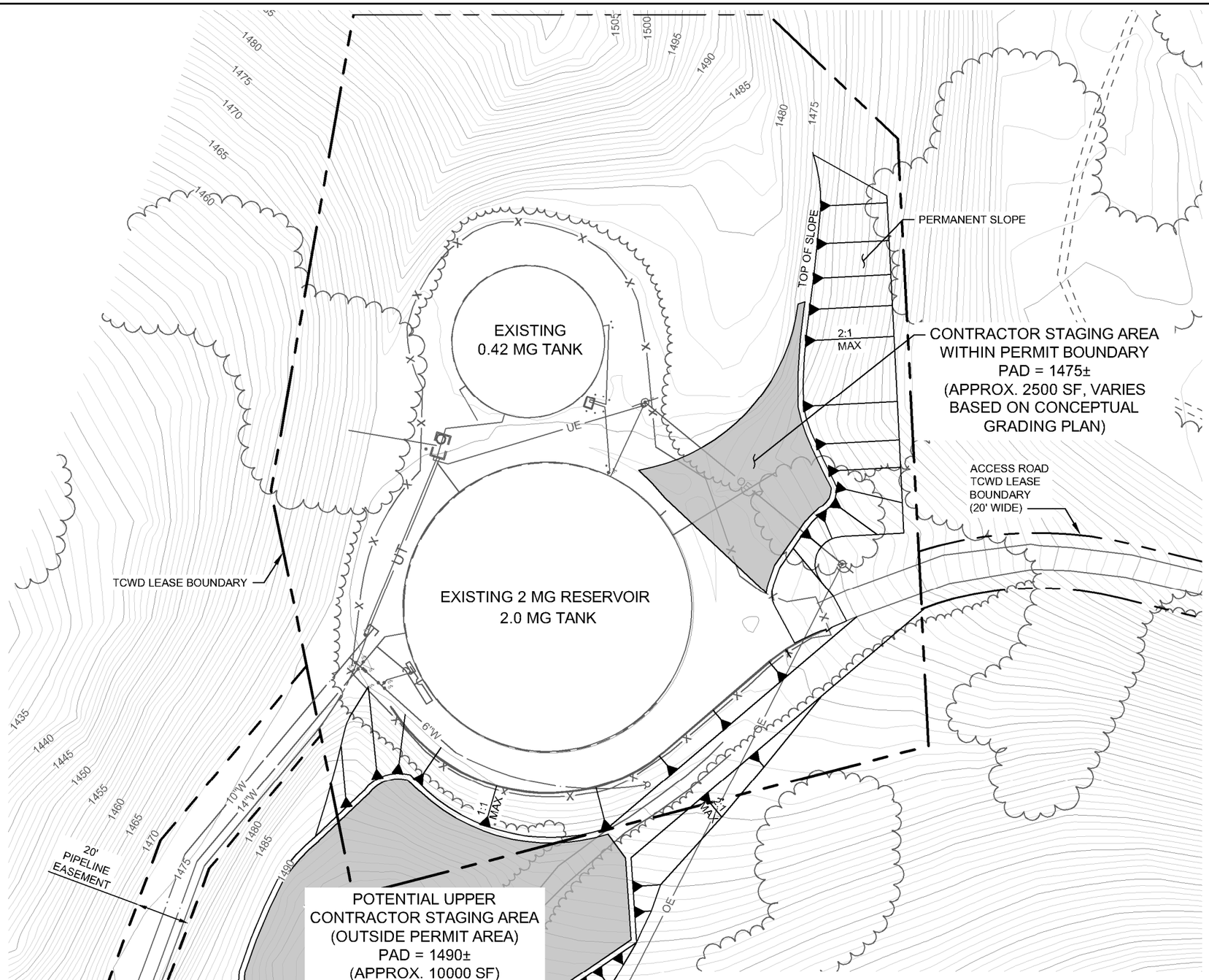

TETRA TECH www.tetratech.com 17885 VON KARMAN AVENUE, SUITE 500 IRVINE, CA 92614 (949) 809-5000	TRABUCO CANYON WATER DISTRICT HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY CONTRACTOR STAGING PLAN	Project No.: 200-09339-20001 Date: AUGUST 2020 Designed By: KMB FIGURE 5-2

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Bar Measures 1 inch

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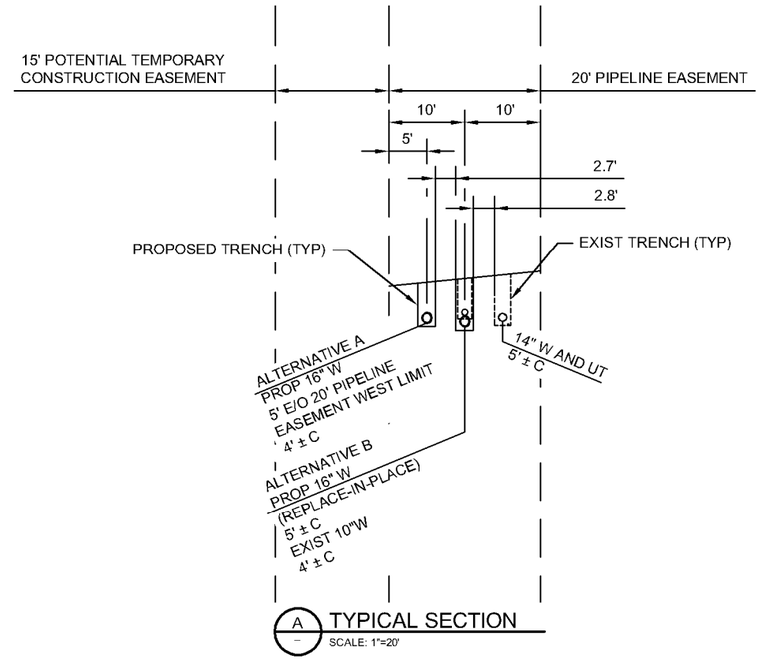
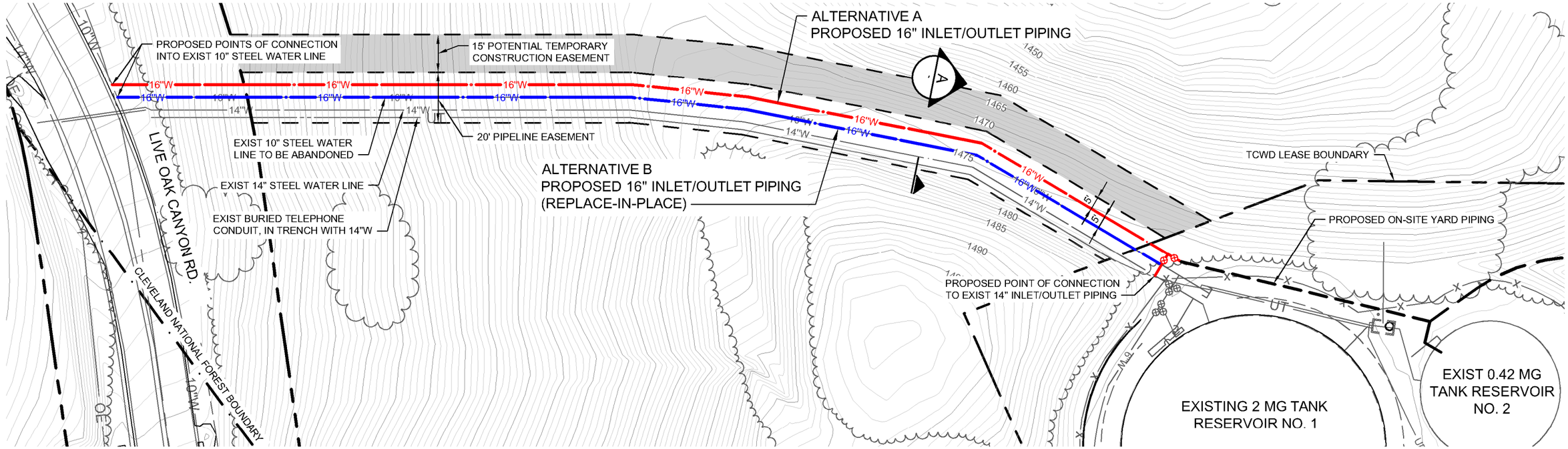


A TYPICAL SECTION
SCALE: 1"=20'



0 20' 40'
SCALE: 1" = 40'

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TRABUCO CANYON WATER DISTRICT
HARRIS GRADE RESERVOIR REPLACEMENT FEASIBILITY STUDY

CONCEPTUAL 16-INCH PIPELINE ALIGNMENTS

Project No.:	200-09339-20001
Date:	AUGUST 2020
Designed By:	KMB

FIGURE
5-3

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Bar Measures 1 inch

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Appendix C. Anticipated Environmental Permits

Requirement	Authority	Explanation
Federal		
Environmental Impacts	National Environmental Policy Act (NEPA)	Projects which require federal action must comply with the NEPA, including disclosure of the potential environmental impacts of the Project through an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and a process of public and agency review and comment. Federal actions which require review under NEPA include federal funding, interconnection to a federal power marketing agency, or issuance of a federal permit such as an ITP under the ESA. *Triggered by project location on federal land; will need to explore potential "categorical exclusions" of the U.S. Forest Service that could apply. Otherwise likely to require preparation of an EA.*
Biological Resources - Endangered Species	Endangered Species Act (ESA)	The ESA and its implementing regulations in Title 50 CFR Section 17 prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the ESA. Species can be listed as endangered, threatened, proposed for listing (proposed for listing in Federal Register), or candidates for listing (where listing is warranted, but precluded by higher priority listing activities). *This project is likely to need a biological assessment of the property and adjacent habitat since there is potential for undisturbed habitat. If threatened or endanger species (or habitat) are found, an Incidental Take Permit (ITP) may be required for each species identified.*
Biological Resources - Migratory Birds	Migratory Bird Treaty Act (MBTA)	The MBTA implements the Unites States' obligations under four treaties for the protection of migratory birds. The MBTA is administered by the USFWS, which maintains a list of all species protected by the MBTA (50 CFR Section 10.13). This list includes over 1,000 species of migratory birds, including eagles and other raptors, waterfowl, shorebirds, seabirds, wading birds, and passerines. *A biological assessment would also address potential for impacts to migratory bird species. If any are found to be present, or if suitable habitat is identified, an Incidental Take Permit (ITP) may be required for each species so identified.*
Biological Resources - Eagle Protection	Bald and Golden Eagle Protection Act (BGEPA)	The BGEPA prohibits the take, sale, purchase, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof, 16 USC Section 668. The BGEPA also defines take to include "pursue, shoot, shoot

Requirement	Authority	Explanation
		at, poison, wound, kill, capture, trap, collect, molest, or disturb," 16 USC Section 668c, and includes criminal and civil penalties for violating the statute. See 16 USC Section 668. The term "disturb" is defined as agitating or bothering an eagle to a degree that causes, or is likely to cause, injury to an eagle, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior (50 CFR Section 22.3). *A biological assessment also addresses potential for impacts to either bald or golden eagles. If either species is identified in the area, or if suitable habitat is found, an Incidental Take Permit (ITP) could be required (though is not likely).*
Cultural Resources	National Historic Preservation Act (NHPA)	The NHPA requires that federal agencies consider the effects of their proposed actions on historic properties (cultural resources eligible for inclusion in or listed on the NRHP). Generally, any project which requires federal permits, monies, or lands will require review under Section 106. This process involves surveys for archaeological resources, historic built environment resources, and traditional cultural properties, and consultation with state and tribal historic preservation staff. The NRHP recognizes both historical-period and prehistoric properties, including archaeological sites, that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more established criteria *A cultural resources survey will likely be necessary to evaluate the potential for archaeological resources on site, and whether or not any of the structures located on site have historical significance.*
State of California		
Environmental Impacts	California Environmental Quality Act (CEQA)	CEQA) was enacted in 1970 by the California Legislature for decision-makers and the public to be made aware of anticipated significant environmental effects of a proposed project and identify possible ways to avoid or minimize those significant environmental effects by recommending mitigation measures or feasible alternatives to the project. In accordance with CEQA all "projects" within the State of California are required to undergo environmental review to determine potential impacts associated with implementation of the project (see California Public Resources Code, Sections 21000 through 21189). The "Lead Agency" under CEQA is required

Requirement	Authority	Explanation
		to conduct an environmental review to analyze the potential environmental effects associated with proposed projects located within the jurisdiction. *A CEQA review and document preparation will be needed, and the potential impacts defined primarily through the biological and cultural resource assessments will establish the level of assessment; whether an Initial Study/Mitigated Negative Declaration (IS/MND) is possible or a full Environmental Impact Report (EIR) is needed. If possible, a combined federal and state assessment document is preferred.*
Biological Resources - Endangered Species	California Endangered Species Act (CESA)	The CESA establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the ESA, compliance with the ESA would satisfy the CESA if the CDFW determines that the federal incidental take authorization is "consistent" with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b). *The biological assessment performed for the site will address species of concern at both the federal and state levels. Results will determine what safeguards, if any, are needed for state-listed species.*
Cultural Resources	California Public Resources Code, Section 5024.19(a)	The California Register of Historical Resources (CRHR) was created in 1992 and implemented in 1998 as "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission

Requirement	Authority	Explanation
		determines that it meets one or more established criteria, which are modeled on NRHP criteria. *The cultural assessment performed for the site will address concern at both the federal and state levels. Results will determine what resources may be present, if any, and what protection measures may be necessary prior to project implementation.*
Construction Stormwater Permit	Federal Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES); jointly administered by the California Regional Water Quality Control Board (RWQCB), Santa Ana, and the Orange County Department of Public Works.	If one or more acres of land are proposed to be disturbed and have a point source discharge of storm water to Waters of the State, a National Pollutant Discharge Elimination System (NPDES) Permit must be obtained. State Water Resources Control Board establishes policies and regulations that help protect and restore the water quality in California, coordinates with and supports RWQCB efforts, and reviews their actions. The RWQCBs monitor and enforce state and federal plans, policies, and regulations. Each RWQCB makes critical water quality decisions for its region. *The NPDES program provides for Construction General Permits. Most construction projects that disturb 1 acre of land or more are required to obtain coverage through an NPDES General Permit for Construction Activities (or Construction General Permit), which requires the applicant to file a public notice of intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP).*
Orange County		
Water Quality	Local NPDES program and the County of Orange, the Orange County Flood Control District, and cities of Orange County (the Permittees).	A Model Water Quality Management Plan (WQMP) and Technical Guidance Document (TGD) are provided by the County to aid development project proponents in addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Projects. The criteria for defining a "Priority Project" is provided in the Model WQMP and TGD. These documents describe the process that developers should follow in preparing a Project WQMP for individual new development and significant redevelopment projects. A Project WQMP is a plan for minimizing the adverse effects of urbanization on site hydrology, runoff flow rates and pollutant loads. It also includes measures to help reduce the impacts from "hydromodification." *A project specific WQMP and Erosion and Sediment Control Plan (ESCP) will likely be needed for this project.*

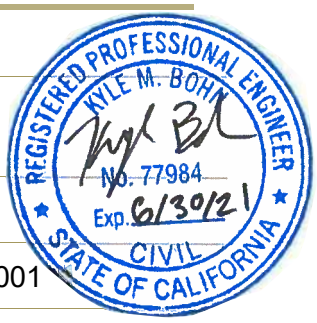
Not expected to be necessary for the proposed project at this location are the following:

- Wetland Permit, Section 404 WQA (U.S. Army Corps of Engineers)
- Water Quality Certification, Section 401 WQA (RWQCB),
- Lake and Streambed Alteration Agreement (CDFW),
- Conditional Use Permit, or other Land Use Zoning adjustment (Orange County).

TETRA TECH

DRAFT Memorandum

Date:	February 25, 2021 (Revised)		
To:	Lorrie Lausten P.E. Trabuco Canyon Water District		
From:	Kyle Bohn P.E.		
Project:	Harris Grade Reservoir Siting Study	***Project Number:***	200-09339-20001
Subject:	Porter Property Planning Level Construction Cost Estimate		2/25/2021



BACKGROUND AND OBJECTIVE

In 2016 the Trabuco Canyon Water District (District) completed the "Domestic Water Storage and Reservoir Siting Study" to determine locations within the District's service area for additional water storage for future planned developments and emergencies. The study identified four sites within the District's service area to be potential locations for future reservoirs, one of which was the Harris Grade Reservoir Site. Tetra Tech completed the Harris Grade Reservoir Siting Study, exploring the feasibility of constructing a new tank at the Harris Grade site.

As a supplement to the Harris Grade Reservoir Siting Study, the District requested that Tetra Tech prepare a planning level construction cost estimate for a new reservoir to be constructed at the District's Porter Property. The intent of this planning level estimate is to compare construction costs for new reservoirs at the Harris Grade site and the Porter Property. The Porter Property was also identified by the 2016 Domestic Water Storage and Reservoir Siting Study to have an appropriate surface elevation to be able to float on the Harris Grade Pressure Zone (1,504 feet). Additionally, the 2016 study identified the Porter Property to be located near future planned developments.

This technical memorandum presents a planning level construction cost estimate for the construction of a new reservoir at the District's Porter Property, including the design criteria and assumptions that were used in developing the planning level estimate.

PROJECT LOCATION

The District's Porter property is a 120-acre parcel of land near the eastern edge of the District's service area. The majority of the site is undeveloped with unpaved access roads throughout the site. Elevations at the property range from approximately 1,200 feet to just over 1,600 feet. The main paved access entrance to the site is from Shadow Rock Lane within a residential neighborhood. The site is bounded by the residential properties to the south, a nursery to the west, Trabuco Canyon and Trabuco Creek to the north and Cleveland National Forest to the East.

Located to the southwest of the Porter Property is the District's Shadow Rock Detention Basins and Pumping Station. The detention basins and pumping station are part of the District's Urban Water Recovery Project, capturing storm runoff to be treated and conveyed for reuse in the District's recycled water system. Figure 1 shows the District's Porter property and surrounding area.

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Tel 949.809.5000 **Fax** 949.809.8010 **tetratech.com**

AVAILABLE INFORMATION

The following available information was used to develop this memorandum:

- Engineering Study (Draft) for Dove Canyon and Robinson Ranch Recycled Water Pump Station Rehabilitation – Phase 1 (Engineering Study)
- Preliminary Porter Property road alignment over Google Earth image received from the District on September 3, 2020
- Domestic Water Storage and Reservoir Siting Study, March 2016
- Available USGS elevations and images to approximate elevation and location of the tank pad and pipeline alignment
- Compilation of Previous Reports Due Diligence for Porter Ranch Property Trabuco Canyon, California, November 2001

DESIGN CRITERIA

The following is a summary of minimum design criteria and assumptions used to develop preliminary construction costs:

Table 1 – Design Criteria Summary
Tank Material: Welded carbon steel
Reservoir Design Standards: The new tank shall be designed to the following design standards. 1. California Department of Drinking Water (DDW) requirements outlined in the California Code of Regulations Title 22 "Design and Construction of Water Distribution Reservoirs" 2. American Water Works Association (AWWA), Standard D100, "Welded Carbon Steel Tanks for Water Storage" 3. Trabuco Canyon Water District Standard Plans and Specifications
Minimum Storage Volume: 2.25 MG
Floor Elevation: 1,474 feet
High Water Level Elevation (Match Harris Grade Pressure Zone): 1,504 feet
Sidewater Depth: 30 feet
Minimum Required Clearance Around Tank: 12 feet
Inlet/Outlet Piping and Valves: 16-inch separate inlet and outlet connections (assumes similar fill/draw rate as the Harris Grade Tank)
Overflow and Drain: A drain pipeline or concrete v-gutter will be required to convey site drainage, tank overflow and tank drain water down the access road to the Shadow Rock Detention Basin.
Electrical Service: Service from the Shadow Rock Pump Station

Storage Requirements

The new reservoir will be a minimum of 2.25 MG based on the following storage requirements:

1. A minimum of 1.38 MG of additional storage is required within the District to meet the requirements of the Water Reliability Emergency Storage (WRES) fund. District customers are contributing to the WRES fund, which is reserved for an additional 2.0 MG storage within the District. A portion of the required storage has been built at the Saddlecrest development (0.62 MG) in 2019, but the remaining 1.38 MG is still pending.
2. A minimum of 0.87 MG of storage is required for the future Saddleback Meadows development.

Tank Size

The proposed steel tank will be located to provide a high water level of approximately 1,504 feet, so that the new tank will float on the Harris Grade pressure zone. This results in a pad elevation of approximately 1,474 feet. Dimensions of the proposed tank are summarized in the table below.

Table 2 – Steel Tank Dimensions
Tank Inside Diameter: 116 feet
Tank Height: 32 foot steel shell plus 3 foot radius steel knuckle (35 foot wall height)
Tank High Water Level: 30 feet above finished floor

Site Grading and Tank Location

Tetra Tech reviewed the existing site topography utilizing topographic information from USGS. The Porter Property is a large expansive property with several ridge lines and the Trabuco Creek flowing through it.

The location of the tank was established by the following:

1. A pad constructed either completely in fill or cut at elevation 1,474 feet.
2. Located as close as practical to the Shadow Rock Lane entrance to minimize road and pipeline construction as well as tank construction costs.

The elevations at the property range from approximately 1,200 feet to just over 1,600 feet. There is a low point on the westerly side of the property. The site varies in grades with flatter slopes along western side of the property and steeper slopes to the east.

We reviewed both a filled pad and cut pad scenario and based on our review of the existing topography a pad cut into the steepening portion of the site results in less earthwork. For the purposes of this memorandum it was assumed the slope would be cut back at a slope of 2:1 to provide a flat pad. We have assumed a reservoir pad with a diameter of 176 feet, providing for a clearance around the tank for construction access and a future 15 foot wide access road.

Geotechnical investigation should be completed during preliminary design to verify the suitability of the site for a tank and to provide geotechnical design recommendations, and geotechnical hazards.

The proposed tank location is shown in Figure 2.

Site Access

Approximately 2,300 linear feet of existing unpaved access road traverses between the proposed tank location and the Shadow Rock entrance. The existing access road varies from 12 to 16 feet wide. For the purposes of this memorandum a 16 foot wide paved access road has been assumed from the Shadow Rock Lane entrance to the reservoir site. During preliminary design the access road should be further evaluated to confirm the appropriate design vehicle can access the site.

Grades along the existing access road range from 5% to 10% up to approximately 300 feet west of the proposed reservoir site, where the slope of the access road begins to increase to approximately 20%. Typically, at grades greater than 12% to 14% concrete trucks will not be able to carry full loads, resulting in increased construction costs during the pouring of the tank foundation and other concrete placement. To facilitate construction of the tank and future access at the site it is recommended that approximately 300 feet of new access road be designed

with a maximum slope of 10% connecting the tank site to the existing access road. The proposed access road has been assumed to wrap around the tank. A preliminary sketch of the new access road and tank location is shown in the attached Figure 2.

Inlet and Outlet Piping and Appurtenances

We have assumed the design of the new tank will include the following inlet and outlet piping design features:

- Separate inlet and outlet connections designed to fill and draw from the tank at opposite sides to promote tank mixing.
- The fill and draw rates of the reservoir have been assumed to be similar to those of the Harris Grade Reservoir, resulting in 16-inch diameter inlet and outlet tank connections.
- Flexible expansion joints installed at all tank connections to protect the piping and tank against differential settlement or movement during a seismic event.
- An altitude valve will be placed on the tank inlet to prevent the tank from overfilling.

A common 16-inch inlet and outlet line will need to convey water from the new tank, down the site access road, to a suitable connection point within the District's system. For the purposes of this memorandum, the District has determined the 16-inch pipeline within Plano Trabuco Drive a suitable connection point. As part of this preliminary estimate we considered the following alignment alternatives (as shown in Figure 3):

- Alternative A: This alternative is only viable if the nursery to the east of the Porter Property is developed. The proposed alignment will travel down streets of the proposed development to the Plano Trabuco connection point. The District could realize a savings if the pipeline is combined with the development's distribution system. For the purposes of this memorandum it was assumed that the District would pay the difference in cost between an 8-inch pipeline (assumed to be required for the development) and a 16-inch pipeline (required for the reservoir inlet/outlet). The total length of this alternative alignment is 8,050 linear feet.

- Alternative B: This alternative utilizes existing District easements located behind the residential properties on Shadow Rock Lane and north of Robinson Ranch Road between residential properties and an existing nursery. Within the District easements there is minimal contractor access and sloping terrain which will result in difficult construction and slowed contractor production rates. Additionally, there are existing District utilities already in the easement, potentially creating a tight corridor for the new alignment. For these reasons this alignment was not further considered.

- Alternative C: This alternative exits the site at Shadow Rock Lane, continues west on Robinson Ranch Road to the connection point in Plano Trabuco Road. This alignment will be more costly than Alternative A because the Contractor will have additional challenges associated with typical in-street construction such as: existing utility crossings, traffic control, and pavement replacement. The total length of this alternative alignment is 10,000 linear feet.

Drain and Overflow Piping

The proposed reservoir will be designed with an overflow structure to prevent the tank from overfilling. The overflow structure will feature an air gap to a catch basin which will convey the water to the on-site drainage system.

A tank drain will be provided to remove unusable water from the reservoir. This is usually the last few feet that cannot be sent to the system and/or any wash down water due to tank cleaning. On a steel tank a flush type

cleanout will be provided through the tank wall, near the bottom of the tank wall. The cleanout will convey water through an air gap into the on-site drainage system.

Site Drainage

Site surface runoff will be collected from the drainage basin surrounding the tank. Concrete terrace drains and v-gutters will intercept surface flows and convey these around the tank site. On-site grading will result in surface flows draining away from the tank and being collected in either a pipe or directed to a concrete v-gutter. Off-site and on-site drainage will need to be conveyed along the access road from the tank site. Based on the topography there is a low spot on the site. It is assumed that the collected water can be drained to the Shadow Rock Detention Basin. For the purposes of this technical memorandum it has been assumed that a concrete v-gutter will convey runoff down the access road to a low point in the topography, located near the southern border of the property, where runoff will be collected into an assumed 18-inch diameter storm drain the remainder of the way to the Shadow Rock Detention Basin. During future preliminary design development, the contributing off-site water shed, and the collected on-site surface flows should be determined. The permanent drainage facilities should also consider flow rates from a reservoir overflow event and the drainage facilities should be designed to convey the controlling flow scenario.

The proposed storm drain alignment used for this study is shown on Figure 4.

GEOTECHNICAL FINDINGS

A geotechnical site assessment was completed in 2001 by URS consisting of a review of previous geotechnical reports, a review of published regional geologic maps and reports, and a limited geological site reconnaissance. No subsurface field investigation or laboratory testing was performed.

The report found that the site is generally underlain by sedimentary and volcanic rock, with local areas of alluvial and slope wash deposits. Summarized below are the geological characteristics of the site.

- Western part of the property is underlain by conglomerate of the Trabuco Formation (weakly indurated, uncemented, massively bedded, and has boulders up to 7 feet in diameter).
- Northern part of the property in Arroyo Trabuco by alluvial deposits (generally consist of sand, gravel, and boulders that are unconsolidated).
- Eastern part of the property by Santiago Volcanic rock.

Faulting and Seismicity: There are no known active or potentially active faults traversing the site.

The 2001 Geotechnical Site Assessment recommended the following geological hazards be further investigated, as they may be present at the site.

- Earthquake-induced ground motions and land slide potential
- Location of the Aliso fault trace
- Flooding and liquefaction
- Surficial failures and erosion

PERMITTING

It is anticipated that permitting and coordination with the following agencies will be required:

- County of Orange
- Regional Water Quality Control Board
- California Department of Drinking Water

- Encroachment permit for pipeline from the City of Rancho Santa Margarita
- Environmental permits: In 2001 URS completed a Phase 1 Environmental Site Assessment (ESA) Review and Update on the District's Porter Property. The ESA recommended that a wetland delineation survey be completed to better define the status of the on-site drainages as wetlands that could be jurisdictional and/or require mitigation if impacted by development. Based on the wetland delineation survey a Corps of Engineers Section 404 permit and California Division of Fish and Game Section 1601 agreement may be required. Additionally, the ESA recommended a protocol survey for the Quino Checkerspot Butterfly habitat was recommended.

Continued permit coordination and development should continue in preliminary and final design.

CONSTRUCTION CONSIDERATIONS

The following items were considered when developing this memorandum:

Site Access: It is anticipated that minor grading and clearing of brush and trees along the edges of the access road will be required. During preliminary design the access road should be evaluated to confirm required design vehicles can access the site.

Work Area: 30 feet of work area around the tank has been provided. The contractor will require additional staging and laydown area during construction. It has been assumed that a temporary laydown area will be graded near the reservoir site and will be further developed during preliminary design.

Construction Water: It has been assumed the Contractor can get temporary construction water from the 8-inch PVC waterline in Shadow Rock Lane.

Electrical Service: For the purposes of this memorandum the electrical equipment assumed at the site was security lighting, level sensors, communication equipment, and intrusion alarms. Additionally, the Contractor will need power for construction activities. An electrical service for the new reservoir site can be pulled from the same source as the Shadow Rock Pump Station, assumed to be approximately 4,500 linear feet away. Overhead and below grade alternatives were both considered for the service run. Overhead power lines to the reservoir site would disturb the view of adjacent residences overlooking the property, and after discussions with the District was an unfavorable alternative. A buried service run will result in additional construction costs.

Due to the unfavorable costs and aesthetics of a service line, a solar power and backup battery system was also considered for this site. However, the regular required maintenance for cleaning and maintaining panels and 15 year service life of the solar equipment makes it an unfavorable option for the District.

For the purposes of this memorandum it has been assumed that underground electrical lines will convey power to the new reservoir site.

Grading and Drainage Impacts: Runoff from the access road and reservoir site will be captured by gutters and collected in a drain line, conveying the water to the Shadow Rock Detention Basins.

The amount of runoff from a new tank and paved access road will decrease the overall site permeability consequently increasing overall site runoff. During preliminary design the District may be required to provide an on-site BMP to treat runoff prior to discharging it.

CONSTRUCTION PHASING AND DURATION

Construction Phasing

In general, the following construction sequencing is recommended:

1. Site access road rough grading and improvements: Tree and brush removal, pruning, and rough grading along the access road to accommodate construction vehicles.
2. Site preparation: clearing of the site and preparing the site for grading activities.
3. Perform rough grading of reservoir pad.
4. Construct new tank, onsite piping, new 16-inch pipe to Plano Trabuco Road, valving, drains, overflow, new 18-inch storm drain to the Shadow Rock Detention Basin, electrical, etc.
5. Disinfect and hydrotest new tank.
6. Fill tank and bring new reservoir online.
7. Complete final site grading, final access road paving, landscaping, and miscellaneous site work.

Further refinement of the construction sequencing and phasing should be undertaken during the preliminary and final design phases of this project.

Construction Duration

The construction duration of this project is expected to require approximately 19 months with the following required durations:

1. Site access road rough grading and improvements – 1 month
2. Reservoir construction including grading operations, shoring, piping and appurtenances, and 18-inch storm drain to Shadow Rock Detention Basins – 9 months
3. 16-inch pipeline to Plano Trabuco – 6 months
4. Piping connections – 2 weeks
5. Reservoir disinfection and testing – 2 weeks
6. Final grading, site work, landscaping, and miscellaneous work – 2 months

PLANNING LEVEL CONSTRUCTION COST

The table below compares the estimated planning level construction costs for a new tank at the Porter Property and a new tank at the Harris Grade site. The construction costs for the Harris Grade tank were developed for the Harris Grade Siting Study.

Table 3 – Planning Level Construction Cost Estimate

	Porter Property 2.25 MG Tank (Alignment A – Future Development)	Porter Property 2.25 MG Tank (Alignment C – Existing Streets)	Harris Grade 2.7 MG Tank
Estimated Construction Cost	$7,012,000	$8,884,500	$6,100,000
30% Contingency	$2,103,000	$2,715,500	$1,800,000
Total Estimated Construction Cost	**$9,115,000**	**$11,600,000**	**$7,900,000**

An estimated breakdown of construction costs is attached in the Appendix.

In general, the costs for the new Harris Grade Reservoir are a more developed preliminary engineer's construction cost estimate, while the Porter Property estimate is a planning level estimate with more assumptions and unknowns.

In addition to the assumptions outlined in the memorandum above the following assumptions were made in developing the planning level estimate for the Porter Property Tank:

- Geotechnical: It was assumed that from a geotechnical standpoint this project including access road, reservoir location, and grading concept is feasible. A future geotechnical investigation should be conducted to confirm our assumptions.
- Electrical Service: The cost of the underground electrical service can vary greatly depending on SCE's existing infrastructure. The cost for an electrical service to the site can be anywhere from $500,000 to $1,000,000. For the purposes of this memorandum $850,000 was assumed for the electrical service cost.
- Site Drainage: It has been assumed that the Shadow Rock Detention Basin and pump station can accommodate the site runoff and an overflow event. A concrete V-gutter and 18-inch diameter storm drain pipe were assumed to convey runoff from the reservoir site to the Shadow Rock Detention Basin.

- Trench Excavation and Safety Measures: Assumed to be 2% of the pipeline costs.
- Inlet/Outlet Piping: It was assumed that the fill draw rate of the tank will be similar to that of the Harris Grade Reservoirs. 16-inch piping was assumed.
- Alignment Alternatives: Alternative A includes the alignment alternative through the future western development. The District realizes a cost savings because costs of the pipeline would be shared with the developer. However, Alternative A is only feasible if the adjacent western property is developed. If the adjacent western property is not developed, the District would realize the full cost for the alignment within existing streets, shown in Alternative C.

HARRIS GRADE AND PORTER PROPERTY SITE EVALUATION

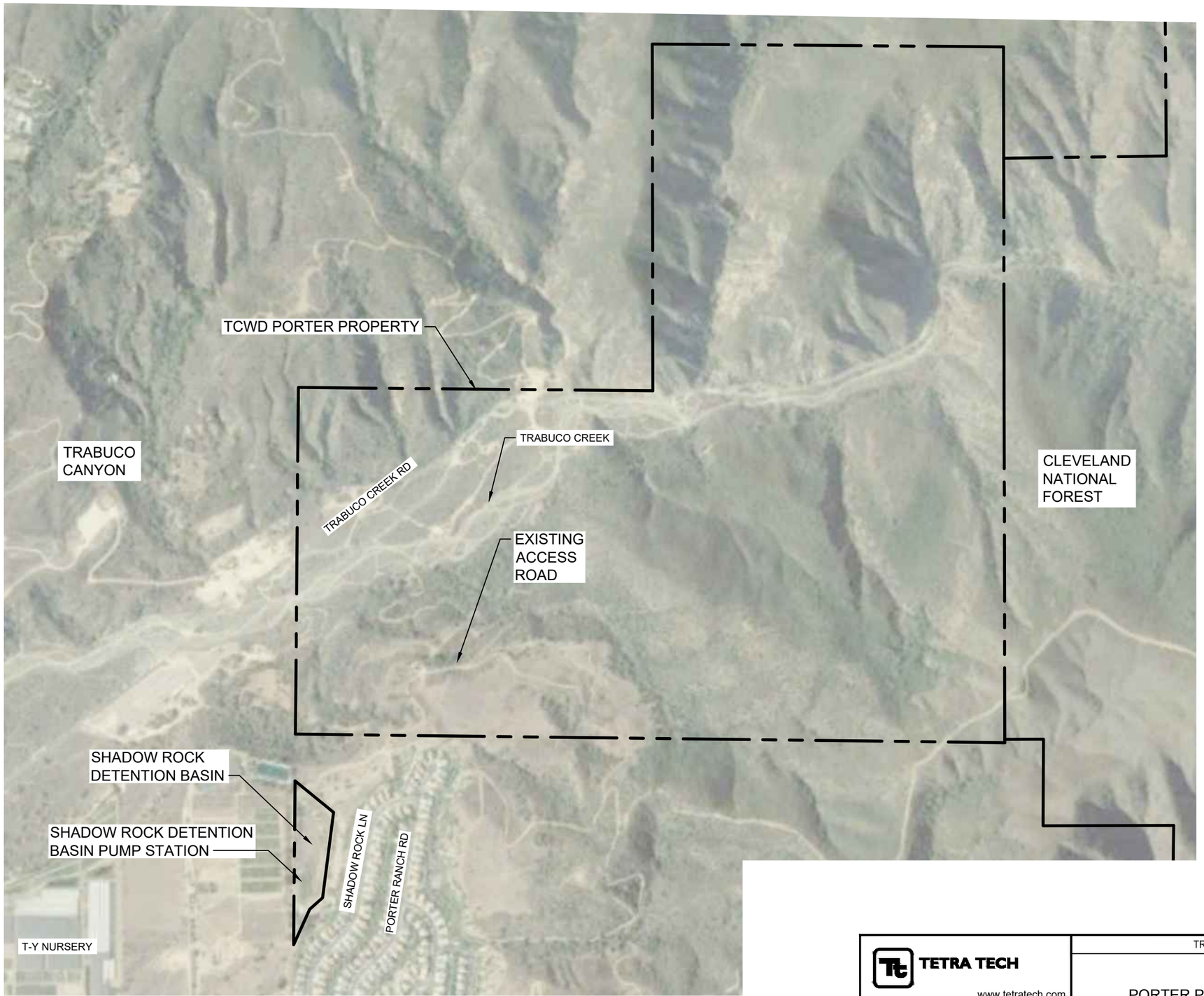
The Harris Grade site has more existing infrastructure surrounding it than the Porter Property (existing reservoir site, access road, electrical service, adjacent property owners, etc.) resulting in more difficult construction, and additional coordination.

The Porter Property is mostly undeveloped and requires new infrastructure to be built to the site, resulting in additional costs to develop the site.

Summarized in the table below is an evaluation of constructability issues at each site.

Table 4 – Harris Grade and Porter Property Site Evaluation

Constructability Issues	Porter Property 2.25 MG Tank		Harris Grade 2.7 MG Tank
Impacts to System	No storage impacts during construction.		District has 0.42 MG less storage during construction due to the removal of the existing tank at the Harris Grade Site.
Contractor Work Area and Staging Area	Additional grading may be required to grade a flat pad for additional Contractor staging.		Reduced work area and staging area, will require phased staging of materials and coordination with adjacent property owners to secure the lower staging area.
Site Access	2,300 linear feet of paved site access road will need to be constructed.		Minor grading improvements to existing access road will be required.
Inlet/Outlet Piping	Alternative A: 8,050 linear feet of 16-inch piping is required to tie into system. Cost savings was considered for portion of pipeline through future development.	Alternative C: 10,000 linear feet of 16-inch piping required to tie into system. Higher construction costs than Alternative A, but is a feasible alternative if the western property is not developed.	400 linear feet of 16-inch piping is required to tie into system.
Site Drainage	1,500 linear feet of drain pipe and 2,000 linear feet of concrete v-gutter is required.		Site can sheet flow off the property, no additional storm drain is required.
Electrical Service	An electrical service will need to be taken to the site approximately 3,500 linear feet away.		A new electrical service is not required.
Coordination/Permitting	Minimal coordination required with adjacent property owners.		Requires coordination with the Forest Service and adjacent property owners to secure staging areas.



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TETRA TECH

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(949) 809-5000

TRABUCO CANYON WATER DISTRICT

PORTER PROPERTY OVERALL SITE PLAN

Project No.:	200-09339-20001
Date:	DECEMBER 2020
Designed By:	KMB

FIGURE
1

Bar Measures 1 inch

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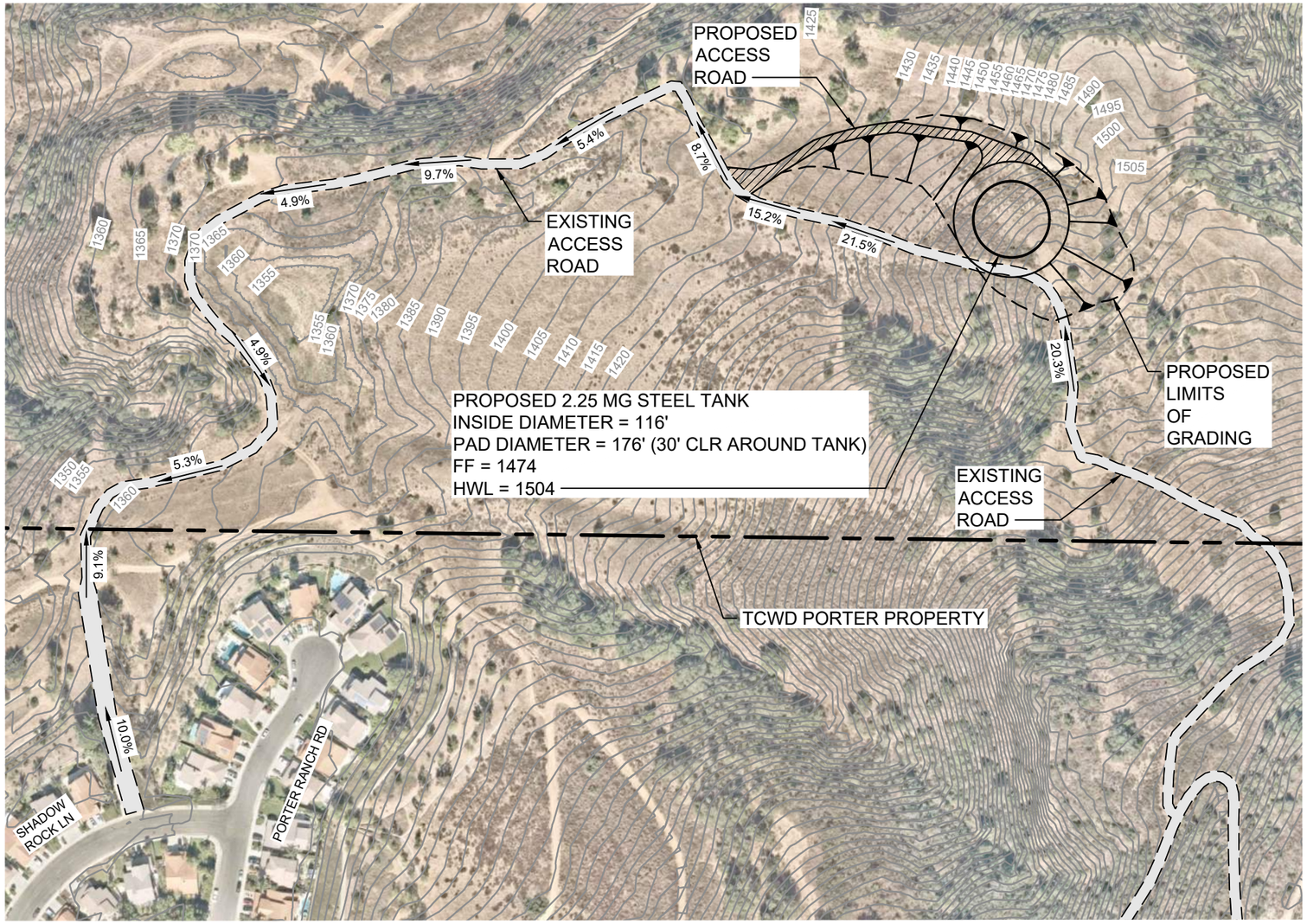

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TRABUCO CANYON WATER DISTRICT

PORTER PROPERTY
TANK LOCATION AND ACCESS ROAD

Project No.:	200-09339-20001
Date:	DECEMBER 2020
Designed By:	KMB

FIGURE
2

Bar Measures 1 inch

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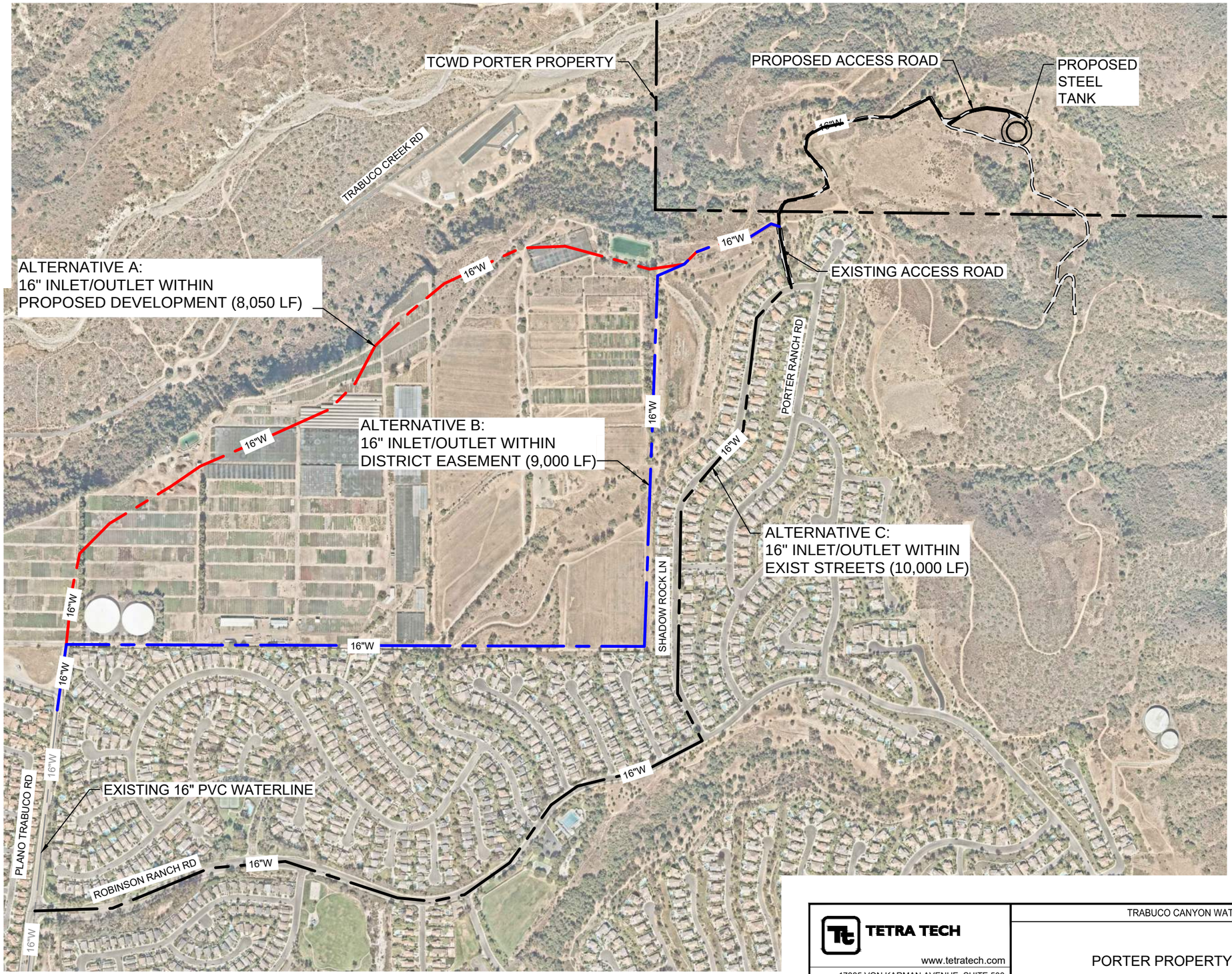

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SCALE: 1" = 600'

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TRABUCO CANYON WATER DISTRICT

PORTER PROPERTY PIPING PLAN

Project No.:	200-09339-20001
Date:	DECEMBER 2020
Designed By:	KMB
FIGURE	3

Bar Measures 1 inch

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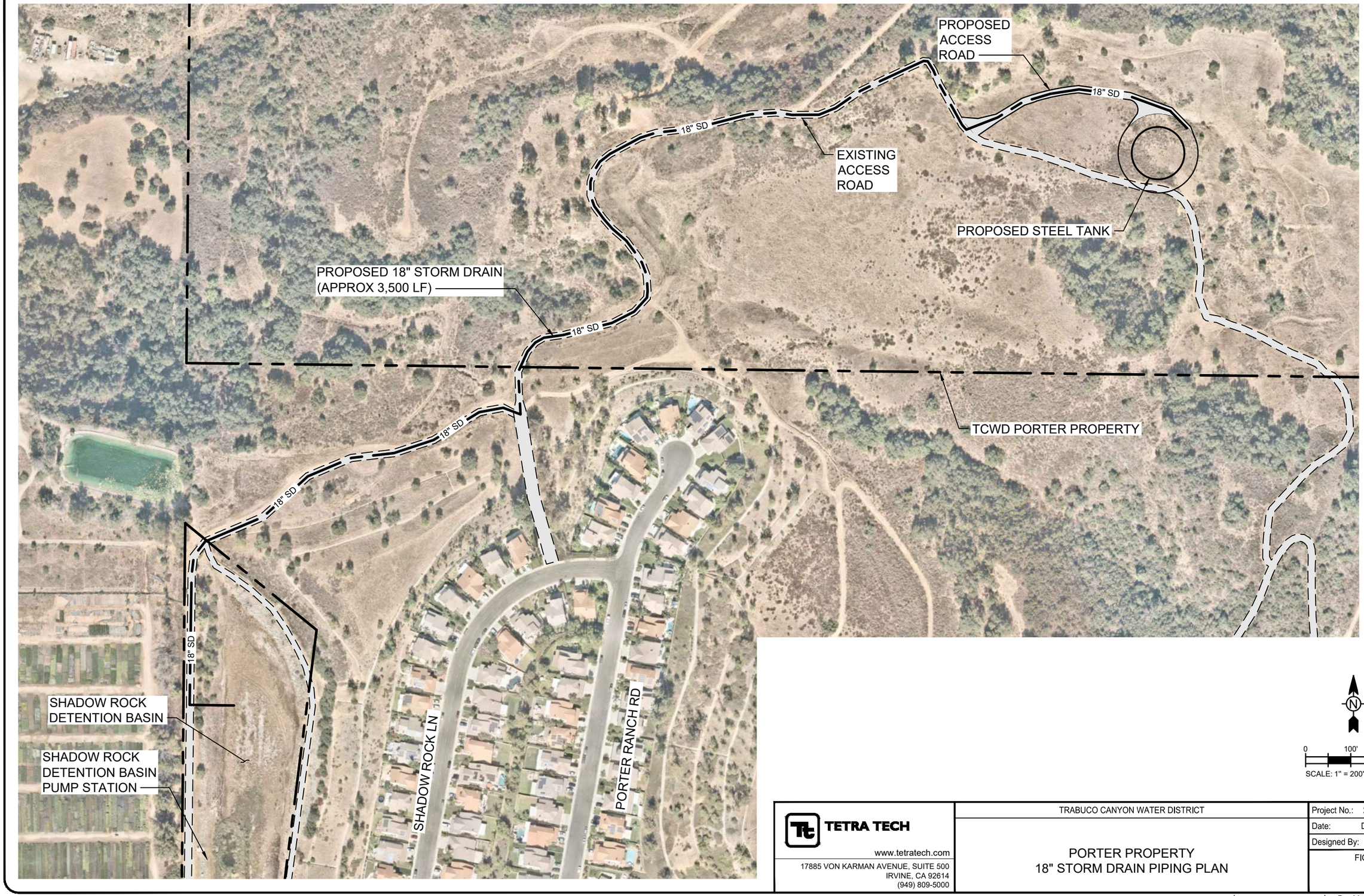

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TRABUCO CANYON WATER DISTRICT

PORTER PROPERTY
18" STORM DRAIN PIPING PLAN

Project No.:	200-09339-20001
Date:	DECEMBER 2020
Designed By:	KMB
FIGURE	4

Bar Measures 1 inch

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TRABUCO CANYON WATER DISTRICT
Porter Ranch Property - 2.25 MG Tank
Planning Level Construction Cost Estimate

DATE: Feb 19, 2021
Project No.: 200-09339-20001

Pipeline Alternative A - In Future Development

Porter Property					
Item No.	**Description**	**Total**	**Unit**	**Unit Cost**	**Total**
1	Mobilization and Demobilization	1	LS	$325,000	$325,000
2	Trench excavation and safety measures	1	LS	$45,500	$45,500
3	Clear and grub site	1	LS	$15,000	$15,000
4	Construct access road improvements	1	LS	$840,000	$840,000
5	Site grading	1	LS	$175,000	$175,000
6	Storm Drain Piping	1	LS	$400,000	$400,000
7	Inlet/outlet piping along access road	1	LS	$690,000	$690,000
8	Implement interim erosion control and BMP maintenance	1	LS	$20,000	$20,000
9	Construct 2.25 MG Steel Tank	1	LS	$1,632,000	$1,632,000
10	Furnish and Install yard piping	1	LS	$130,000	$130,000
11	Construct 16-inch piping to Plano connection point (Assumes piping through future development)	1	LS	$1,051,500	$1,051,500
12	Construct miscellaneous site work and AC Paving	1	LS	$668,000	$668,000
13	Electrical Improvements	1	LS	$850,000	$850,000
14	Disinfection Startup and testing	1	LS	$20,000	$20,000
15	Environmental Mitigation Measures and Monitoring	1	LS	$150,000	$150,000
				Sub Total:	**$7,012,000**
				30% Contingency:	**$2,103,000**
				TOTAL:	**$9,115,000**

TRABUCO CANYON WATER DISTRICT
Porter Ranch Property - 2.25 MG Tank
Planning Level Construction Cost Estimate

DATE: Jan. 26, 2021
Project No.: 200-09339-20001

Pipeline Alternative C - In Existing Streets

Porter Property					
Item No.	**Description**	**Total**	**Unit**	**Unit Cost**	**Total**
1	Mobilization and Demobilization	1	LS	$425,000	$425,000
2	Trench excavation and safety measures	1	LS	$87,000	$87,000
3	Clear and grub site	1	LS	$15,000	$15,000
4	Construct access road improvements	1	LS	$840,000	$840,000
5	Site grading	1	LS	$175,000	$175,000
6	Storm Drain Piping	1	LS	$400,000	$400,000
7	Inlet/outlet piping along access road	1	LS	$690,000	$690,000
8	Implement interim erosion control and BMP maintenance	1	LS	$20,000	$20,000
9	Construct 2.25 MG Steel Tank	1	LS	$1,632,000	$1,632,000
10	Furnish and Install yard piping	1	LS	$130,000	$130,000
11	Construct 16-inch to Plano connection point (Piping In Street)	1	LS	$2,782,500	$2,782,500
12	Construct miscellaneous site work and AC Paving	1	LS	$668,000	$668,000
13	Electrical Improvements	1	LS	$850,000	$850,000
14	Disinfection Startup and testing	1	LS	$20,000	$20,000
15	Environmental Mitigation Measures and Monitoring	1	LS	$150,000	$150,000
				Sub Total:	**$8,884,500**
				30% Contingency:	**$2,715,500**
				TOTAL:	**$11,600,000**

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

ACTION CALENDAR
LEGISLATIVE, ADMINISTRATIVE AND OTHER MATTERS
ITEM 12: LOCAL GOVERNMENTAL AND LEGISLATIVE INFORMATIONAL MATTER(S)

RECOMMENDED ACTION(S):
Review and discuss local government and legislative informational matter(s) and take action(s) as deemed appropriate.

EXHIBIT(S):
None

CONTACTS (staff responsible): PALUDI/PEREA

TRABUCO CANYON WATER DISTRICT
REGULAR BOARD MEETING |MARCH 17, 2021

CLOSED SESSION
ITEM 13: REPORT OF ACTION(S) TAKEN IN CLOSED SESSION

RECOMMENDED ACTION(S):
Receive information at the time of the Board meeting and take action(s) as deemed appropriate.

CONTACTS (staff responsible): PALUDI/PEREA